

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	95
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

Bridge Sheet 1 of 11 Sheets

Bench Mark: Top of curb at Southwest corner of Bridge 006-0001 (E.B.) at Sta. 59+545.968, 20.983 m Rt. Elev. 192.317
Top of curb at Northwest corner of Bridge 006-0002 (W.B.) at Sta. 59+548.755, 20.969 m Lt. Elev. 192.411

Existing Structures: S.N. 006-0001 (E.B.) and S.N. 006-0002 (W.B.). Both Structures are 3 span continuous R.C. slab bridges, 29.92 m bk. to bk. abutments, 13.31 m out to out of deck on R.C. slab abutments and solid piers. Built as F.A.I. Route 80, Section 06-1B at Station 55+30.00 (English) in 1963. The Contractor shall remove both existing superstructures and portions of the substructure as required and replace with 3-span continuous R.C. slab bridges. One lane of traffic in each direction to be maintained utilizing staged construction. No salvage.

GENERAL NOTES

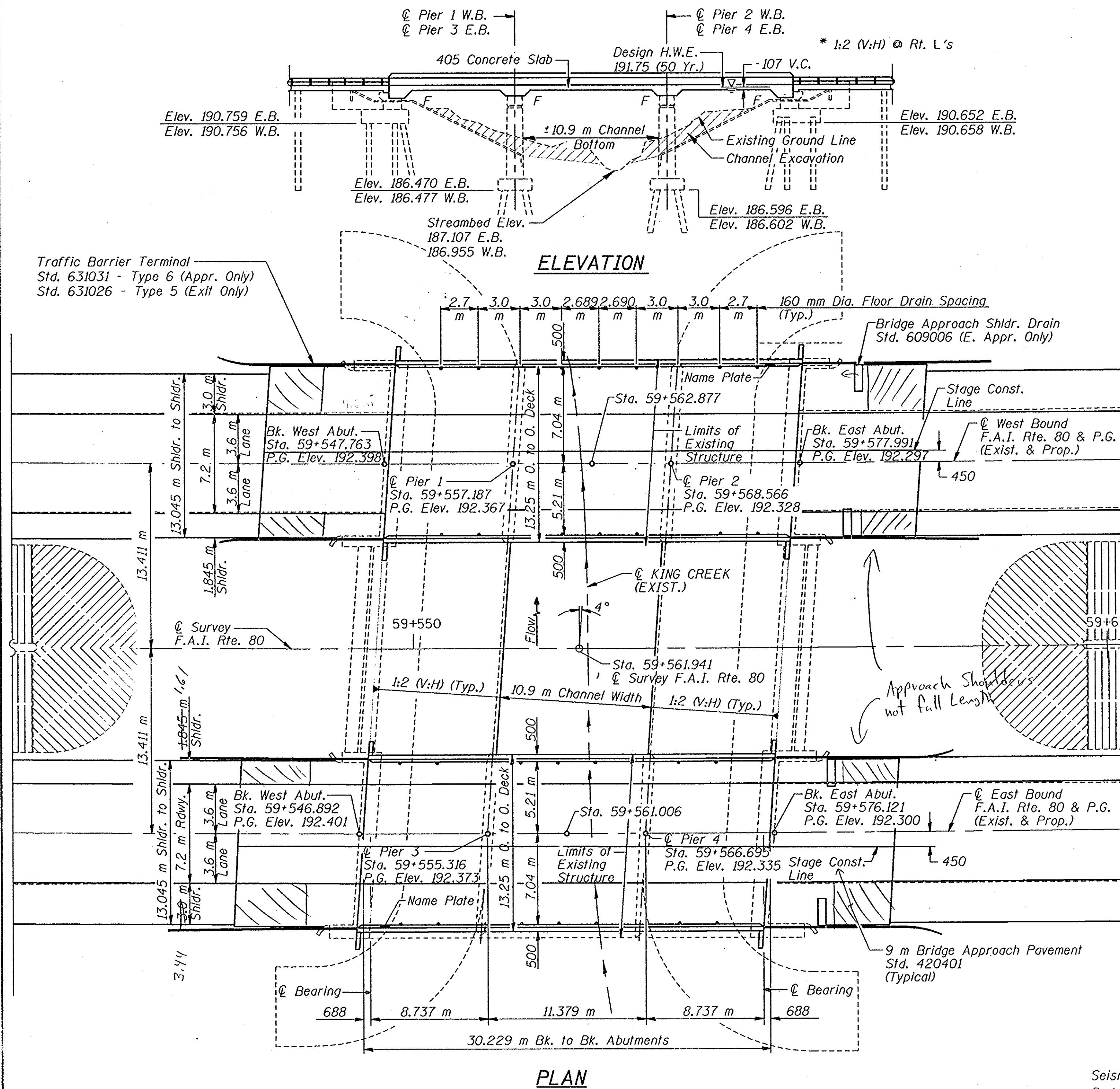
- Reinforcement Bars shall conform to the requirements of AASHTO M31M, M42M, or M53M, Grade 400.
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of false work, in addition to allowance for dead load deflection.
- All dimensions are in millimeters (mm) except as noted.
- All Structural Steel shall be AASHTO M270M, Grade 250
- Forms for the deck slab shall be removed before the placement of the approach slab.
- All new Structural Steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1.

TWO STRUCTURES
TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	2		2
Reinforcement Bars, Epoxy Coated	Kg.	49,450	1,570	51,020
Concrete Structures	m ³		13.5	13.5
Concrete Superstructure	m ³	399		399
Protective Coat	m ²	850		850
Bridge Deck Grooving	m ²	683		683
Name Plates	Each	2		2
Bar Splicers	Each	372	184	556
Floor Drains	Each	28		28
Furnishing and Erect. Struct. Steel	Kg.	3,120		3,120
Concrete Removal	m ³		17.2	17.2
Channel Excavation	m ³		1,620	1,620

See Special Provisions

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER FOR BRIDGES AND STRUCTURES



PROFILE GRADE
(Along Centerline of Proposed Roadway)

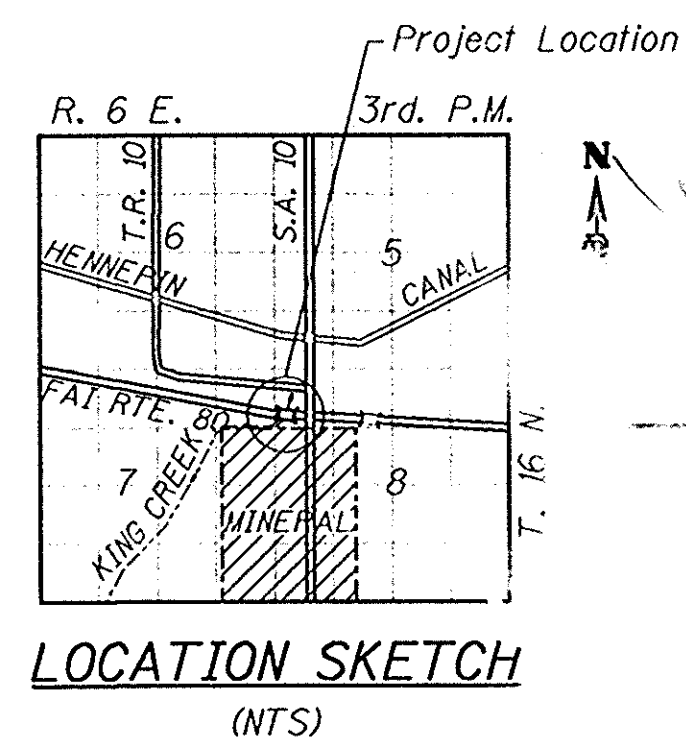
STATION 59+561.941
REBUILT 20 BY
STATE OF ILLINOIS
F.A.I. RTE. 80
SEC. 06-1BR
F.A. PROJ.
LOADING MS18 AND ALT.
STRUCTURE NO. 006-0001 (E.B.)

STATION 59+561.941
REBUILT 20 BY
STATE OF ILLINOIS
F.A.I. RTE. 80
SEC. 06-1BR
F.A. PROJ.
LOADING MS18 AND ALT.
STRUCTURE NO. 006-0002 (W.B.)

NAME PLATES
See Std. 515001

Note: The existing Name Plate is to be cleaned and relocated next to the new Name Plate. Cost is included with Name Plates.

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04
Site Coefficient (S) = 1.5



DESIGN SPECIFICATIONS
1996 AASHTO With 1997 - 1999 Interims

LOADING MS18 AND ALT.
Allow 2.4 kN/m² for future wearing surface.

DESIGN STRESSES
FIELD UNITS
f_c 24 MPa
f_y 400 MPa (Reinforcement)
f_y 250 MPa (Struct. Steel)

WATERWAY INFORMATION

Drainage Area = 49.7 km ²		Low Grad. lev. = 192.140 m @ Sta. Unknown	
Flood Class	Q	Opening, (m ²)	Natural H.W.E.
		Exist.	Prop.
Design		55.2	55.2
Base	0	55.2	55.2
Max. Calc.	10	55.2	55.2
Head (m)	Headwater Elev. - m		
Dist.	Exist.	Prop. (*)	
05	191.80	191.80	
08	191.91	191.91	
14	192.04	192.04	

* HE A → EL. = W.S.E.L. @ UPSTREAM FA. OF PROPOSED STRUCTURE.

DESIGN		
INT.	DATE	REASON

FLOTS & CHECKS			
INT.	DATE	NO.	REASON

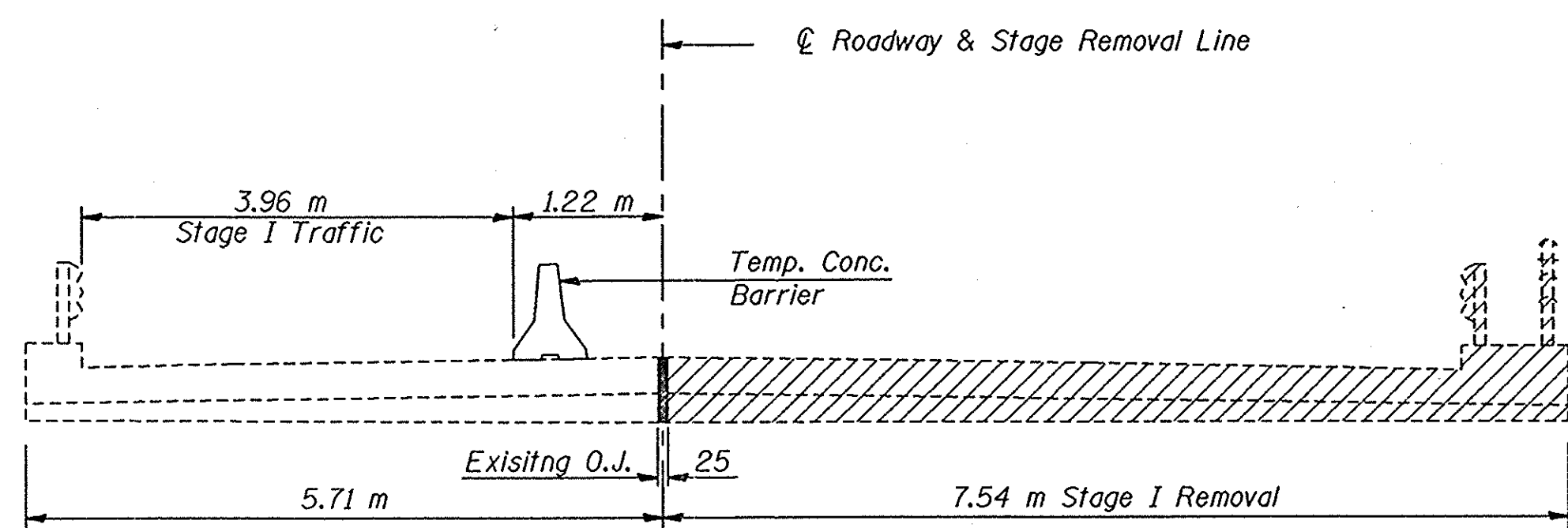
CHECKS		
INT.	DATE	REASON

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

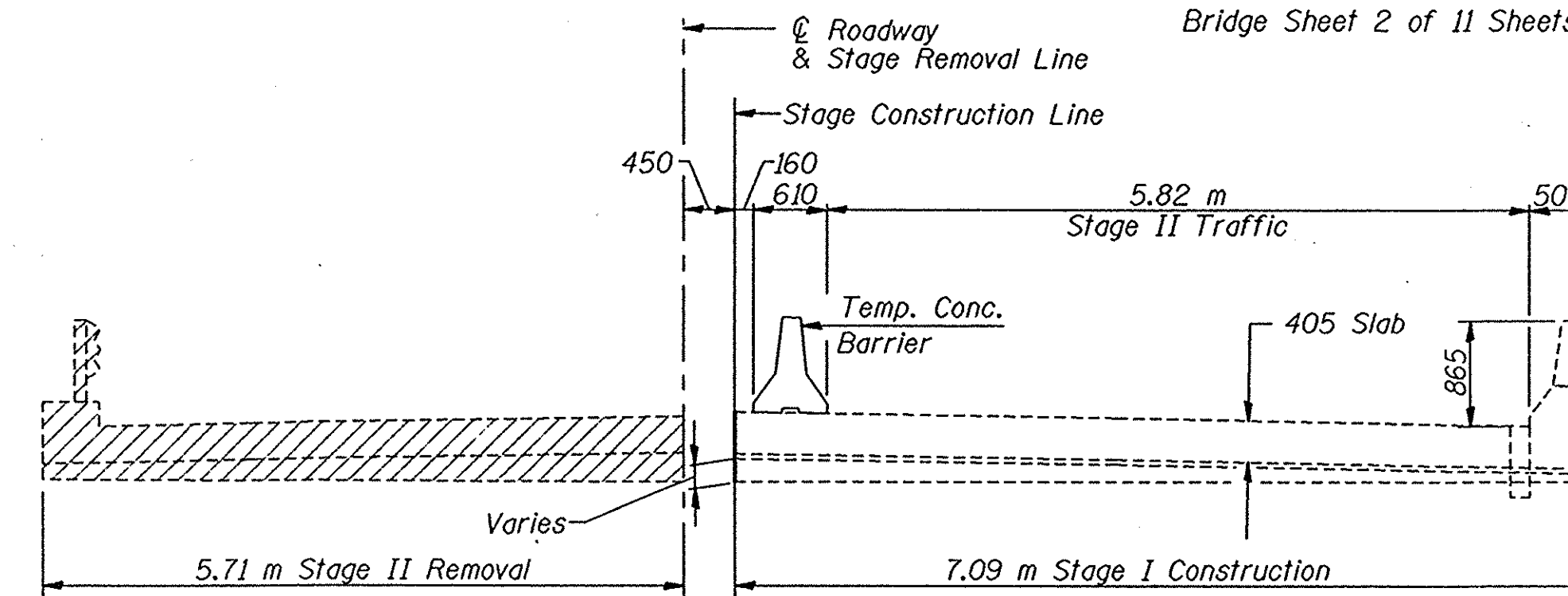
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	36
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bridge Sheet 2 of 11 Sheets

DESIGN	
INT. DATE	REASON

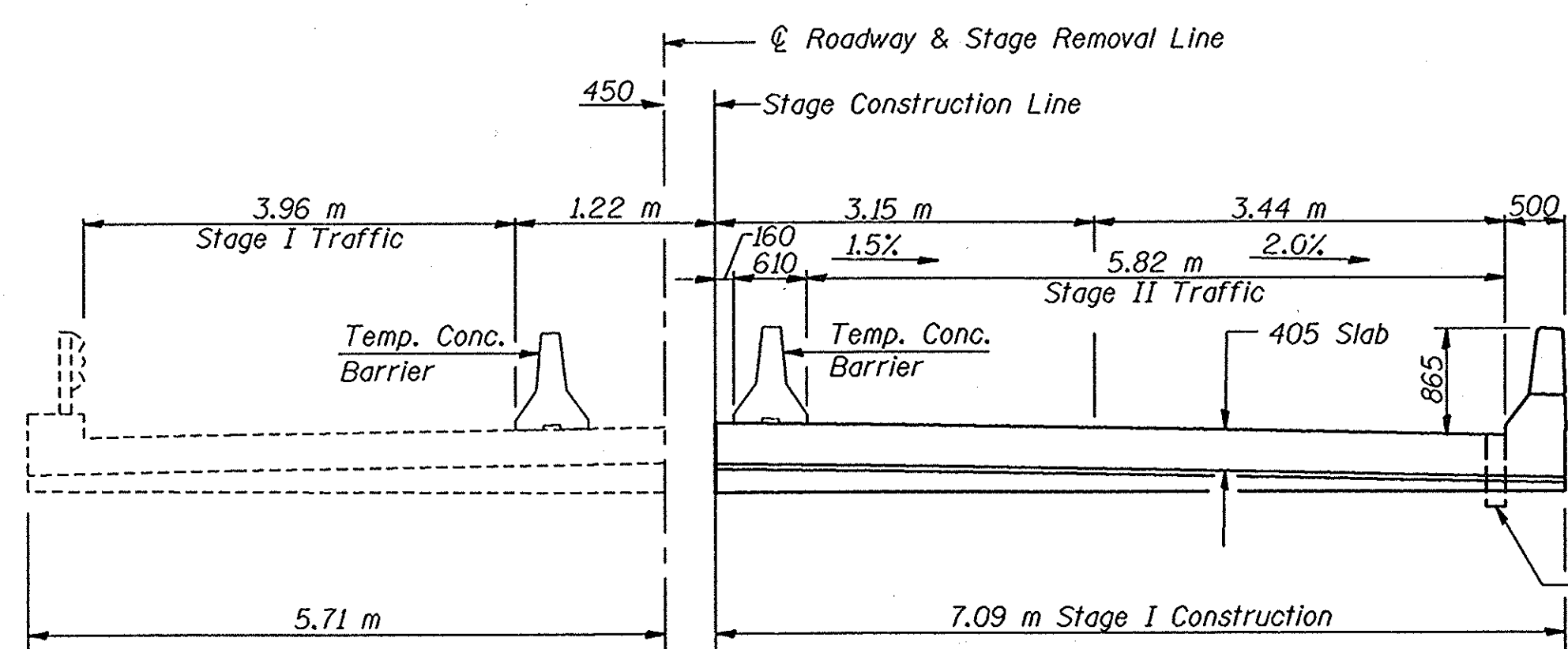


STAGE I REMOVAL
(Looking in direction of traffic)

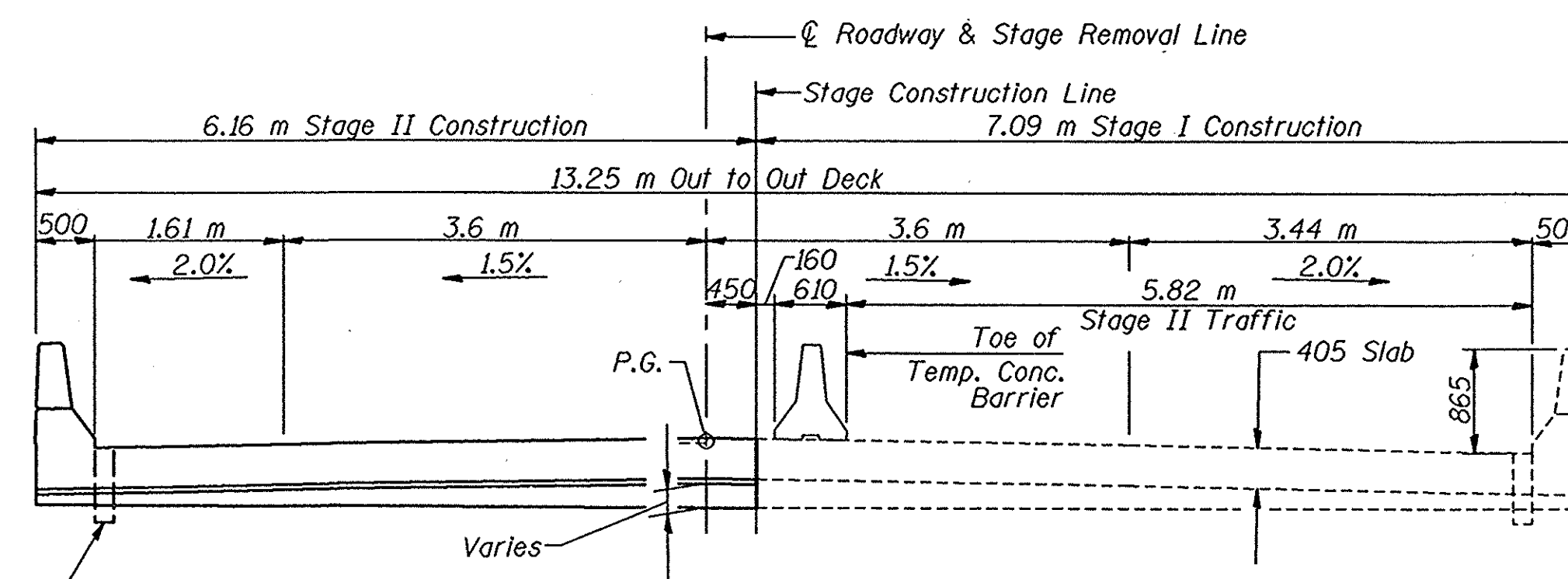


STAGE II REMOVAL
(Looking in direction of traffic)

PLOTS & CHECKS		
INT. DATE	NO.	REASON



STAGE I CONSTRUCTION
(Looking in direction of traffic)



STAGE II CONSTRUCTION
(Looking in direction of traffic)

160 Dia. Floor Drain
(See General Plan & Elevation sheet
for location and spacing).

- Notes:
- All dimensions are in millimeters (mm) except as noted.
 - Hatched areas indicate removal of existing superstructure.
 - Steel handrail removal is included in the cost of "Removal of existing superstructure."
 - For details of Temporary Concrete Barrier, see sheet 4.
 - For quantity of Temporary Concrete Barrier, see Roadway Plans.

CHECKS	
INT. DATE	REASON

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION DETAILS

FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

SCALE: VERT. _____
HORIZ. _____

DATE: 08/28/01-RPB

DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

COMPUTER FILE NO. SHT1500-1
PROJECT 01159
11/20/01-RPB

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
360 SOUTH MAIN ST.
SPRINGFIELD, ILLINOIS 62761
CALL 765-8666, WITH THE BEST FAX

REVISIONS	
NAME	DATE
B.O. COMMENTS	11/20/01

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

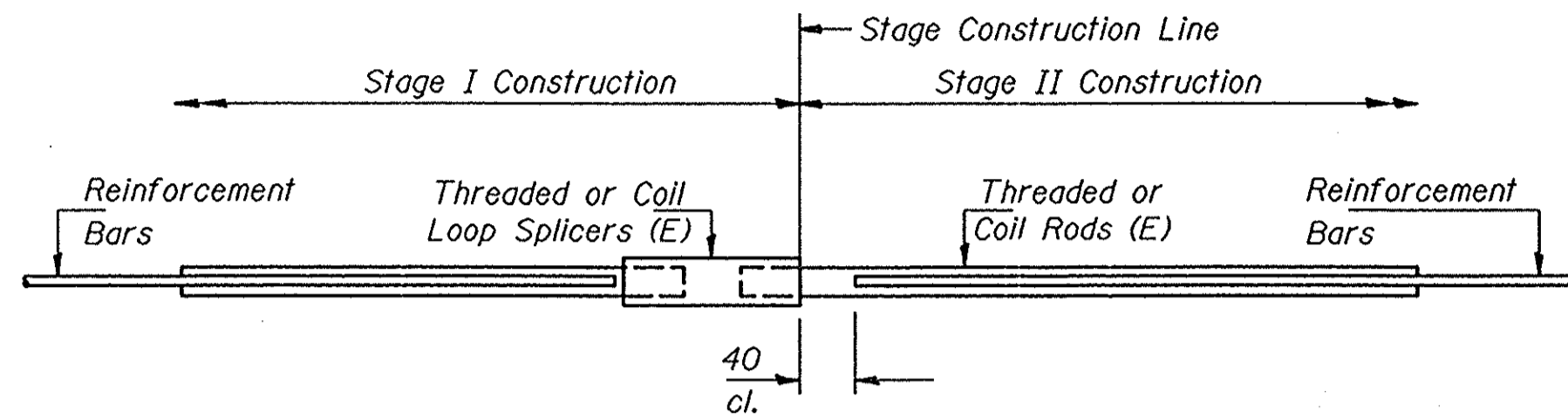
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	37
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

Bridge Sheet 3 of 11 Sheets

DESIGN		
INT.	DATE	REASON

PLOTS & CHECKS		
INT.	DATE	REASON

CHECKS		
INT.	DATE	REASON



SPLICER DETAIL

Bar Size	No. Req'd. (Splicers)	Location
#15	344	Superstructure
#20	28	Superstructure
#20	160	Abutments
#20	24	Hatched Area

The diameter of this part of Splicer is the same as the diameter of the bar spliced. The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

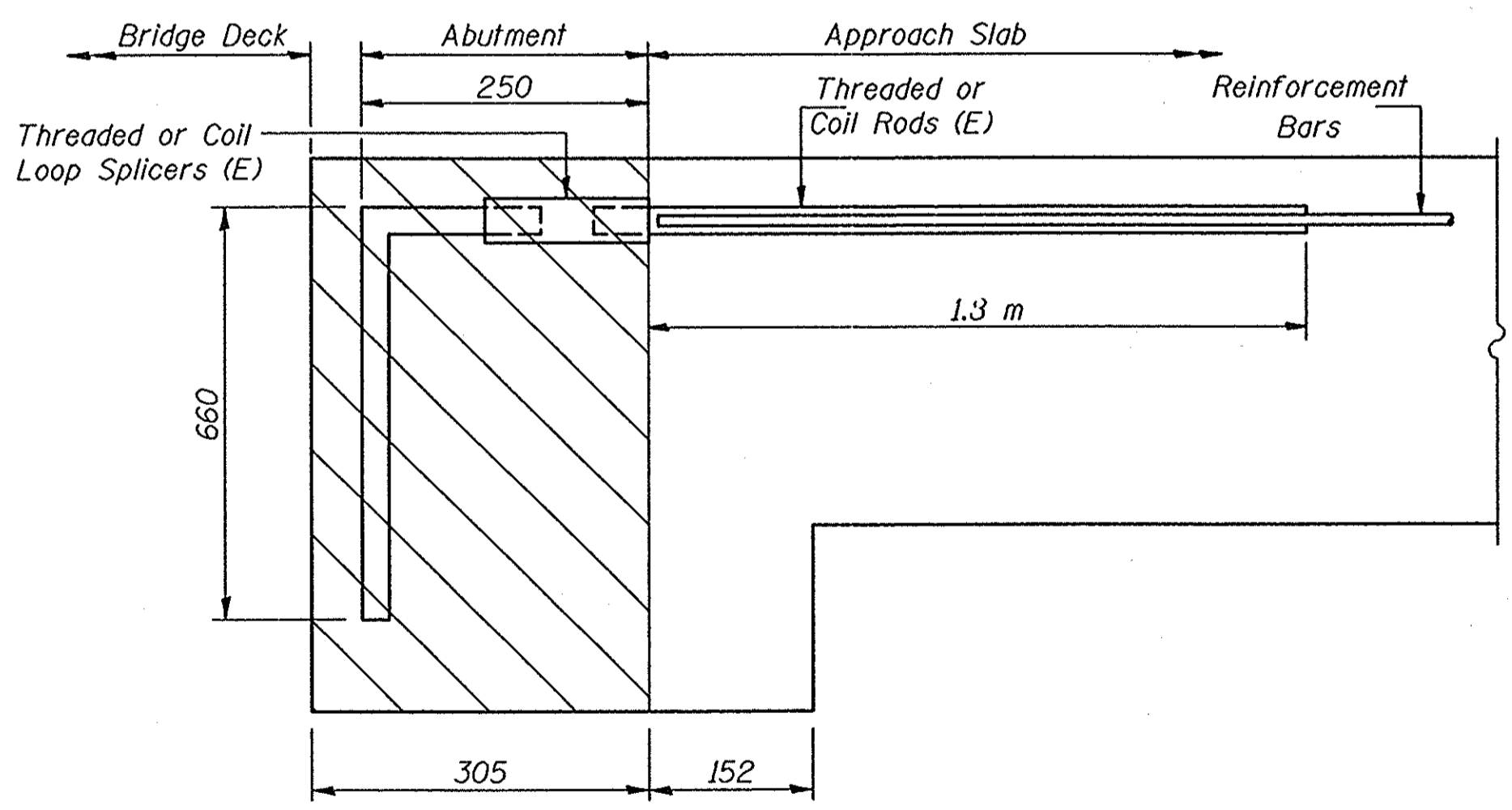
Wire Connector



WELDED SECTIONS

SPLICER ALTERNATIVES

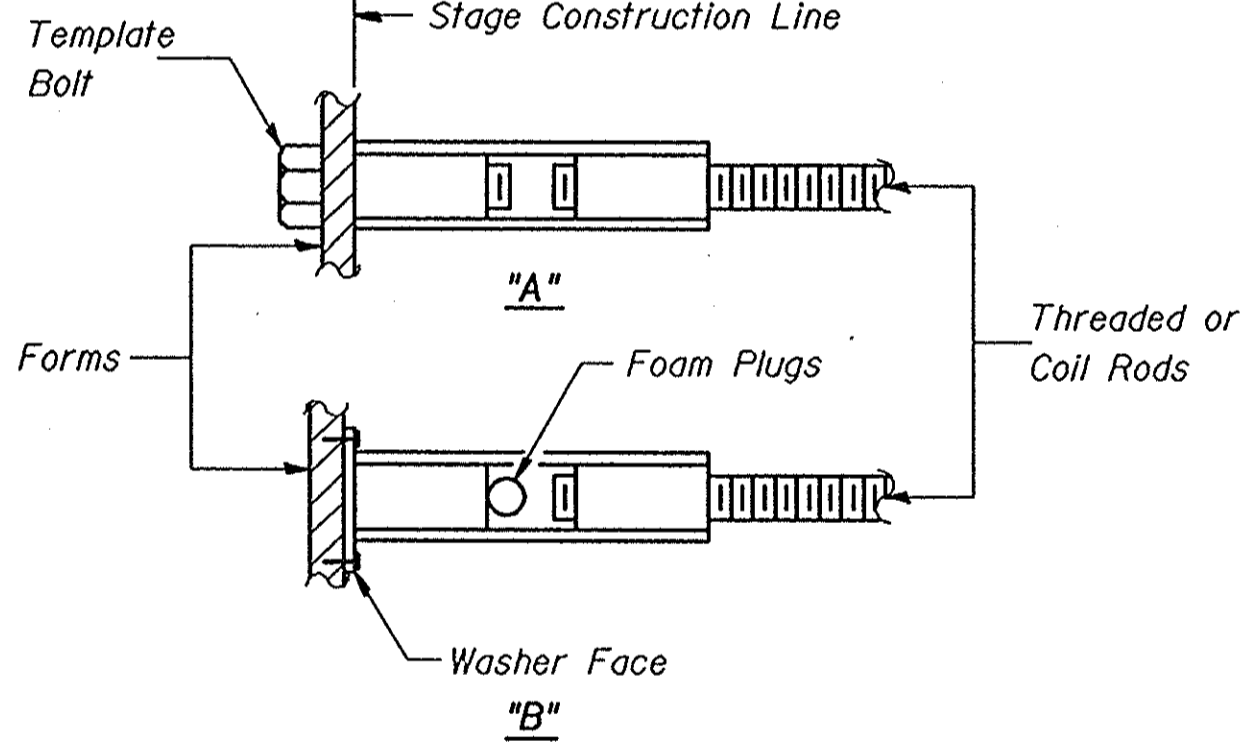
** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



BAR SPLICER ASSEMBLY DETAIL FOR ABUTMENT

(160 Required)

20 mm φ Bar Splicer Assembly x 1.2 m and 1.8 m Splicer Rods — Minimum Capacity = 100 kN-tension
Minimum Pull-out Strength = 40 kN-tension



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Steel Splicer rods shall be of minimum 400 MPa yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods.
Splicer (coupler) assembly shall be epoxy coated in accordance with the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times 10^{-3} \times f_y \times A_t$
(Tension in kN)
- ② Minimum *Pull-out Strength = $1.25 \times 10^{-3} \times f_{s\text{ allow}} \times A_t$
(Tension in kN)

Where f_y = Yield strength of lapped reinforcement bars in MPa.
 $f_{s\text{ allow}}$ = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars (mm^2).
* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

#15 bar lap with 20 mm φ Splicer (Coupler) x 610 mm Splicer Rods	Minimum Capacity = 100 kN-tension Minimum Pull-out Strength = 40 kN-tension
#20 bar lap with 25 mm φ Splicer (Coupler) x 790 mm Splicer Rods	Minimum Capacity = 150 kN-tension Minimum Pull-out Strength = 60 kN-tension
#25 bar lap with 30 mm φ Splicer (Coupler) x 1.04 m Splicer Rods	Minimum Capacity = 250 kN-tension Minimum Pull-out Strength = 100 kN-tension
#30 bar lap with 36 mm φ Splicer (Coupler) x 1.37 m Splicer Rods	Minimum Capacity = 350 kN-tension Minimum Pull-out Strength = 140 kN-tension

Bar splicer assemblies shall be in accordance with Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."
All dimensions are in millimeters (mm) except as noted.

REVISIONS	
NAME	DATE
B.O. COMMENTS	11/20/01

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY
FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

SCALE: VERT. _____
HORIZ. _____

DATE: 08/28/01-RPB

DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
320 SOUTH MAIN STREET
SPRINGFIELD, ILLINOIS 62761
618/752-4444 618/752-4217 FAX

COMPUTER FILE NO.
SHT1501-1

PROJECT 01159
11/20/01-RPB

DESIGN		
INT.	DATE	REASON

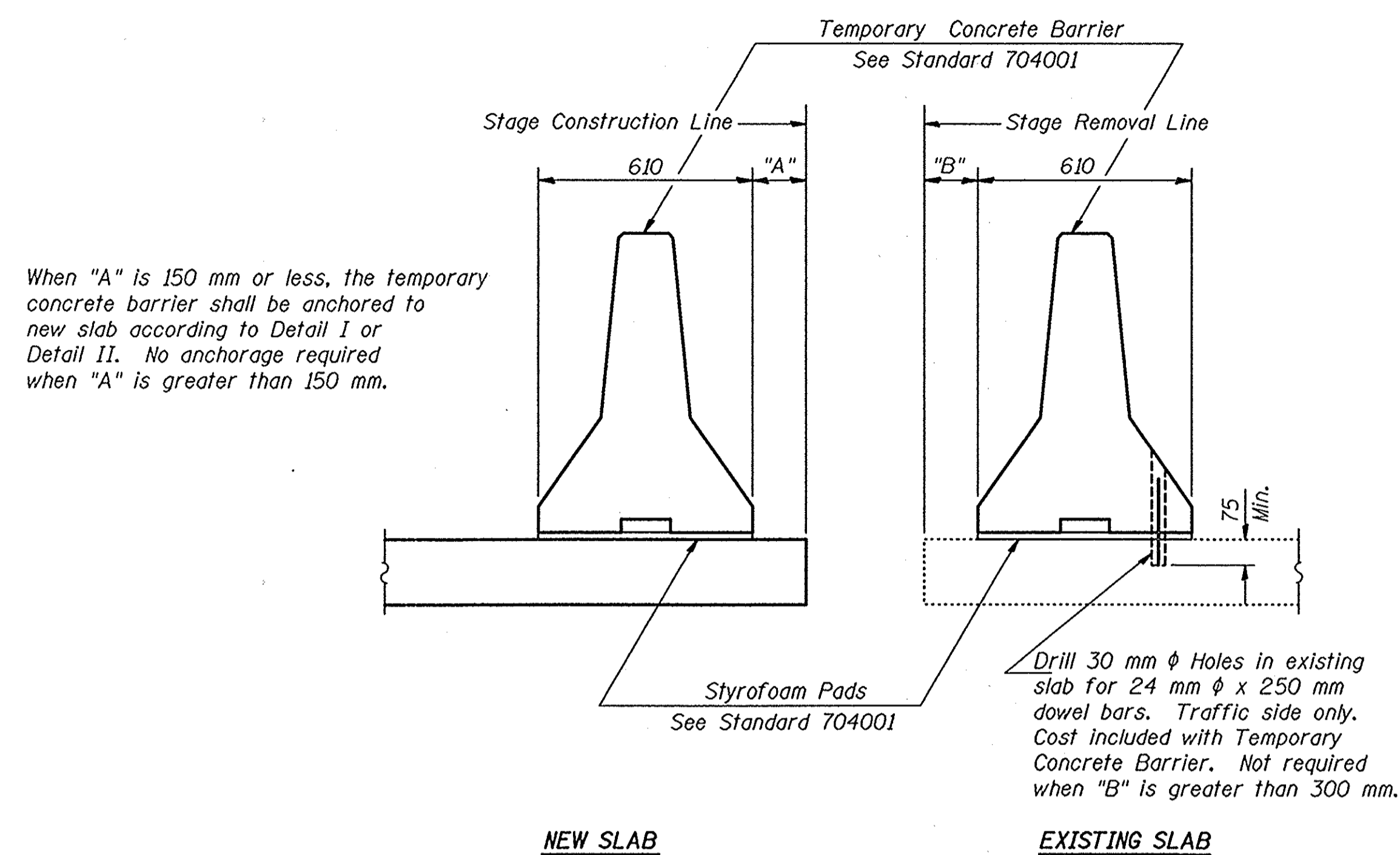
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	38
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

Bridge Sheet 4 of 11 Sheets

PLOTS & CHECKS			
INT.	DATE	NO.	REASON

CHECKS		
INT.	DATE	REASON



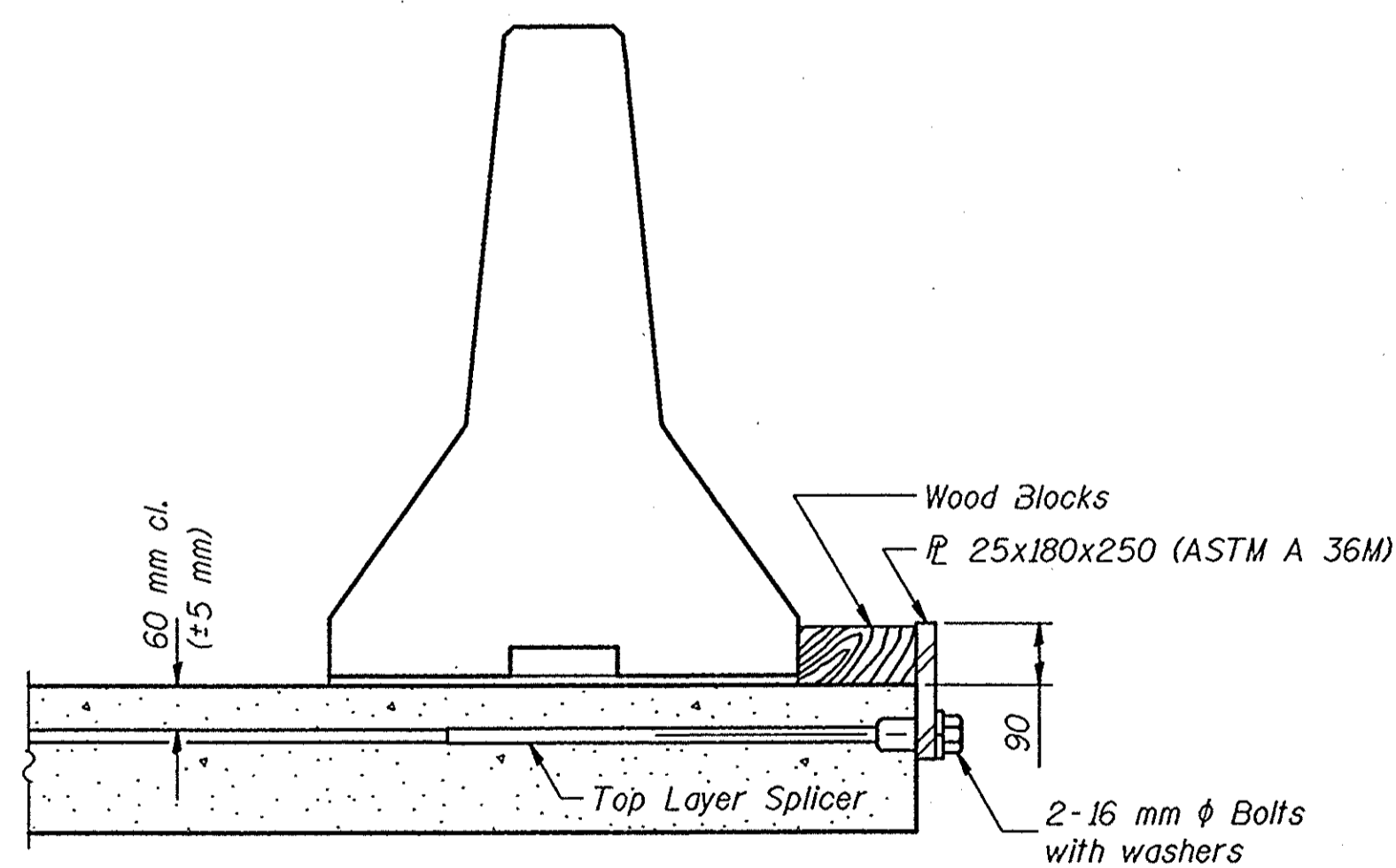
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 25x180x250 steel \bar{r} to the top layer of couplers with 2-16 mm ϕ bolts screwed to coupler at approximate \bar{c} of each 3 m barrier panel.

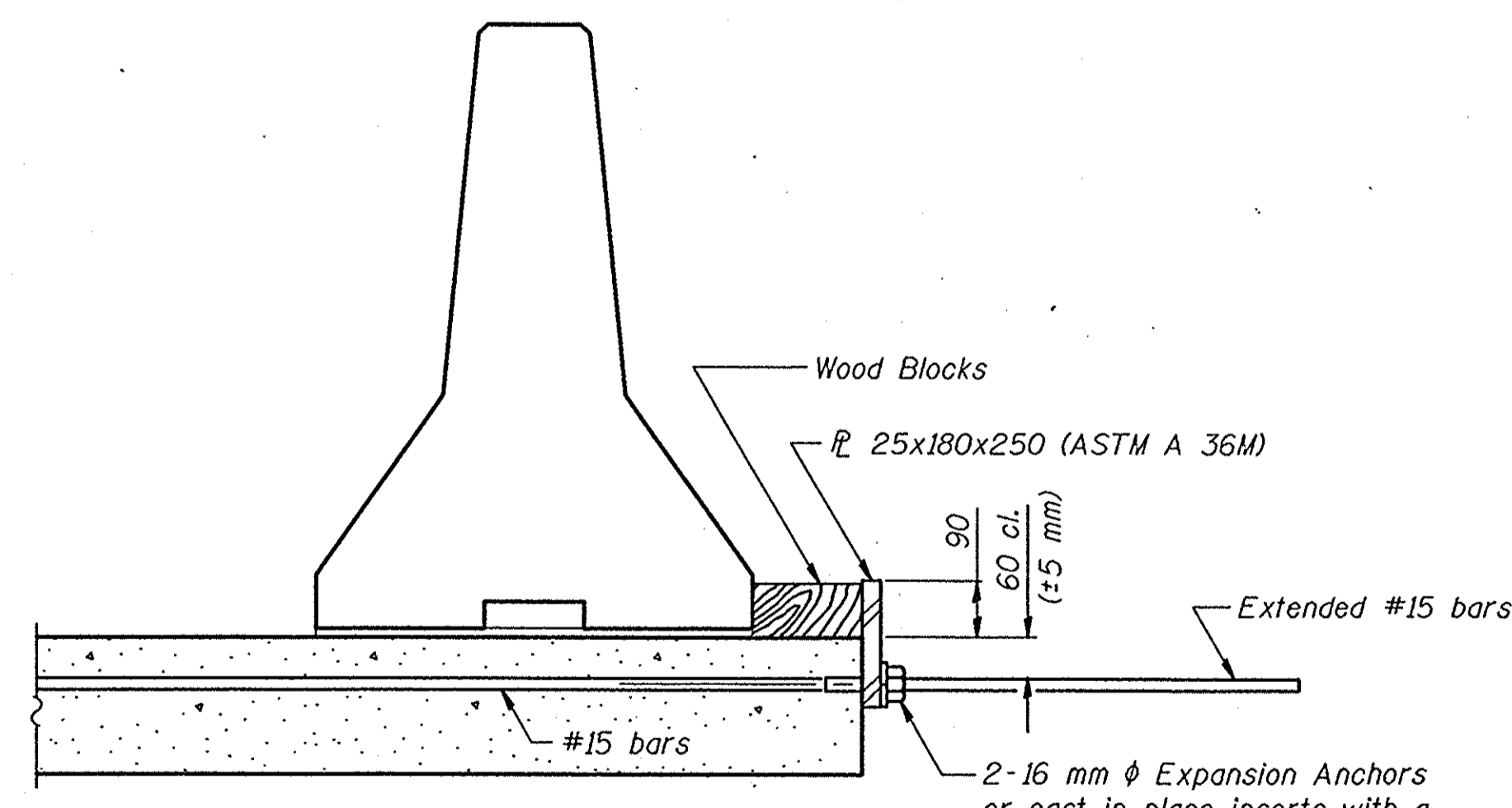
Detail II - With Extended Reinforcement Bars:
Connect one (1) 25x180x250 steel \bar{r} to the concrete slab with 2-16 mm ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{c} of each 3 m barrier panel.

Cost of anchorage included with Temporary Concrete Barrier.
All dimensions are in millimeters (mm) except as noted.



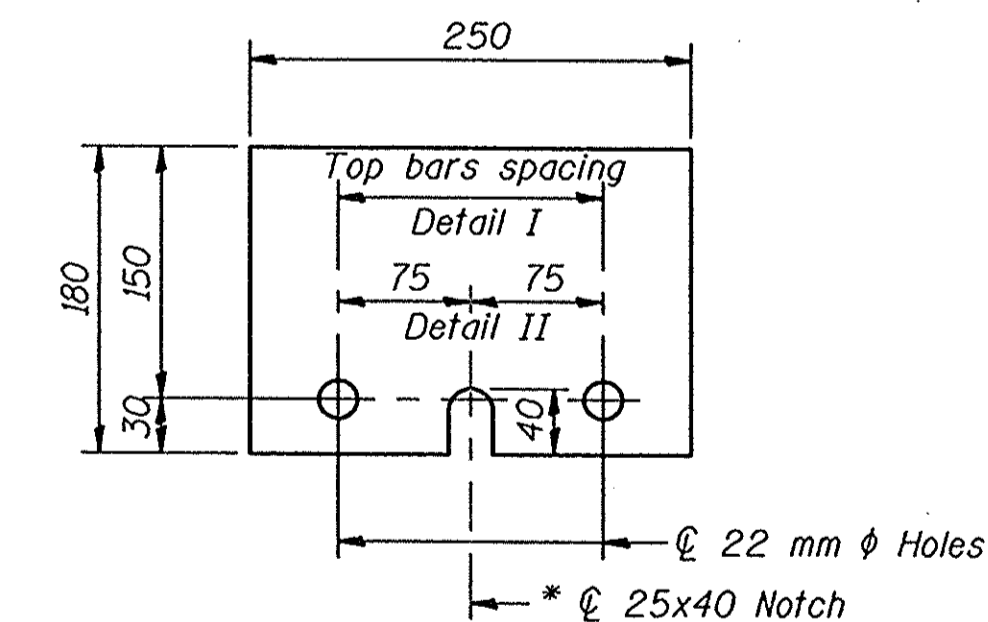
DETAIL I

The 25x180x250 Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 25x180x250 Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



\bar{r} 25x180x250

* Required only with Detail II

ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY CONCRETE BARRIERS

FAT ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

SCALE: VERT.
HORIZ.
DATE: 08/28/01-RPB

DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 0212-0001
0212-0002

COMPUTER FILE NO.
SHT1504-1
PROJECT 01159
10/30/01-RPB

R-27 (M) 4-30-99

METPLN - 1:100 8/24/98

F.A.I. RTE. 80 - BUREAU COUNTY

DESIGN		
INT.	DATE	REASON

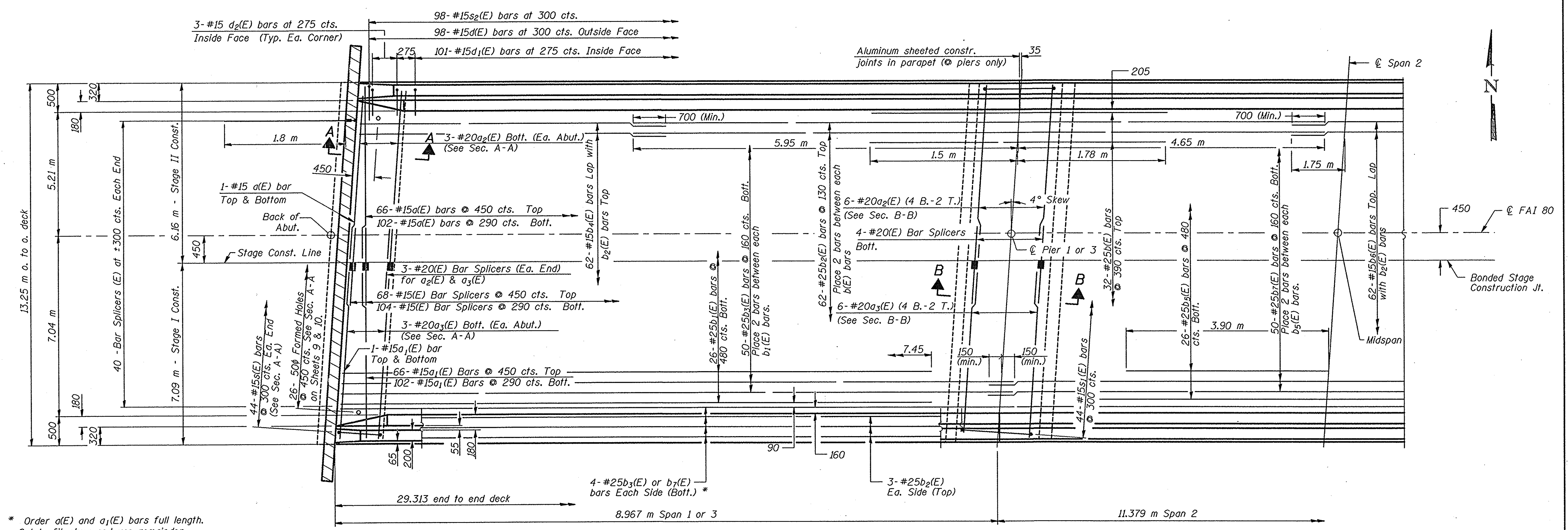
PLOTS & CHECKS		
INT.	DATE	REASON

CHECKS		
INT.	DATE	REASON

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	39
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

Bridge Sheet 5 of 11 Sheets



* Order $a(E)$ and $a_1(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.
See sheet 8 and 9 for Sec. A-A.
See sheet 10 for Sec. B-B.

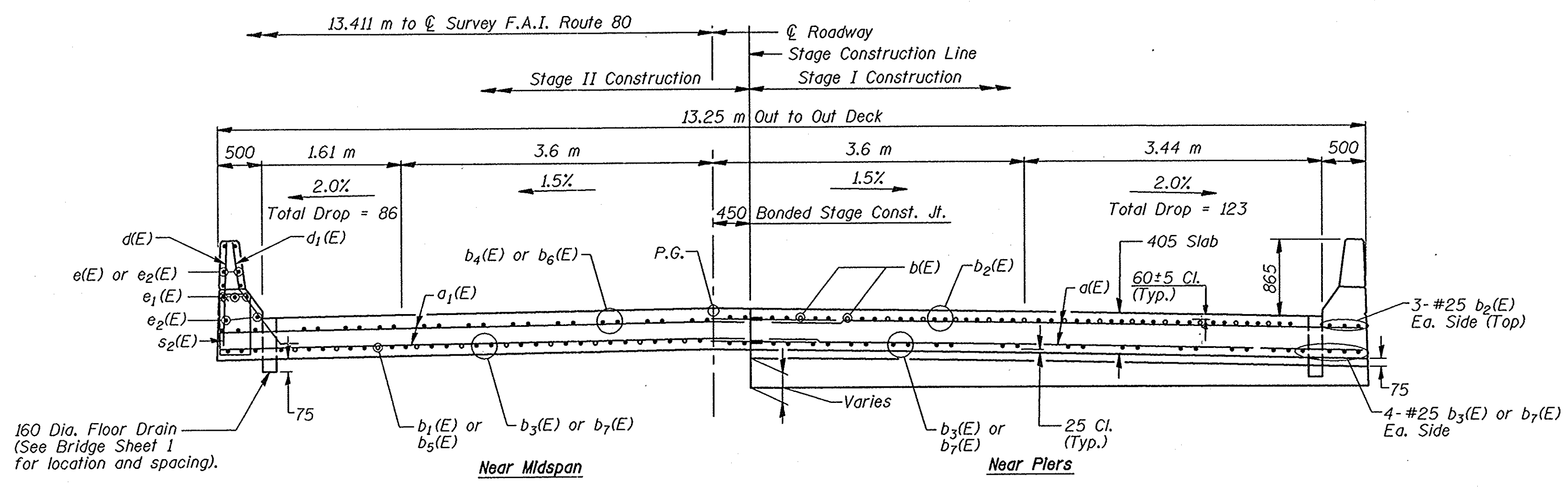
* $b_3(E)$ Span 1 & 3
 $b_7(E)$ Span 2
HALF PLAN
(Symmetrical by 180° Rotation about midspan)

MINIMUM BAR LAPS

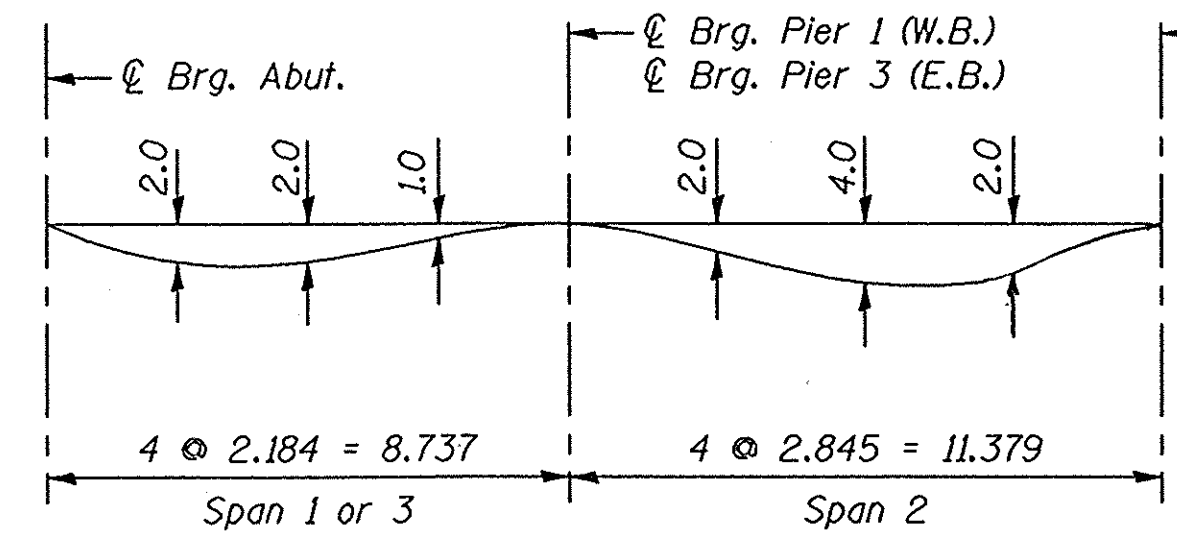
#15	890
#25	1060

NOTES

For drain locations see General Plan and Elevation sheet.
Reinforcement Bars designated (E) shall be epoxy coated.
All dimensions are in millimeters (mm) unless otherwise noted.
See Sheet 6 of 11 for Bill of Materials.



TYPICAL CROSS SECTION
E.B. (Looking East)
W.B. (Looking West)



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

REVISIONS

NAME	DATE
B.O. COMMENTS	11/20/01
B.O. COMMENTS	12/7/01
ABUT. BARS	12/27/01

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

DATE: 9/07/01-PAM
DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

COMPUTER FILE NO. SHT1502-1
PROJECT 01159
12/27/01-RPB

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3400 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62777
618-793-8414, 618-793-8277 FAX

DESIGN		
INT.	DATE	REASON

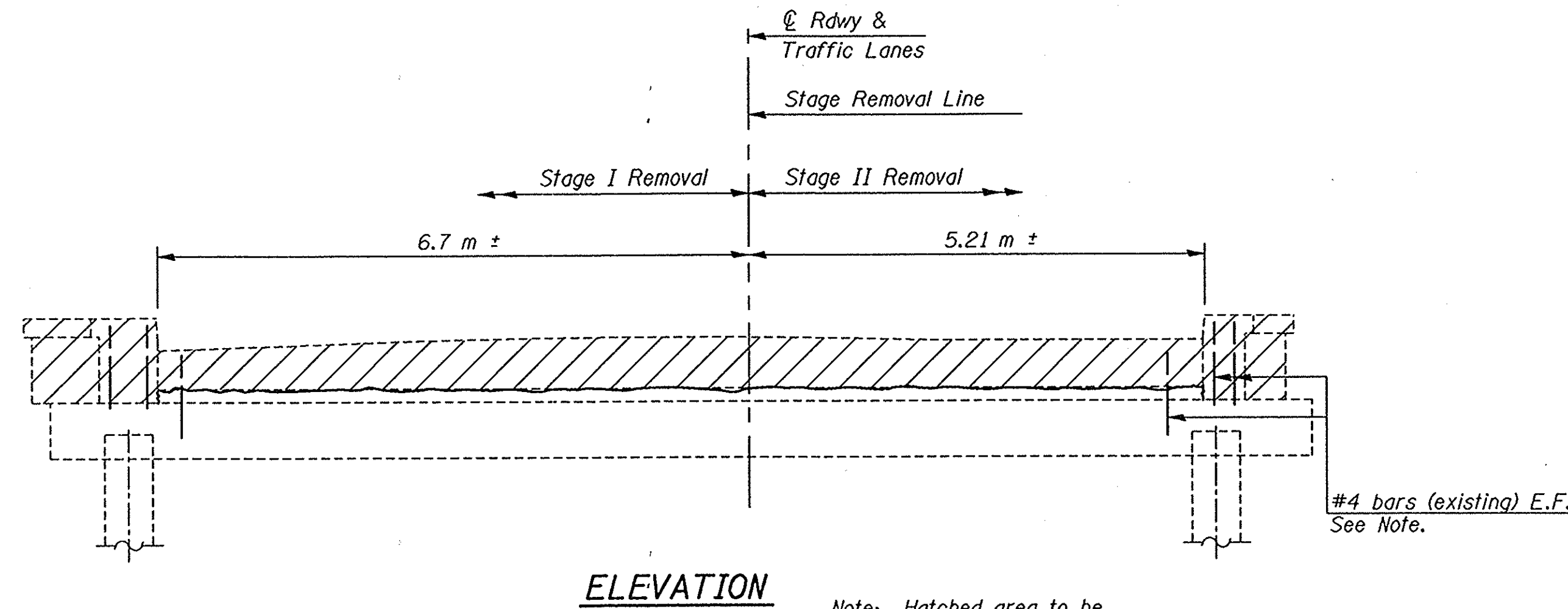
PLOTS & CHECKS			
INT.	DATE	NO.	REASON

CHECKS		
INT.	DATE	REASON

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

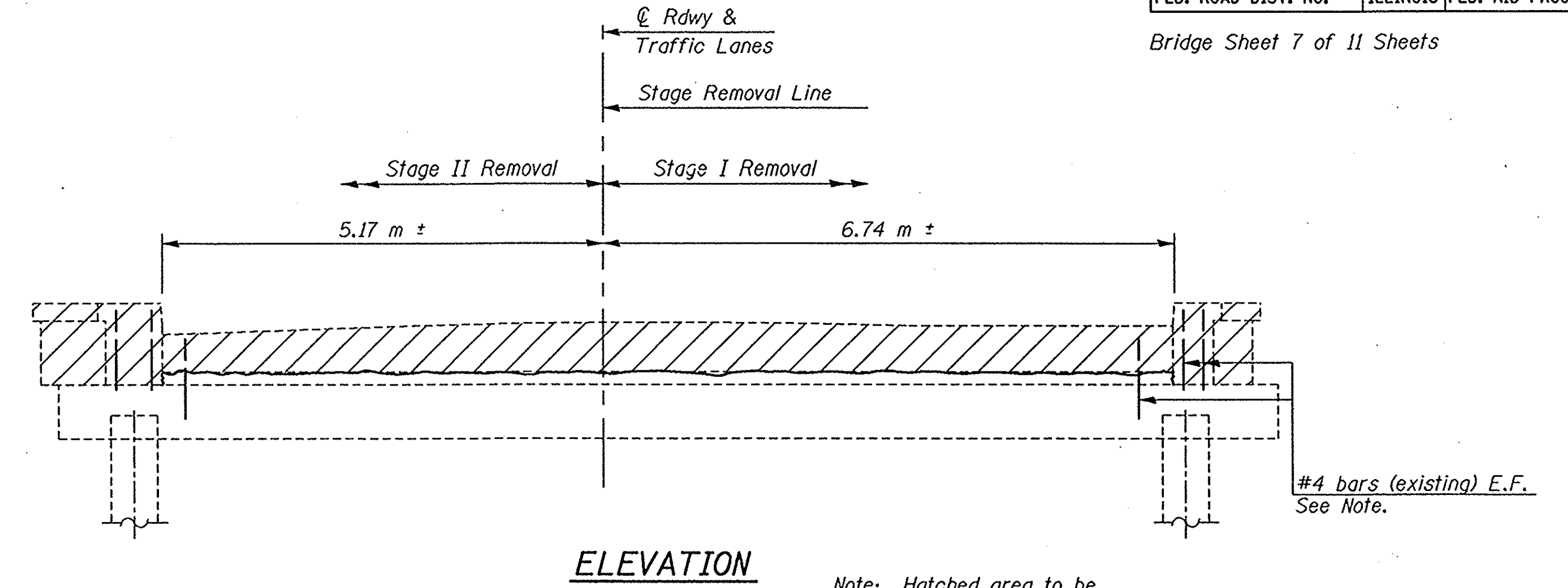
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	41
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

Bridge Sheet 7 of 11 Sheets



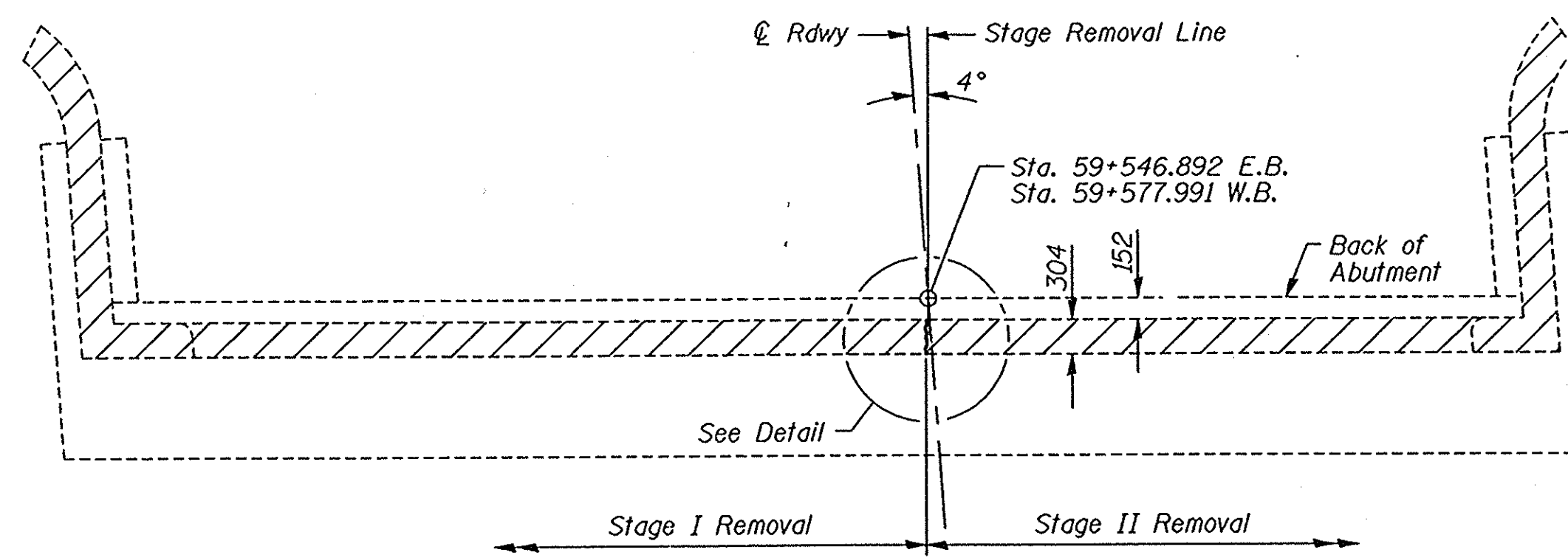
ELEVATION

Note: Hatched area to be removed to elevation shown in Wingwall Removal. Existing vertical reinforcement shall be cleaned, straightened and incorporated into new backwall construction.



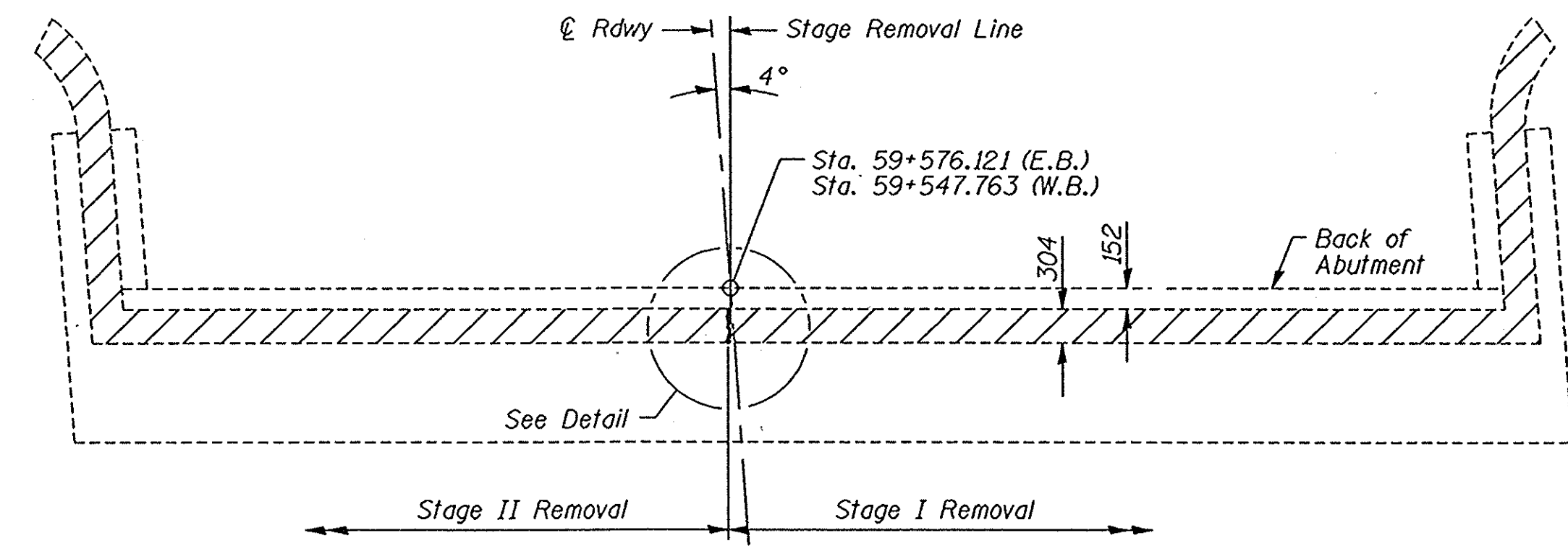
ELEVATION

Note: Hatched area to be removed to elevation shown in Wingwall Removal. Existing vertical reinforcement shall be cleaned, straightened and incorporated into new backwall construction.



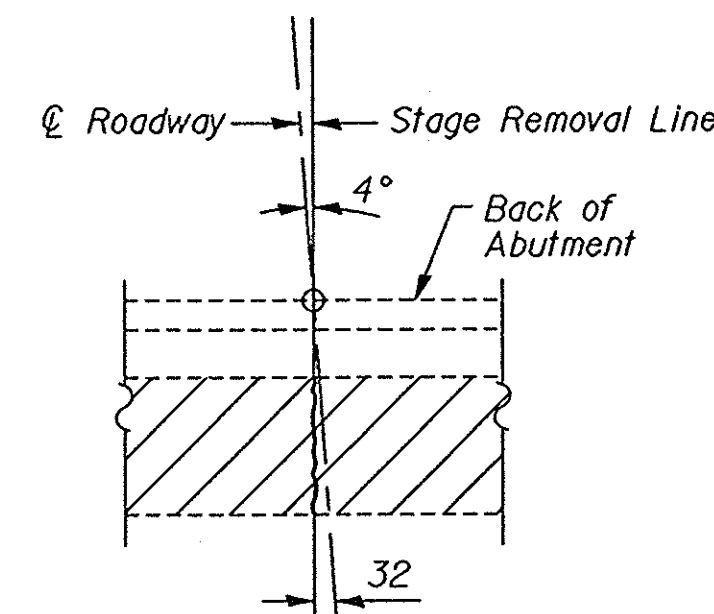
PLAN

West Abutment (E.B.)
East Abutment (W.B.)

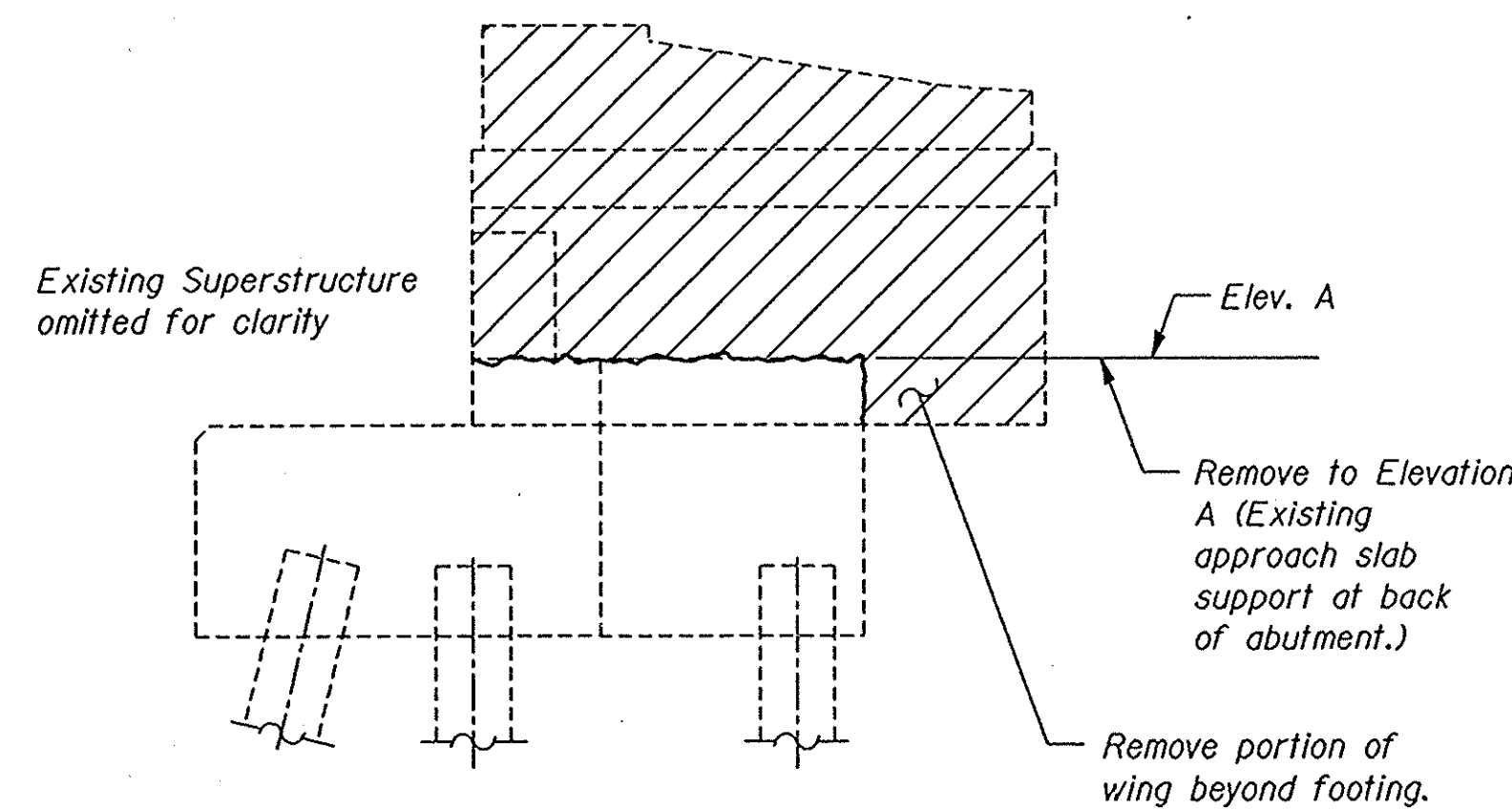


PLAN

East Abutment (E.B.)
West Abutment (W.B.)



DETAIL



WINGWALL REMOVAL
(Typical)

ELEVATION A

Location	Elev.
W. Abut. W.B.	191.696
E. Abut. W.B.	191.602
W. Abut. E.B.	191.706
E. Abut. E.B.	191.599

ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT REMOVAL
FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

SCALE: VERT. 1"=10'
HORIZ. 1"=20'

DATE: 08/28/01-RPB

DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

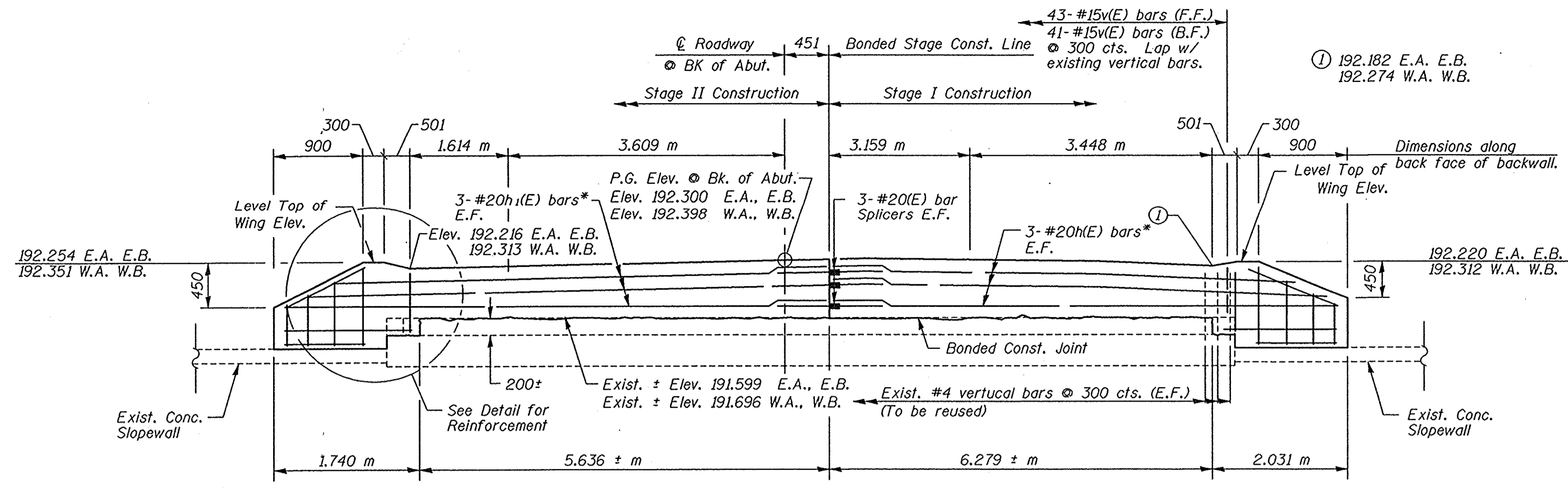
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PROJECT 01159
11/20/01-RPB

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 0712-0001-0001
0712-0001-0001 FAX

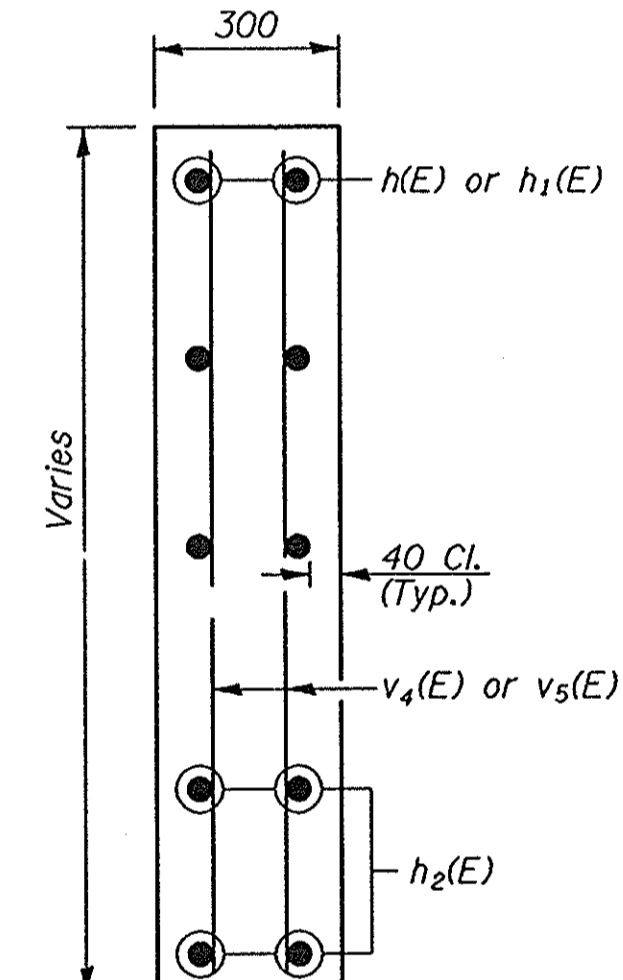
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	42
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

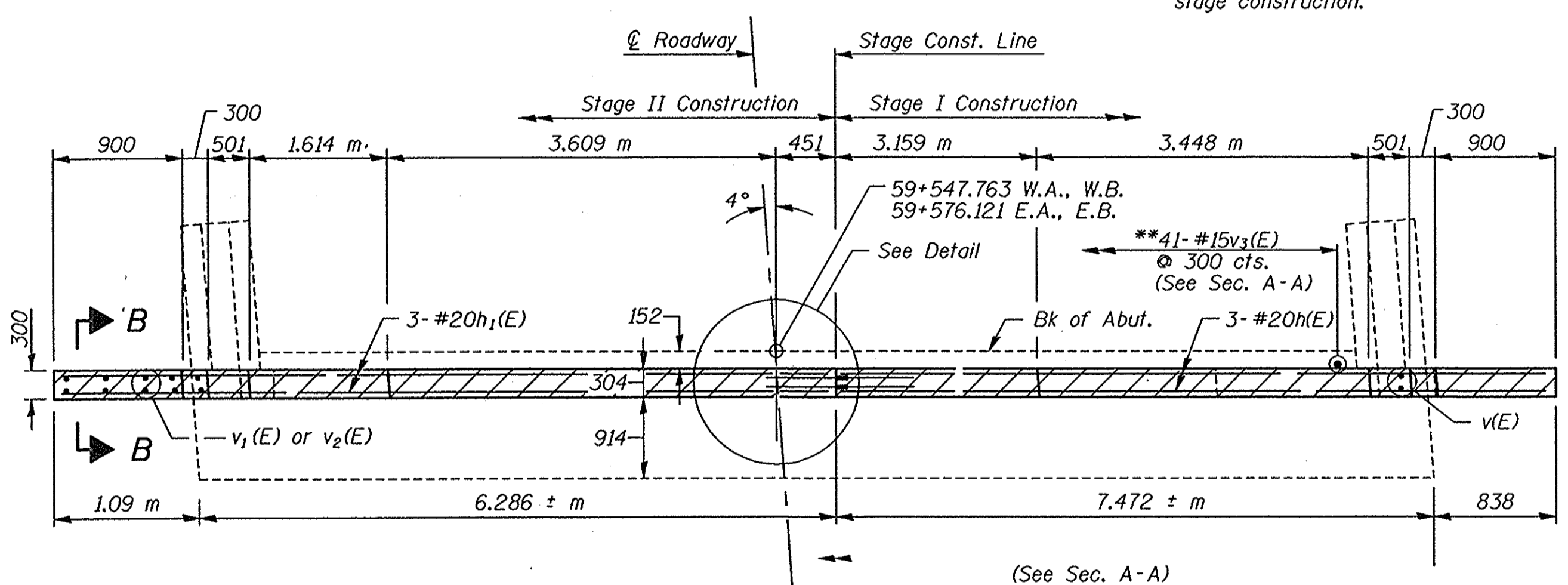
Bridge Sheet 8 of 11 Sheets



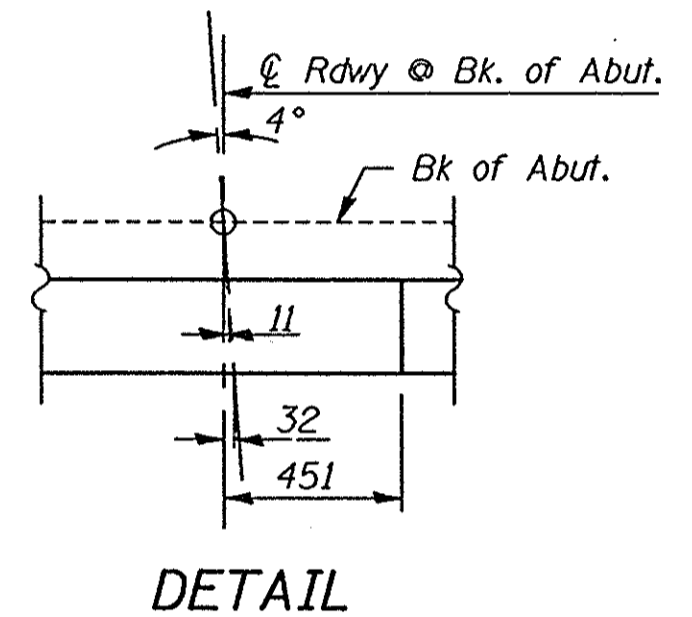
Note: Bars indicated to be reused shall be cleaned of old concrete prior to placing in new concrete.



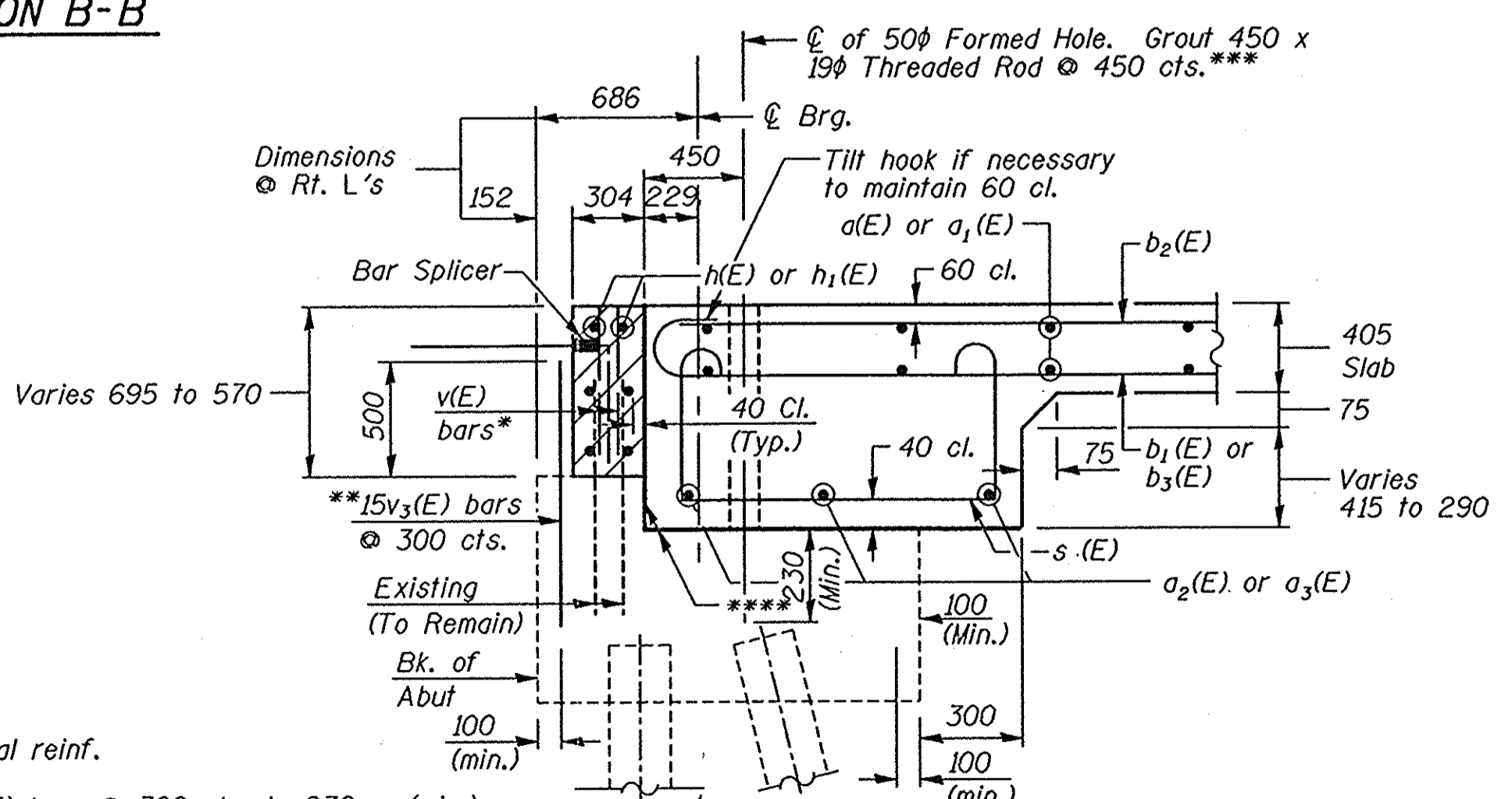
SECTION B-B



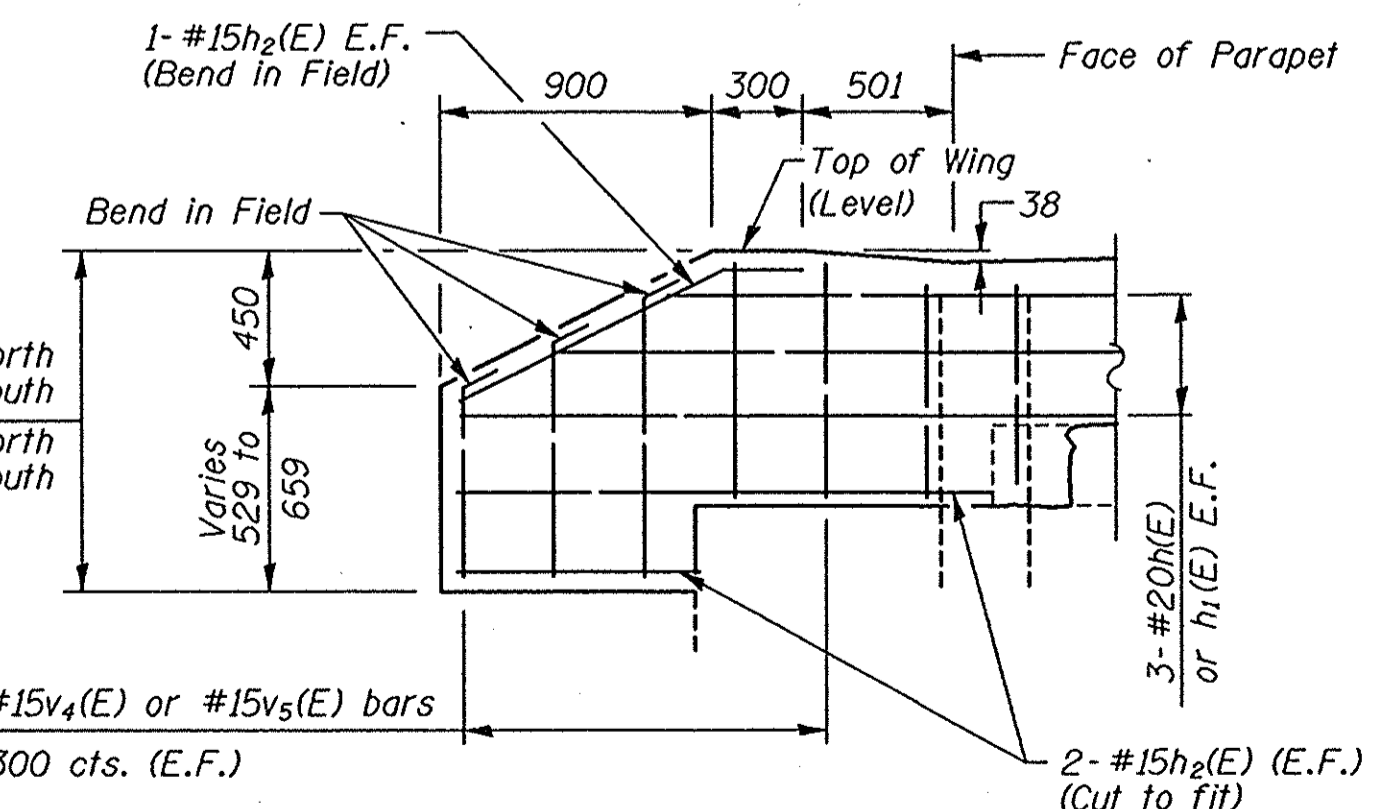
PLAN



DETAIL



SECTION A-A



WINGWALL DETAIL (Typical - Each Wing)

BILL OF MATERIALS
EAST ABUT. (E.B.)
WEST ABUT. (W.B.)

Bar	No.	Size	Length (m)	Shape
$h_1(E)$	12	*20	8.23	---
$h_2(E)$	16	*15	1.94	---
$v_4(E)$	168	*15	0.45	---
$v_5(E)$	82	*15	1.00	---
$v_4(E)$	20	*15	0.90	---
$v_5(E)$	20	*15	0.93	---
Concrete Removal			m^3	8.6
Concrete Structures			m^3	6.7
Reinforcement Bars, Epoxy Coated			kg	790
Bar Splicers			Each	12

ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT DETAILS
FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

REVISIONS	
NAME	DATE
B.O. COMMENTS	11/20/01
ABUT. BARS	12/27/01
WINGWALL QTYS.	1/23/02

SCALE: VERT. HORIZ.
DATE: 08/28/01-RPB
DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD
COMPUTER FILE NO. SHT1608-1
PROJECT 01159
1/23/02-RPB

F.A.I. RTE. 80 - BUREAU COUNTY

DESIGN		
INT.	DATE	REASON

PLOTS & CHECKS		
INT.	DATE	REASON

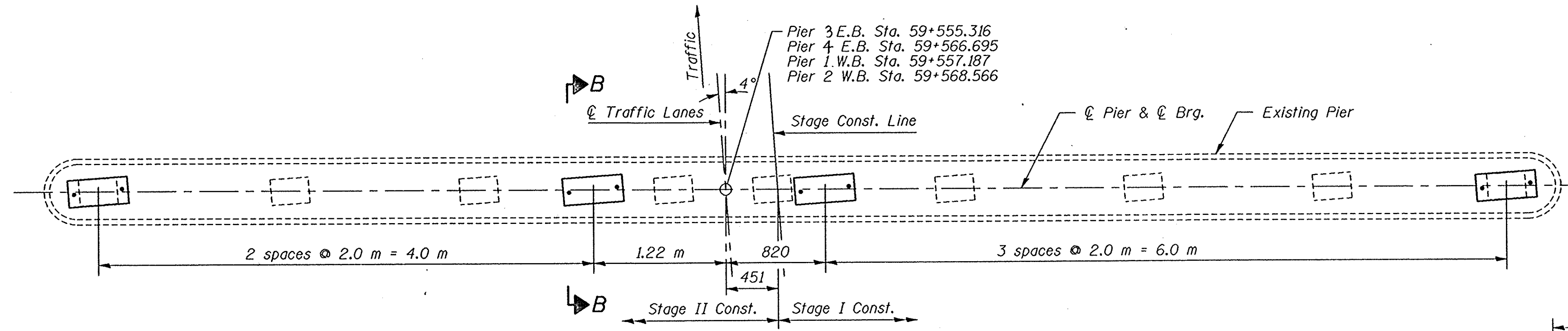
CHECKS		
INT.	DATE	REASON

*Lap w/ existing vertical reinf.
 **Drill and grout #15v3(E) bars @ 300 cts. in 230mm (min.) holes as shown according to Section 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Reinforcement Bars, Epoxy Coated.
 ***Drill to miss existing reinforcement. Cost of threaded rod and installation included with Concrete Superstructures. Grout to be approved by the Engineer.
 ****Roofing Felt 4.4 kg/m² (Cost included with Concrete Structures)

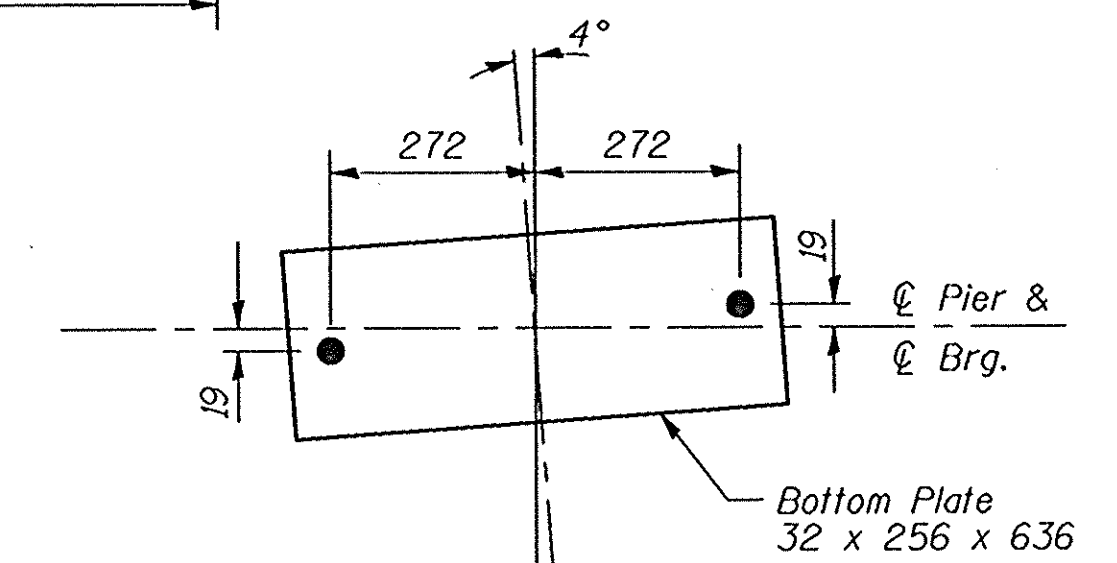
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	44
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bridge Sheet 10 of 11 Sheets

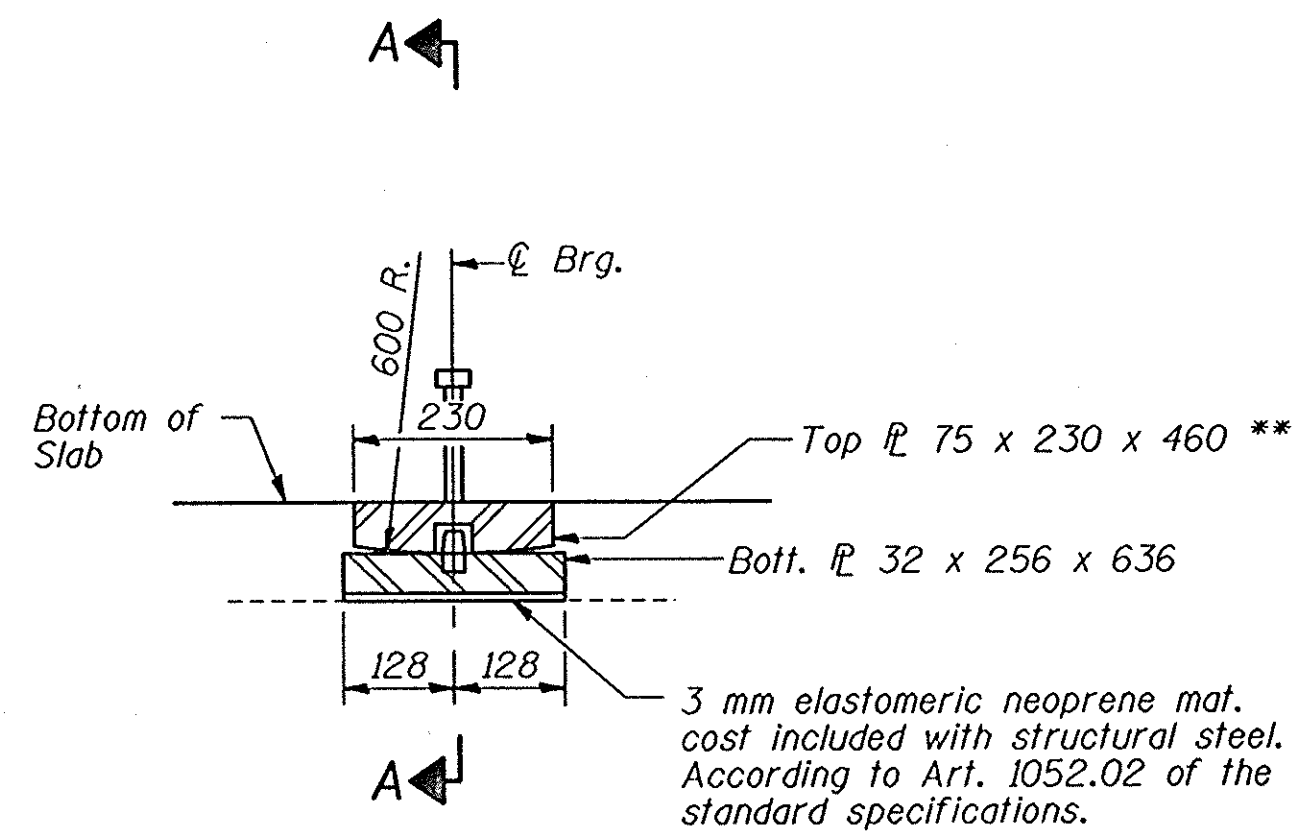


TOP PLAN PIERS

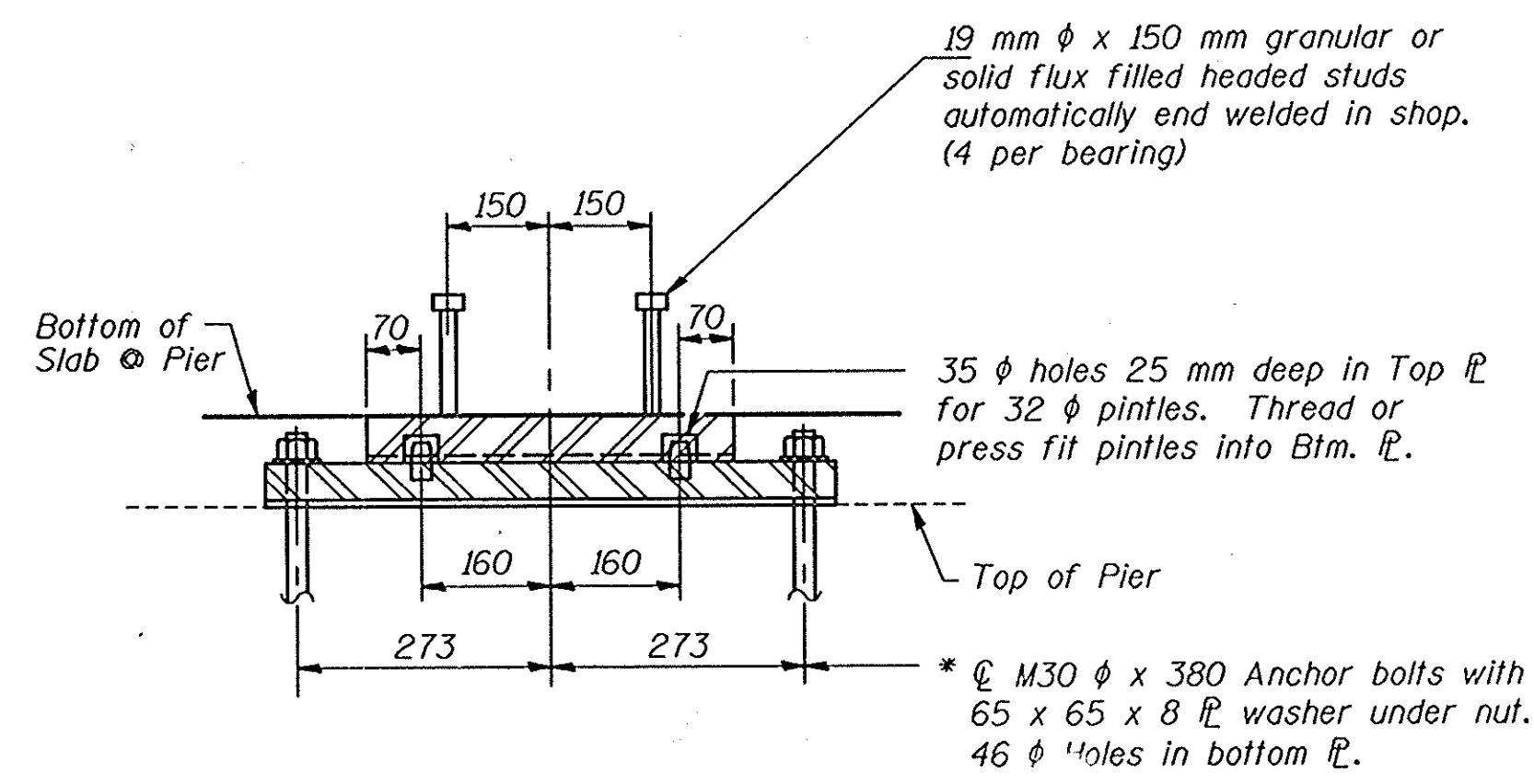


ANCHOR BOLT LOCATION

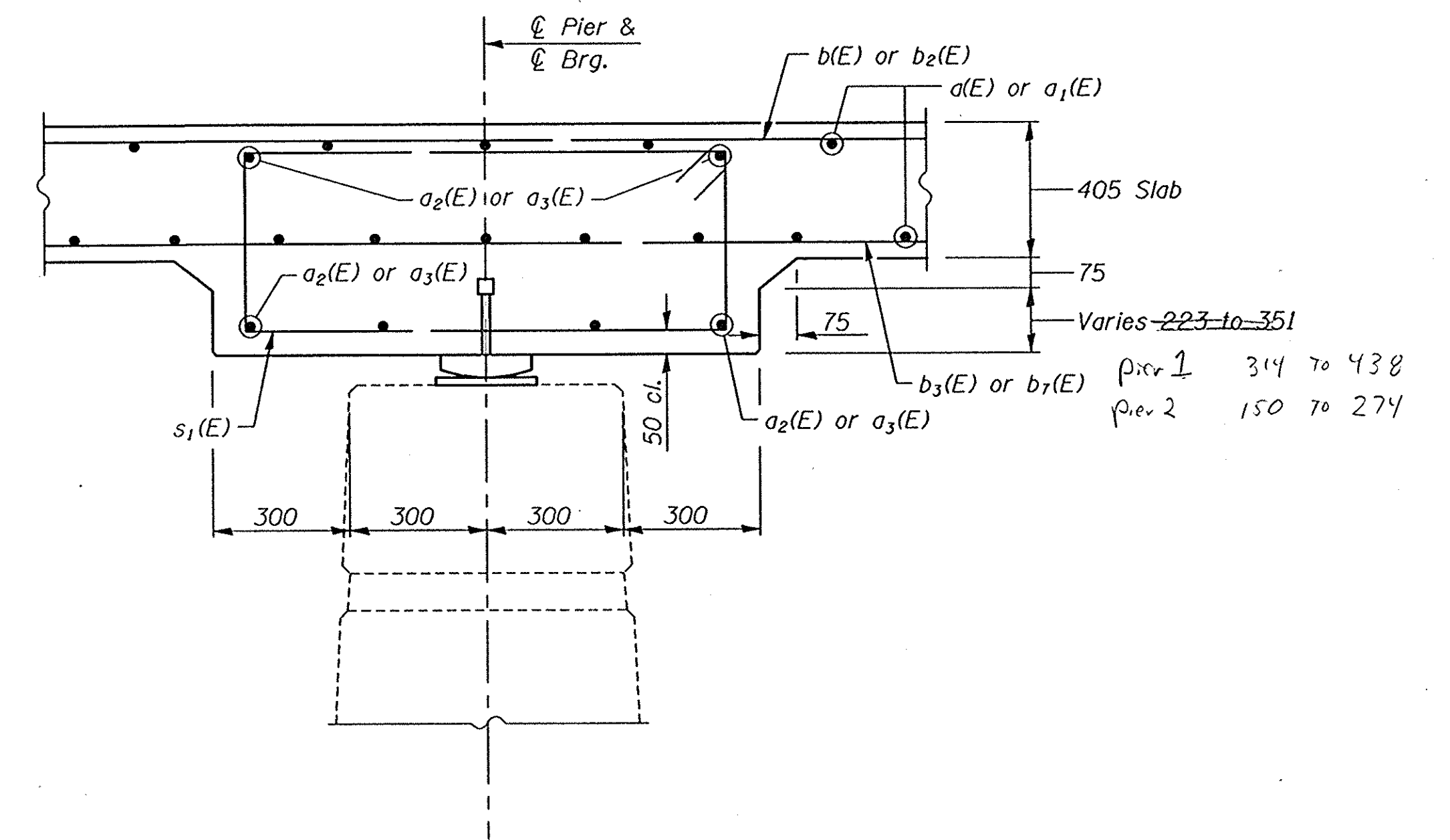
(Typical all Piers)



SECTION AT PIER



SECTION A-A



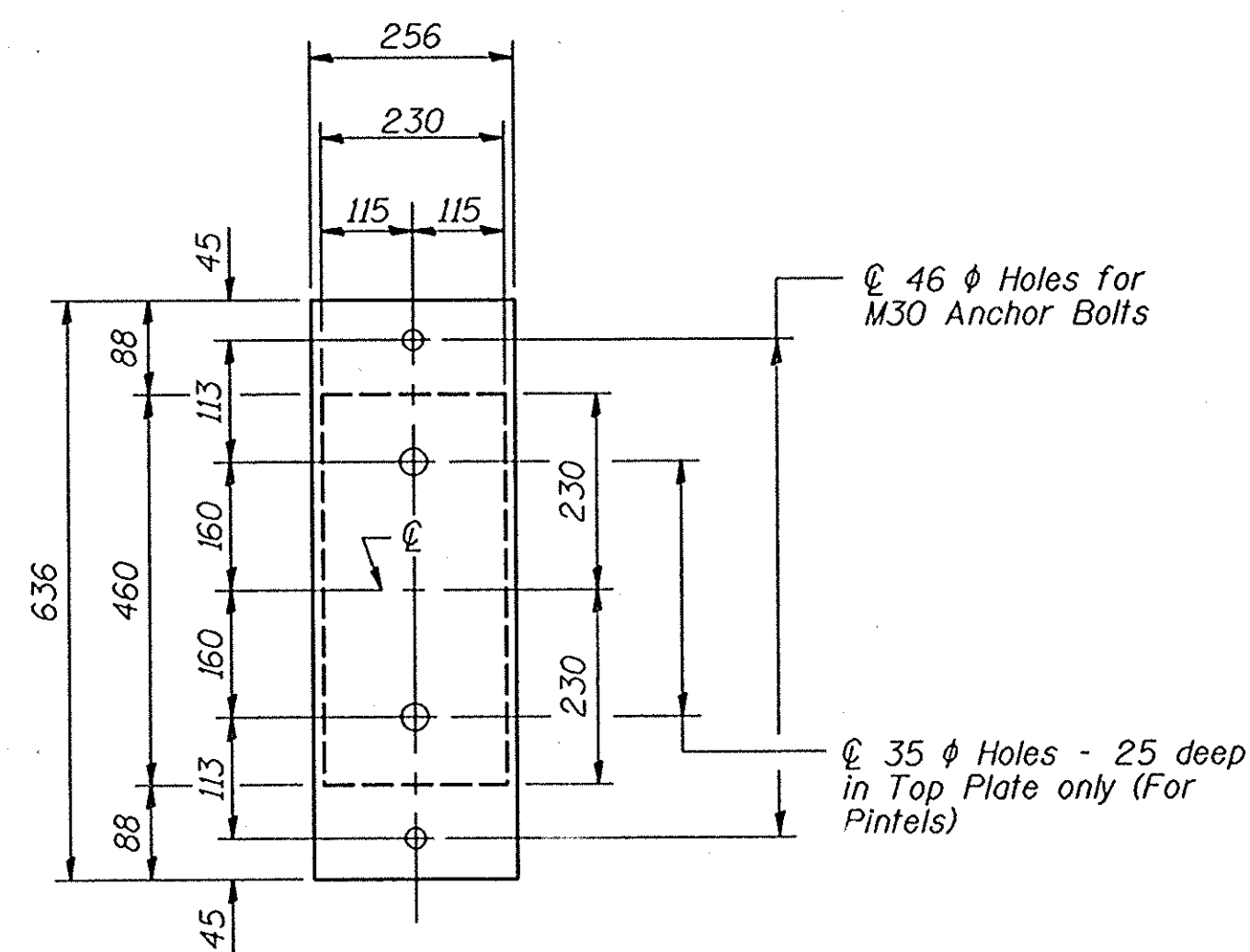
SECTION B-B

@ BRG.

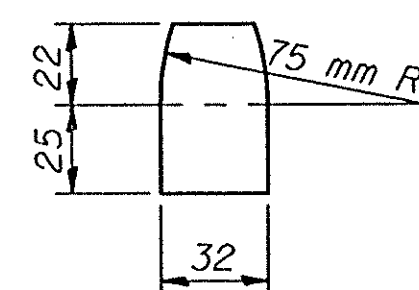
* Anchor bolts shall be drilled and grouted into place and the bearings set prior to superstructure concrete placement. See sheet 11 of 11 for anchor bolt installation. Note: All dimensions are in millimeters (mm) except as noted.

Removal of existing bearings included in the cost of "Removal of Existing Superstructure" Burn existing anchor bolts flush with existing concrete surface. Grind flush if necessary and seal with epoxy. Cost included with removal of existing Superstructures.

** Equivalent stacked plates, with an all around partial penetration weld, can be used in lieu of a single plate. The minimum plate thickness shall be 38mm.



PLAN OF TOP & BOTTOM PLATES



PINTLE

FIXED BEARING

PI-2FB (M) 7-1-94

REVISIONS	
NAME	DATE
B.O. COMMENTS	11/20/01
B.O. COMMENTS	12/7/01

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER & BEARING DETAILS

FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (W.B.)

SCALE: VERT. HORIZ.
DATE: 08/28/01-RPB

DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

COMPUTER FILE NO.
SHT1607-1
PROJECT 01159
03/20/02-RPB

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
300 CONSTITUTION BLVD
SPRINGFIELD, ILLINOIS 62702
417-755-5544 417-755-4227 FAX

DESIGN		
INT.	DATE	REASON

PLOTS & CHECKS		
INT.	DATE	REASON

CHECKS		
INT.	DATE	REASON

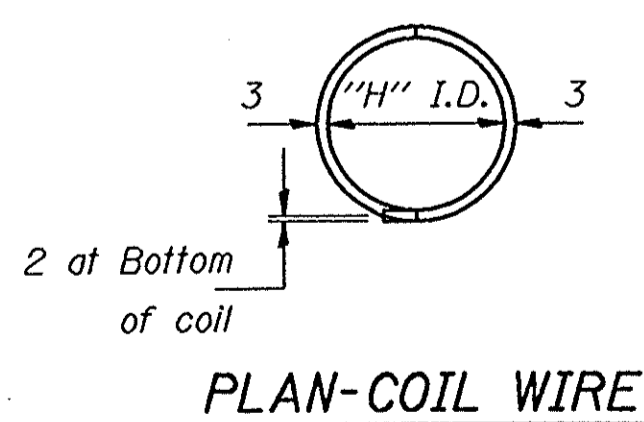
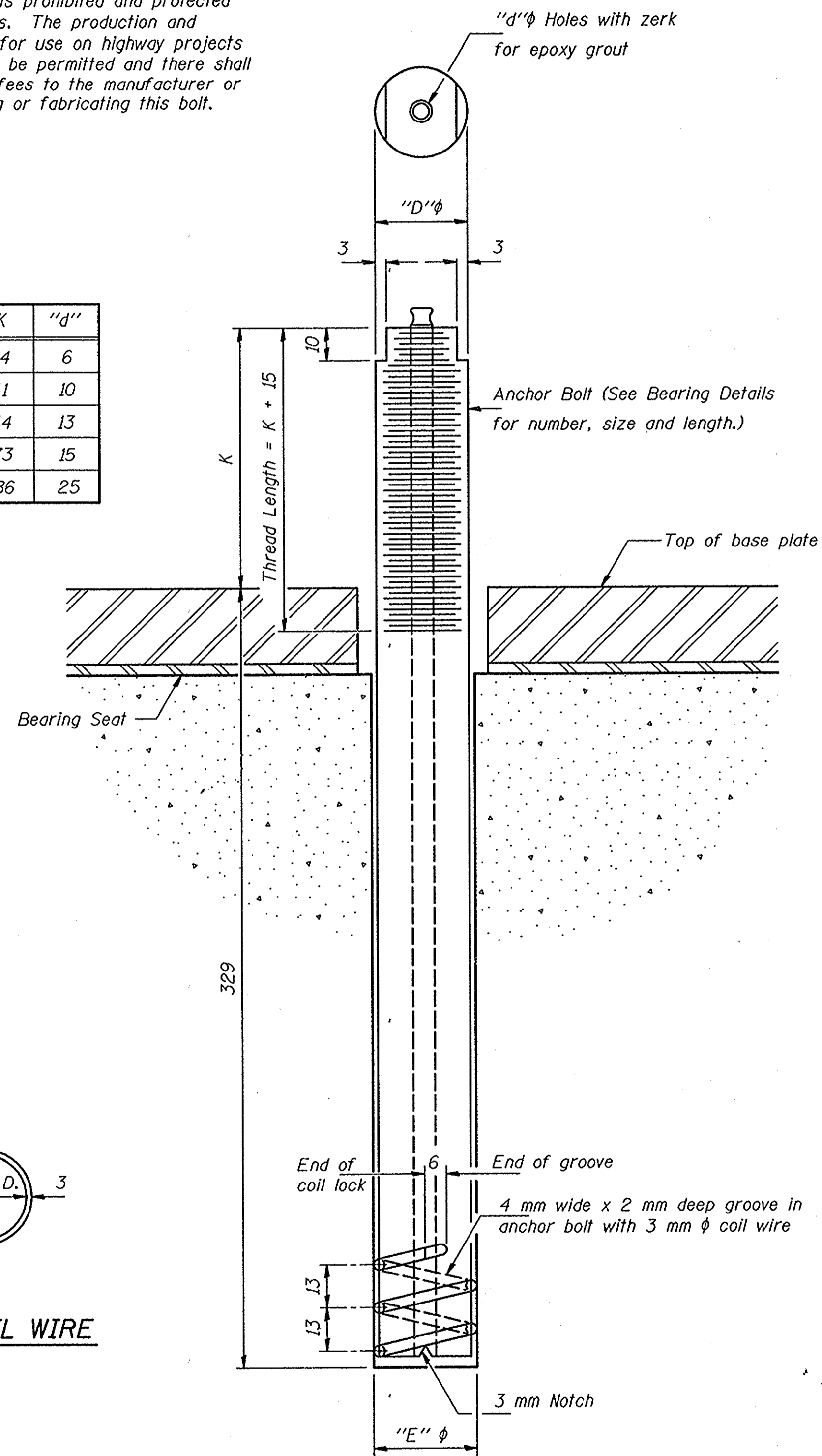
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	06-1BR	BUREAU	94	45
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

Bridge Sheet 11 of 11 Sheets

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
24	27	20	44	6
30	33	26	51	10
36	39	32	54	13
48	51	44	73	15
64	67	60	86	25



ILLINOIS COIL-LOCK ANCHOR BOLT

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted. Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming. The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel". All dimensions are in millimeters (mm) except as noted.

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers. The coil wire shall be made of any suitable soft steel wire. The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

- The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Piers	A307

ASTM F 1554 (Fy = 724 MPa), ASTM A 449 and AASHTO M 314 (Fy = 724 MPa) anchor bolts may be substituted for the anchor bolts shown above.

ILLINOIS DEPARTMENT OF TRANSPORTATION
ANCHOR BOLT DETAILS

FAI ROUTE 80 OVER KING CREEK
SECTION 06-1BR
BUREAU COUNTY
STATION 59+561.941
S.N. 006-0001 (E.B.)
S.N. 006-0002 (E.B.)

REVISIONS

NAME	DATE

SCALE: VERT. HORIZ.
DATE: 09/24/01-RPB

DRAWN BY: BISHOP
DESIGNED BY: FITCH
CHECKED BY: BRADFORD

GREENE & BRADFORD, INC.
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CONSULTING ENGINEERS
390 CONSTITUTION AVE.
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COMPUTER FILE NO.
SHT1503-1
PROJECT 01159
12/03/01-RPB

ABB-1 (M) 4-30-99

METPLN - 1:100 8/24/98

F.A.I. RTE. 80 - BUREAU COUNTY