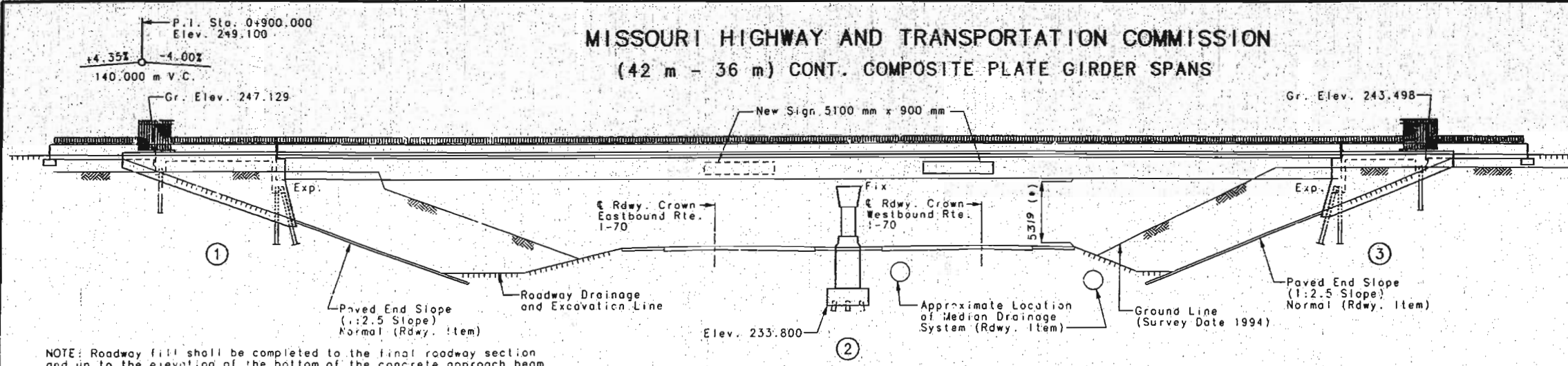


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
(42 m - 36 m) CONT. COMPOSITE PLATE GIRDER SPANS

STATE	PROJ. NO.	SHEET NO.
MO.	J410922	39
SEC./SUR.	28 TWP. 49N. RGE. 31W	
ID 970826-07-01-H FINAL PLANS		

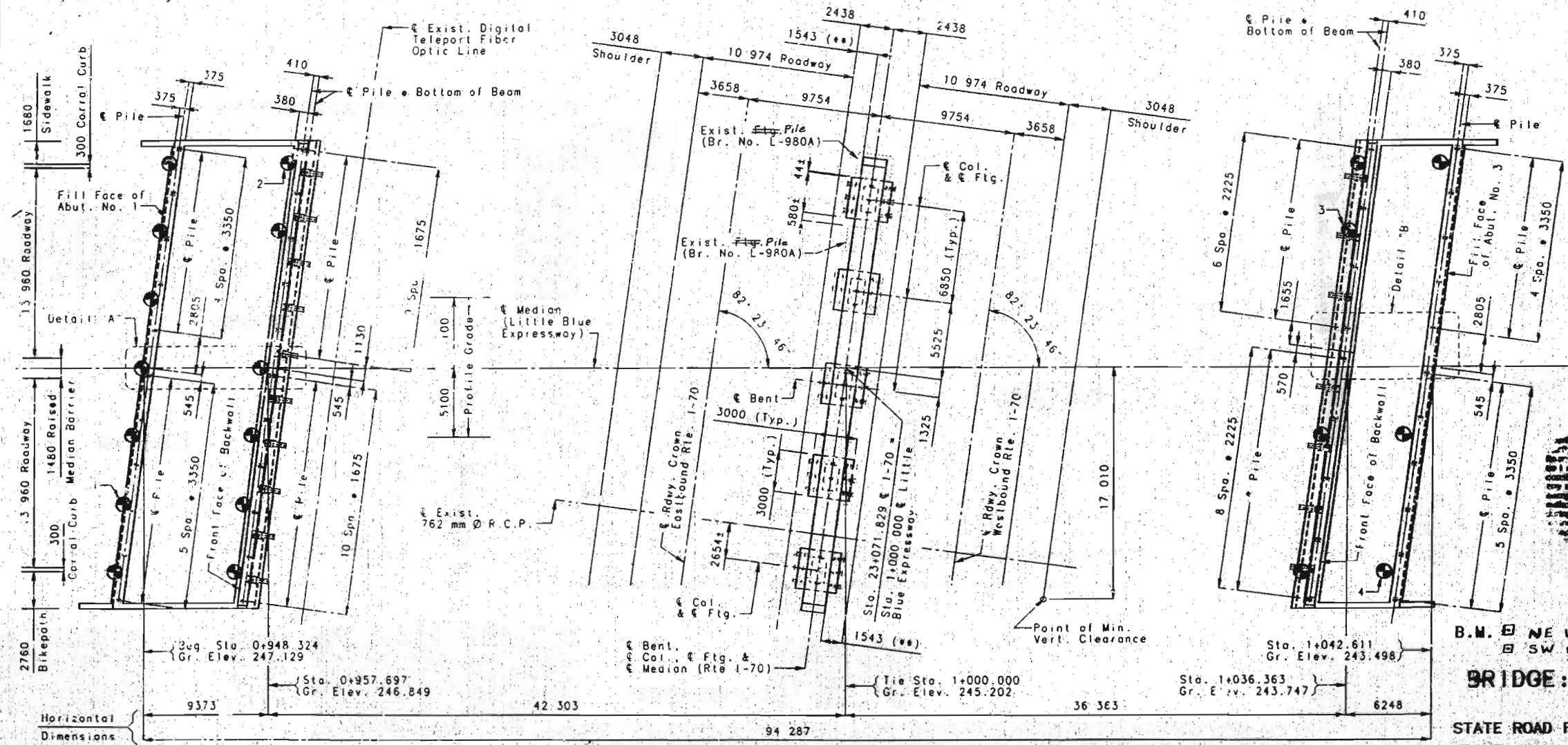


GENERAL ELEVATION

NOTE: Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete approach beam within the limits of the structure and for not less than 8 meters in back of the fill face of the end bents before piles are driven for any bents falling within the embankment section.

⊙ Indicates location of Borings.
NOTICE AND DISCLAIMER REGARDING BORING LOG DATA
 The locations of all subsurface borings for this structure are shown on the bridge plan sheet for this structure. Boring data for the numbered locations is shown on sheet no. 4. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, is available from the district materials engineer upon written request as outlined in the project special provisions. No greater significance or weight should be given to the boring data depicted on the plan sheets than to subsurface data available from the district or elsewhere. The commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the commission.

NOTE: (*) Minimum Vertical Clearance.
 (**) Minimum Horizontal Clearance to edge of Safety Barrier Curb Collision Wall.
 For General Notes, Estimated Quantities, Estimated Quantities for Slab on Steel, and Estimated Quantities for Slab on Semi-Deep Abutment, see sheet no. 2.
 For Location Sketch & Pile Data, see sheet no. 3.
 For Detail "A" and Detail "B", see sheet no. 4.



PLAN

NOTE: If removal of any existing concrete or pile is required, it shall be removed at no additional cost. It shall be considered completely paid for as "Removal of Bridges" Lump Sum.

B.M. NE WINGWALL ELEV. 243.781
 SW WINGWALL ELEV. 247.924
BRIDGE: LITTLE BLUE EXPRESSWAY OVER RTE. 1-70

STATE ROAD FROM GRAIN VALLEY TO KANSAS CITY
 ABOUT 13 km WEST OF GRAIN VALLEY
 PROJECT NO. STA. 23+071.829
 JOB NO. J410922 RTE. 1-70

JACKSON COUNTY

DESIGNED JAN. 1996
 DETAILED APR. 1997
 CHECKED APR. 1997

SHEET NO. 1 OF 61

DATE 7/1/97

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STA. 23+071.829
STA. 23+071.829
STA. 23+071.829
STA. 23+071.829
STA. 23+071.829

STATE	PROJ. NO.	SHEET NO.
MO:	ACNH1-70-(167)	51
ID 930926-07-DLH FINAL PLANS		

FINAL QUANTITIES

ITEM	UNIT	SUBSTR.	SUPERSTR.	TOTAL
Removal of Bridges (L-980A)	Lump Sum			1
Removal/Storage of Existing Bridge Rail - Metric	meter			120.5
Class 1 Excavation - Metric	cu. meter	415		415
Bridge Approach Slab (Bridge) - Metric	sq. meter		547	547
(2400 mm) Pedestrian Fence (Structures) - Metric	meter		197.0	197.0
Structural Steel Piles (310 mm) - Metric	meter	1123.0		1123.0
Structural Steel Piles (360 mm) - Metric	meter	730.0		730.0
Class B Concrete (Substr.) - Metric	cu. meter	587.7		587.7
Slab on Steel - Metric	sq. meter		2570	2570
Slab on Semi-Deep Abutment - Metric	sq. meter		538	538
Corral Curb - Metric	meter		220.0	220.0
Corral Curb Rail (Structures) - Metric	meter		219.5	219.5
Pedestrian Curb - Metric	meter		99.0	99.0
Raised Median Barrier - Metric	sq. meter		145	145
Sidewalk (Bridges) - Metric	sq. meter		132	132
Laminated Neoprene Bearing Pads (Steel Structures)	each		39	39
Preform Compression Expansion Joint Seal (102 mm) - Metric	meter		69.5	69.5
Block Pattern Formliner - Metric	sq. meter	449.5	202.7	652.2
Reinforcing Steel (Bridges) - Metric	kilogram		26 305	26 305
Conduit System on Structure	Lump Sum			1
Reinforcing Steel (Epoxy Coated) - Metric	kilogram		14 585	14 585
Fabricated Structural Carbon Steel (R Gir.) - Metric	kilogram		22 575	22 575
Fabricated Sign Support Brackets	Lump Sum			1
Fabricated Structural Low Alloy Steel (R Gdr.) A709M Grade 345 - Metric	kilogram		436 625	436 625
Slab Drain	each		16	16
Field Coat (System G) Gray - Metric	sq. meter		1010	1010
Masonry Protection System	Lump Sum			1
Graffiti Protection System	Lump Sum			1
Prebore for Pile	meter	46.5		46.5
Intermediate Field Coat (System G) - Metric	Lump Sum			1
Removal of Handrail	Lump Sum			1

Notes: All concrete and reinforcing steel below top of slab and above upper construction joint in Semi-Deep Abutments is included in the Estimated Superstructure Quantities for Slab on Semi-Deep Abutments.

All Block Pattern Formliners on Abutment #1, Bent #2, and Abutment #3 are included in the substructure quantities.

All Block Pattern Formliners on Corral Curb is included in the superstructure quantities.

Texture and relief of this Block pattern formliner is intended to represent that of large-module rough-face limestone block found in local historic walls and buildings.

All concrete and reinforcing steel in the cantilever sidewalk is included in the Estimated Superstructure Quantities for Sidewalks.

All concrete and reinforcing steel above the optional sidewalk construction joint on the semi-deep abutments is included in the estimated superstructure quantities for Slab on Semi-Deep Abutments.

All concrete and reinforcing steel above the optional sidewalk construction joint on the bridge approach slab is included in the estimated superstructure quantities for Bridge Approach Slab (Bridges).

ITEM	UNIT	TOTAL
Reinforcing Steel (Epoxy Coated)	kilogram	72 335
Concrete	cu. meter	433.5

Notes: The table of Estimated Quantities for Slab on Steel represents the quantities used by the state in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the contract unit price per square meter of slab on steel.

The prestressed panel quantities are not included in the table of estimated quantities for slab on steel.

The Estimated Quantities for Slab on Steel are based on skewed precast prestressed end panels.

GENERAL NOTES:

Design Specifications:
 AASHTO - 1992 and Interims thru 1995
 Load Factor Design: Seismic Performance Category A

Design Loading:
 MS18 Modified
 185 kg/m² Future Wearing Surface
 Earth 1900 kg/m³. Equivalent Fluid Pressure 7.0 kPa/m
 Fatigue Stress - Case II

Design Unit Stresses:
 Class B Concrete (Substructure) f'c=21 MPa
 Class B1 Concrete (Corral and Pedestrian Curb) f'c=28 MPa
 Class B2 Concrete (Superstructure except for Curbs) f'c=28 MPa
 Reinforcing Steel (Grade 420) fy=420 MPa
 Structural Carbon Steel (ASTM A709M Grade 250) fy= 250 MPa
 Structural Steel (ASTM A709M Grade 345) fy= 345 MPa
 Steel Pile (ASTM A709M Grade 250) fb= 62 MPa fy= 250 MPa
 For Precast Prestressed Panel Stresses, see sheet no. 53.

Fabricated Steel Connections:
 Field connections shall be made with 19.0 mm diameter high strength bolts and 20.6 mm ø holes, except as noted.

Joint Filler:
 All joint filler shall meet the requirements of Std. Spec. 1057.2.4 of the Missouri Standard Specifications (Metric), except as noted.

Reinforcing Steel:
 Minimum clearance to reinforcing steel shall be 40 mm, unless otherwise shown.

Coating:
 Protective Coating:
 System G by the contractor.
 Prime Coat:
 The cost of prime coat shall be included in the contract unit price of the Fabricated Structural Steel. Tint of the prime coat for System G shall be similar to the color of the field coat to be used.
 Field Coat:
 The color of the finish coat shall be Gray (Federal Standard #26373). The cost of the intermediate and finish coats shall be included in the contract unit price per sq. meter of Field Coat (System G) Gray.
 Field coat median side of girder nos. 6 & 7 the same as the exterior girders as stated in the Standard Spec. 712.12.3.1 of the Missouri Standard Specifications (Metric).

Dimensions:
 All dimensions are specified in millimeters (mm) except as noted.
 Drawings are not to scale. Follow dimensions.

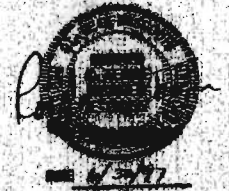
Elevations:
 All elevations are specified in meters (m) except as noted.

Miscellaneous:
 Traffic under structure to be maintained during construction.
 A minimum vertical clearance of 4.877 m from crown of existing lanes of Rte. 1-70 and a minimum lateral clearance of 12.2 m centered on existing lanes of Rte. 1-70 shall be maintained during construction.
 High strength bolts, nuts and washers will be sampled for quality assurance as specified in Section 106 of the Missouri Standard Specifications (Metric) and Field Section (FS-712) from Materials Manual.
 Outline of old work is indicated by dashed lines. Heavy lines indicate new work.

Item	UNIT	Total
Reinforcing Steel (Epoxy Coated)	kilogram	21 340
Concrete	cu. meter	269.1

661/99

FINAL PLANS
 Only quantities shown on these drawings shall be used for estimating and bidding. All quantities shown on these drawings are based on the latest revision of the drawings. All quantities shown on these drawings are based on the latest revision of the drawings. All quantities shown on these drawings are based on the latest revision of the drawings.



DETAILED MAR 1997
 CHECKED MAR 1997

Computations By - FL Wrisinger
 Checked By - D. McAllen

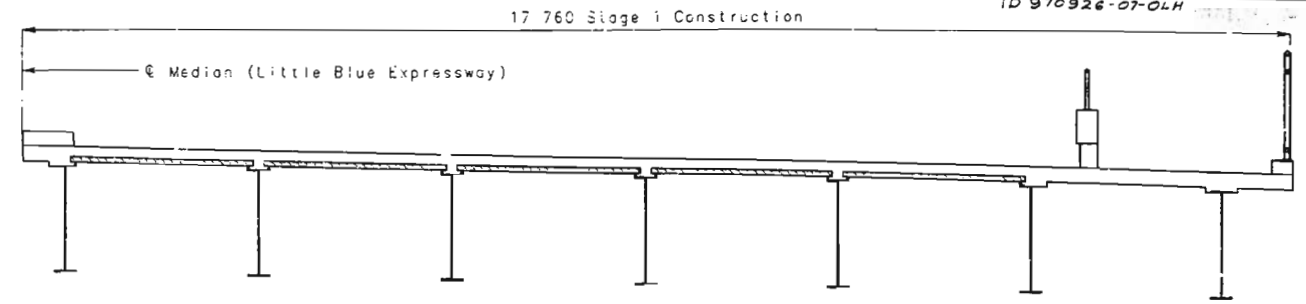
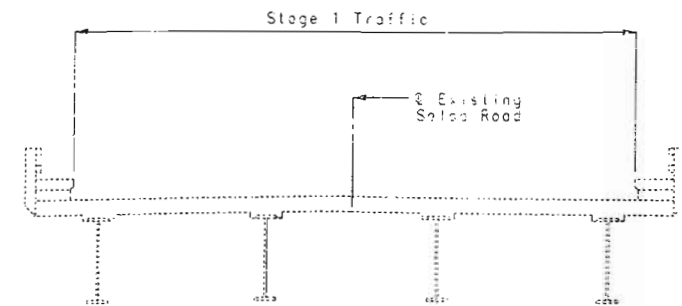
SHEET NO. 2 OF 61

JACKSON

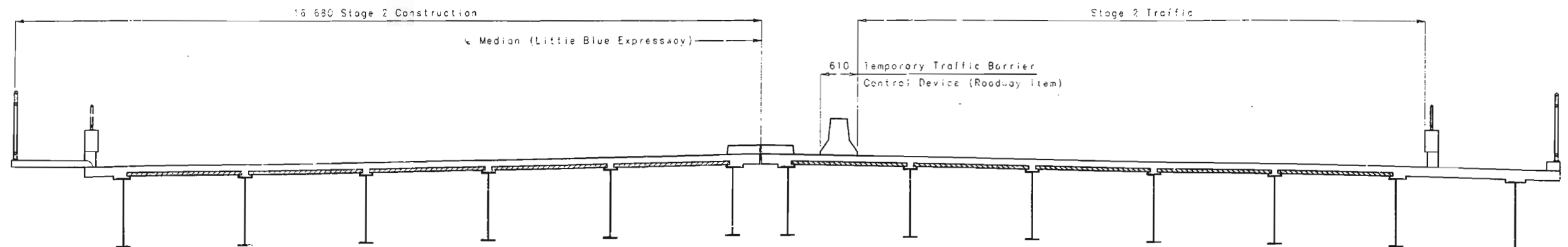
COUNTY

A57261

STATE	PROJ. NO. J-1092Z	SHEET NO.
NO.	ACNHI-70-(167)	82

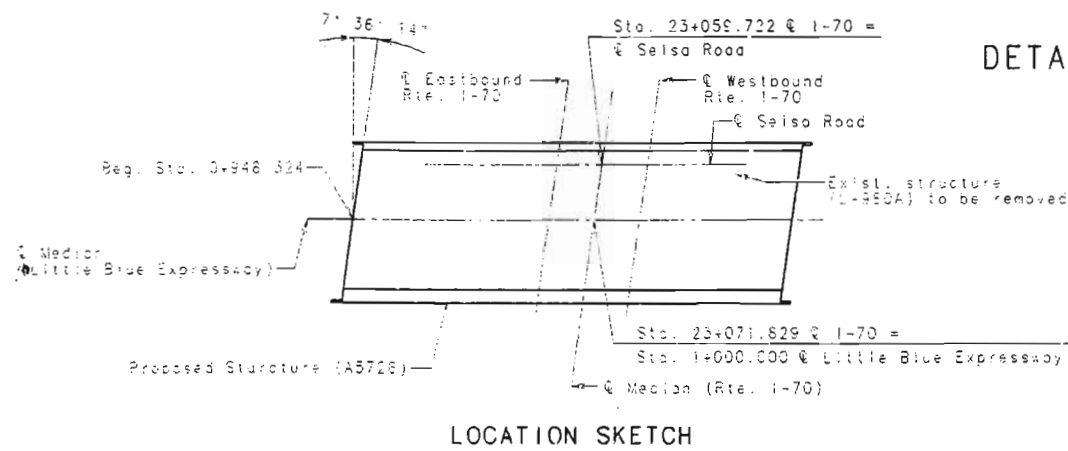


STAGE 1



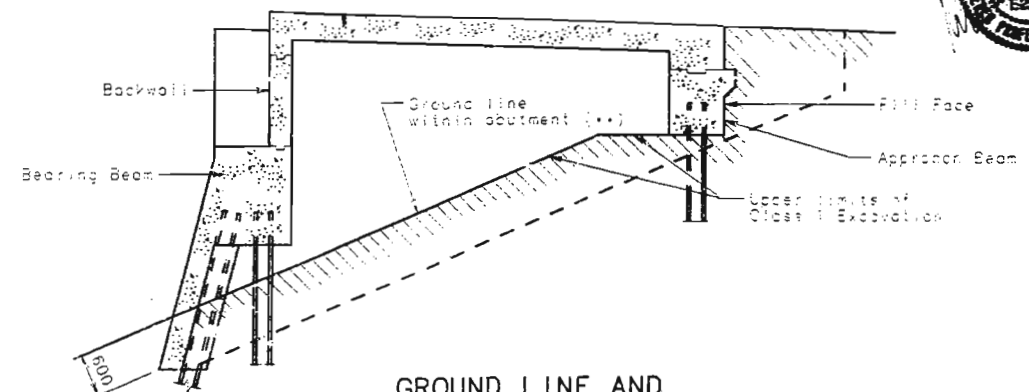
STAGE 2

DETAILS OF STAGED CONSTRUCTION



200
[scribble]

FINAL PLAN
I certify that this plan sheet accurately shows the configuration and location of the roadway, and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction. I disclaim responsibility for the contractor's interpretation of the project, except as I have indicated or directed that the contractor should do so.



Note: ** In no case shall the earth within abutments no. 1 and 3 be above the ground line shown above. Forms supporting the abutment side may be left in place. The maximum variation of the head of the pile and the battered face of the pile from the position shown on the plans shall be not more than 50 mm for pile under abutments no. 1 and 3. Exposed steel piles within the abutment shall be coated with a heavy coating of an approved bituminous paint.



BENT NO.	PILE DATA									
	1				2	3				
	APPROACH BEAM			BEARING BEAM		BEARING BEAM		APPROACH BEAM		
	LEFT	CENTERLINE	RIGHT			LEFT	€ & RT.	LEFT	€ & RT.	
Pile Type and Size	HP310X79	HP310X79	HP310X79	HP310X79	HP360X108	HP310X79	HP310X79	HP310X79	HP310X79	
Number	4	3	4	21	45	5	11	4	7	
Approximate Length	m	11.8	9.0	4.3	9.3	15.2	30.3	29.9	30.9	30.9
Design Bearing	kN	590	590	590	620	870	610	610	460	460
Hammer Energy Req'd	kN-m	20.2	20.2	20.2	23.5	31.0	23.1	23.1	18.5	22.7

Minimum energy requirement of hammer is based on pile length and design bearing value of piles. All piles shall be driven to practical refusal.

DETAILED MAY 1996
CHECKED MAR 1997

Computations By - E.L. Wrisinger
Check By - D. McLallen

SHEET NO. 3 OF 51

JACKSON

COUNTY

A5726

STATE	PROJ. NO. J-110922	SHEET NO.
MO.	ACNHI-70-(167)	88
ID 90226-107-01 FINAL PLANS		

Standard Penetration Test

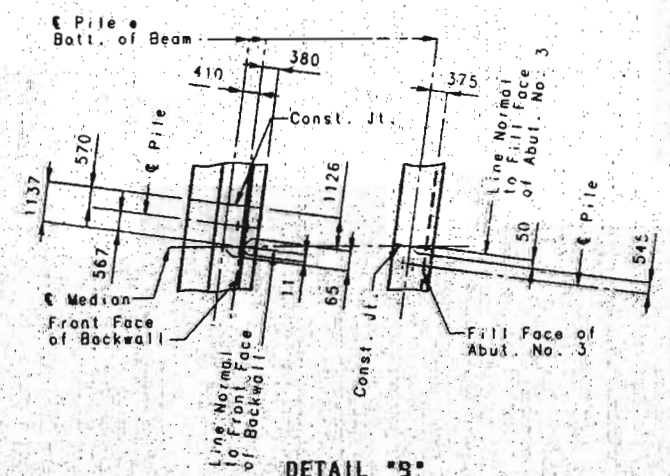
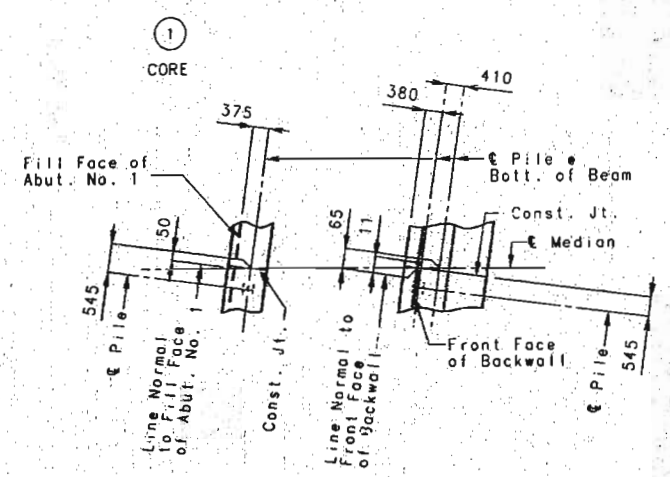
depth, m	Blows/150 mm	Elev.
1.5	18-28-38	243.731
2.24	7 cm in 50	242.731
		241.491
6.94	9 cm in 50	239.171
		235.291

Elev. 245.212	Asphalt and base.
Elev. 244.912	
	Brown mottled lean clay.
Elev. 240.392	
	Brown mottled shaley clay, stiff.
Elev. 237.012	
	Brown shale, stiff.
Elev. 231.862	
	Brown mottled shale to shaley limestone stiff.
Elev. 231.712	
	Shaley limestone, very stiff.
Elev. 230.512	

Elev. 241.999	Asphalt and base.
Elev. 241.699	
	Brown lean clay.
Elev. 239.469	
	Brown mottled lean clay.
Elev. 237.179	
	Gray mottled shaley clay, stiff.
Elev. 235.509	
	Dark gray shaley clay, stiff.
Elev. 233.989	
	Brown mottled lean clay, soft.
Elev. 230.599	
	Light gray lean clay, soft.
Elev. 219.599	
	Gray shale, stiff.
Elev. 215.999	

Standard Penetration Test

depth, m	Blows/150 mm	Elev.
1.5	4-5-5	235.607
3.0	3-2-3	234.907
4.5	2-3-3	229.597
6.0	2-2-2	225.107
7.5	2-2-2	223.607
9.0	1-2-3	220.607
10.5	4-5-7	219.107
12.0	5-6-5	216.907
13.5	3-4-5	215.407
15.0	2-3-4	212.107
16.5	4-6-7	210.907
18.0	9-9-10	210.907
18.7	11-14-17	215.407
20.2	6-6-8	209.107
21.7	8-7-8	
23.2	8-11-24	
24.7	50 BLOWS IN 8 cm (3") ⁹⁺	
26.2	50 BLOWS IN 9 cm	



BORING DATA

Note: For location of Borings see sheet no. 1

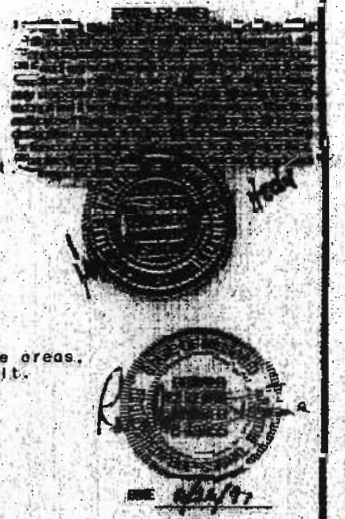
NOTE: For location of Detail "A" and Detail "B" see sheet No. 1.

DETAILED JAN. 1996
CHECKED MAR. 1997

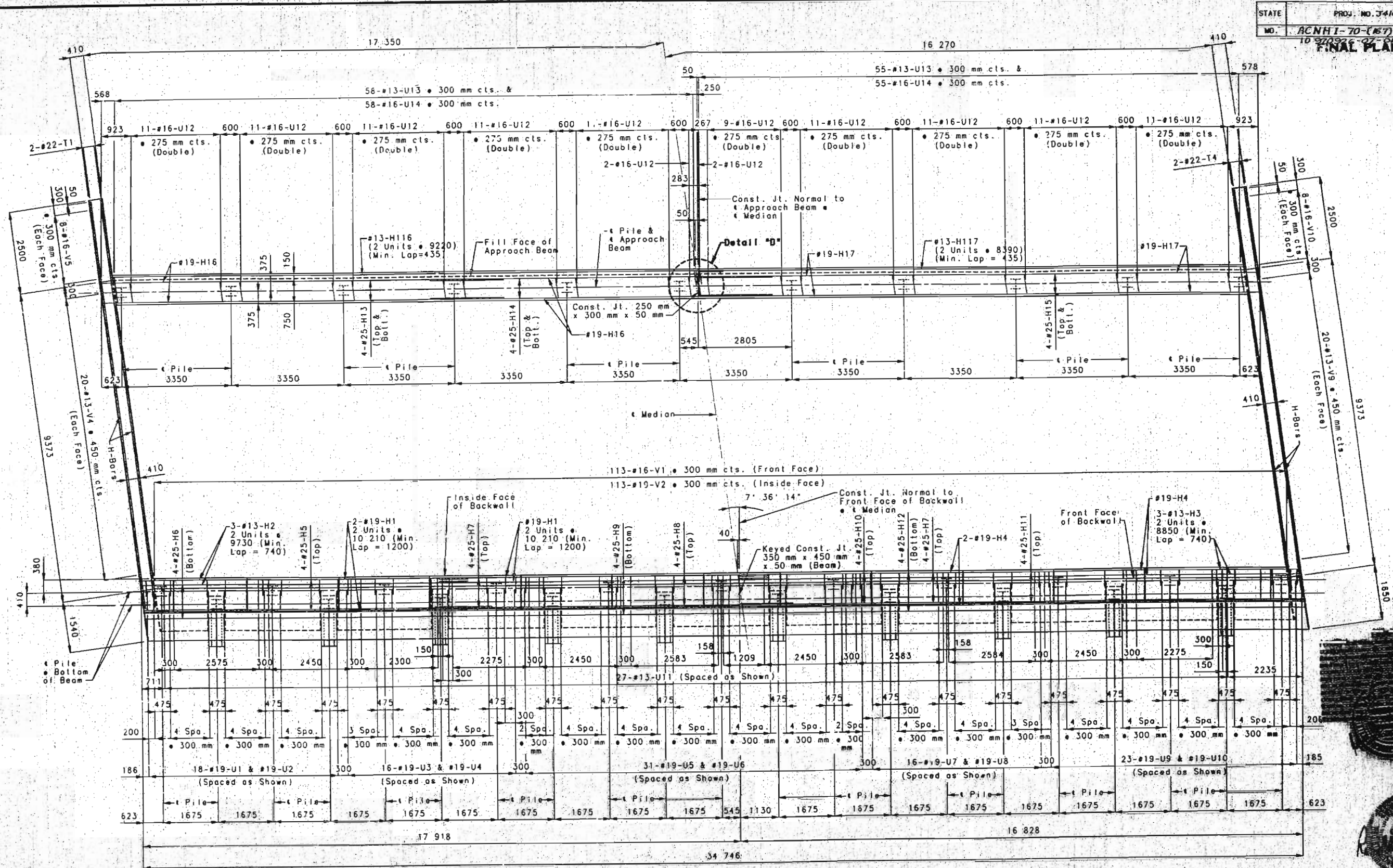
SHEET NO. 4 OF 61

JACKSON COUNTY A5726

201



STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH1-70-(67)		84
10-370926-07-04H FINAL PLANS		



Handwritten notes and scribbles on the left side of the page, including a large '200' and other illegible markings.

Note: All reinforcing bars in the top of substructure beds or caps shall be spaced to clear anchor bolt wells for bearings by at least 15 mm.

SECTION NEAR UPPER CONSTRUCTION JOINT
(Construction keys at upper const. jt. not shown for clarity.)
(Curtain wall not shown for clarity.)

Note: Work this sheet with sheets no. 6, 7, 8, 9, 10, & 11.
Field bending shall be required at wings for H3 and H4 bars in backwall.

DETAILS OF ABUTMENT NO. 1

SHEET NO. 5 OF 61

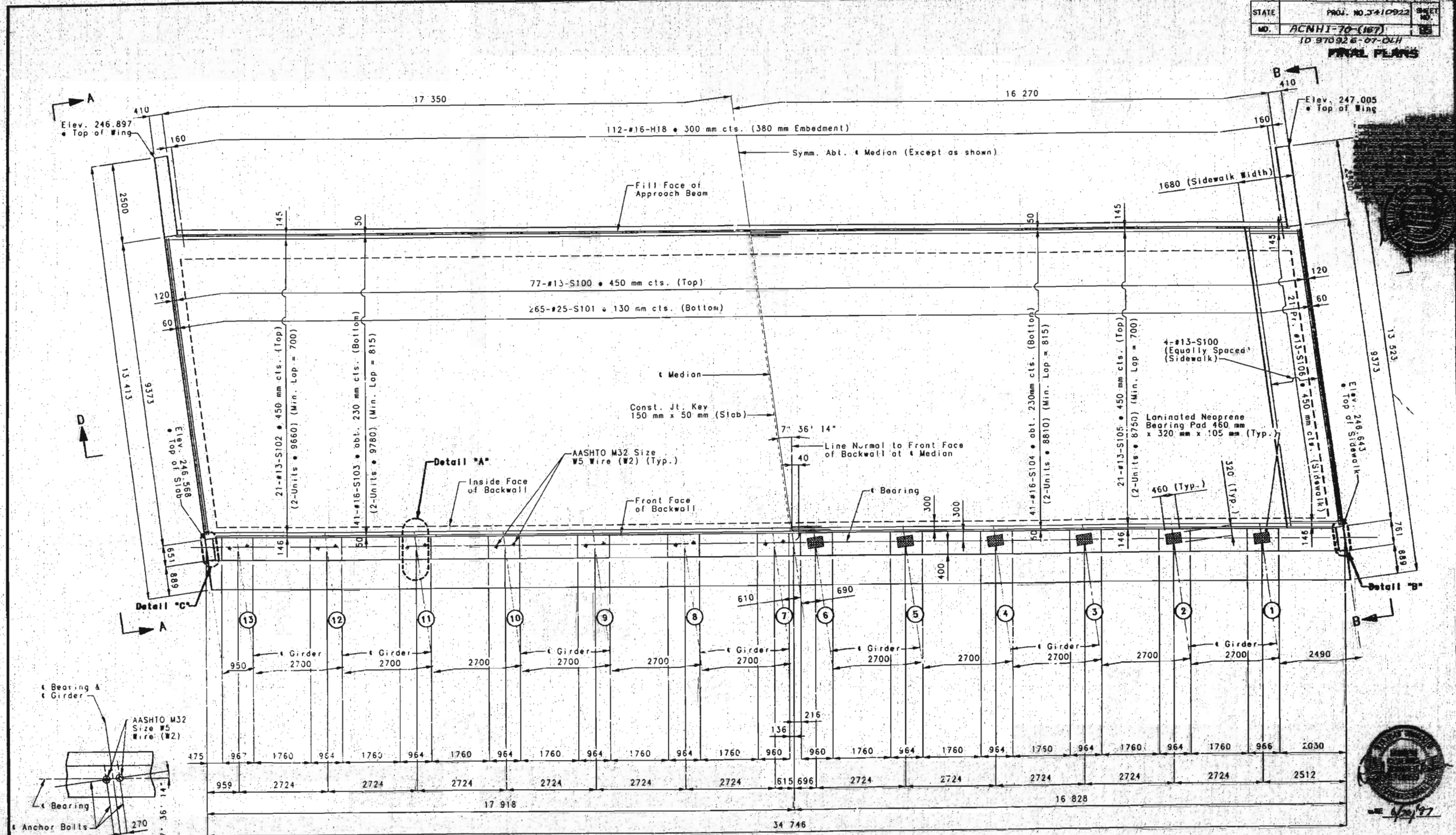
JACKSON COUNTY

A5726

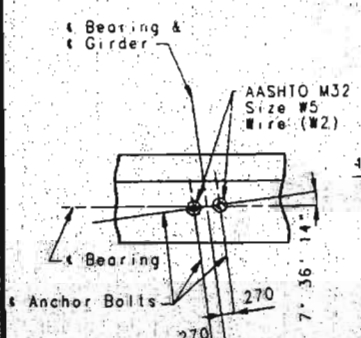
DETAILED MAR 1997
CHECKED MAR 1997



STATE	PROJ. NO. J-10922	SHEET NO.
MD.	ACNHI-70-(187)	63
ID 970926-07-04H		
FINAL PLANS		



DETAIL "A"



Note: Top of abutment slab and expansion device for Abutment No. 1 shall conform to crown of roadway slab. For details of expansion device see sheet no. 49, 50, 51, & 52.

Pedestrian curb, pedestrian fence, corral curb, corral curb rail, and raised median barrier not shown for clarity.

Note: All reinforcing bars in the top of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 15 mm.

Note: For Details of Anchor Bolt Wells see sheet no. 26. For details of Raised Median Barrier, see sheet no. 47 & 48. Work this sheet with sheets no. 5, 7, 8, 9, 10, & 11. For Formliner pattern and locations, See Sheet No. 12.

DETAILS OF ABUTMENT NO. 1

SHEET NO. 6 OF 61

JACKSON COUNTY

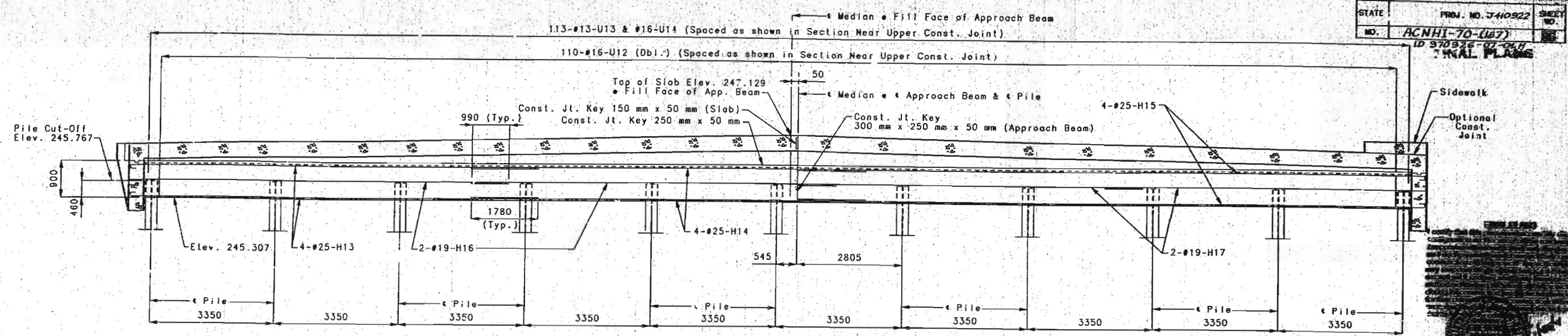
A57261

203

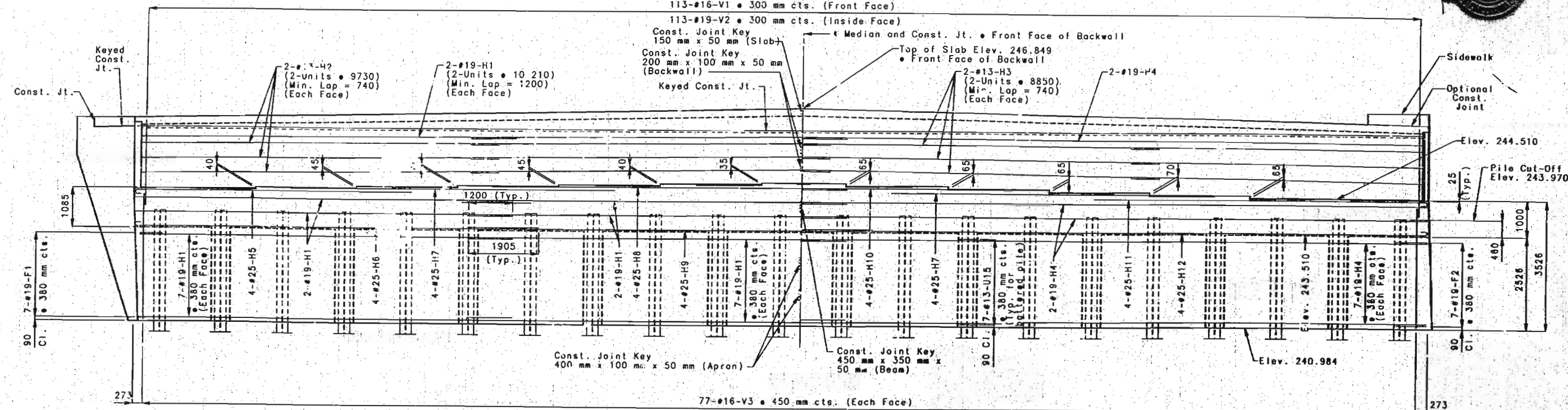
DETAILED MAR. 1997
CHECKED MAR. 1997

STATE	PROJ. NO. J40922	SHEET NO.
NO. ACNHI-70-087		7

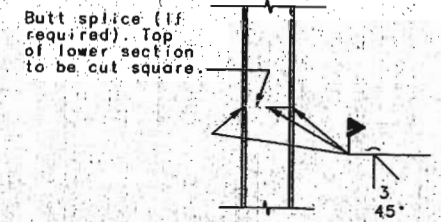
ID 978926-07-000
TRIAL PLANS



SECTION NEAR APPROACH BEAM



ELEVATION



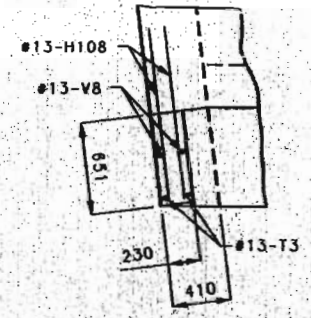
DETAIL OF STEEL PILE SPLICE

Note: All reinforcing bars in the top of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 15 mm.

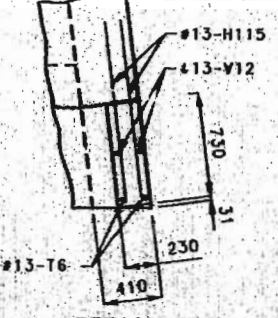
Place all U-Bars in the Approach Beam parallel to Median.

Bearing seats are level and step heights shown are taken at front face of backwall.

Pedestrian curb, pedestrian fence, corral curb, corral curb rail, and raised median barrier not shown for clarity.



DETAIL "C"



DETAIL "B"

DETAILS OF ABUTMENT NO. 1

Note: Work this sheet with sheets no. 5, 6, 8, 9, 10, & 11.

DETAILED MAR. 1997
CHECKED MAR. 1997

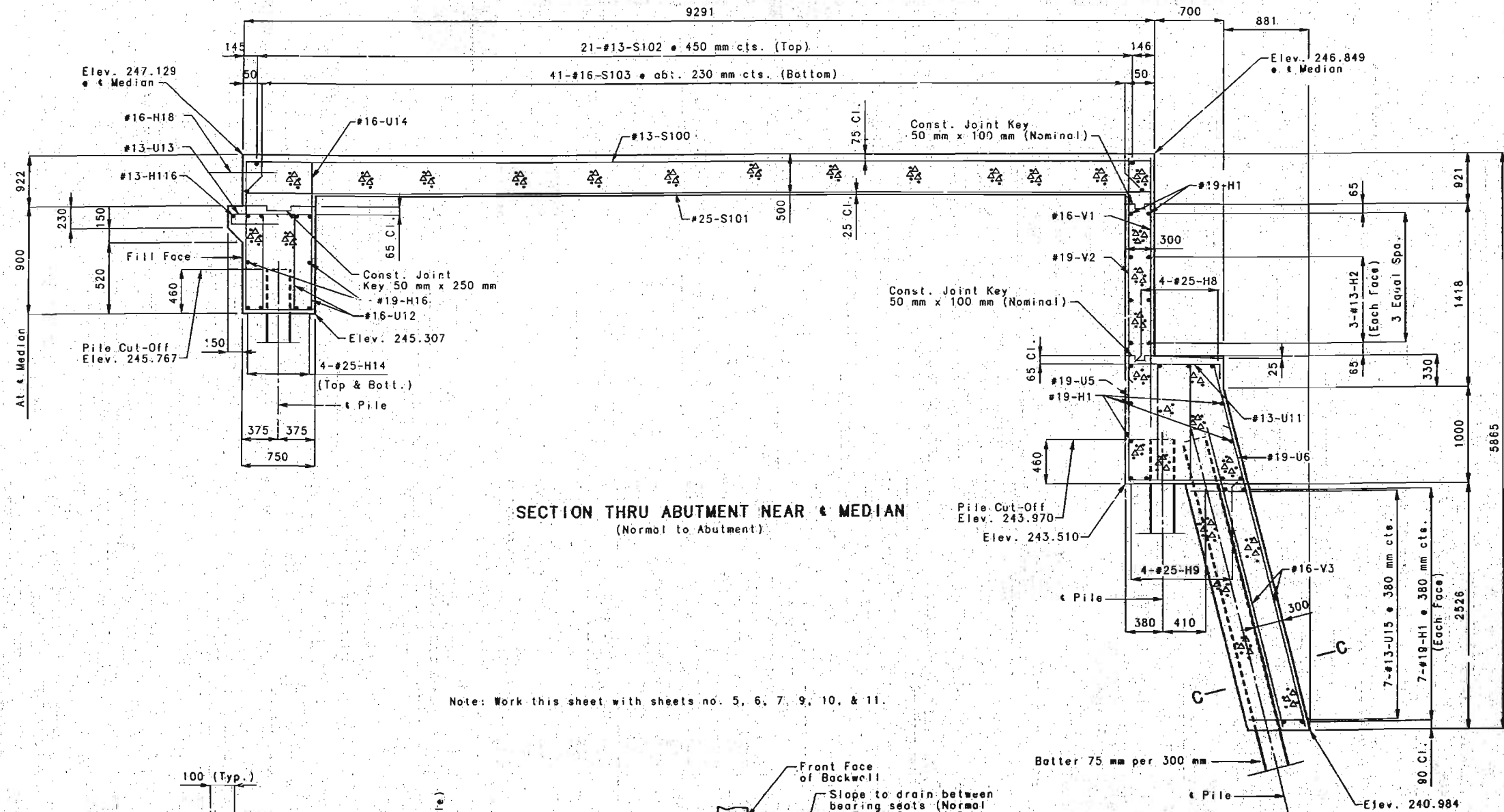
SHEET NO. 7 OF 81

JACKSON COUNTY

A57261

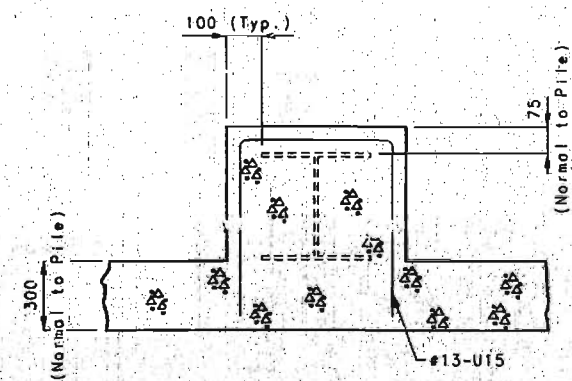
204

STATE	PROJ. NO. J410922	SHEET NO.
MO.	ACNH1-70-(167)	87
ID 970926-07-04H		
FINAL PLANS		

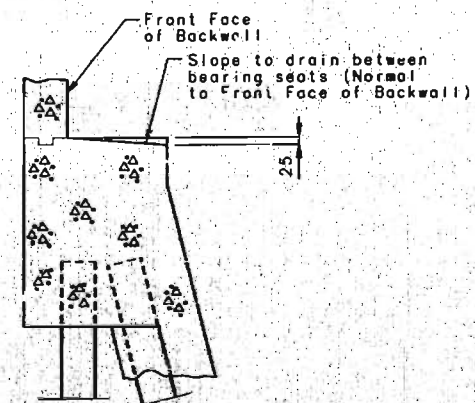


SECTION THRU ABUTMENT NEAR & MEDIAN
(Normal to Abutment)

Note: Work this sheet with sheets no. 5, 6, 7, 9, 10, & 11.



SECTION C-C



PART SECTION THRU BEARING BEAM

DETAILS OF ABUTMENT NO. 1

ITEM	UNIT	QUANTITY
Class I Excavation-Metric	Cu. meter	52.55
Structural Steel Piles (310 mm)-Metric	meter	297.8
Class B Concrete (Substructure)-Metric	Cu. meter	115.2
Block Pattern Formliner-Metric	Sq. meter	204.2
Reinforcing Steel (Bridges)-Metric	Kilogram	3863
Reinforcing Steel (Epoxy Coated)-Metric	Kilogram	7620

Note: These quantities are included in the Estimated Quantities Table on sheet no. 2.

DETAILED MAR. 1997
CHECKED MAR. 1997

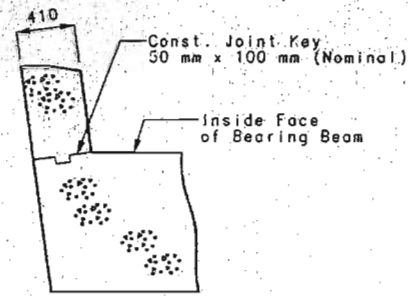
SHEET NO. 8 OF 61

JACKSON COUNTY

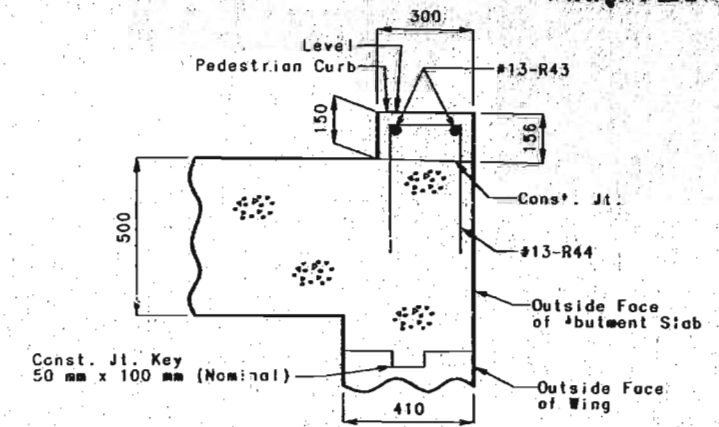
A57261

205

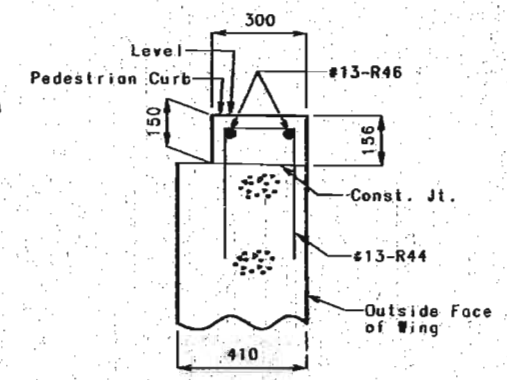
STATE	PROJ. NO. 7410922	SHEET NO.
NO. ACNHI-70-(167)		9



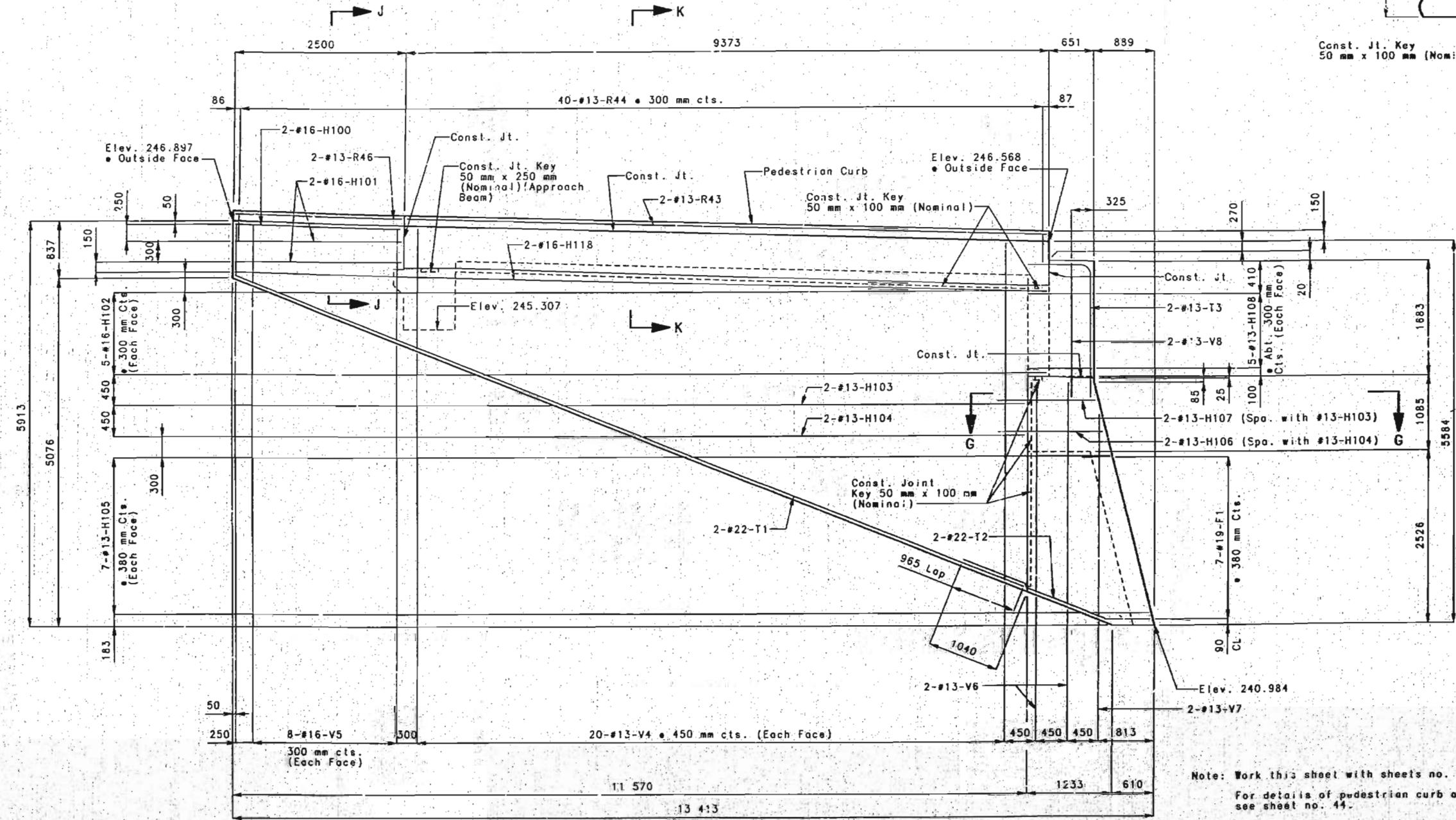
SECTION G-G



SECTION K-K



SECTION J-J



ELEVATION A-A

DETAILS OF ABUTMENT NO. 1

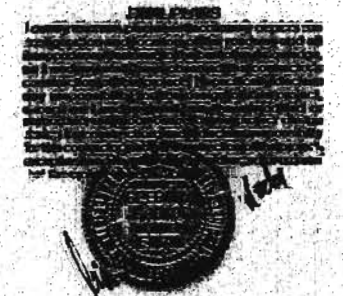
Note: Work this sheet with sheets no. 5, 6, 7, 8, 10, & 11.
For details of pedestrian curb and pedestrian fence, see sheet no. 44.

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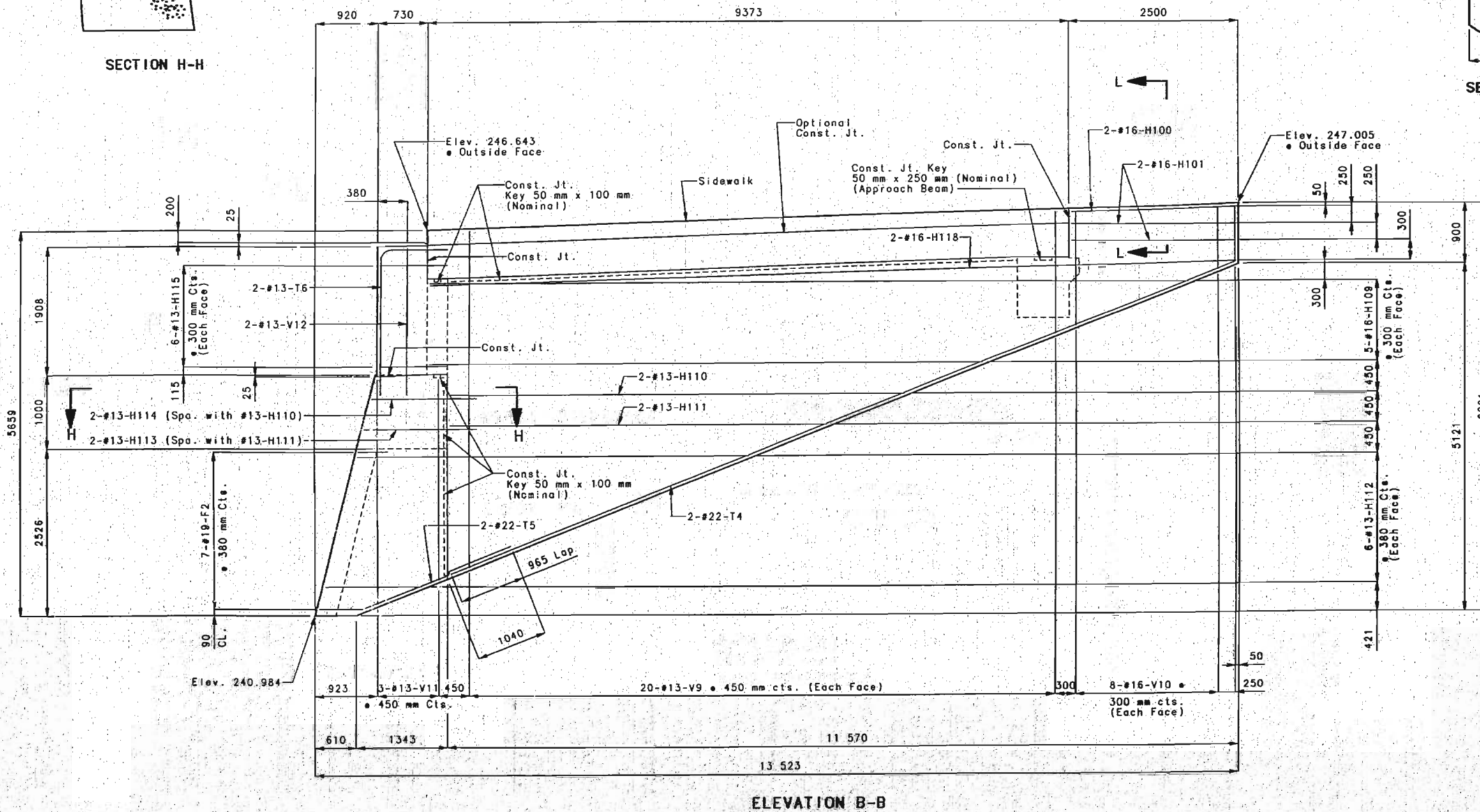
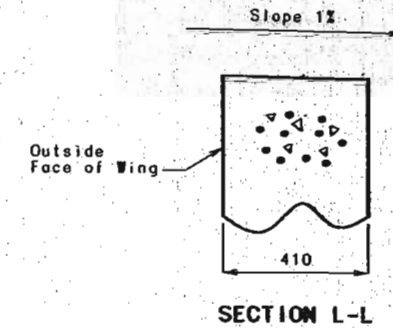
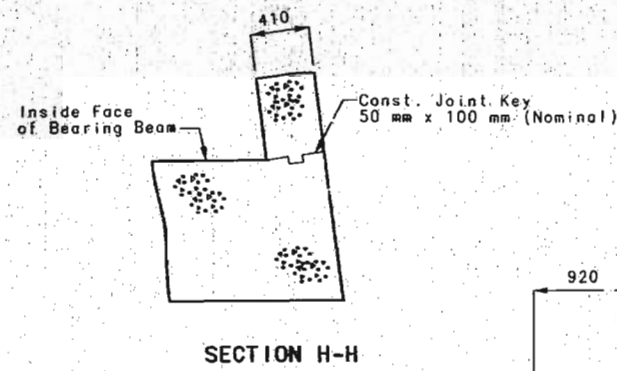
DETAILED MAR. 1997
CHECKED JAR. 1997

SHEET NO. 9 OF 61

JACKSON COUNTY A57261



STATE	PROJ. NO. J440922	SHEET NO.
NO.	ACMH1-70-(157)	61
ID 970926-07-OLM-116		
FINAL PLANS		



Note: Work this sheet with sheet no. 5, 6, 7, 8, 9, & 11.
For details of Pedestrian Fence, see sheet No. 45.

DETAILS OF ABUTMENT NO. 1

DETAILED MAR. 1997
CHECKED MAR. 1997

SHEET NO. 10 OF 61

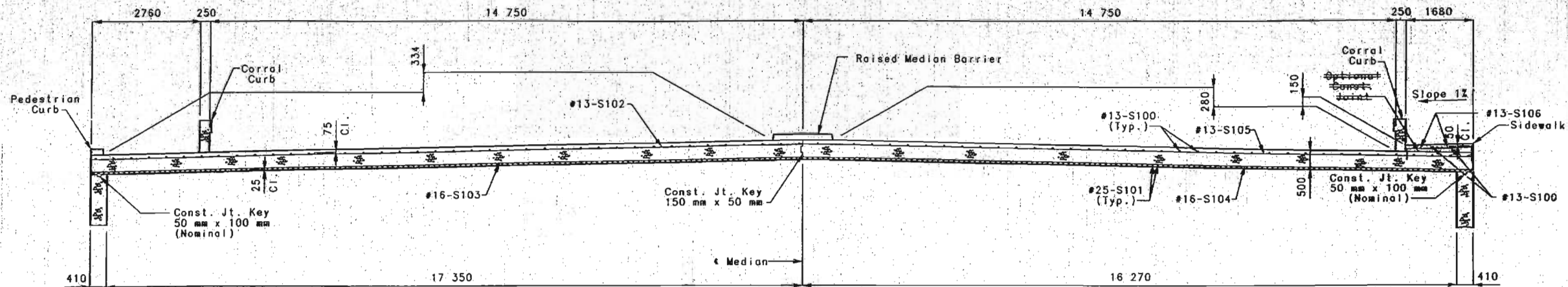
JACKSON

COUNTY

A5726

207

STATE	PROJ. NO. J440922	SHEET NO.
NO. ACNH1-70-(167)		11
ID 970926-07-OLH		



SECTION D-D (Normal to Median)
(Pedestrian Fence and Corral Curb Rail not shown for clarity)

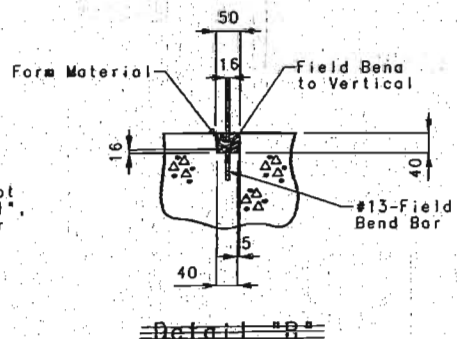
Note: All reinforcement for the optional or alternate anchoring system shall be epoxy coated.
No additional payment will be allowed for the usage of the optional or alternate anchoring system.
Work this sheet with sheets no. 5, 6, 7, 8, 9, & 10.
For details of Raised Median Barrier, see sheets no. 47 & 48.

Note: All concrete and reinforcing steel above the optional sidewalk construction joint on the semi-deep abutment is included in the Estimated Superstructure Quantities for Slab on Semi-Deep Abutments.

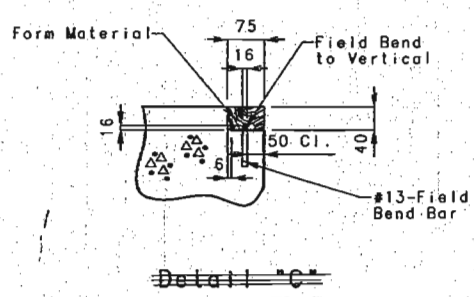
Note: If the contractor chooses to use the optional resin anchor system, the contractor shall use one of the resin anchor systems listed in the job special provisions. These optional resin anchor systems shall be installed according to manufacturer's specifications, except as modified by the job special provisions. S106 bars from the "Bill of Reinforcing Steel", shall be a component part of the optional resin anchor system in lieu of 12.7 mm diameter threaded rod studs.

The 12.7 mm diameter optional resin anchor systems shall have a minimum ultimate pullout strength of 43.8 kN in concrete with $f'_c = 28$ MPa.

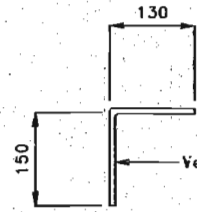
Concrete must be at least 7 days old before drilling will be permitted.



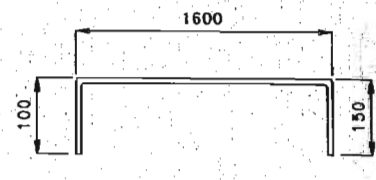
Detail "B"



Detail "C"

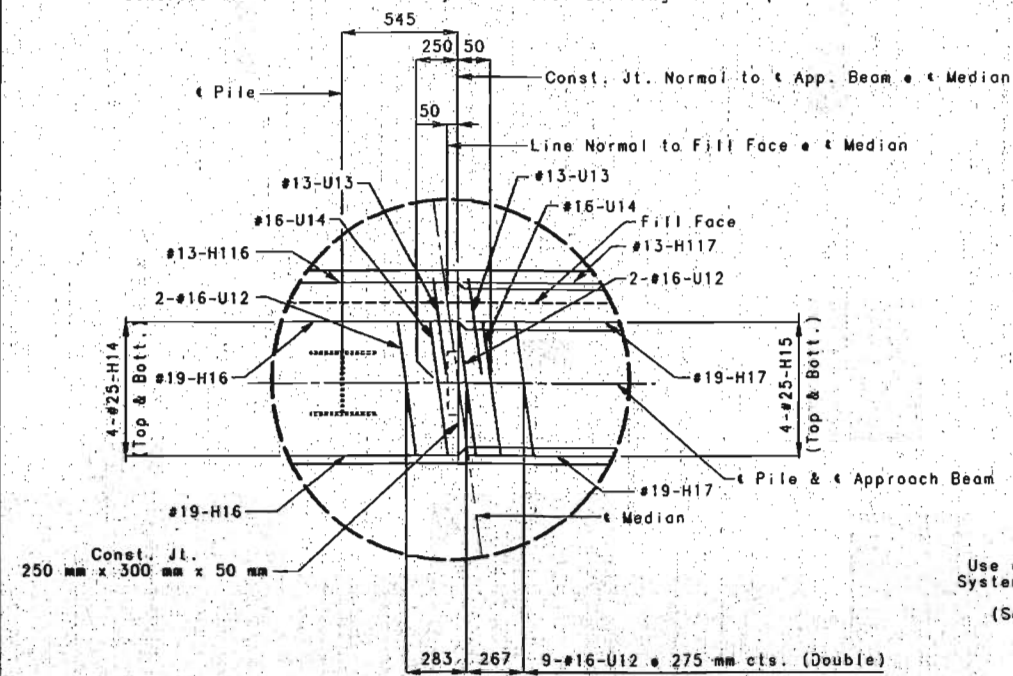


#13-FIELD BEND BAR **
(Grade 300)



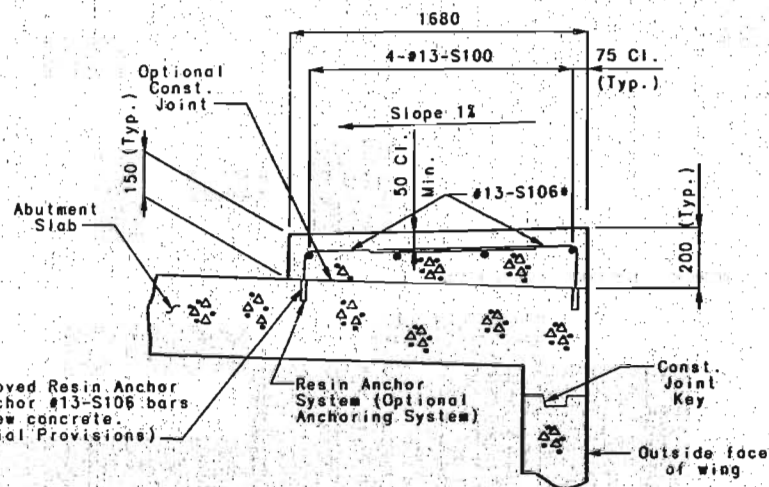
#13-S BAR **

** Use these bars with Alternate Anchoring System in lieu of #13-S106 bars.



DETAIL "D"

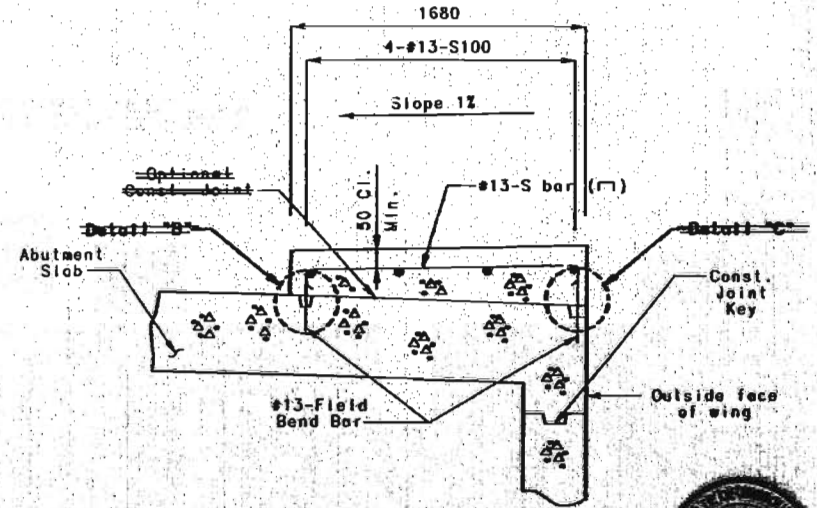
NOTE: Shift U-Bars as necessary to clear Const. Jt.



OPTIONAL RESIN ANCHORING SYSTEM

(Corral Curb, Corral Curb Rail, and Pedestrian Fence not shown for clarity.)

* When used in Resin Anchor System, adjust vertical leg dimension of bar for manufacturer's required embedment length.



ALTERNATE ANCHORING SYSTEM

(Corral Curb, Corral Curb Rail, and Pedestrian Fence not shown for clarity.)

DETAILS OF ABUTMENT NO. 1

DETAILED MAR. 1997
CHECKED MAR. 1997

SHEET NO. 11 OF 61

JACKSON

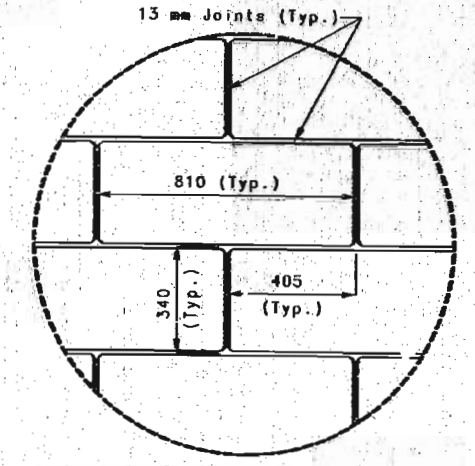
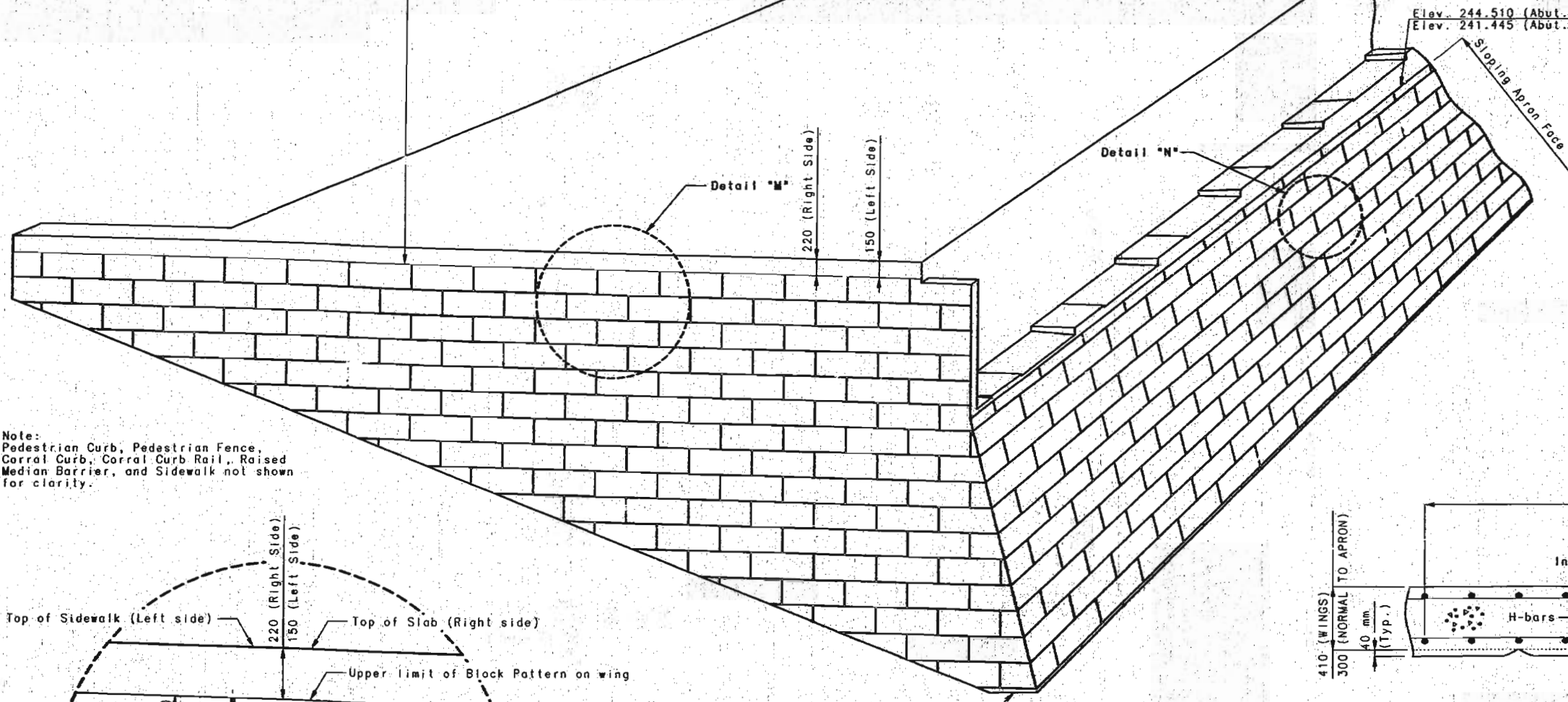
COUNTY

A57261

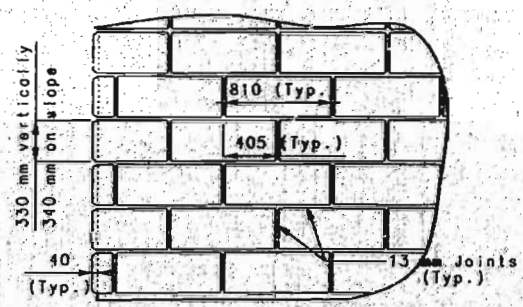
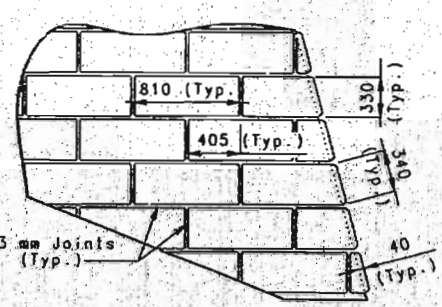
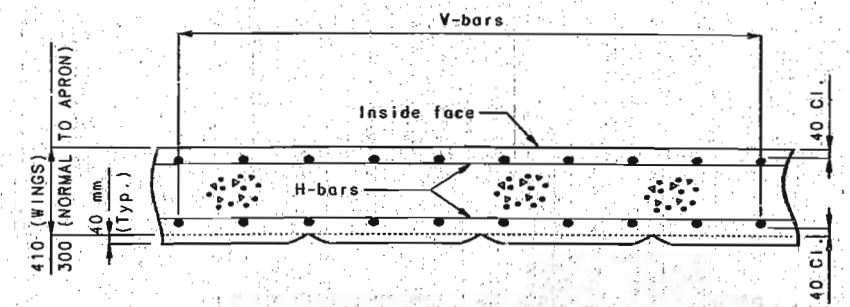
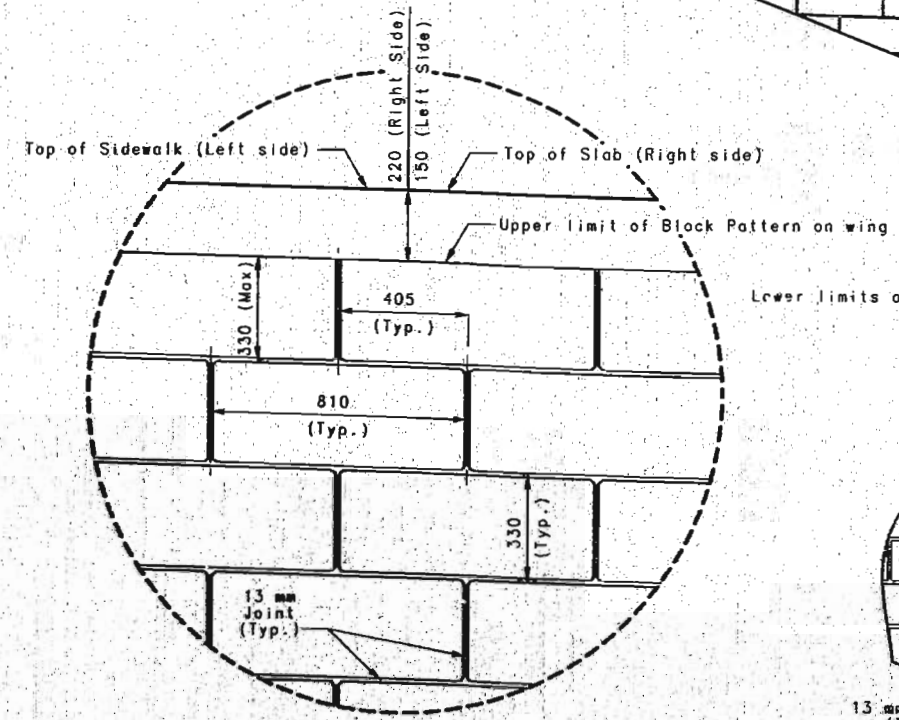
208

STATE	PROJ. NO. J410922	SHEET NO.
NO.	ACMHT-70-(167)	91
ID: 970926-07-01H		

Start Block Pattern on wing parallel to grade on a plane
 • bottom of bridge slab (Right side)
 • bottom of cantilever sidewalk (Left side)



Note:
 Pedestrian Curb, Pedestrian Fence,
 Corral Curb, Corral Curb Rail, Raised
 Median Barrier, and Sidewalk not shown
 for clarity.



DETAILS OF ABUTMENT NO. 1
 (Abutment No. 3 Similar)

Note:
 Block rows on the wings shall be parallel to grade.
 Block rows on the apron shall be parallel to the bottom
 of the apron. Horizontal joints on the apron shall line
 up with the parallel-to-grade joints on the wings of the
 corners.
 Construction Joints not shown for clarity.

209

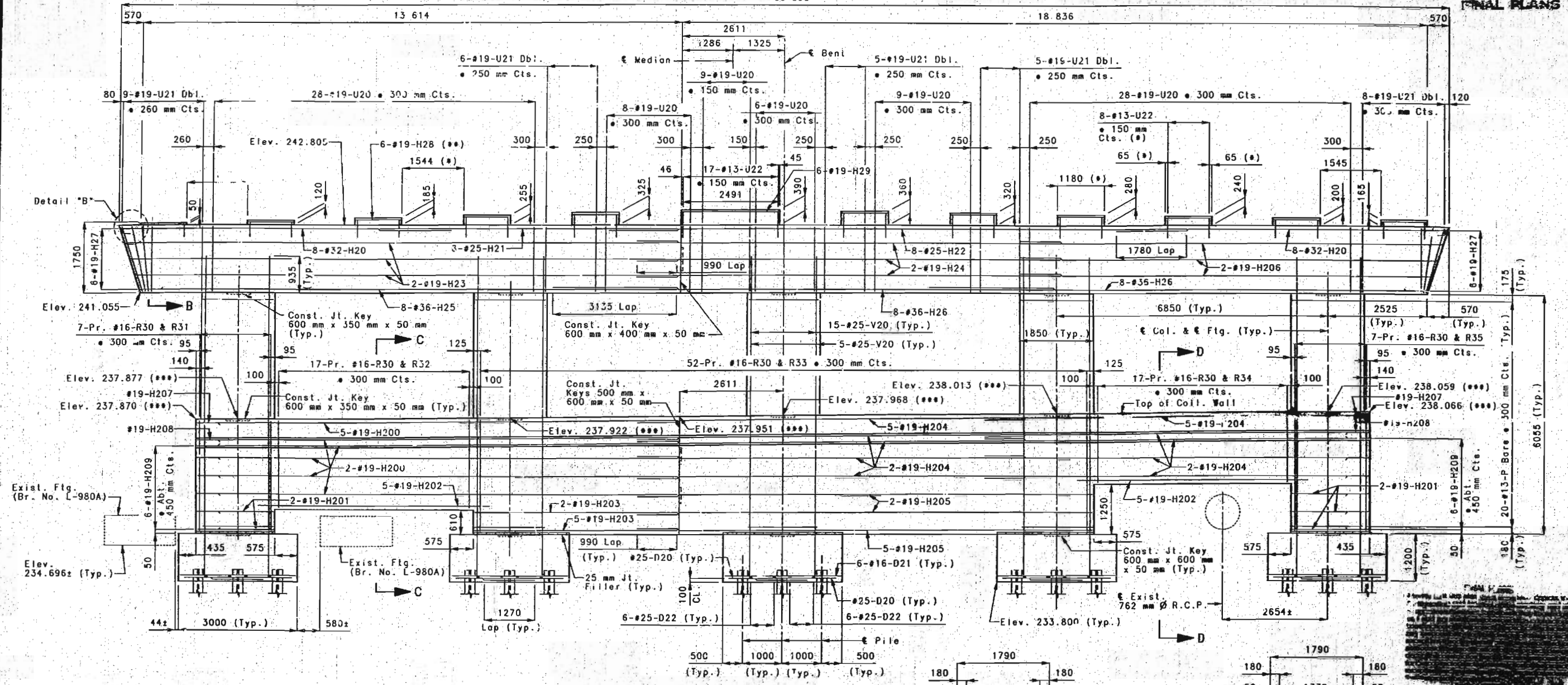
DETAILED MAR. 1997
 CHECKED APR. 1997

SHEET NO. 12 OF 61

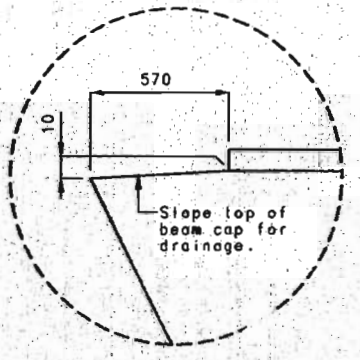
JACKSON COUNTY A57261

STATE	PROJ. NO. 740922	SHEET NO.
MO. ACNH1-70-(167)		52
ID 970928-07-OLH		

FINAL PLANS



210

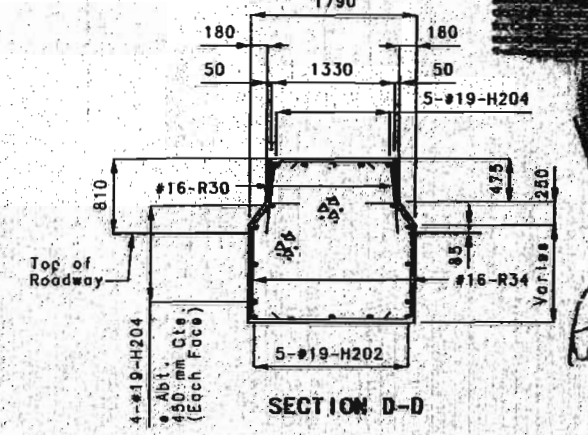
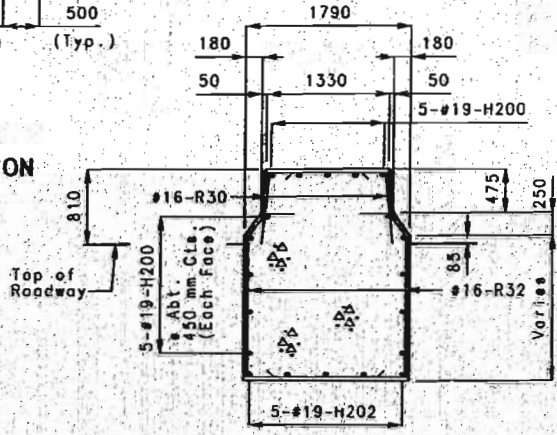


DETAIL "B"

NOTE: Left side of beam shown. Right side is similar.

NOTE:
 Work this sheet with sheets No. 14, 15 & 16.
 (*) Typical unless otherwise shown.
 (**) Typical except at girder No. 1, 6 & 7.
 (***) Top of wall shall be 810 mm above top of pavement at gutter line.
 Block pattern not shown for clarity. See sheet No. 16.

ELEVATION



DETAILS OF INTERMEDIATE BENT NO. 2

SHEET NO. 13 OF 61

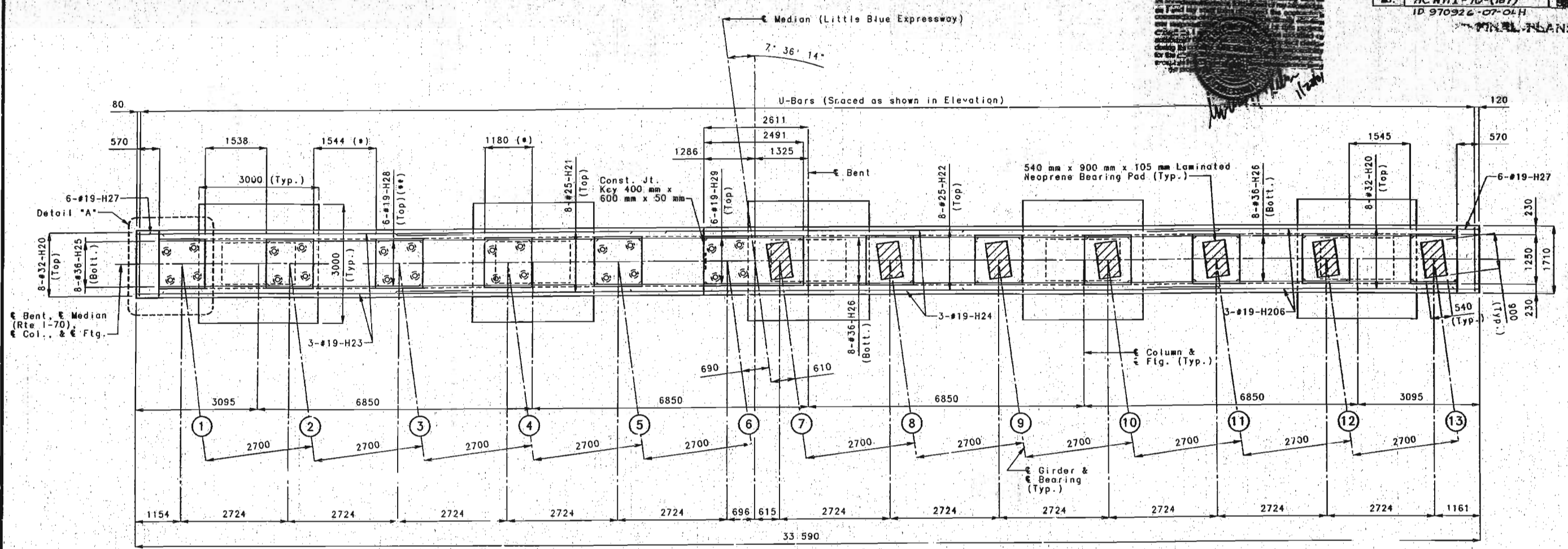
JACKSON

COUNTY

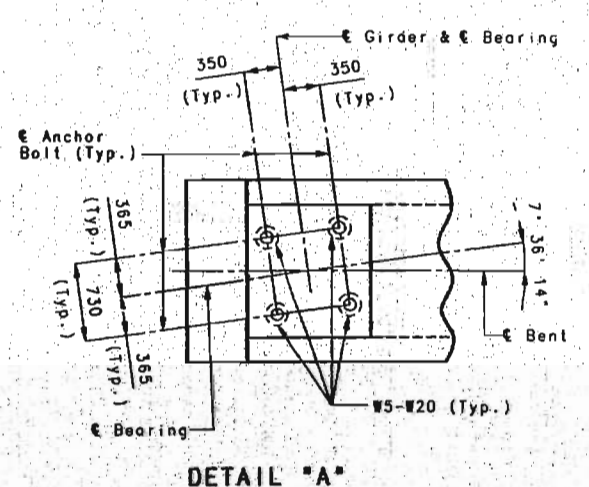
A57261

DETAILED APR. 1997
 CHECKED APR. 1997

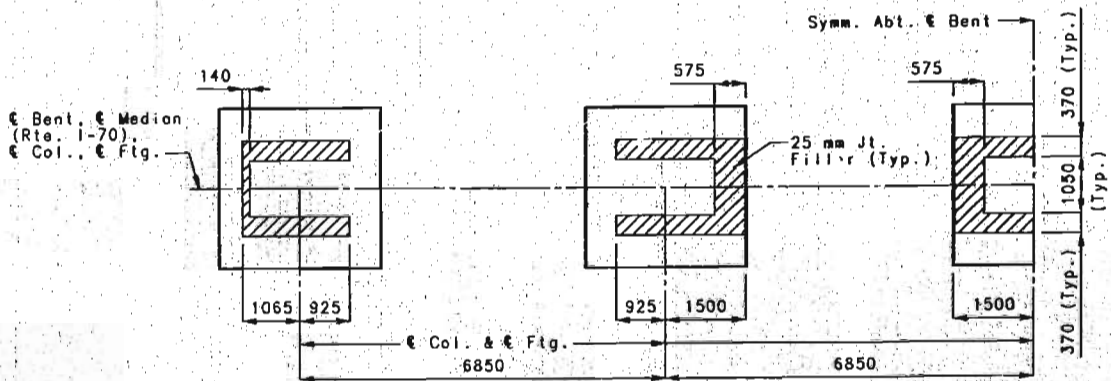
STATE	PROJ. NO. J#10923	SHEET NO.
MD.	ACNH1-70-(187)	59
ID 970926-07-04H		
FINAL PLANS		



PLAN



DETAIL "A"



HALF PLAN OF FOOTINGS SHOWING JT. FILLER LOCATIONS

ITEM	UNIT	QUANTITY
Class 1 Excavation - Metric	Cu. meter	309.1
Structural Steel Piles (360 mm) - Metric	meter	738.0
Class B Concrete (Substructure) - Metric	Cu. meter	318.9
Block Pattern Formliner - Metric	Sq. meter	95.1
Reinforcing Steel (Bridges) - Metric	Kilogram	19 985

NOTE: These quantities are included in the estimated quantities table on sheet No. 2

NOTE:
 Work this sheet with sheets No. 13, 15, & 16.
 (*) Typical unless otherwise shown.
 (**) Typical except at girder No. 1, 6 & 7.
 For details of Anchor Bolt Wells see sheet No. 26.
 For details of Swedge Anchor Bolts, see sheet No. 28.



DETAILS OF INTERMEDIATE BENT NO. 2

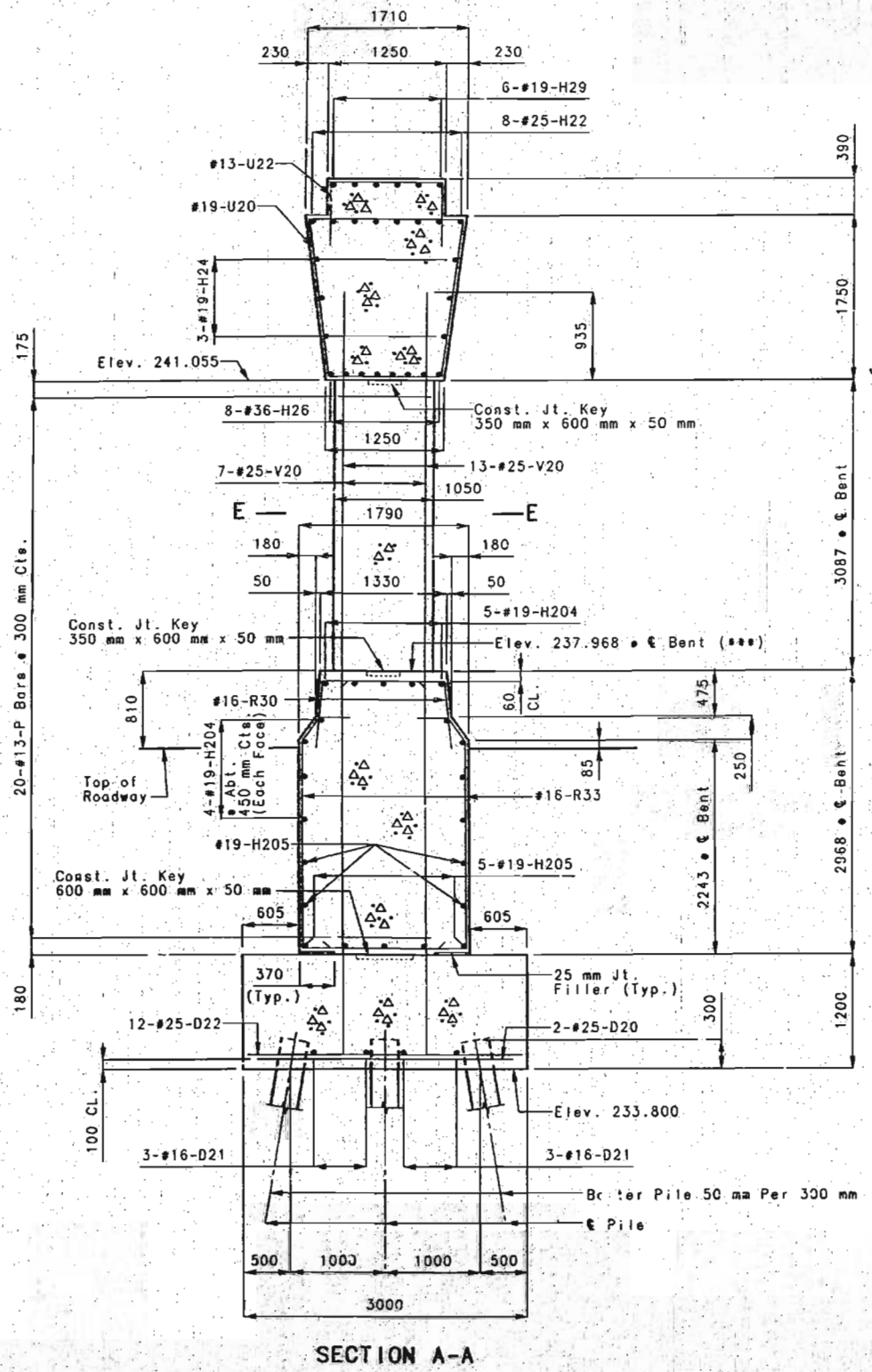
DETAILED APR. 1997
 CHECKED APR. 1997

SHEET NO. 14 OF 61

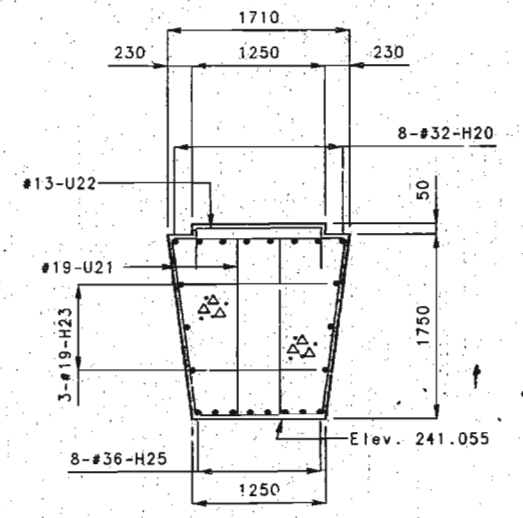
JACKSON COUNTY A5726

Handwritten scribble and number '211'.

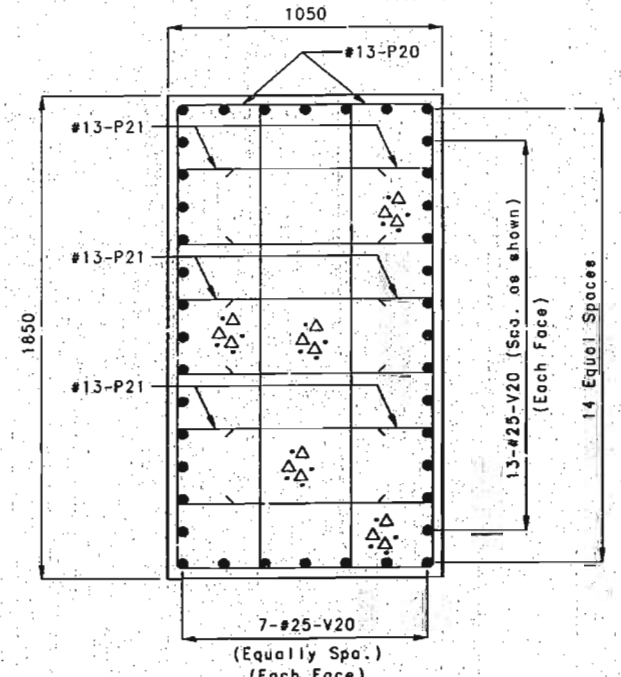
STATE	PROJ. NO. 3410922	SHEET NO.
MO. ACNHI-70-(167)		94
ID 970926-07-04H		
T.M.S. ANS		



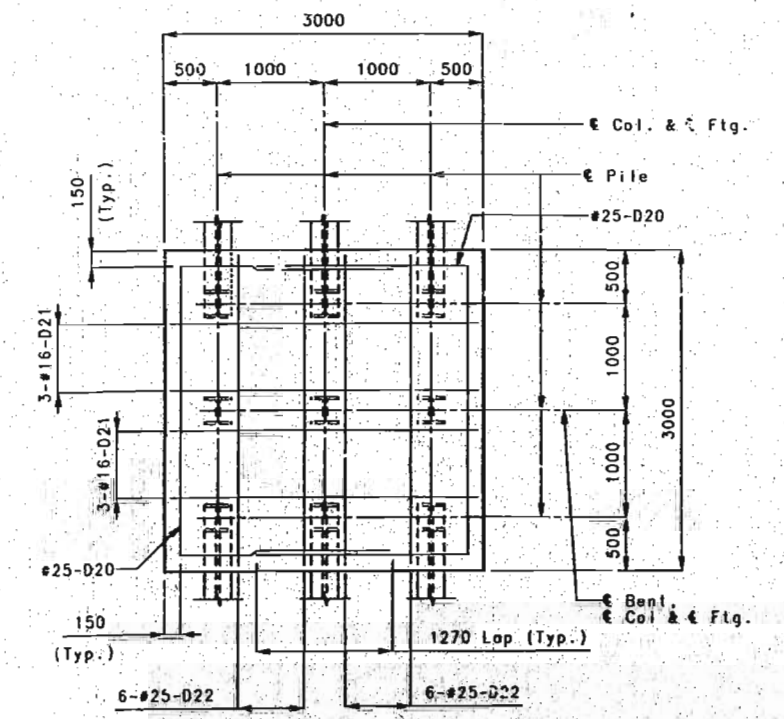
SECTION A-A



SECTION B-B



SECTION E-E



PLAN OF FOOTING

NOTE:
 Mark this sheet with sheets No. 13, 14 & 16.
 (***) Top of wall shall be 810 mm above top of pavement at gutter line.

Handwritten signature and number 212.

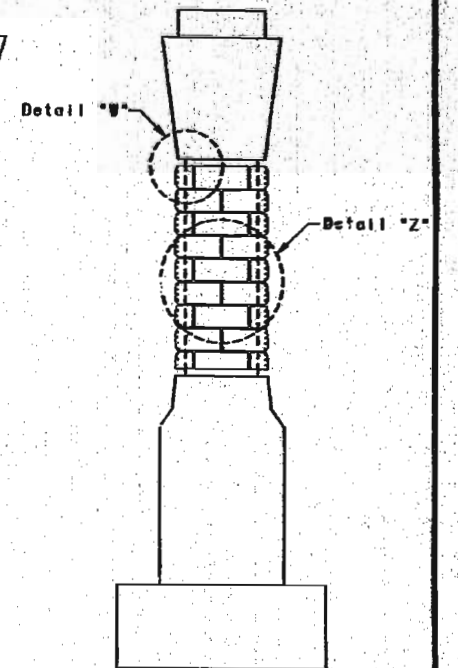
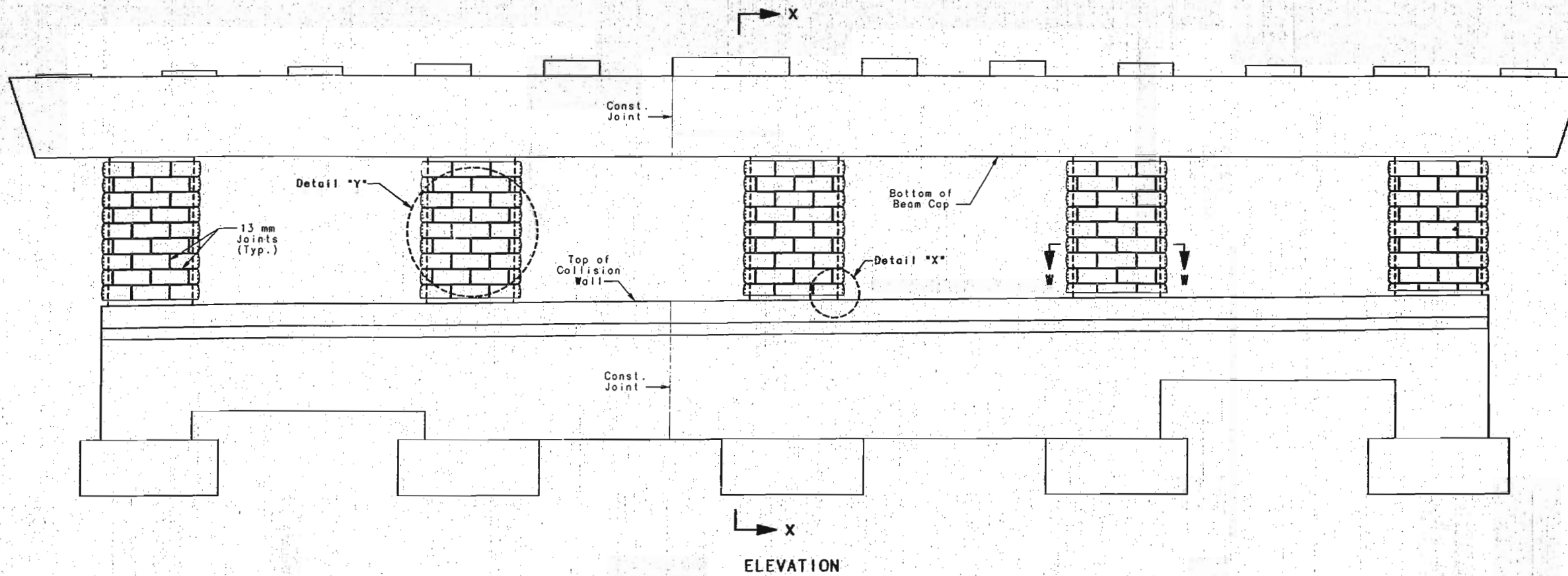
DETAILS OF INTERMEDIATE BENT NO. 2

DETAILED APR. 1997
 CHECKED APR. 1997

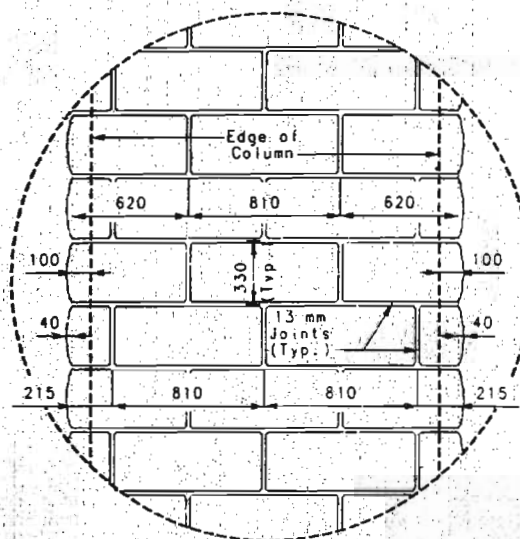
SHEET NO. 15 OF 61



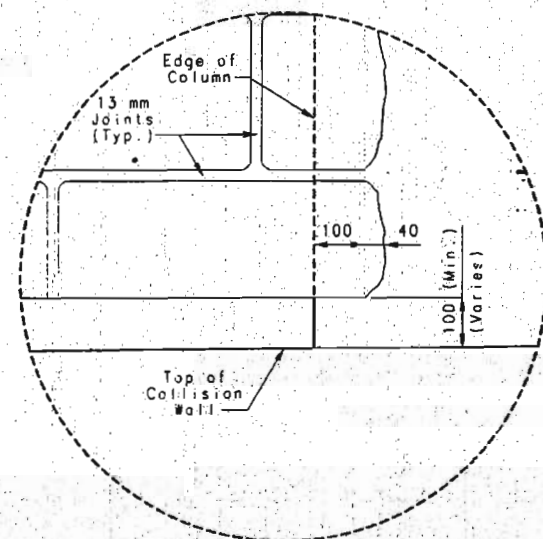
STATE	PROJ. NO. 3440922	SHEET NO.
NO. ACNH1-70-(167)		16
ID 970926-07-G/H		
FINAL PLANS		



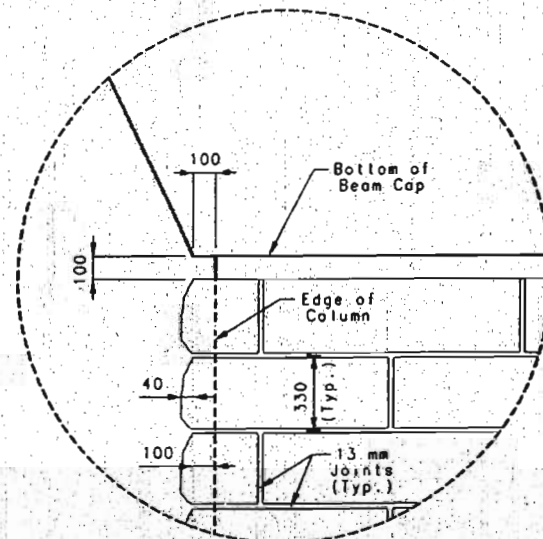
SECTION X-X
TYPICAL SIDE ELEVATION



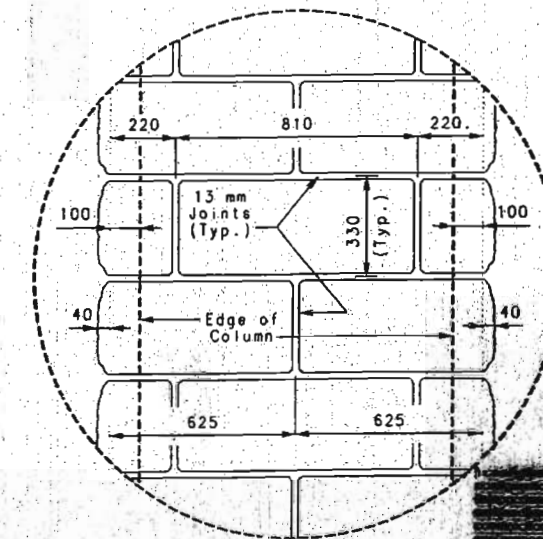
DETAIL "Y"



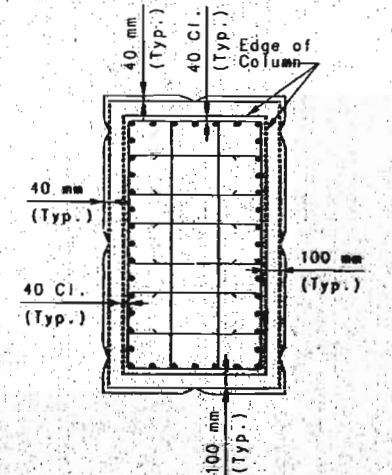
DETAIL "X"



DETAIL "W"



DETAIL "Z"



SECTION W-W
(For steel callout. See Section E-E on Sheet No. 15)

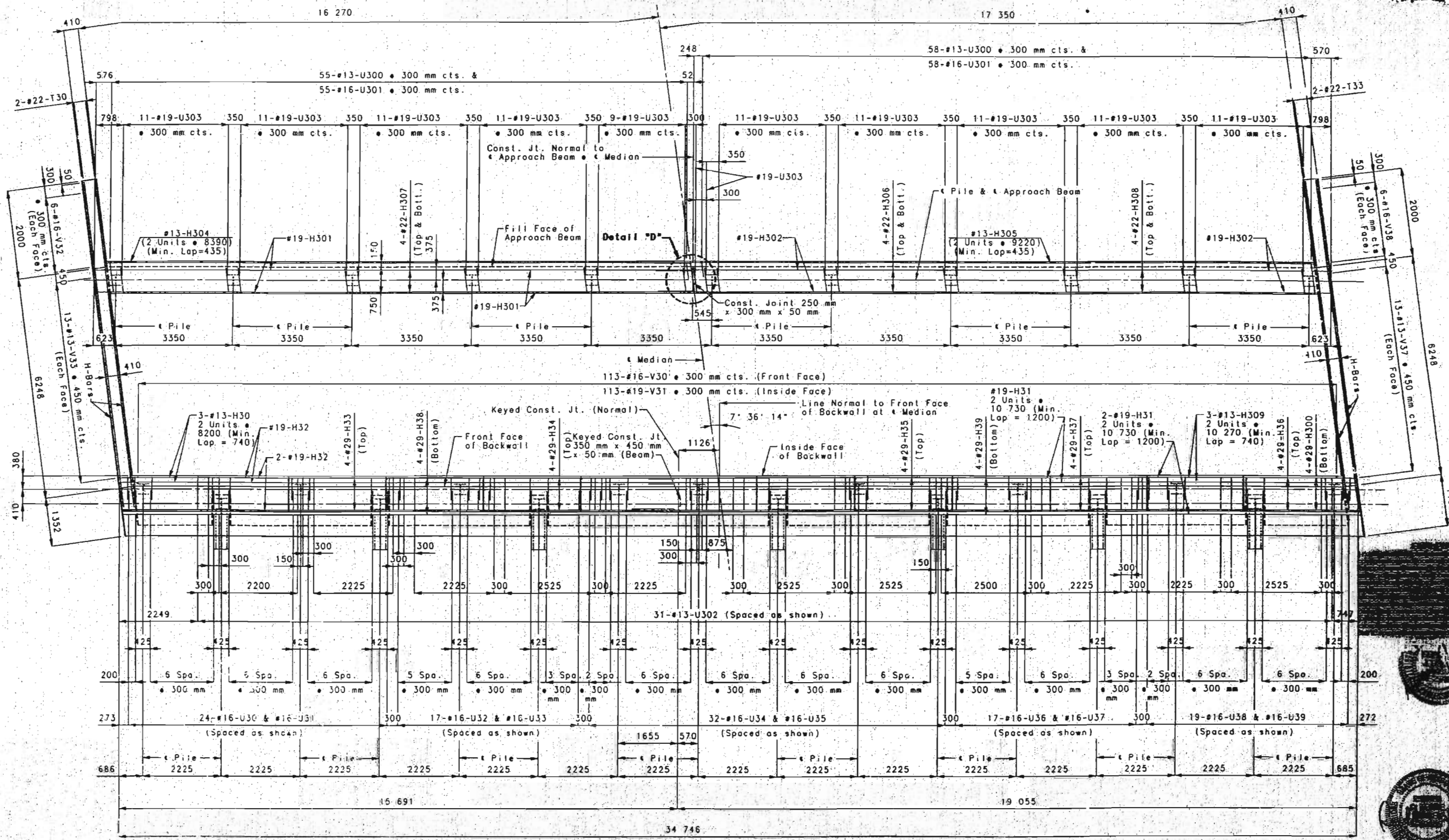
DETAILS OF INTERMEDIATE BENT NO. 2
(SHOWING BLOCK PATTERN)

All block rows shall be parallel to the face of beam cap.
Work this sheet with Shee' No. 13, 14, & 15.

213

STATE	PROJ. NO. J410922	SHEET NO.
NO. ACNH I-70-(167)		96
10 970926-07-01H		

DETAIL PLANS



Handwritten number 214

SECTION NEAR UPPER CONSTRUCTION JOINT

(Construction jt. keys & upper const. jt. not shown for clarity.)
(Curbs & walls not shown for clarity.)

DETAILS OF ABUTMENT NO. 3

Note: All reinforcing bars in the top of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 15 mm.

Note: Work this sheet with sheets no. 18, 19, 20, 21, 22, & 23.
Field bending shall be required at wings for H31 and H309 bar in backwall.

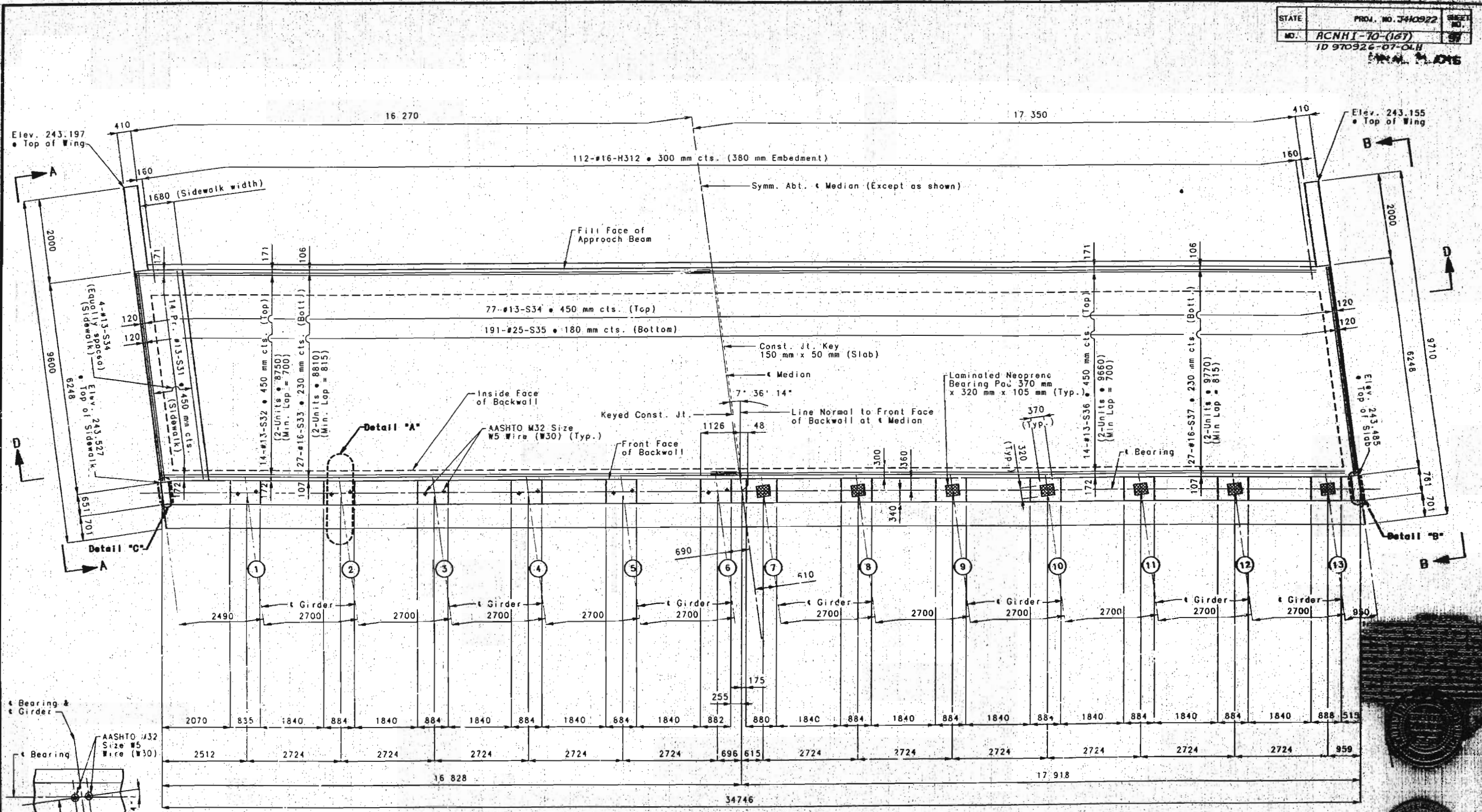
DETAILED APR. 1997
CHECKED MAY 1997

SHEET NO. 17 OF 61

JACKSON COUNTY

A5726

STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNHI-10-(167)	ID 970926-07-OLH	18



S15

PLAN OF ABUTMENT

Note: All reinforcing bars in the top of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 15 mm.

Note: For Details of Anchor Bolt Wells see sheet no. 26.
 For details of Raised Median, see sheet no. 47 & 48.
 Work this sheet with sheets no. 17, 19, 20, 21, 22, & 23.
 For formliner pattern and locations, see sheet no. 12.

Note: Top of abutment slab and expansion device for Abutment No. 3 shall conform to crown of roadway slab.
 For details of expansion device see sheet no. 49, 50, 51, & 52.
 Pedestrian curb, pedestrian fence, corral curb, corral curb rail, and raised median barrier not shown for clarity.

DETAILS OF ABUTMENT NO. 3

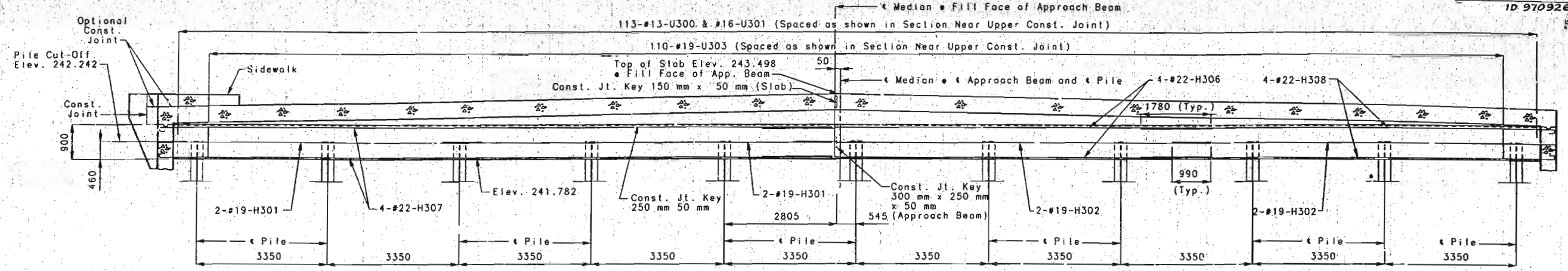
DETAILED APR. 1997
 CHECKED MAY. 1997

SHEET NO. 18 OF 61

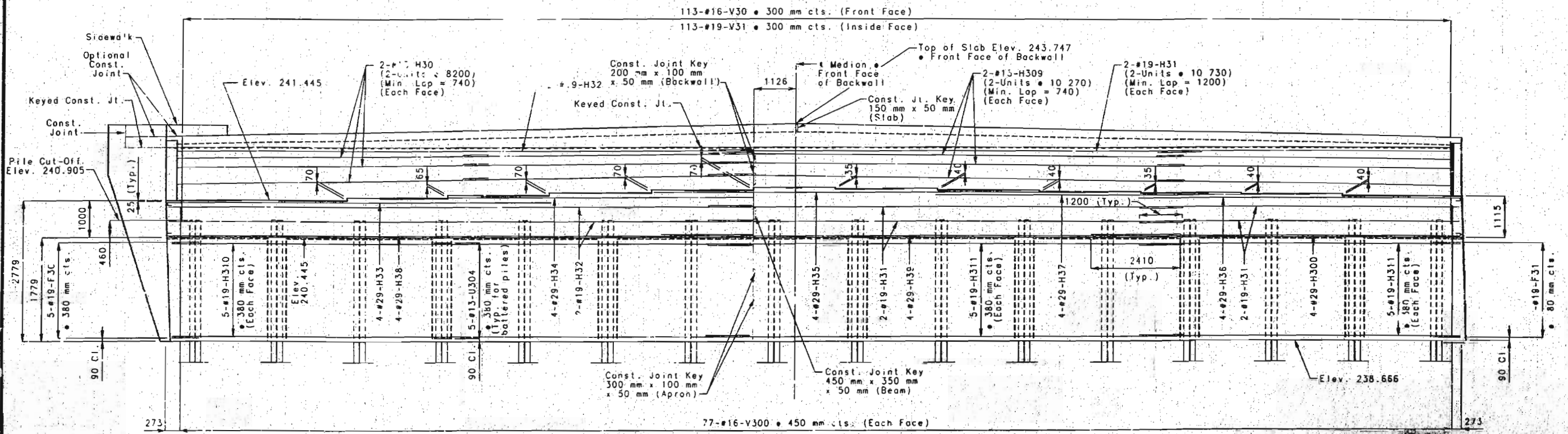
JACKSON COUNTY

A57261

STATE	PROJ. NO. 140922	SHEET NO.
MO.	ACNH 1-70-(187)	19
ID 970926-07-01H		

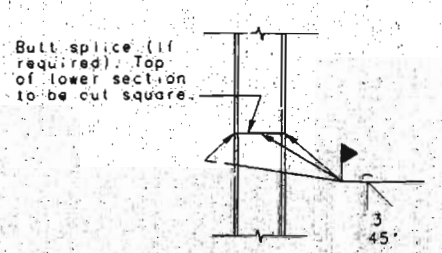


SECTION NEAR APPROACH BEAM



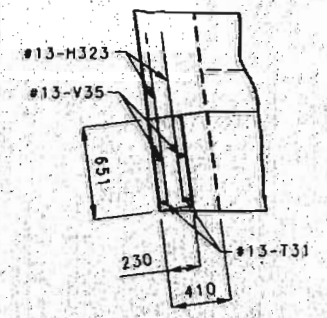
ELEVATION

2/6

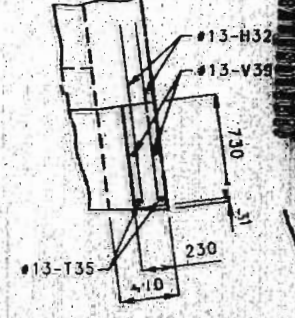


DETAIL OF STEEL PILE SPLICE

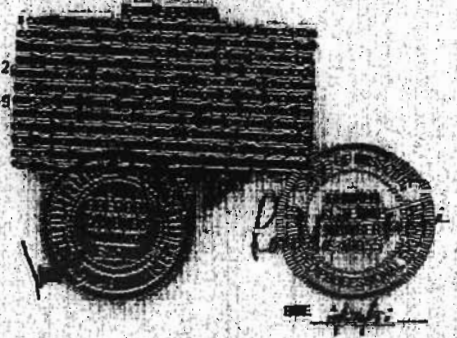
Note: All reinforcing bars in the top of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 15 mm.
 Place all U-Bars in the Approach Beam parallel to Median.
 Bearing seats are level and step heights shown are taken at front face of backwall.
 Pedestrian curb, pedestrian fence, corral curb, corral curb rail, and raised median barrier not shown for clarity.



DETAIL "C"



DETAIL "B"



DETAILS OF ABUTMENT NO. 3

Note: Work this sheet with sheets no. 17, 18, 20, 21, 22, & 23.

DETAILED APR. 1997
 CHECKED MAY 1997

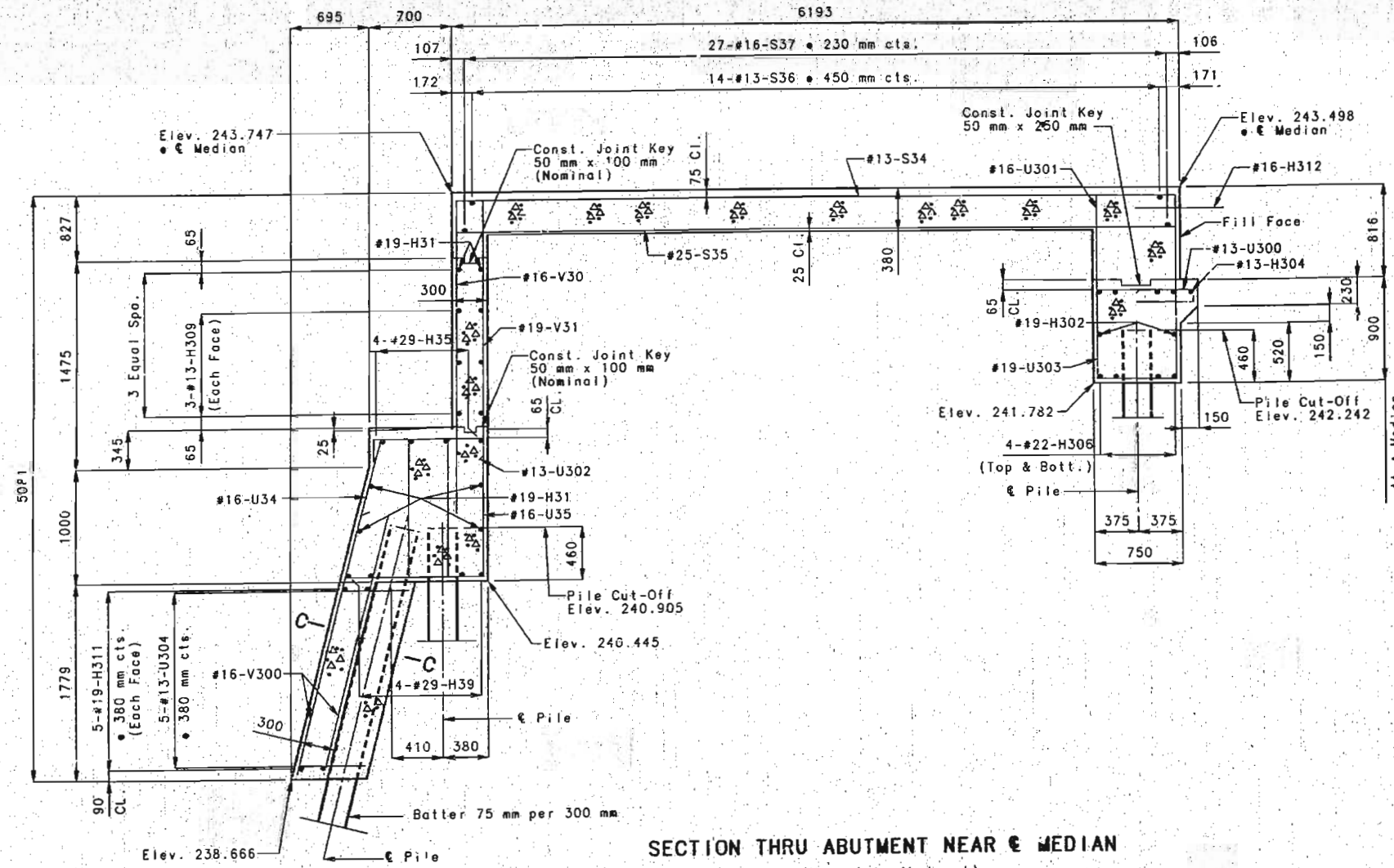
SHEET NO. 19 OF 61

JACKSON

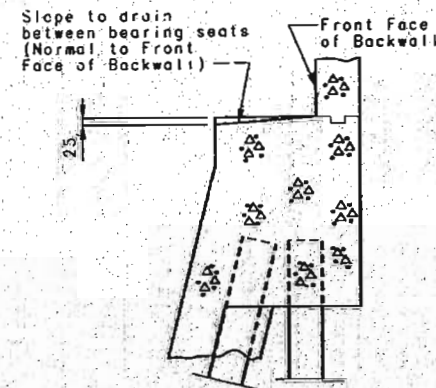
GGUNTY

A57261

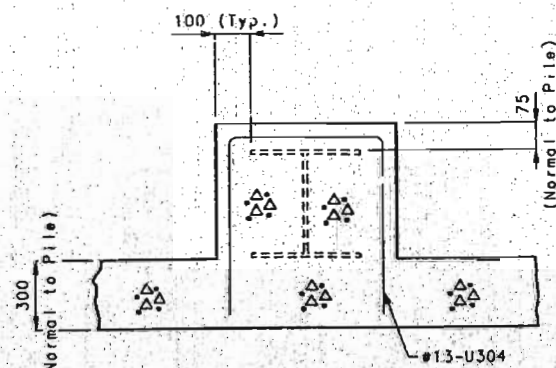
STATE	PROJ. NO. J410922	SHEET NO.
NO. ACNH1-70-(167)		58
10 910926-07-OLH		
GENERAL PLANS		



SECTION THRU ABUTMENT NEAR MEDIAN
(Normal to Abutment)



PART SECTION THRU BEARING BEAM



SECTION C-C

DETAILS OF ABUTMENT NO. 3

Note: Work this sheet with sheets no. 17, 18, 19, 21, 22, & 23.

ITEM	QUANTITY
Class 1 Excavation - Metric	Cu. meter 52.85
Structural Steel Piles (310 mm) - Metric	meter 852.0
Class B Concrete (Substructure) - Metric	Cu. meter 123.8
Block Pattern Formliner - Metric	Sq. meter 149.7
Reinforcing Steel (Bridges) - Metric	Kilogram 2755
Reinforcing Steel (Epoxy Coated) - Metric	Kilogram 6965

Note: These quantities are included in the Estimated Quantities Table on sheet no. 2.

DETAILED APR 1997
CHECKED MAY 1997

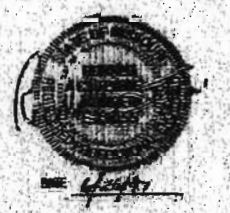
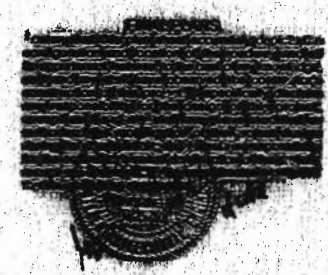
SHEET NO. 20 OF 61

JACKSON

COUNTY

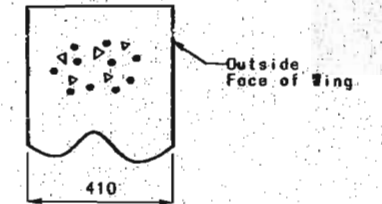
A57261

217

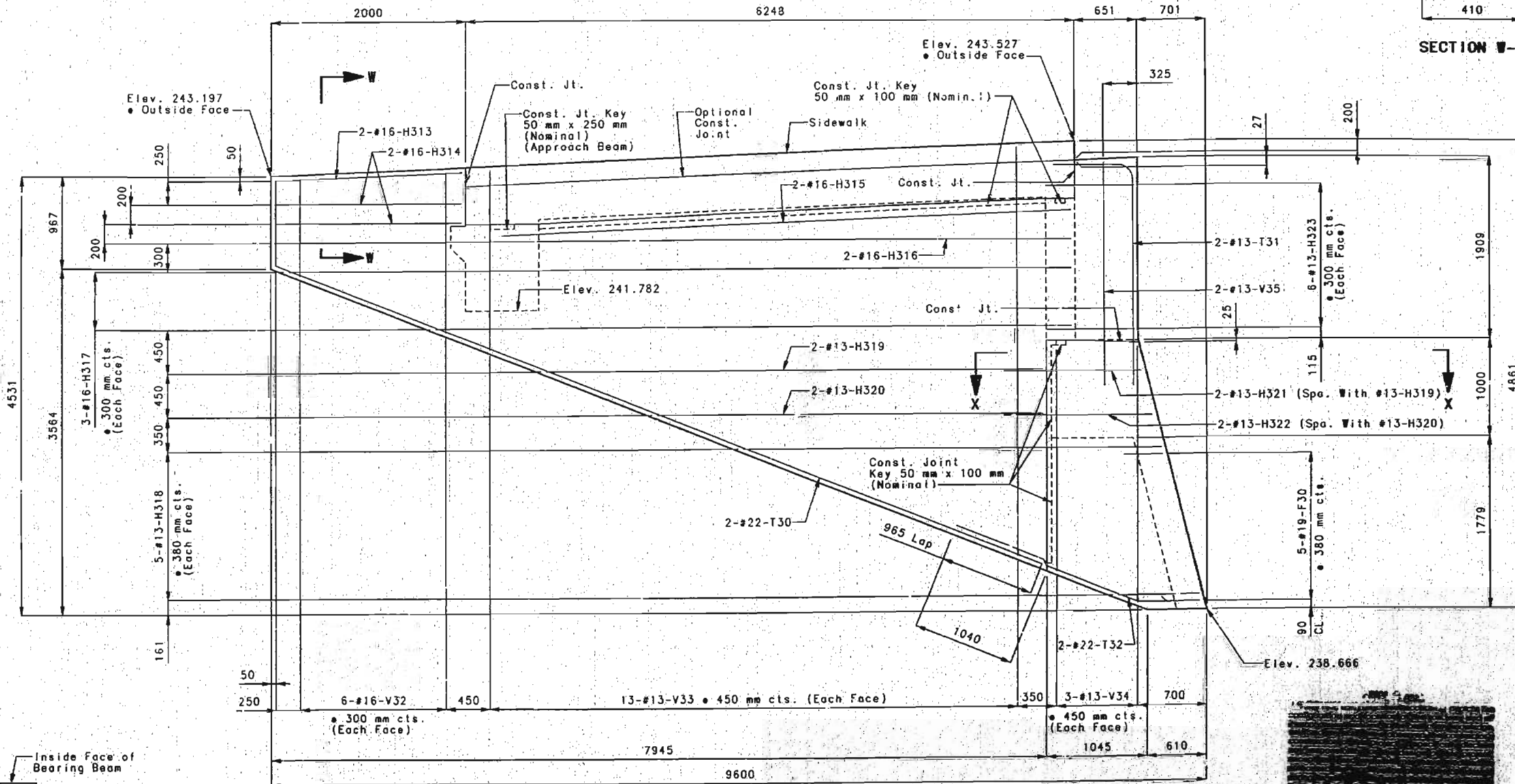


STATE	PROJ. NO. 7410322	SHEET NO.
MO. ACNH1-70-(187)	ID 970926-07-0LH	188
FLYING PLANS		

Slope 1%



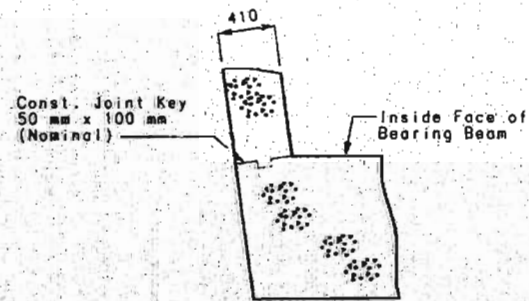
SECTION W-W



ELEVATION A-A

NOTE: Work this sheet with sheets no. 17, 18, 19, 20, 22, & 23. For details of Pedestrian Fence, see sheet No. 45.

DETAILS OF ABUTMENT NO. 3



SECTION X-X

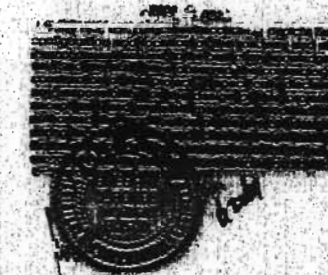
DETAILED APR. 1997
CHECKED APR. 1997

SHEET NO. 21 OF 61

JACKSON COUNTY

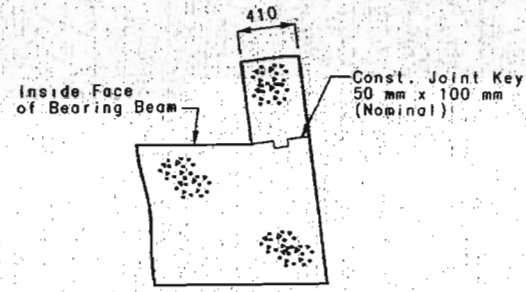
A57261

218

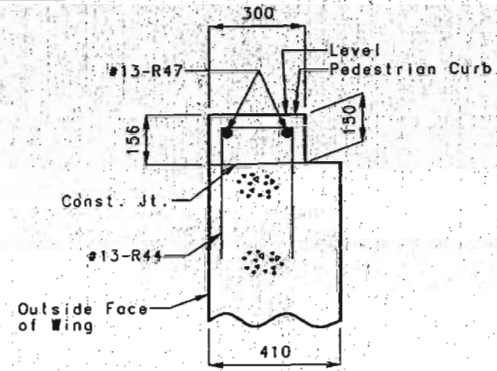


STATE	PROJ. NO. J410922	SHEET NO.
MD.	AC NH 1-10-(187)	101
ID 970926-07-01H		

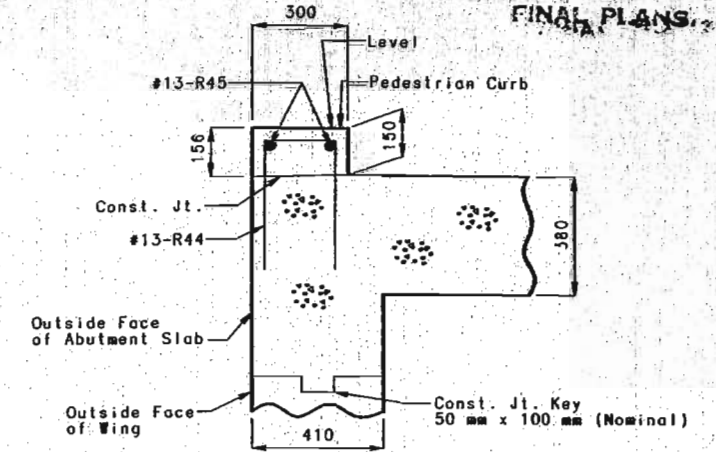
FINAL PLANS



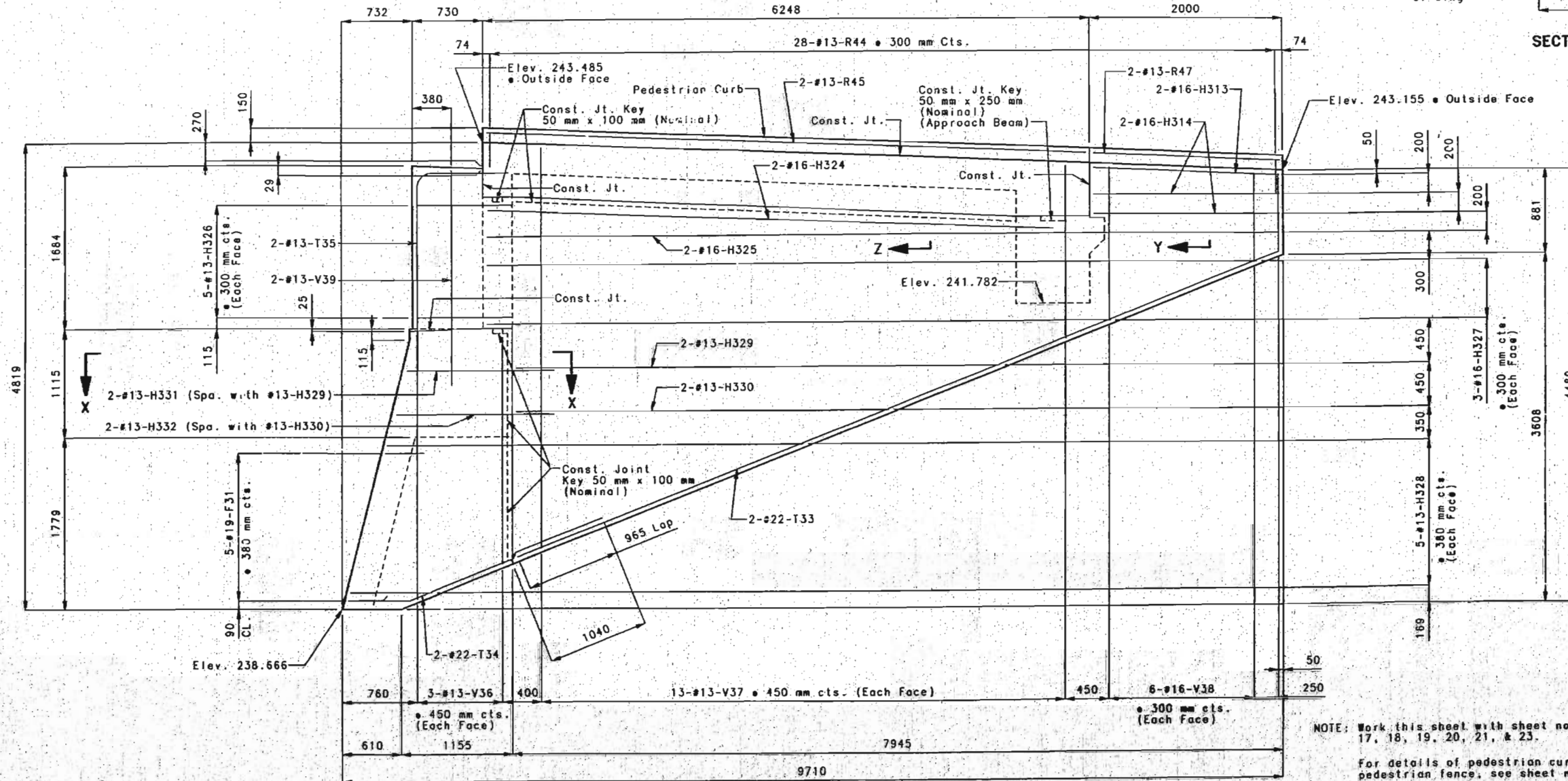
SECTION X-X



SECTION Y-Y



SECTION Z-Z



ELEVATION B-B

DETAILS OF ABUTMENT NO. 3

NOTE: Work this sheet with sheet no. 17, 18, 19, 20, 21, & 23.
 For details of pedestrian curb and pedestrian fence, see sheet no. 44.

FINAL PLANS
 I hereby certify that the above is a true and correct copy of the original plans as filed in my office, and that the same have been approved by me for construction.



DETAILED APR. 1997
 CHECKED APR. 1997

SHEET NO. 22 OF 61

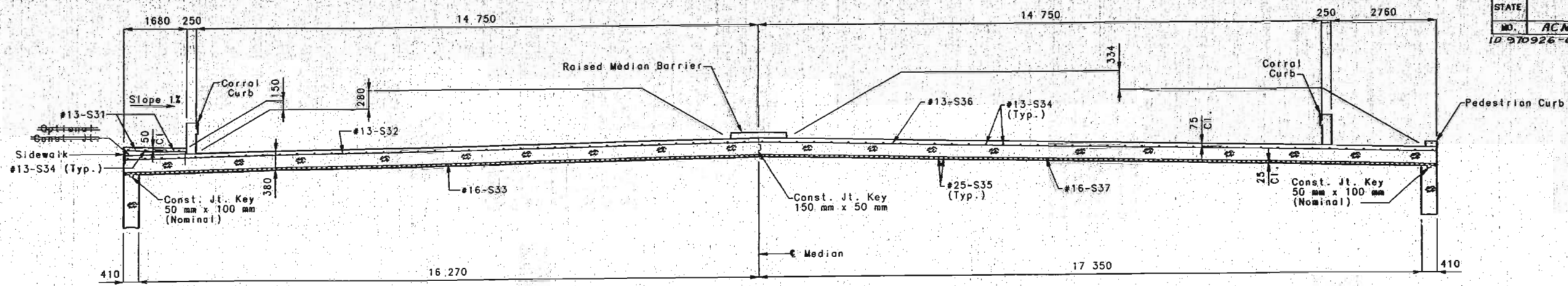
JACKSON

COUNTY

A57261

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STATE	PROJ. NO. J410922	SHEET NO.
NO. ACNH1-70-(167)		23
10 970926-07-OLB-PT. JMS		
FINAL PLANS		



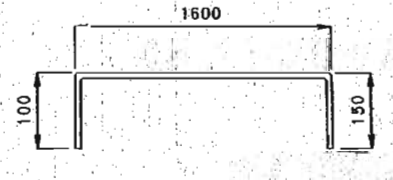
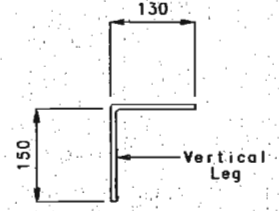
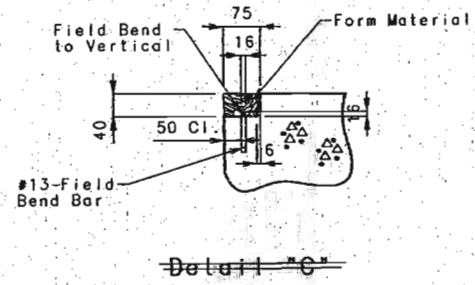
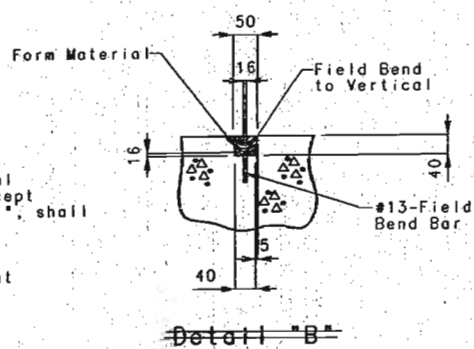
SECTION D-D (NORMAL TO MEDIAN)
(Pedestrian Fence and Corral Curb Rail not shown for clarity)

Note: All reinforcement for the optional or alternate anchoring system shall be epoxy coated.
No additional payment will be allowed for the usage of the optional or alternate anchoring system.
Work this sheet with sheets no. 17, 18, 19, 20, 21, & 22.
For details of Raised Median Barrier, see sheet no. 47 & 48.

Note: If the contractor chooses to use the optional resin anchor system, the contractor shall use one of the resin anchor systems listed in the job special provisions. These optional resin anchor systems shall be installed according to manufacturer's specifications, except as modified by the job special provisions. S31 bars from the "Bill of Reinforcing Steel" shall be a component part of the optional resin anchor system in lieu of 12.7 mm diameter threaded rod studs.

The 12.7 mm diameter optional resin anchor systems shall have a minimum ultimate pullout strength of 43.8 kN in concrete with $f'_c = 28$ MPa.

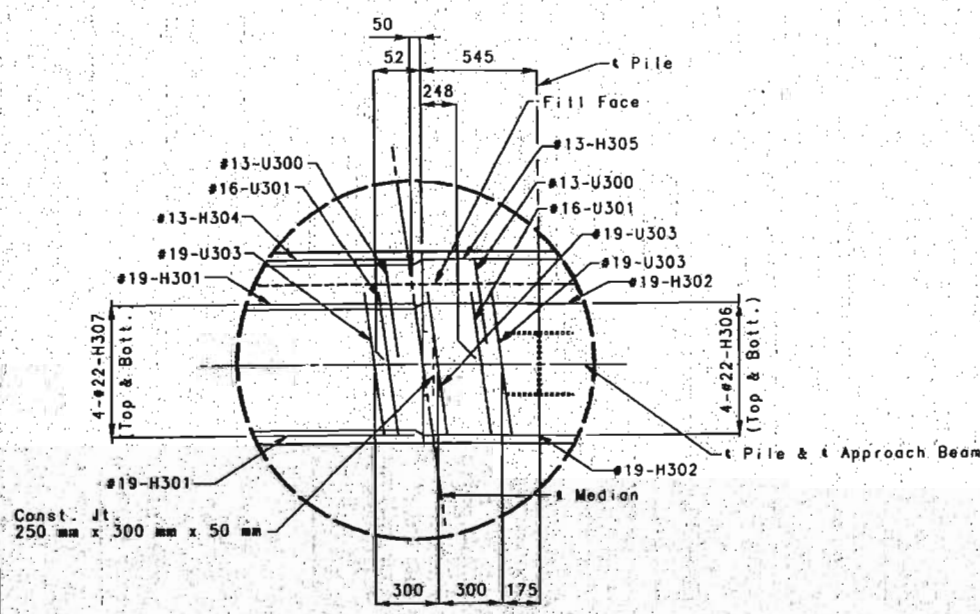
Concrete must be at least 7 days old before drilling will be permitted.



#13-FIELD BEND BAR **
(Grade 300)

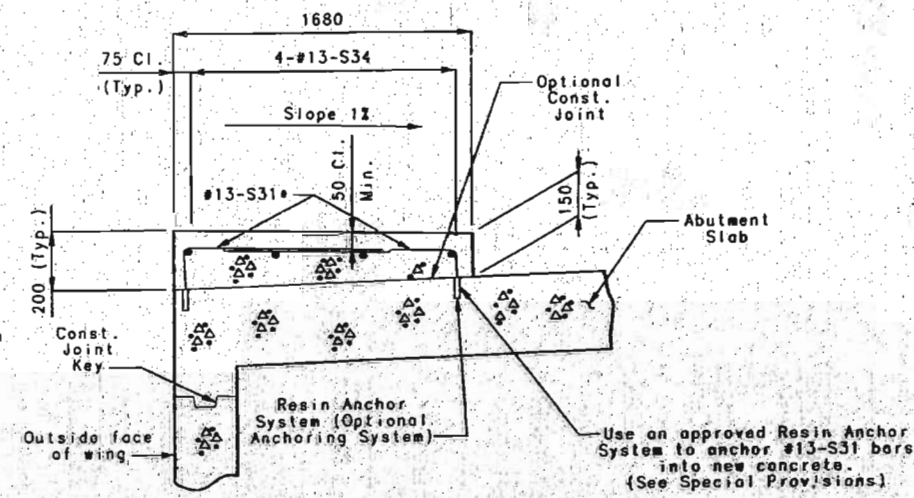
#13-S BAR **

** Use these bars with Alternate Anchoring System in lieu of #13-S31 bars.



DETAIL "D"

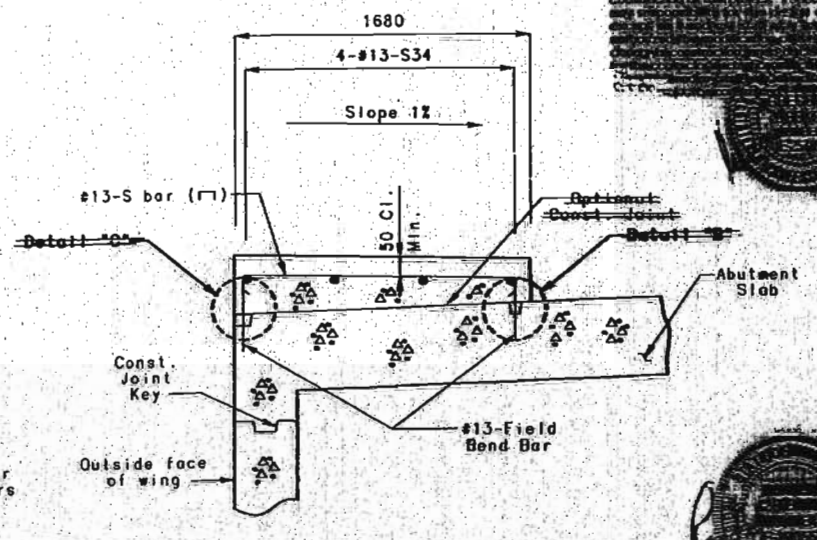
Note: Shift U-bars as necessary to clear Const. Joint



OPTIONAL RESIN ANCHORING SYSTEM
(Corral Curb, Corral Curb Rail, and Pedestrian Fence not shown for clarity.)

* When used in Resin Anchor System, adjust vertical leg dimension of bar for manufacturer's required embedment length.

DETAILS OF ABUTMENT NO. 3



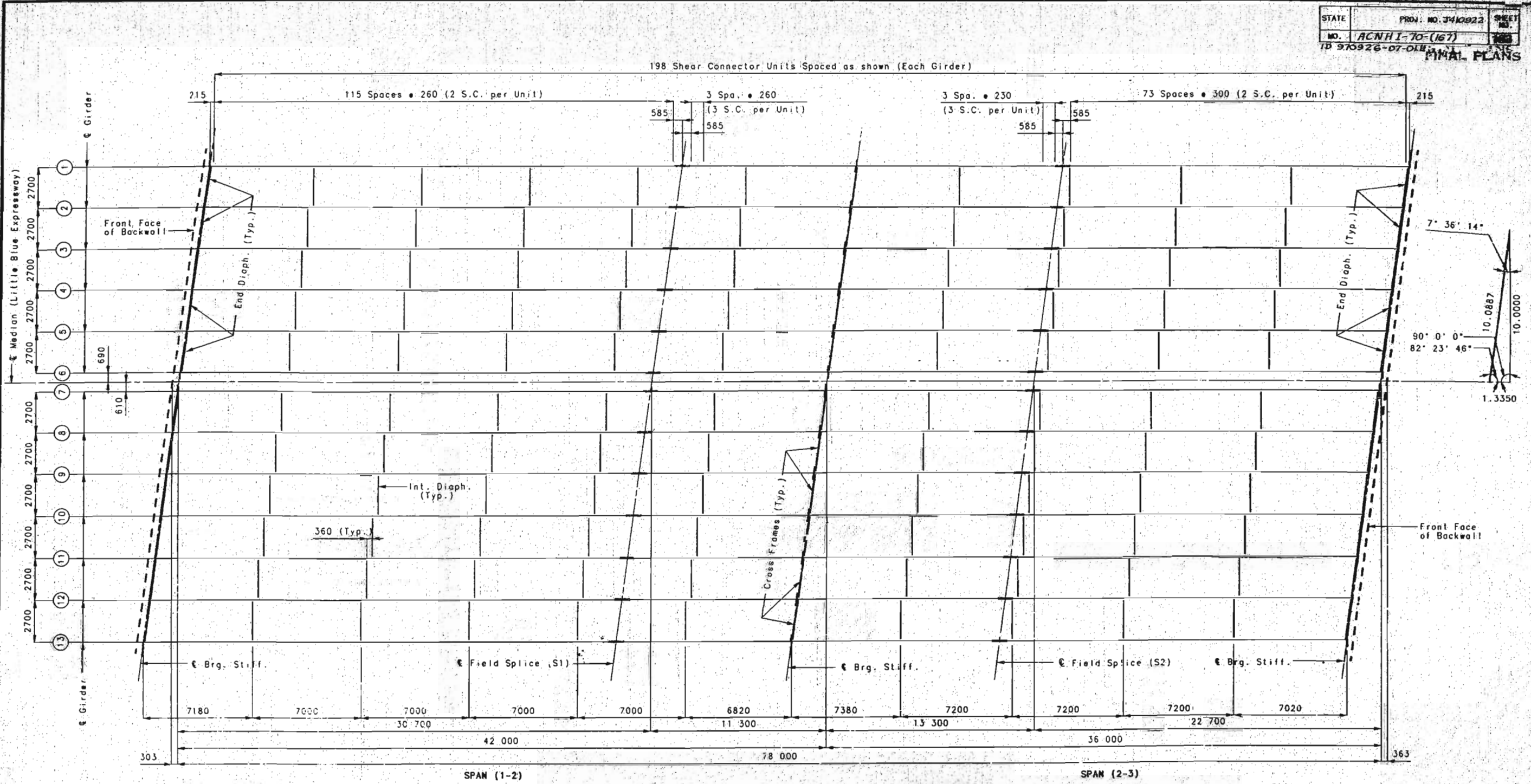
ALTERNATE ANCHORING SYSTEM
(Corral Curb, Corral Curb Rail, and Pedestrian Fence not shown for clarity.)

DETAILED APR. 1997
CHECKED APR. 1987

SHEET NO. 23 OF 61

JACKSON COUNTY

STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH I-70-(167)		24
ID 970926-07-01	FINAL PLANS	



Note: Longitudinal dimensions are horizontal from € bearing to € bearing.

PLAN OF STRUCTURAL STEEL

FINAL PLANS

By the use of these plans, the contractor shall be held responsible for the accuracy and interpretation of the same. The contractor shall be held responsible for the accuracy and interpretation of the same. The contractor shall be held responsible for the accuracy and interpretation of the same.

Note: For details of shear connectors, see sheet no. 26. For elevation of girder, see sheet no. 25.

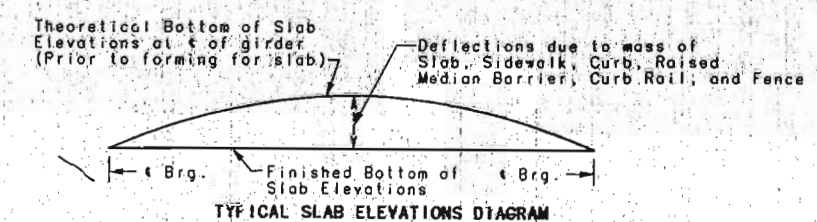


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STATE	PROJ. NO. J-110922	SHEET NO.
MO.	ACNH-10-(167)	25
ID 970926-07-01H Final PLANS		

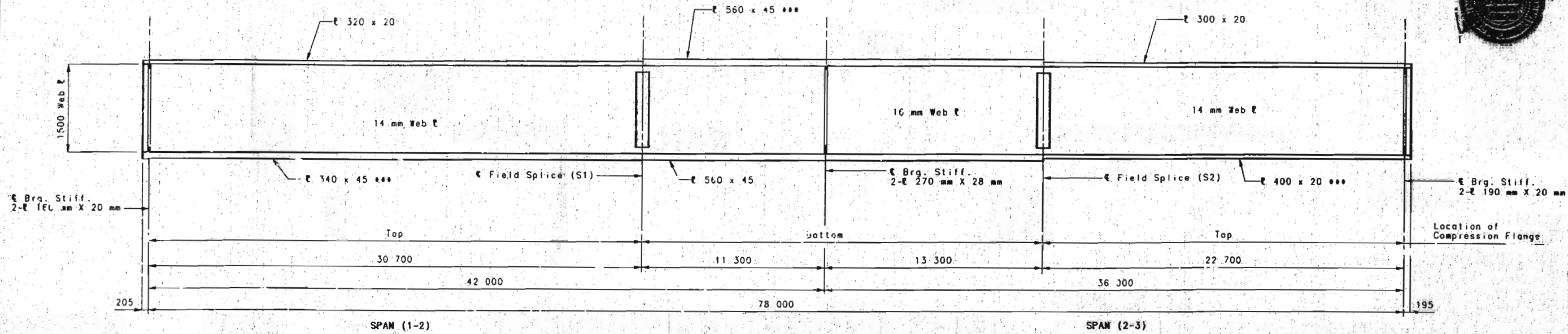
** Theoretical Bottom of Slab Elevations at ϵ of Girder (Prior to forming for Slab)

Span (1-2)	ϵ Brg. Abut. 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ϵ Brg. Abut. 2
Girder No. 1	246.272	246.151	246.015	245.863	245.701	245.530	245.351	245.167	244.982	244.799	244.622
Girder No. 2	246.338	246.222	246.090	245.940	245.779	245.608	245.428	245.241	245.054	244.869	244.691
Girder No. 3	246.404	246.287	246.155	246.005	245.843	245.672	245.492	245.307	245.121	244.937	244.759
Girder No. 4	246.470	246.354	246.223	246.073	245.912	245.740	245.561	245.376	245.189	245.005	244.828
Girder No. 5	246.536	246.423	246.295	246.147	245.986	245.815	245.634	245.447	245.260	245.074	244.896
Girder No. 6	246.602	246.480	246.344	246.191	246.028	245.858	245.681	245.501	245.319	245.139	244.965
Girder No. 7	246.610	246.485	246.348	246.195	246.031	245.861	245.685	245.506	245.326	245.147	244.973
Girder No. 8	246.567	246.456	246.329	246.183	246.021	245.850	245.670	245.484	245.297	245.112	244.933
Girder No. 9	246.525	246.411	246.282	246.136	245.974	245.803	245.624	245.439	245.254	245.071	244.894
Girder No. 10	246.483	246.371	246.243	246.098	245.937	245.766	245.586	245.401	245.215	245.032	244.854
Girder No. 11	246.440	246.329	246.202	246.057	245.896	245.725	245.545	245.361	245.175	244.992	244.815
Girder No. 12	246.398	246.288	246.163	246.020	245.859	245.688	245.508	245.323	245.137	244.953	244.775
Girder No. 13	246.355	246.241	246.113	245.967	245.806	245.635	245.457	245.275	245.092	244.911	244.736
Span (2-3)	ϵ Brg. Abut. 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ϵ Brg. Abut. 3
Girder No. 1	244.622	244.477	244.337	244.200	244.064	243.927	243.787	243.642	243.492	243.339	243.182
Girder No. 2	244.691	244.546	244.406	244.269	244.134	243.997	243.858	243.713	243.563	243.408	243.251
Girder No. 3	244.759	244.614	244.474	244.337	244.201	244.064	243.924	243.780	243.630	243.476	243.319
Girder No. 4	244.828	244.682	244.542	244.405	244.269	244.133	243.993	243.848	243.698	243.545	243.388
Girder No. 5	244.896	244.751	244.611	244.474	244.338	244.203	244.063	243.919	243.769	243.614	243.456
Girder No. 6	244.955	244.820	244.679	244.540	244.402	244.263	244.122	243.977	243.829	243.678	243.525
Girder No. 7	244.973	244.828	244.687	244.547	244.408	244.269	244.128	243.983	243.836	243.685	243.533
Girder No. 8	244.933	244.788	244.648	244.511	244.376	244.239	244.100	243.955	243.805	243.651	243.493
Girder No. 9	244.894	244.749	244.608	244.471	244.334	244.197	244.057	243.912	243.763	243.610	243.451
Girder No. 10	244.854	244.709	244.569	244.432	244.295	244.158	244.018	243.874	243.724	243.571	243.414
Girder No. 11	244.815	244.669	244.529	244.392	244.255	244.118	243.979	243.834	243.684	243.531	243.375
Girder No. 12	244.775	244.630	244.490	244.353	244.216	244.080	243.943	243.795	243.646	243.492	243.335
Girder No. 13	244.736	244.591	244.450	244.311	244.174	244.035	243.895	243.750	243.602	243.450	243.296



** Elevations are based on a constant slab thickness of 220 mm and include allowance for theoretical dead load deflections due to mass of Slab (including Precast Panel), Sidewalk, Curb, Raised Median Barrier, Curb Rail, and Fence.

FINAL PLANS
 I, the undersigned, hereby certify that the design and location of the structure and all its appurtenances, as shown on these plans, as I and my staff have determined, are correct and that I am a duly licensed Professional Engineer in the State of Missouri. I specifically declare my responsibility for the design of the project, except as I may have been relieved of it by a contract with another party. I have not been relieved of my responsibility for the design of the project. My seal is attached to these plans as evidence of my responsibility for the design of the project.



Note:
 Plate girders shall be fabricated to conform to the camber diagram shown on sheet no. 29.
 *** Indicates flange plates subject to notch toughness requirements.
 All Web Plates shall be subject to notch toughness requirements.
 Fabricated structural steel for the girder as shown above shall be ASTM A709M Grade 345.

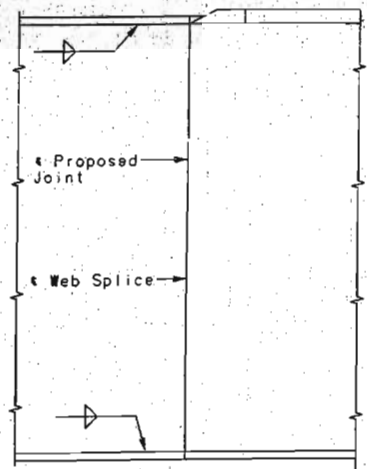
Note: Longitudinal dimensions are horizontal from ϵ Bearing to ϵ Bearing. See Part Longitudinal Section on sheet no. 27.
 For location of slab drain details and attachment holes, see sheet no. 30 & 31.
 For location of sign support details and attachment details, see sheet no. 56.

DETAILED JAN. 1996
 CHECKED MAR. 1997

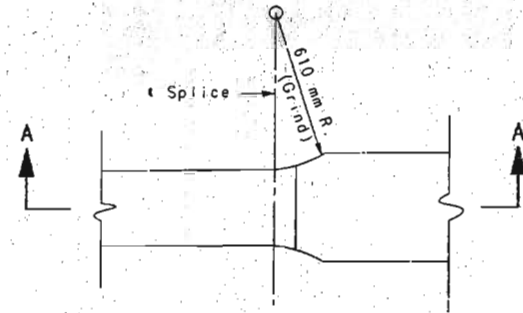
SHEET NO. 25 OF 61

JACKSON COUNTY A57261

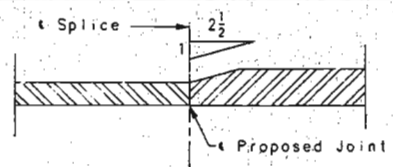
STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH I-70(167)		165
ID 970926-07-CLH FINAL PLAN		



WELDED SHOP WEB SPLICE



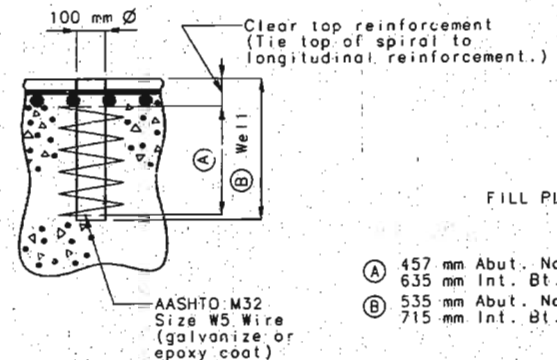
PLAN
610 mm Radius Transition



SECTION A-A
Welded Shop Flange Splice

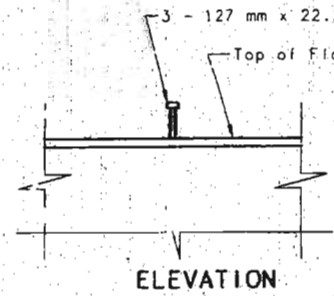
SPLICE LOCATION	TABLE OF DIMENSIONS-FIELD SPLICE													
	A	*B*	*C*	*D*	*E*	*F*	*G*	*J*	*K*	*M*	*N*	*P*	*Q*	*R*
TOP (S1)	320	11	1130	130	11	970	65	6	5	-	320	25	560	80
BOTTOM (S1)	340	25	2410	140	25	2410	70	14	-	-	-	-	-	80
TOP (S2)	300	11	970	120	12	970	60	5	-	-	300	25	480	80
BOTTOM (S2)	400	11	650	170	11	650	45	3	3	2	400	25	560	80

Note:
Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.

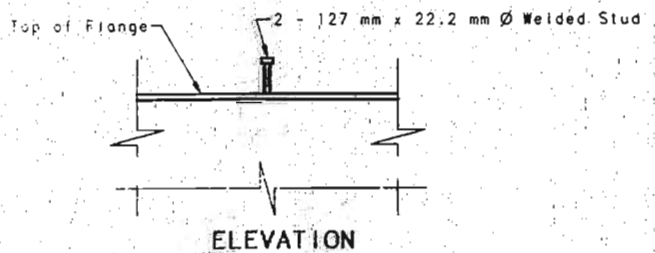


DETAIL OF ANCHOR BOLT WELLS

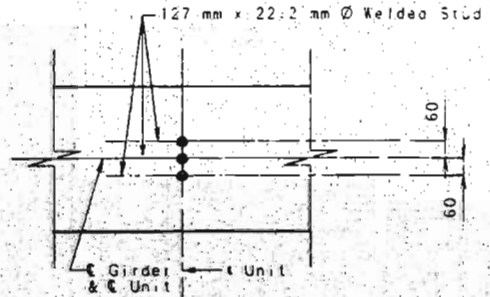
Note: Mass of 2335 kg of shear connectors is included in the mass of fabricated structural carbon steel.



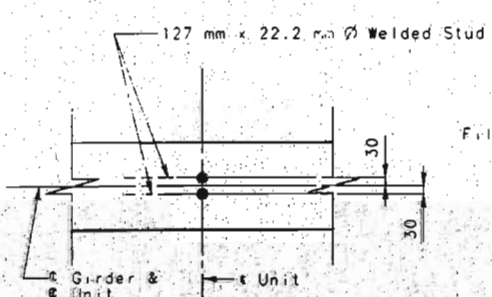
ELEVATION



ELEVATION

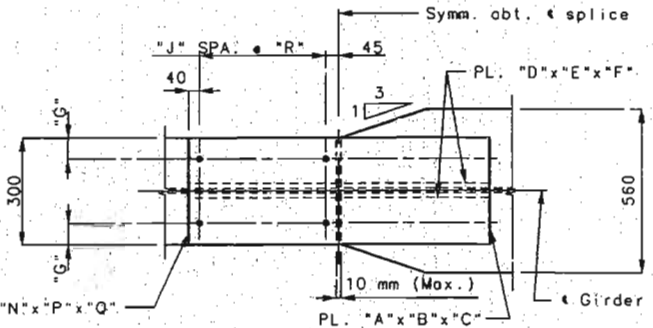


PLAN OF STUD CONN.
3 SHEAR CONN. PER UNIT

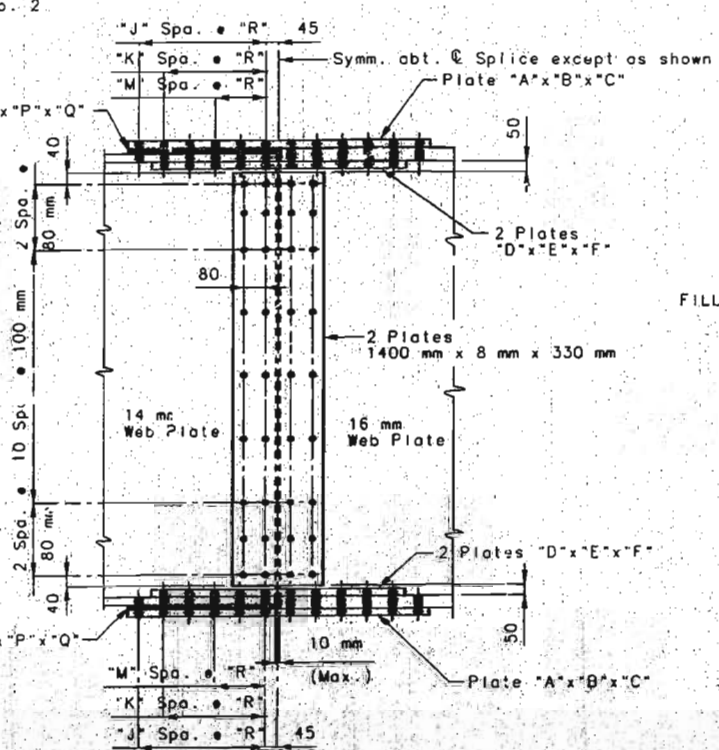


PLAN OF STUD CONN.
2 SHEAR CONN. PER UNIT

DETAILS OF SHEAR CONNECTORS

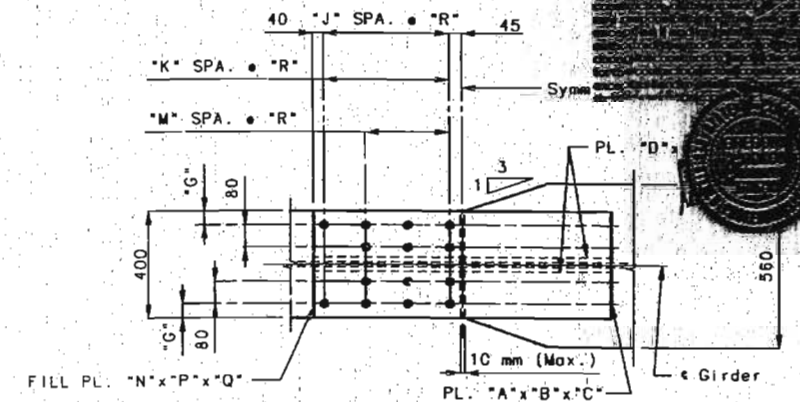


PLAN OF FLANGE
TOP (S2)

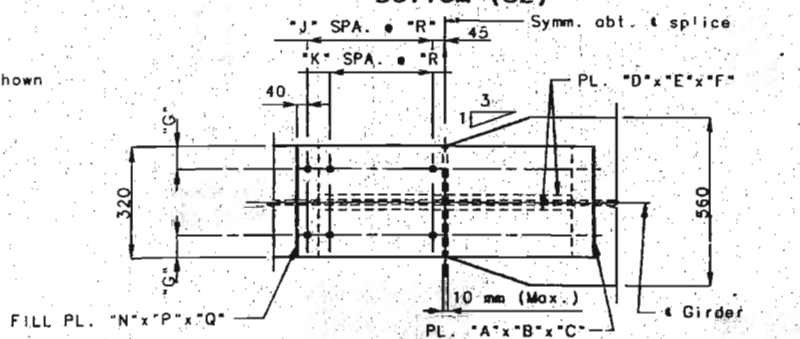


DETAIL OF BOLTED FIELD SPLICE

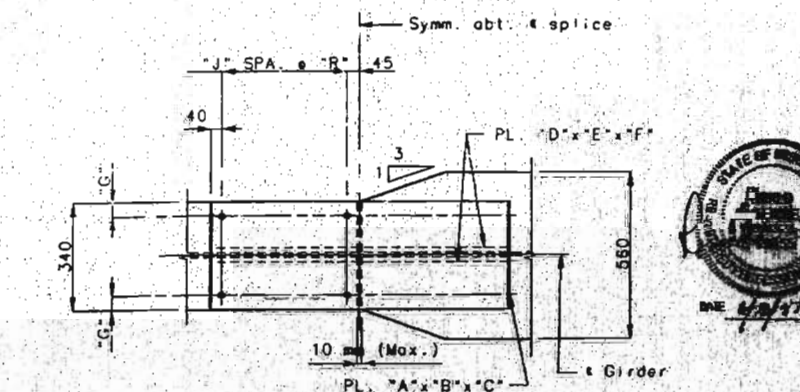
Note: Use 22.2 mm Ø high strength bolts with 23.8 mm Ø holes.
All splice plates (web and flange) shall be ASTM A709M Grade 345.



PLAN OF FLANGE
BOTTOM (S2)



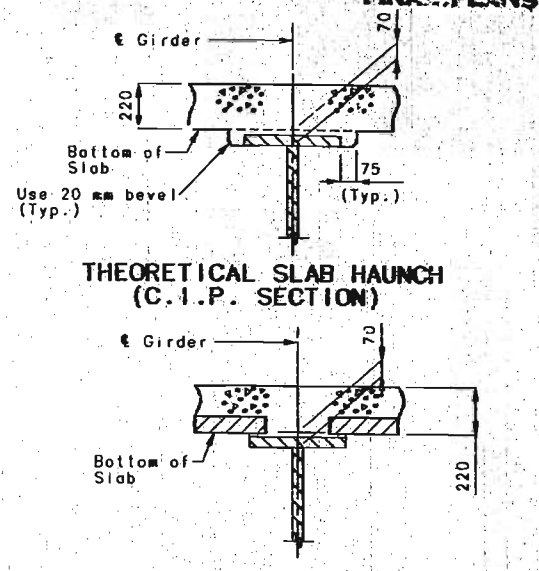
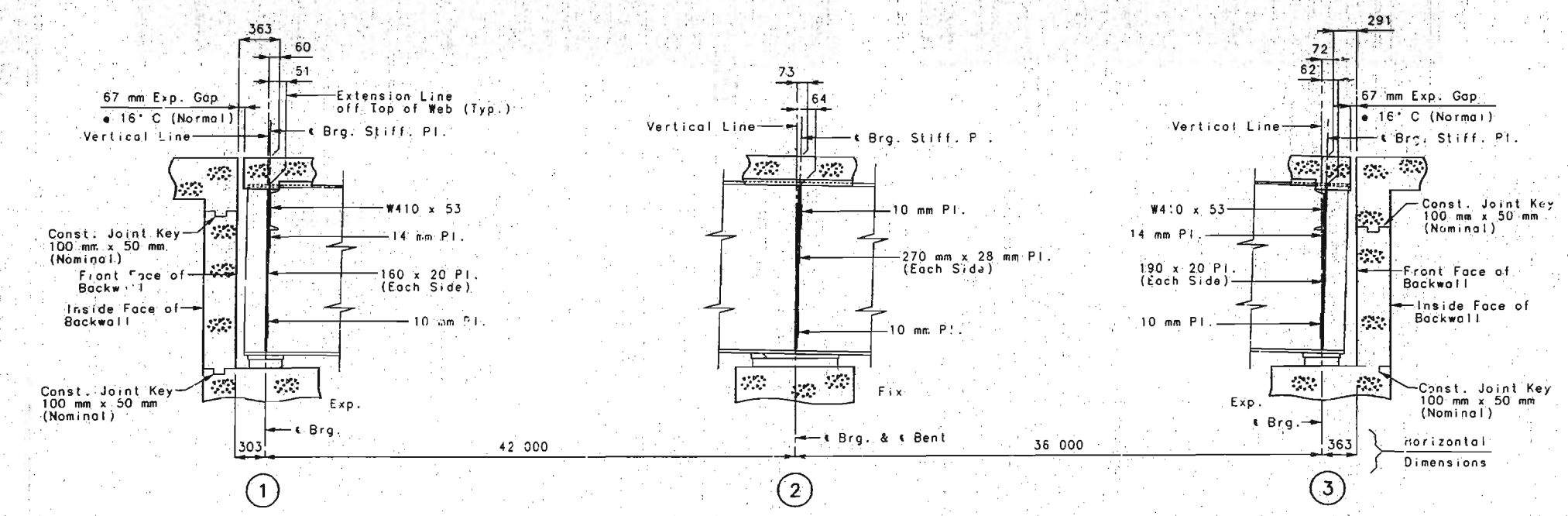
PLAN OF FLANGE
TOP (S1)



PLAN OF FLANGE
BOTTOM (S1)

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STATE	PROJ. NO. J40922	SHEET NO.
MO.	ACNH-1-70-(167)	106
ID: 970926-07-OLR		



PART LONGITUDINAL SECTION
 Note: For details of Expansion Joints at Abutments No. 1 & 3, see sheet no. 49, 50, 51, & 52.
 For Plan of Structural Steel, see sheet no. 24
 For Elevation of Girder, see sheet no. 25.

Note: Haunch Dimension may vary if the girder camber after erection differs from plan camber by more or less than the 2 of D. L. Deflection due to the mass of structural steel. No payment will be made for any adjustment in forming or additional concrete required for variation in haunching.

Girder 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girders 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cord between Bents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bottom of Top Flange	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces	
42 000										36 000									
SPAN (1-2)										SPAN (2-3)									

DEAD LOAD DEFLECTION

Note: Dead load deflection includes mass of structural steel, concrete slab, sidewalk, curb, raised median barrier, curb rail, and fence.

LOCATION	"A"
Girder 1	17.5%
Girder 2	17.5%
Girder 3	18.3%
Girder 4	18.3%
Girder 5	17.5%
Girder 6	22.8%
Girder 7	25.4%
Girder 8	17.9%
Girder 9	19.1%
Girder 10	19.1%
Girder 11	19.1%
Girder 12	19.1%
Girder 13	21.8%

Note: "A" (See table above) of Dead Load Deflection is due to mass of the structural steel.

Girder 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bottom of Top Flange	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cord between Bents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces		10 Equal Spaces	
42 000										36 000									
SPAN (1-2)										SPAN (2-3)									

PLATE GIRDER CAMBER DIAGRAM

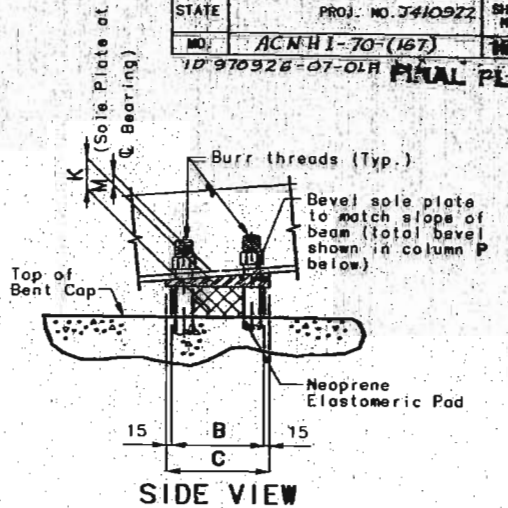
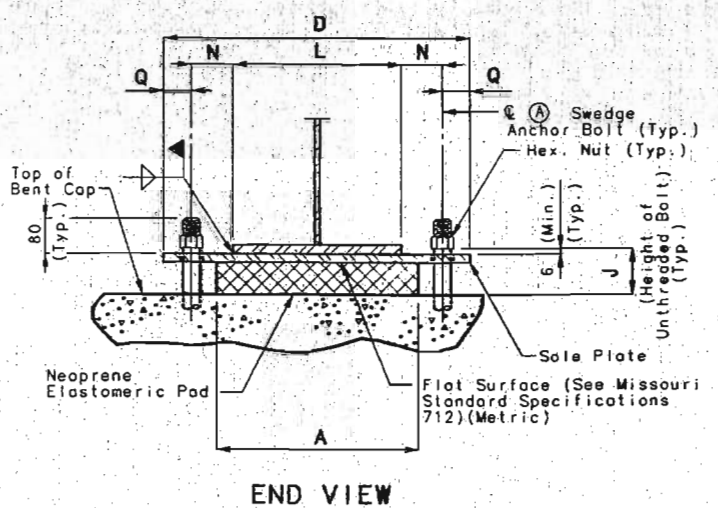
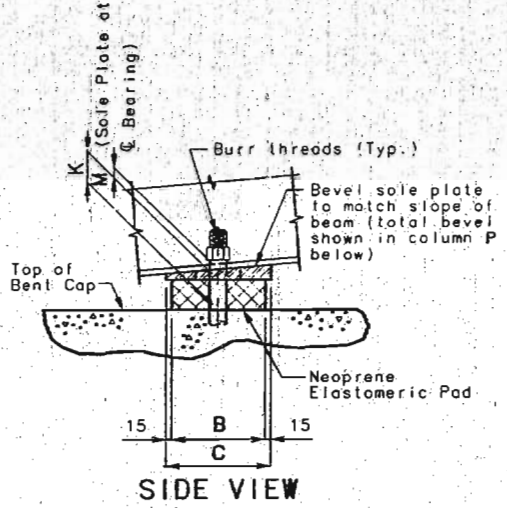
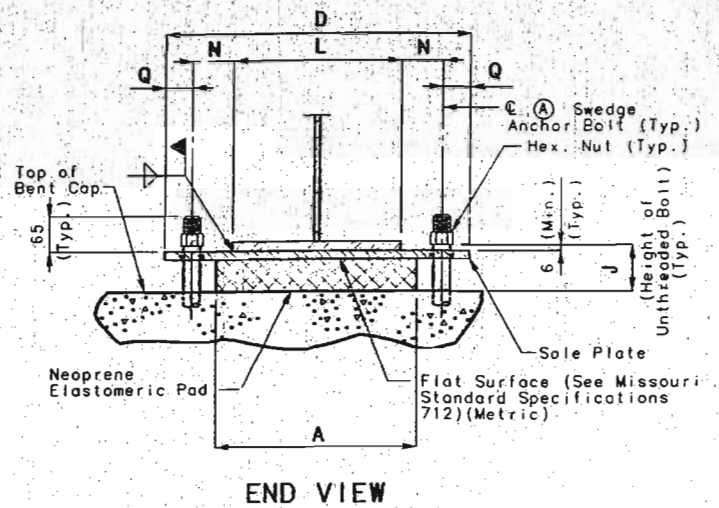
Note: Camber includes allowance for vertical curve and for dead load deflection due to mass of structural steel, concrete slab, sidewalk, curb, raised median barrier, curb rail, and fence.

Handwritten: 2004



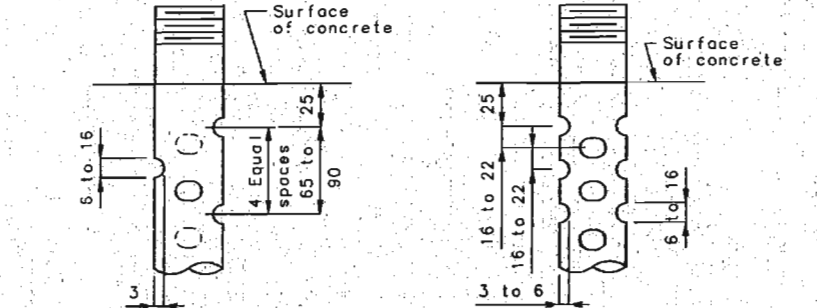
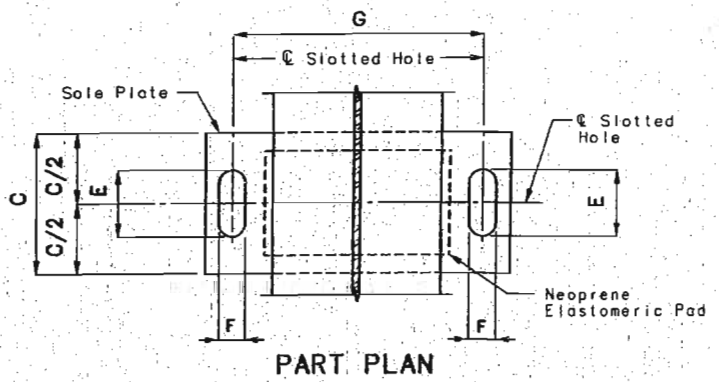
DETAILED MAR. 1997
 CHECKED MAR. 1997

STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH-1-70-(167)		107
10-970926-07-01H FINAL PLAN		



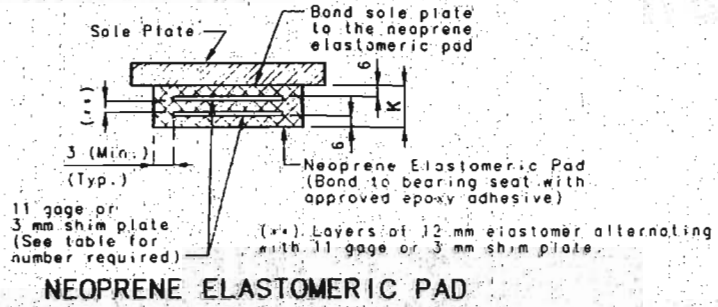
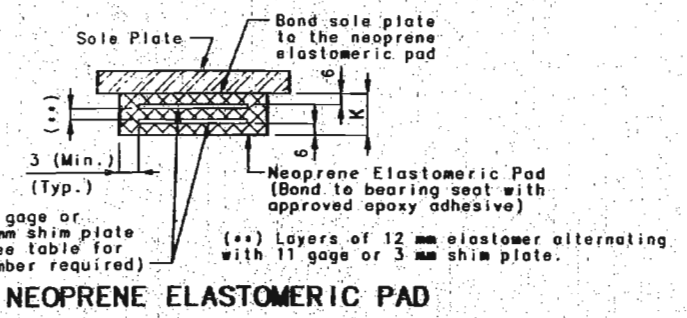
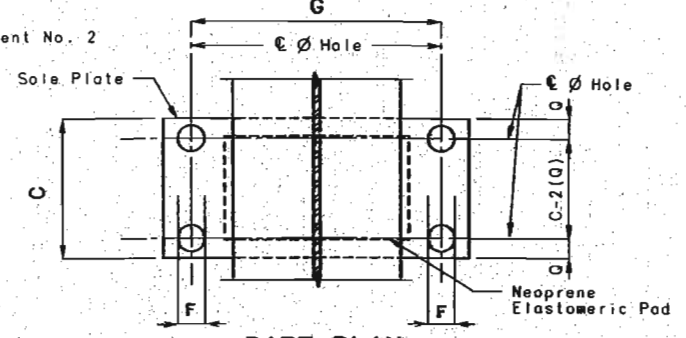
Ⓐ 50.8 mm • Abutment No. 1
50.8 mm • Abutment No. 3
Ⓑ 460 mm • Abutment No. 1
460 mm • Abutment No. 3

Ⓐ 63.5 mm • Bent No. 2
Ⓑ 635 mm • Bent No. 2



DETAIL FOR 19.0 mm Ø THRU 63.5 mm Ø ANCHOR BOLTS
SWEDGE ANCHOR BOLT DETAILS
OPTIONAL DETAIL FOR 34.9 mm Ø THRU 63.5 mm Ø ANCHOR BOLTS

GENERAL NOTES:
Anchor bolts shall be Ⓐ ASTM A709M Grade 345W steel swedged bolts and shall extend Ⓑ into the concrete with ASTM A194M-2, 2H, or ASTM A563M-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 25 mm less than the extension into the concrete.
All structural steel for the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (125 micrometers minimum thickness) or galvanized in accordance with ASTM A153.
The neoprene elastomeric pads shall be 60 durometer. The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.
The sole plate shall be furnished with the bearing and field welded to the girders.
Structural steel for the sole plate shall be ASTM A709M Grade 250 and shall be coated with a minimum of 2 coats of inorganic zinc primer (125 micrometers minimum thickness).
The accepted quantity of the elastomeric bearing assemblies, complete-in-place, will be paid for at the contract unit price for Laminated Neoprene Bearing Pads (Steel Structures), each.
Payment for the sole plate, anchor bolts, and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.



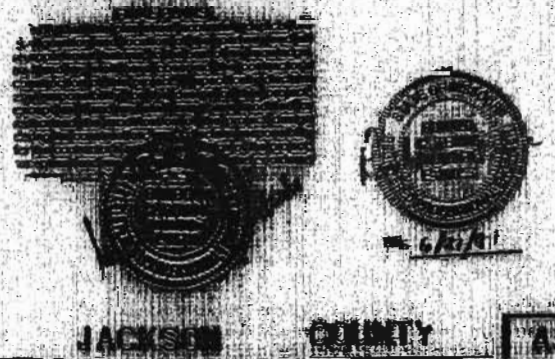
Bent No.	Girder No.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
1	1-8 8-13	460	320	350	700	120	54.0	540	150	105	340	39	100	12	80	7	12
1	7	460	320	350	700	120	54.0	540	160	105	340	49	100	12	80	7	1
3	1-8 8-13	370	320	350	690	120	54.0	530	151	105	400	40	145	14	80	7	12
3	7	370	320	350	690	120	54.0	530	159	105	400	48	145	14	80	7	1
TOTAL BEARINGS																26	

(*) The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

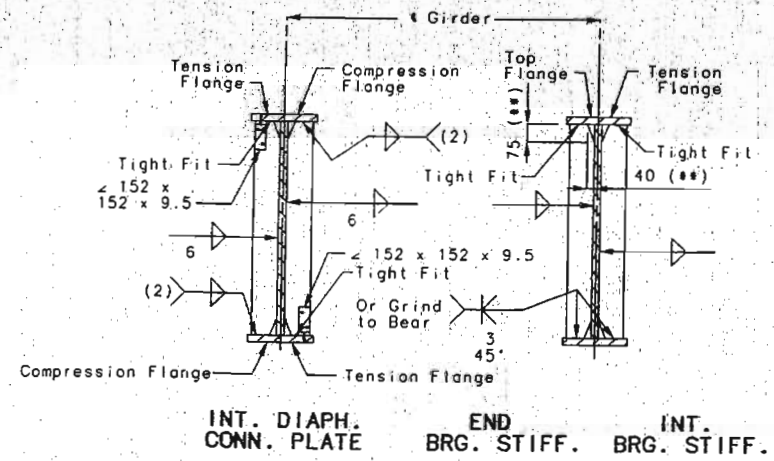
Bent No.	Girder No.	A	B	C	D	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
2	1-8 8-13	540	900	930	900	66.7	700	172	105	560	48	78	38	100	7	12
2	7	540	900	930	900	66.7	700	182	105	560	56	70	38	100	7	1
TOTAL BEARINGS																13

(*) The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

DETAILS OF LAMINATED NEOPRENE BEARINGS (STEEL STRUCTURES)

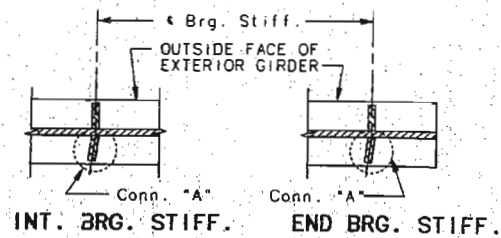


STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH-70-(167)		100
ID 970926-07-01H		

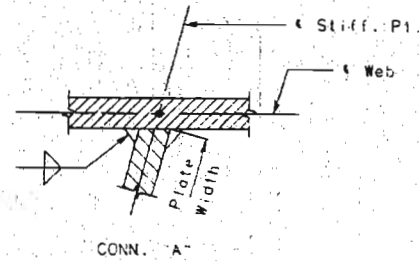


(2) Weld to compression flange as located on elevation of girder.
 (**) Typical for all Int. Diaph. Conn. Pl. and Brg. Stiff..

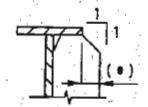
WELDING DETAILS



TYPICAL LOCATION DETAILS



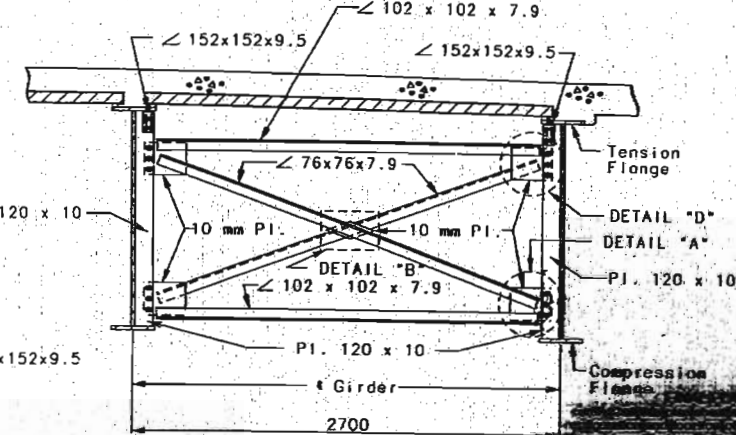
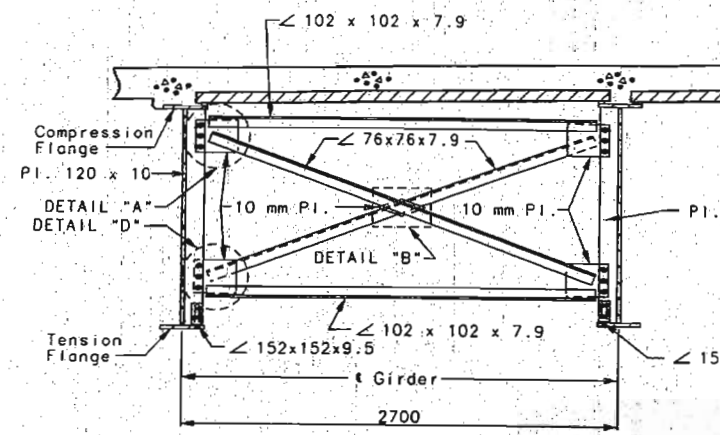
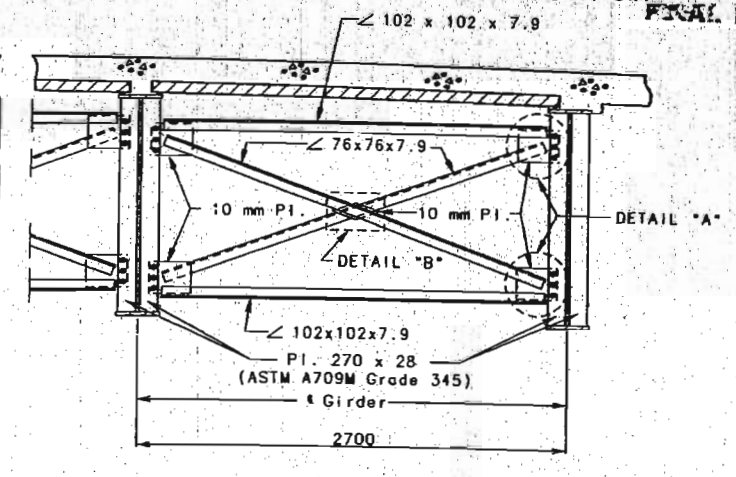
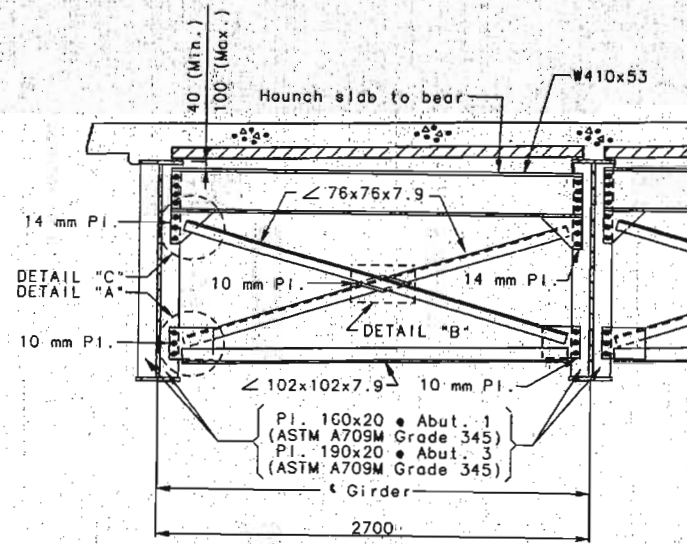
WELDING DETAILS



(*) When dimension exceeds 12 mm, bevel stiffener plate.

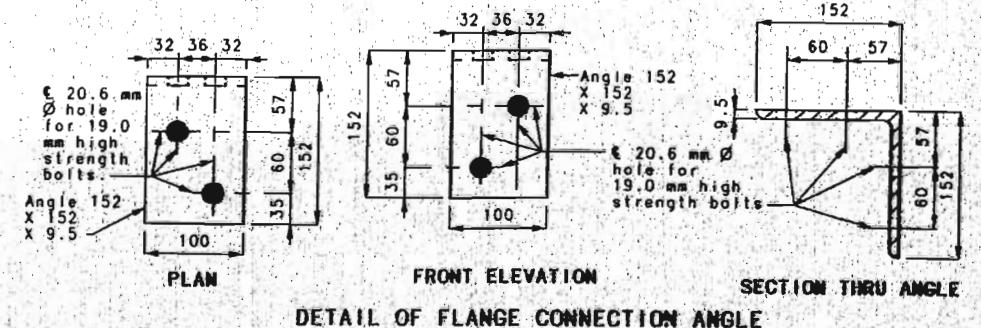
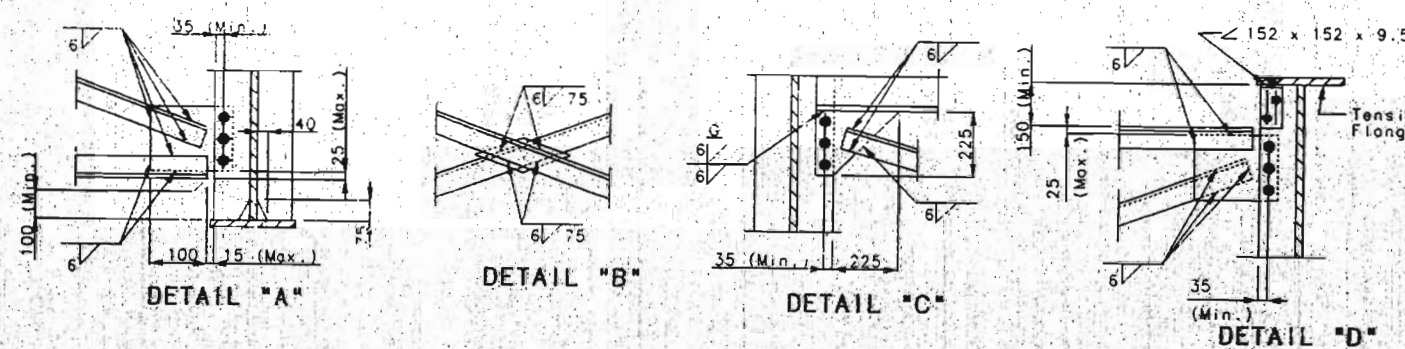
DETAILS OF BRG. STIFF. AT ABUT. NO. 3

Note: At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 5 mm larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size.



Note: The two 19.0 mm Ø H.S. Bolts that connect the 152 x 152 x 9.5 angle to the top flange shall be placed so the nut is on the inside of flange toward the web.

All fabricated structural steel shall be ASTM A709M Grade 250, except as noted.



DETAILED JAN. 1996
 CHECKED MAR. 1996

SHEET NO. 29 OF 61

JACKSON

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STATE	PROJ. NO. J402922	SHEET NO.
MO. ACNH-10-167		30

GENERAL NOTES: FINAL PLAN

Slab drains may be fabricated of either 6 mm welded sheets of ASTM A709M Grade 250 steel or from 6.4 mm structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 203 mm x 102 mm.

Locate drains in the slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

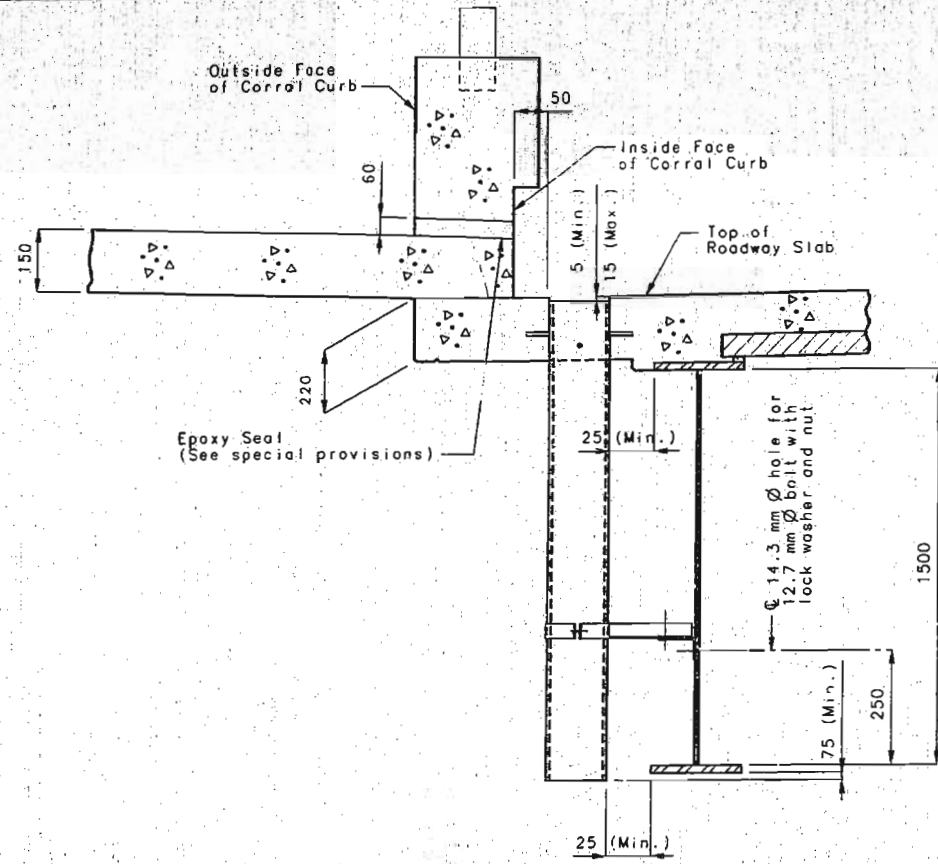
The drains and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

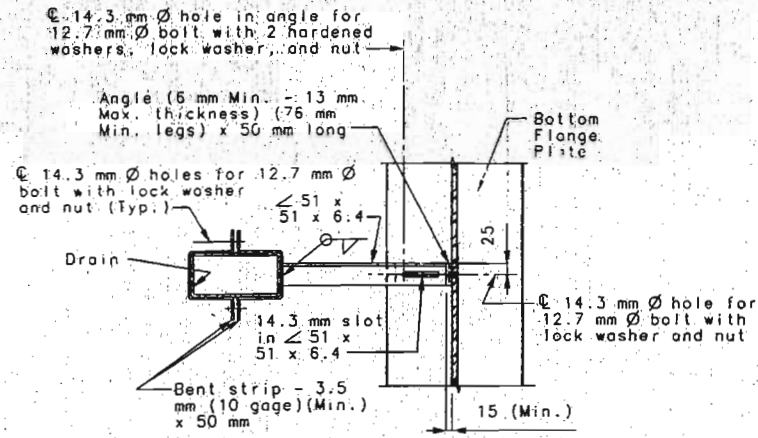
The bolt hole for the bracket assembly attachment shall be located on the plate girder shop drawings.

Shop drawings will not be required for slab drains and the bracket assembly.

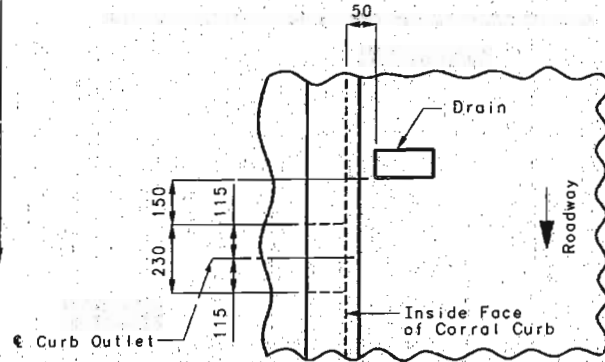
For coating requirements of drains, see Special Provisions.



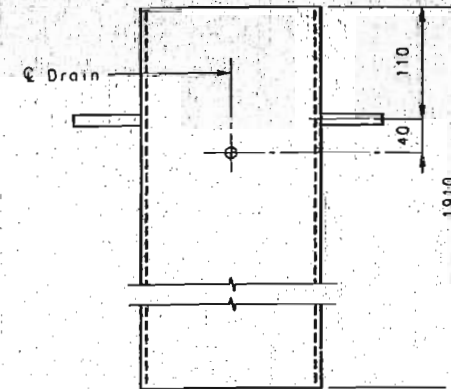
PART SECTION NEAR DRAIN



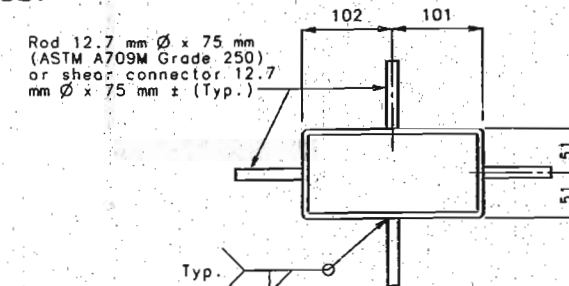
PART SECTION SHOWING BRACKET ASSEMBLY



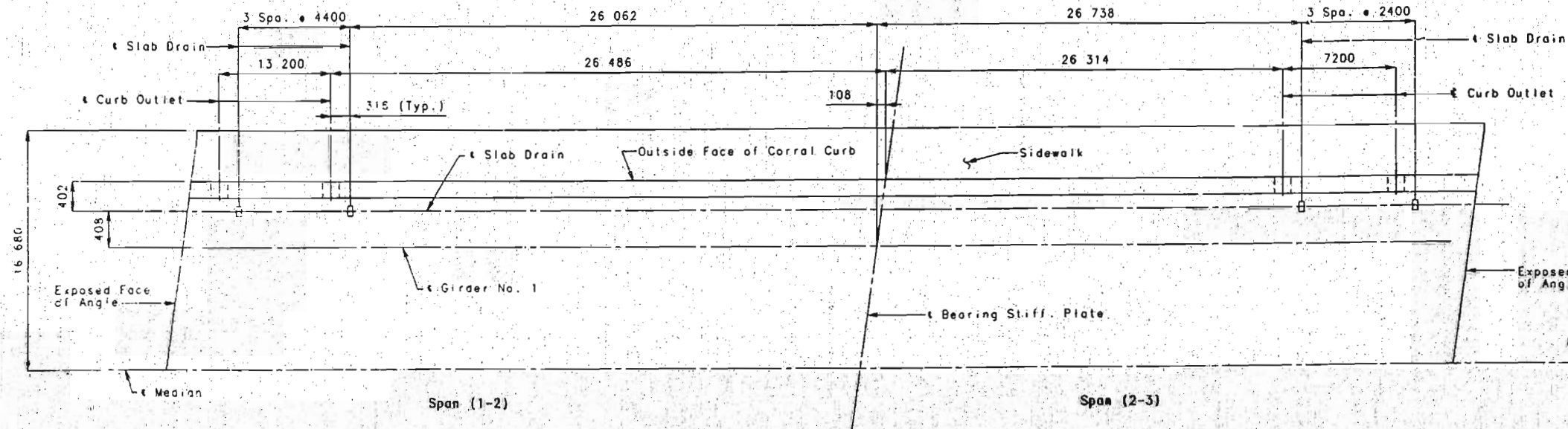
PART PLAN OF SLAB AT DRAIN
SLAB DRAIN DETAILS



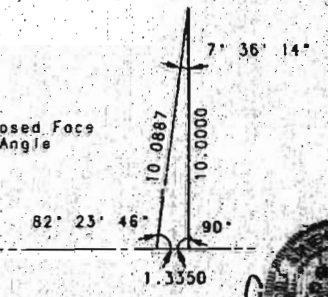
ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN SPACING
(Left Side)



Handwritten scribbles and markings on the left side of the page.

STATE	PROJ. NO. J40922	SHEET NO.
MO. ACNH-70-167		119

GENERAL NOTES: FINAL PLANS

Slab drains may be fabricated of either 6 mm welded sheets of ASTM A709M Grade 250 steel or from 6.4 mm structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 203 mm x 102 mm.

Locate drains in the slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

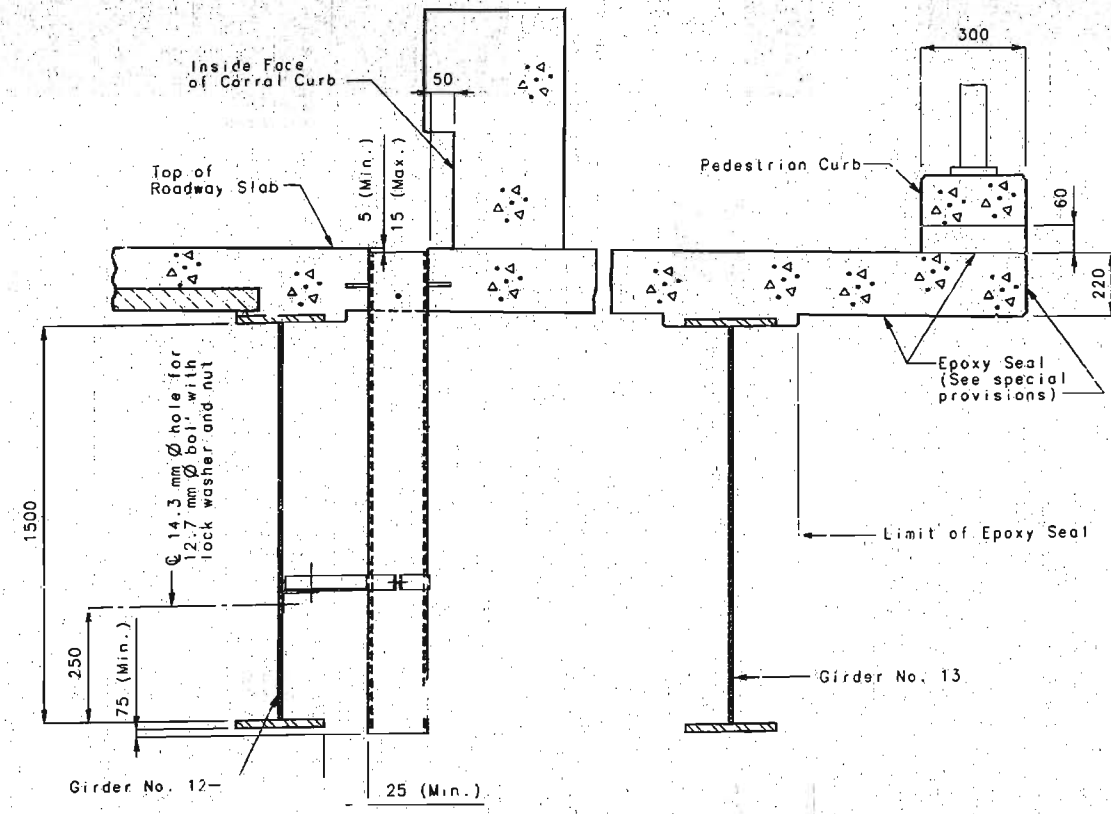
The drains and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

The bolt hole for the bracket assembly attachment shall be located on the plate girder shop drawings.

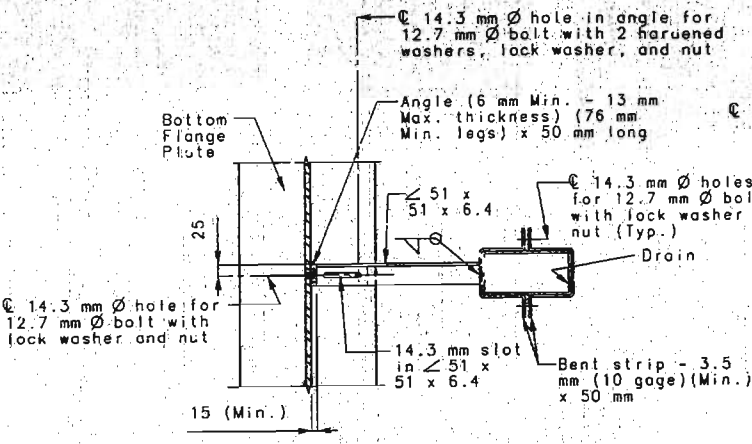
Shop drawings will not be required for slab drains and the bracket assembly.

For coating requirements of drains, see Special Provisions.

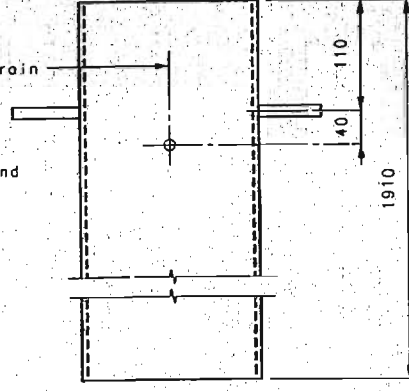


PART SECTION NEAR DRAIN

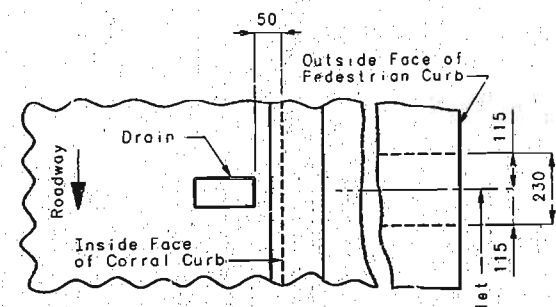
PART SECTION AT CURB OUTLET



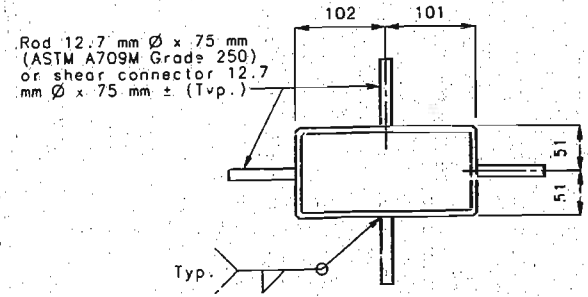
PART SECTION SHOWING BRACKET ASSEMBLY



ELEVATION OF DRAIN

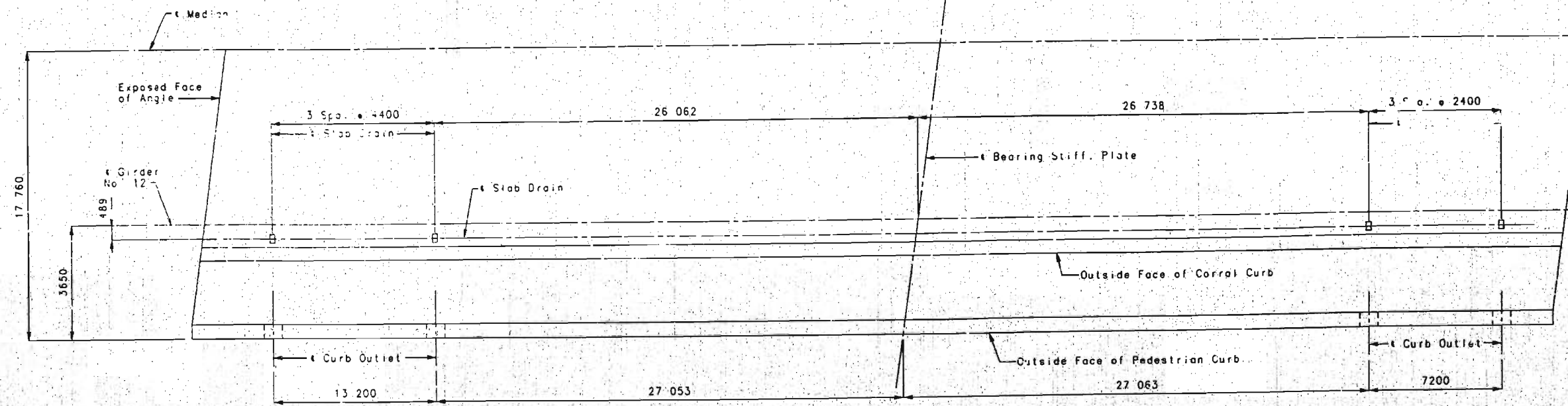


PART PLAN OF SLAB AT DRAIN AND CURB OUTLET



PLAN OF DRAIN

SLAB DRAIN DETAILS

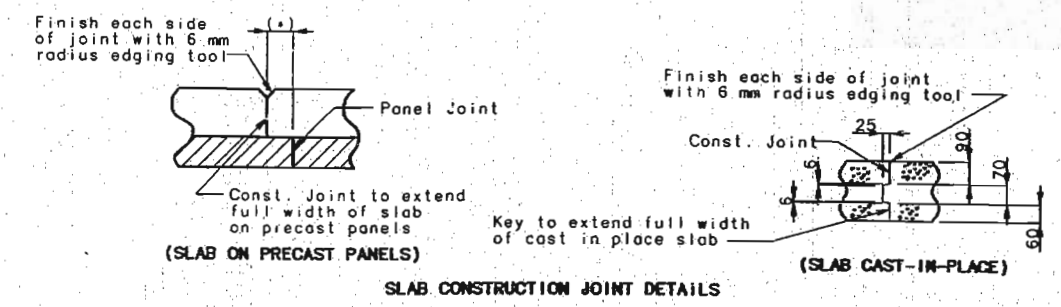
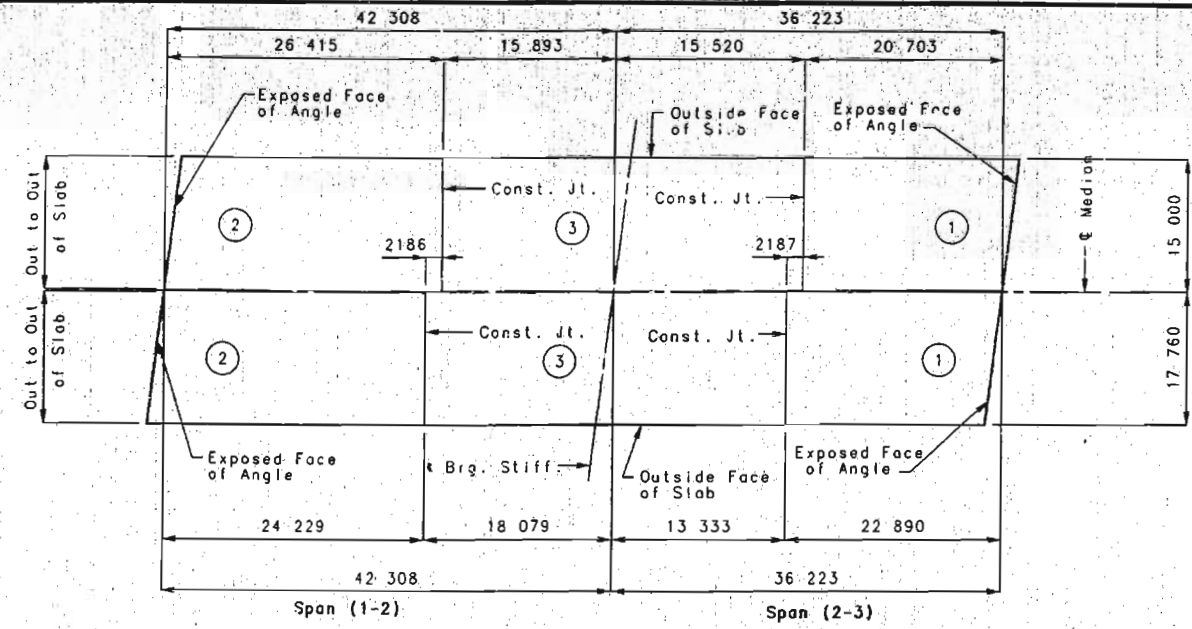


PLAN OF SLAB SHOWING SLAB DRAIN SPACING (Right Side)

Handwritten scribbles and numbers, including a large '8' and '222'.



STATE	PROJ. NO. FH0922	SHEET NO.
MO:	ACNHI-70-(167)	111
ID 970926-07-01H		
FINAL PLANS		

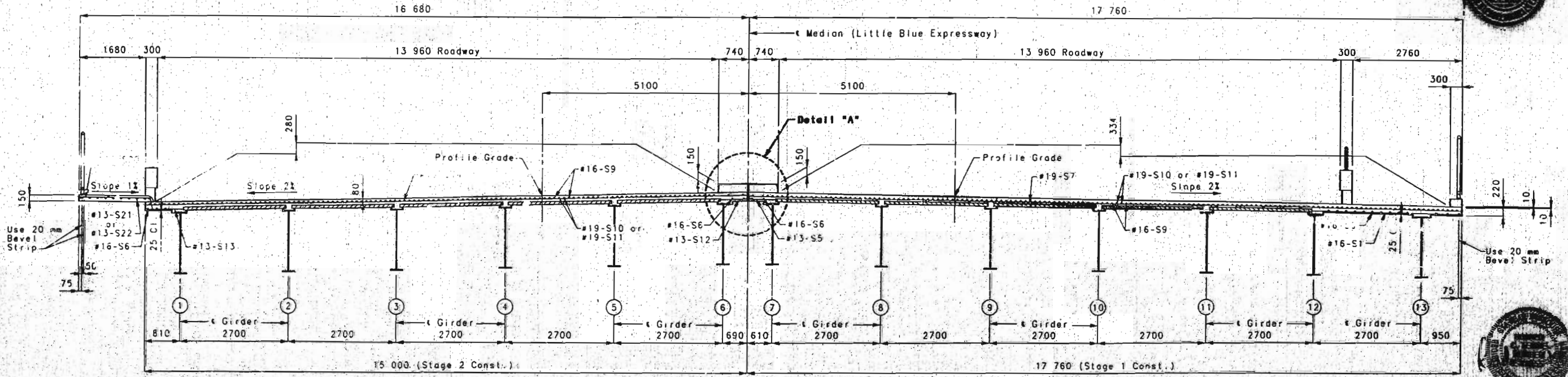


(*) Adjust the construction joint to a clearance of 150 mm minimum from the joints of the panels.

Note: The contractor shall pour and satisfactorily finish the slab pours at rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

Right Slab (Stage 1 Const.)				Left Slab (Stage 2 Const.)					
Sequence of Pours	Direction		Min. Rate of Pour Cu. Meters/Hr.		Sequence of Pours	Min. Rate of Pour Cu. Meters/Hr.			
	1	2	With Retarder	No Retarder		1	2	With Retarder	No Retarder
Basic Sequence	Either Direction		20	20	Basic Sequence	Either Direction		20	20
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications (Metric).				Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications (Metric).					
Alternate "A" Pours	1	3 + 2	50	83	Alternate "A" Pours	1	3 + 2	43	71
* Alternate "B" Pours	1 + 3 + 2		50	83	* Alternate "B" Pours	1 + 3 + 2		43	71

SLAB POURING SEQUENCE



Note: For details and reinforcement of Corral Curb, see sheet no. 35 thru 40. For details and reinforcement of pedestrian curb, see sheet no. 44. For details and reinforcement of sidewalk, see sheet no. 45. For details and reinforcement of raised median barrier, see sheet no. 47 & 48. For details of pedestrian fence, see sheet no. 44, 45, & 46.

Note: Detail "A", see sheet no. 48.

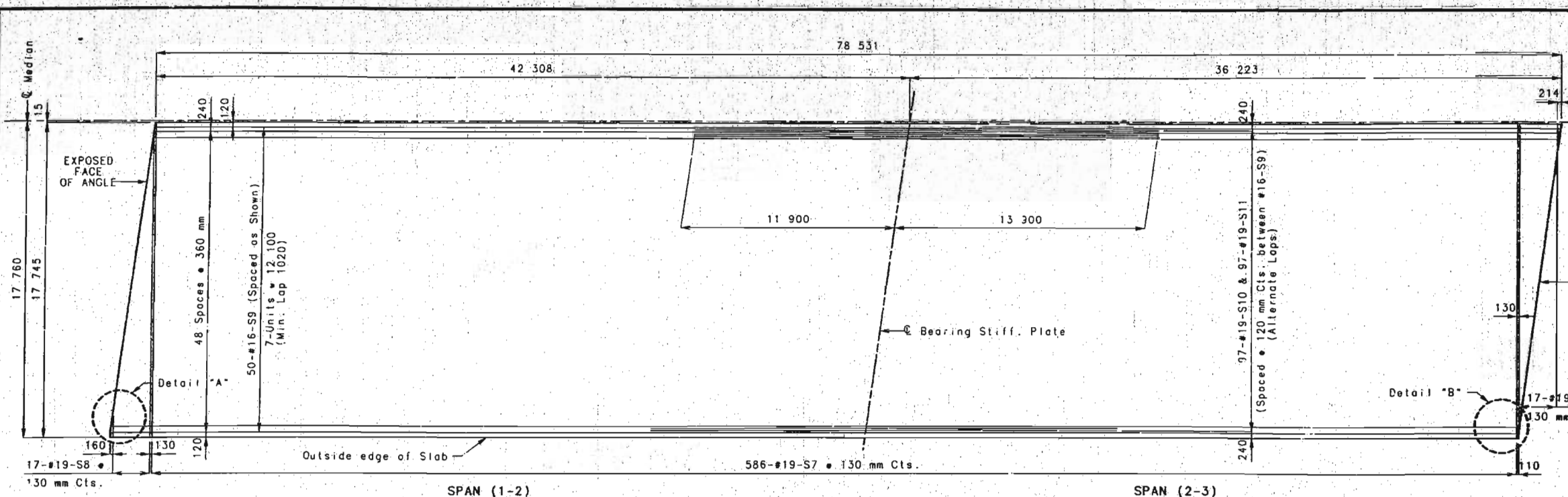
DETAILED MAY 1996
CHECKED MAR. 1997

SHEET NO. 32 OF 61

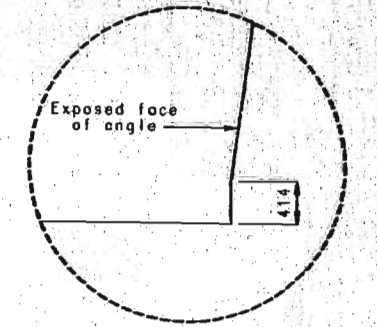
JACKSON COUNTY A57261

6229

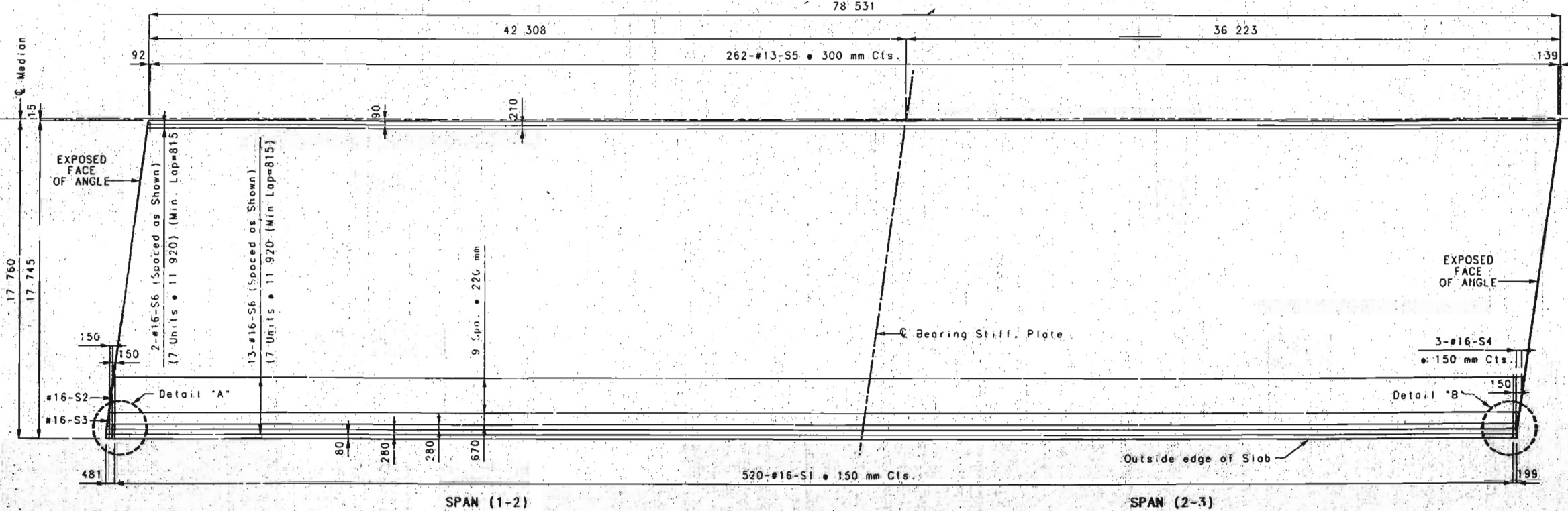
STATE	PROJ. NO. J-10922	SHEET NO.
MD.	ACNH I-70-(167)	112
ID 910926-07-01M	FINAL PLANS	



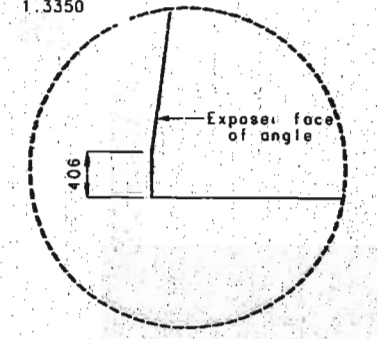
PLAN OF SLAB SHOWING TOP REINFORCEMENT
(RIGHT SIDE)
(STAGE 1 CONST.)



DETAIL "B"



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT
(RIGHT SIDE)
(STAGE 1 CONST.)



DETAIL "A"



NOTE:

For Slab Cross Section and Slab Pouring Sequence, see sheet no. 32.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 25 mm from vertical leg of angle at expansion device.

Longitudinal dimensions are horizontal dimensions at top of slab.

230

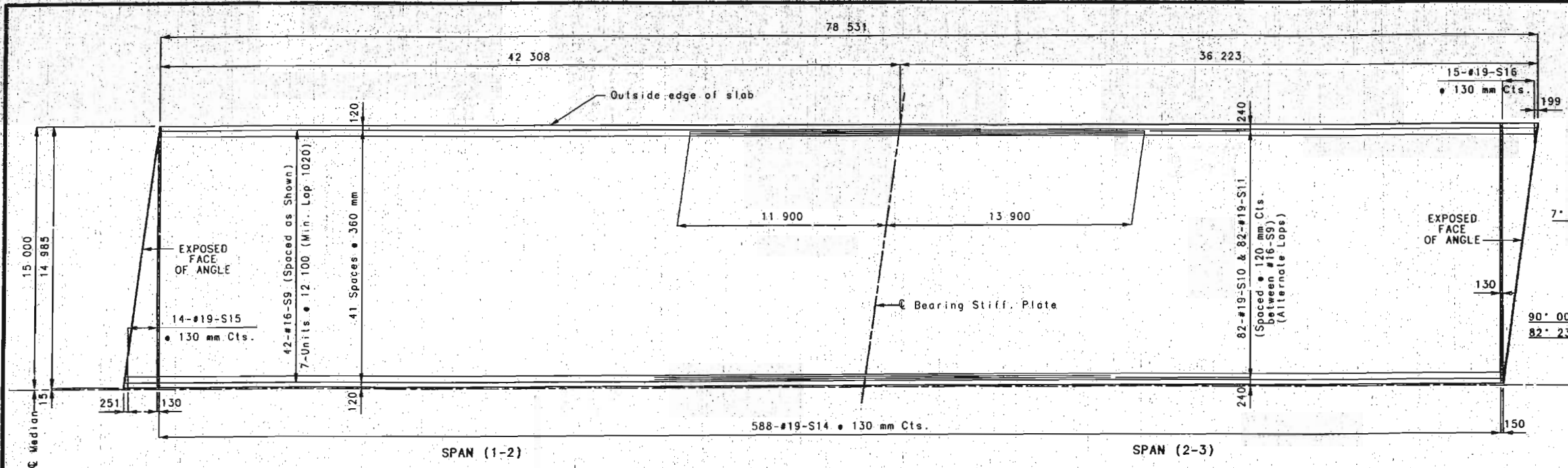
DETAILED MAR. 1997
CHECKED APR. 1997

SHEET NO. 33 OF 61

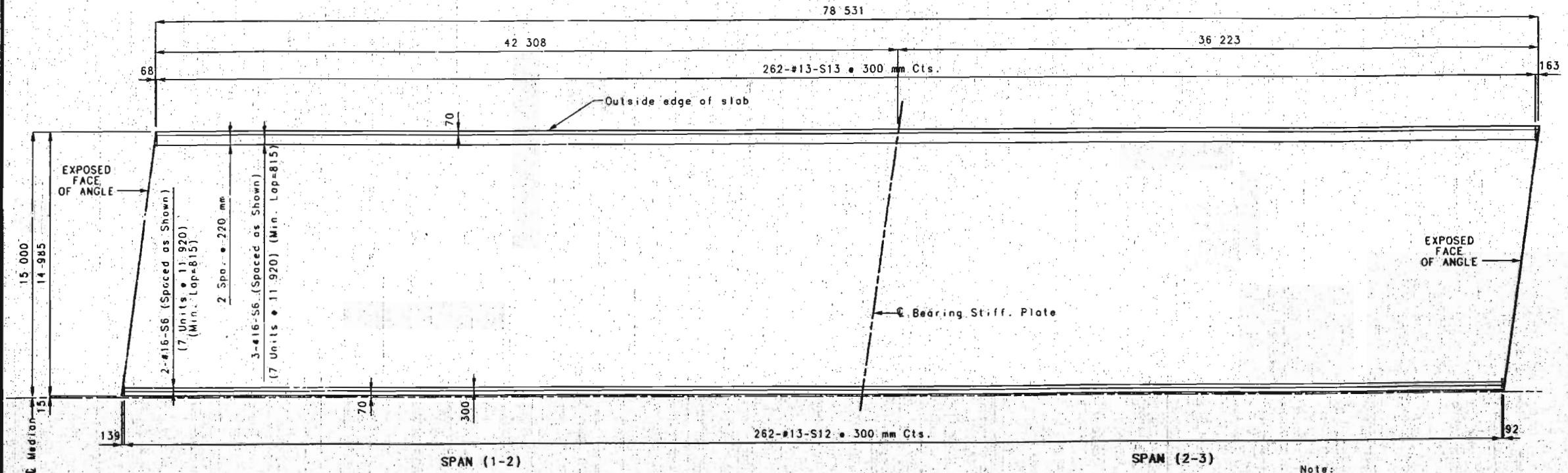
JACKSON COUNTY A57261

STATE	PROJ. NO. J410922	SHEET NO.
MD.	ACNH-70-(167)	113

ID 97026-07-04H FINAL PLANS



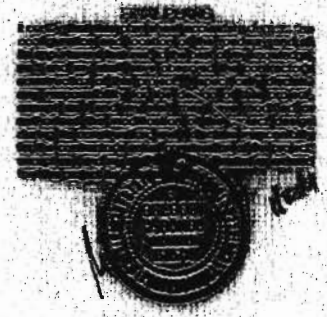
PLAN OF SLAB SHOWING TOP REINFORCEMENT
(LEFT SIDE)
(STAGE 2 CONST.)



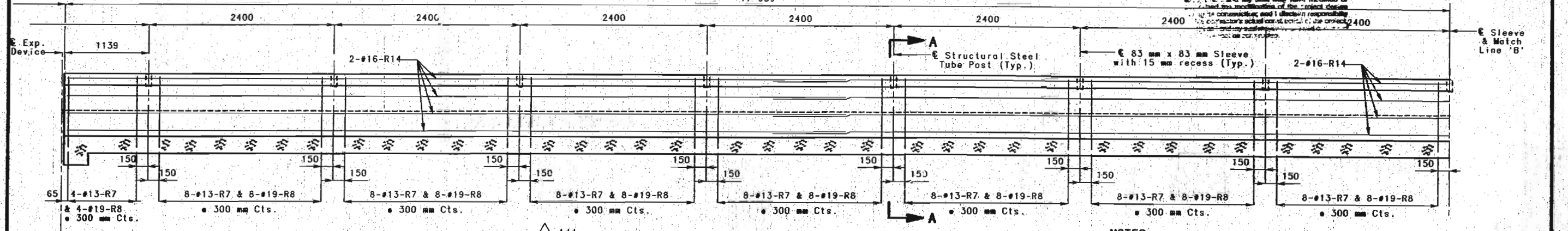
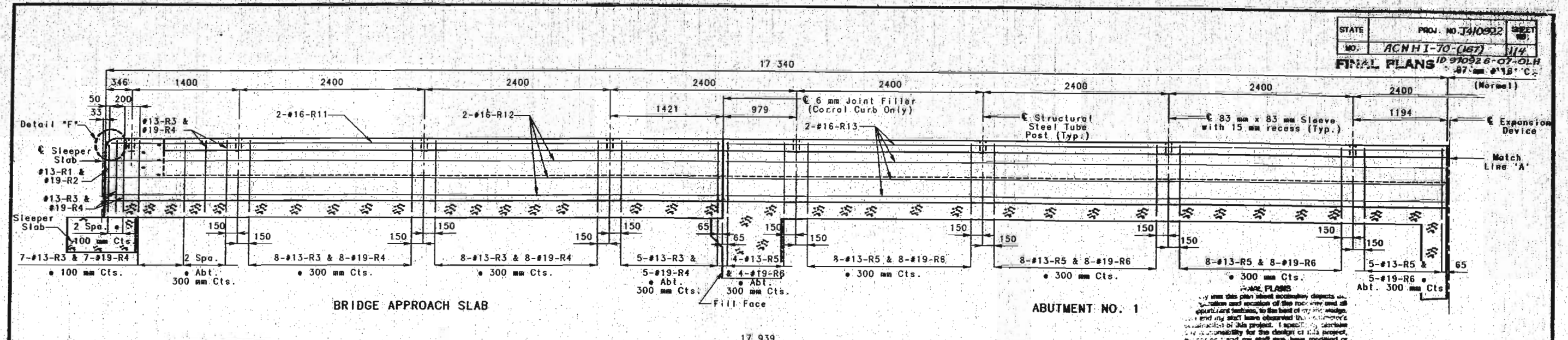
PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT
(LEFT SIDE)
(STAGE 2 CONST.)

Note:
For Slab Cross Section and Slab Pouring Sequence, See Sheet No. 32.
Longitudinal Reinforcing Steel shall be placed so that ends shall not be more than 25 mm from vertical leg of angle at expansion device.
Longitudinal dimensions are horizontal dimensions at top of slab.

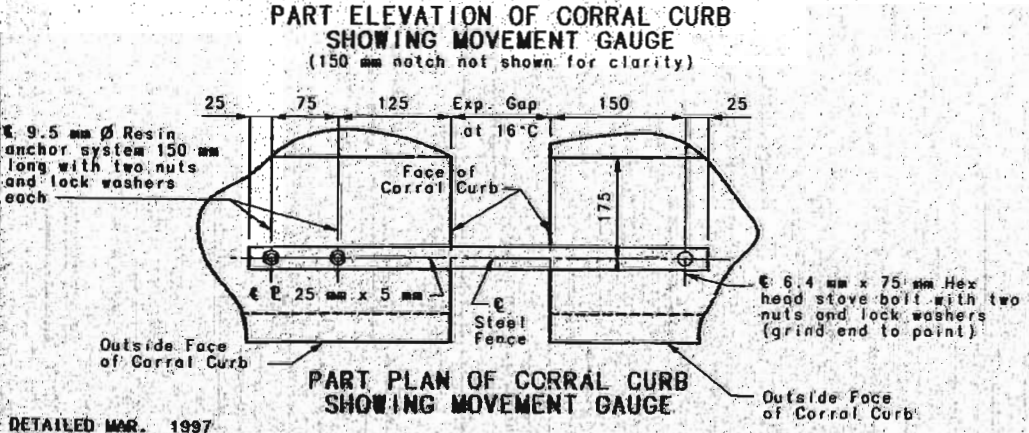
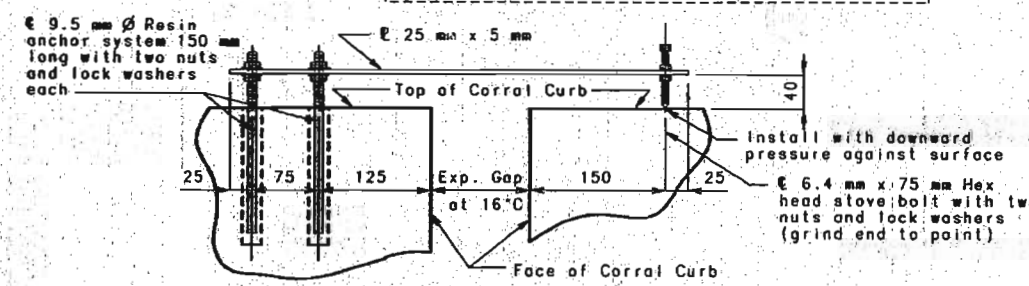
231



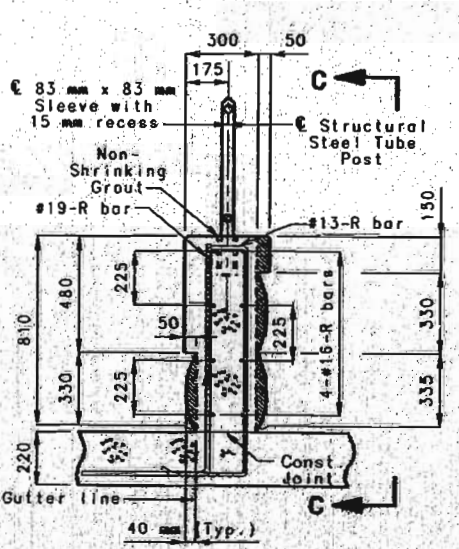
STATE	PROJ. NO. J440932	SHEET NO.
NO.	ACNHI-70-(167)	114
FINAL PLANS 10' x 15' C.S.		



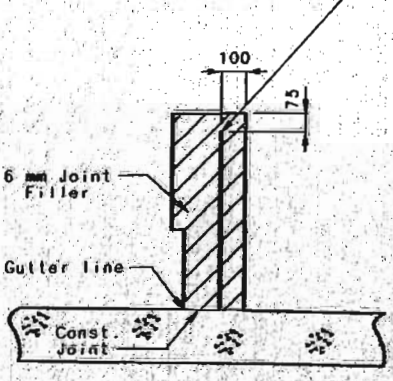
For details of Conduit System and Curb Lighting System, see sheet No. 43, 43A, 43B & 43C.



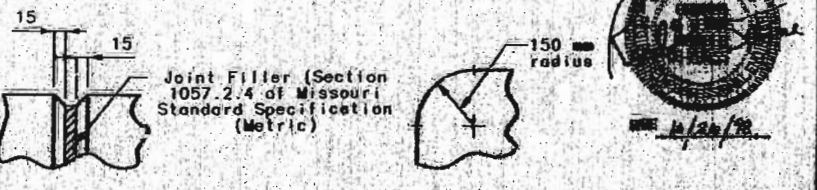
PART ELEVATION OF RIGHT CORRAL CURB
(Block pattern not shown for clarity)
(Conduit not shown for clarity)



102 mm Plastic Waterstop Section 1057.2.1 of Missouri Standard Specification (Metric) (Centered on Joint)



- NOTES:**
- Top of Corral Curb shall be built parallel to grade with Corral Curb joints (Except at Abutment) normal to grade.
 - All exposed edges of Corral Curb shall have either a 15 mm radius or a 10 mm bevel, unless otherwise noted.
 - When the Corral Curb is bid per meter, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.
 - Concrete in the Corral Curb shall be Class B1.
 - Measurement of Corral Curb is to the nearest half meter for each structure, measured along the top of slab from C of Sleeper Slab to C of Sleeper Slab.
 - All dimensions are horizontal at outside face of Corral Curb at Top of Slab.
 - Plastic waterstop shall be placed in all Corral Curb filled joints.
 - Cost of plastic waterstop complete-in-place to be included in the contract unit price for Corral Curb.
 - For details of Corral Curb Rail and Section C-C, see sheet no. 41.
 - For details of guard rail attachment, see sheet no. 42.
 - A movement gauge shall be provided on one side of bridge at all Corral Curb expansion joints.
 - All movement gauge steel shall be galvanized.
 - Cost of movement gauge complete in place shall be included in contract unit price for Corral Curb.
 - Work sheet with sheet no. 36 & 37.



DETAILED MAR. 1997
CHECKED MAR. 1997

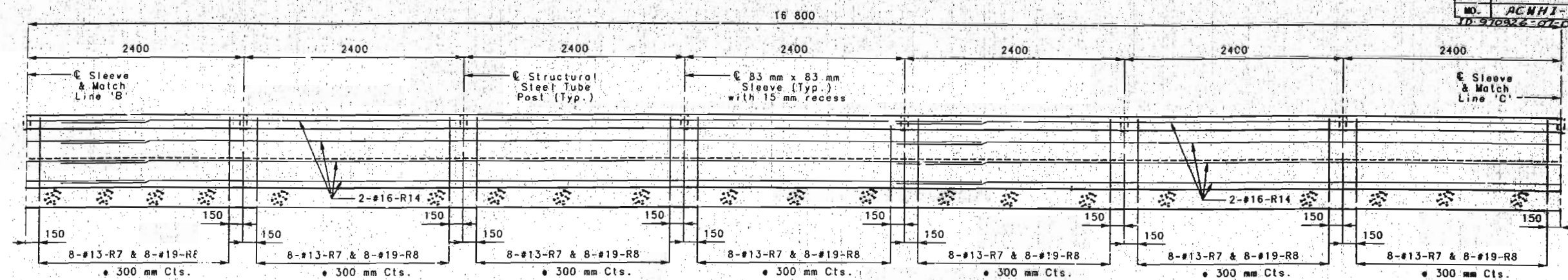
Revised 19-26-98

SHEET NO. 35 OF 61

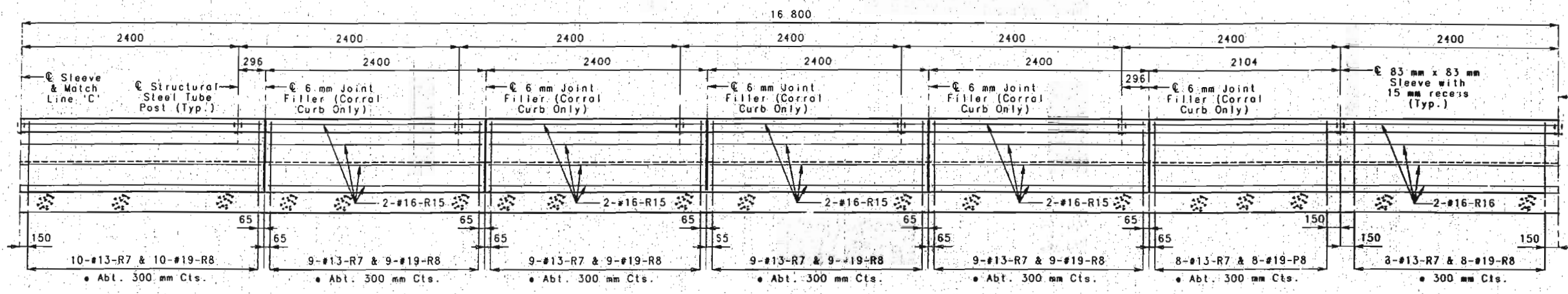
JACKSON COUNTY A57261

STATE	PROJ. NO. 7410922	SHEET NO.
NO. ACNH1-70-(167)		115
ID: 910922-07501H		

FINAL PLANS



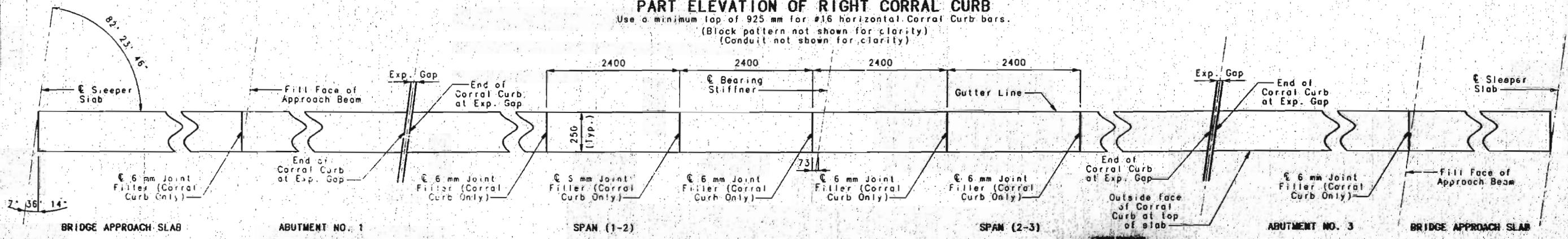
PART SPAN (1-2)



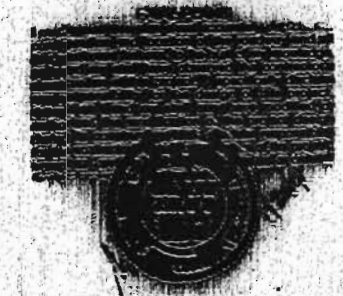
PART SPAN (1-2)

PART ELEVATION OF RIGHT CORRAL CURB
Use a minimum top of 925 mm for #16 horizontal Corral Curb bars.
(Block pattern not shown for clarity)
(Conduit not shown for clarity)

PART SPAN (2-3)



PART PLAN OF RIGHT CORRAL CURB



Work sheet with sheet no. 35 & 37.



3
3
2
[Handwritten scribbles]

DETAILED MAR. 1997
CHECKED MAR. 1997

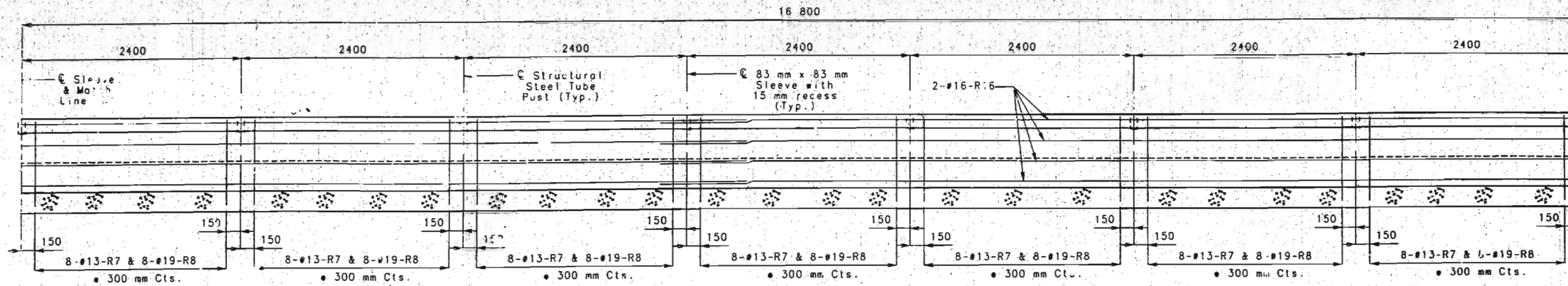
SHEET NO. 39 OF 61

JACKSON COUNTY

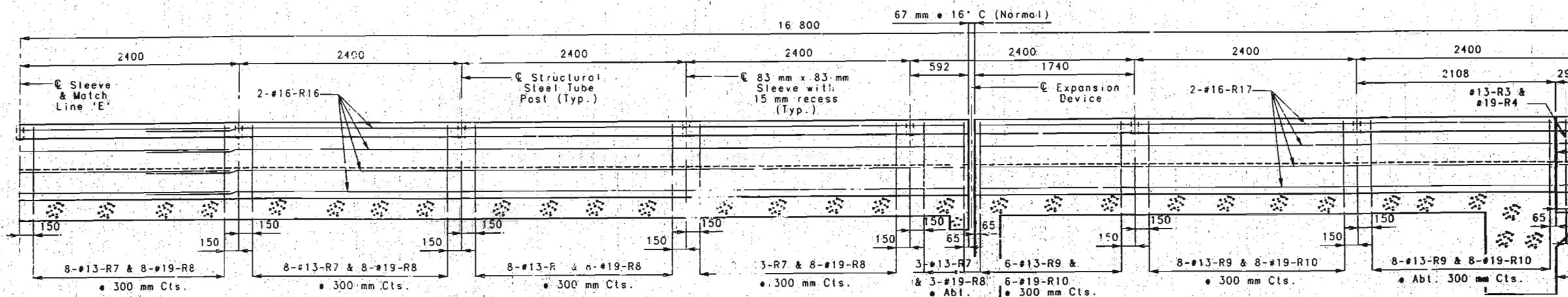
A5726

STATE	PROJ. NO. 440922	SHEET NO.
NO. ACNH I-70-(167)		116

ID: 970926-07-CLH

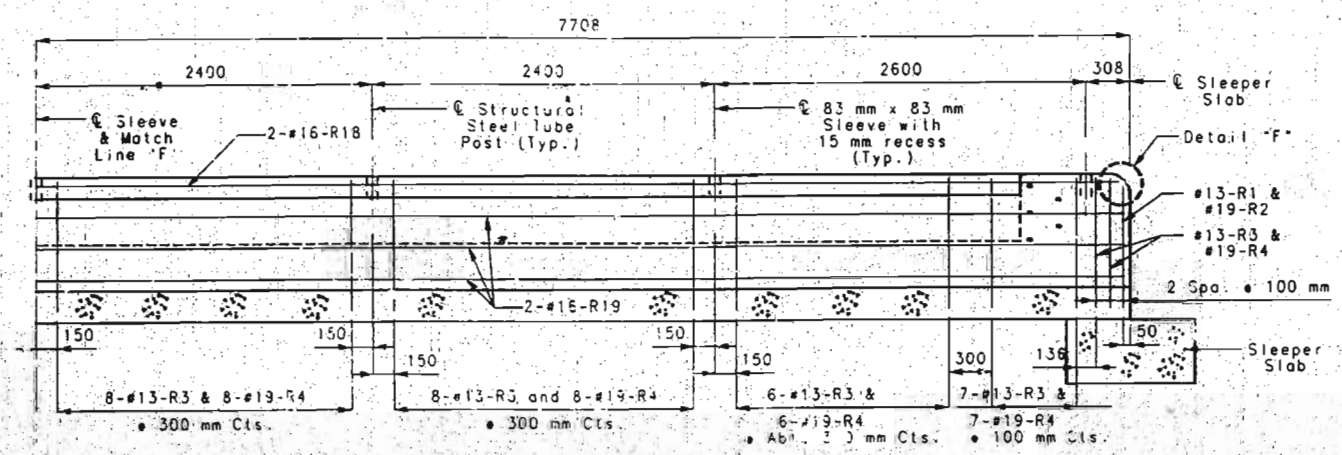


PART SPAN (2-3)

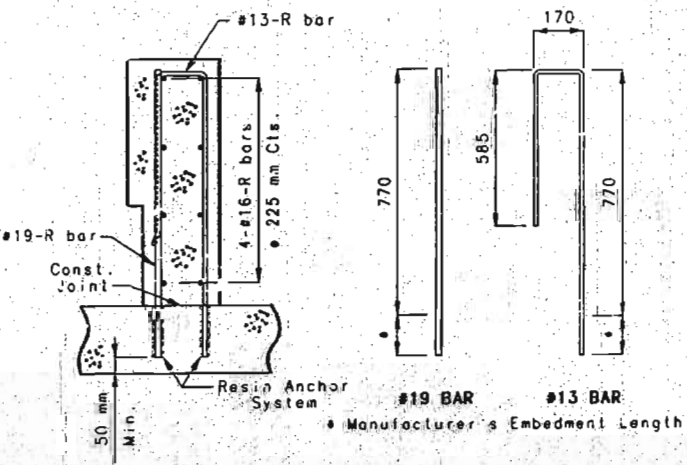


PART SPAN (2-3)

ABUTMENT NO. 3



BRIDGE APPROACH SLAB



OPTIONAL RESIN ANCHORING SYSTEM
(Block pattern, notch, and Rail not shown for clarity)

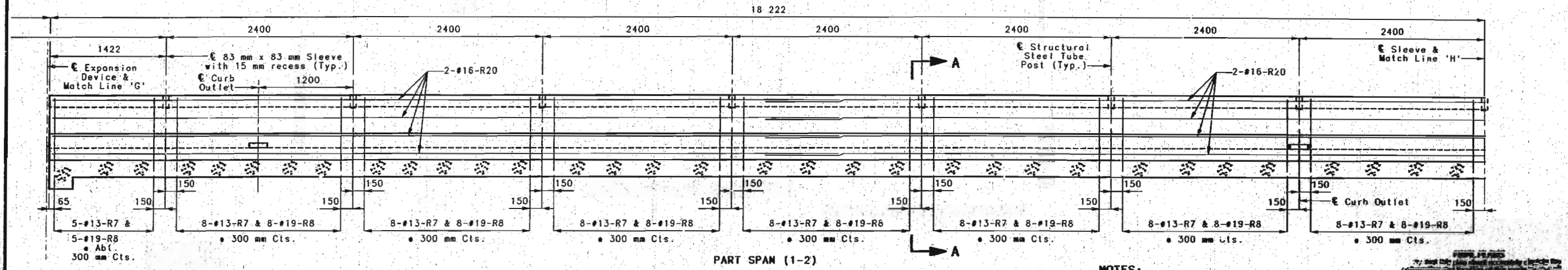
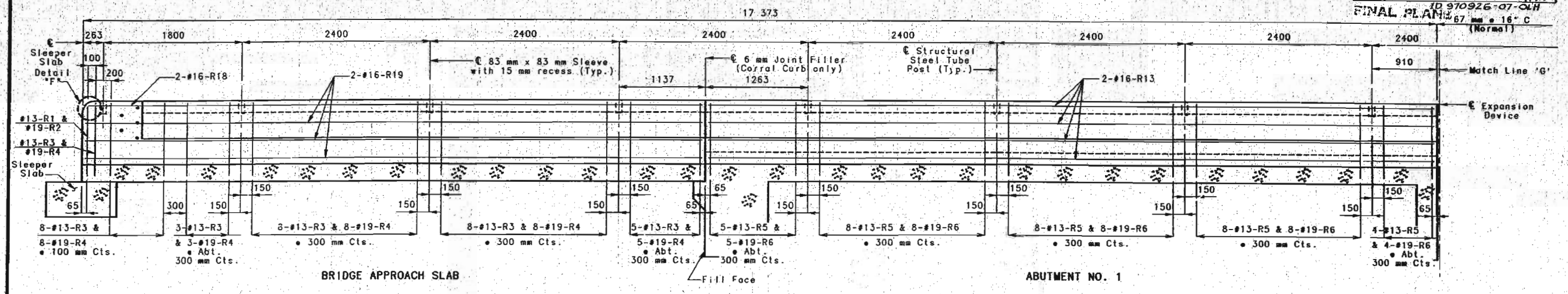
Note:
If the contractor chooses to use the optional resin anchor system, the contractor shall use one of the resin anchor systems listed in the job special provisions. These optional resin anchor systems shall be installed according to manufacturer's specifications, except as modified by the job special provisions. The #13 bar and #19 bar shown in the optional resin anchor system detail shall be a component part of the optional resin anchor system in lieu of threaded rod studs.
The 12.7 mm & 19.0 mm diameter optional resin anchor systems shall have a minimum ultimate pullout strength of 43.8 kN & 90.7 kN, respectively, in concrete with $f'_c = 28$ MPa, see special provisions.
No additional payment will be allowed for usage of the optional resin anchoring system.
All reinforcement for the optional resin anchoring system shall be epoxy coated.
Work sheet with sheet no. 35 & 36.

PART ELEVATION OF RIGHT CORRAL CURB
Use a minimum lap of 925 mm for #16 horizontal Corral curb bars.
(Block pattern not shown for clarity)
(Conduit not shown for clarity)

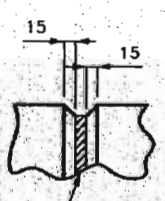
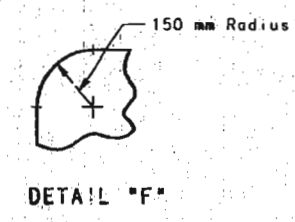
234



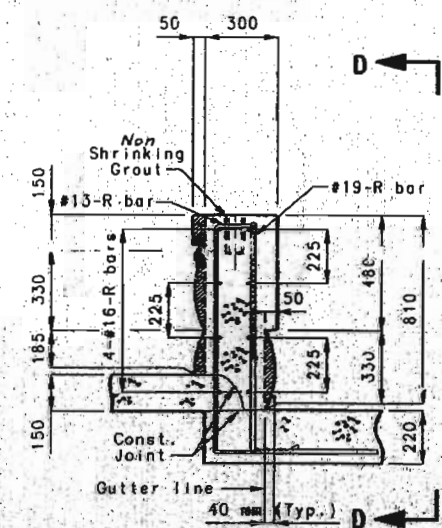
STATE	PROJ. NO. J40922	SHEET NO.
MO. ACNH-70-(167)	10 970926-07-OLH	117
FINAL PLAN 67 mm x 16" C (Normal)		



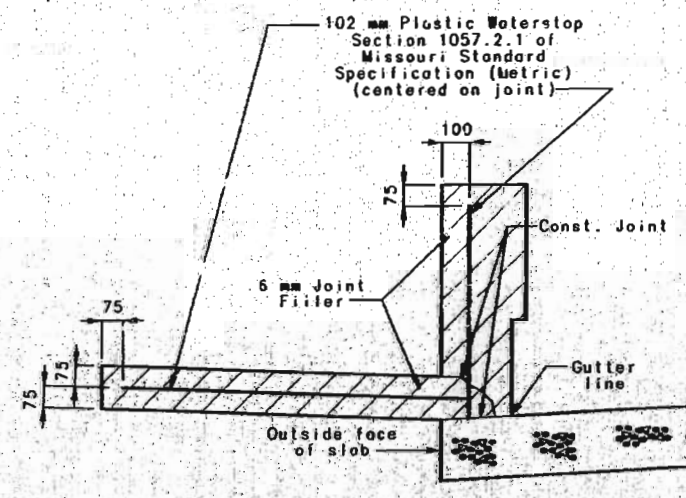
PART ELEVATION OF LEFT CORRAL CURB
 (Conduit not shown for clarity)
 (Block pattern not shown for clarity)



FILLED JOINT DETAIL
 Joint Filler (Section 1057.2.4 of Missouri Standard Specification (Metric))



SECTION A-A LEFT CORRAL CURB SECTION
 Use a minimum lap of 925 mm for #16 horizontal corral curb bars.



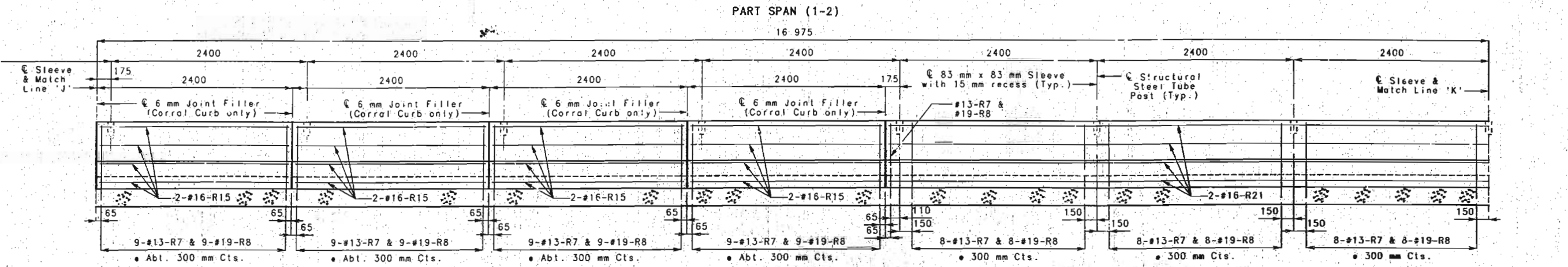
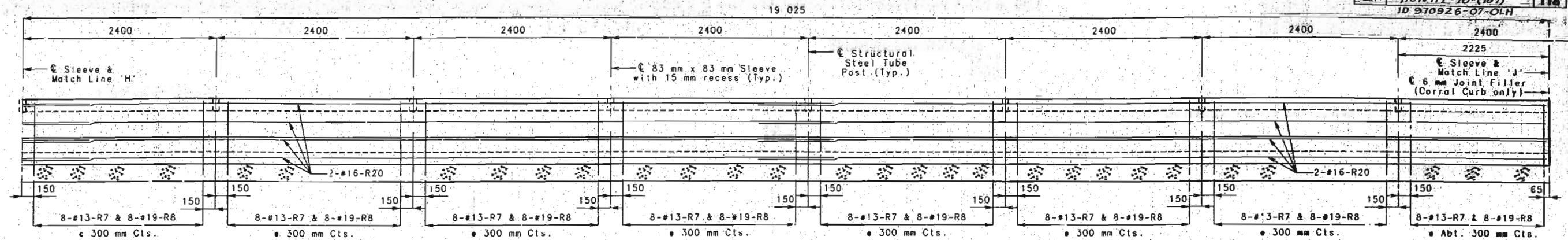
DETAILS OF PLASTIC WATERSTOP
 (Block pattern & 150 mm notch not shown for clarity)

NOTES:

- Top of Corral Curb shall be built parallel to grade with Corral Curb joints (Except at Abutment) normal to grade.
- All exposed edges of Corral Curb shall have either a 15 mm radius or a 10 mm bevel, unless otherwise noted.
- When the Corral Curb is bid per meter, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.
- Concrete in the Corral Curb shall be Class B1.
- Measurement of Corral Curb is to the nearest half meter for each structure, measured along the outside top of slab from E of Sleeper Slab to E of Sleeper Slab.
- All dimensions are horizontal at top of outside face of slab.
- Plastic waterstop shall be placed in all Corral Curb and Sidewalk filled joints.
- Cost of plastic waterstop complete-in-place, shall be included in the contract unit price for Corral Curb & Sidewalk.
- For details of guard rail attachment, see sheet no. 42.
- For details of Corral Curb Rail and Section D-D, see sheet no. 41.
- For details of Curb Outlets, see sheet no. 30.
- For details of Conduit System, see sheet no. 43. Work sheet with sheet no. 39 & 40.
- For details of Conduit System and Curb Lighting System, see sheet No. 43, 43A, 43B & 43C.

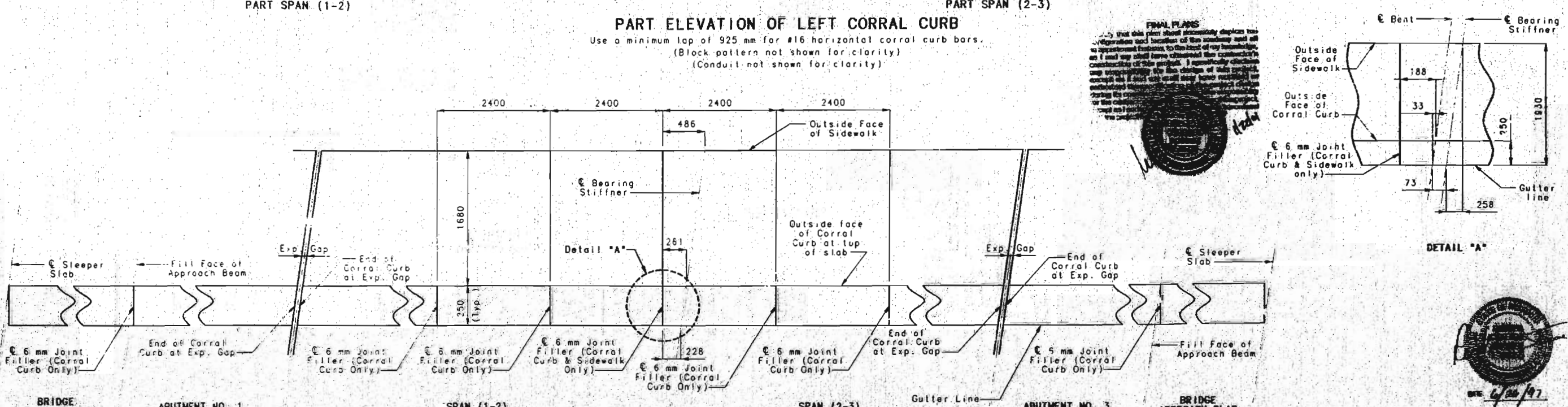
235

DETAILED MAR. 1987
 CHECKED MAR. 1987

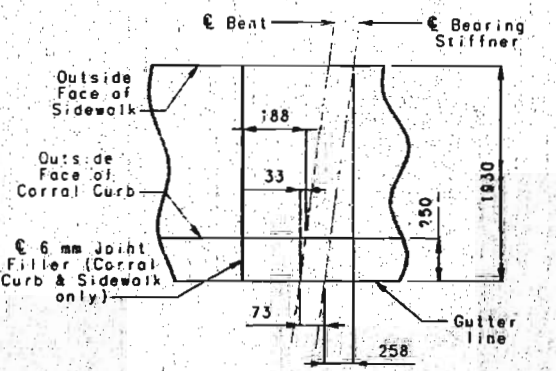


PART ELEVATION OF LEFT CORRAL CURB

Use a minimum lap of 925 mm for #16 horizontal corral curb bars.
(Block pattern not shown for clarity)
(Conduit not shown for clarity)



FINAL PLANS
... that this plan sheet necessarily depicts the...
... in the design of this project...
... the design of this project...



PART PLAN OF LEFT CORRAL CURB

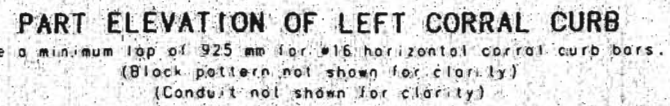
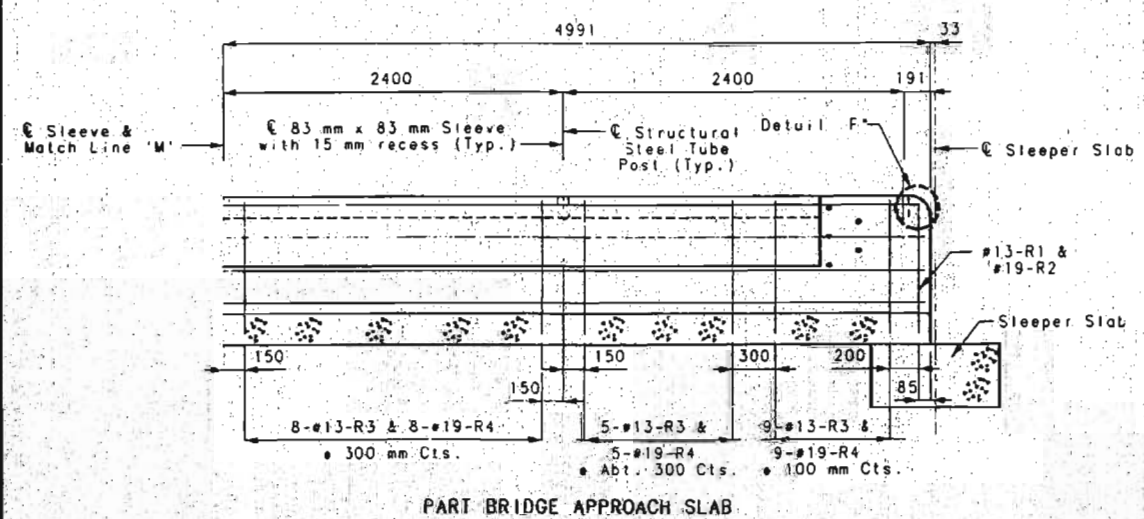
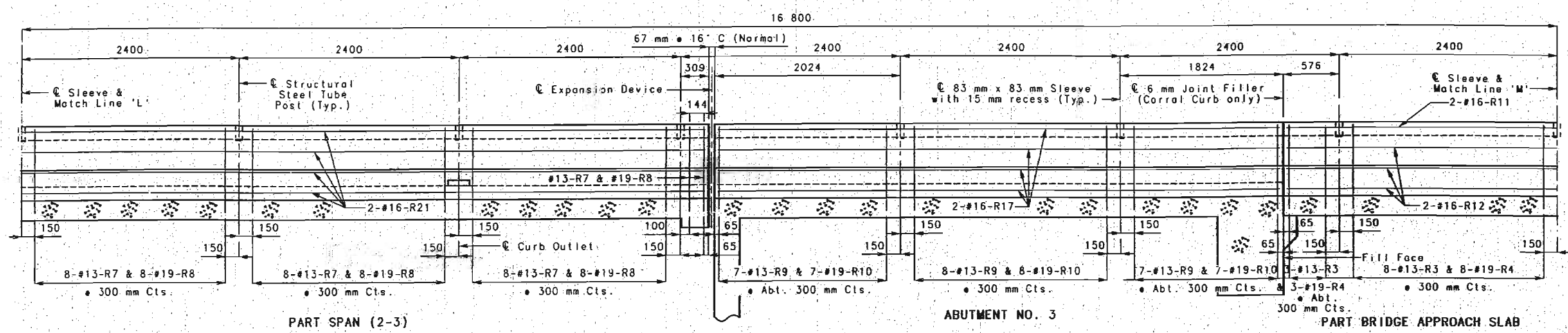
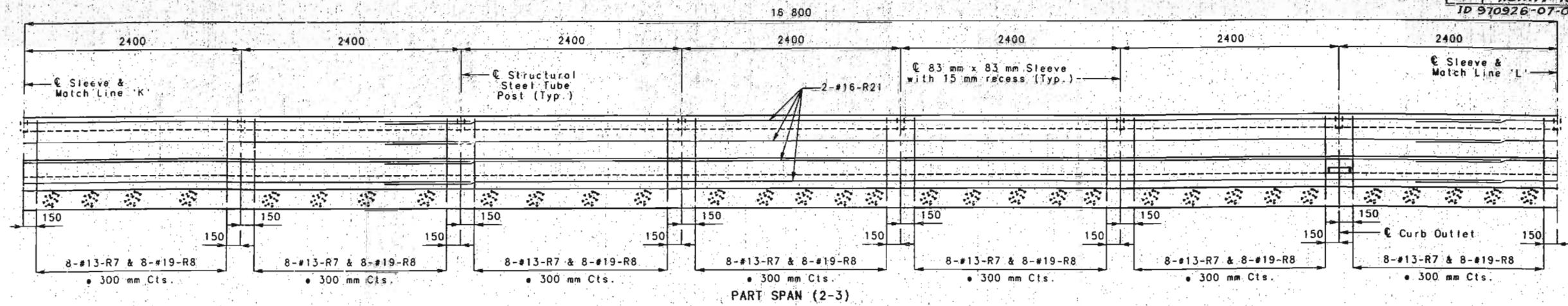
Work Sheet with Sheet No. 38 & 40.



236
Ⓟ

DETAILED MAR. 1997
CHECKED MAR. 1997

STATE	PROJ. NO. J410922	SHEET NO.
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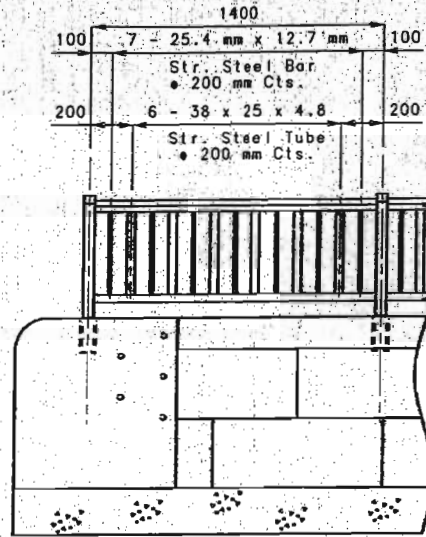
FIELD PLANS
 The field plans on this sheet accurately depict the location and location of the roadway and all structures, to the best of my knowledge. I shall not be held responsible for the contractor's interpretation of this plan. I specifically disclaim any responsibility for the design of the project, except as shown on this sheet and as indicated on existing site conditions of the project. I am not responsible for the construction of the project. I am not responsible for the construction of the project. I am not responsible for the construction of the project.



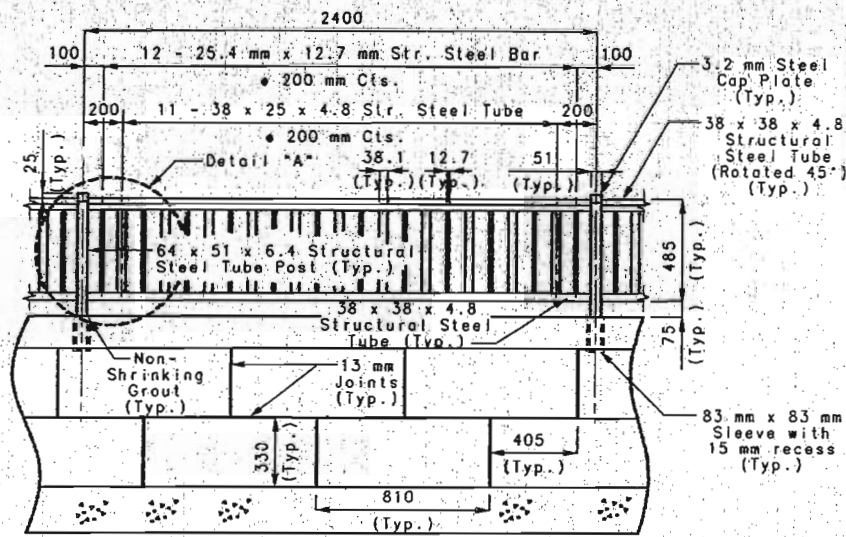
Note: Work sheet with sheet no. 38 & 39.
 For details of curb outlets, see sheet no. 30.

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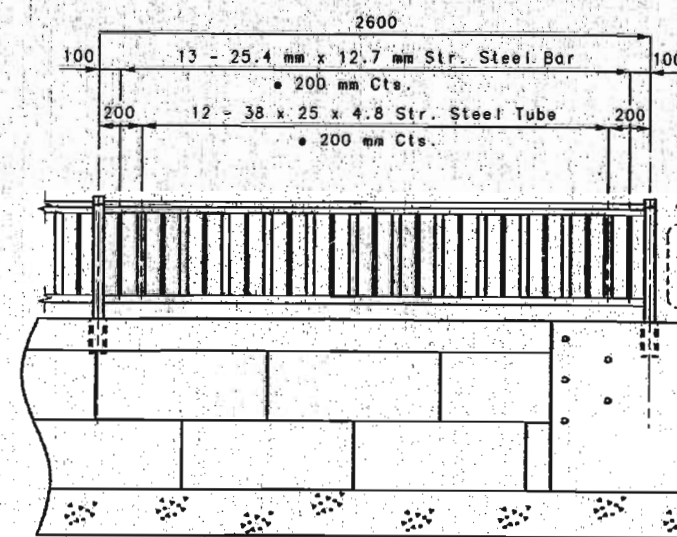
DETAILED MAR 1997
 CHECKED MAR 1997



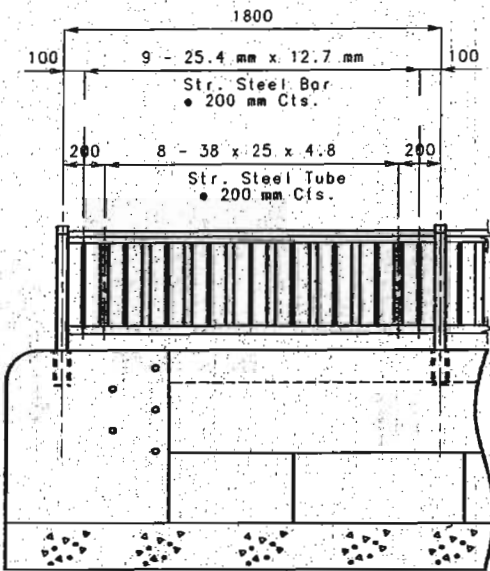
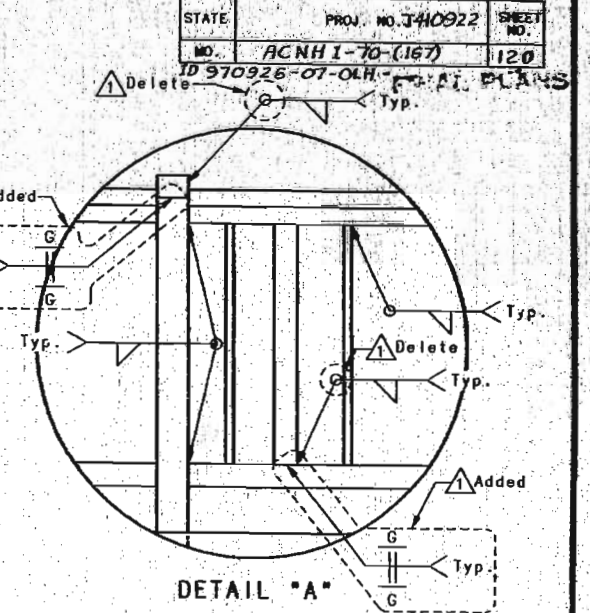
SIMILAR SECTION SHOWING SPACING PART ELEVATION OF RIGHT CORRAL CURB



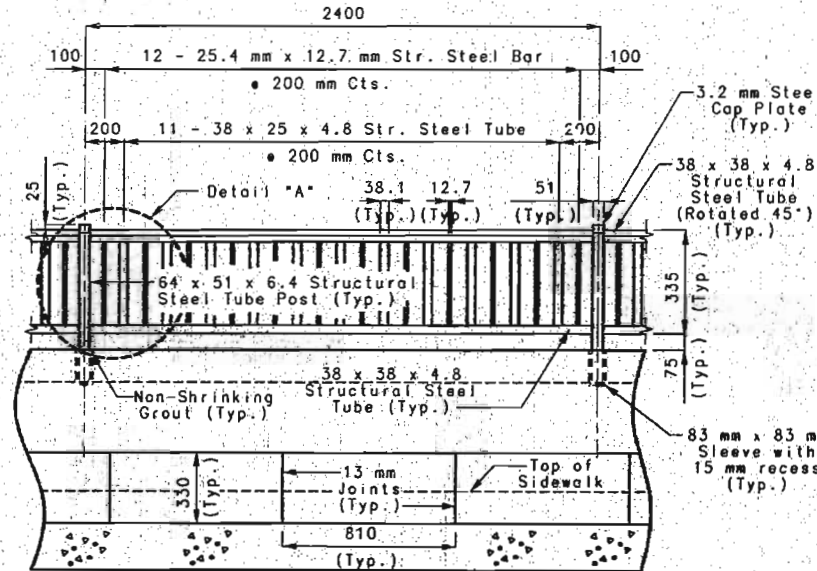
SECTION C-C PART ELEVATION OF RIGHT CORRAL CURB



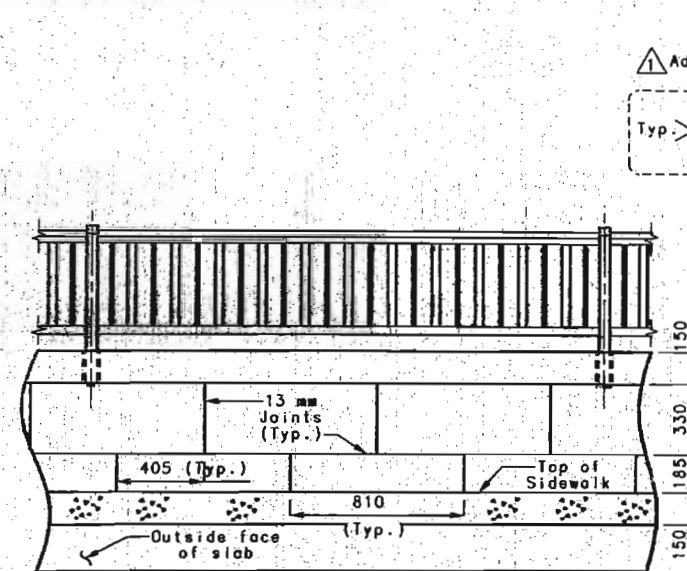
SIMILAR SECTION SHOWING SPACING PART ELEVATION OF RIGHT CORRAL CURB



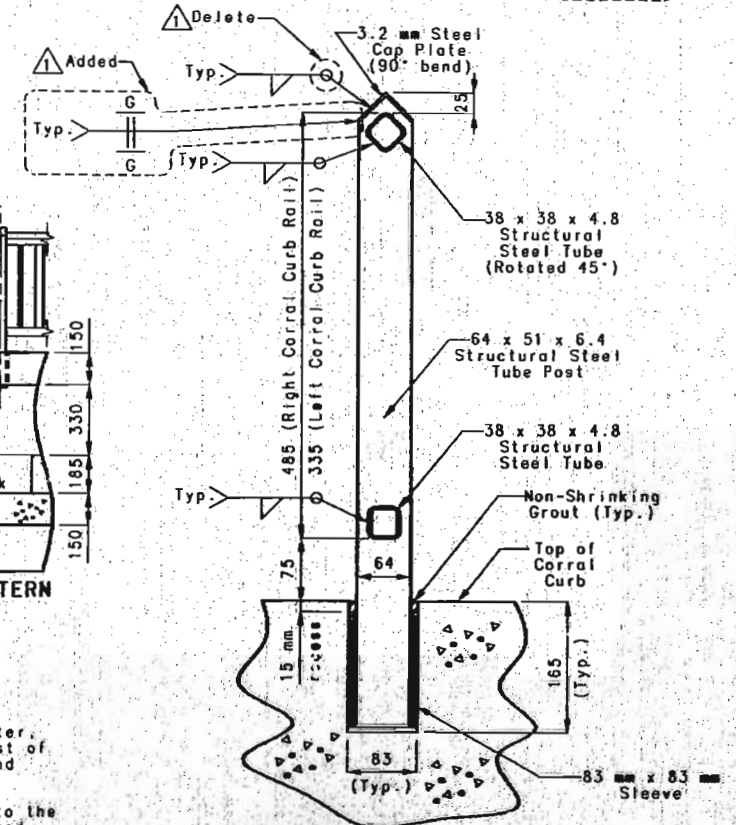
SIMILAR SECTION SHOWING SPACING PART ELEVATION OF LEFT CORRAL CURB (Block pattern on roadway face of right corral curb similar)



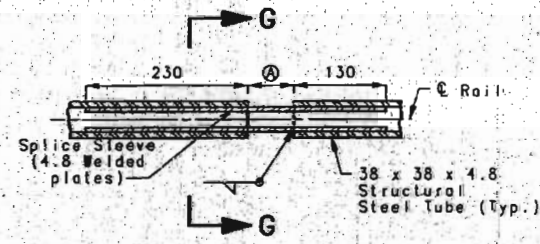
SECTION D-D PART ELEVATION OF LEFT CORRAL CURB (Block pattern on roadway face of right corral curb similar)



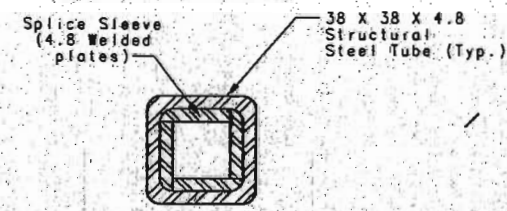
PART ELEVATION SHOWING TYPICAL BLOCK PATTERN FOR OUTSIDE FACE OF LEFT CORRAL CURB



SECTION OF RAIL POST



- DETAILS OF EXP. RAIL SPLICES
- (A) = 65 mm at Expansion Joint (Abut. No. 1 & 3)
 - = 10 mm at 6 mm Joint Filler in Corral Curb
 - = 10 mm to keep the length of rail from exceeding 10 meters without expansion provisions.



SECTION G-G

Note: When the Corral Curb Rail is bid per meter, the contract unit price shall include the cost of furnishing, coating, and erecting the rail and frame, complete-in-place.

Measurement of the Corral Curb Rail is to the nearest half meter for each structure, measured horizontally from C end rail post to C end post rail.

All fabricated structural steel shall be ASTM A709M Grade 250 or ASTM A500 or A501

For coating requirements of Corral Curb Rail, see Special Provisions.

All rail post shall be vertical.

For location of Section C-C, see sheet no. 35.

For location of Section D-D, see sheet no. 38.

Contractor shall provide complete shop drawings of corral curb rail.

DETAILS OF CORRAL CURB RAIL

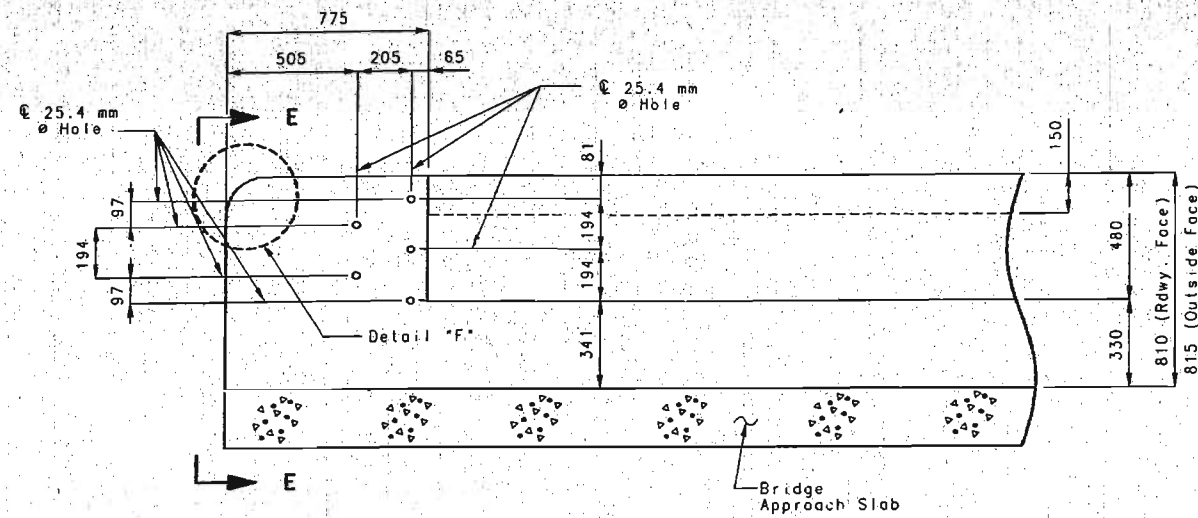
DETAILED MAR. 1997
CHECKED APR. 1997

Revision made 10-16-97

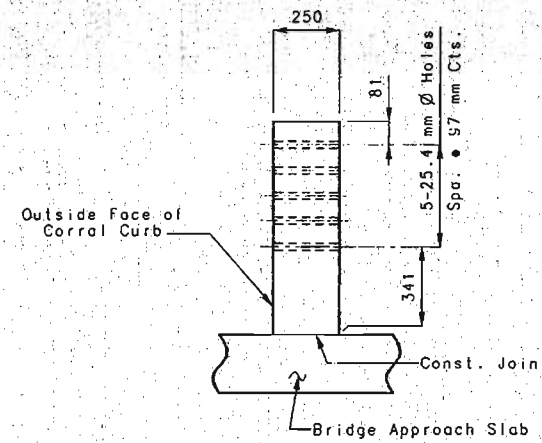
SHEET NO. 41 OF 61



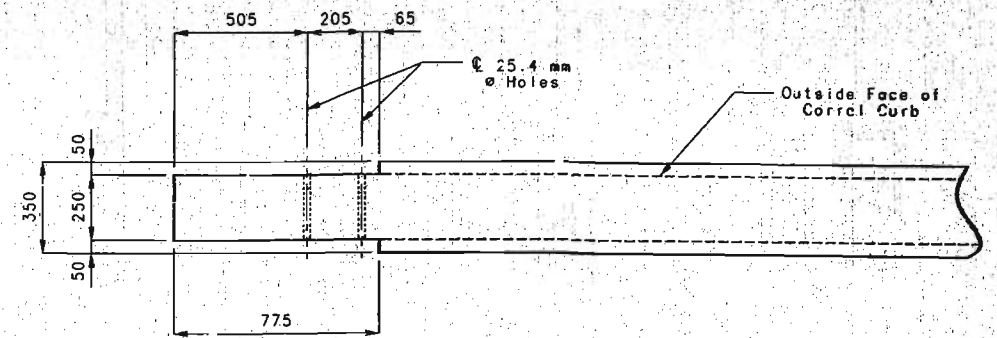
STATE	PROJ. NO. 3710922	SHEET NO.
NO. ACNH 1-70-(167)		121
ID 970926-07-01H FINAL PLANS		



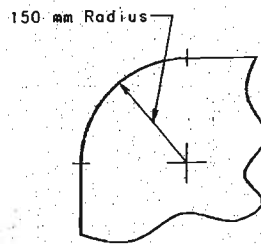
PART ELEVATION



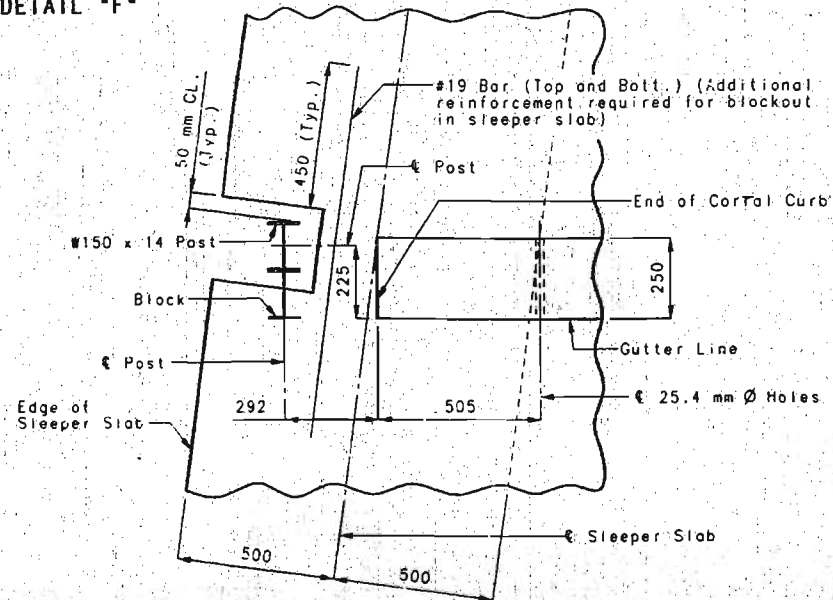
PART ELEVATION E-E



PART PLAN



DETAIL "F"

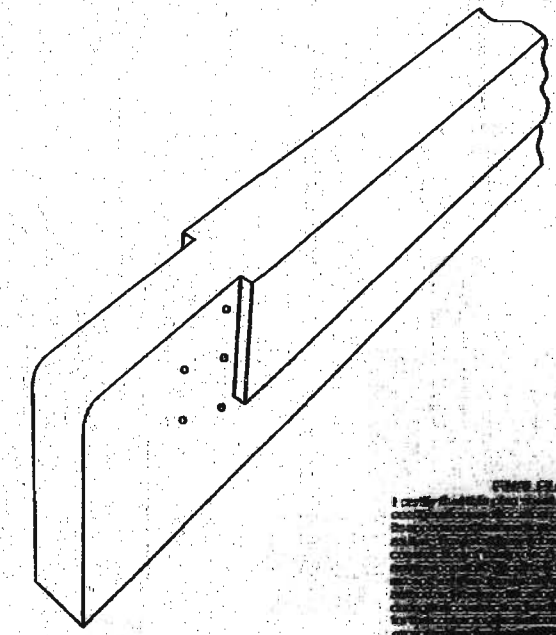


PLAN OF BLOCKOUT IN SLEEPER SLAB

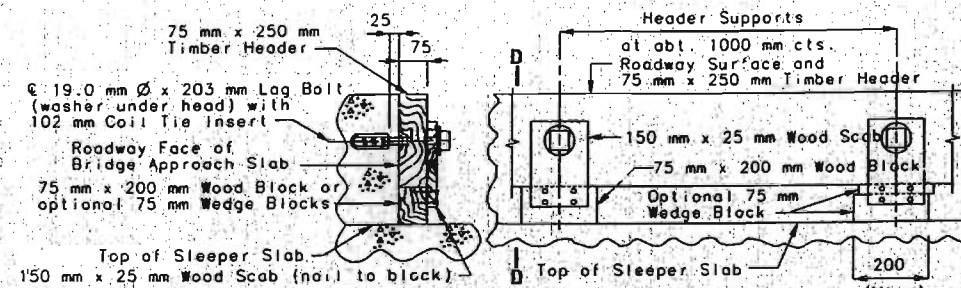
(Bridge approach slab at abutment No. 1 (left side) shown, other corners of bridge similar)

Note:
 Cut flexural reinforcing bars in edge of sleeper slab to clear blockout.
 Shift stirrups to clear blockout.
 See standard drawing M606.22 for details of bridge anchor section.
 For details of sleeper slab and bridge approach slab see sheet no. 54.

TYPICAL DETAILS OF GUARD RAIL ATTACHMENT
 (Block pattern not shown for clarity)



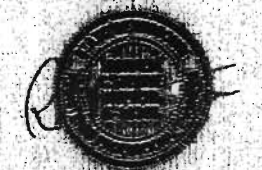
AUXILIARY VIEW OF CORRAL CURB



SECTION D-D PART ELEVATION
 Note: Remove timber header when concrete pavement is placed.
 DETAILS OF TIMBER HEADER

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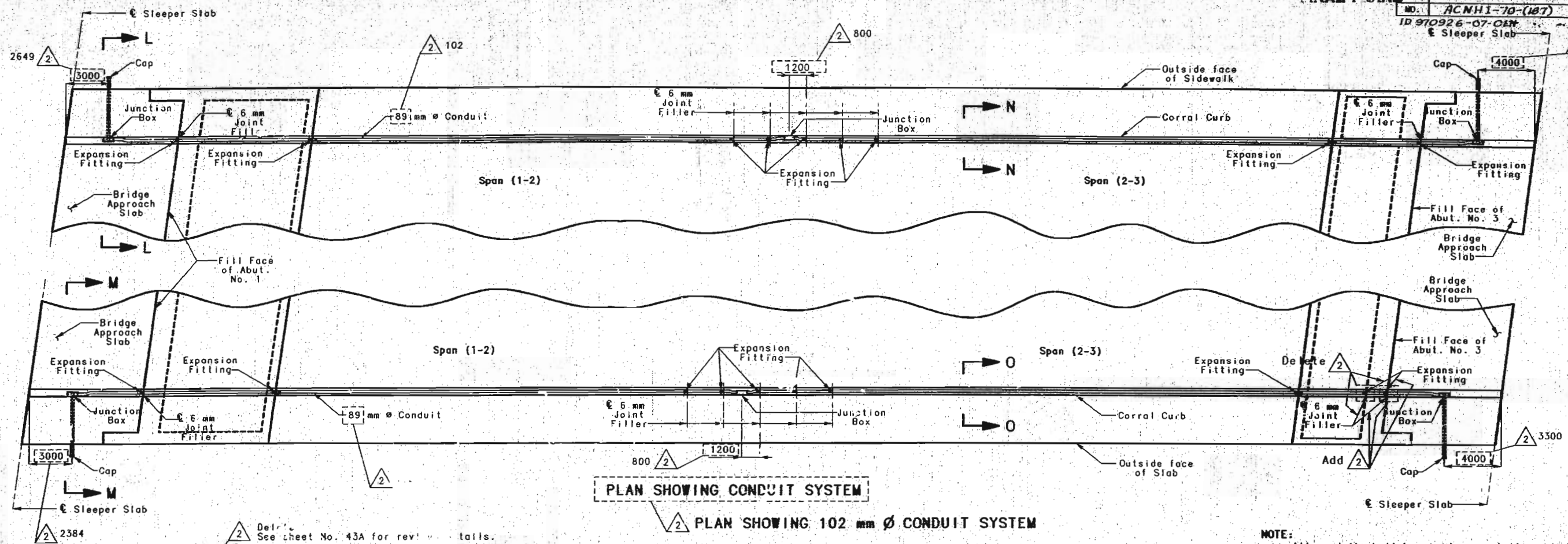
FINAL PLAN
 I certify that this drawing was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer in the State of Illinois. My license number is 121.



4/30/97

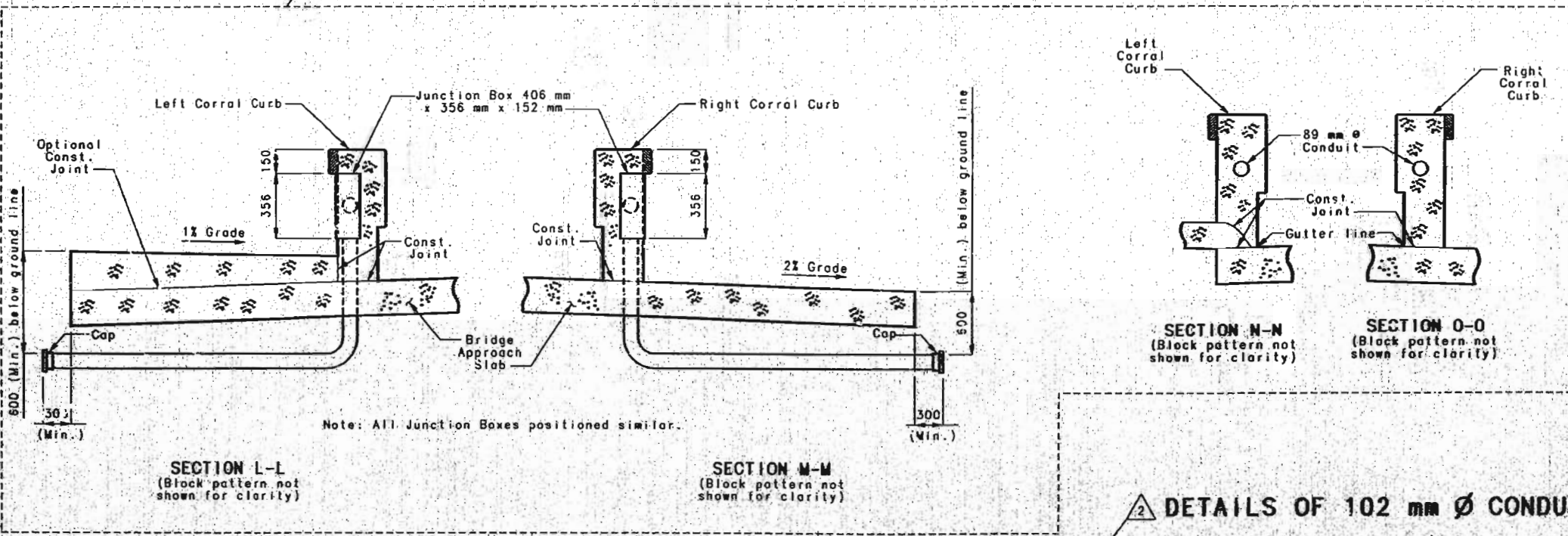
DETAILED MAR. 1997
 CHECKED APR. 1997

STATE	PROJ. NO. JH0922	SHEET NO.
NO. ACNH1-70-(187)		122
ID 970926-07-01M		
E Sleeper Slab		



PLAN SHOWING CONDUIT SYSTEM
 PLAN SHOWING 102 mm Ø CONDUIT SYSTEM

NOTE:
 All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 75 mm minimum cover in concrete. Each section of conduit shall bear the underwriters' laboratories, inc., (UL) label.
 Shift reinforcing steel in field where necessary to clear conduit and junction boxes.
 Expansion fittings shall provide a minimum movement in either direction of 40 mm at open joints and 15 mm at filled joints. Expansion fittings shall be equal to Carlon Electrical Construction Products or Context, Inc.
 All corral curb junction boxes shall be PVC welded flush mounted and equal to Carlon Electrical Construction Products or Context, Inc. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements of NEMA 4 enclosure. Curb mounted junction boxes shall have stainless steel covers.
 Weepholes shall be provided at appropriate locations to drain any moisture in the conduit system.
 Payment for furnishing and installing Conduit System complete in place, will be as per the contract unit price for Conduit System on Structure, lump sum.



DETAILS OF 102 mm Ø CONDUIT SYSTEM ON STRUCTURE
 DETAILS OF CONDUIT SYSTEM ON STRUCTURE

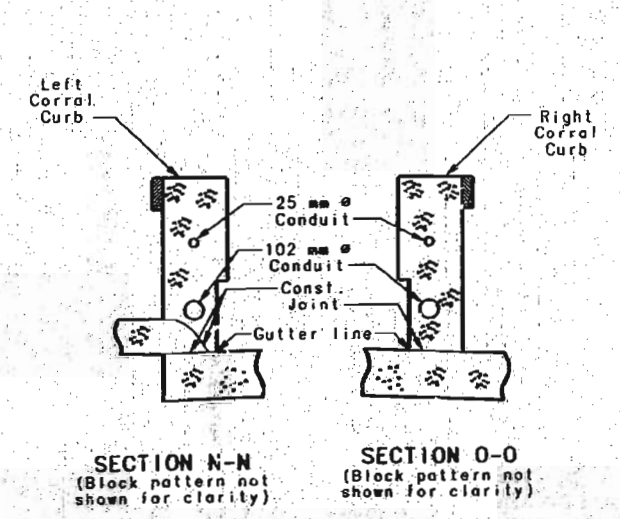
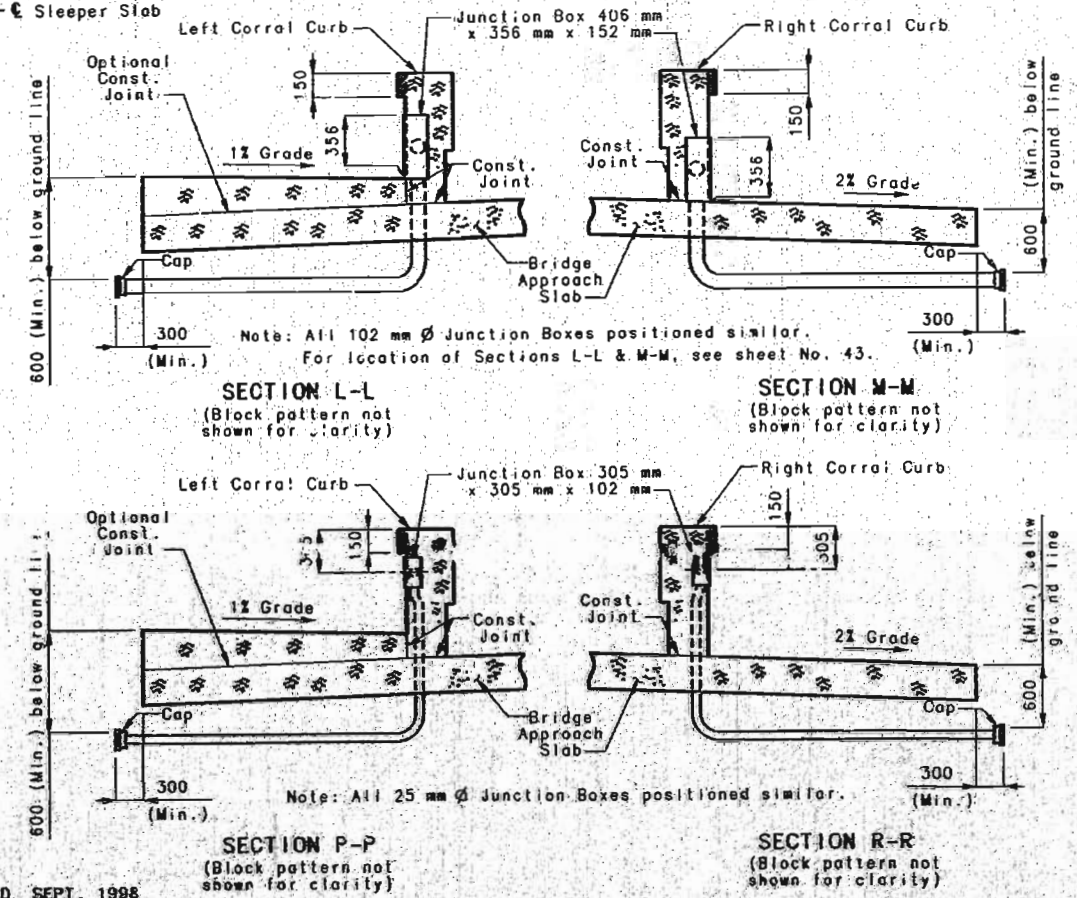
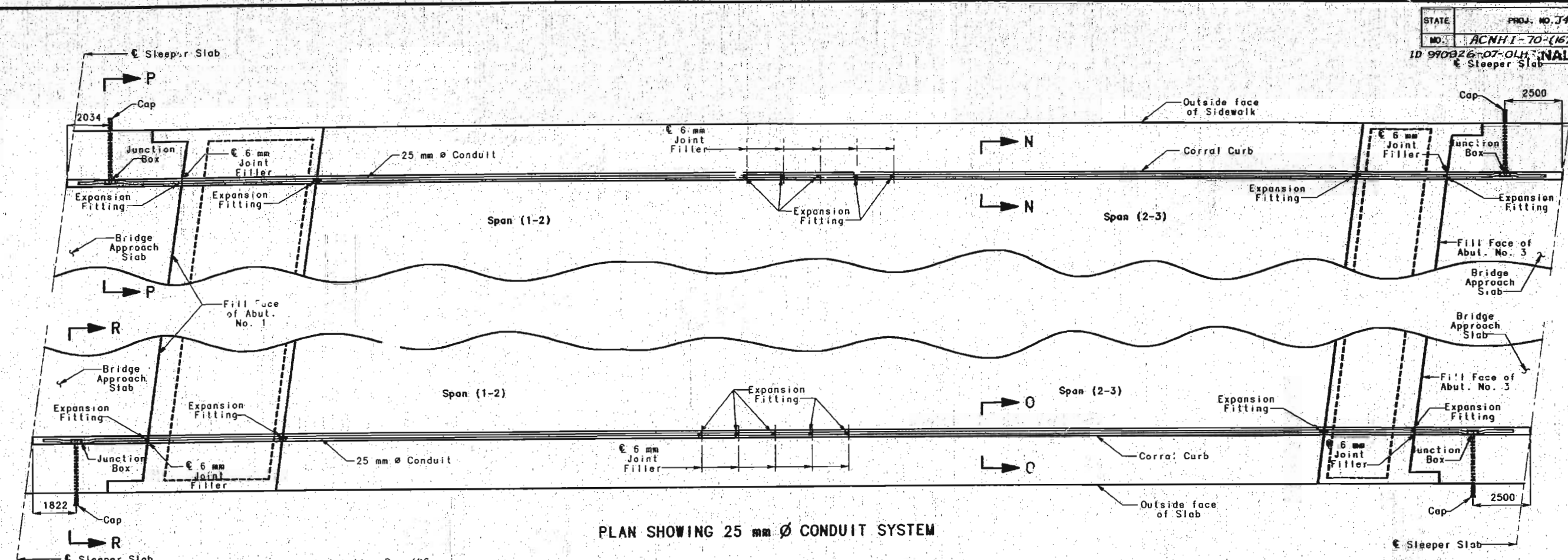
Handwritten notes:
 O/E
 [Signature]

DETAILED MAR. 1997
 CHECKED APR. 1997

Revised 10-26-98 SHEET NO. 43 OF 61

JACKSON COUNTY A57261

STATE	PROJ. NO. J410922	SHEET NO.
NO. ACNH1-70-(167)		122A
ID 990926-07-04 ORIGINAL PLANS		



NOTE:
For Conduit System notes, see sheet No. 43.
For details of Curb Lighting System, see sheet No. 43B.
For details of 102 mm Ø conduit system, see sheet No. 43.
For additional details of Curb Lighting System and Junction Boxes, see sheet No. 43C.

DETAILS OF 25 mm Ø CONDUIT SYSTEM ON STRUCTURE

DETAILED SEPT. 1998
CHECKED SEPT. 1998

Revised: 10-26-98

SHEET NO. 43A OF 61

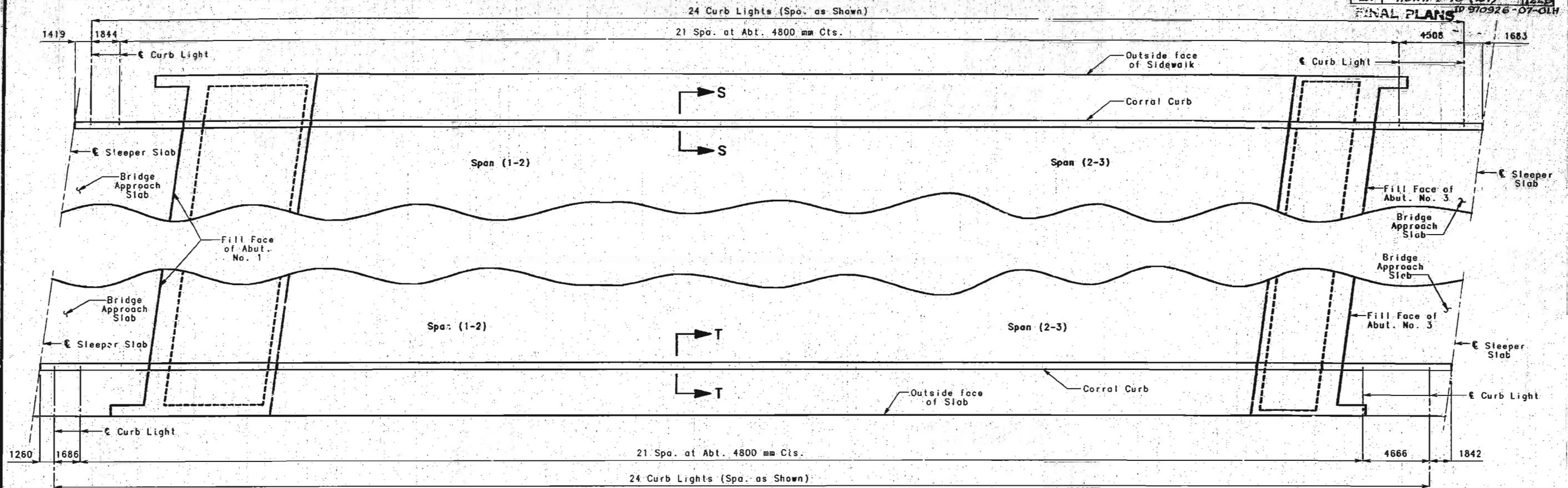
JACKSON

COUNTY

A57261

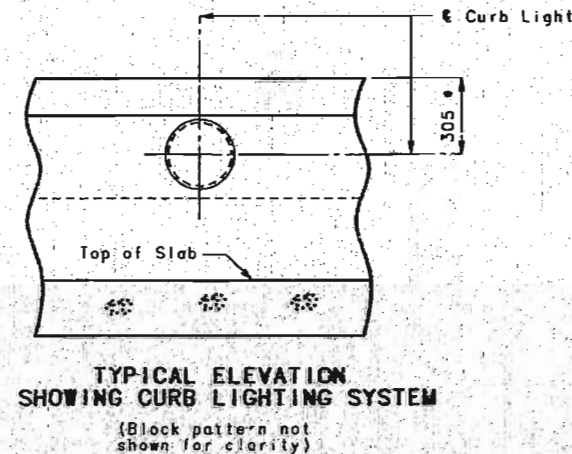
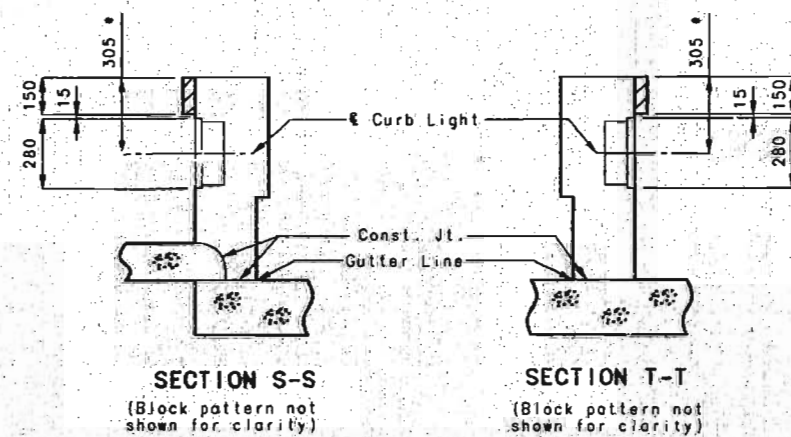
241

STATE	PROJ. NO. J410922	SHEET NO.
NO. ACNH 1-70-(187)		1325
FINAL PLANS 910926-07-01H		



PLAN SHOWING CURB LIGHTING SYSTEM

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DETAILS OF CURB LIGHTING SYSTEM ON STRUCTURE

NOTE:

Shift Curb Light locations where necessary to clear curb joints and vertical curb reinforcement.

Shift longitudinal curb reinforcement in field where necessary to clear curb lights and junction boxes.

* Vertical location of Curb Lights is contingent on using a 280 mm Ø Light.

For details of 25 mm Ø conduit, see sheet No. 43A.

For additional details of Curb Lighting System and Junction Boxes, see sheet No. 43C.



DETAILED SEPT. 1998
CHECKED SEPT. 1998

2 Revised 10-26-98

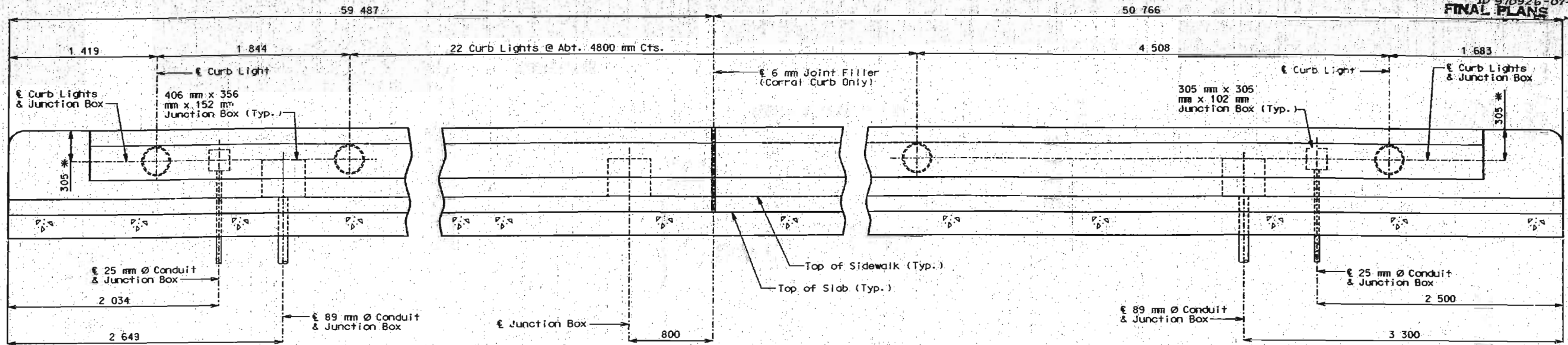
SHEET NO. 43B OF 61

JACKSON

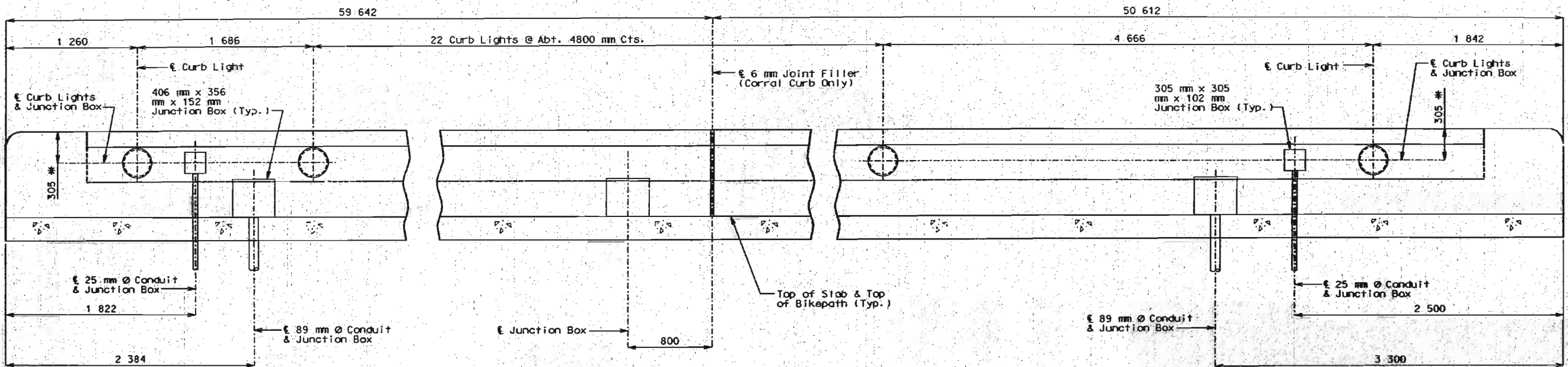
COUNTY

A5726

State	Proj. No. J110322	Sheet No.
MD	ACMHI-70-(167)	122 C
ID 970926-07-011		
FINAL PLANS		



PART SECTION NEAR LEFT CORRAL CURB SHOWING CURB LIGHTING SYSTEM AND JUNCTION BOXES
(Block pattern and longitudinal conduit not shown for clarity.)



PART SECTION NEAR RIGHT CORRAL CURB SHOWING CURB LIGHTING SYSTEM AND JUNCTION BOXES
(Block pattern and longitudinal conduit not shown for clarity.)

NOTE:

- Shift curb light locations where necessary to clear curb joints and vertical curb reinforcement.
- Shift longitudinal curb reinforcement in field where necessary to clear curb lights and junction boxes.
- * Vertical location of curb lights is contingent on using a 280 mm Ø light.
- For details of 102 mm Ø conduit system, see sheet No. 43.
- For details of 25 mm Ø conduit system, see sheet No. 43A.
- For additional details of Curb Lighting System, see sheet No. 43B.

DETAILS SHOWING CURB LIGHTING SYSTEM AND JUNCTION BOXES

37243

Detailed Sept. 1998
Checked Sept. 1998

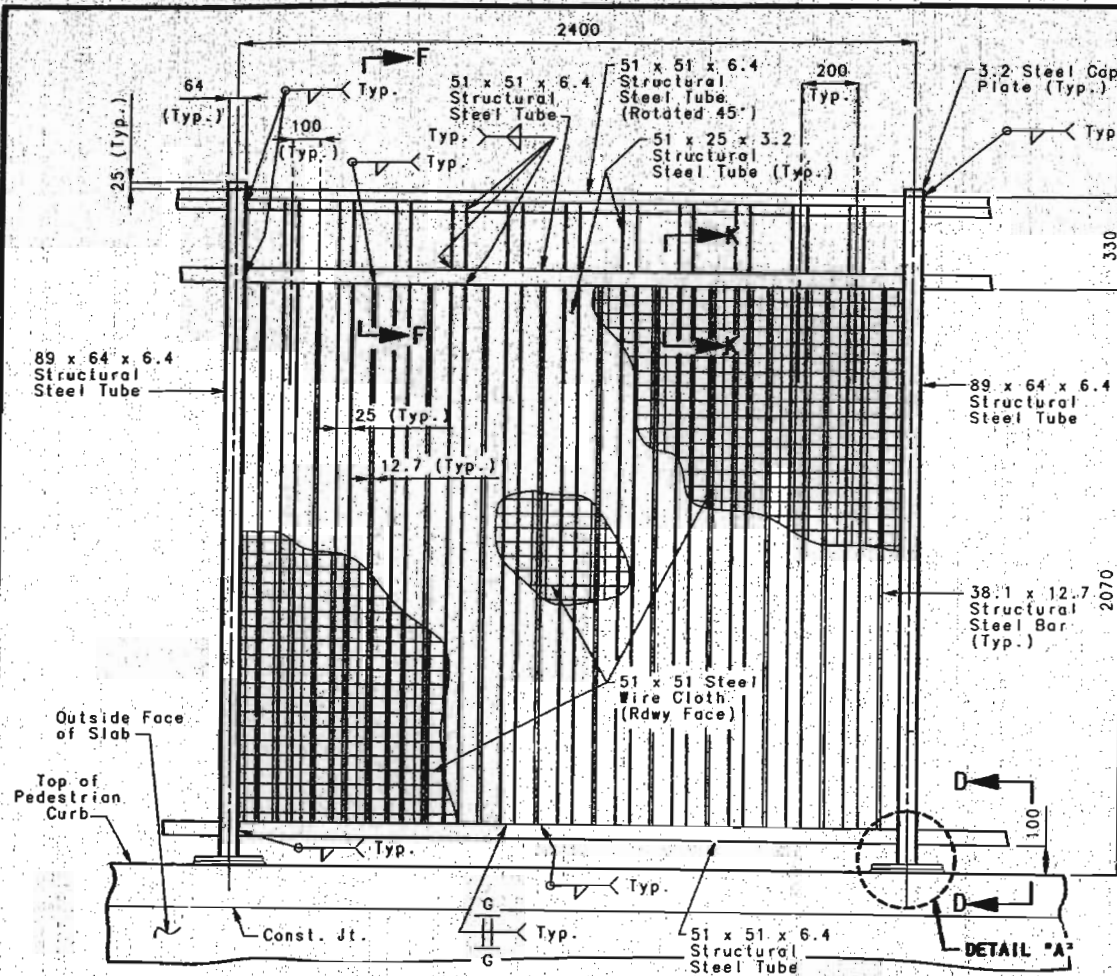
Revised 10-26-98

Sheet No. 43C of 61

JACKSON COUNTY

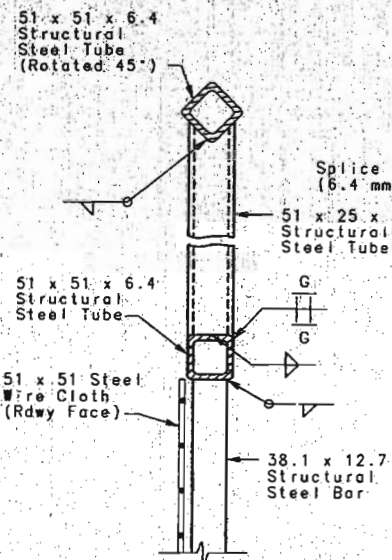
A57261

STATE	PROJ. NO. FH0922	SHEET NO.
NO. ACNH1-70-(157)		123
ID 910926-01-01A		
FINAL PLANS		

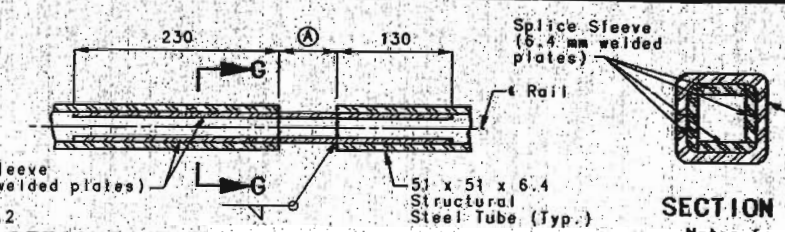


PART ELEVATION OF PEDESTRIAN FENCE PANEL
 Note: For Part Elevation of Pedestrian Fence for end spacing details, see sheet no. 46.

Tack weld steel wire cloth to horizontal and vertical structural steel tubes at 600 mm cts.

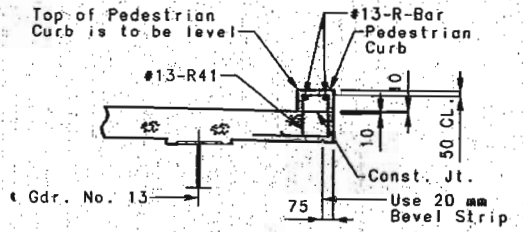


SECTION F-F

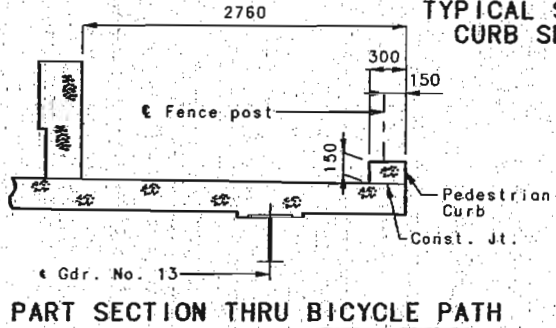


DETAILS OF EXPANSION RAIL SPLICES

65 mm at Expansion Joint (Abutment No. 1 & 3)
 10 mm (Min.) at 6 mm joint filler in pedestrian curb.
 10 mm (Min.) to keep the length of rail from exceeding 10 meters without expansion provisions.

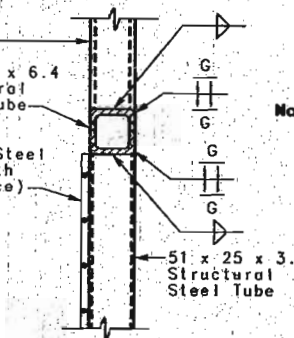


TYPICAL SECTION THRU PEDESTRIAN CURB SHOWING REINFORCEMENT



PART SECTION THRU BICYCLE PATH

Note: For Pedestrian Curb Section at Abutments see sheet no. 9 & 22.



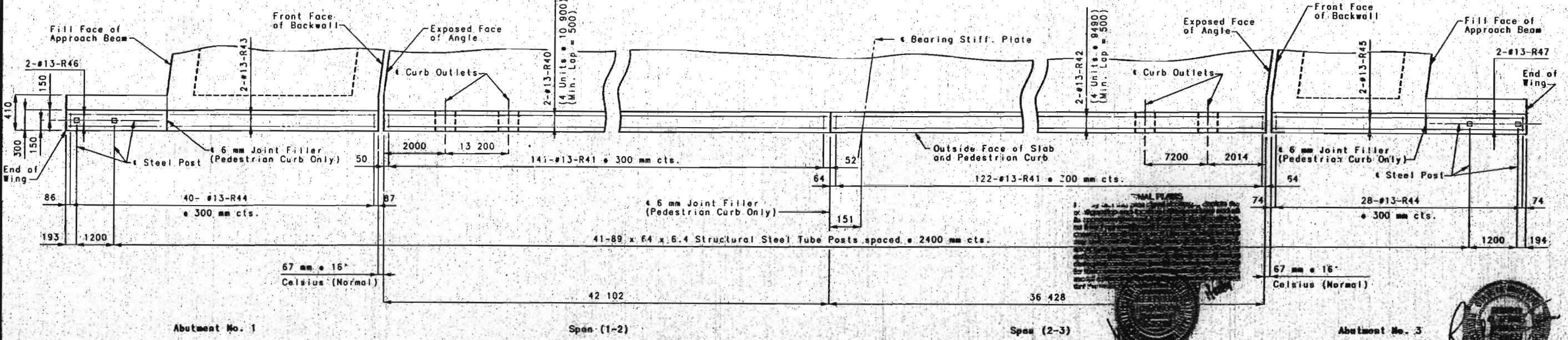
SECTION K-K

SECTION G-G

Notes for Pedestrian Fence:

- All fence posts shall be vertical. Grout of 15 mm minimum thickness shall be placed under floor plate to provide for vertical alignment of fence posts.
- The contract unit price per meter for (2400 mm) Pedestrian Fence (Structures) shall include furnishing, coating, and erecting the fence and frame complete with anchor bolts and washers.
- Dimensions of pedestrian fence are measured horizontally at top of slab.
- The maximum spacing allowed between posts is 2400 mm and posts shall be no closer than 150 mm to joint filler and open joints in pedestrian curb.
- Measurement of (2400 mm) Pedestrian Fence (Structures) is to the nearest half meter for each structure, measured horizontally from end fence post to end fence post.
- For coating requirements of Pedestrian Fence, see Special Provisions.
- For details of Detail "A" and Section D-D see sheet no. 46.
- For details of Part Elevation of End Fence Panels see sheet no. 46.
- Contractor shall provide complete shop drawings of pedestrian fence.
- Notes for Pedestrian Curb:**
- All exposed edges of pedestrian curb shall have either a 15 mm radius or a 10 mm bevel.
- Concrete in the pedestrian curb shall be Class B1.
- Measurement of pedestrian curb is to the nearest half meter measured horizontally along the outside of slab (right side) from end of wing to end of wing.
- When the pedestrian curb is bid by the meter, the contract unit price shall include the cost of all concrete and reinforcement, complete in place.

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PLAN OF PEDESTRIAN CURB SHOWING REINFORCEMENT AND POST SPACING
DETAILS OF PEDESTRIAN FENCE AND CURB

Note: For details of curb outlets in pedestrian curb see sheet no. 31.

DETAILED: FEB. 1997
 CHECKED: MAR. 1987

Added this sheet 10-16-97
 Replaces sheet no. 44.

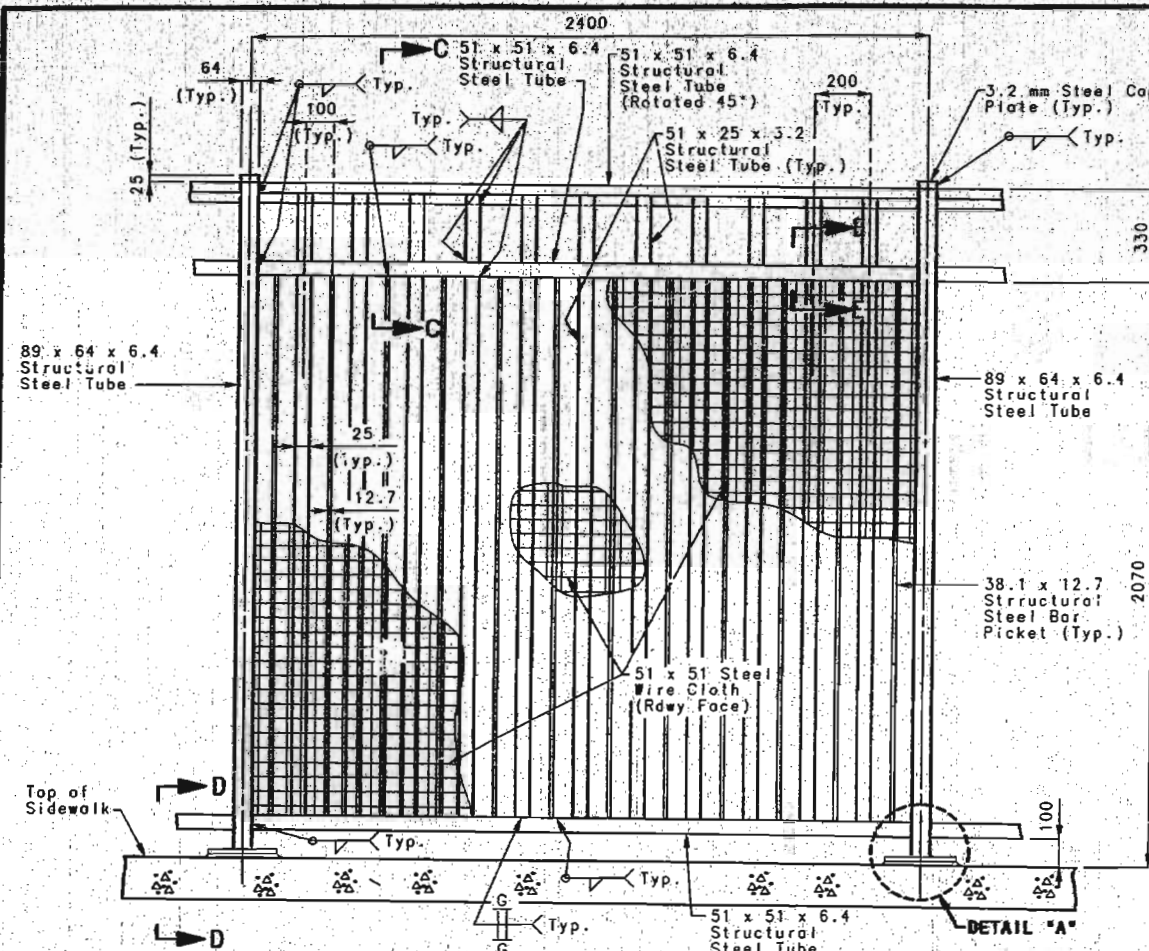
SHEET NO. 44a OF 61

JACKSON

COUNTY

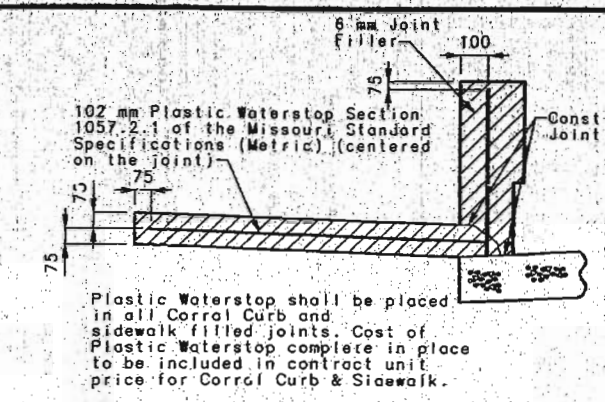
A5726

STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH-70-(167)		124
10 970926-07-011		

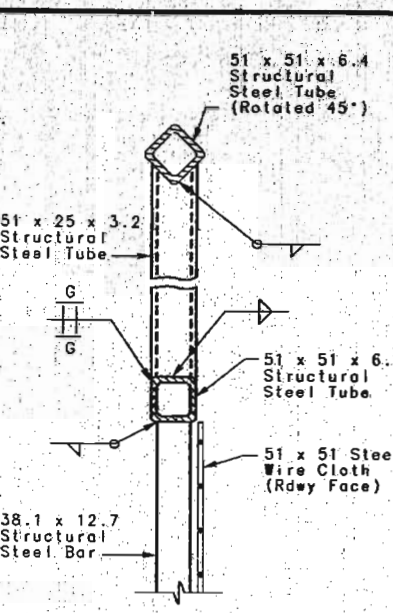


PART ELEVATION OF PEDESTRIAN FENCE PANEL

Note: For Part Elevation of Pedestrian Fence for end spacings, see sheet no. 46.



DETAILS OF PLASTIC WATERSTOP



SECTION C-C

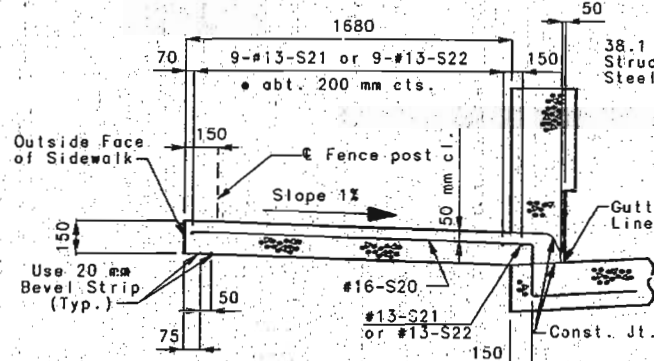
Notes for Sidewalk:

All exposed edges of sidewalk shall have either a 15 mm radius or a 10 mm bevel, unless otherwise noted.

When the sidewalk is bid by square meter, the contract unit price shall include the cost of all concrete and reinforcement, complete in place.

Concrete in the sidewalk shall be Class B2.

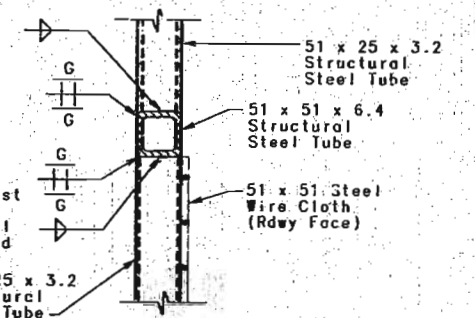
Measurement of the sidewalk is to the nearest square meter for each structure, measured horizontally from the outside face of Corral Curb to the outside edge of the sidewalk and from front face to front face of abutment.



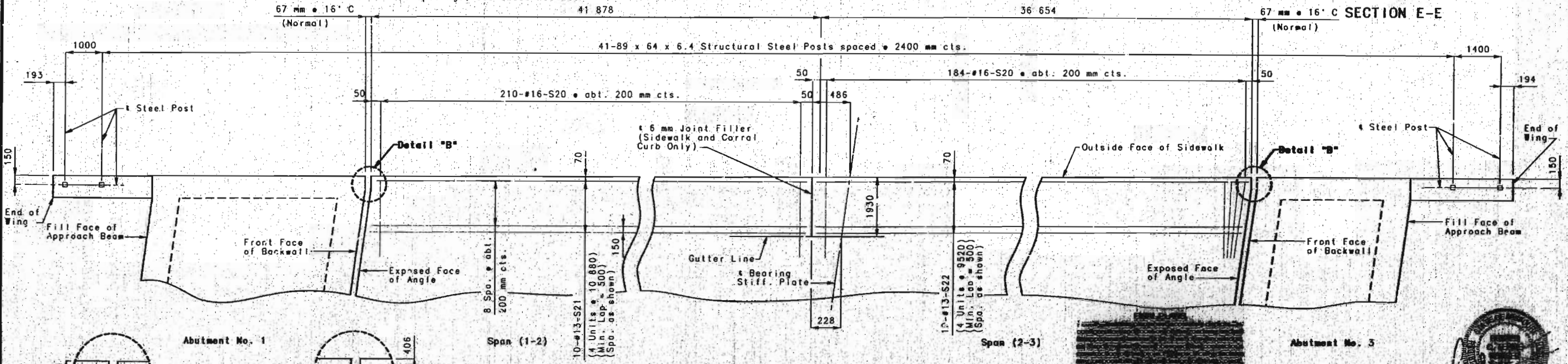
PART SECTION THRU SIDEWALK

Note: Forms for sidewalk shall not be released until Corral Curb is in place.

Note: Tack weld steel wire cloth to horizontal and vertical structural steel tube at 600 mm cts.



SECTION E-E



PLAN OF SIDEWALK SHOWING REINFORCEMENT AND POST SPACING
(Corral Curb not shown for clarity)
DETAILS OF PEDESTRIAN FENCE AND SIDEWALK



DETAILED FEB. 1997
CHECKED MAR. 1997

Added this sheet 10-16-97
Replaces sheet no. 45.

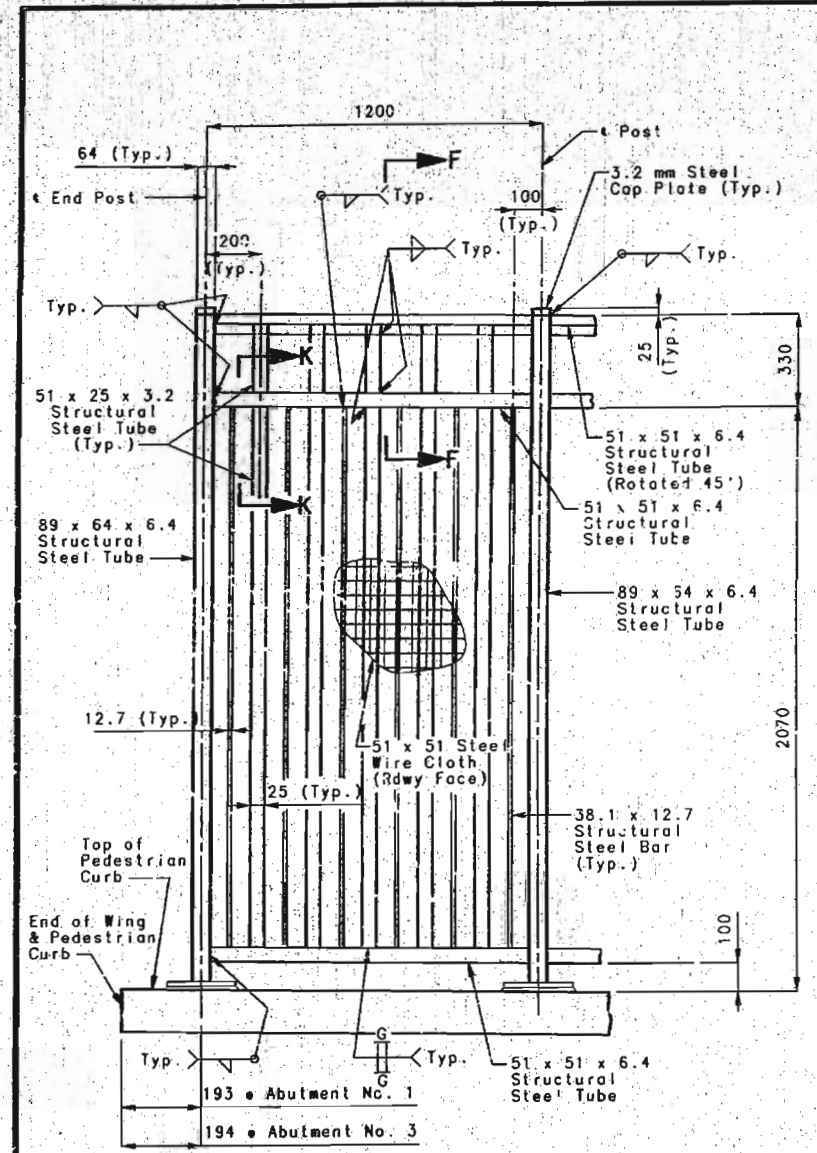
SHEET NO. 45a OF 61

JACKSON COUNTY A57261

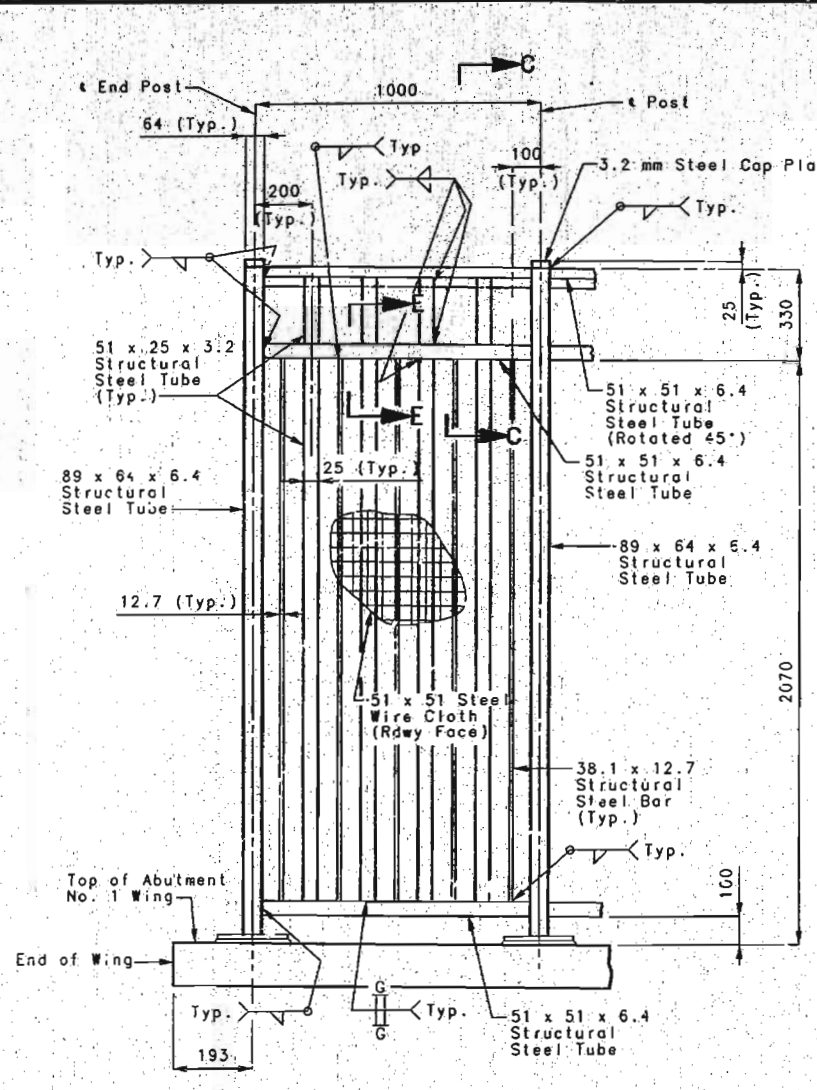
245

STATE	PROJ. NO. J440922	SHEET NO.
NO. HCNH I-70-(107)		25
ID 970926-07-01-01		

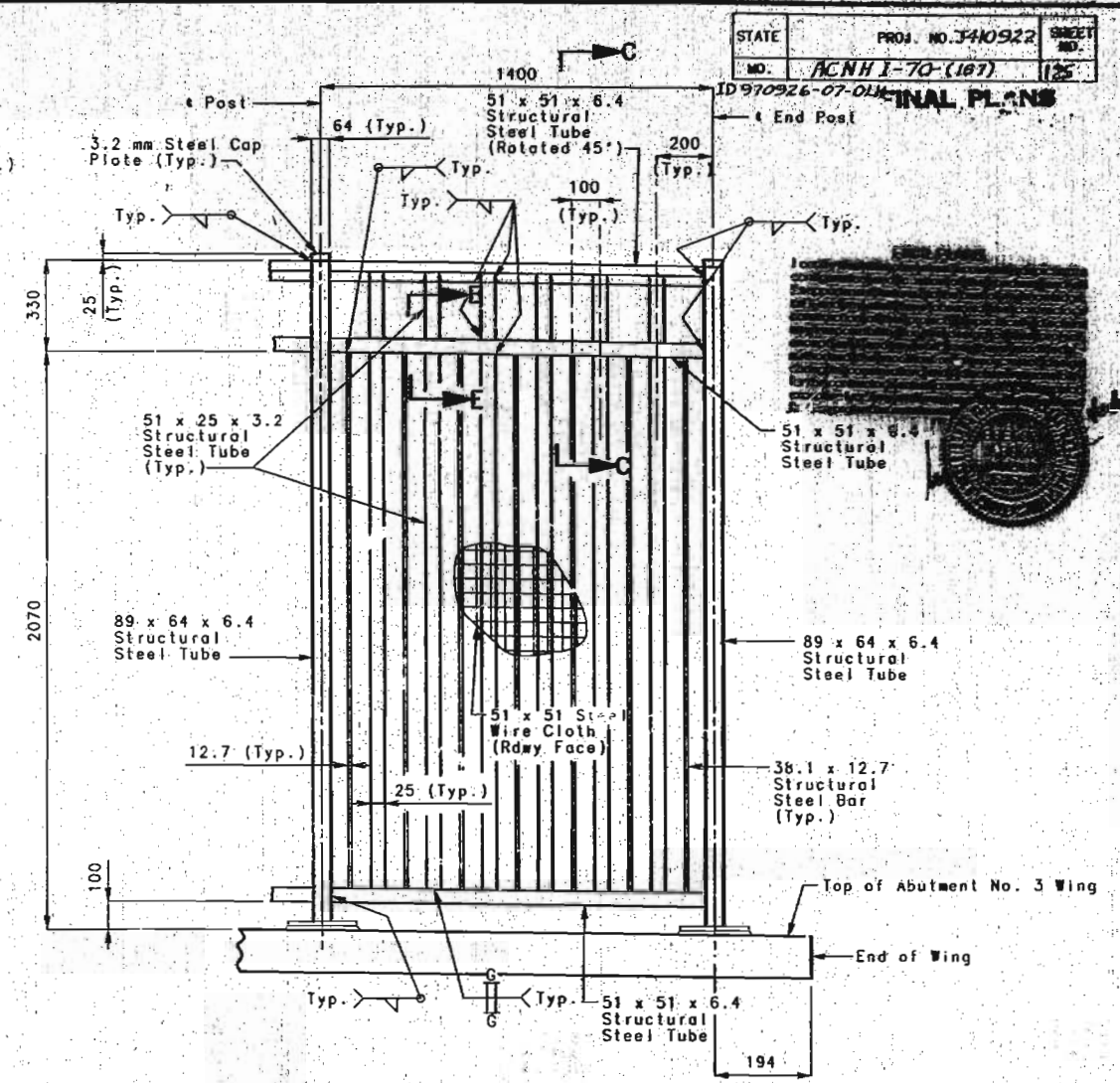
FINAL PLANS



PART ELEVATION OF END FENCE PANEL
(Bicycle Path Side Only)



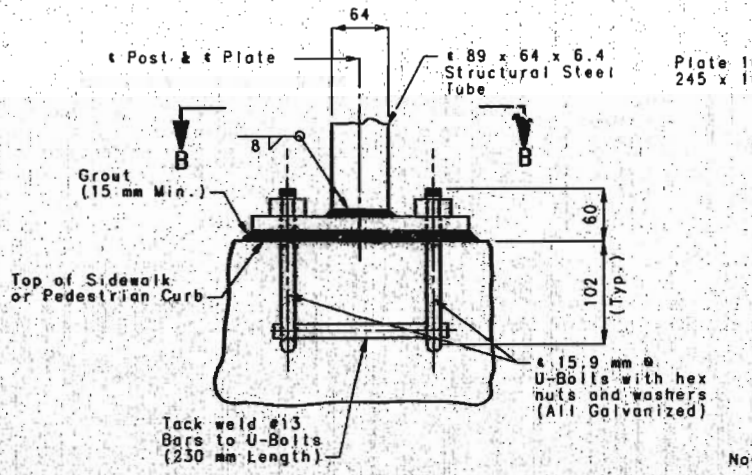
PART ELEVATION OF END FENCE PANEL
(Sidewalk Side Only)



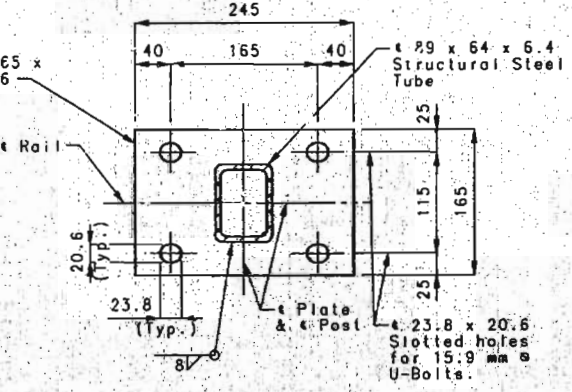
PART ELEVATION OF END FENCE PANEL
(Sidewalk Side Only)

Note: Tack weld steel wire cloth to horizontal structural steel tubes at 600 mm cts.

Note: For Location of Section C-C and Section E-E, see sheet no. 45.
For Location of Section F-F and Section K-K, see sheet no. 44.

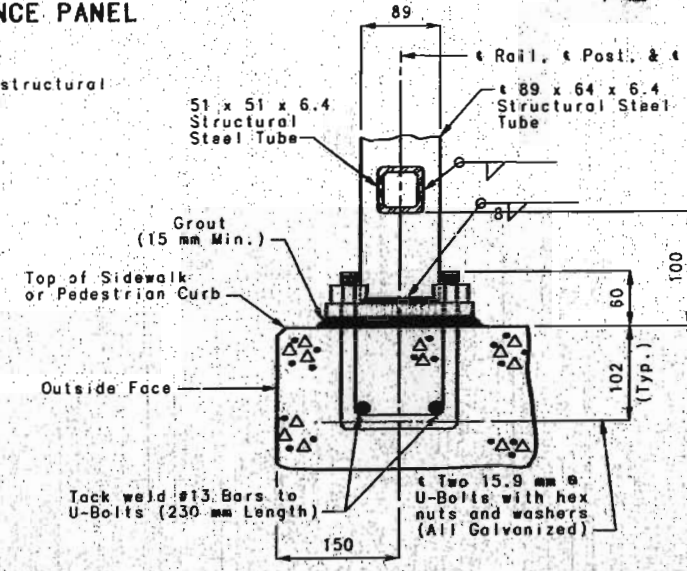


DETAIL "A"

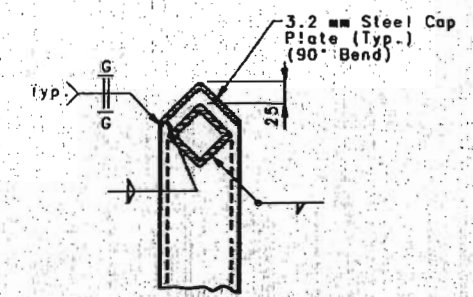


SECTION B-B

Note: For location of Detail "A" and Section D-D see sheet no. 44 & 45.



SECTION D-D



TYPICAL SECTION AT ALL VERTICAL POSTS

TYPICAL BASE PLATE AND ANCHOR BOLT DETAILS
DETAILS OF END SPACING FOR PEDESTRIAN FENCE AT ABUTMENT WINGS

DETAILED FEB. 1997
CHECKED MAR. 1997

Added this sheet 10-16-97
(Replaces sheet no. 46)

SHEET NO. 46a OF 61

JACKSON

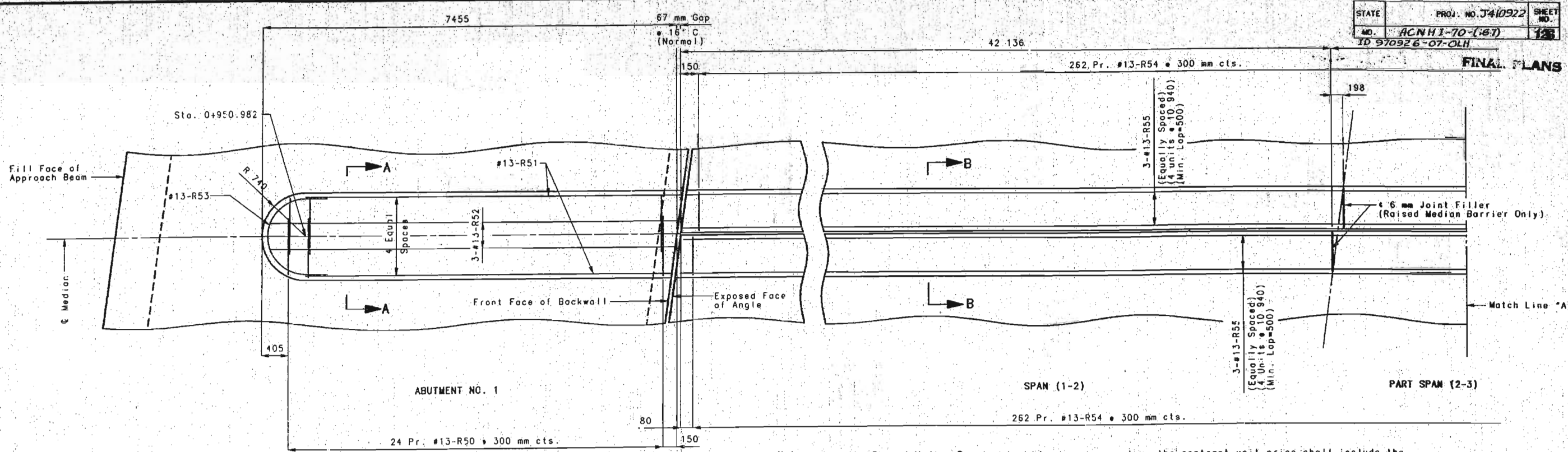
COUNTY

A57261

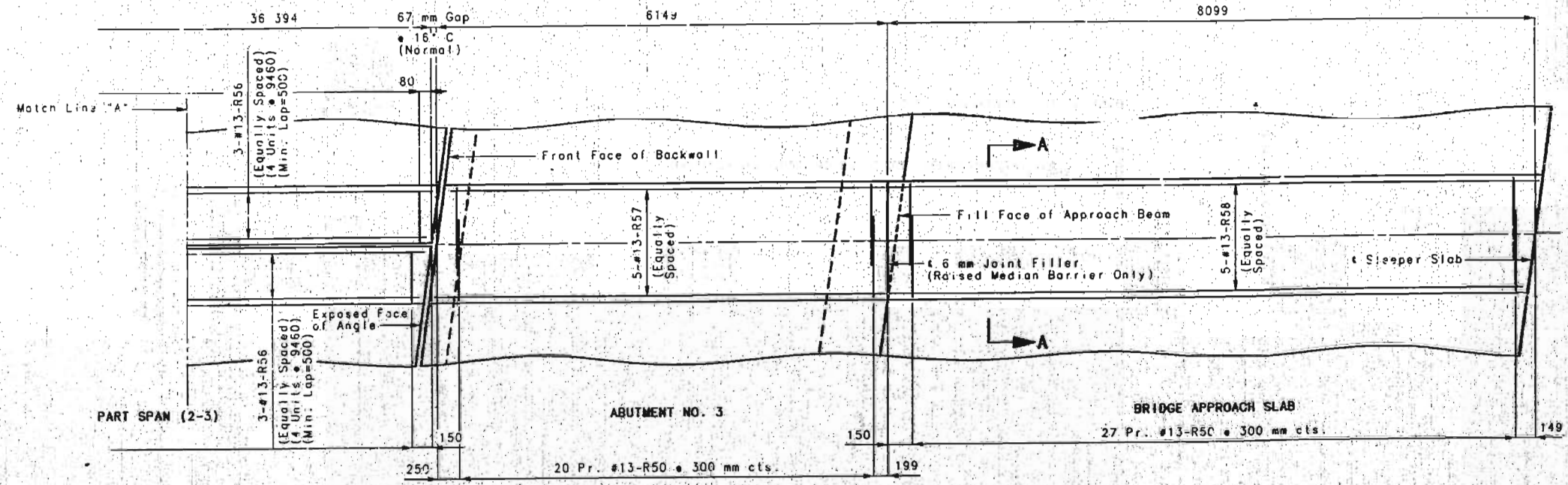
246



STATE	PROJ. NO. J410922	SHEET NO.
MD.	ACNH1-70-(67)	128
ID 970926-07-OLH		



Note: When the Raised Median Barrier is bid per square meter, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place. All exposed edges of Raised Median Barrier shall have either a 15 mm radius or a 10 mm bevel, unless otherwise noted. Concrete in the Raised Median Barrier shall be Class B2. Measurement of Raised Median Barrier is to the nearest square meter for each structure, measured between the outside faces of the Raised Median Barrier at the top of slab from Sta. 0+950.242 to Bridge Approach Sleeper Slab at Abutment No. 3. For Section A-A and B-B, see sheet no. 48.



PLAN OF RAISED MEDIAN BARRIER SHOWING REINFORCEMENT

DETAILED MAR. 1997
CHECKED MAR. 1997

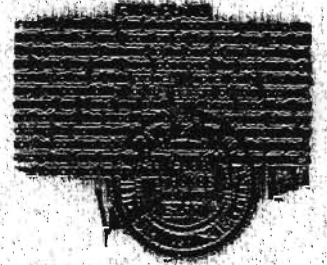
SHEET NO. 47 OF 61

JACKSON

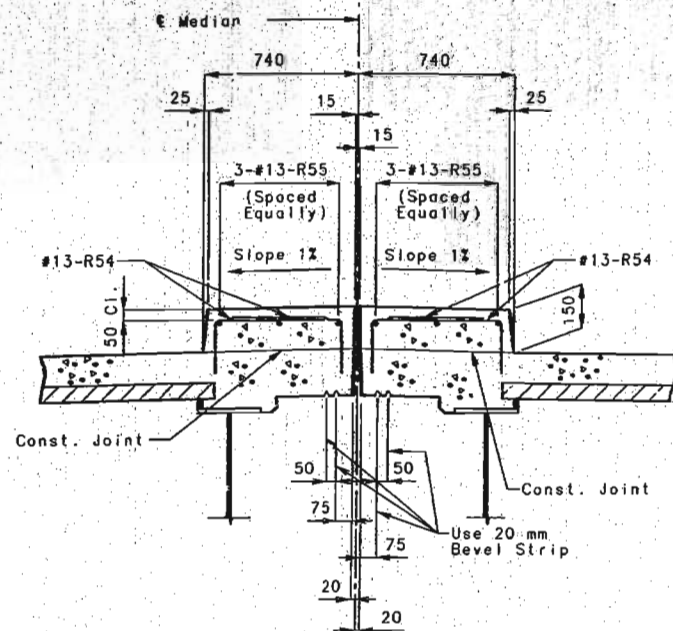
COUNTY

A5726

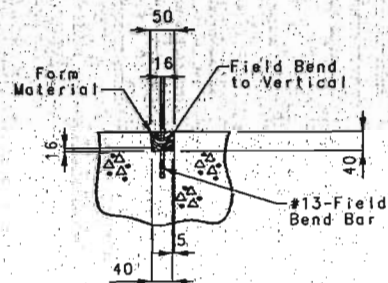
247



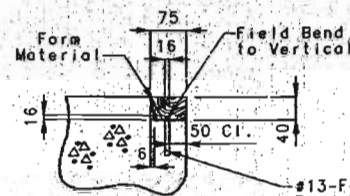
STATE	PROJ. NO. J10922	SHEET NO.
MD.	ACMH 1-10-(187)	127
IP 970326-07-04H		



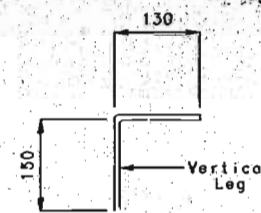
SECTION B-B & DETAIL "A"



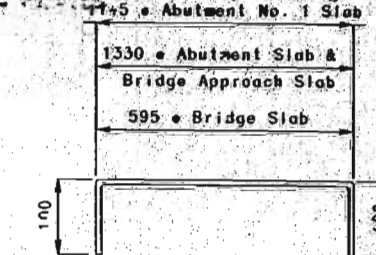
Detail "B"



Detail "C"

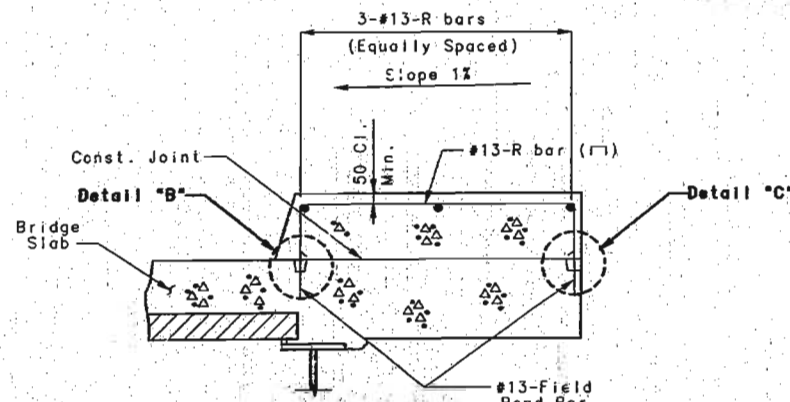


#13-FIELD BEND BAR ** (Grade 300)



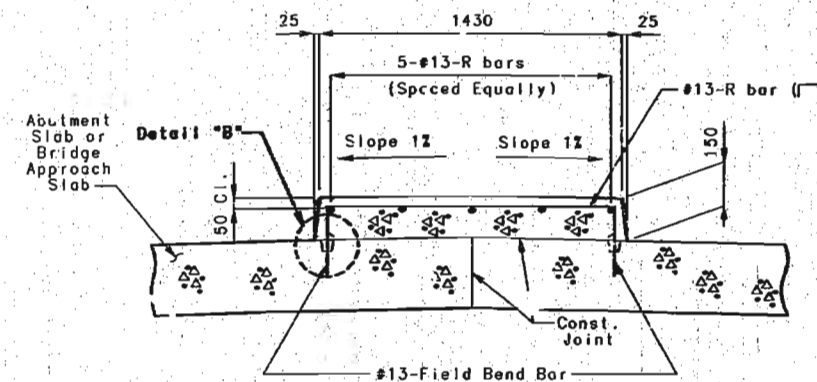
#13-R BAR **

** Use the bars with Alternate Anchoring System in lieu of #13-R54 bars.

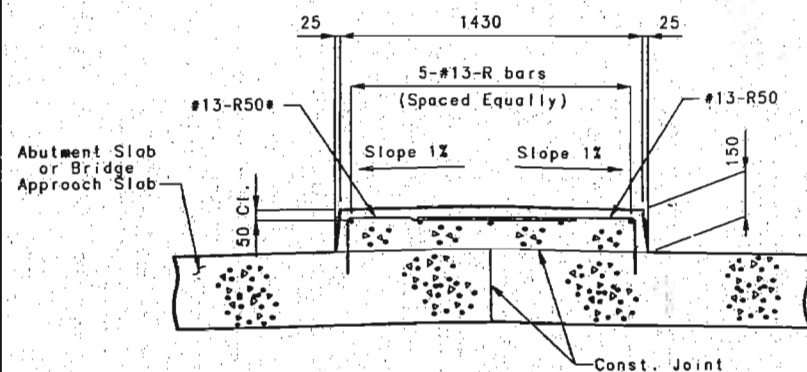


Detail "B"

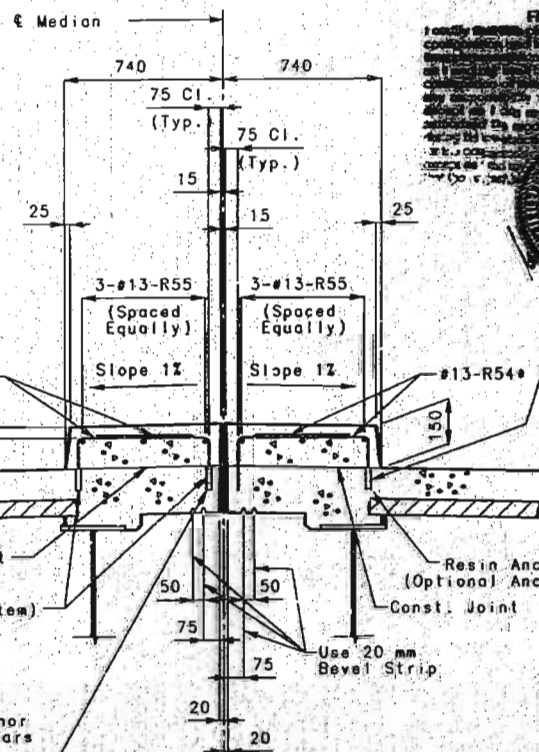
Detail "C"



Detail "B"



SECTION A-A



OPTIONAL RESIN ANCHORING SYSTEM SECTION B-B & DETAIL "A"

Use an approved Resin Anchor System to anchor #13-R54 bars into new concrete. (See Special Provisions)

Use an approved Resin Anchor System to anchor #13-R50 bars into new concrete. (See Special Provisions)

Use an approved Resin Anchor System to anchor #13-R50 bars into new concrete. (See Special Provisions)

Use an approved Resin Anchor System to anchor #13-R50 bars into new concrete. (See Special Provisions)

OPTIONAL RESIN ANCHORING SYSTEM SECTION A-A

Note: If the contractor chooses to use the optional resin anchor system, the contractor shall use one of the resin anchor systems listed in the job special provisions. These optional resin anchor systems shall be installed according to manufacturer's specifications, except as modified by the job special provisions. R50 & R54 bars from the "Bill of Reinforcing Steel" shall be a component part of the optional resin anchor system in lieu of 2.7 mm diameter threaded rod studs.

The 12.7 mm diameter optional resin anchor systems shall have a minimum ultimate pullout strength of 43.8 kN in concrete with $f'c = 28$ MPa.

Concrete must be at least 7 days old before drilling will be permitted.

DETAILS OF RAISED MEDIAN BARRIER

DETAILED MAR. 1997
CHECKED MAR. 1997

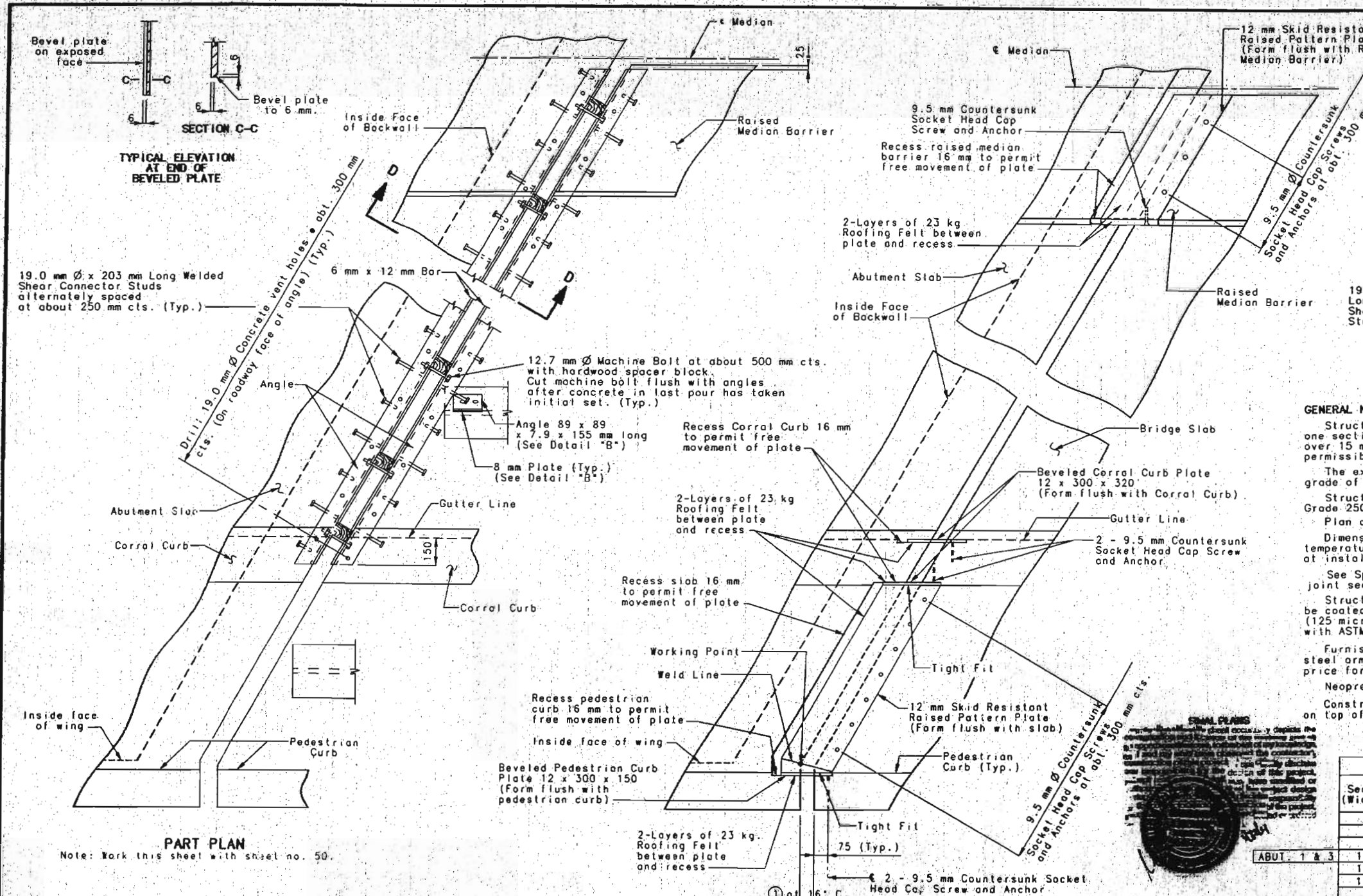
SHEET NO. 48 OF 61

JACKSON COUNTY

A57261

82248

STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH 1-10-(1a7)		128
ID 970326-07-OLH		



GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 15 meters, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709M Grade 250.

Plan dimensions are based on installation at 16° Celsius.

Dimension ① shall be increased 5 mm for each 10° Celsius fall in temperature and decreased 5 mm for each 10° Celsius rise in temperature at installation.

See Special Provisions for the requirements of compression joint seal.

Structural steel for the expansion device and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (125 micrometers minimum thickness) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plates shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.

Construct raised median barrier on abutment slab and install plate on top of raised median barrier during stage 2 construction.

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS

Seal (Width)	①	②	Required Movement Range.
64	41	Manufacturer's Recommended Height	23
76	48	Manufacturer's Recommended Height	25
89	57	Manufacturer's Recommended Height	33
102	67	Manufacturer's Recommended Height	41
114	70	Manufacturer's Recommended Height	48
127	73	Manufacturer's Recommended Height	51

Note: Depth of seal shall not be less than width of seal.

SIZE OF ARMOR ANGLE

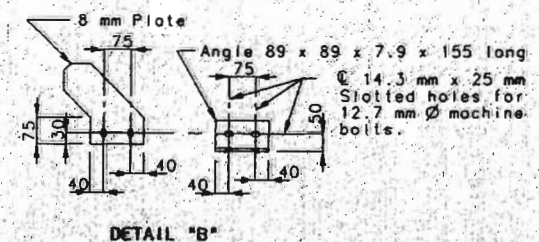
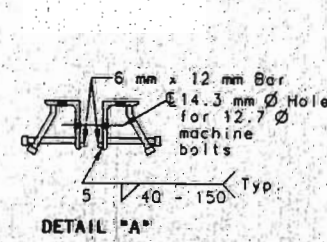
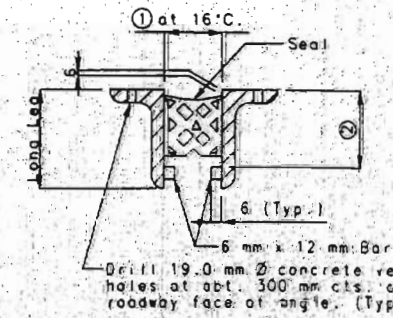
Vertical leg of angle shall be a minimum of ② + 20 mm. Horizontal leg of angle shall be a minimum of 75 mm. Minimum thickness of angle shall be 12.7 mm.

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 16° Celsius and all dimensions for the armor angles shall be shown on the shop drawings.

Concrete shall be forced under armor angle and around studs. Proper consolidation of concrete shall be achieved by localized internal vibration.

PART PLAN
Note: Mark this sheet with sheet no. 50.

PART PLAN



DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUT. NO. 1 AND 3 (RIGHT SIDE)

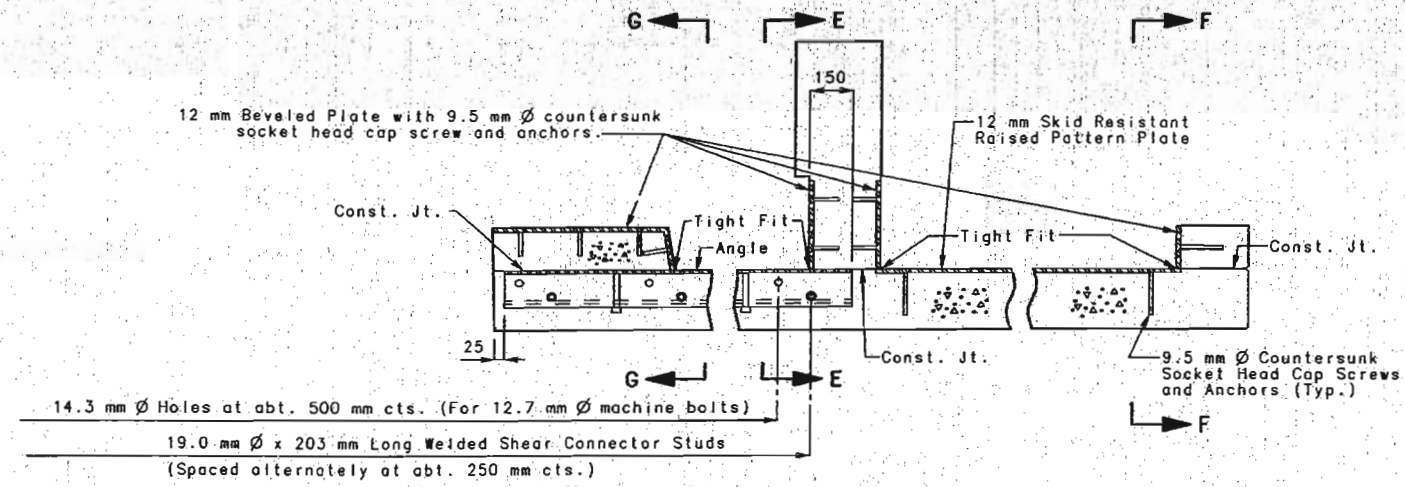
DETAILED MAR. 1997
CHECKED MAR. 1997

SHEET NO. 49 OF 61

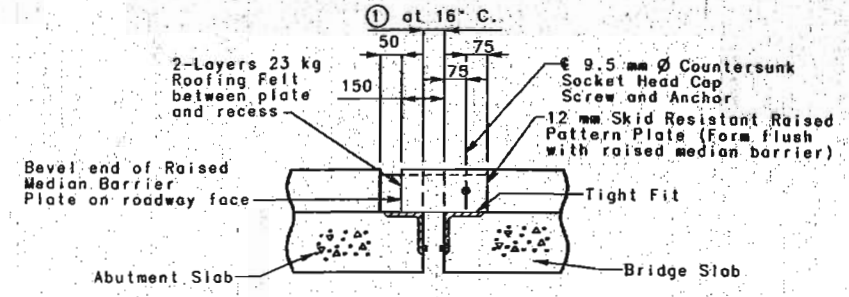
JACKSON COUNTY A57261

649

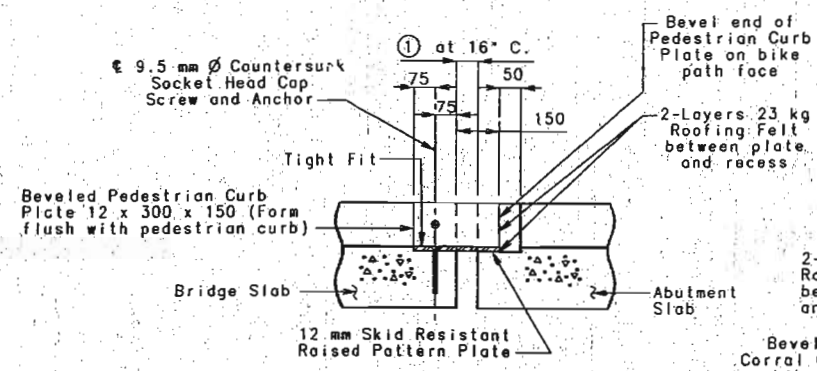
STATE	PROJ. NO. J410922	SHEET NO.
MO.	ACNH 1-70-(187)	53
1D 970926-07-01H		
FINAL PLANS		



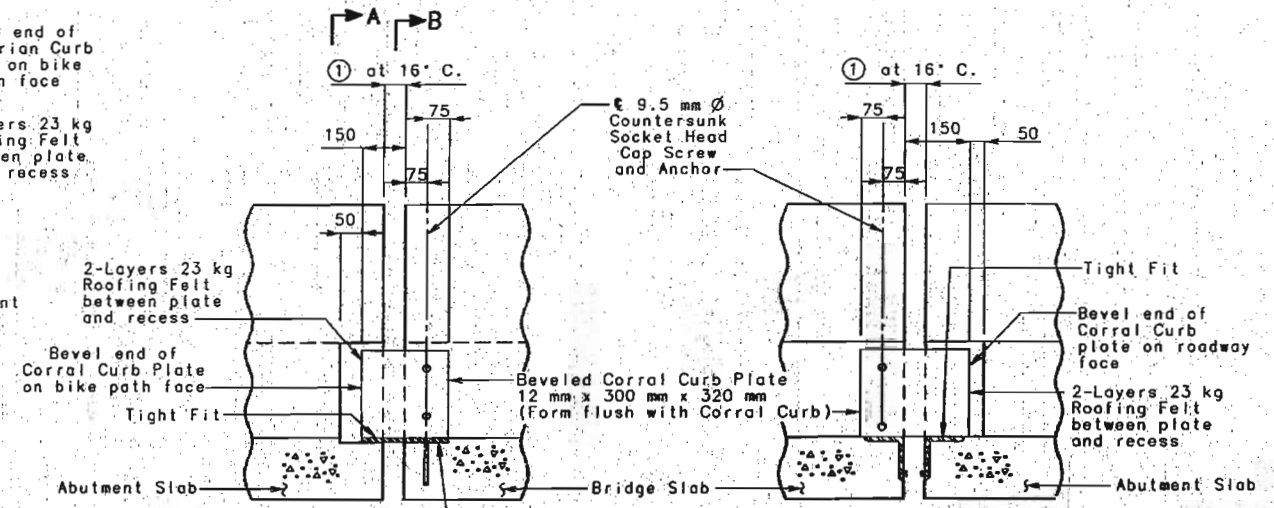
PART SECTION B-B



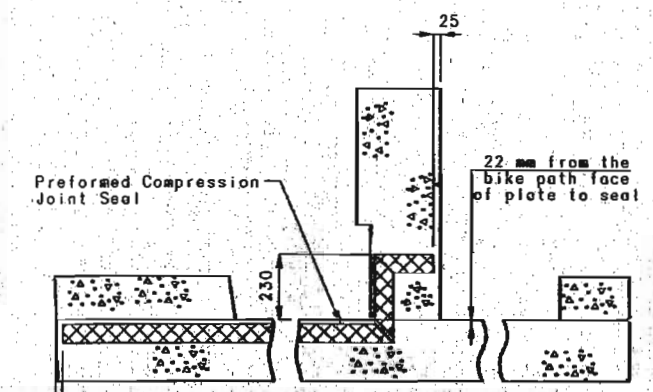
SECTION G-G



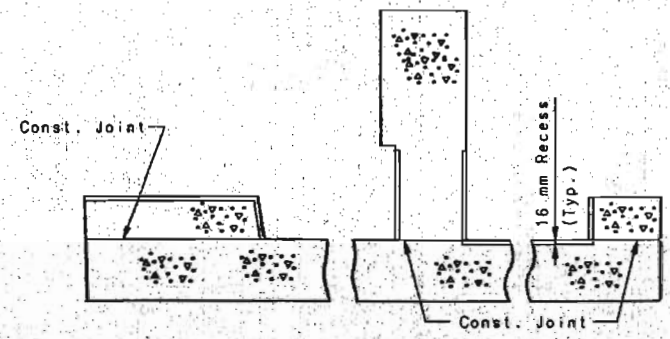
SECTION F-F



SECTION E-E
PART ELEVATION OF CORRAL CURB



PART SECTION THRU JOINT SEAL



PART SECTION A-A

Note: Work this sheet with sheet no. 49.

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUTMENT NO. 1 & 3 (Right Side)

CONTRACTOR'S SEAL

I hereby certify that I am a duly licensed contractor in the State of New Jersey and that I am the contractor for the work shown on this drawing. I have read the drawing and the specifications and I am satisfied that the work shown on this drawing is in accordance with the contract documents. I have also read the contract documents and I am satisfied that the work shown on this drawing is in accordance with the contract documents.

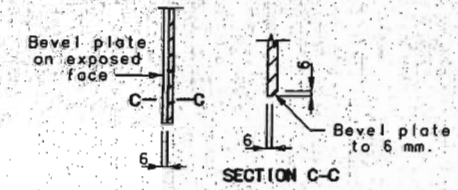
DATE: 6/20/97

Signature: [Handwritten Signature]

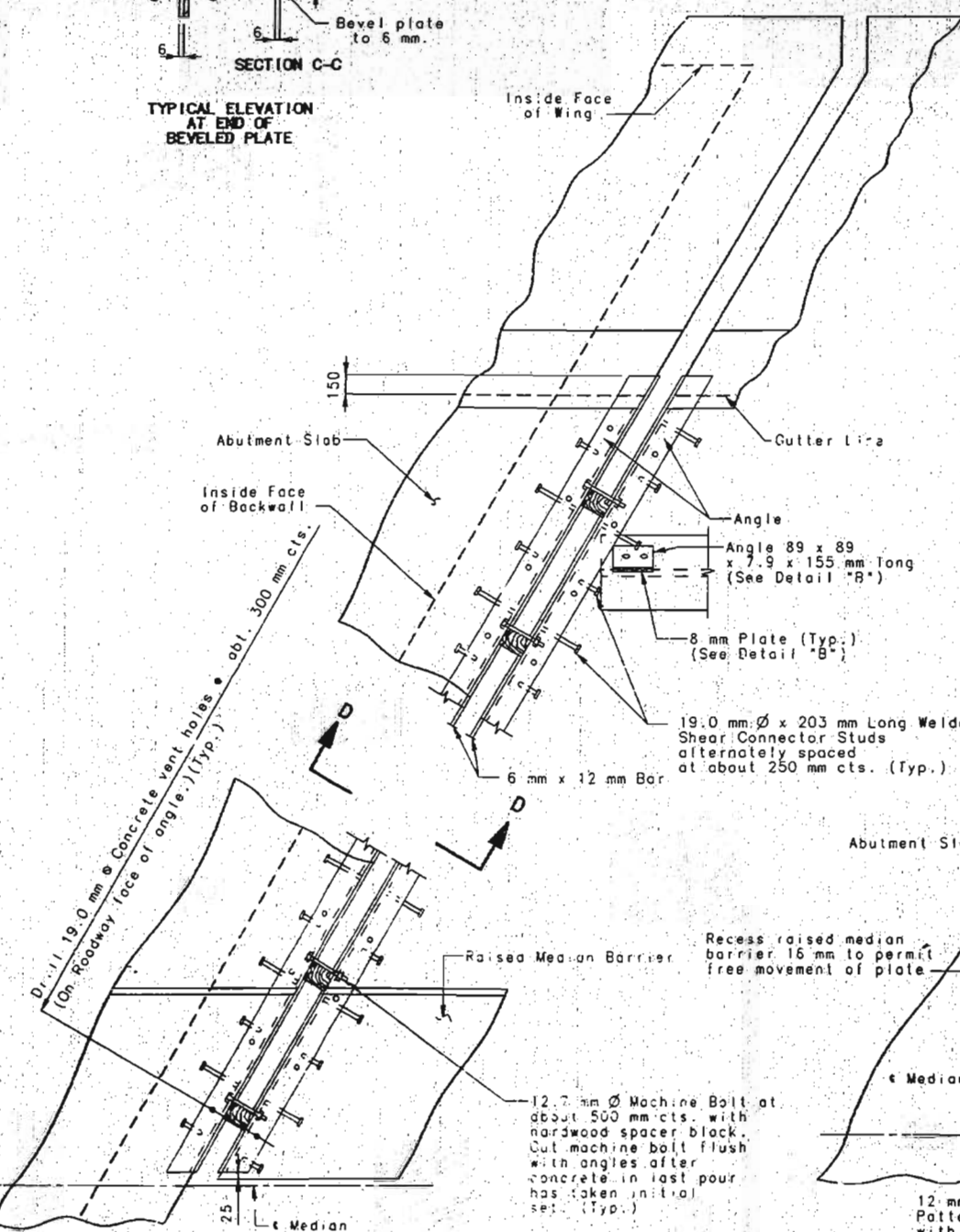


Handwritten vertical text: 250

STATE	PROJ. NO. J410922	SHEET NO.
NO. ACNH 1-70-167		54
ID 970926-07-OLH		



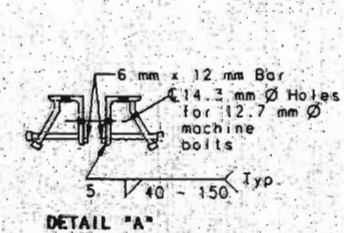
TYPICAL ELEVATION AT END OF BEVELED PLATE



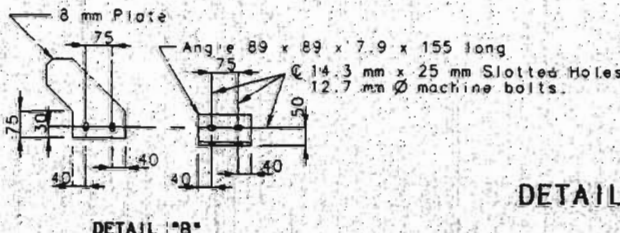
PART PLAN

Note: Work this sheet with sheet no. 52.

PART PLAN

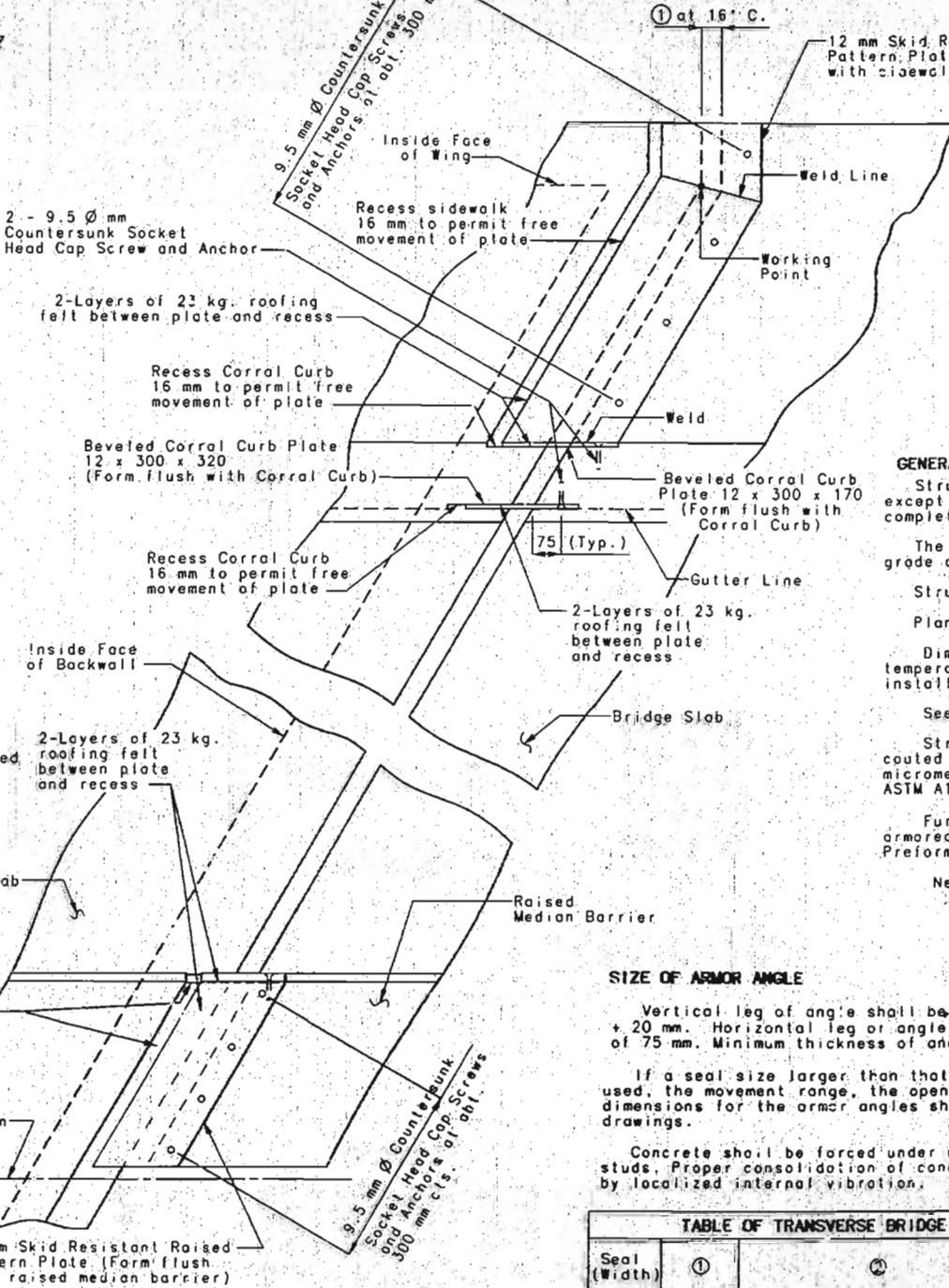


DETAIL "A"



DETAIL "B"

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUT. NO. 1 AND 3 (LEFT SIDE)



PART SECTION D-D

GENERAL NOTES:

- Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 15 meters, a complete joint penetration groove welded splice is permissible.
- The expansion device shall be bent to conform to crown and grade of roadway.
- Structural steel for the armored joint shall be ASTM A709M Grade 250.
- Plan dimensions are based on installation at 16° Celsius.
- Dimensions ① shall be increased 5 mm for each 10° Celsius in fall in temperature and decreased 5 mm for each 10° Celsius rise in temperature at installation.
- See Special Provisions for the requirement of Compression Joint Seal.
- Structural steel for the expansion device and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (125 micrometers minimum thickness) or galvanized in accordance with ASTM A123. Anchor need not be protected from over spray.
- Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plates shall be included in contract unit price for Preformed Compression Expansion Joint Seal.
- Neoprene extrusion shall meet ASTM D3542.

SIZE OF ARMOR ANGLE

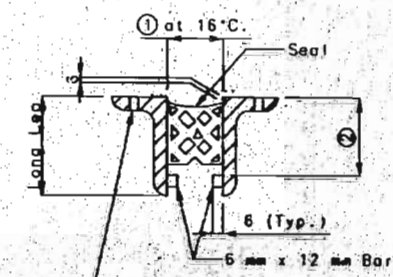
Vertical leg of angle shall be a minimum of ② + 20 mm. Horizontal leg of angle shall be a minimum of 75 mm. Minimum thickness of angle shall be 12.7 mm.

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 16° Celsius and all dimensions for the armor angles shall be shown on the shop drawings.

Concrete shall be forced under armor angle and around studs. Proper consolidation of concrete shall be achieved by localized internal vibration.

Seal (Width)	①		Required Movement Range
	①	②	
64	41	Manufacturer's Recommended Height	23
76	48	Manufacturer's Recommended Height	25
89	57	Manufacturer's Recommended Height	35
102	67	Manufacturer's Recommended Height	41
114	70	Manufacturer's Recommended Height	48
127	75	Manufacturer's Recommended Height	51

Note: Depth of seal shall not be less than width of seal.

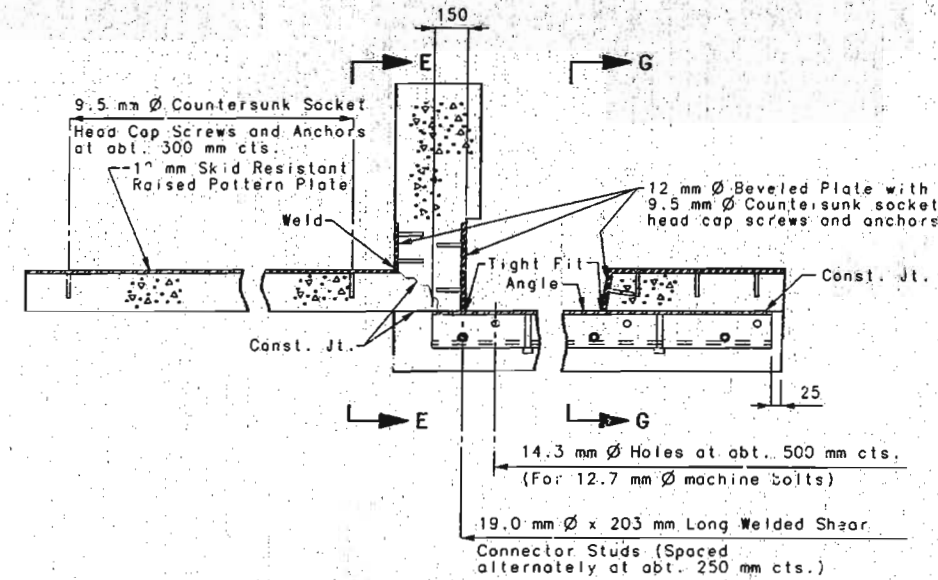


Drill 19.0 mm Ø concrete vent holes at abt. 300 mm cts. on roadway face of angle. (Typ.)

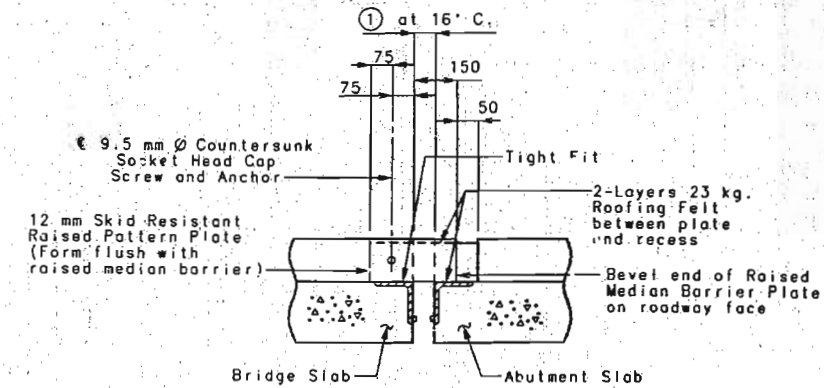
PART CROSS SECTION THROUGH EXPANSION JOINT

15251

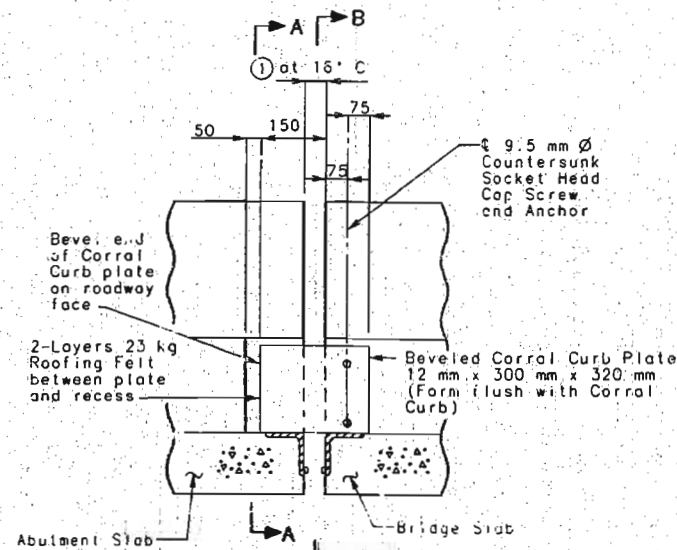
STATE	PROJ. NO. J40922	SHEET NO.
NO.	ACNH1-70-(167)	131
ID 970926-OL-011		



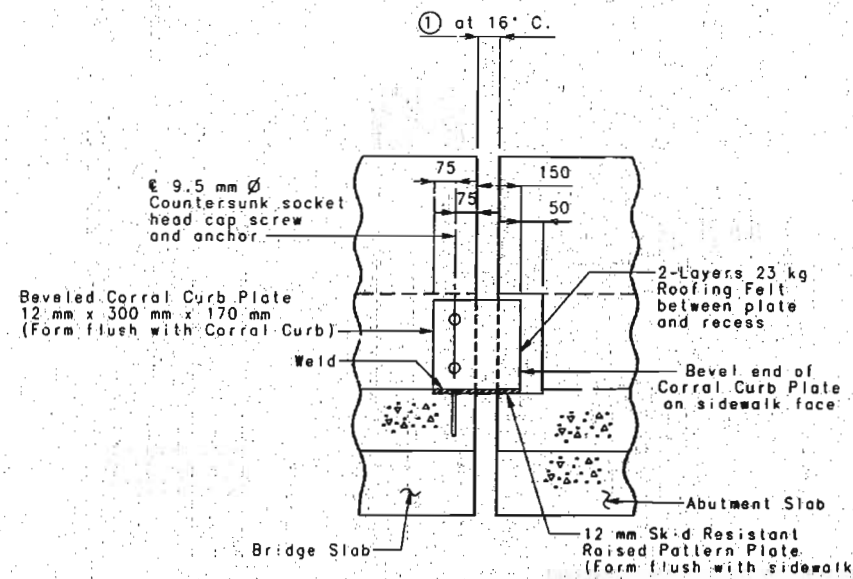
PART SECTION B-B



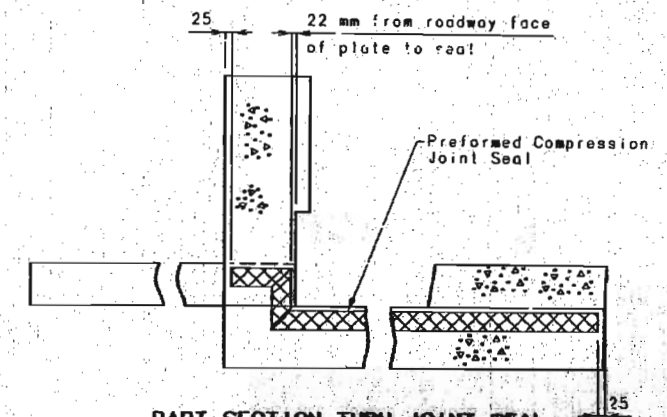
SECTION G-G



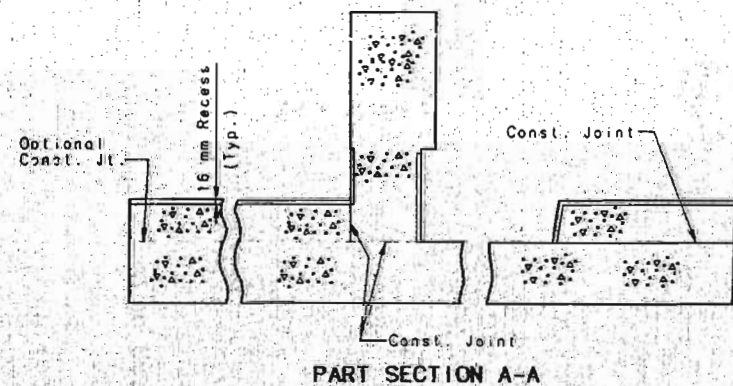
PART ELEVATION OF CORRAL CURB



SECTION E-E



PART SECTION THRU JOINT SEAL



PART SECTION A-A

Note: Work this sheet with sheet no. 51.

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUTMENT NO. 1 & 3 (LEFT SIDE)

DETAILED MAR. 1997
CHECKED MAR. 1997

SHEET NO. 52 OF 61

JACKSON

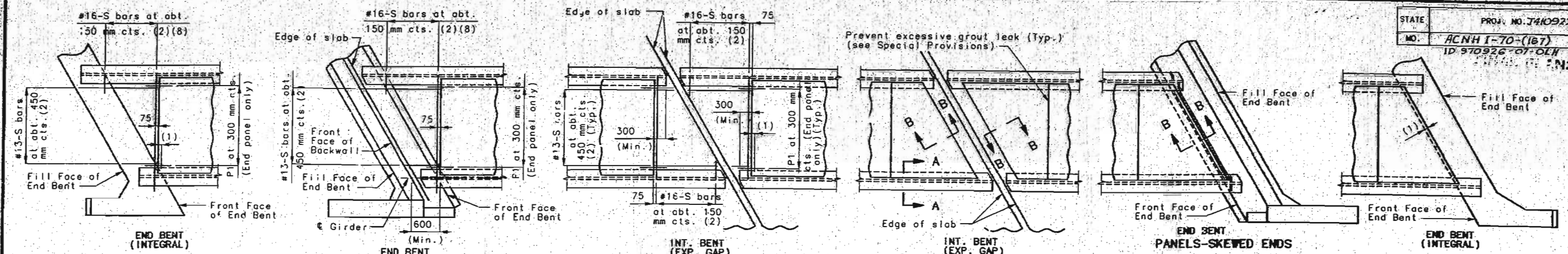
COUNTY

A57261

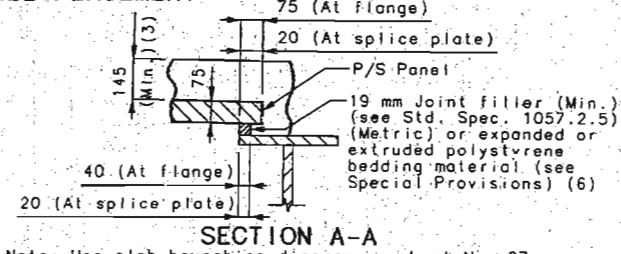
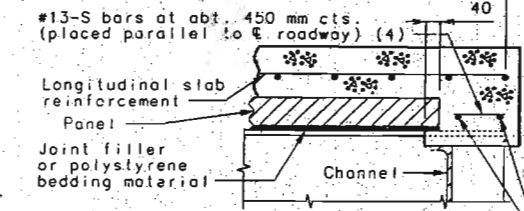
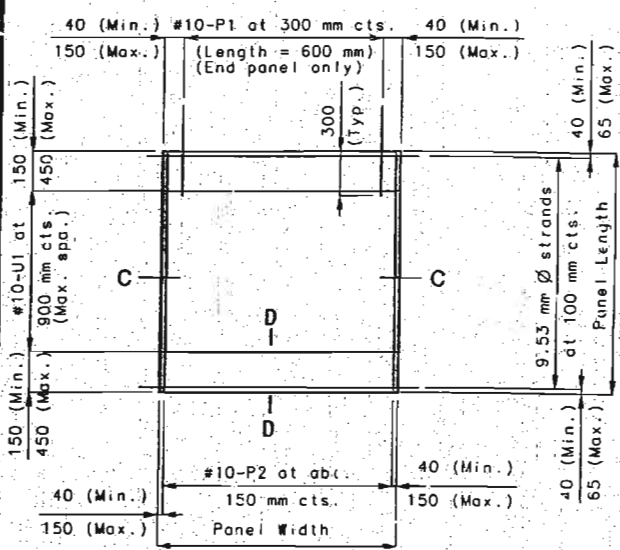
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STATE	PROJ. NO. J410922	SHEET NO.
MO. ACNH 1-70-(187)		132
ID 910926-07-01H		



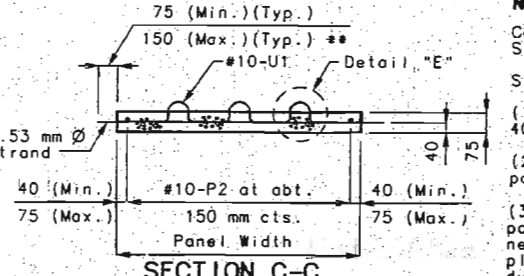
PANELS-SQUARED ENDS
PLAN OF PRECAST PRESTRESSED PANEL PLACEMENT



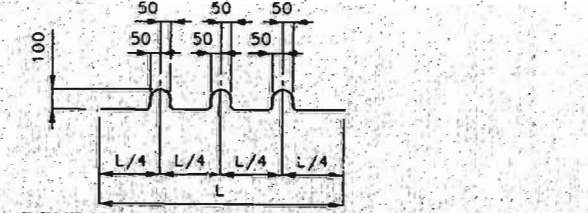
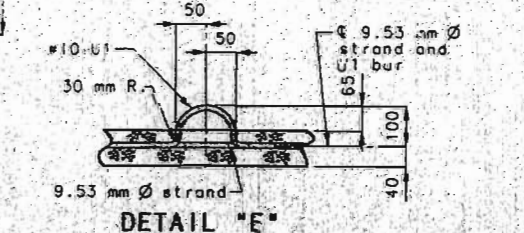
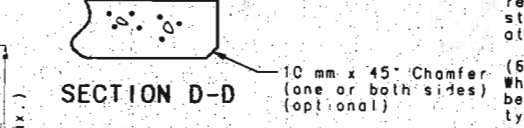
Note: Use slab haunching diagram on sheet No. 27 for determining thickness of joint filler or polystyrene bedding material within the limits noted in General Notes.

NOTES:

- Cost of S bars shall be included in price bid for Slab on Steel per square meter.
- S bars are not listed in bill of reinforcing.
- (1) End panels shall be dimensioned 25 mm min. to 40 mm max. inside the face of the diaphragm.
- (2) S bars shown are bottom steel in slab between panels and used with squared end panels only.
- (3) Adjustment in the slab thickness, joint filler or polystyrene bedding material thickness, or grade, will be necessary if the girder camber after erection differs from plan camber by more than the percent of dead load deflection due to the mass of structural steel. No payment will be made for additional labor or materials for the adjustment.
- (4) S bars shown are used with skewed end panels, or square end panels of square structures only. The #16-S bars shall extend the width of slab (785 mm lap if necessary) or to within 75 mm of expansion device assemblies.
- (5) Any stand 600 mm or shorter shall have a #13 reinforcing bar on each side of it centered between strands. Strands 600 mm or shorter may then be deboned at the fabricators option.
- (6) All panel support pads shall be glued to the girder. When support thickness exceeds 40 mm, the pads shall be glued top and bottom. The glue used shall be the type recommended by the panel support pad manufacturer.
- (7) Use #10-P3 bars if panel is skewed 45° or greater.
- (8) Extend S bars 500 mm beyond the front face of end panels.



** Prestressing strands to extend 150 mm or to within 25 mm of adjacent panel.



(U1 bars may be oriented at right angles to location and spacing shown. U1 bars shall be placed between P1 bars).

GENERAL NOTES:

PRESTRESSED PANELS:
Concrete for prestressed panels shall be Class A1 with $f'c = 35$ MPa, $f'ci = 24.5$ MPa.
The top surface of all panels shall receive a scored finish with a depth of scoring of 3 mm perpendicular to the prestressing strands in the panels (see Special Provisions).
Prestressing tendons shall be high-tensile strength uncoated seven (7) wire, low-relaxation strands for prestressed concrete conforming to AASHTO M203, except that nominal diameter of strand = 9.53 mm and nominal area = 54.8389 sq. mm and minimum ultimate strength = 102.3 kN (1860 MPa). Larger strands may be used with the same spacing and initial tension.
Initial prestressing force = 66.3 kN per strand.
The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided they are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When square end panels are used at skewed bents, it is required that the skewed portion be cast full depth. No separate payment will be made for the additional concrete and reinforcing required.
Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 21 MPa compressive strength.

Minimum joint filler or polystyrene bedding material thickness shall be 19 mm, except over splice plates where minimum thickness shall be 6 mm. When joint filler or polystyrene bedding material is less than 15 mm thick over a splice plate, make the width of material at the splice the same width as panel on splice. Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness, within tolerances. No more than 50 mm total thickness of joint filler or polystyrene bedding material shall be used.

The same thickness of joint filler material shall be used under any one edge of any panel except at splices, and the maximum change in thickness between adjacent panels shall be 6 mm to correct for variations from girder camber diagram. The polystyrene bedding material may be cut to match haunch height above top of flange.

REINFORCING STEEL:
All dimensions are out to out.
Minimum clearance to reinforcing steel shall be 40 mm unless otherwise shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.
Actual lengths are measured along centerline of bar to the nearest 10 mm.

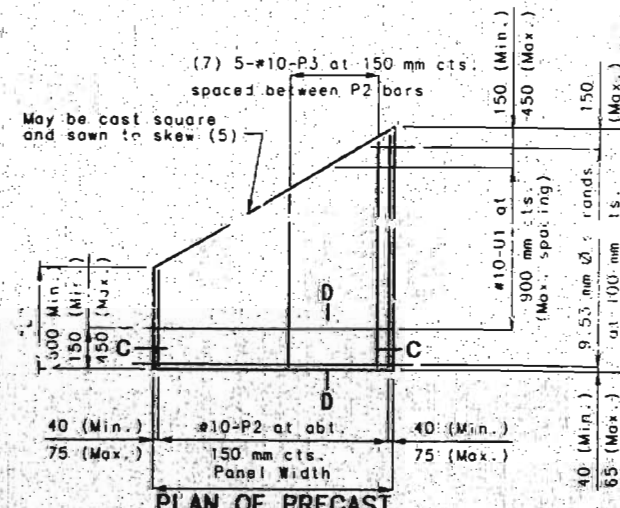
The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Steel Girder.
If U1 bars interfere with placement of slab steel, U loops may be bent over, as necessary, to clear slab steel.

Welded wire fabric or welded deformed bar mats providing a minimum area of reinforcing perpendicular to strands of 466 sq. mm/m, with spacing parallel to strands sufficient to insure proper handling, may be used in lieu of the #10-P2 bars shown. Wire or bar diameter shall not be larger than 10 mm. The above alternative reinforcement criteria may be used in lieu of the #10-P3 bars, when required, and placed over a width of not less than 600 mm.

Tie the #10-U1 bars to the #10-P2 bars, to the welded wire fabric or the welded deformed bar mats at about 900 mm centers.

The reinforcing steel shall be tied securely to the 9.53 mm ϕ strands with the following maximum spacing in each direction: #10-P2 bars at 400 mm and welded wire fabric or welded deformed bar mats at 600 mm.
All reinforcement other than prestressing strands shall be epoxy coated.

PLAN OF PRECAST PRESTRESSED PANEL



PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)

DETAILS OF PRECAST PRESTRESSED PANELS

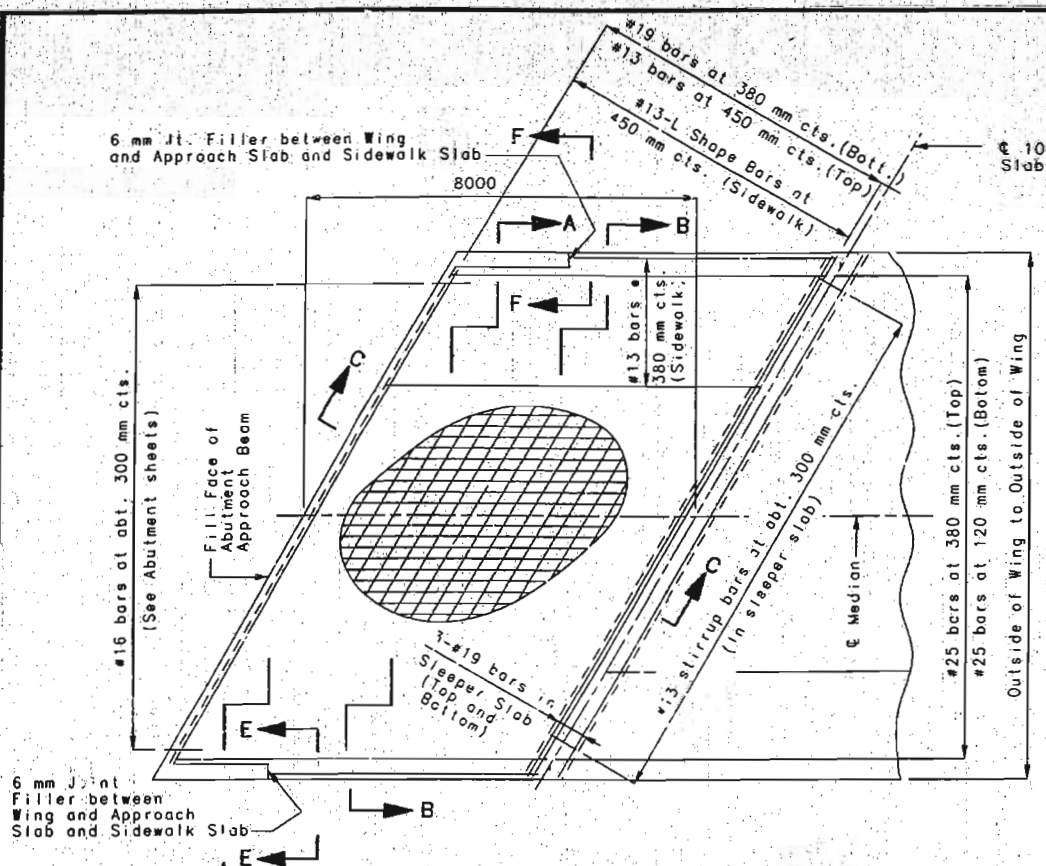
DETAILED MAR. 1997
CHECKED MAR. 1997

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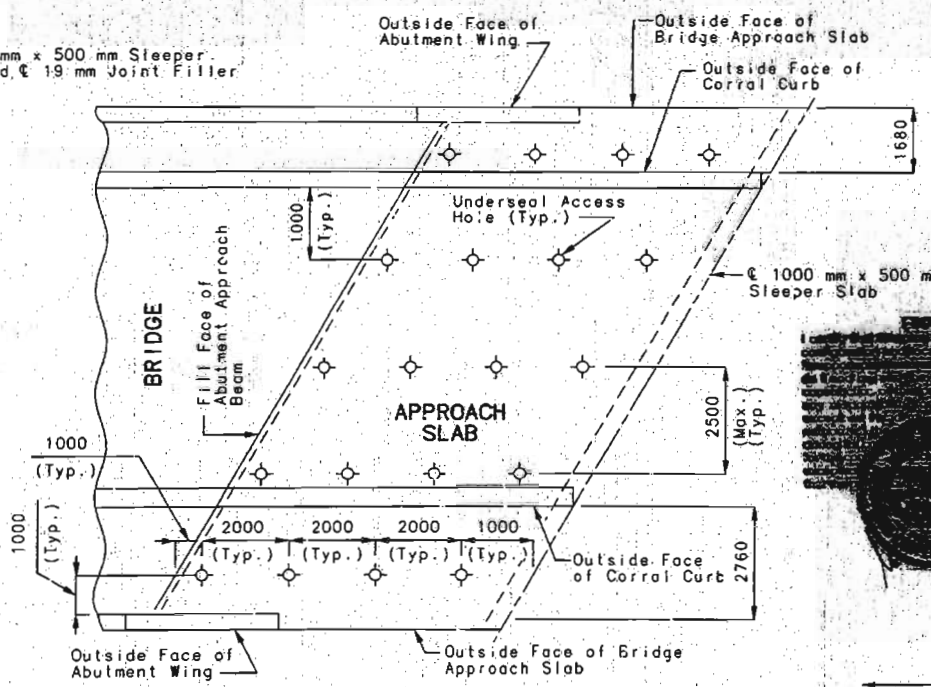
Small circular stamp and text on the right margin.

Handwritten signature and date on the right margin.

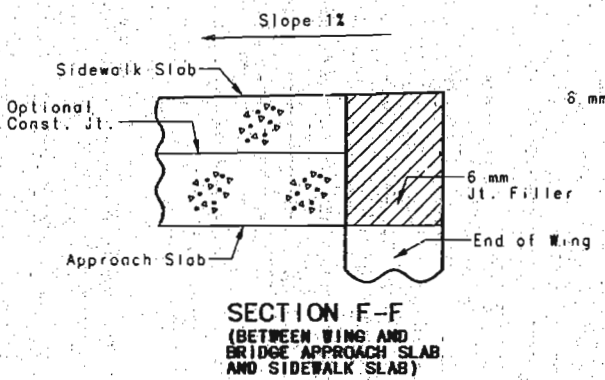
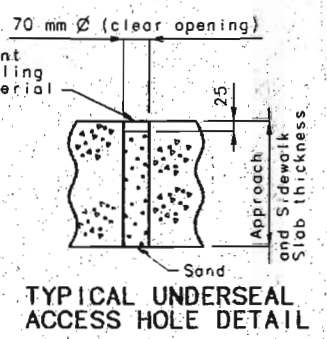
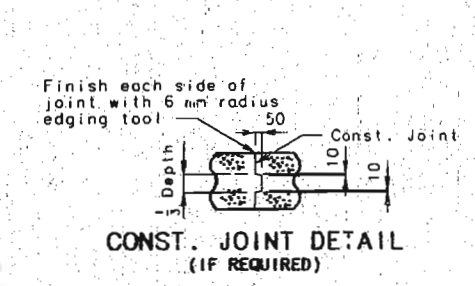
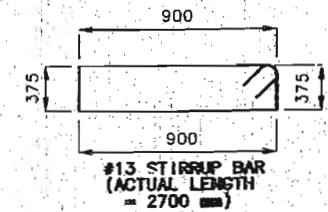
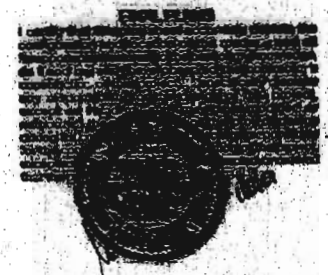
GENERAL PLANS	STATE	PROJ. NO. JFH0972	SHEET NO.
NOTES:	MO.	ACNHT-10-(167)	188



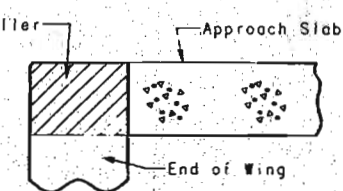
PART PLAN SHOWING REINFORCEMENT
(Corral Curb not shown for clarity)



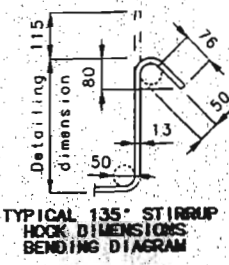
PART PLAN
(SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS)



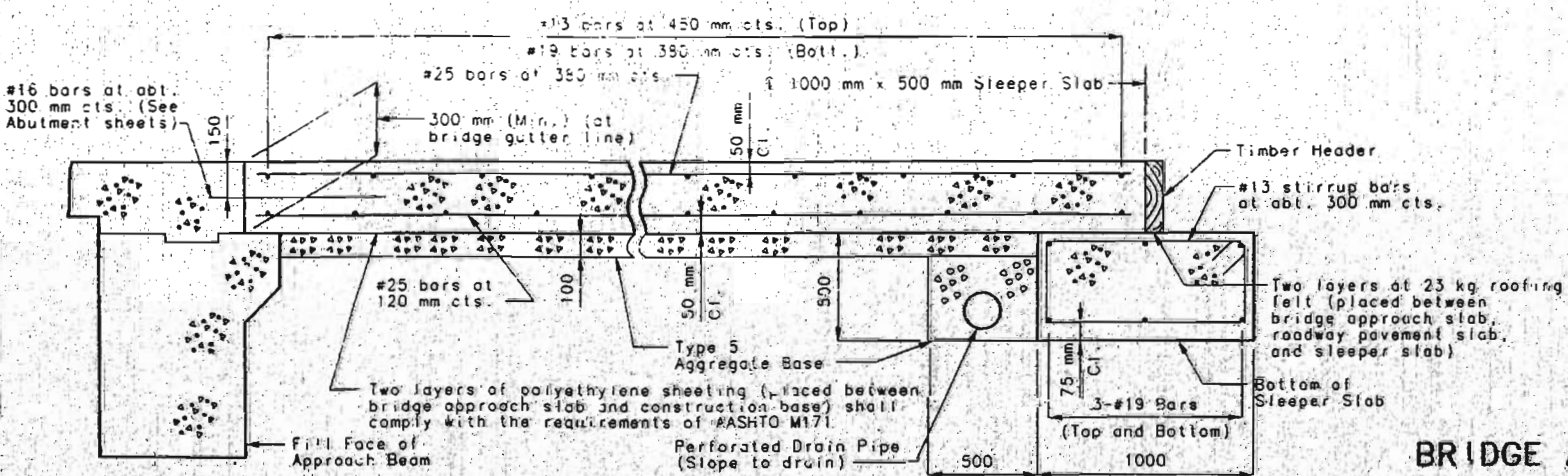
SECTION F-F
(BETWEEN WING AND BRIDGE APPROACH SLAB AND SIDEWALK SLAB)



SECTION E-E
(BETWEEN WING AND BRIDGE APPROACH SLAB)



NOTE:
Nominal lengths are based on out to out dimensions shown in bending diagram and are listed for fabricators use (nearest 10 mm).



SECTION C-C

BRIDGE APPROACH SLAB

SHEET NO. 54 OF 61

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All concrete for the bridge approach slab, sidewalk, and sleeper slab shall be in accordance with Section 503 of the Missouri Standard Specification (Metric) ($f'c = 28 \text{ MPa}$).

All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications (Metric), except as noted.

The reinforcing steel in the bridge approach slab, sidewalk, and the sleeper slab shall be epoxy coated Grade 420 with $F_y = 420 \text{ MPa}$ (Except as noted for field bend bars).

Minimum clearance to reinforcing steel shall be 40 mm, unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #13 & #19 bars 700 mm and 1055 mm respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications (Metric).

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 1055 mm for transverse approach slab bar splices.

At the contractor's option, Grade 300 reinforcement may be substituted for the Grade 420 #16 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

When Grade 300 reinforcement is substituted for the Grade 420 #16 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 50 mm minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications (Metric).

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

The contractor shall pour and satisfactorily finish the abutment slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in abutment slab.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, sidewalk slab, underdrain, base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridges), per square meter.

See Missouri Standard Plans Drawing M504.00 for details of Concrete Approach Pavement.

Drain pipe may be either 150 mm diameter corrugated metallic-coated steel pipe underdrain, 100 mm diameter corrugated polyvinyl chloride (PVC) drain pipe, or 100 mm diameter corrugated polyethylene (PE) drain pipe.

For blackout of sleeper slab and details of timber header, see sheet no. 42.

NOTE:
With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

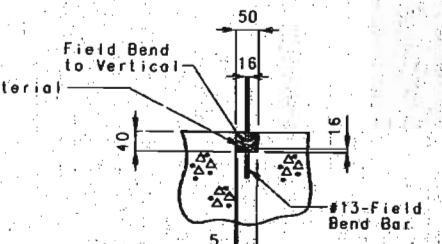
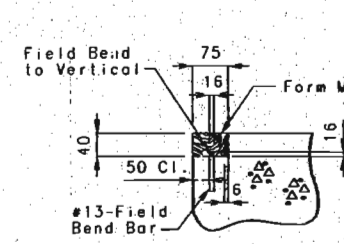
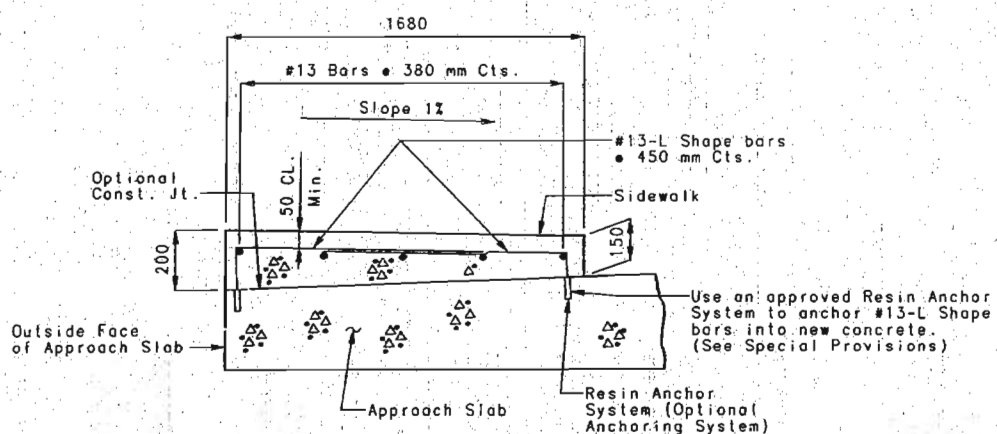
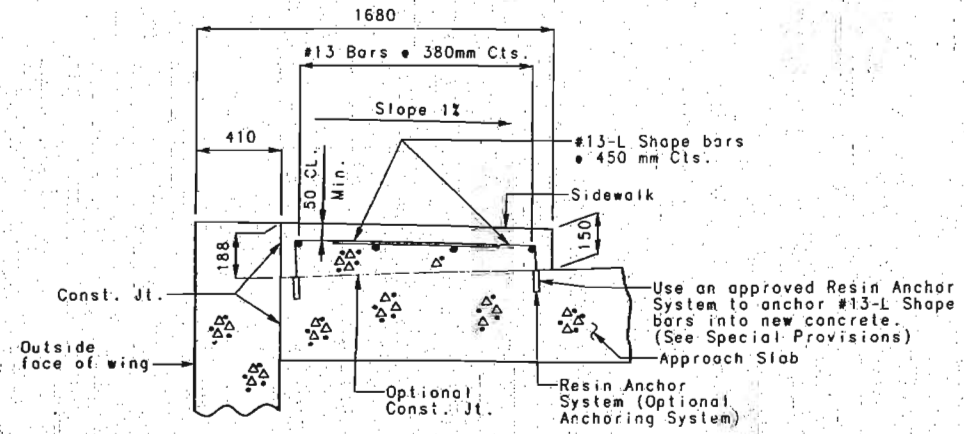
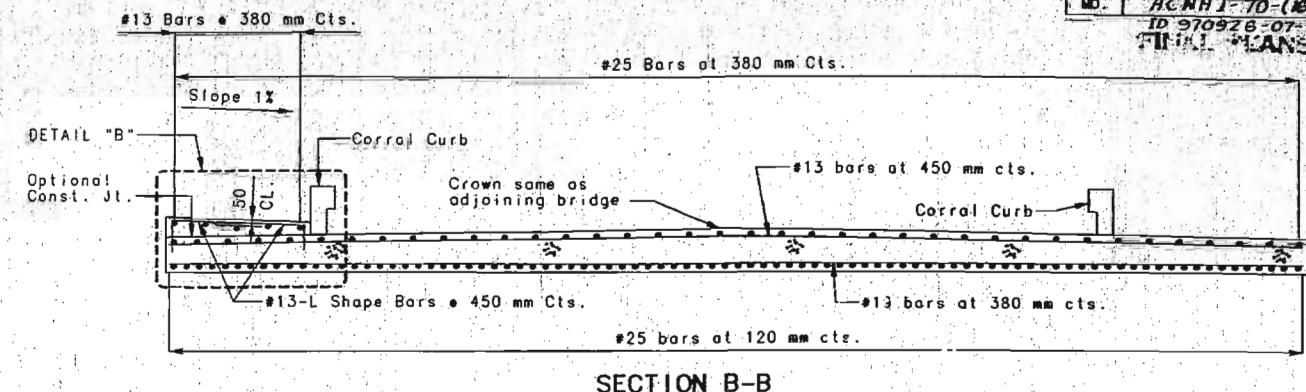
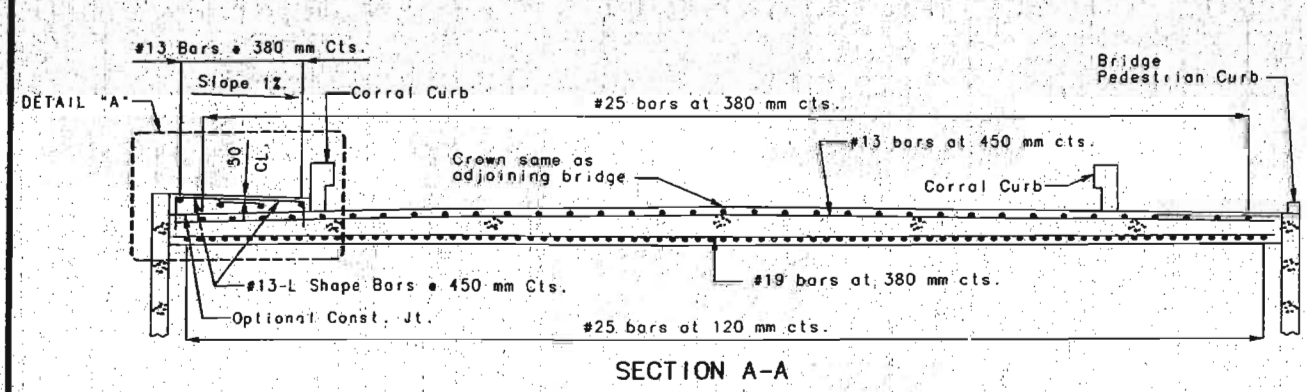
All concrete and reinforcing steel above the optional sidewalk construction joint on the bridge approach slab is included in the estimated superstructure quantities for Bridge Approach Slab (Bridges).

Work this sheet with sheet no. 55.



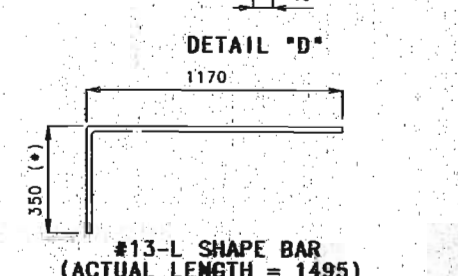
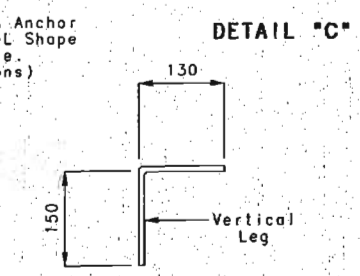
DETAILED MAR. 1997
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FINAL PLANS		



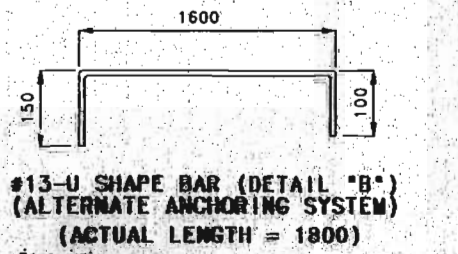
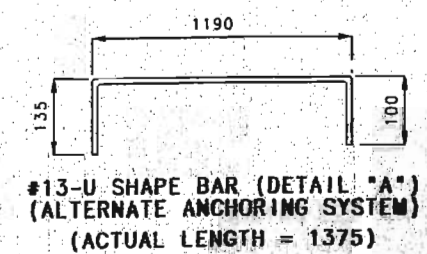
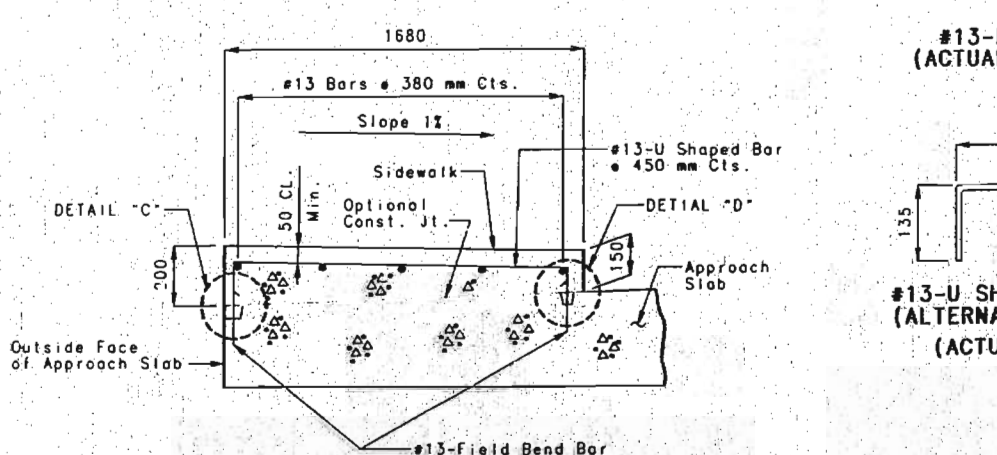
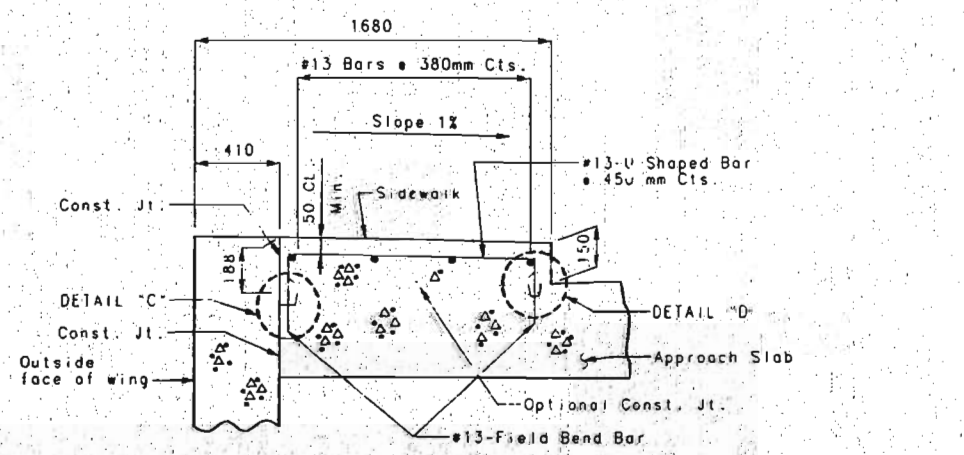
DETAIL "A" (OPTIONAL RESIN ANCHORING SYSTEM)
(Corral Curb, Corral Curb Rail, and Pedestrian Fence not shown for clarity.)

DETAIL "B" (OPTIONAL RESIN ANCHORING SYSTEM)
(Corral Curb and Corral Curb Rail not shown for clarity.)



#13-FIELD BEND BAR
(ACTUAL LENGTH = 255)
(Grade 300)

#13-L SHAPE BAR
(ACTUAL LENGTH = 1495)
(*) When used in Optional Resin Anchor System, adjust vertical leg dimension of bar for manufacturer's required embedment length.



#13-U SHAPE BAR (DETAIL "A")
(ALTERNATE ANCHORING SYSTEM)
(ACTUAL LENGTH = 1375)

#13-U SHAPE BAR (DETAIL "B")
(ALTERNATE ANCHORING SYSTEM)
(ACTUAL LENGTH = 1800)

DETAIL "A" (ALTERNATE ANCHORING SYSTEM)
(Corral Curb, Corral Curb Rail, and Pedestrian Fence not shown for clarity.)

DETAIL "B" (ALTERNATE ANCHORING SYSTEM)
(Corral Curb and Corral Curb Rail not shown for clarity.)



Note: If the contractor chooses to use the optional resin anchor system, the contractor shall use one of the resin anchor systems listed in the job special provisions. These optional resin anchor systems shall be installed according to manufacturer's specifications, except as modified by the job special provisions. #13-L shape bars shall be a component part of the optional resin anchor system in lieu of 12.7 mm diameter threaded rod studs.

The 12.7 mm diameter optional resin anchor systems shall have a minimum ultimate pullout strength of 43.8 kN in concrete with $f'_c = 28$ MPa.

Concrete must be at least 7 days old before drilling will be permitted.

Note: All reinforcement for the optional or alternate anchoring system shall be epoxy coated.

No additional payment will be allowed for the usage of the optional or alternate anchoring system.

Work this sheet with sheet no. 54.

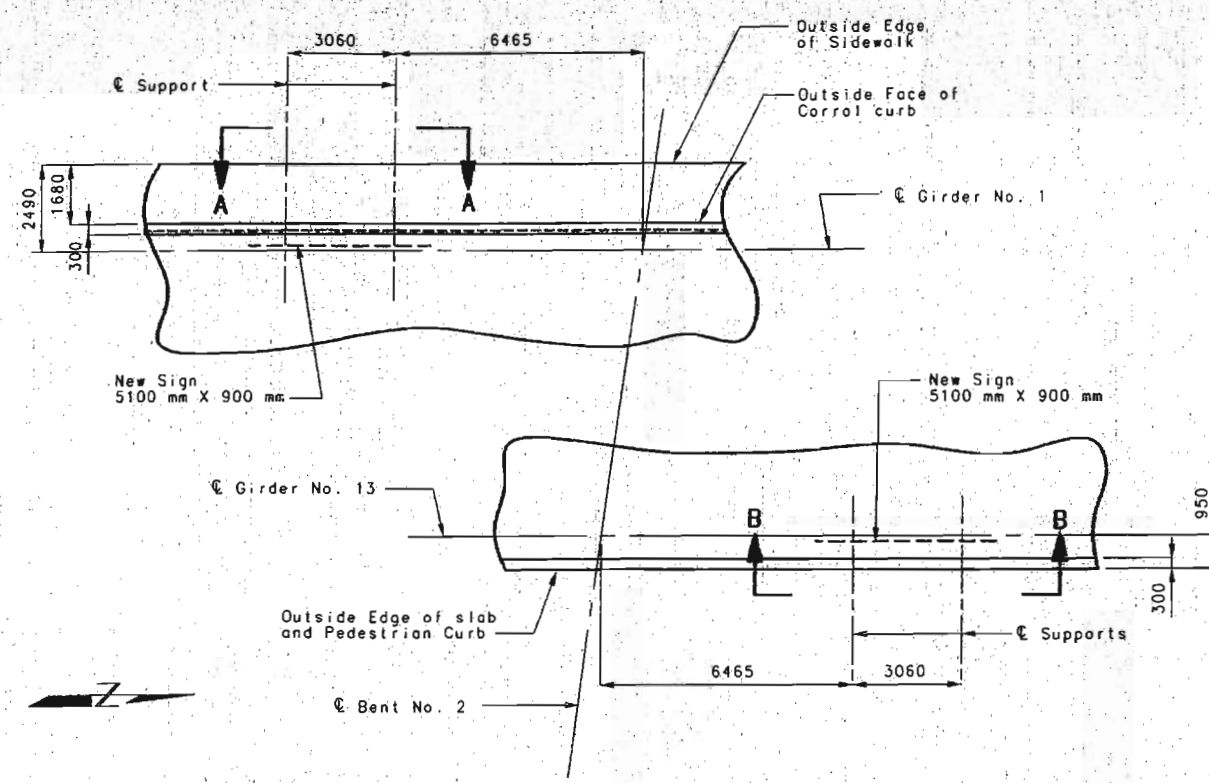
Note: Nominal lengths are based on out to out dimensions shown in bending diagram and are listed for fabricator's use (nearest 10 mm).

DETAILED MAY 1997
CHECKED MAY 1997

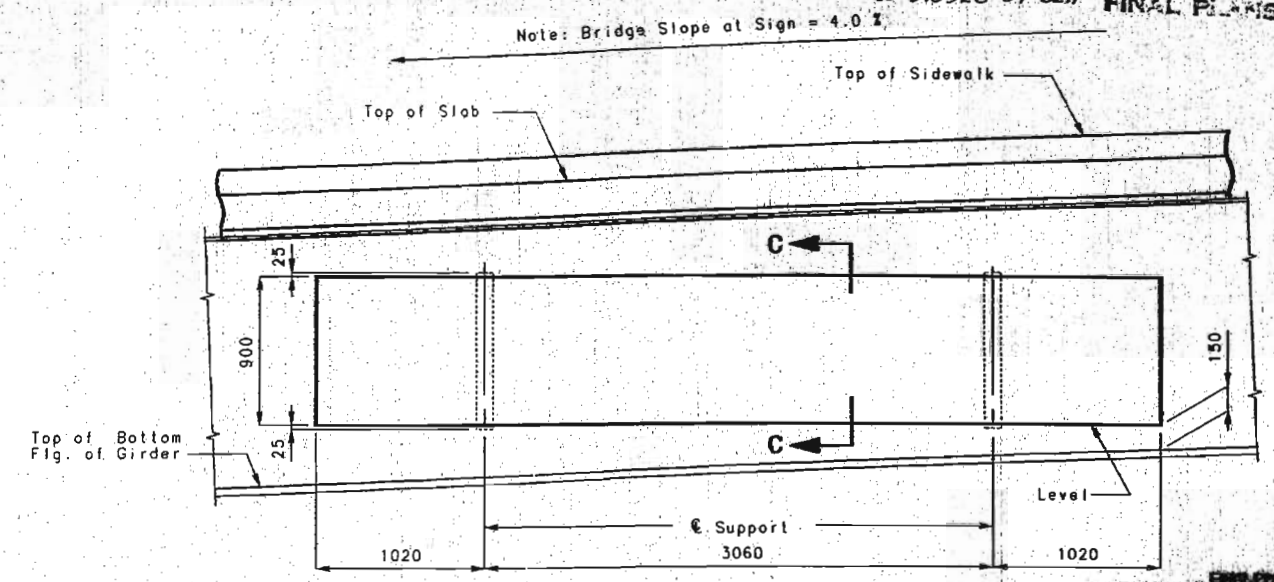
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STATE	PROJECT NO. J410922	SHEET
NO.	ACNH I-70-(187)	59

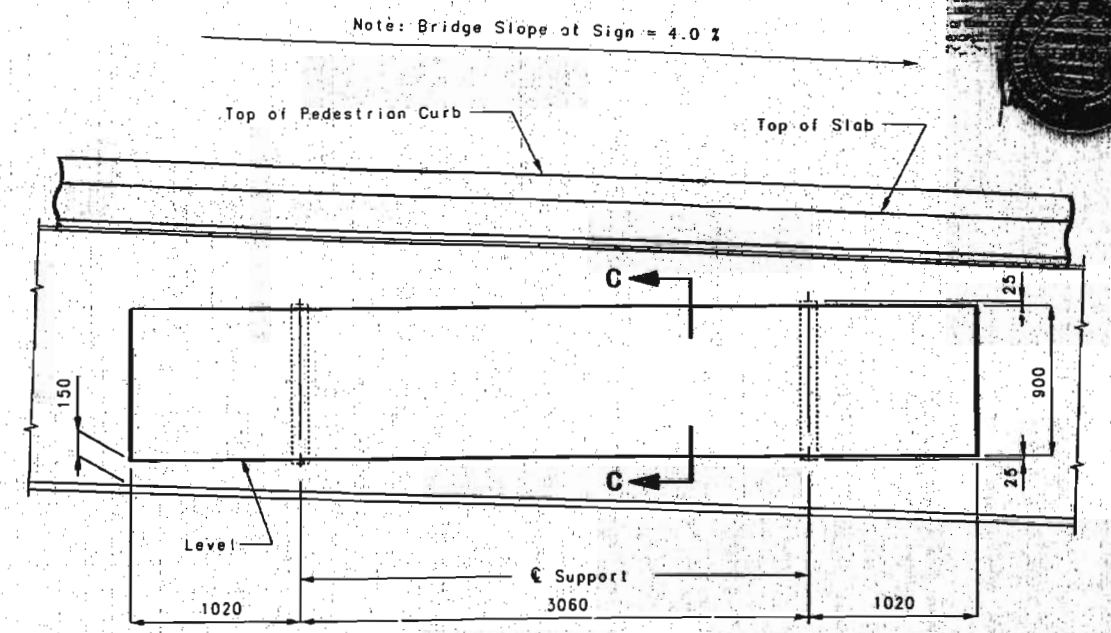
ID 970926-07-OLH FINAL PLANS



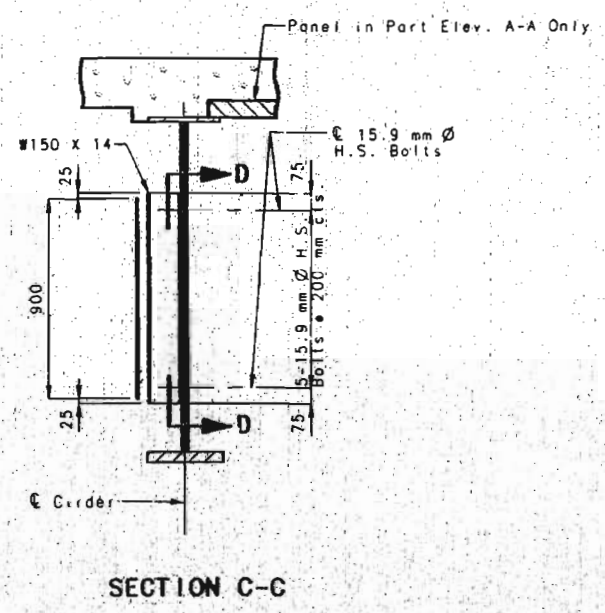
PART PLAN SHOWING LOCATION OF SIGNS
Note: Dimensions shown are horizontal dimensions.



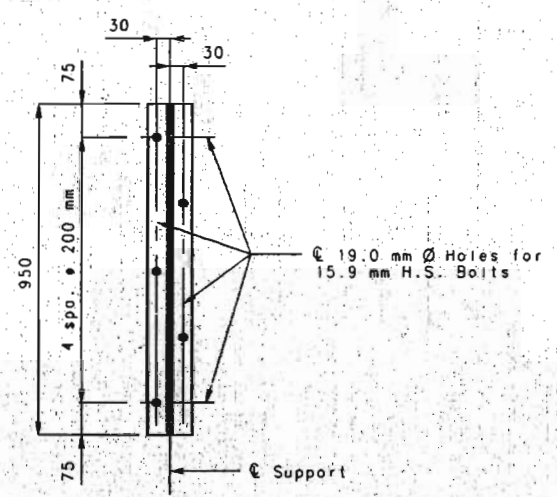
PART ELEVATION A-A



PART ELEVATION B-B



SECTION C-C



SECTION D-D

GENERAL NOTES:

- Center and level signs on brackets.
- All bolts, nuts and washers shall be galvanized.
- All structural steel shall be ASTM A709 Grade 250 and galvanized.
- The cost of furnishing and erecting the sign support brackets complete-in-place, shall be paid for as fabricated sign support brackets, lump sum.

SIGN SUPPORT BRACKETS

JACKSON COUNTY

A5726

256

DETAILED MAY 1997
CHECKED MAY 1997

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 56 OF 61.



BILL OF REINFORCING STEEL

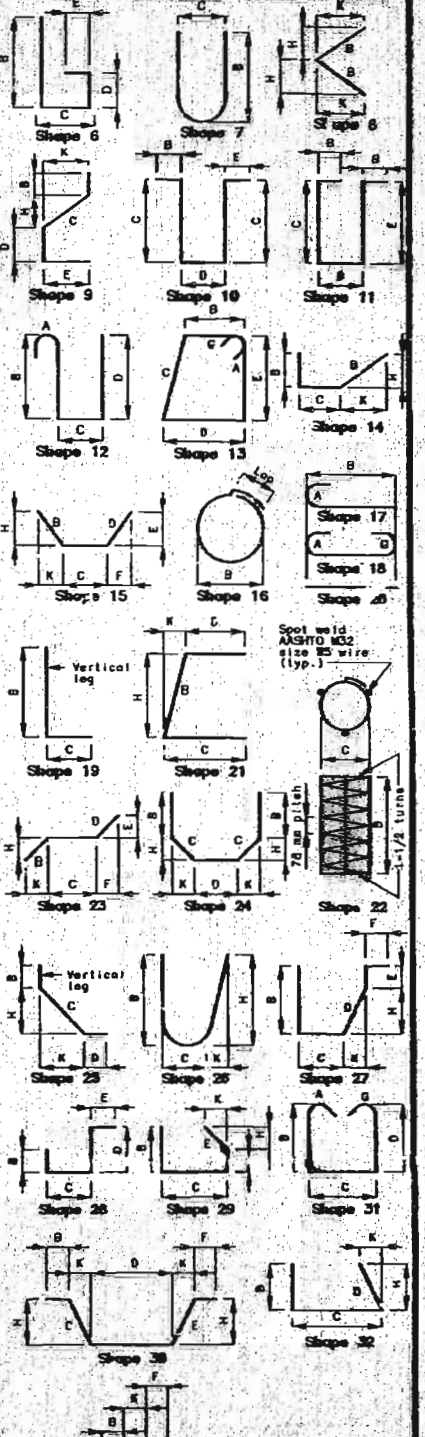
BILL OF REINFORCING STEEL

FINAL PLANS

STATE: ID 970922-01-26.1 PROJ. NO. 7410922 SHEET NO. ACNH 1-70-(167) 437

Main table for reinforcing steel quantities. Columns: No. Req'd., Mark No., Location, Dimensions (B, C, D, E, F, H, K), Nominal Length, Actual Length, Mass (kg).

Main table for reinforcing steel quantities (continued). Columns: No. Req'd., Mark No., Location, Dimensions (B, C, D, E, F, H, K), Nominal Length, Actual Length, Mass (kg).



Handwritten notes and markings on the left margin, including a large 'S' and various scribbles.

Two additional #13-S34, #16-V3, #19-S11, #25-S35, and #29-H34 are included in the bar bill for testing.

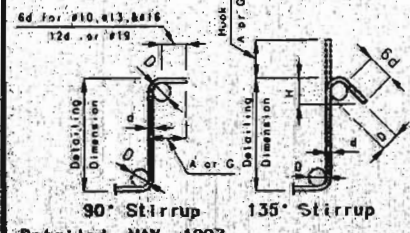


Table titled 'STIRRUP HOOK DIMENSIONS (mm)' showing specifications for Grades 260 & 420 MPa for bar sizes #13, #16, and #19.

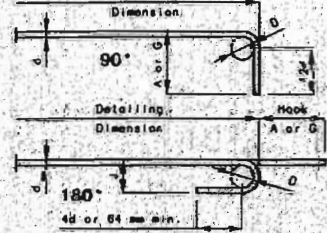


Table titled 'END HOOK DIMENSIONS (mm)' showing specifications for 90 degree and 180 degree hooks for various bar sizes and grades.

Notes: All standard hooks and bends other than 180 degree to be bent with the same procedure as for 90 degree standard hooks. Hooks and bends shall be in accordance with the procedures as shown on this sheet. E = epoxy coated reinforcement. S = stirrup. X = bar is included in substructure quantities. Y = bar dimensions vary in equal increments between dimensions shown on this line and the following line. No. Ea. = number of bars of each length. Nominal lengths are based on out-to-out dimensions shown in bending diagrams and are listed for fabricators use (nearest 5 mm). Actual lengths are measured along centerline bar to 1/2 mm nearest 5 mm. Payoffs are based on actual lengths. Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spiral. Length and mass of column spirals do not include spacers or spacers. Reinforcing steel (Grade 420) = F7 420 MPa.

Big 99.6 Reviewed May 1994, Feb. 1997

Detailed MAY 1997 Checked MAY 1997

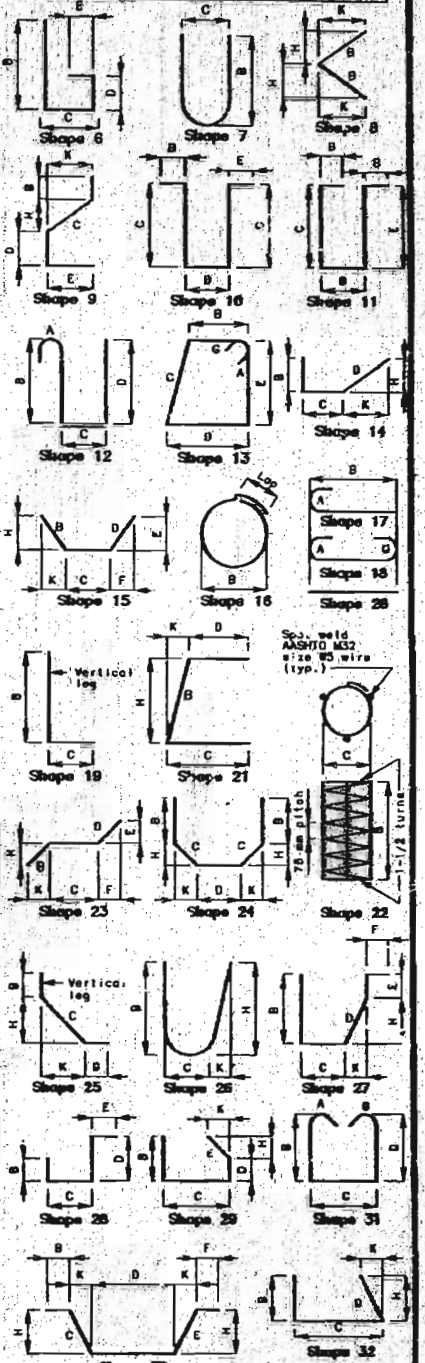
BILL OF REINFORCING STEEL

Table with columns: No. Req'd, Mark No., Location, Epoxy, Shape No., Stirrup, Subst., Var, No. Reah, Dimensions (B, C, D, E, F, H, K), Nominal Length, Actual Length, Mass (kg).

BILL OF REINFORCING STEEL

Table with columns: No. Req'd, Mark No., Location, Epoxy, Shape No., Stirrup, Subst., Var, No. Reah, Dimensions (B, C, D, E, F, H, K), Nominal Length, Actual Length, Mass (kg).

STATE: ID 970522-07-01H PROJ. NO J410922 SHEET NO. 129 MO. ACNH I-70-(167)



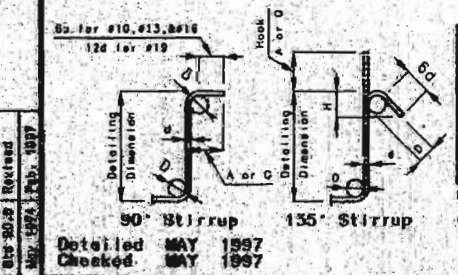
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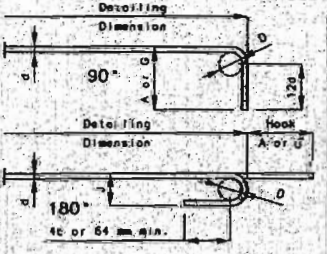


* Adjust "No. Req'd" if Optional Resin Anchor System Option is used.
** Bars not required if Alternate Anchoring System is used. "B" dimension will require adjustment if Resin Anchor Option is used.

Two additional #13-S34, #16-V3, #19-S11, #25-S35, and #29-H34 are included in the bar bill for testing.

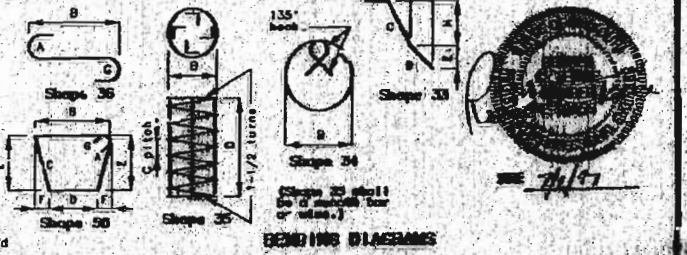


STIRRUP HOOK DIMENSIONS (mm) table with columns: Bar Size, D, 90° Hook, 135° Hook, Approx. D.



END HOOK DIMENSIONS (mm) table with columns: Bar Size, D, 90° Hook, 135° Hook, 180° Hook, Approx. D.

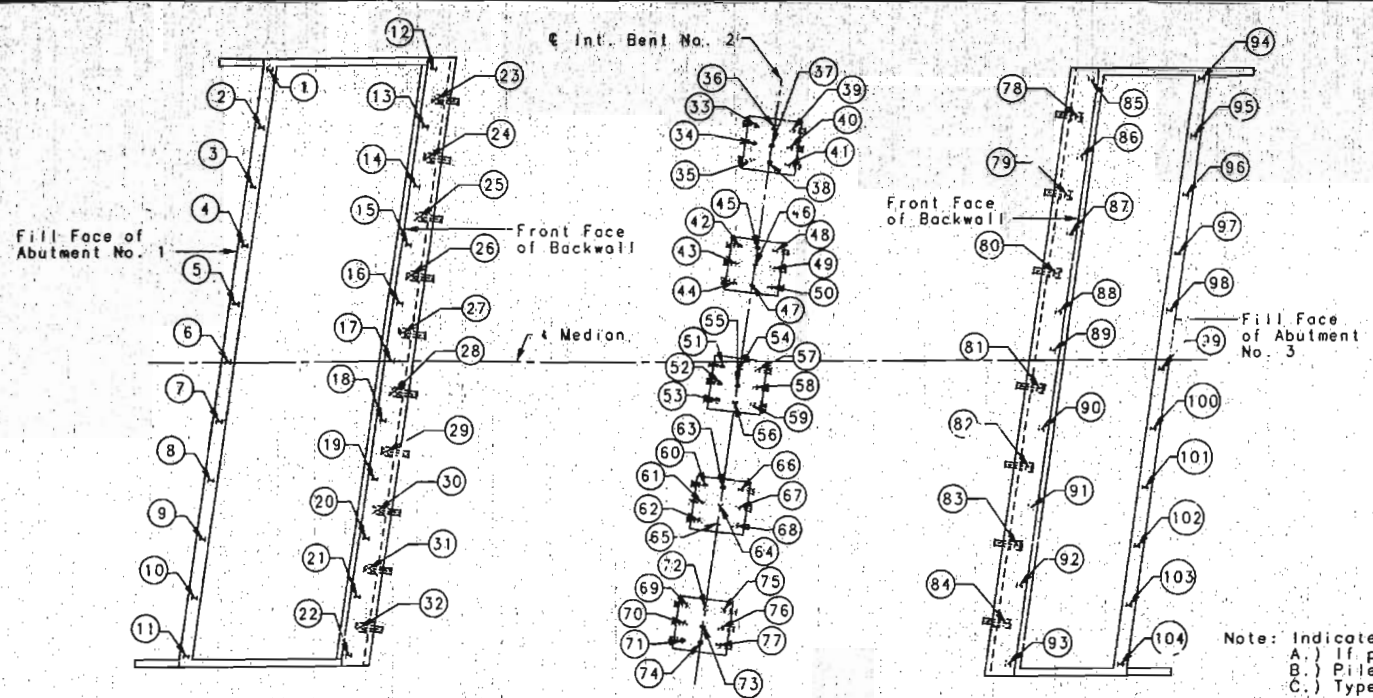
Notes: All standard hooks and bends other than 180 degree to be bent with the same procedure as for 90 degree standard hooks. Hooks and bends shall be in accordance with the procedures as shown on this sheet.



Revised May 1997, Checked MAY 1997

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Note: Indicate in remark column:
 A.) If piling were driven to practical refusal.
 B.) Pile batter if other than shown on bent detail sheet.
 C.) Type of piling used.

NOTE: THIS SHEET TO BE COMPLETED BY MoDOT CONSTRUCTION PERSONNEL.

PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
Approach Beam Abutment No. 1			
1	12	1282.2	310 mm HP Practical Refusal
2	10.5	1320.6	
3	12	1246.0	
4	12.5	1282.2	
5	12.5	1246.0	
6	7	1320.6	
7	7.5	1246.0	
8	4.5	1320.6	
9	4	1320.6	
10	4.5	1211.7	
11	4	1404.7	
Bearing Beam Abutment No. 1			
12	10	1246.0	**
13	10	1282.2	
14	11	1320.6	
15	12.5	1320.6	
16	13.5	1246.0	
17	9	1211.7	
18	8	1246.0	
19	6	1320.6	
20	7	1246.0	
21	6.5	1361.3	
22	7	1450.9	
23	8.5	1176.5	
24	12	1176.5	**
25	10.5	1211.7	
26	12	1176.5	
27	13	1176.5	
28	8.5	1249.1	
29	8	1211.7	
30	7	1211.7	
31	7.5	1211.7	
32	7.5	1288.9	310 mm HP Practical Refusal

PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
Intermediate Bent No. 2			
33	17	1986.9	360 mm HP ** Practical Refusal
34	16.5	1932.3	**
35	16.5	1986.9	**
36	16.5	1914.4	**
37	16.5	2019.5	**
38	16.5	1819.6	**
39	18	1880.6	**
40	16.5	1880.6	**
41	17	1932.3	**
42	17.5	1880.6	**
43	17.5	1880.6	**
44	15	1986.9	**
45	17	1819.6	**
46	16.5	2076.6	**
47	17	2019.5	**
48	16.5	1986.9	**
49	16.5	1880.6	**
50	17	1880.6	**
51	14.5	1741.0	**
52	15	1741.0	**
53	14.5	1831.7	**
54	15	1965.5	**
55	15	2200.9	**
56	15	1819.6	**
57	16.5	1986.9	**
58	17	1785.2	**
59	17	2170.9	**
60	13.5	1880.6	**
61	13	2044.6	**
62	13	1986.9	**
63	14.5	2076.6	**
64	13.5	2076.6	**
65	14	2418.1	360 mm HP Practical Refusal

PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
66	16	1741.0	360 mm HP Practical Refusal
67	15.5	1741.0	
68	15.5	1980.6	
69	12	1741.0	
70	12	1698.9	
71	11.5	1986.9	
72	13	2200.9	
73	13	2076.6	
74	13	2019.5	
75	14	1741.0	
76	13.5	1932.3	
77	13.5	2105.9	360 mm HP
Bearing Beam Abutment No. 3			
78	30.5	1143.3	310 mm HP **
79	30	1176.5	**
80	29	1176.5	**
81	30.5	1176.5	**
82	30	1211.7	**
83	30.5	1211.7	**
84	30	1111.9	**
85	31.5	1246.0	**
86	29.5	1246.0	**
87	30	1246.0	**
88	29.5	1246.0	**
89	29.5	1282.2	**
90	29.5	1361.3	**
91	29.5	1320.6	**
92	30	1320.6	**
93	30	1282.2	**
Approach Beam Abutment NO. 3			
94	31	1091.8	**
95	31	971.5	**
96	30.5	1246.0	**
97	31	1091.8	**
98	31	1091.8	**
99	30.5	1211.7	**
100	31	1040.3	**
101	31	1361.3	**
102	31	1091.8	**
103	31	1040.3	**
104	31	1091.8	310 mm HP Practical Refusal
310 mm - 1105.5 m Length In Place			
175 m Additional 2.5 m of pile for 7 splices - Section 702.6.7			
1123.0 m Final Total			
360 mm - 685.0 m Length In Place			
45.0 m Additional 2.5 m of pile for 18 splices - Section 702.6.7			
730.0 m Final Total			

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** Pile Splices
 * Covered Down Bearing