



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
**06900193**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**MICHAEL AUSTIN  
 304-558-2402**

VENDOR

\*709055926      304-464-4441  
**CARR CONCRETE CORPORATION**  
**PO BOX 265**  
  
**WAVERLY WV 26184-0265**

SHIP TO

**DIVISION OF HIGHWAYS**  
**JOBSITE**  
**SEE SPECIFICATIONS**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
12/14/2008				

BID OPENING DATE: **01/14/2009**      BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		210-16		\$98,348.00
<b>DEEP PRESTRESSED CONCRETE BEAMS WITH ACCESSORIES</b>  TO PROVIDE 1572 SF OF PRESTRESSED CONCRETE BEAMS WITH ACCESSORIES. THE BEAMS SHALL BE 33" DEEP X 36" WIDE X 65'-6" LONG. TWO (2) EXTERIOR BEAMS AND SIX (6) INTERIOR BEAMS ARE REQUIRED FOR STATE PROJECT S352-26-2.96, PADEN FORK BRIDGE FOR THE WEST VIRGINIA DIVISION OF HIGHWAYS. PER THE ATTACHED SPECIFICATIONS AND DRAWINGS.  EXHIBIT 10  REQUISITION NO.: .....  ADDENDUM ACKNOWLEDGEMENT  I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.  ADDENDUM NO.'S: NO. 1 <i>TH</i> ..... NO. 2 ..... NO. 3 ..... NO. 4 ..... NO. 5 .....						

**RECEIVED**  
 2009 JAN 14 A 10:02  
 PURCHASING DIVISION  
 STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>RE "Burr" Stanley</i>	TELEPHONE <i>1-304-464-4441</i>	DATE <i>1-13-09</i>
TITLE <i>Project Manager</i>	FERN <i>55/0685425</i>	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

## GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

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### INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
 06900193

PAGE  
 2

ADDRESS CORRESPONDENCE TO ATTENTION OF  
 MICHAEL AUSTIN  
 304-558-2402

AUCTION ROOM

\*709055926 304-464-4441  
 CARR CONCRETE CORPORATION  
 PO BOX 265  
 WAVERLY WV 26184-0265

SHIP TO

DIVISION OF HIGHWAYS  
 JOBSITE  
 SEE SPECIFICATIONS

DATE PRINTED 12/14/2008	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: 01/14/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p style="text-align: center;"> <i>RE "Durr" Stanley</i>            .....            SIGNATURE  <i>Carr Concrete</i>            .....            COMPANY  <i>1-13-09</i>            .....            DATE         </p> <p>REV. 11/96</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p style="text-align: center;">             DEPARTMENT OF ADMINISTRATION              PURCHASING DIVISION              BUILDING 15              2019 WASHINGTON STREET, EAST              CHARLESTON, WV 25305-0130           </p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE 1-304-464-4441	DATE 1-13-09
TITLE Project Manager	FEIN 55-0685425	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



### 1. DESCRIPTION

The beams shall be 33" deep X 36" wide X 65'-6" long.

Two (2) exterior beams and six (6) interior beams are required.

In addition to the beams the fabricator shall also supply in accordance with the attached plans all associated items included but not limited to the following.

Guardrail Posts and Hardware attached to the exterior beams; Bearing Pads; Anchor Dowels; Post Tensioning Bars with Nuts and Bearing Plates and 2 extra nuts; Sponge Rubber Joint Filler, Washers, and Grout Stop.

### 2. ACCEPTANCE

Cracks developing in a beam may be cause for rejection of the beam. Cracks that are not detrimental to the structural integrity of the beam, as determined by the Division of Highways, may be accepted under the following conditions:

- 1) Cracks of 0.004 inch or less shall be treated with a second coat of a Division of Highways approved concrete sealer.
- 2) Cracks of greater than 0.004 inch shall be treated by a Division of Highways approved epoxy injection methods. All concrete sealer and epoxy injection required for acceptance shall be performed at no additional cost to the Division of Highways.

### 3. DELIVERY

ALL BEAMS AND ACCESSORIES SHALL BE DELIVERED TO THE PROJECT SITE DURING THE WEEK OF FEBRUARY 16, 2009.

Upon receipt of a Purchase Order the Vendor shall submit shop drawings to the District Bridge Engineer within fifteen (15) calendar days. Shop drawings must be approved by the Division of Highways prior to the manufacture of any beam sections.

Should the Vendor fail to meet the above delivery schedule, liquidated damages will be assessed in accordance with Section 108.7 of the current Division of Highways Standard Specifications Roads and Bridges.

Sites for delivery of beam sections and accessories under this contract shall be accessible to equipment that is normally and customarily used for transportation of beam sections. Delivery will not be required where gross vehicle loaded weights will exceed the legal road or bridge load. Upon receipt of an approved Purchase Order, the Vendor must notify the District Bridge Engineer within ten (10) calendar days if delivery under the terms of this contract cannot be performed due to weight restrictions or roadway geometrics.

Prior to delivery, all Beams, Accessories and Optional Items shall be tested and accepted in accordance with Section 603 of the Division of Highways Standard Specifications Roads and Bridges adopted 1993, as modified by the July 1, 1998 Supplemental Specifications.

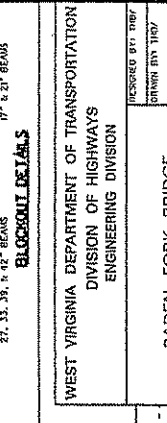
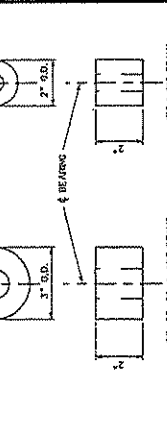
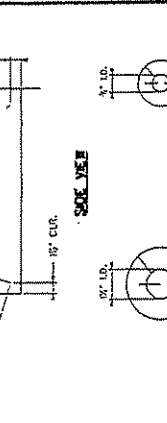
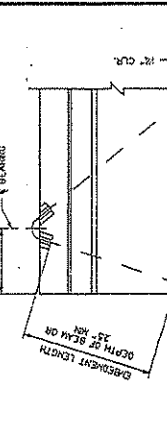
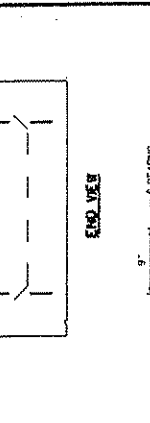
### 4. PARTIAL PAYMENT OF APPROVED BEAMS

Upon completion of manufacture and approval by the Division of Highways of all beams specified on Purchase Order, the vendor may invoice and the Division will pay for the cost of manufacturing the beams, not to exceed 65% of the total cost of the delivered beams. Partial payment for the beams shall be subject to the following conditions:

- a. The vendor must request partial payment and furnish an official invoice for the manufactured and approved beams.
- b. The partial payment invoice shall be accompanied by a surety bond equal to the invoiced amount guaranteeing delivery of all items specified on the Purchase Order.
- c. The vendor shall furnish a statement of approved beams condition and exact storage location.
- d. The vendor shall furnish a legal right-of-entry onto the storage site to Division of Highways' employees and/or agents for the purpose of inspecting, sampling, testing and removing any or all Beams.
- e. The vendor shall certify that the stored beams are suitably marked and identified as property of the Division of Highways and will not be for any purpose not designated by the Division.

STATE	FEDERAL	LOCAL	PROJECT NUMBER	DATE	SHEET NO.	TOTAL SHEETS
VA	VA	VA	S352-26-2.96	6	15	27

1. 4 STRANDS PER 12" SPACING. REINFORCING STEEL SHALL BE PLACED IN THE TOP OF THE BEAM. THE REINFORCING STEEL SHALL BE PLACED IN THE TOP OF THE BEAM. THE REINFORCING STEEL SHALL BE PLACED IN THE TOP OF THE BEAM.



DESIGNED BY	DATE
DRWING BY	DATE
CHECKED BY	DATE
REVIEWED BY	DATE
SCALE	
SHEET NO.	15 OF 27
BRIDGE NO.	10791

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

PADEN FORK BRIDGE  
OVER POINT PLEASANT CREEK  
S352-26-2.96

WETZEL CO.  
C.R. 26  
PRESTRESSED CONCRETE BEAM  
SKEWED END REINFORCING  
MISC. DESIGN AND ASSEMBLY DETAILS

STANDARD SHEET BR-B102A

SEAL JOINT WILL NOT COVER THE REQUIREMENTS OF SUB-SECT. 708.3, MIN. DEPTH OF SEAL, 1"

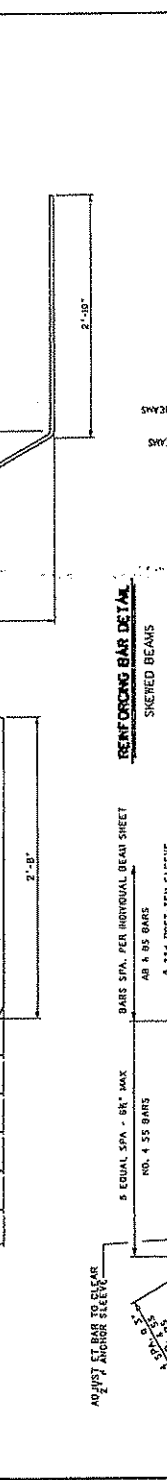
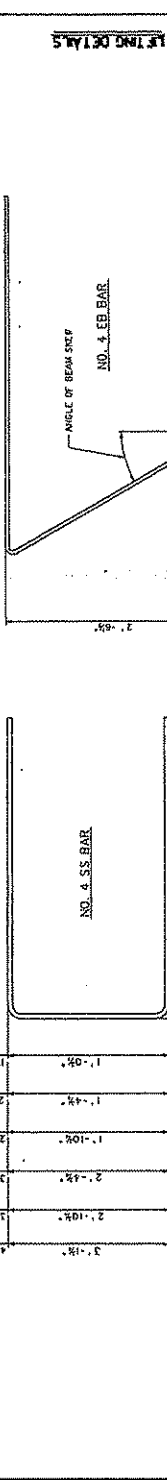
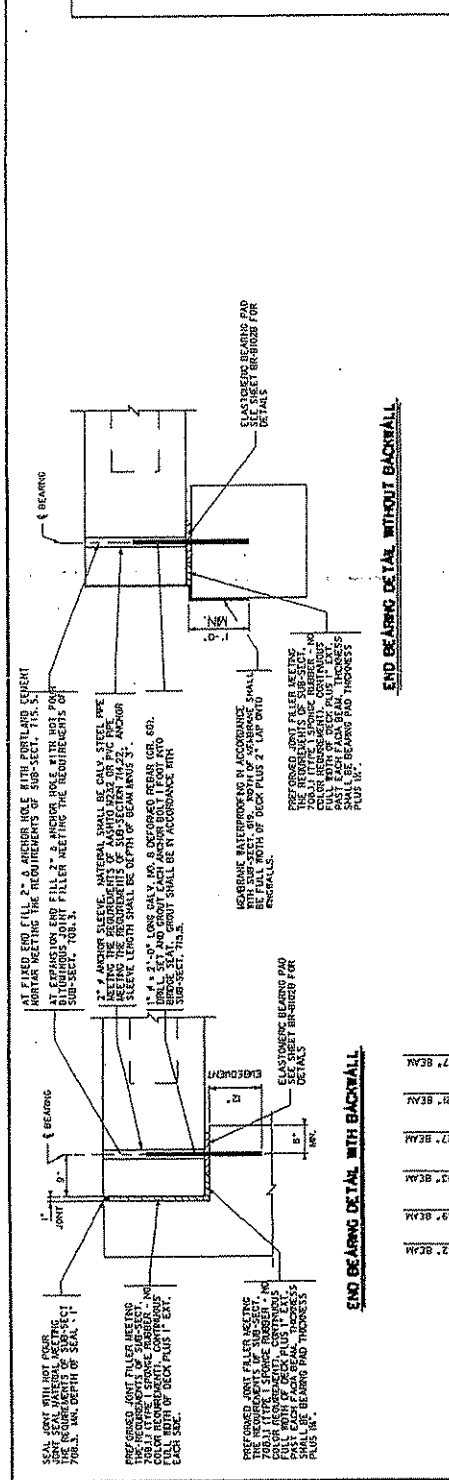
PREPARED JOINT FILLER MEETING THE REQUIREMENTS OF SUB-SECT. 708.3, MIN. DEPTH OF SEAL, 1" EXT.

PREPARED JOINT FILLER MEETING THE REQUIREMENTS OF SUB-SECT. 708.3, MIN. DEPTH OF SEAL, 1" EXT. COLOR REQUIREMENTS CONTINUOUS FULL WIDTH OF DECK PLUS 1" EXT. EACH SIDE.

PREPARED JOINT FILLER MEETING THE REQUIREMENTS OF SUB-SECT. 708.3, MIN. DEPTH OF SEAL, 1" EXT. COLOR REQUIREMENTS CONTINUOUS FULL WIDTH OF DECK PLUS 1" EXT. EACH SIDE.

PREPARED JOINT FILLER MEETING THE REQUIREMENTS OF SUB-SECT. 708.3, MIN. DEPTH OF SEAL, 1" EXT. COLOR REQUIREMENTS CONTINUOUS FULL WIDTH OF DECK PLUS 1" EXT. EACH SIDE.

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DESIGNED BY	DATE
DRWING BY	DATE
CHECKED BY	DATE
REVIEWED BY	DATE
SCALE	
SHEET NO.	15 OF 27
BRIDGE NO.	10791

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

PADEN FORK BRIDGE  
OVER POINT PLEASANT CREEK  
S352-26-2.96

WETZEL CO.  
C.R. 26  
PRESTRESSED CONCRETE BEAM  
SKEWED END REINFORCING  
MISC. DESIGN AND ASSEMBLY DETAILS

STANDARD SHEET BR-B102A

STATE PROJECT NUMBER	SECTION	DATE	BY	CHECKED	DATE	NO. OF SHEETS
6582-26-209	6	10	WETZEL			27

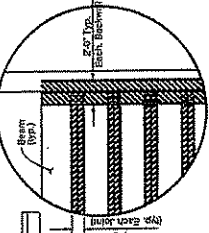
POST-TENSIONING ROD SPACING

21 GUARDRAIL INSERTS

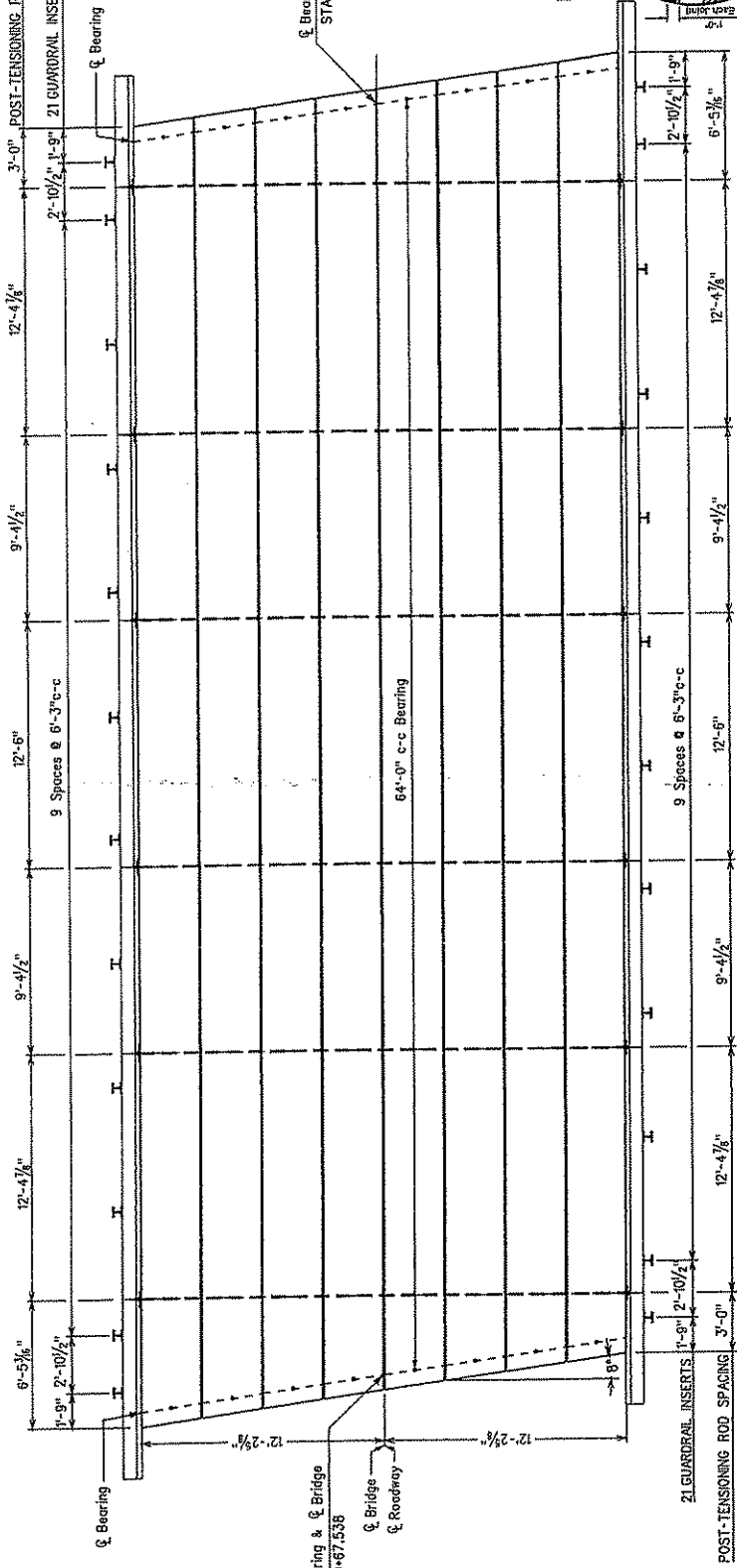
Q Bearing

Q Bearing & Q Bridge  
STA 1+31.529

Detail Waterproofing Membrane  
Length of Beam & 2" Wide  
Along Backfill Joints

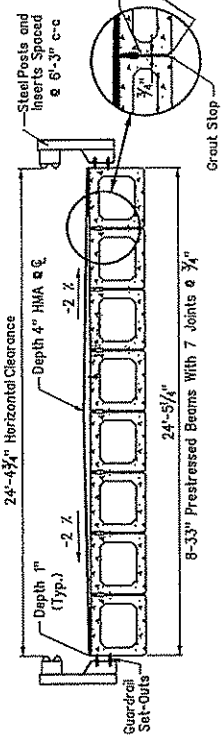


JOINT WATERPROOFING  
DETAIL



DECK PLAN

GROUT STOP must be removed and inserts installed for voids prior to post-tensioning. Any voids deeper than 2" from the bottom of the beams must be re-grouted in a manner acceptable to the engineer.

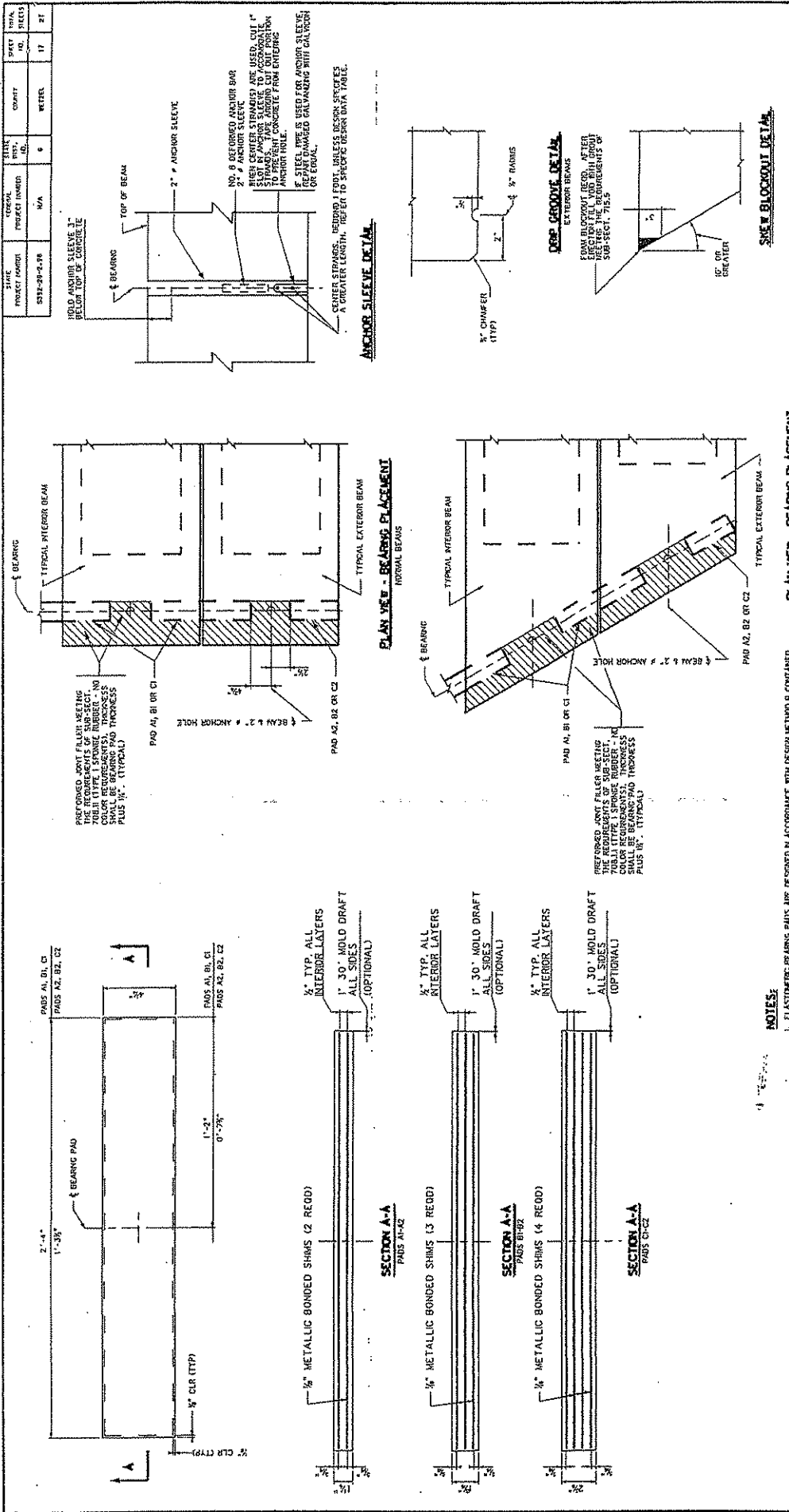


DECK SECTION

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	ABUT. ONE	ABUT. TWO	TOTAL
212001-000	STRUCTURE EXCAVATION (CY)	0	0	0
212005-000	SELECT MATERIAL FOR BACKFILLING (CY)	0	0	0
602002-001	CLASS B CONCRETE (CY)	4.25	4.25	8.50
602002-001	EPOXY COATED REINFORCING STEEL BAR (LBS.)	282.13	282.13	564.26
602016-024	33X36 INCH PRESTRESSED CONCRETE BOX BEAM (LF)			524

DESIGNED BY	12-07	THIS WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
CHECKED BY	12-07	DIVISION OF HIGHWAYS
DATE	02-08	<b>SUPERSTRUCTURE LAYOUT</b>
PROJECT NO.	6582-26-209	PAGE NO. 01
SCALE		



**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**ENGINEERING DIVISION**

**PADEN FORK BRIDGE**  
**OVER POINT PLEASANT CREEK**  
**S352-26-2.96**

**WETZEL CO.**  
**C.R. 26**  
**PRESTRESSED CONCRETE BEAM**  
**ELASTOMERIC BEARING PAD DETAILS**  
**MISC. DESIGN AND ASSEMBLY DETAILS**

RESORDED BY: 11/27  
 DRAWN BY: THY  
 CHECKED BY: 11/27  
 REVISION BY: 11/27  
 DATE: 02-08  
 SCALE: 1/4" = 1'-0"  
 SHEET 11 OF 27  
 BRIDGE NO. 10791

**PLAN VIEW - BEARING PLACEMENT**  
 NORMAL BEAMS

**SKW BLOCKOUT DETAIL**

**ANCHOR SLEEVE DETAIL**

**DEB GROOVE DETAIL**  
 EXTERIOR BEAMS  
 FROM BLOCKOUT DETAIL. AFTER  
 EXCEPT BY 11/27  
 REFERENCE THE REQUIREMENTS OF  
 SUB-SECT. 715.5

**NOTES:**

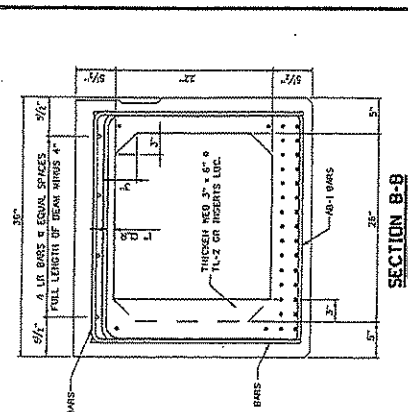
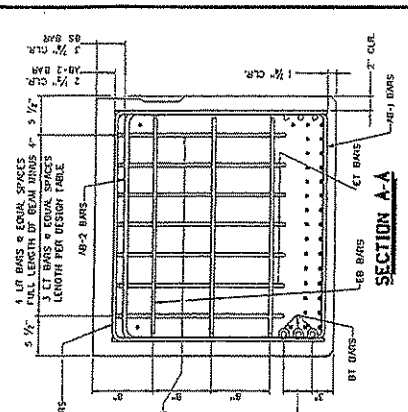
- ELASTOMERIC BEARING PADS ARE DESIGNED IN ACCORDANCE WITH DESIGN METHOD B CONTAINED IN SECTION 10.1 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF BRIDGES. THE PADS SHALL BE IN ACCORDANCE WITH SECTION 10.1 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF BRIDGES.
- BEARING PADS ARE DESIGNED FOR A MAXIMUM SPREAD OF 1.0 INCHES. THE SPREAD SHALL BE IN ACCORDANCE WITH SECTION 10.1 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF BRIDGES.
- BEARING PADS ARE DESIGNED FOR A MAXIMUM SPREAD OF 1.0 INCHES. THE SPREAD SHALL BE IN ACCORDANCE WITH SECTION 10.1 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF BRIDGES.
- DESIGNER, FABRICATOR AND ERECTOR SHALL BE AWARE THAT BEAMS MAY BE TYPICALLY PLACED ON BEARING PADS OR ZAPED, CAUSING IMPROPER BEARING SEATING AT THE BEARINGS. THE CONTRACTOR IS REQUESTED TO CORRECTLY SEAT THE BEARING PADS ON THE BEAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BEARING SEATING AFTER CORRECTION SHALL BE 1/4 INCH. THE FABRICATOR SHALL NOTIFY THE CONTRACTOR AND DESIGNER IF CORRECTIONS ARE REQUIRED PRIOR TO SHIPMENT.
- FOR BEAMS WITH STEPPED ENDS USE PADS A2, B2, OR C2 ON BOTH SIDES OF EACH BEAM.
- ELASTOMERIC BEARING PADS SHALL BE INCLUDED IN THE PRICE OF THE BEARING.
- THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-9128 & B (FOR BR-9128 & B), BR-9129, BR-9130, BR-9131, BR-9132, BR-9133, BR-9134, BR-9135 & B AND BR-9136 AS APPROPRIATE.

**BOX BEAM BEARING PAD CONTROL DIMENSIONS**

PAD	LENGTH	WIDTH	HEIGHT	NO. SHIMS	SHIM SIZE	SPAN RANGES	NUMBER OF REACTION POINTS	SPREAD IN ONE DIRECTION
A1	48"	24"	18"	2	3/4" x 4 1/2"	20' - 36'	55 RPS	0.39"
B1	48"	28"	18"	3	3/4" x 4 1/2"	40' - 70'	75 RPS	0.80"
C1	48"	28"	24"	4	3/4" x 4 1/2"	80' - 100'	89 RPS	1.02"
A2	48"	10 1/2"	18"	2	3/4" x 4 1/2"	20' - 36'	28 RPS	0.39"
B2	48"	10 1/2"	18"	3	3/4" x 4 1/2"	40' - 70'	38 RPS	0.80"
C2	48"	10 1/2"	24"	4	3/4" x 4 1/2"	80' - 100'	45 RPS	1.02"



PROJECT NUMBER	FEDERAL	DISTRICT	COUNTY	SHEET TOTAL
STATE	NO.	NO.	NO.	NO.
5435-95-2-30	6	6	12	27



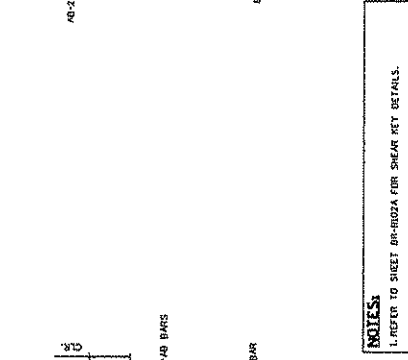
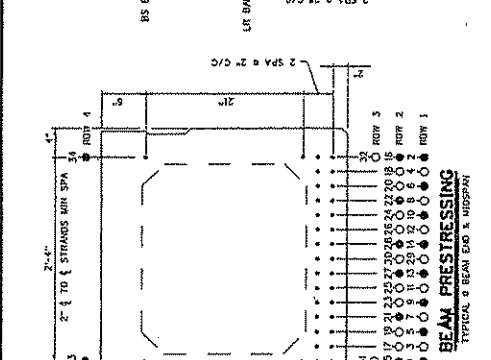
**NOTES**

- REFER TO SHEET BR-932A FOR SHEAR KEY DETAILS.
- DESIGNER SHALL USE THE FOLLOWING KEY TO INDICATE STRAND AND DECKING PATTERN ON "BEAM PRESTRESSING VIEW", THIS SHEET.
  - ACTIVE STRAND
  - ▽—RECORD STRAND LENGTH FROM END OF BEAM
  - RECORD STRAND LENGTH FROM END OF BEAM
- THIS SHEET SHALL BE USED IN CONNECTION WITH STANDARD SHEETS BR-932A, BR-932B, BR-932C, BR-932D, BR-932E & BR-932F AS APPLICABLE.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
ENGINEERING DIVISION

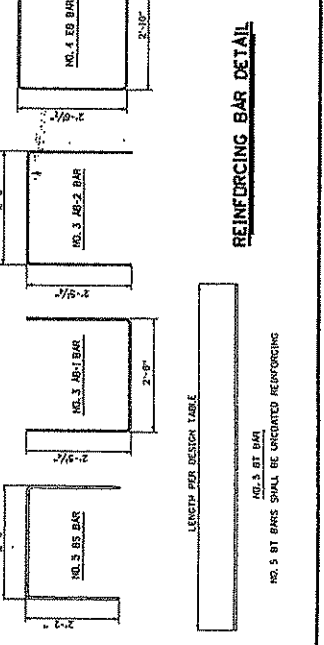
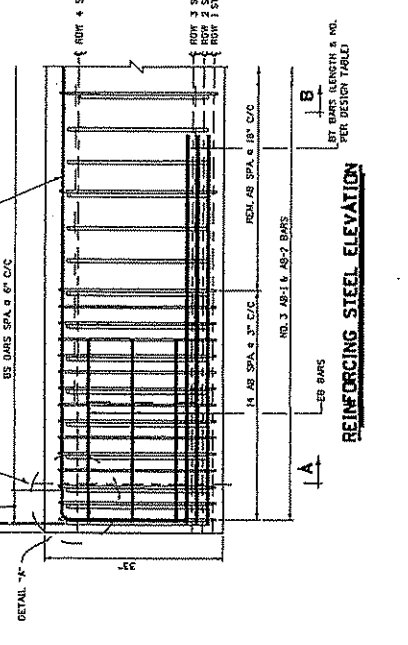
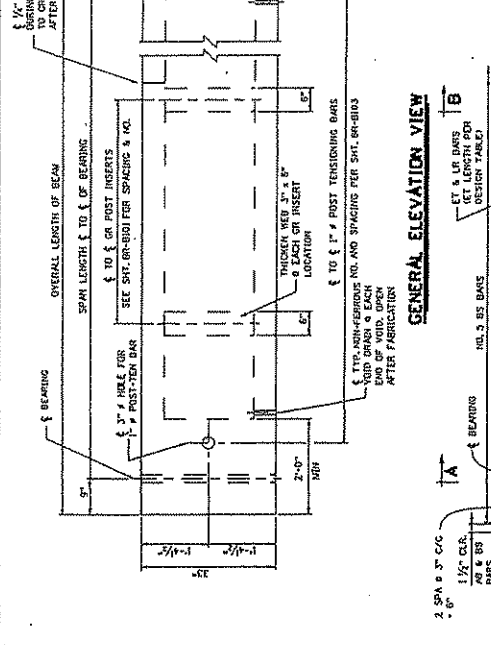
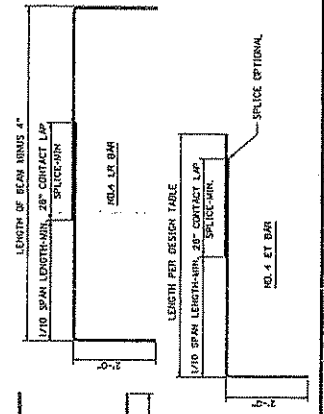
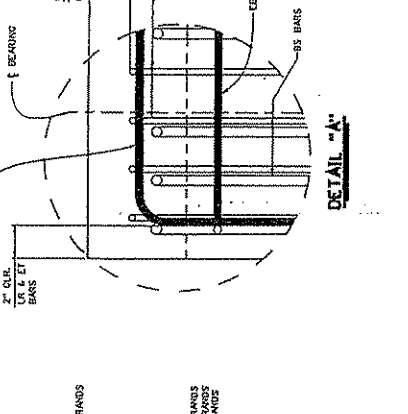
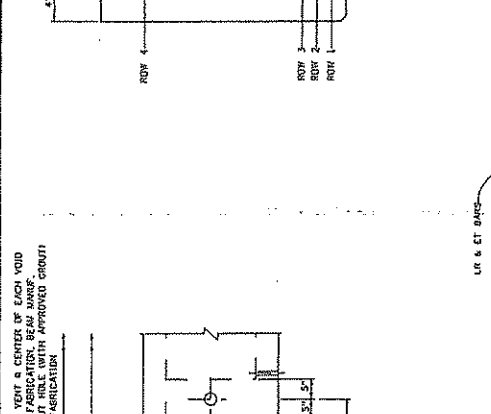
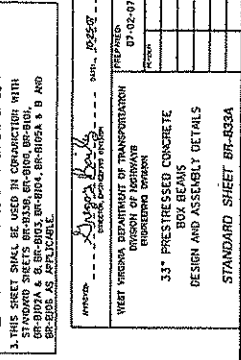
PADEN FORK BRIDGE  
OVER POINT PLEASANT CREEK  
WETZEL CO. C.R. 26  
33" PRESTRESSED BOX BEAM  
DESIGN AND ASSEMBLY DETAILS

DESIGNED BY	DATE
CHECKED BY	DATE
REVIEWED BY	DATE
SCALE	
SHEET NO. OF	TOTAL
10/91	12



**REINFORCING STEEL ELEVATION**

BT BARS LENGTH & NO. PER DESIGN TABLE



STATE PROJECT NUMBER	WEST VIRGINIA PROJECT NUMBER	COUNTY	SHEET NO.	TOTAL SHEETS
5352-24-2-96	N/A	WETZEL	13	21

MIN. CONCRETE STRENGTH @ RELEASE - 5500 PSI  
 MIN. CONCRETE STRENGTH @ 28 DAYS - 8000 PSI  
 INITIAL PULL/STRAND - 33,820 LBS  
 CROSS-SECTION AREA/STRAND - 0.167 SQ. IN.

DESIGN DATA FOR 33" DEPTH ADJACENT BOX BEAM

SPAN LENGTH & TO BEARING	50'-0"	55'-0"	60'-0"	65'-0"	70'-0"	75'-0"	80'-0"	85'-0"	90'-0"	95'-0"	100'-0"
OVERALL LENGTH OF BEAM	50'-0"	55'-0"	60'-0"	65'-0"	70'-0"	75'-0"	80'-0"	85'-0"	90'-0"	95'-0"	100'-0"
NO. OF 270 KSI, 1/2" x LOW-RELAXATION STRANDS, RELEASING AT 0.167 SQ. IN.	12	12	12	12	12	12	12	12	12	12	12
ROW 1	12	12	12	12	12	12	12	12	12	12	12
ROW 2	12	12	12	12	12	12	12	12	12	12	12
ROW 3	12	12	12	12	12	12	12	12	12	12	12
ROW 4	12	12	12	12	12	12	12	12	12	12	12
PRESSING FORCE IMMEDIATELY AFTER STRAND RELEASE, PA (KIPS/BEAM)	394	394	394	394	394	394	394	394	394	394	394
EFFECTIVE PRESTRESSING FORCE AFTER ALL LOSSES, P <sub>e</sub> (KIPS/BEAM)	345	345	345	345	345	345	345	345	345	345	345
REQUIRED FACTORED MOMENT & STRENGTH 1.4d (FT-KIPS/BEAM)	808	808	808	808	808	808	808	808	808	808	808
FACTORED FLEXURAL RESISTANCE, M <sub>r</sub> (FT-KIPS/BEAM)	1062	1062	1062	1062	1062	1062	1062	1062	1062	1062	1062
TOTAL NO. DEFORMED STRANDS	12	12	12	12	12	12	12	12	12	12	12
DESIGNED STRAND POSITION NUMBER & BUILDING LENGTH FROM EACH END	12	12	12	12	12	12	12	12	12	12	12
NUMBER & LENGTH #4 FT TOP TENSION BARS AT EACH END	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"	3 #4-10"
NUMBER & LENGTH #5 BT BOTTOM TENSION BARS AT EACH END	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"	3 #5-10"
DESIGN CAMBER	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
DESIGN POSITIVE UP?	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
DESIGN NEGATIVE UP?	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
NO. OF INSERTS REQ'D	21	21	21	21	21	21	21	21	21	21	21
NUMBER & SPACING OF TL-2 CURB/RAIL INSERTS	1 19"	1 19"	1 19"	1 19"	1 19"	1 19"	1 19"	1 19"	1 19"	1 19"	1 19"
SEE NOTE 6	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"	2-10 1/2"
WEIGHT OF TYPICAL BEAM INCLUDING CURB/RAIL (KIPS)	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8

- NOTES
1. BEAM WEIGHTS LISTED IN THE DESIGN TABLE ARE BASED ON ZERO SKEW, 2 FT LONG ENDBLOCKS, 2. TWO LANE STRUCTURE & BEAMS SIDE AND ZERO SKEW. SUPERIMPOSED DEAD LOADS INCLUDE CURB/RAIL WEIGHTS AND SHALL BE ADJUSTED FOR CURB/RAIL WEIGHTS.
  2. DESIGNERS SHOULD NOTE THAT DATA IN STANDARD TABLE IS BASED ON EVEN SPAN LENGTHS. FOR ADDITIONAL DIMENSIONS, SEE 497.185/01A/APPENDIX.
  3. PREDICTED DESIGN CURVED VALUES LISTED IN THE TABLE ARE BASED ON CURVATURE AS AND AS SUCH ARE APPROXIMATE. FOR MEMBERS WITH SPAN-TO-DEPTH RATIOS GREATER THAN 25, THE TOLERANCE VALUES LISTED IN APPENDIX B OF PCI MANUAL FOR QUALITY CONTROL, MAY BE APPLIED.
  4. REQUIREMENT OF CAMBER FOR COMPARISON TO PREDICTED DESIGN VALUES SHOULD BE COMPLETED UNDER CONDITIONS THAT MINIMIZE THE EFFECT OF TEMPERATURE VARIATION.

4. DESIGNER, FABRICATOR, AND ERECTOR SHALL BE AWARE THAT SKEWED END BEAMS MAY TWIST OR WARP, CAUSING UNEVEN BEAM SEATING AT THE BEARINGS. THE CONTRACTOR IS REQUIRED TO CORRECT AT THE END OF EACH SPAN TO MAINTAIN AN EVEN TOTAL BEARING AND A LEVEL TOP BEAM SURFACE. TOLERANCE AFTER CORRECTION SHALL BE 1/16" INCH. THE FABRICATOR SHALL NOTIFY THE CONTRACTOR AND DESIGNER IF CORRECTIONS ARE REQUIRED PRIOR TO SHIPMENT.
5. MAXIMUM BEAM SKEW SHALL BE 30 DEGREES.
6. DESIGNER SHOULD VALUES OF NUMBER OF INSERTS, DISTANCE FROM END OF BEAM TO FIRST INSERT AND SPACING OF INSERTS, BE USED ON THE REQUIRED 6-3" CURB/RAIL POST SPACING ACROSS THIS BRIDGE.
7. THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-833A, BR-810B, BR-810C, BR-810D, BR-810E, BR-810F, BR-810G, BR-810H, BR-810I, BR-810J, BR-810K, BR-810L, BR-810M, BR-810N, BR-810O, BR-810P, BR-810Q, BR-810R, BR-810S, BR-810T, BR-810U, BR-810V, BR-810W, BR-810X, BR-810Y, BR-810Z, BR-810AA, BR-810AB, BR-810AC, BR-810AD, BR-810AE, BR-810AF, BR-810AG, BR-810AH, BR-810AI, BR-810AJ, BR-810AK, BR-810AL, BR-810AM, BR-810AN, BR-810AO, BR-810AP, BR-810AQ, BR-810AR, BR-810AS, BR-810AT, BR-810AU, BR-810AV, BR-810AW, BR-810AX, BR-810AY, BR-810AZ, BR-810BA, BR-810BB, BR-810BC, BR-810BD, BR-810BE, BR-810BF, BR-810BG, BR-810BH, BR-810BI, BR-810BJ, BR-810BK, BR-810BL, BR-810BM, BR-810BN, BR-810BO, BR-810BP, BR-810BQ, BR-810BR, BR-810BS, BR-810BT, BR-810BU, BR-810BV, BR-810BW, BR-810BX, BR-810BY, BR-810BZ, BR-810CA, BR-810CB, BR-810CC, BR-810CD, BR-810CE, BR-810CF, BR-810CG, BR-810CH, BR-810CI, BR-810CJ, BR-810CK, BR-810CL, BR-810CM, BR-810CN, BR-810CO, BR-810CP, BR-810CQ, BR-810CR, BR-810CS, BR-810CT, BR-810CU, BR-810CV, BR-810CW, BR-810CX, BR-810CY, BR-810CZ, BR-810DA, BR-810DB, BR-810DC, BR-810DD, BR-810DE, BR-810DF, BR-810DG, BR-810DH, BR-810DI, BR-810DJ, BR-810DK, BR-810DL, BR-810DM, BR-810DN, BR-810DO, BR-810DP, BR-810DQ, BR-810DR, BR-810DS, BR-810DT, BR-810DU, BR-810DV, BR-810DW, BR-810DX, BR-810DY, BR-810DZ, BR-810EA, BR-810EB, BR-810EC, BR-810ED, BR-810EE, BR-810EF, BR-810EG, BR-810EH, BR-810EI, BR-810EJ, BR-810EK, BR-810EL, BR-810EM, BR-810EN, BR-810EO, BR-810EP, BR-810EQ, BR-810ER, BR-810ES, BR-810ET, BR-810EU, BR-810EV, BR-810EW, BR-810EX, BR-810EY, BR-810EZ, BR-810FA, BR-810FB, BR-810FC, BR-810FD, BR-810FE, BR-810FF, BR-810FG, BR-810FH, BR-810FI, BR-810FJ, BR-810FK, BR-810FL, BR-810FM, BR-810FN, BR-810FO, BR-810FP, BR-810FQ, BR-810FR, BR-810FS, BR-810FT, BR-810FU, BR-810FV, BR-810FW, BR-810FX, BR-810FY, BR-810FZ, BR-810GA, BR-810GB, BR-810GC, BR-810GD, BR-810GE, BR-810GF, BR-810GG, BR-810GH, BR-810GI, BR-810GJ, BR-810GK, BR-810GL, BR-810GM, BR-810GN, BR-810GO, BR-810GP, BR-810GQ, BR-810GR, BR-810GS, BR-810GT, BR-810GU, BR-810GV, BR-810GW, BR-810GX, BR-810GY, BR-810GZ, BR-810HA, BR-810HB, BR-810HC, BR-810HD, BR-810HE, BR-810HF, BR-810HG, BR-810HH, BR-810HI, BR-810HJ, BR-810HK, BR-810HL, BR-810HM, BR-810HN, BR-810HO, BR-810HP, BR-810HQ, BR-810HR, BR-810HS, BR-810HT, BR-810HU, BR-810HV, BR-810HW, BR-810HX, BR-810HY, BR-810HZ, BR-810IA, BR-810IB, BR-810IC, BR-810ID, BR-810IE, BR-810IF, BR-810IG, BR-810IH, BR-810II, BR-810IJ, BR-810IK, BR-810IL, BR-810IM, BR-810IN, BR-810IO, BR-810IP, BR-810IQ, BR-810IR, BR-810IS, BR-810IT, BR-810IU, BR-810IV, BR-810IW, BR-810IX, BR-810IY, BR-810IZ, BR-810JA, BR-810JB, BR-810JC, BR-810JD, BR-810JE, BR-810JF, BR-810JG, BR-810JH, BR-810JI, BR-810JJ, BR-810JK, BR-810JL, BR-810JM, BR-810JN, BR-810JO, BR-810JP, BR-810JQ, BR-810JR, BR-810JS, BR-810JT, BR-810JU, BR-810JV, BR-810JW, BR-810JX, BR-810JY, BR-810JZ, BR-810KA, BR-810KB, BR-810KC, BR-810KD, BR-810KE, BR-810KF, BR-810KG, BR-810KH, BR-810KI, BR-810KJ, 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BR-810ZV, BR-810ZW, BR-810ZX, BR-810ZY, BR-810ZZ

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION

PADEN FORK BRIDGE  
 OVER POINT PLEASANT CREEK  
 WETZEL CO. C.R. 26

DESIGN TABLE FOR 33"  
 PRESTRESSED BOX BEAM

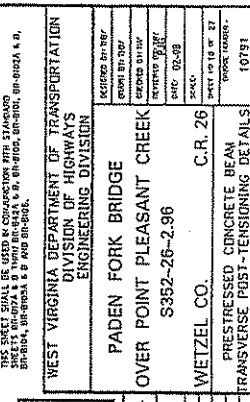
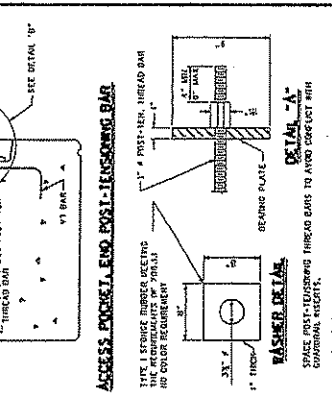
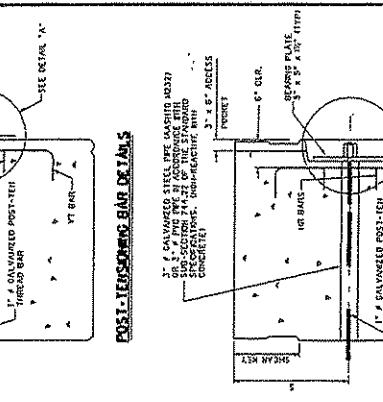
STANDARD SHEET BR-833B

10791

DATE	PROJECT NUMBER	TECHNICAL PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
03-22-64	5352-26-35	5352-26-35	19	27

REFER TO STANDARD SHEET BR-800A FOR SHEAR KEY DETAILS.

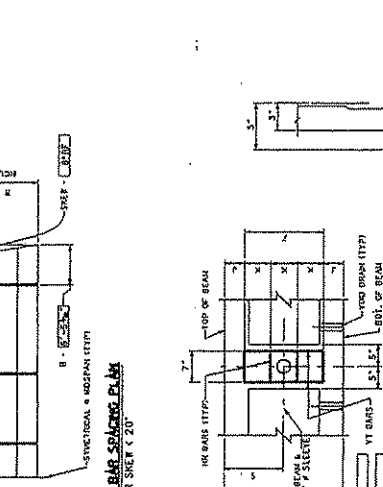
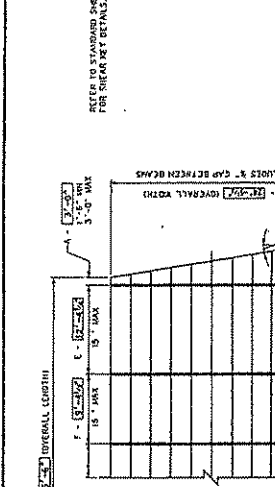
3" x 1/2" GALVANIZED STEEL SHEET (ASTM A1027) OR 3" x 1/2" PINE PLY W/ APPROXIMATE 1/8" THICKNESS (SEE SPECIFICATIONS FOR SHEAR KEY CONSTRUCTION)



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

PADEN FORK BRIDGE  
OVER POINT PLEASANT CREEK  
S952-26-2-96

WETZEL CO. C.R. 26  
PRESTRESSED CONCRETE BEAM  
TRANSVERSE POST-TENSIONING DETAILS  
10791



STATE PROJECT NUMBER	532-21-2-76
FEDERAL PROJECT NUMBER	N/A
SHEET NO.	14
TOTAL SHEETS	27

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
CONSTRUCTION DIVISION

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CONSTRUCTION DIVISION

**GOVERNING SPECIFICATIONS**

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, HAS ADOPTED THE 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS AND BRIDGES BY THE CURRENT SUPPLEMENTAL SPECIFICATIONS. THE CONTRACTOR SHALL COMPLY WITH ALL BEAMS ARE DESIGNED IN ACCORDANCE WITH THE ASHTO LFD BRIDGE DESIGN SPECIFICATIONS DATED 1988 AS AMENDED BY THE 2003 INTERIM SPECIFICATIONS.

**DESIGN NOTES**

- ALL STANDARD ADJACENT PRESTRESSED CONCRETE BRIDGE BEAMS ARE DESIGNED TO MEET THE FOLLOWING CRITERIA:
  - 1. DESIGN LOAD IN ACCORDANCE WITH THE ASHTO LFD BRIDGE DESIGN SPECIFICATIONS.
  - 2. FUTURE WEARING SURFACE OF 50 PSI OF ROADWAY.
  - 3. TYPE F PARAPET WEARING 321 P.F.
  - 4. DIMENSIONAL DEAD LOAD NUMBER REQUIRED BASED ON 18'-0" MAX SPACINGS.
- TWO LANE BRIDGE WITH AN OVERALL WIDTH OF 24'-0" (INCL. 1/2" GAP BETWEEN PARAPETS). A CURB-TO-CURB WIDTH OF 22'-4". TRANSVERSE POST-TENSIONING, AND ZERO SKEW.
- DESIGN STRENGTH AND LIMIT STRESSES:
  - MINIMUM CONCRETE STRENGTH @ STRAND RELEASE ----- 6000 PSI
  - MINIMUM CONCRETE STRENGTH @ 28 DAYS ----- 8000 PSI
  - TEMPORARY STRESS LIMITS IN CONCRETE BEFORE LOSSES: -----
  - COMPRESSION STRESS LIMIT @ STRAND RELEASE ----- 3600 PSI
  - TENSION STRESS LIMIT @ STRAND RELEASE ----- 200 PSI
  - COMBINED STRESS LIMITS IN CONCRETE @ SERVICE I AFTER LOSSES: -----
  - 1. FINAL 2 (FES-01) -----
  - 2. FINAL 3 (FES-02,03,04,05) -----
  - 3. FINAL 4 (FES-06,07,08,09,10) -----
  - 4. FINAL 5 (FES-11,12,13,14,15) -----
  - 5. FINAL 6 (FES-16,17,18,19,20) -----
  - 6. FINAL 7 (FES-21,22,23,24,25) -----
  - 7. FINAL 8 (FES-26,27,28,29,30) -----
  - 8. FINAL 9 (FES-31,32,33,34,35) -----
  - 9. FINAL 10 (FES-36,37,38,39,40) -----
  - 10. FINAL 11 (FES-41,42,43,44,45) -----
  - 11. FINAL 12 (FES-46,47,48,49,50) -----
  - 12. FINAL 13 (FES-51,52,53,54,55) -----
  - 13. FINAL 14 (FES-56,57,58,59,60) -----
  - 14. FINAL 15 (FES-61,62,63,64,65) -----
  - 15. FINAL 16 (FES-66,67,68,69,70) -----
  - 16. FINAL 17 (FES-71,72,73,74,75) -----
  - 17. FINAL 18 (FES-76,77,78,79,80) -----
  - 18. FINAL 19 (FES-81,82,83,84,85) -----
  - 19. FINAL 20 (FES-86,87,88,89,90) -----
  - 20. FINAL 21 (FES-91,92,93,94,95) -----
  - 21. FINAL 22 (FES-96,97,98,99,100) -----
  - 22. FINAL 23 (FES-101,102,103,104,105) -----
  - 23. FINAL 24 (FES-106,107,108,109,110) -----
  - 24. FINAL 25 (FES-111,112,113,114,115) -----
  - 25. FINAL 26 (FES-116,117,118,119,120) -----
  - 26. FINAL 27 (FES-121,122,123,124,125) -----
  - 27. FINAL 28 (FES-126,127,128,129,130) -----
  - 28. FINAL 29 (FES-131,132,133,134,135) -----
  - 29. FINAL 30 (FES-136,137,138,139,140) -----
  - 30. FINAL 31 (FES-141,142,143,144,145) -----
  - 31. FINAL 32 (FES-146,147,148,149,150) -----
  - 32. FINAL 33 (FES-151,152,153,154,155) -----
  - 33. FINAL 34 (FES-156,157,158,159,160) -----
  - 34. FINAL 35 (FES-161,162,163,164,165) -----
  - 35. FINAL 36 (FES-166,167,168,169,170) -----
  - 36. FINAL 37 (FES-171,172,173,174,175) -----
  - 37. FINAL 38 (FES-176,177,178,179,180) -----
  - 38. FINAL 39 (FES-181,182,183,184,185) -----
  - 39. FINAL 40 (FES-186,187,188,189,190) -----
  - 40. FINAL 41 (FES-191,192,193,194,195) -----
  - 41. FINAL 42 (FES-196,197,198,199,200) -----
  - 42. FINAL 43 (FES-201,202,203,204,205) -----
  - 43. FINAL 44 (FES-206,207,208,209,210) -----
  - 44. FINAL 45 (FES-211,212,213,214,215) -----
  - 45. FINAL 46 (FES-216,217,218,219,220) -----
  - 46. FINAL 47 (FES-221,222,223,224,225) -----
  - 47. FINAL 48 (FES-226,227,228,229,230) -----
  - 48. FINAL 49 (FES-231,232,233,234,235) -----
  - 49. FINAL 50 (FES-236,237,238,239,240) -----
  - 50. FINAL 51 (FES-241,242,243,244,245) -----
  - 51. FINAL 52 (FES-246,247,248,249,250) -----
  - 52. FINAL 53 (FES-251,252,253,254,255) -----
  - 53. FINAL 54 (FES-256,257,258,259,260) -----
  - 54. FINAL 55 (FES-261,262,263,264,265) -----
  - 55. FINAL 56 (FES-266,267,268,269,270) -----
  - 56. FINAL 57 (FES-271,272,273,274,275) -----
  - 57. FINAL 58 (FES-276,277,278,279,280) -----
  - 58. FINAL 59 (FES-281,282,283,284,285) -----
  - 59. FINAL 60 (FES-286,287,288,289,290) -----
  - 60. FINAL 61 (FES-291,292,293,294,295) -----
  - 61. FINAL 62 (FES-296,297,298,299,300) -----
  - 62. FINAL 63 (FES-301,302,303,304,305) -----
  - 63. FINAL 64 (FES-306,307,308,309,310) -----
  - 64. FINAL 65 (FES-311,312,313,314,315) -----
  - 65. FINAL 66 (FES-316,317,318,319,320) -----
  - 66. FINAL 67 (FES-321,322,323,324,325) -----
  - 67. FINAL 68 (FES-326,327,328,329,330) -----
  - 68. FINAL 69 (FES-331,332,333,334,335) -----
  - 69. FINAL 70 (FES-336,337,338,339,340) -----
  - 70. FINAL 71 (FES-341,342,343,344,345) -----
  - 71. FINAL 72 (FES-346,347,348,349,350) -----
  - 72. FINAL 73 (FES-351,352,353,354,355) -----
  - 73. FINAL 74 (FES-356,357,358,359,360) -----
  - 74. FINAL 75 (FES-361,362,363,364,365) -----
  - 75. FINAL 76 (FES-366,367,368,369,370) -----
  - 76. FINAL 77 (FES-371,372,373,374,375) -----
  - 77. FINAL 78 (FES-376,377,378,379,380) -----
  - 78. FINAL 79 (FES-381,382,383,384,385) -----
  - 79. FINAL 80 (FES-386,387,388,389,390) -----
  - 80. FINAL 81 (FES-391,392,393,394,395) -----
  - 81. FINAL 82 (FES-396,397,398,399,400) -----
  - 82. FINAL 83 (FES-401,402,403,404,405) -----
  - 83. FINAL 84 (FES-406,407,408,409,410) -----
  - 84. FINAL 85 (FES-411,412,413,414,415) -----
  - 85. FINAL 86 (FES-416,417,418,419,420) -----
  - 86. FINAL 87 (FES-421,422,423,424,425) -----
  - 87. FINAL 88 (FES-426,427,428,429,430) -----
  - 88. FINAL 89 (FES-431,432,433,434,435) -----
  - 89. FINAL 90 (FES-436,437,438,439,440) -----
  - 90. FINAL 91 (FES-441,442,443,444,445) -----
  - 91. FINAL 92 (FES-446,447,448,449,450) -----
  - 92. FINAL 93 (FES-451,452,453,454,455) -----
  - 93. FINAL 94 (FES-456,457,458,459,460) -----
  - 94. FINAL 95 (FES-461,462,463,464,465) -----
  - 95. FINAL 96 (FES-466,467,468,469,470) -----
  - 96. FINAL 97 (FES-471,472,473,474,475) -----
  - 97. FINAL 98 (FES-476,477,478,479,480) -----
  - 98. FINAL 99 (FES-481,482,483,484,485) -----
  - 99. FINAL 100 (FES-486,487,488,489,490) -----
  - 100. FINAL 101 (FES-491,492,493,494,495) -----
  - 101. FINAL 102 (FES-496,497,498,499,500) -----
  - 102. FINAL 103 (FES-501,502,503,504,505) -----
  - 103. FINAL 104 (FES-506,507,508,509,510) -----
  - 104. FINAL 105 (FES-511,512,513,514,515) -----
  - 105. FINAL 106 (FES-516,517,518,519,520) -----
  - 106. FINAL 107 (FES-521,522,523,524,525) -----
  - 107. FINAL 108 (FES-526,527,528,529,530) -----
  - 108. FINAL 109 (FES-531,532,533,534,535) -----
  - 109. FINAL 110 (FES-536,537,538,539,540) -----
  - 110. FINAL 111 (FES-541,542,543,544,545) -----
  - 111. FINAL 112 (FES-546,547,548,549,550) -----
  - 112. FINAL 113 (FES-551,552,553,554,555) -----
  - 113. FINAL 114 (FES-556,557,558,559,560) -----
  - 114. FINAL 115 (FES-561,562,563,564,565) -----
  - 115. FINAL 116 (FES-566,567,568,569,570) -----
  - 116. FINAL 117 (FES-571,572,573,574,575) -----
  - 117. FINAL 118 (FES-576,577,578,579,580) -----
  - 118. FINAL 119 (FES-581,582,583,584,585) -----
  - 119. FINAL 120 (FES-586,587,588,589,590) -----
  - 120. FINAL 121 (FES-591,592,593,594,595) -----
  - 121. FINAL 122 (FES-596,597,598,599,600) -----
  - 122. FINAL 123 (FES-601,602,603,604,605) -----
  - 123. FINAL 124 (FES-606,607,608,609,610) -----
  - 124. FINAL 125 (FES-611,612,613,614,615) -----
  - 125. FINAL 126 (FES-616,617,618,619,620) -----
  - 126. FINAL 127 (FES-621,622,623,624,625) -----
  - 127. FINAL 128 (FES-626,627,628,629,630) -----
  - 128. FINAL 129 (FES-631,632,633,634,635) -----
  - 129. FINAL 130 (FES-636,637,638,639,640) -----
  - 130. FINAL 131 (FES-641,642,643,644,645) -----
  - 131. FINAL 132 (FES-646,647,648,649,650) -----
  - 132. FINAL 133 (FES-651,652,653,654,655) -----
  - 133. FINAL 134 (FES-656,657,658,659,660) -----
  - 134. FINAL 135 (FES-661,662,663,664,665) -----
  - 135. FINAL 136 (FES-666,667,668,669,670) -----
  - 136. FINAL 137 (FES-671,672,673,674,675) -----
  - 137. FINAL 138 (FES-676,677,678,679,680) -----
  - 138. FINAL 139 (FES-681,682,683,684,685) -----
  - 139. FINAL 140 (FES-686,687,688,689,690) -----
  - 140. FINAL 141 (FES-691,692,693,694,695) -----
  - 141. FINAL 142 (FES-696,697,698,699,700) -----
  - 142. FINAL 143 (FES-701,702,703,704,705) -----
  - 143. FINAL 144 (FES-706,707,708,709,710) -----
  - 144. FINAL 145 (FES-711,712,713,714,715) -----
  - 145. FINAL 146 (FES-716,717,718,719,720) -----
  - 146. FINAL 147 (FES-721,722,723,724,725) -----
  - 147. FINAL 148 (FES-726,727,728,729,730) -----
  - 148. FINAL 149 (FES-731,732,733,734,735) -----
  - 149. FINAL 150 (FES-736,737,738,739,740) -----
  - 150. FINAL 151 (FES-741,742,743,744,745) -----
  - 151. FINAL 152 (FES-746,747,748,749,750) -----
  - 152. FINAL 153 (FES-751,752,753,754,755) -----
  - 153. FINAL 154 (FES-756,757,758,759,760) -----
  - 154. FINAL 155 (FES-761,762,763,764,765) -----
  - 155. FINAL 156 (FES-766,767,768,769,770) -----
  - 156. FINAL 157 (FES-771,772,773,774,775) -----
  - 157. FINAL 158 (FES-776,777,778,779,780) -----
  - 158. FINAL 159 (FES-781,782,783,784,785) -----
  - 159. FINAL 160 (FES-786,787,788,789,790) -----
  - 160. FINAL 161 (FES-791,792,793,794,795) -----
  - 161. FINAL 162 (FES-796,797,798,799,800) -----
  - 162. FINAL 163 (FES-801,802,803,804,805) -----
  - 163. FINAL 164 (FES-806,807,808,809,810) -----
  - 164. FINAL 165 (FES-811,812,813,814,815) -----
  - 165. FINAL 166 (FES-816,817,818,819,820) -----
  - 166. FINAL 167 (FES-821,822,823,824,825) -----
  - 167. FINAL 168 (FES-826,827,828,829,830) -----
  - 168. FINAL 169 (FES-831,832,833,834,835) -----
  - 169. FINAL 170 (FES-836,837,838,839,840) -----
  - 170. FINAL 171 (FES-841,842,843,844,845) -----
  - 171. FINAL 172 (FES-846,847,848,849,850) -----
  - 172. FINAL 173 (FES-851,852,853,854,855) -----
  - 173. FINAL 174 (FES-856,857,858,859,860) -----
  - 174. FINAL 175 (FES-861,862,863,864,865) -----
  - 175. FINAL 176 (FES-866,867,868,869,870) -----
  - 176. FINAL 177 (FES-871,872,873,874,875) -----
  - 177. FINAL 178 (FES-876,877,878,879,880) -----
  - 178. FINAL 179 (FES-881,882,883,884,885) -----
  - 179. FINAL 180 (FES-886,887,888,889,890) -----
  - 180. FINAL 181 (FES-891,892,893,894,895) -----
  - 181. FINAL 182 (FES-896,897,898,899,900) -----
  - 182. FINAL 183 (FES-901,902,903,904,905) -----
  - 183. FINAL 184 (FES-906,907,908,909,910) -----
  - 184. FINAL 185 (FES-911,912,913,914,915) -----
  - 185. FINAL 186 (FES-916,917,918,919,920) -----
  - 186. FINAL 187 (FES-921,922,923,924,925) -----
  - 187. FINAL 188 (FES-926,927,928,929,930) -----
  - 188. FINAL 189 (FES-931,932,933,934,935) -----
  - 189. FINAL 190 (FES-936,937,938,939,940) -----
  - 190. FINAL 191 (FES-941,942,943,944,945) -----
  - 191. FINAL 192 (FES-946,947,948,949,950) -----
  - 192. FINAL 193 (FES-951,952,953,954,955) -----
  - 193. FINAL 194 (FES-956,957,958,959,960) -----
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  - 196. FINAL 197 (FES-971,972,973,974,975) -----
  - 197. FINAL 198 (FES-976,977,978,979,980) -----
  - 198. FINAL 199 (FES-981,982,983,984,985) -----
  - 199. FINAL 200 (FES-986,987,988,989,990) -----
  - 200. FINAL 201 (FES-991,992,993,994,995) -----
  - 201. FINAL 202 (FES-996,997,998,999,1000) -----

**POST-TENSIONING BEAMS**

- \* POST-TENSIONING BEAMS SHALL BE ONE (1) INCH DIAMETER, 60,000 PSI STEEL AND SHALL CONFORM TO ASHTO M270, TYPE II. STEEL TENDON BEAMS SHALL BE DESIGNED TO ALLOW THE USE OF HEAVY HEX NUTS AND CONUSERS THAT THREAD INTO THE END OF THE DEFORMATIONS. HEAVY HEX NUTS AND CONUSERS SHALL BE OF A DESIGN AND MATERIAL RECOMMENDED BY THE BAR MANUFACTURER TO DEVELOP THE FULL TENSILE STRENGTH OF EACH BEAM. PROPERLY DOCUMENTED CERTIFIED MILL TEST REPORTS SHALL BE PROVIDED FOR EACH BEAM OF STEEL TENDON BEAMS.
- \* ALL POST-TENSIONING TENDON BEAMS, NUTS, BEARING PLATES, CONUSERS, AND ANCHORAGE HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASHTO M11. THE GALVANIZING PLANT SHALL ADMINISTER ADEQUATE QUALITY CONTROL MEASURES TO SUFFICIENTLY PROTECT AGAINST CORROSION. QUALITY CONTROL MEASURES SHALL COMPLY WITH ASTM A-443. CERTIFICATION FOR HOT-DIP GALVANIZING SHALL BE PROVIDED BY THE GALVANIZING PLANT.
- \* ALL POST-TENSIONING BEARING PLATES SHALL CONFORM TO ASHTO U270, GRADE 36. SHEAR KEY, GROUT.
- \* SHEAR KEY GROUT SHALL BE A GROUT THAT IS RECOMMENDED BY THE MANUFACTURER FOR A FOUR-BEAR GROUT APPLICATION AND THAT BASED ON THE MANUFACTURER'S TEST DATA WILL ATTAIN A MINIMUM OF 4500 PSI COMPRESSIVE STRENGTH IN 3 DAYS UNDER CONDITIONS REPRESENTATIVE OF THE CONDITIONS TO BE EXPERIENCED AT THE SITE. THE GROUT MUST BE LISTED ON THE APPROVED LIST OF GROUTS PUBLISHED BY THE WEST VIRGINIA DIVISION OF HIGHWAYS, MATERIALS CONTROL, SOIL AND TESTING DIVISION. THE CONTRACTOR SHALL PRE-TEST THE PROPOSED GROUT FOR COMPRESSIVE STRENGTH AT 3 AND 7 DAYS. THE RESULTS TO THE BRIDGE PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION OF THE GROUT IN THE STRUCTURE. THE TESTS WILL BE BASED ON A PROBABLE CONSISTENCY WITH THE SAME WATER/GROUT MIXTURE RATIO TO BE USED IN THE STRUCTURE.
- \* THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR EACH PROJECT, THE GROUT PRE-TEST RESULTS OBTAINED IN THE NOTE ABOVE. THE CONTRACTOR SHALL BE REQUIRED TO PERFORM A PRE-TEST AND SUBMISSION FOR APPROVAL UNDER ANY OF THE FOLLOWING CONDITIONS:
  - \* A PERIOD OF 10 MONTHS HAS ELAPSED SINCE LAST PRE-APPROVAL TESTING.
  - \* GROUT MANUFACTURER HAS REVISED OR CHANGED THE GROUT SPECIFICATIONS.
  - \* THE CONTRACTOR ALTERS THE WATER/GROUT MIXTURE RATIO.
  - \* THE CONTRACTOR CHANGES THE GROUT MANUFACTURER.
- \* THE CONTRACTOR IS REQUIRED TO COMPLETE THE GROUT STRENGTH TABLE ON BR-803. TEST PROCEDURE FOR DETERMINING THE COMPRESSIVE STRENGTH OF GROUT SHALL USE CUBE SPECIMENS IN ACCORDANCE WITH ASTM C109, AS MODIFIED BY ASTM G107. GROUT TESTING IN ACCORDANCE WITH ASHTO T23 (STANDARD CYLINDER TEST) IS NOT ACCEPTABLE.

**CONCRETE, SURFACE, IRON/STEEL**

- \* EACH PRESTRESSED CONCRETE BEAM SHALL BE TREATED BY THE MANUFACTURER AT THE FABRICATION PLANT WITH AN APPROVED CONCRETE SEALER (ISLANE), AN APPROVED LIST OF CONCRETE SEALERS ARE ON FILE AT THE WEST VIRGINIA DIVISION OF HIGHWAYS, MATERIALS CONTROL, SOIL AND TESTING DIVISION. COVERAGE SEAL, INCLUDE TOP AND BOTTOM OF INTERIOR BEAMS, AND TOP, BOTTOM AND EXTERIOR SIDE OF EXTERIOR BEAM APPLICATION RATE SHALL BE PER TREATMENT MANUFACTURER'S RECOMMENDATION.
- \* AFTER COMPLETION OF THE SILANE TREATMENT BY FABRICATOR AND A MAXIMUM OF FIVE WORKING DAYS PRIOR TO SHIPMENT OF THE BEAMS, THE FABRICATOR SHALL BE RESPONSIBLE FOR ABRASIVE BLAST CLEANING TO CLEAN WHITE CONCRETE. THE INTERIOR SIDES OF BEAMS FOR THE FULL LENGTH, CLEAN WHITE CONCRETE SHALL MEAN REMOVAL OF ALL DIRT, GREASE, OIL, AND LOOSE CONCRETE. LANTANE AND PROVIDE A ROUGHENED CONCRETE SURFACE. BLASTING MEDIUM SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS.
- \* SHOP DRAWINGS: THE FABRICATOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF SHOP DRAWINGS IN ACCORDANCE WITH THE WEST VIRGINIA DIVISION OF HIGHWAYS DOCUMENTS, 00-102 AND THE STANDARD SPECIFICATIONS. ADDITIONAL INFORMATION IS PROVIDED IN SECTION 7 OF THE BRIDGE DESIGN MANUAL.



PROJECT NUMBER	3382-4.16	ITEM	QUANTITY	UNIT	SHEET NO.	TOTAL SHEETS
PROJECT NAME	N/A	DESCRIPTION	6	RETIEL	15	21

DESCRIPTION	CODE	VALUE
OVERALL BEAM LENGTH	A	52'-8"
SPAN LENGTH, & BEARING TO & BEARING	D	54'-0"
SPACING BETWEEN REIN. BARS	C	24"-5 1/2"
REIN. BARS TO FACE OF PARAPET	D	24"-1 1/4"
NUMBER OF BEAMS REQUIRED		0
BEAM SIZE WIDTH & DEPTH		3'-0" x 3'
CONCRETE STRENGTH (ACCORDING TO SPEC. OR 0.85 F <sub>cu</sub> )	L	0
PERPENDICULAR DISTANCE FROM FACE OF BEAM TO REINFORCING	F	3"
MIN. BEARING COURSE REQUIRED (FEET/IN)		YES
THICKNESS OF BEARING COURSE	G	2"
THICKNESS OF REINFORCING	H	1"
MIN. BEARING COURSE REQUIRED (FEET/IN)		YES
IL-2 BEARING COURSE SYSTEM REQUIRED (FEET/IN)		YES
FABRICATOR TO SUPPLY IL-2 BEARING COURSE (FEET/IN)		YES
FABRICATOR TO SUPPLY IL-2 BEARING COURSE TO SUPPLY (FEET/IN)		NO
NUMBER OF BEAMS PER FOOT		0
TYPE OF BEAMS REQUIRED		NO
PARAPET REQUIRED		NO
CONCRETE REQUIRED (FEET/IN)		NO
NUMBER OF BEAMS REQUIRED PER SIDE		0
10' CURB REQUIRED (FEET/IN)		NO

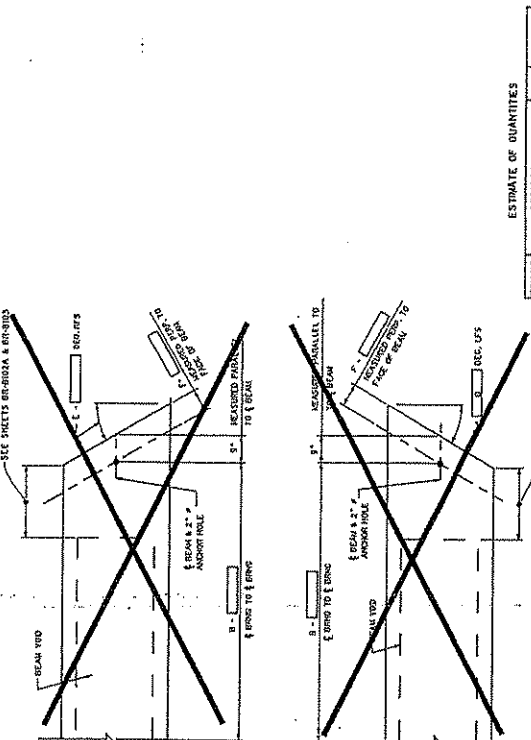
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION

PADEN FORK BRIDGE  
 OVER POINT PLEASANT CREEK  
 WETZEL CO. C.R. 26

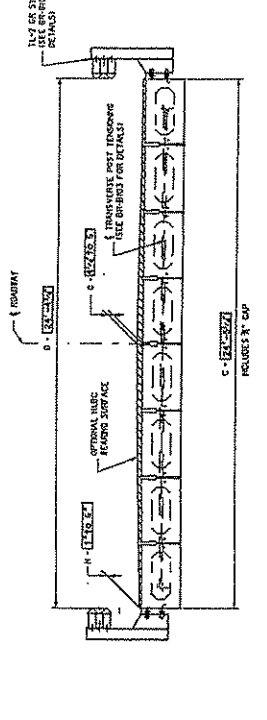
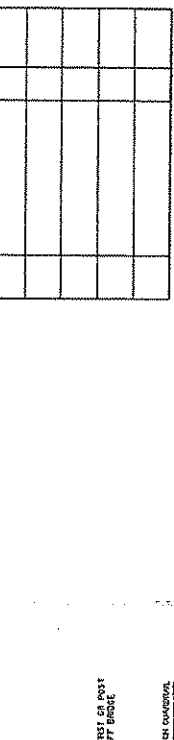
DESIGNED BY: [ ]  
 DRAWN BY: [ ]  
 CHECKED BY: [ ]  
 DATE: 02-28-07

PRESTRESSED CONCRETE BEAM  
 DESIGN & ASSEMBLY NOTES  
 10791

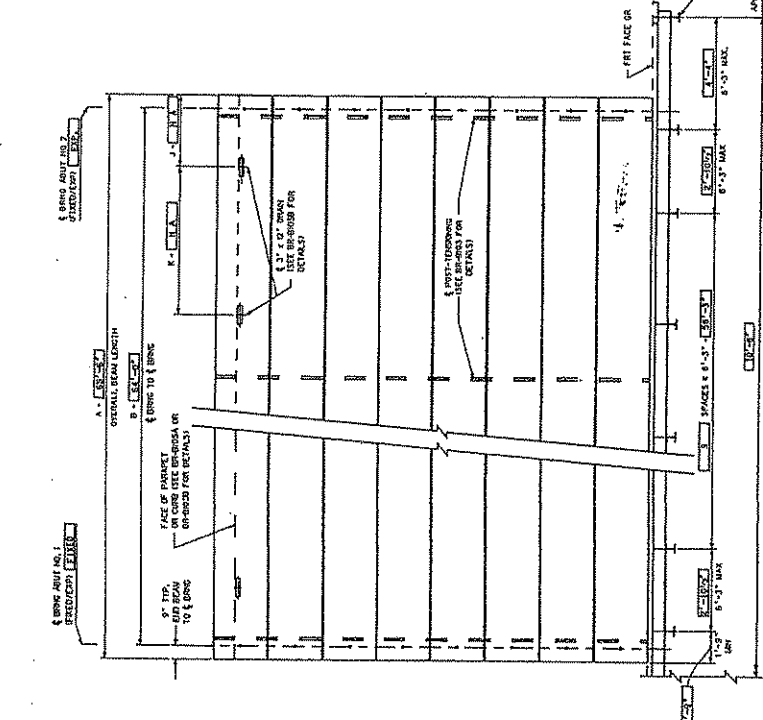
TYPICAL CROSS-SECTION WITH PARAPET OR CURB



BEAM PLAN VIEW - SKEWED ENDS



TYPICAL CROSS-SECTION WITH GUARDRAIL



ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNITS	QUANTITY
1	PRESTRESSED CONCRETE (SEE SPEC.)	LF	324

NOTES:

- BEAM FABRICATOR IS TO BE SUPPLIED BY THE BEAM FABRICATOR. ALL FABRICATOR'S ATTACHMENT HARDWARE, AND ACCESSORIES SHALL BE INCLUDED IN THE BEAM FABRICATOR'S PRICE.
- THE SHEET SHALL BE USED IN CONJUNCTION WITH SHEETS BR-803A & B THRU BR-803A & B, BR-803B, BR-803C & D, BR-803D, BR-803E & F, AND BR-803F.

DECK PLAN VIEW

TOTAL BRIDGE GUARDRAIL LENGTH

SPACES 6'-0" - 6'-3"

BEAM WIDTH 3'-0"

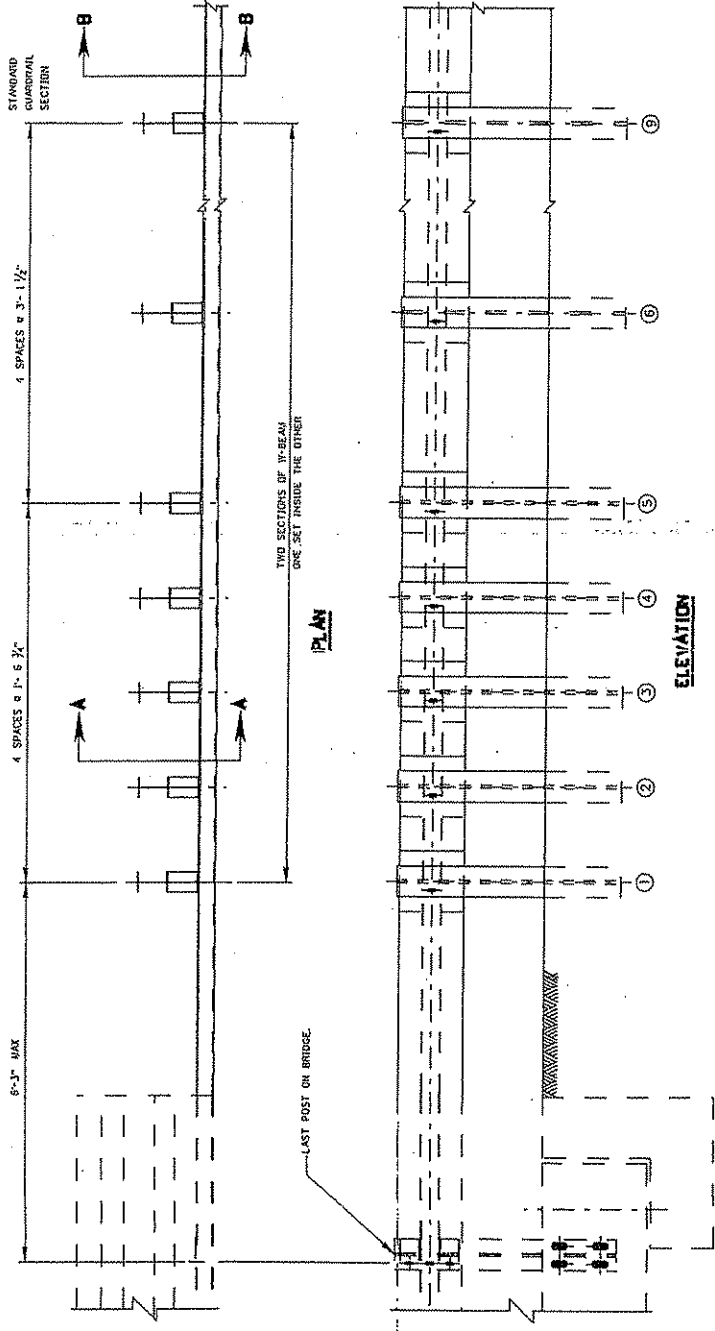
REINFORCING

SKEWED ENDS

PROJECT NUMBER	DISTRICT	COUNTY	SHEET TOTAL
STATE	TOWNSHIP	WETZEL	20 27
582-26-2-26	17A		

**NOTES**

1. THIS GUARDRAIL TRANSITION IS APPROPRIATE FOR CONNECTION TO GUARDRAIL ON BRIDGE.
2. W-BEAM IS NOT BOLTED TO POSTS AT POSTS 2 THROUGH 4 AND POST 6.
3. SEE STANDARD SHEET BR-B104 FOR ANCHOR DETAILS.
4. THERE IS NO SEPARATE PAY ITEM FOR THIS CONNECTION AND ALL COMPONENTS AS DETAILLED HEREIN SHALL BE INCLUDED IN THE CONTRACT PRICE FOR GUARDRAIL.



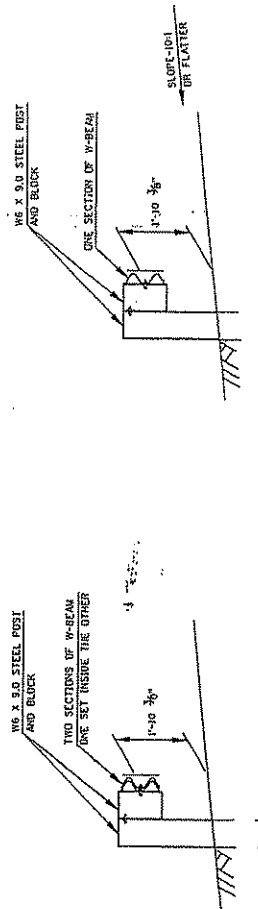
THIS SHEET SHALL BE USED IN CONNECTION WITH STANDARD SHEETS BR-B17A & B THRU BR-B17A & B, BR-B180, BR-B181, BR-B182A & B, BR-B183 AND BR-B184 AS APPLICABLE.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

PADEN FORK BRIDGE  
OVER POINT PLEASANT CREEK  
WETZEL CO. C.R. 26

TYPE TL-2 GUARDRAIL TRANSITION

DESIGNED BY: [Signature]  
CHECKED BY: [Signature]  
DATE: 02-26-07  
SCALE: [Blank]  
SHEET 20 OF 27



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

PREPARED BY: [Signature]  
DATE: 07-02-07

STANDARD SHEET BR-B105

VENDOR PREFERENCE CERTIFICATE

Certification and application\* is hereby made for Preference in accordance with West Virginia Code, §5A-3-37. (Does not apply to construction contracts). West Virginia Code, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the West Virginia Code. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. Application is made for 5% resident vendor preference for the reason checked: Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Carr Concrete

Signed: RE "Burr" Stanley

Date: 1-13-09

Title: Project Manager

\*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.



STATE OF WEST VIRGINIA  
Purchasing Division**PURCHASING AFFIDAVIT****VENDOR OWING A DEBT TO THE STATE:**

*West Virginia Code* §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:**

*West Virginia Code* §21-1D-5 provides that: Any solicitation for a public improvement construction contract shall require each vendor that submits a bid for the work to submit at the same time an affidavit that the vendor has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the West Virginia Code. A public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the West Virginia Code and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the West Virginia Code may take place before their work on the public improvement is begun.

**ANTITRUST:**

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

**LICENSING:**

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:**

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit [www.state.wv.us/admin/purchase/privacy](http://www.state.wv.us/admin/purchase/privacy) for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and is in compliance with the requirements as stated.

Vendor's Name: Carr Concrete

Authorized Signature: RE "Burr" Stanley Date: 1-13-09