



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

# Solicitation

NUMBER
03140252

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
CRYSTAL RINK 304-558-2306

RFQ COPY

TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

DIVISION OF HIGHWAYS  
 JOBSITE  
 SEE SPECIFICATIONS

DATE PRINTED
02/12/2014

BID OPENING DATE: 03/05/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	SF		210-16		
CONCRETE BEAMS, CHANNELS, PRESTRESSED						
REQUEST FOR QUOTATION (ONE-TIME PURCHASE)						
THE WEST VIRGINIA STATE PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS FOR A ONE-TIME PURCHASE OF PRESTRESSED CONCRETE BOX BEAMS AND ACCESSORIES FOR THE HIGHLAND BRIDGE PROJECT PER THE ATTACHED SPECIFICATIONS.						
***** THIS IS THE END OF RFQ 03140252 ***** TOTAL:						

SIGNATURE		TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

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

**INSTRUCTIONS TO VENDORS SUBMITTING BIDS**

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.



A pre-bid meeting will not be held prior to bid opening.



A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:



A **MANDATORY PRE-BID** meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. **VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are non-binding.

Question Submission Deadline: February 25, 2014 at 5:00 PM EST

Submit Questions to: Crystal Rink  
2019 Washington Street, East  
Charleston, WV 25305  
Fax: 304-558-4115  
Email: [crystal.g.rink@wv.gov](mailto:crystal.g.rink@wv.gov)

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including that made at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.
6. **BID SUBMISSION:** All bids must be signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include hand delivery, delivery by courier, or facsimile. The bid delivery address is:

Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

The bid should contain the information listed below on the face of the envelope or the bid may not be considered:

SEALED BID

BUYER: \_\_\_\_\_

SOLICITATION NO.: \_\_\_\_\_

BID OPENING DATE: \_\_\_\_\_

BID OPENING TIME: \_\_\_\_\_

FAX NUMBER: \_\_\_\_\_

In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus n/a convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE:  Technical  
 Cost

7. **BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when time stamped by the official Purchasing Division time clock.

Bid Opening Date and Time: March 5, 2014 at 1:30 PM EST

Bid Opening Location: Department of Administration, Purchasing Division  
 2019 Washington Street East  
 Charleston, WV 25305-0130

8. **ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.
9. **BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.



**GENERAL TERMS AND CONDITIONS:**

1. **CONTRACTUAL AGREEMENT:** Issuance of a Purchase Order signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.
  
2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
  - 2.1 **"Agency" or "Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
  
  - 2.2 **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods and services requested in the Solicitation.
  
  - 2.3 **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
  
  - 2.4 **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
  
  - 2.5 **"Purchase Order"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the successful bidder and Contract holder.
  
  - 2.6 **"Solicitation"** means the official solicitation published by the Purchasing Division and identified by number on the first page thereof.
  
  - 2.7 **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
  
  - 2.8 **"Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. **CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

**Term Contract**

**Initial Contract Term:** This Contract becomes effective on

and extends for a period of \_\_\_\_\_ year(s).

**Renewal Term:** This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal must be submitted to the Purchasing Division Director thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to \_\_\_\_\_ successive one (1) year periods. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

**Reasonable Time Extension:** At the sole discretion of the Purchasing Division Director, and with approval from the Attorney General's office (Attorney General approval is as to form only), this Contract may be extended for a reasonable time after the initial Contract term or after any renewal term as may be necessary to obtain a new contract or renew this Contract. Any reasonable time extension shall not exceed twelve (12) months. Vendor may avoid a reasonable time extension by providing the Purchasing Division Director with written notice of Vendor's desire to terminate this Contract 30 days prior to the expiration of the then current term. During any reasonable time extension period, the Vendor may terminate this Contract for any reason upon giving the Purchasing Division Director 30 days written notice. Automatic extension of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases, but Attorney General approval may be required.

**Release Order Limitations:** In the event that this contract permits release orders, a release order may only be issued during the time this Contract is in effect. Any release order issued within one year of the expiration of this Contract shall be effective for one year from the date the release order is issued. No release order may be extended beyond one year after this Contract has expired.

**Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within \_\_\_\_\_ days.

**One Time Purchase:** The term of this Contract shall run from the issuance of the Purchase Order until all of the goods contracted for have been delivered, but in no event shall this Contract extend for more than one fiscal year.

**Other:** See attached.

4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Purchase Order will be considered notice to proceed

5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

**Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

**Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

**Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

**One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. **PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

7. **EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

8. **REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

**BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

**PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of \_\_\_\_\_ . The performance bond must be issued and received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

**LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be issued and delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable.

**MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

**WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall have appropriate workers' compensation insurance and shall provide proof thereof upon request.

**INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

**Commercial General Liability Insurance:** \_\_\_\_\_ or more.

**Builders Risk Insurance:** builders risk – all risk insurance in an amount equal to 100% of the amount of the Contract.

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

**LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

**9. LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

**10. ALTERNATES:** Any model, brand, or specification listed herein establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

**11. EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or



other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

- 12. LIQUIDATED DAMAGES:** Vendor shall pay liquidated damages in the amount reference section 6.1 for shipment and delivery delays

This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

- 13. ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Purchase Order, upon receipt.

- 14. REGISTRATION:** Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee if applicable.

- 15. COMMUNICATION LIMITATIONS:** In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

- 16. FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

- 17. PAYMENT:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To."

- 18. UNIT PRICE:** Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

- 19. DELIVERY:** All quotations are considered freight on board destination ("F.O.B. destination") unless alternate shipping terms are clearly identified in the bid. Vendor's listing of shipping terms that contradict the shipping terms expressly required by this Solicitation may result in bid disqualification.

- 20. INTEREST:** Interest attributable to late payment will only be permitted if authorized by the West Virginia Code. Presently, there is no provision in the law for interest on late payments.

- 21. PREFERENCE:** Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Resident Vendor Certification form has been attached hereto to allow Vendor to apply for the preference. Vendor's



failure to submit the Resident Vendor Certification form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

- 22. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid on or after July 1, 2012, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to submission of its bid to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.
- 23. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 24. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
- 25. WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.
- 26. TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
- 27. APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.
- 28. COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendors acknowledge that they have reviewed, understand, and will comply with all applicable law.
- 29. PREVAILING WAGE:** On any contract for the construction of a public improvement, Vendor and any subcontractors utilized by Vendor shall pay a rate or rates of wages which shall not be less than the fair minimum rate or rates of wages (prevailing wage), as established by the West Virginia Division of Labor under West Virginia Code §§ 21-5A-1 et seq. and available at <http://www.sos.wv.gov/administrative-law/wagerates/Pages/default.aspx>. Vendor shall be responsible for ensuring compliance with prevailing wage requirements and determining when prevailing wage

requirements are applicable. The required contract provisions contained in West Virginia Code of State Rules § 42-7-3 are specifically incorporated herein by reference.

- 30. ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.
- 31. MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary, no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). **No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.**
- 32. WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.
- 33. SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.
- 34. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.
- 35. WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.
- 36. STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.
- 37. BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

**38. [RESERVED]**

- 39. CONFIDENTIALITY:** The Vendor agrees that it 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. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.
- 40. DISCLOSURE:** Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code § 29B-1-1 et seq.

If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. In addition, a legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

- 41. LICENSING:** In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor 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 agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.
- 42. ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Purchase Order from any agency of the State of West Virginia, the Vendor agrees to 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 Vendor.

- 43. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid for the same material, supplies, equipment or services; (2) that its bid is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this RFQ in its entirety; understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency.

The individual signing this bid on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

- 44. PURCHASING CARD ACCEPTANCE:** The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

- 45. VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, *etc.* and the filing of all necessary documents, forms and returns pertinent to all of the foregoing. Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

- 46. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered



by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

- 47. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 48. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.
- 49. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire any interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.
- 50. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.
  - Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at [purchasing.requisitions@wv.gov](mailto:purchasing.requisitions@wv.gov).
- 51. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information

to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304)558-9911 for more information.

**52. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process.

The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

- a. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
- b. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.



**53. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL:** In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a “substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

**CERTIFICATION AND SIGNATURE PAGE**

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

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(Company)

---

(Authorized Signature)

---

(Representative Name, Title)

---

(Phone Number)

(Fax Number)

---

(Date)

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.:**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |   |  |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further 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.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

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**SPECIFICATIONS**

**1. PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of WVDOH District 3 Bridge Department to establish a contract for the one time purchase of Prestressed Concrete Box Beams and accessories for Hogland Bridge Project No. S354-2/22-0.02.

**2. DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.

**2.1 “Contract Item”** means Prestressed Concrete Box Beams and accessories.

**2.2 “Pricing Page”** means the pages upon which Vendor should list its proposed price for the Contract Items in the manner requested. The Pricing Page is either included on the last page of this RFQ or attached hereto as Exhibit A.

**2.3 “RFQ”** means the official RFQ published by the Purchasing Division and identified as PO #03140252.

**3. GENERAL REQUIREMENTS:**

**3.1 Mandatory Contract Item Requirements:** Contract Item must meet or exceed the mandatory requirements listed below.

**3.1.1 Contract Item #1 – Exterior Beams**

**3.1.1.1** Exterior Beams must be 21” deep by 36” wide by 51’-6” overall length. (50’-0” c-c bearing anchor bolt holes). The beams shall be skewed 30° left forward.

**3.1.2 Contract Item #2 – Interior Beams**

**3.1.2.1** Interior Beams must be 21” deep by 36” wide by 51’-6” overall length. (50’-0” c-c bearing anchor bolt holes). The beams shall be skewed 30° left forward.

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**3.1.3 Contract Item #3 – Type B1 Elastomeric Bearing Pads**

3.1.3.1 Type B1 Elastomeric Bearing Pads must be 1-13/16” thick by 4-3/4” wide by 28” length.

**3.1.4 Contract Item #4 – Type B2 Elastomeric Bearing Pads**

3.1.4.1 Type B2 Elastomeric Bearing Pads must be 1-13/16” thick by 4-3/4” wide by 15-1/2” length.

**3.1.5 Contract Item #5 – Deformed Anchor Bolts**

3.1.5.1 Deformed Anchor Bolts must be No. 8 Grade 60 galvanized bar, 1” diameter by 2’-0” length.

**3.1.6 Contract Item #6 – Preformed Joint Filler for Bearings**

3.1.6.1 Preformed Joint Filler for use around the bearing pads must be 2-1/8” thick. 11.0’ of Joint Filler must be 4-3/4” wide. 35.2’ of Joint Filler must be 5-3/8” wide.

**3.1.7 Contract Item #7 – Preformed Joint Filler for Beam Ends**

3.1.7.1 Preformed Joint Filler for use at the beam ends must be 1” thick by 21” wide.

**3.1.8 Contract Item #8 – Guardrail Assembly**

3.1.8.1 Guardrail Assembly must be provided as shown in the plans and must include all necessary studs, nuts and washers.

**3.1.9 Contract Item #9 – Post Tensioning Bars**

3.1.9.1 Post Tensioning Bars must be 1” diameter. 5 Bars @ 18’-3” are required.

3.1.9.2 Post Tensioning Bars must be threaded and supplied with all hex nuts and other hardware as required in the plans.

**3.1.10 Contract Item #10 – 1” Bearing Plates**

**3.1.10.1** Bearing Plates for exterior beams must be 9” square by 1” thick.

**3.1.11 Contract Item #11 – Bridge Guardrail Posts**

**3.1.11.1** Bridge Guardrail Posts must be designed for a minimum TL-2 crash testing criteria.

**3.1.12 Contract Item #12 – Bridge Guardrail**

**3.1.12.1** Bridge Guardrail must be designed for a minimum TL-2 crash testing criteria.

**3.1.13 Contract Item #13 – Grout Stop**

**3.1.13.1** Grout Stop must be 1” thick sponge rubber or 1” backer rod.

**3.1.14 Contract Item #14 – Washers**

**3.1.14.1** Washers must be 8”x8” squares of 1” thick sponge rubber with a 3-1/2” diameter hole in the center.

**3.2 Mandatory Requirements:** Vendor must meet or exceed the mandatory requirements as shown below:

**3.2.1** All Prestressed Concrete Box Shaped Beams shall be manufactured in accordance with the attached plans for State Project No. S354-2/22-0.02.

**3.2.2** 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 Division of Highways, may be accepted under the following conditions:

**3.2.2.1** Cracks of 0.004 inch or less shall be treated with a coat of a Division of Highways approved sealer.



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**3.2.2.2** Cracks of more than 0.004 inch shall be treated with a second coat of a Division of Highways approved sealer or epoxy injected.

All concrete sealer and epoxy injection required for acceptance shall be performed at no additional cost to the Division of Highways.

**4. CONTRACT AWARD:**

**4.1 Contract Award:** The Contract is intended to provide Agencies with a purchase price for the Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.

**4.2 Pricing Page:** Vendor should complete the Pricing Page in full as failure to complete the Pricing Page in its entirety may result in Vendor's bid being disqualified.

Notwithstanding the foregoing, the Purchasing Division may correct errors as it deems appropriate. Vendor should type or electronically enter the information into the Pricing Page to prevent errors in the evaluation.

**5. PAYMENT:**

**5.1 Payment:** Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia. Methods of acceptable payment must include the West Virginia Purchasing Card. Payment in advance is not permitted under this Contract.

**5.2 Vendor Invoice:** Vendor's invoice must be submitted in original and one copy and contain the following:

**5.2.1** Division of Highways Requisition Purchase Order number.

**5.2.2** Total quantity and unit price with the total cost of each item.

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**6. DELIVERY AND RETURN:**

- 6.1 Shipment and Delivery:** Vendor shall deliver the Contract Items in accordance with the following procedure after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at the project site.

Upon receipt of a State Purchase Order the Vendor shall submit shop drawings to the District Three Bridge Engineer within twenty (20) calendar days. Shop drawings must be approved by the Division of Highways prior to the manufacture of any beam sections.

All beam sections and accessories shall be available for delivery to the specified delivery site within sixty (60) calendar days after the Vendor's receipt of approved shop drawings. Should the vendor fail to have the beams available within the 60 day requirement, the vendor may be subject to a penalty of \$100.00 per day (Saturdays and Sundays excluded). However, this penalty may be waived by the Engineer subject to written approval of Vendor's request.

The Division of Highways requires that all of the beam sections and accessories be delivered on the same date. Should the Vendor fail to meet the same day delivery requirement, the vendor shall be assessed a penalty of \$2,000.00 per day (Saturdays and Sundays excluded) up to a maximum of \$10,000.

Prior to delivery, all Beams, Accessories and Optional Items shall be inspected for acceptance in accordance with Section 603 of the Division of Highways Standard Specifications Roads and Bridges adopted 2010 and as modified by any Supplemental Specification.

- 6.2 Late Delivery:** The Agency placing the order under this Contract must be notified in writing if the shipment of the Contract Items will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the Contract, and/or obtaining the Contract Items from a third party.

Any Agency seeking to obtain the Contract Items from a third party under this provision must first obtain approval of the Purchasing Division.


- 6.3 Delivery Payment/Risk of Loss:** Vendor shall deliver the Contract Items F.O.B. destination to the Agency's location.

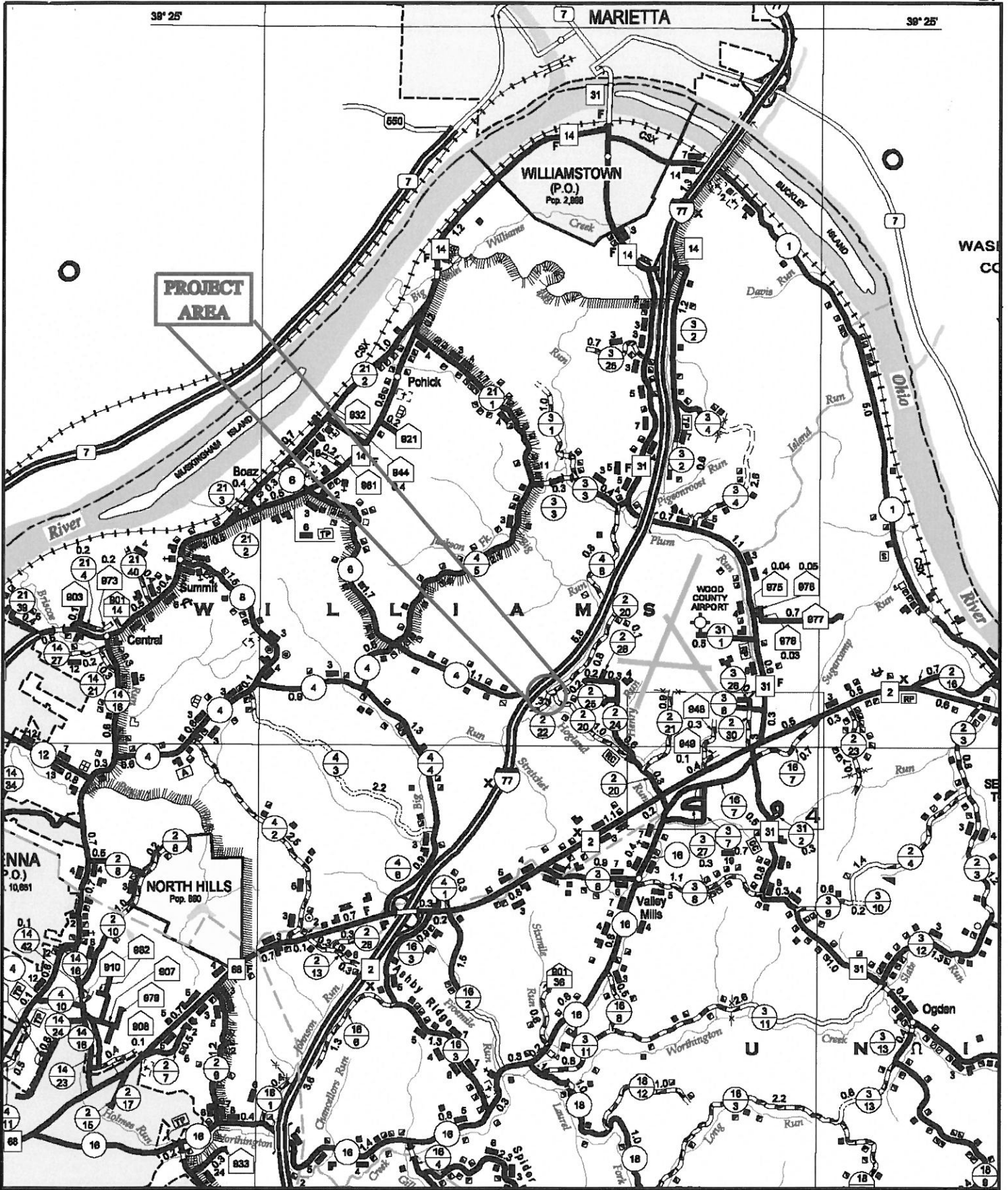
- 6.4 Return of Unacceptable Items:** If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.
- 6.5 Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

# Bid Evaluation Page

## RFQ#: 03140252

### Exhibit A

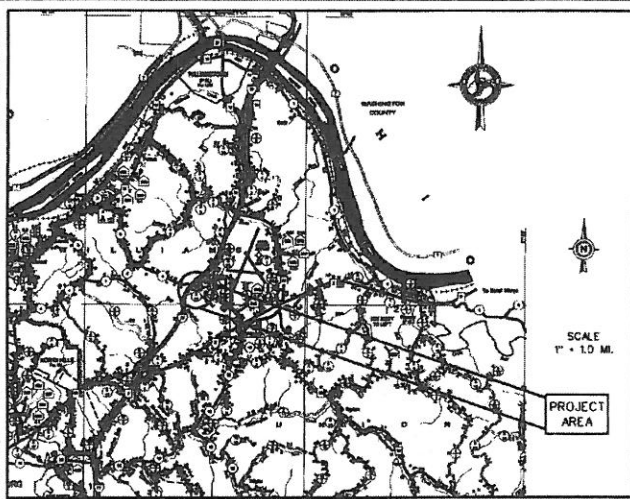
Item Number	Quantity	Unit of Measure	Description	Unit Price	Total
1	463.5	SF	Interior Beam Section: 21" Prestressed Concrete Box Beams (3' Wide) 3 Beams x 51'-6" Overall Length. Skew = 30° LF	\$	-
2	309	SF	Exterior Box Beam Section: 21" Prestressed Concrete Box Beams (3' Wide) 2 Beams x 51'-6" Overall Length. Skew = 30° LF	\$	-
3	8	EA	1-13/16" Elastomeric Laminated Bearing Pads (60 Duro Hardness) 8-B1 pads (4-3/4"x28")	\$	-
4	4	EA	1-13/16" Elastomeric Laminated Bearing Pads (60 Duro Hardness) 4-B2 Pads (4-3/4"x15-1/2")	\$	-
5	10	EA	1" Diameter x 2'-0" Swedged Anchor Bolt or No. 8 Deformed Reinforcing Bar (Grade 60) Galvanized	\$	-
6	21	SF	2-1/8" Thick Sponge Rubber Preformed Joint Filler 17.6 LF @ 5-3/8" Wide= 7.9 SF/End, 16 SF Total 5.5 LF @ 4-3/4" Wide = 2.2 SF/End, 5 SF Total	\$	-
7	62	SF	1" Thick Sponge Rubber Preformed Joint Filler 17.6 LF @ 21" Wide = 30.8 SF/End, 62 SF Total	\$	-
8	16	EA	Guardrail Attachment Assembly for Box Beams with Studs, Nuts, and Washers	\$	-
9	91.25	LF	1" Diameter Post-Tensioning Thread Bar w/12 Hardened Nuts 5 Bars @ 18'-3"	\$	-
10	10	EA	Bearing Plate 9"x9"x1"	\$	-
11	16	EA	Type TL-2 Bridge Guardrail Posts	\$	-
12	112.5	LF	Type TL-2 Bridge Guardrail	\$	-
13	206	LF	1" Grout Stop	\$	-
14	20	EA	1"x8"x8" Washer	\$	-
				\$	-
<b>Grand Total</b>				\$	-



**BRIDGE REPLACEMENT STUDY**  
**HOGLAND BRIDGE #54-2/22-0.02**  
**PROJECT NO. S354-2/22-0.02**  
**WOOD COUNTY**  
 39° 20'23"N, 81° 27'23"W

**WEST VIRGINIA**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**DISTRICT THREE BRIDGE DEPARTMENT**



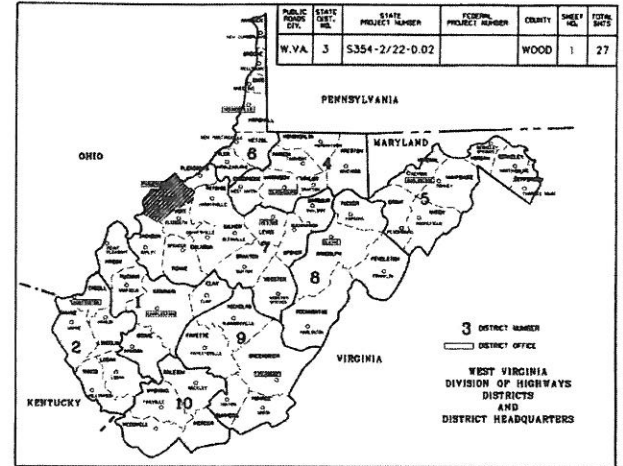


WEST VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PLANS FOR CONSTRUCTION  
OF  
HIGHLAND BRIDGE

DISTRICT NO. THREE  
WOOD COUNTY  
COUNTY ROUTE NO. 22/2 (SLS)  
PROJECT NO. S354-2/22-0.02  
FEDERAL PROJECT NO. N/A

ADT (2010) = 10

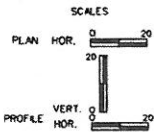
ROADWAY 10+00.00 TO 11+50.00 = 150.00 FT. = 0.028 MI.  
BRIDGE 11+50.00 TO 12+04.00 = 54.00 FT. = 0.010 MI.  
ROADWAY 12+04.00 TO 13+25.00 = 121.00 FT. = 0.023 MI.  
TOTAL = 325.00 FT. = 0.061 MI.



TYPE OF CONSTRUCTION  
BRIDGE NO. 10828  
BRIDGE REPLACEMENT  
SUB AND SUPER STRUCTURE REPLACEMENT  
GRADING, PAVING, AND DRAINAGE

UTILITIES  
ALLEGHENY POWER  
VERIZON - WV

DESIGN EXCEPTIONS  
NONE



NO.	DATE
SP-810	8-07
SP-811	8-07
SP-812	8-07
SP-813	8-07
SP-814	8-07
SP-815	8-07
SP-816	8-07
SP-817	8-07
SP-818	8-07
SP-819	8-07
SP-820	8-07

STANDARD	DESCRIPTION
---	State Line
---	County Line
---	Corporation Line
---	Proposed 8" W. Line
---	Property Line
---	Existing Fence
---	Edge of Stream
---	Proposed Guard Rail
---	Existing Guard Rail
---	Railroad
---	Gas Line
---	Water Line
---	Telephone Line
---	Electric Line
---	Telephone Pole
---	Power Pole
---	Combined Power and Telephone Pole
---	Tree
---	Shrub
---	Right of Way Marker

INDEX TO SHEETS

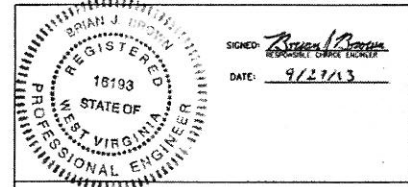
NO.	DESCRIPTION
1	FILE SHEET
2	TYPICAL SECTIONS & DETAILS
3	GENERAL NOTES
4	ESTIMATE OF QUANTITIES, SCOPE OF WORK
5	PLAN VIEW
6	CLUMP DATA & SURVEY REFERENCES
7	PROFILE VIEW
8	GENERAL NOTES
9	STRUCTURE NOTES & DETAILS
10	ARRANGEMENT LAYOUT
11-13	ARRANGEMENT DETAILS
13-21	PRESTRESSED CONCRETE BEAM DETAILS
22-23	CRUSH BORDERS
24-27	CRUSH SECTIONS

PREPARED BY	DATE
LRT	9-13
SUB	9-13
CWE	9-13
APPROVED BY	
APPROVED BY	

I HEREBY CERTIFY THAT THIS IS A CORRECT COPY  
OF THE PLANS OF PROJECT S354-2/22-0.02

*Charity A. Craig*  
EXECUTIVE SECRETARY

NO.	SHEET	REVISION	DATE	BY



SIGNED: *Brian J. Brown*  
REGISTERED PROFESSIONAL ENGINEER  
DATE: 9/27/13

RECOMMENDED: *Brian J. Brown*  
PROJECT ENGINEER

RECOMMENDED FOR APPROVAL: *Ronald G. Amick*  
STATE HIGHWAY PROJECTS

APPROVED: *Paul D. Masters, Jr.*  
COMMISSIONER OF HIGHWAYS

PROJECT NO. S354-2/22-0.02



STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02		3	WOOD	9	27

**STRUCTURE REMOVAL**

THE EXISTING ABUTMENTS SHALL BE REMOVED TO A MINIMUM OF 24 INCHES BELOW FINISHED GROUND. THE COST FOR THIS REMOVAL AND ASSOCIATED EXCAVATION SHALL BE INCLUDED IN THE BID FOR ITEM 203001-000 DISMANTLING STRUCTURE.

**ASBESTOS**

THE EXISTING BRIDGE AND ABUTMENTS HAVE BEEN INSPECTED AND ARE NOT KNOWN TO CONTAIN ASBESTOS. THE CONTRACTOR SHOULD BE ALERT TO ANY UNDISCOVERED ASBESTOS. THE CONTRACTOR SHALL SUBMIT ANY NECESSARY ENVIRONMENTAL PAPERWORK TO THE APPROPRIATE AGENCIES TEN DAYS PRIOR TO DEMOLITION.

**LEAD PAINT**

THE EXISTING BRIDGE CONTAINS LEAD-BASED PAINT AND CARE SHALL BE EXERCISED DURING REMOVAL. LEAD PAINT CONTAMINATED STEEL MUST BE PROPERLY DISPOSED OF ACCORDING TO EPA AND OTHER REGULATORY AGENCIES. ANY ADDITIONAL COST ASSOCIATED WITH THE PRESENCE OF THIS PAINT SHALL BE INCLUDED IN ITEM 203001-000 DISMANTLING STRUCTURE.

**DESIGN UNIT STRESSES**

THIS BRIDGE IS DESIGNED FOR AN HL-93 LIVE LOAD CAPACITY, AS WELL AS FOR A 25 PSF WEARING SURFACE. DESIGN UNIT STRESSES:

STRUCTURAL STEEL (A36) F<sub>y</sub> = 36,000 PSI      STRUCTURAL STEEL (A572) F<sub>y</sub> = 60,000 PSI  
 CLASS B CONCRETE F'<sub>c</sub> = 3,000 PSI      STRUCTURAL STEEL (A588) F<sub>y</sub> = 50,000 PSI  
 REINFORCING STEEL, AASHTO M31 GRADE 60, F<sub>y</sub> = 60,000 PSI

**CONCRETE (CAST-IN-PLACE)**

CONCRETE SHALL BE CURED IN ACCORDANCE WITH SUBSECTION 601.12 OF THE STANDARD SPECIFICATIONS.

IF USED, POLYETHYLENE COATED BURLAP SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 707.6 OF THE STANDARD SPECIFICATIONS.

THE MINIMUM COVERING, MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING STEEL BAR, SHALL BE 3 INCHES IF THE CONCRETE IS IN CONTACT WITH THE GROUND SURFACE AND 2 INCHES OTHERWISE, EXCEPT AS SPECIFIED DIFFERENTLY ON THE PLANS.

**SUBSTRUCTURE CONCRETE (CAST-IN-PLACE)**

ALL CONCRETE IN THE SUBSTRUCTURE SHALL BE CLASS B, AIR ENTRAINED. CHAMFER ALL EXPOSED EDGES OF THE SUBSTRUCTURE CONCRETE 1 INCH, EXCEPT FOR THE ABUTMENT CURBS, WHICH SHALL BE CHAMFERED 3/4 INCH.

THE EXPOSED SURFACE OF THE SUBSTRUCTURE SHALL BE CLASS 1, ORDINARY SURFACE FINISH, IN ACCORDANCE WITH SUBSECTION 601.11.1 OF THE STANDARD SPECIFICATIONS, EXCEPT FOR THE ABUTMENT CURBS AND WINGWALLS, WHICH SHALL BE CLASS 2, RUBBED FINISH, IN ACCORDANCE WITH SUBSECTION 601.11.2 OF THE STANDARD SPECIFICATIONS.

THE ABUTMENT CURTAIN WALL SHALL NOT BE POURED UNTIL AFTER THE SUPERSTRUCTURE IS IN PLACE.

THE ABUTMENT BEARING SEAT, UPON WHICH THE SHOES OR OTHER BEARING DEVICES WILL BE SET, SHALL BE FINISHED TO TRUE ELEVATIONS AS SHOWN ON THE PLANS.

FILL ANCHOR BOLT HOLES WITH NON-SHRINK GROUT AFTER ANCHOR BOLTS ARE SET. THE NON-SHRINK GROUT SHALL CONSIST OF 1 PART REGULAR PORTLAND CEMENT, 1 PART SILICA SAND AND 1 PART NON-SHRINK ADMIXTURE OR THE GROUT SHALL BE AN APPROVED EQUAL. THE COST OF THE NON-SHRINK GROUT SHALL BE INCLUDED IN PAY ITEM 601002-001 CLASS B CONCRETE.

**STRUCTURAL STEEL**

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 (F<sub>y</sub> = 60,000 PSI) UNLESS OTHERWISE NOTED.

FOR SUPERSTRUCTURES UTILIZING STEEL GRID FLOORING, STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A588 (F<sub>y</sub> = 50,000 PSI) MAY BE SUBSTITUTED FOR ASTM A572 STEEL. NO PAINTING SHALL BE REQUIRED FOR ASTM A588 STEEL.

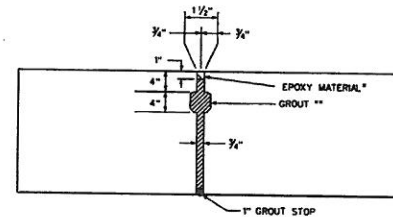
**VERIFICATION OF DIMENSIONS**

ALL DIMENSIONS AND ELEVATIONS ARE BASED ON AVAILABLE SURVEY DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THIS INFORMATION AFTER THE EXISTING CUT STONES ARE REMOVED.

**REINFORCING STEEL BARS**

ALL REINFORCING STEEL BARS SHALL BE INTERMEDIATE GRADE BILLET STEEL, GRADE 60 IN ACCORDANCE WITH SUBSECTION 709.1 OF THE STANDARD SPECIFICATIONS. THE REQUIREMENTS OF SECTION 802 OF THE STANDARD SPECIFICATIONS SHALL BE FOLLOWED. REINFORCEMENT UNDER THE SHOES OR OTHER BEARING DEVICES SHALL BE SO PLACED SO AS TO AVOID INTERFERENCE WITH DRILLING OF ANCHOR BOLT HOLES. ALL SUBSTRUCTURE REINFORCING STEEL BARS SHALL BE EPOXY COATED.

**GROUTING DETAIL**



NOTE: ALL ANCHOR BOLTS, NUTS, WASHERS, POST-TENSIONING BOLTS, BRIDGE GUARDRAIL ATTACHMENT HARDWARE, ELASTOMERIC BEARING PADS, EPOXY MATERIAL, SLANE TREATMENT, AND ALL OTHER BEAM HARDWARE SHALL BE INCLUDED IN THE UNIT BID FOR ITEM 603016-008.

\* EPOXY MATERIAL TO BE "SKA-DUR 42, GROUT PAK" AS MANUFACTURED BY THE SKA CORPORATION, OR AN APPROVED EQUAL.

\*\*GROUTING - IN ADDITION TO GROUTS MEETING SUBSECTION 715.5 OF THE STANDARD SPECIFICATIONS, AN EPOXY TYPE GROUT MAY BE USED WITH APPROVAL OF THE ENGINEER. "SKA-DUR 42, GROUT-PAK" (OR APPROVED EQUAL) MAY BE USED IN THIS REGARD. AN ESTIMATED 75 - 50\* BAGS OF NON-SHRINK GROUT WILL BE REQUIRED FOR THIS PROJECT. (FOR INFORMATION ONLY)

**CONCRETE SEALER**

ALL CONCRETE SURFACES ARE TO BE SEALED WITH D-TECH 470 CONCRETE SEALER BY IMCO TECHNOLOGIES (OR APPROVED EQUAL) IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE COST OF THE SEALER SHALL BE INCLUDED IN ITEM 601002-001.

**FOUNDATION PROTECTION**

1) FOUNDATION PROTECTION MATERIAL FOR SCOUR PROTECTION SHALL BE UNIFORMLY GRADED AS FOLLOWS WITH A D50 SIZE OF 12".

STONE	% OF GRADATION SMALLER THAN
20"	100%
16"	85%
12"	50%
8"	15%

2) THE STONE SHALL BE REASONABLY WELL GRADED THROUGHOUT THE SCOUR PROTECTION THICKNESS AS DETERMINED BY THE ENGINEER BY VISUAL INSPECTION.

3) STONES SMALLER THAN THE SPECIFIED 15% SHALL NOT BE PERMITTED IN ANY AMOUNT EXCEEDING 20% BY WEIGHT.

4) MATERIAL SHALL CONSIST OF ROCK (MEDIUM HARD OR HARDER) OF A QUALITY SATISFACTORY TO THE ENGINEER AND SHALL BE PLACED PER SECTION 218 EXCEPT THAT NO TESTING SHALL BE REQUIRED.

5) THE USE OF SHALE IS NOT PERMITTED.

6) FOR ESTIMATION PURPOSES THE FOUNDATION PROTECTION WEIGHT SHALL BE ASSUMED AS 1.65 TN/CY.

7) ALL COST ASSOCIATED WITH PLACING THE FOUNDATION PROTECTION (INCLUDING EXCAVATION, EMBANKMENT AND CLEARING & GRUBBING NOT OTHERWISE INCLUDED IN THE ROADWAY CROSS-SECTIONS) SHALL BE INCLUDED IN ITEM 218006-000 FOUNDATION PROTECTION.

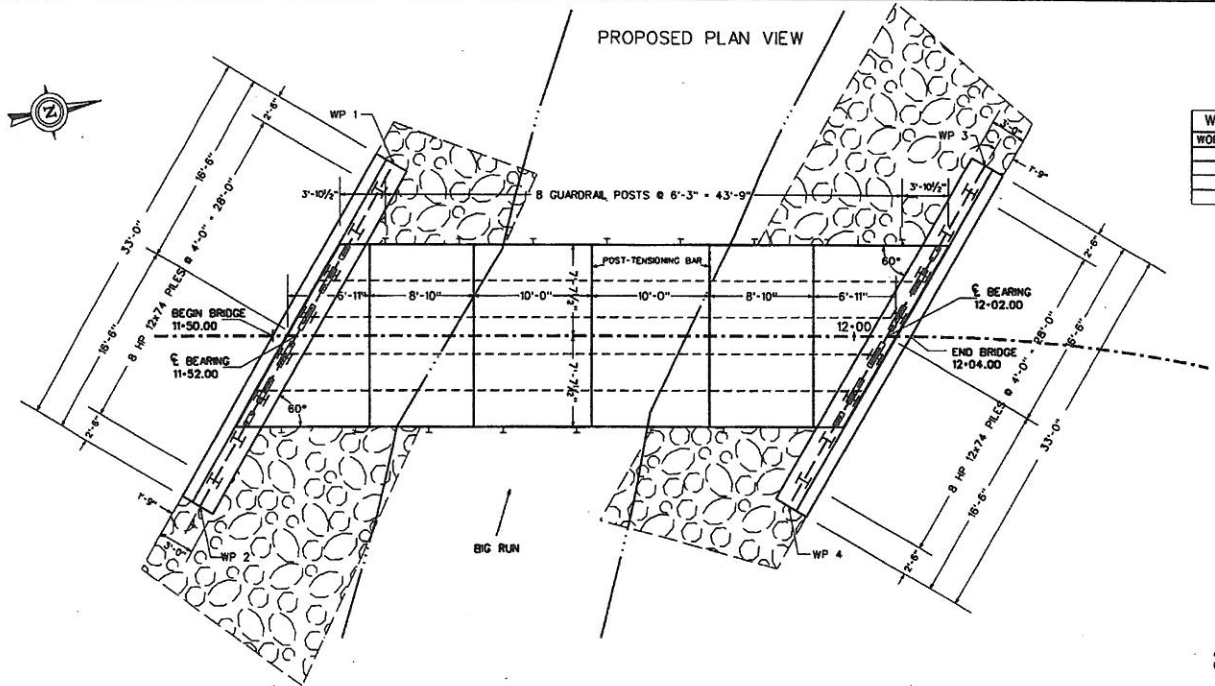
**REVISED STANDARD DRAWINGS USED**

DRAWING	REVISION DATE	NO.	REVISION	DATE	BY

THE W.VA. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
BRIDGE NO. 54-2/22-0.02 OVER BIG RUN ON COUNTY ROUTE 2/22 (SLS) IN WOOD COUNTY	
DESIGNED BY: LRT 9-13	SHEET 9 of 27 BRIDGE NUMBER 54-2/22-0.02 3028
DRAWN BY: LRT 9-13	
CHECKED BY: BJB 9-13	
REVIEWED BY: CWE 9-13	
<b>STRUCTURE NOTES &amp; DETAILS</b>	

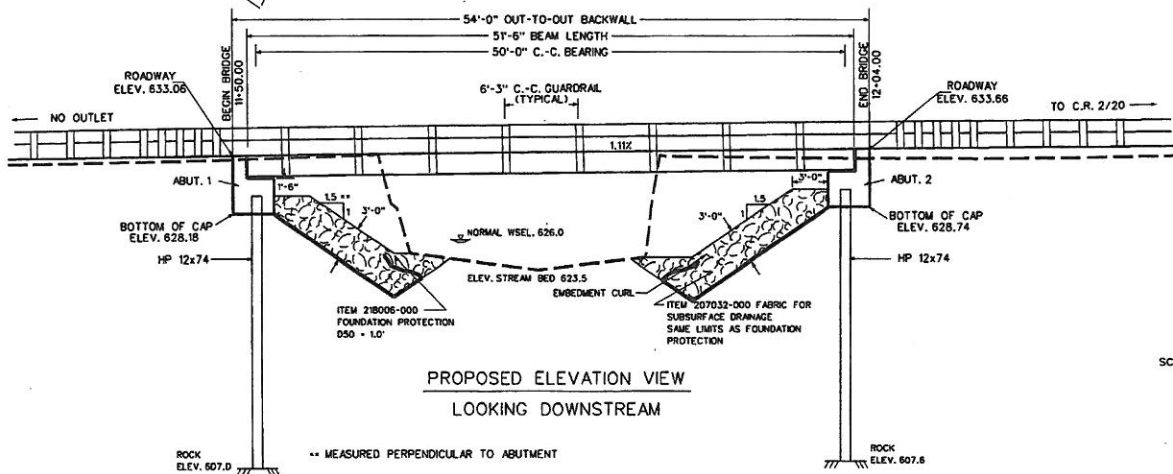
STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02		3	WOOD	10	27

WORKPOINT COORDINATES		
WORKPOINT	NORTHING	EASTING
WP1	311,916.06	1,415,164.97
WP2	311,891.99	1,415,187.54
WP3	311,965.37	1,415,178.10
WP4	311,941.30	1,415,200.66



- PILE DRIVING NOTES**
- 1) ALL HP12x74 PILING SHALL HAVE A DESIGN LOAD OF 98.1 TONS AND SHALL BE DRIVEN TO REFUSAL INTO THE FOUNDATION STRATA AS INDICATED BY THE ESTIMATED PILE TIP ELEVATIONS.
  - 2) REFUSAL IS DEFINED AS THE EQUIVALENT OF 20 BLOWS FOR ONE INCH OR LESS OF PENETRATION WITH A POWER HAMMER DEVELOPING A MINIMUM CAPACITY OF 15,000 FT-POUNDS PER BLOW.
  - 3) IF A LARGER HAMMER IS USED, THE NUMBER OF BLOWS IN THE LAST INCH OF PENETRATION MAY BE REDUCED IN DIRECT PROPORTION TO THE ENERGY RATING OF THE HAMMER, BUT TO NO LESS THAN 12. THE CONTRACTOR SHALL ALSO SUBMIT DOCUMENTATION VERIFYING (USING WAVE EQUATION ANALYSIS) THAT THE PILES WILL NOT BE DAMAGED DURING DRIVING.
  - 4) ALL DRIVEN PILES SHALL BE FITTED WITH PRE-MANUFACTURED PILE POINTS CONFORMING TO SECTION 709.50. THE COST OF THE PILE POINTS SHALL BE INCLUDED IN ITEM 616004-008.
  - 5) PILE LENGTHS ARE ESTIMATES BASED ON THE AVAILABLE DATA. (SEE CORE BORING DATA ON SHEET 6.) THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING PILE LENGTHS TO BE ORDERED.

ALL PILES SHALL BE AASHTO M270, GRADE 50 HP12X74 (OR EQUIVALENT) STEEL BEARING PILES.



SCALE: 1" = 5'

NO.	REVISION	DATE	BY

THE W.VA. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

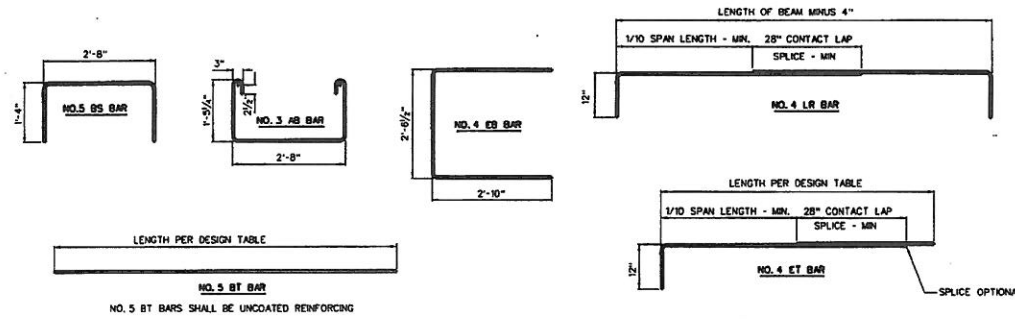
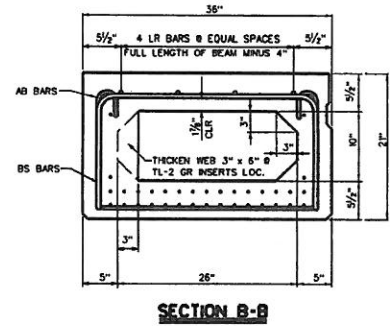
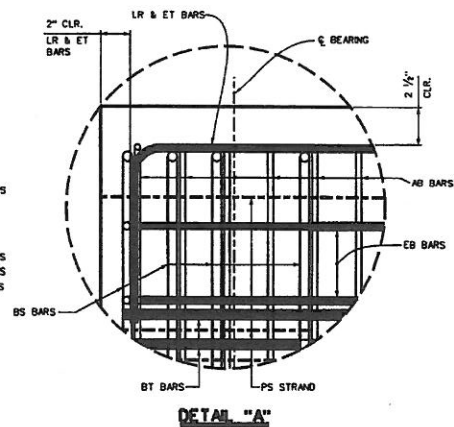
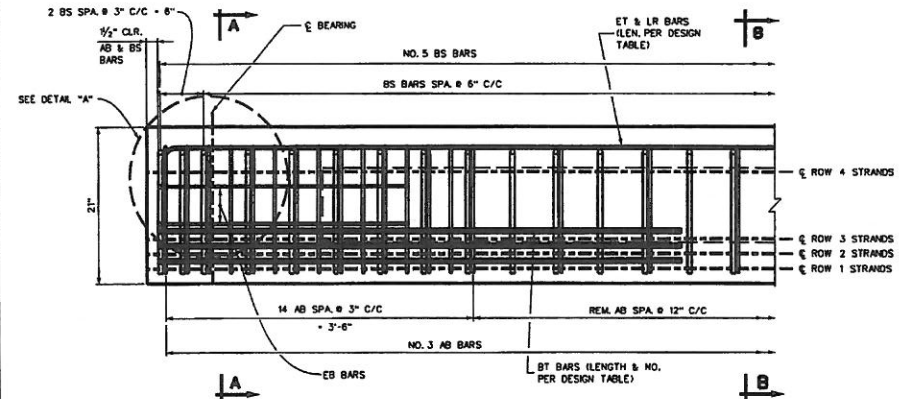
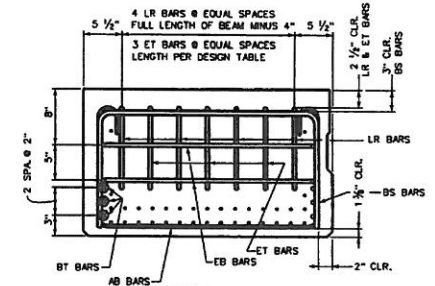
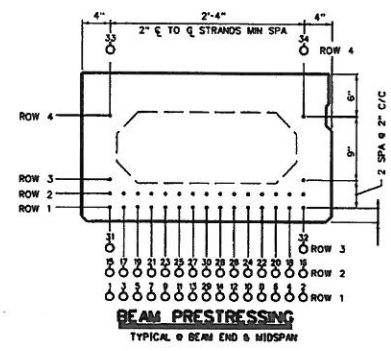
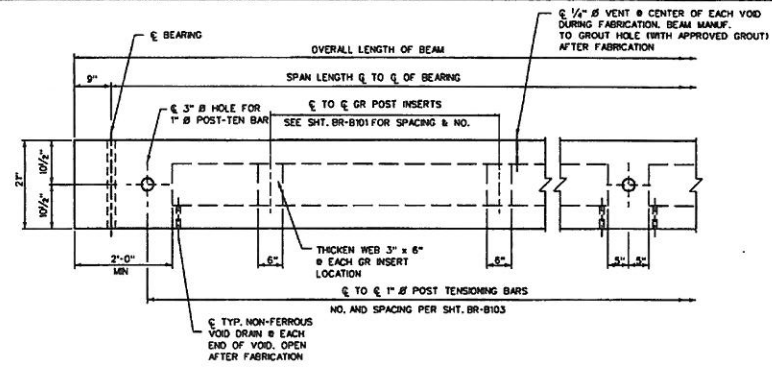
BRIDGE NO. 54-2/22-0.02  
OVER  
BIG RUN  
ON  
COUNTY ROUTE 2/22 (SLS)  
IN  
WOOD COUNTY

DESIGNED BY: LRT 9-13  
CHECKED BY: LRT 9-13  
DRAWN BY: BJS 9-13  
REVIEWED BY: CWE 9-13

SHEET 10 OF 27  
BRIDGE NUMBER 54-2/22-0.02 10828

ABUTMENT LAYOUT

PROJECT NUMBERS		DISTRICT	COUNTY	SHEET NO.	TOTAL
STATE	FEDERAL				
S354-2/22-0.02	-	3	WOOD	13	27



NOTES:

- REFER TO SHEET BR-B102A FOR SHEAR KEY DETAILS.
- DESIGNER SHALL USE THE FOLLOWING KEY TO INDICATE STRAND AND DEBONDING PATTERN ON "BEAM PRESTRESSING VIEW", THIS SHEET.
  - ACTIVE STRAND
  - ▽ DEBOND STRAND LENGTH FROM END OF BEAM
  - △ DEBOND STRAND LENGTH FROM END OF BEAM
  - DEBOND STRAND LENGTH FROM END OF BEAM
- THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B21A, BR-B100, BR-B101, BR-B102A & B, BR-B103, BR-B104, BR-B105A & B AND BR-B106 AS APPLICABLE.

WHEN A POST-TEN ACCESS POCKET IS USED AS DETAILED ON SHEET BR-103 STRANDS IN ROWS 3 AND 4 SHALL BE ELIMINATED, THE BEAM SHALL BE REDESIGNED AS NECESSARY.

DESIGNED BY: *[Signature]* DATE: 07-02-07

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

21" PRESTRESSED CONCRETE  
BOX BEAMS  
DESIGN AND ASSEMBLY DETAILS

STANDARD SHEET BR-B21A

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

BRIDGE NO. 54-2/22-0.02  
OVER  
BIG RUN  
ON  
COUNTY ROUTE 2/22 (SLS)  
IN  
WOOD COUNTY

21" PRESTRESSED BOX BEAM  
DESIGN AND ASSEMBLY DETAILS

DESIGNED BY: TW  
DRAWN BY: SH  
CHECKED BY: TW  
REVIEWED BY: TW  
DATE: 9-13  
SCALE:  
SHEET 13 OF 27  
54-2/22-0.02  
1988

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02	-	3	WOOD	14	27

DESIGN DATA FOR 21" DEPTH ADJACENT BOX BEAM												
SPAN LENGTH @ TO @ BEARING	30'-0"	32'-0"	34'-0"	36'-0"	38'-0"	40'-0"	42'-0"	44'-0"	46'-0"	48'-0"	50'-0"	
OVERALL LENGTH OF BEAM	31'-6"	33'-6"	35'-6"	37'-6"	39'-6"	41'-6"	43'-6"	45'-6"	47'-6"	49'-6"	51'-6"	
NO. OF 270 KSI, 1/2" Ø LOW-RELAXATION STRANDS, AREA/STRAND = 0.167 SQ. IN.	10	10	10	12	12	14	14	14	16	16	16	
STRAND POSITION NUMBER	ROW 1	1,2,11,12	1,2,11,12	1,2,11,12	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,13,14	1,2,5,6,9,10,13,14	1,2,5,6,9,10,13,14	1,2,5,6,9,10,13,14	
	ROW 2	15,16,25,26	15,16,25,26	15,16,25,26	15,16,27,28	15,16,27,28	15,16,21,22,27,28	15,16,21,22,27,28	15,16,21,22,27,28	15,16,21,22,27,28	15,16,21,22,27,28	
	ROW 3											
	ROW 4	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34	
PRESTRESSING FORCE IMMEDIATELY AFTER STRAND RELEASE, P <sub>pi</sub> , (KIPS/BEAM)	327	328	328	391	391	453	454	454	515	516	517	
EFFECTIVE PRESTRESSING FORCE AFTER ALL LOSSES, P <sub>pe</sub> , (KIPS/BEAM)	297	298	298	350	352	403	404	406	454	456	458	
REQUIRED FACTORED MOMENT @ STRENGTH I, M <sub>u</sub> (FT-KIPS/BEAM)	359	393	427	465	504	545	588	639	693	746	800	
FACTORED FLEXURAL RESISTANCE, M <sub>r</sub> (FT-KIPS/BEAM)	527	527	527	644	644	743	743	743	853	853	853	
TOTAL NO. DEBONDED STRANDS												
DEBONDED STRAND POSITION NUMBER & SHIELDING LENGTH FROM EACH END	ROW 1											
	ROW 2											
NUMBER & LENGTH #4 ET TOP TENSION BARS @ EACH END	3 - #4 x 4'-6"	3 - #4 x 4'-6"	3 - #4 x 5'-0"	3 - #4 x 5'-0"	3 - #4 x 5'-0"	3 - #4 x 5'-0"	3 - #4 x 5'-6"	3 - #4 x 5'-6"	3 - #4 x 6'-0"	3 - #4 x 6'-0"	3 - #4 x 6'-6"	
NUMBER & LENGTH #5 BT BOTTOM TENSION BARS @ EACH END	2 - #5 x 5'-0"	2 - #5 x 5'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	2 - #5 x 6'-0"	
DESIGN CAMBER ± ± POSITIVE (UP) (INCHES)	@ RELEASE	0.15	0.15	0.15	0.26	0.27	0.37	0.38	0.55	0.55	0.54	
	@ ERECTION	0.23	0.23	0.22	0.40	0.39	0.56	0.55	0.52	0.79	0.76	0.71
	@ FINAL	0.24	0.22	0.18	0.40	0.36	0.55	0.49	0.40	0.70	0.59	0.45
NO OF INSERTS RECD.											8	
NUMBER & SPACING OF TL-2 GUARDRAIL INSERTS	END OF BEAM TO @ OF FIRST INSERT EA. END										3'-10 1/2"	
	SEE NOTE 6 @ OF 1st INSERT TO @ 2nd INSERT EA. END										6'-3"	
WEIGHT OF TYPICAL BEAM INCLUDING DIAPHRAGM (TONS)	9.2	9.8	10.4	10.9	11.5	12.0	12.6	13.1	13.8	14.3	14.9	

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.

**NOTES**

1. BEAM WEIGHTS LISTED IN THE DESIGN TABLE ARE BASED ON ZERO SKEW, 2 FT. LONG ENDBLOCK AND DIAPHRAGMS SPACED @ 15 FT C/C. WEIGHTS FOR SKEWED BEAMS, LONGER ENDBLOCKS AND ADDITIONAL DIAPHRAGMS SHOULD BE ADJUSTED ACCORDINGLY. FOR ADDITIONAL DIAPHRAGMS, ADD 228 LBS/DIAPHRAGM. FOR SKEW ADD 21 LBS/DEGREE OF SKEW/END. FOR LONGER ENDBLOCK, ADD 271 LBS/L/END.
2. DESIGNERS SHOULD NOTE THAT DATA IN STANDARD TABLE IS BASED ON EVEN SPAN LENGTHS. A TWO LANE STRUCTURE @ BEAMS WIDE AND ZERO SKEW. SUPERIMPOSED DEAD LOADS INCLUDE TYPE F PARAPET (321 PLF) AND A FWS OF 50 PSF. FOR NON-STANDARD BRIDGES DATA SHOULD BE VERIFIED AND IF REQUIRED NEW DESIGN DATA ENTERED INTO BLANK COLUMNS. IN NO CASE SHALL THE STANDARD DESIGN TABLE BE ALTERED.
3. PREDICTED DESIGN CAMBER VALUES LISTED IN THE TABLE ARE BASED ON EMPIRICAL FORMULAS AND AS SUCH ARE APPROXIMATE. FOR MEMBERS WITH SPAN-TO-DEPTH RATIOS AT OR EXCEEDING 25, THE TOLERANCE VALUES LISTED IN APPENDIX B OF PCI MANUAL FOR QUALITY CONTROL, MNL-116, MAY NOT APPLY. MEASUREMENT OF CAMBER FOR COMPARISON TO PREDICTED DESIGN VALUES SHOULD BE COMPLETED WITHIN 72 HOURS OF RELEASE. ADDITIONALLY, CAMBER SHOULD BE EVALUATED 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 TIME OF ERECTION, BEFORE THE BEAMS ARE SECURED IN PLACE. METHOD OF CORRECTION SHALL PROVIDE AN EVEN, TOTAL BEARING AND A LEVEL TOP BEAM SURFACE. TOLERANCE, AFTER CORRECTION, SHALL BE (+/-) 1/8" 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 INPUT VALUES OF NUMBER OF INSERTS, DISTANCE FROM END OF BEAM TO @ FIRST INSERT, AND @ FIRST INSERT TO @ SECOND INSERT, ABOVE VALUES SHALL BE BASED ON THE REQUIRED 6'-3" GUARDRAIL POST SPACING ACROSS THE BRIDGE.
7. THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B21A, BR-B100, BR-B101, BR-B102A & B, BR-B103, BR-B104, BR-B105A & B AND BR-B106 AS APPLICABLE.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION  
 DESIGN TABLE FOR 21"  
 PRESTRESSED BOX BEAM  
 STANDARD SHEET BR-B21B

DATE: 07-02-07

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION

BRIDGE NO. 54-2/22-0.02  
 OVER  
 BIG RUN  
 ON  
 COUNTY ROUTE 2/22 (SLS)  
 IN  
 WOOD COUNTY

DESIGNED BY: [Signature]  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 REVISION BY: [Signature]  
 DATE: 9-13  
 SCALE:  
 SHEET NO. 14 OF 27  
 BRIDGE NUMBER 54-2/22-0.02  
 10828

DESIGN TABLE FOR 21"  
 PRESTRESSED BOX BEAM

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02		3	WOOD	15	27

**GOVERNING SPECIFICATIONS**

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, ADOPTED [2000] AS AMENDED BY THE CURRENT SUPPLEMENTAL SPECIFICATIONS, THE CONTRACT PLANS AND CONTRACT SPECIAL PROVISIONS ARE THE GOVERNING PROVISIONS APPLICABLE TO THIS PROJECT.

ALL BEAMS ARE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 1998 AS AMENDED BY THE 2003 INTERIM SPECIFICATIONS.

**DESIGN NOTES**

ALL STANDARD ADJACENT PRESTRESSED CONCRETE BRIDGE BEAMS ARE DESIGNED TO MEET THE FOLLOWING CRITERIA:

- DESIGN LOADS:
  - HL-93 LIVE LOAD IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
  - FUTURE WEARING SURFACE OF 50 PSF OF ROADWAY.
  - TYPE F PARAPET WEIGHING 321 PLF.
  - DIAPHRAGM DEAD LOAD, NUMBER REQUIRED BASED ON 15'-0" MAX. SPACING.
- TWO LANE BRIDGE WITH AN OVERALL WIDTH OF 24'-5" (INCL. 3/4" GAP BETWEEN ADJ. BEAMS), A CURB-TO-CURB WIDTH OF 22'-1", 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
COMPRESSIVE STRESS LIMITS IN CONCRETE @ SERVICE (AFTER LOSSES):	
@ FINAL 1 (PS-DL+LL)	4800 PSI
@ FINAL 2 (PS-DL)	3600 PSI
@ FINAL 3 (50%PS-DL+LL)	3200 PSI
TENSILE STRESS LIMIT IN CONCRETE @ SERVICE (AFTER LOSSES):	
@ FINAL 1 (PS-DL+LL)	-270 PSI
TENSION STRESS LIMIT PRIOR TO TRANSFER:	202.5 KSI
TENSION STRESS LIMIT AFTER ALL LOSSES:	194.4 KSI
- DEBONDING OR SHELTING OF STRANDS TO REDUCE TEMPORARY TENSILE STRESSES IS PERMITTED, HOWEVER DEBONDING IS LIMITED TO 40% PER ROW AND 25% TOTAL. IN NO INSTANCES SHALL OUTER STRANDS BE DEBONDED. DEBONDED STRANDS SHALL BE SEPARATED BY AT LEAST ONE FULLY BONDED STRAND AND SHALL BE SYMMETRICAL ABOUT THE C OF THE BEAM. SHELTING OF STRANDS SHALL BE ACCOMPLISHED BY TAPING OR TIGHT FITTING PLASTIC TUBES TAPED AT EACH END.
- THE ELASTOMERIC BEARING PADS PROVIDED IN THE STANDARD DESIGNS ARE BASED ON ZERO GRADE AND ARE LIMITED TO A MAXIMUM OF 5% GRADE. IN INSTANCES OF GRADES EXCEEDING THIS LIMIT, PADS SHALL BE SPECIFICALLY DESIGNED. INDIVIDUAL PAD DESIGNS SHALL BE IN ACCORDANCE WITH SECTION 14, AASHTO LRFD. BEVELED SOLE PLATES ARE PERMITTED.
- MAXIMUM BEAM SKEW SHALL BE 30 DEGREES.
- WHEN ALTERNATE DESIGNS OR SITE SPECIFIC DESIGNS ARE PROVIDED, CRITERIA SET FORTH IN THESE STANDARDS SHALL APPLY.
- NEGATIVE DESIGN CAMBER AFTER ALL LOSSES IS NOT PERMITTED.
- EACH BEAM PROVIDED IN THESE STANDARD DESIGNS HAS BEEN LOAD RATED IN ACCORDANCE WITH SECTION 3.15 OF THE WEST VIRGINIA DIVISION OF HIGHWAYS BRIDGE DESIGN MANUAL, 2004. ADDITIONALLY, LOAD RATING PROCEDURES ARE IN ACCORDANCE WITH THE AASHTO MANUAL FOR CONDITION EVALUATION AND LOAD AND RESISTANCE FACTOR RATING OF HIGHWAY BRIDGES, 2003.

BAR SIZE	NO. 3	NO. 4	NO. 5	NO. 6
SPICE LEN.	21"	28"	34"	41"

THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B17A & B THRU BR-B42A & B, BR-B101, BR-B102A & B, BR-B103, BR-B104, BR-B105A & B AND BR-B106 AS APPLICABLE.

**MATERIALS & FABRICATION NOTES**

\* THE PRESTRESSED CONCRETE BEAMS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF SECTION 603 OF THE STANDARD SPECIFICATIONS.

**MILD REINFORCEMENT:**

- \* ALL MILD REINFORCING STEEL SHALL BE GRADE 60, DEFORMED BILLET STEEL AND SHALL BE EPOXY COATED EXCEPT WHERE NOTED. ALL UNCOATED REINFORCING SHALL MEET THE REQUIREMENTS OF AASHTO M31. ALL EPOXY COATED REINFORCING SHALL MEET THE REQUIREMENTS OF AASHTO M284, EXCEPT WHERE AMENDED BY SECTION 709.1 OF THE STANDARD SPECIFICATIONS.
- \* ALL TENSION LAP SPLICES SHALL BE A CLASS B, CONTACT TYPE. MINIMUM LAP SPLICE LENGTHS SHALL BE AS GIVEN IN THE "LAP SPLICE TABLE". THIS SHEET. ADDITIONALLY, IF LAP SPLICING OF ET, LR, AND BT BARS IS USED, TERMINATION OF THE SPLICE SHALL BE NO CLOSER TO THE END OF THE BEAM THAN 1/10 OF THE SPAN LENGTH.
- \* MINIMUM BAR BENDING DIAMETER SHALL BE 6 BAR DIAMETERS, EXCEPT THAT NO. 4 AB BARS MAY HAVE A MINIMUM BEND DIAMETER OF 4 BAR DIAMETERS.
- \* MINIMUM CONCRETE COVER SHALL BE AS SPECIFIED IN SECTION 603.5 OF THE STANDARD SPECIFICATIONS, EXCEPT WHERE NOTED ON THE PLANS.

**PRESTRESSING STRAND:**

- \* ALL PRESTRESSING STEEL SHALL BE 1/2" Ø, GRADE 270, 7 WIRE UNCOATED, LOW-RELAXATION STRAND MEETING THE REQUIREMENTS OF AASHTO M203, SUPPLEMENT S1
- \* ALL BEAMS DESIGNED IN THESE STANDARDS UTILIZE STRANDS WITH A NOMINAL AREA OF 0.167 SQ. IN. STRANDS WITH A NOMINAL AREA OF 0.153 SQ. IN. IS PERMITTED FOR INDIVIDUAL OR ALTERNATE DESIGNS, HOWEVER THE DESIGNER IS ENCOURAGED TO USE THE LARGER STRAND FOR UNIFORMITY REASONS. IN NO CASES WILL STRESS-RELIEVED STRAND BE PERMITTED.
- \* ALL STRANDS SHALL BE ENCLOSED INSIDE THE STIRRUP CAGE FOR THE FULL LENGTH OF THE BEAM.
- \* ALL EXPOSED PRESTRESSING STRAND AT EACH BEAM END SHALL BE SHOP COATED WITH A LIQUID COLD-APPLIED BITUMINOUS ELASTOMERIC WATERPROOFING MEMBRANE. MATERIAL SHALL MEET ASTM C836-84.

**CONCRETE:**

- \* ALL CONCRETE USED IN MANUFACTURING PRESTRESSED CONCRETE BEAMS SHALL MEET THE REQUIREMENTS OF SECTION 603.5 OF THE STANDARD SPECIFICATIONS. DESIGN STRENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES SET FORTH IN THESE PLANS.
- \* ALL CONCRETE USED IN PARAPETS AND CURBS SHALL BE CLASS K CONCRETE.

**ELASTOMERIC BEARING PADS:**

- \* ALL BEARING PADS SHALL MEET THE APPLICABLE REQUIREMENTS AS SET FORTH IN SECTION 18.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 1998 EDITION WITH CURRENT INTERIMS. ALL BEARINGS SHALL BE STEEL REINFORCED LAMINATED BEARINGS.
- \* THE ELASTOMER MATERIAL SHALL BE 60 DUROMETERS WITH A MINIMUM LOW TEMPERATURE GRADE OF 3 (ZONE C).
- \* ALL STEEL REINFORCING SHALL MEET THE REQUIREMENTS OF AASHTO M270, GRADE 36.

**GUARDRAIL, GUARDRAIL POSTS, TUBING & INSERTS:**

- \* ALL W-BEAM GUARDRAIL AND ATTACHMENT HARDWARE SHALL BE IN ACCORDANCE WITH SECTION 712.4 OF THE STANDARD SPECIFICATIONS. GUARDRAIL POSTS, STRUCTURAL TUBING, POST ATTACHMENT INSERTS, AND HARDWARE SHALL MEET THE LISTED MATERIAL AND COATING SPECIFICATIONS:

ITEM	DESCRIPTION	MATERIAL SPEC.	COATING SPEC.
POST	W6x25	AASHTO M270, GR 36	AASHTO M111
PLATE	1/2" x 7"	AASHTO M270, GR 36	AASHTO M111
TUBING	TS 8x4x3/16	ASTM A500, GR B	AASHTO M111
CHANNEL	C7x9.8	AASHTO M270, GR 36	AASHTO M111
FERRULE	TYPE 2A	1/4" Ø x 2 1/2" MIN LEN.	AASHTO M232
	ANCHOR	3/8" Ø	AASHTO M232
WIRE	1/4" Ø x 8" LONG	ASTM A510 (1018 STEEL)	AASHTO M232
STUDS	1/4" Ø x 8" LONG	ASTM A108 (1045 C.D. STEEL)	AASHTO M232
NUTS	1/4" Ø	AASHTO M291, CLASS C	AASHTO M232
COUPLERS	TYPE 1A	1/4" Ø x 5" LONG	AASHTO M232
	ANCHOR	1/4" Ø x 12" LONG	AASHTO M232
BOLTS	1/2" Ø x ALL LEN.	AASHTO M164 (TYPE 1, H)	AASHTO M232
BOLTS	3/8" Ø x ALL LEN.	AASHTO M164 (TYPE 1, H)	AASHTO M232
NUTS	3/8" Ø	AASHTO M291, CLASS C	AASHTO M232
WASHERS	ALL	AASHTO M293	AASHTO M232

**WELDING:**

- \* TACK WELDING OF REINFORCEMENT IS NOT PERMITTED. REINFORCING CAGES AND LONGITUDINAL STEEL SHALL BE ADEQUATELY TIED WITH APPROVED MEANS TO PREVENT RACKING AND MISALIGNMENT.
- \* ALL WELDING OF FABRICATED ITEMS, AS SHOWN IN THESE PLANS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF AASHTO/AWS D15, 2002.

**POST-TENSIONING BARS:**

- \* POST - TENSIONING THREAD BARS SHALL BE ONE INCH DIAMETER, 150 KSI STEEL, AND SHALL CONFORM TO AASHTO M275. TYPE II. STEEL THREAD BARS SHALL BE DESIGNED TO ALLOW THE USE OF HEAVY HEX NUTS AND COUPLERS THAT THREAD ONTO THE END OF THE DEFORMATIONS. HEAVY HEX NUTS AND COUPLERS SHALL BE OF A DESIGN AND MATERIAL RECOMMENDED BY THE BAR MANUFACTURER TO DEVELOP THE FULL TENSILE STRENGTH OF THE BAR. PROPERLY DOCUMENTED CERTIFIED MILL TEST REPORTS SHALL BE PROVIDED FOR EACH HEAT OF STEEL THREAD BARS.
- \* ALL POST-TENSIONING THREAD BARS, NUTS, BEARING PLATES, COUPLERS, AND ANCILLARY HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M111. THE GALVANIZING PLANT SHALL ADMINISTER ADEQUATE QUALITY CONTROL MEASURES TO SAFEGUARD AGAINST HYDROGEN EMBRITTLEMENT. QUALITY CONTROL MEASURES SHALL COMPLY WITH ASTM A-143. CERTIFICATION FOR HOT-DIP GALVANIZING SHALL BE PROVIDED BY THE GALVANIZING PLANT.
- \* ALL POST-TENSIONING BEARING PLATES SHALL CONFORM TO AASHTO M270, GRADE 36.

**SHEAR KEY GROUT:**

- \* SHEAR KEY GROUT SHALL BE A GROUT THAT IS RECOMMENDED BY THE MANUFACTURER FOR A POURABLE 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 AND SUBMIT 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 POURABLE 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 NEW PRE-TEST AND SUBMISSION FOR APPROVAL UNDER ANY OF THE FOLLOWING CONDITIONS:
  - \* A PERIOD OF 18 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 GROUT MANUFACTURER.
- \* THE CONTRACTOR IS REQUIRED TO COMPLETE THE GROUT STRENGTH TABLE ON BR-B103.
- \* TEST PROCEDURE FOR DETERMINING THE COMPRESSIVE STRENGTH OF GROUT SHALL USE CUBE SPECIMENS IN ACCORDANCE WITH ASTM C109, AS MODIFIED BY ASTM C107. GROUT TESTING IN ACCORDANCE WITH AASHTO T23 (STANDARD CYLINDER TEST) IS NOT ACCEPTABLE.

**PROTECTIVE SURFACE TREATMENT:**

- \* EACH PRESTRESSED CONCRETE BEAM SHALL BE TREATED BY THE MANUFACTURER AT THE FABRICATION PLANT WITH AN APPROVED CONCRETE SEALER (SLANE). AN APPROVED LIST OF CONCRETE SEALERS ARE ON FILE AT THE WEST VIRGINIA DIVISION OF HIGHWAYS, MATERIALS CONTROL, SOIL AND TESTING DIVISION. COVERAGE SHALL 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 SLANE 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 LANTANCE AND PROVIDE A ROUGHENED CONCRETE SURFACE. BLASTING MEDIUM SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS.

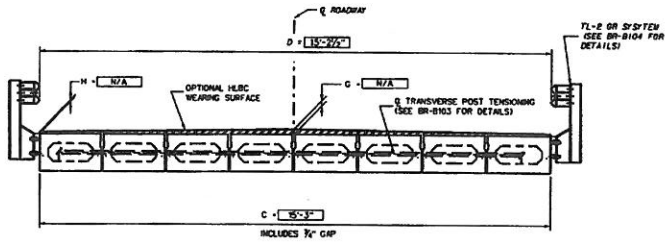
**SHOP DRAWINGS:**

THE FABRICATOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF SHOP DRAWINGS IN ACCORDANCE WITH THE WEST VIRGINIA DIVISION OF HIGHWAYS DOCUMENTS, DD-102 AND THE STANDARD SPECIFICATIONS. ADDITIONAL INFORMATION IS PROVIDED IN SECTION 7 OF THE BRIDGE DESIGN MANUAL. SHOP DRAWINGS SHALL INCLUDE THE FABRICATOR'S DETENSIONING PLAN.

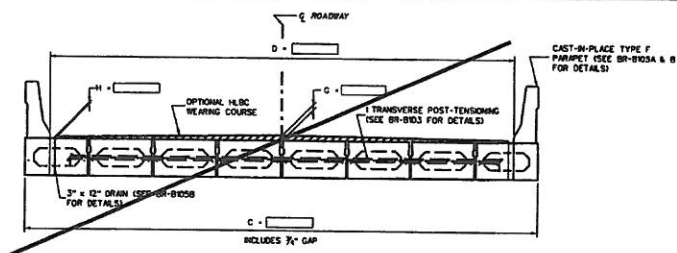
DESIGNED BY: *[Signature]* DATE: 10-25-07  
 CHECKED BY: *[Signature]* DATE: 07-02-07  
 DIVISION OF HIGHWAYS  
 CONSTRUCTION DIVISION  
 PRESTRESSED CONCRETE BEAM  
 DESIGN & ASSEMBLY NOTES  
 STANDARD SHEET BR-B100

<b>WEST VIRGINIA DEPARTMENT OF TRANSPORTATION          DIVISION OF HIGHWAYS          ENGINEERING DIVISION</b>	
<b>BRIDGE NO. 54-2/22-0.02          OVER          BIG RUN          ON          COUNTY ROUTE 2/22 (SLS)          IN          WOOD COUNTY</b>	
	SHEET NO. 15 of 27 BRIDGE NUMBER 54-2/22-0.02 10228

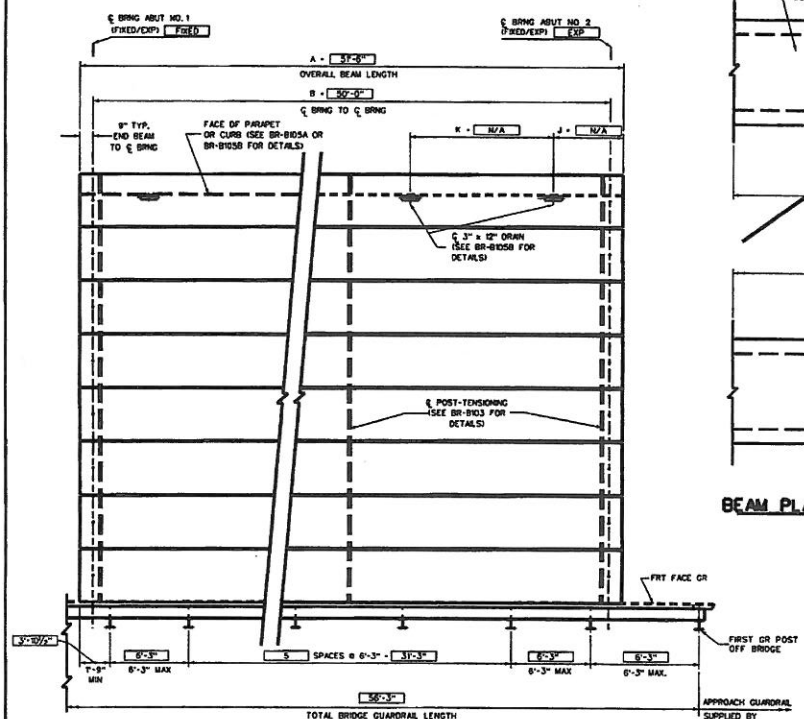




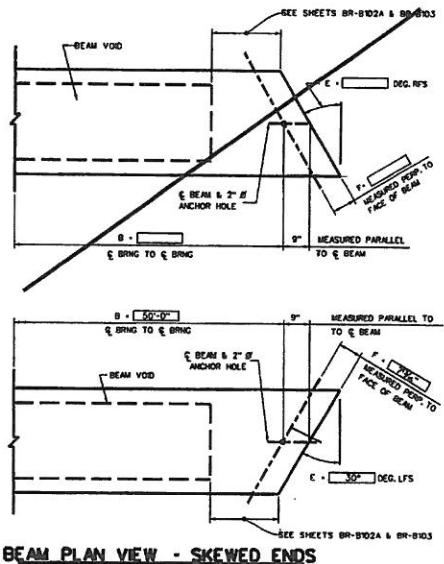
TYPICAL CROSS-SECTION WITH GUARDRAIL



TYPICAL CROSS-SECTION WITH PARAPET OR CURB



DECK PLAN VIEW



BEAM PLAN VIEW - SKEWED ENDS

- NOTES:
- WHEN BRIDGE GUARDRAIL IS TO BE SUPPLIED BY THE BEAM FABRICATOR, COST OF ALL BRIDGE GUARDRAIL ITEMS TO INCLUDE POSTS, RAIL ELEMENTS, ATTACHMENT HARDWARE, AND MISCELLANEOUS ITEMS NEEDED TO COMPLETELY INSTALL BRIDGE GUARDRAIL SHALL BE INCLUDED IN ITEM 603010 "PRESTRESSED CONCRETE BOX BEAM."
  - THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-810A & B THRU BR-842A & B, BR-8100, BR-8102A & B, BR-8103, BR-8104, BR-8102A & B AND BR-8105.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNITS	QUANTITY
60301-011	PRESTRESSED CONCRETE BOX BEAM	LF	257.5

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 REVISIONS BY: [Signature]  
 DATE: 9-13  
 SCALE:  
 SHEET NO: 16 OF 27  
 BRIDGE NUMBER: 54-2/22-0.02  
 10002

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PRESTRESSED CONCRETE BEAM  
 DESIGN AND ASSEMBLY NOTES  
 STANDARD SHEET BR-8101

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02	-	3	WOOD	16	27

CONTROL DIMENSIONS		
DESCRIPTION	CODE	VALUE
OVERALL BEAM LENGTH	A	51'-6"
SPAN LENGTH, E BEARING TO E BEARING	B	50'-0"
SUPERSTRUCTURE WIDTH - OUT TO OUT	C	15'-3"
ROADWAY WIDTH - FACE OF PARAPET TO FACE OF PARAPET	D	15'-2 1/2"
NUMBER OF BEAMS REQUIRED	-	5
BEAM SIZE (WIDTH x DEPTH)	-	36" x 21"
SKEW ANGLE (NORMAL, DEG. RFS OR DEG. LFS)	E	30' LFS
PERPENDICULAR DISTANCE FROM FACE OF BEAM TO E BEARING	F	7 1/2' "
H.L.C. WEARING COURSE REQUIRED (YES/NO)	-	NO
THICKNESS OF WEARING COURSE @ E OF DECK OR ROADWAY	G	N/A
THICKNESS OF WEARING COURSE @ EDGE OF DECK OR PARAPET	H	N/A
TL-2 BRIDGE GUARDRAIL SYSTEM REQUIRED (YES/NO)	-	YES
FABRICATOR TO SUPPLY TL-2 BRIDGE GUARDRAIL (YES/NO)	-	YES
FABRICATOR TO INSTALL BRIDGE GUARDRAIL PRIOR TO SHIPMENT (YES/NO) (IF NO, FABRICATOR TO SHIP LOOSE)	-	NO
NUMBER OF GUARDRAIL POST INSERTS REQUIRED PER SIDE	-	10
TYPE F PARAPET REQUIRED (YES/NO)	-	NO
DRAINS REQUIRED (YES/NO)	-	NO
NUMBER OF DRAINS REQUIRED PER SIDE	-	0
10" CURB REQUIRED (YES/NO)	-	NO

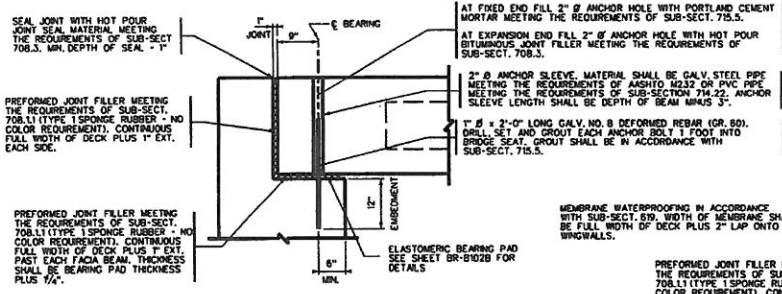
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION

BRIDGE NO. 54-2/22-0.02  
 OVER  
 BIG RUN  
 ON  
 COUNTY ROUTE 2/22 (SLS)  
 IN  
 WOOD COUNTY

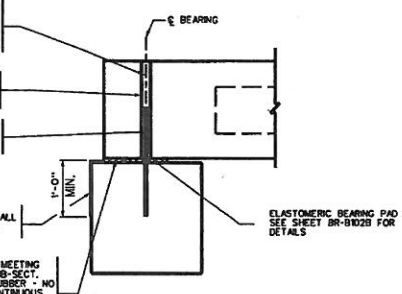
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 CHECKED BY: [Signature]  
 REVISIONS BY: [Signature]  
 DATE: 9-13  
 SCALE:  
 SHEET NO: 16 OF 27  
 BRIDGE NUMBER: 54-2/22-0.02  
 10002

PRESTRESSED CONCRETE BEAM  
 DESIGN & ASSEMBLY NOTES

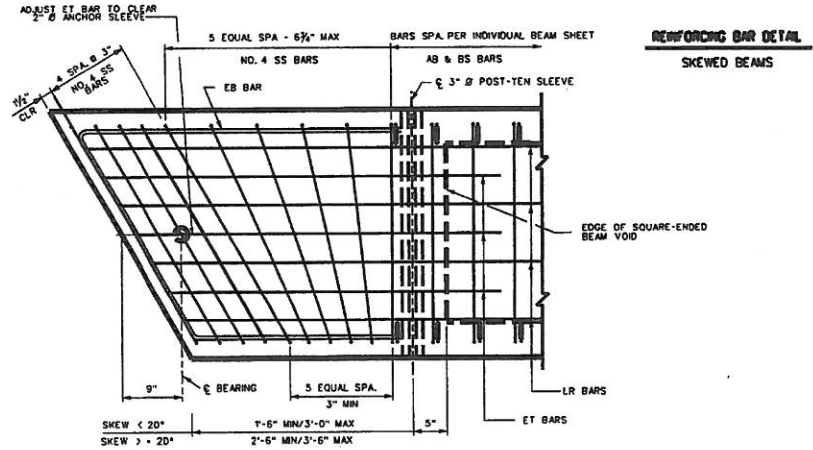
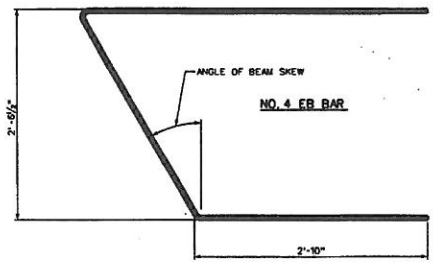
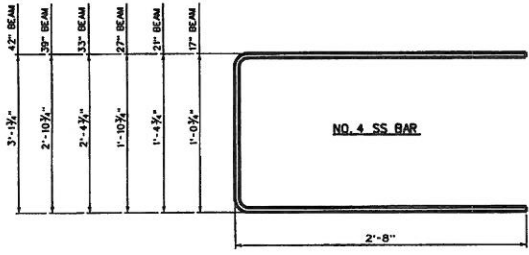
STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
5354-2/22-0.02	-	3	WOOD	17	27



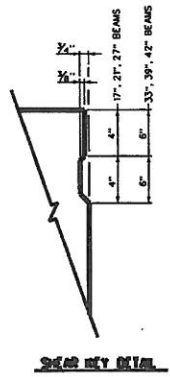
**END BEARING DETAIL WITH BACKWALL**



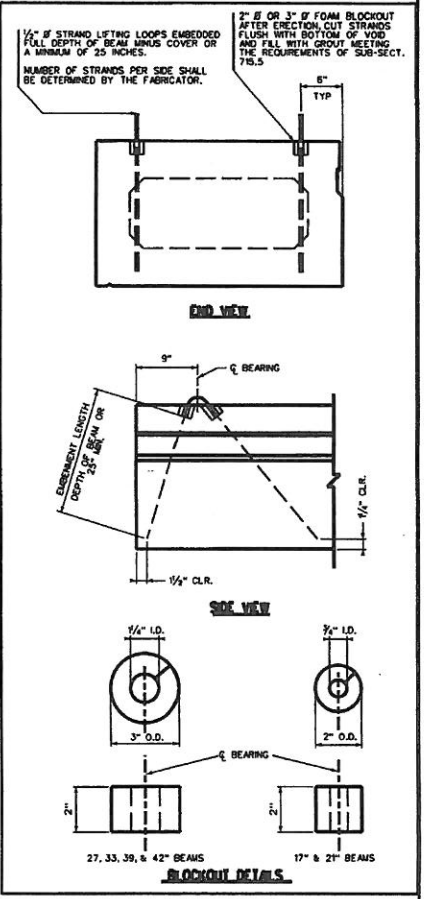
**END BEARING DETAIL WITHOUT BACKWALL**



**END BLOCK DETAIL - SKEWED BEAMS**  
WO/POST-TEN. ACCESS POCKET



**SKEW KEY DETAIL**



LIFTING DETAILS.

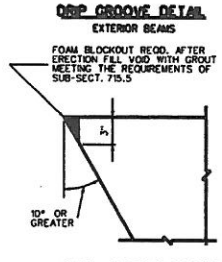
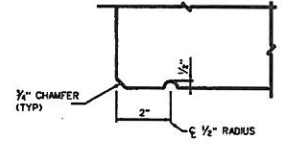
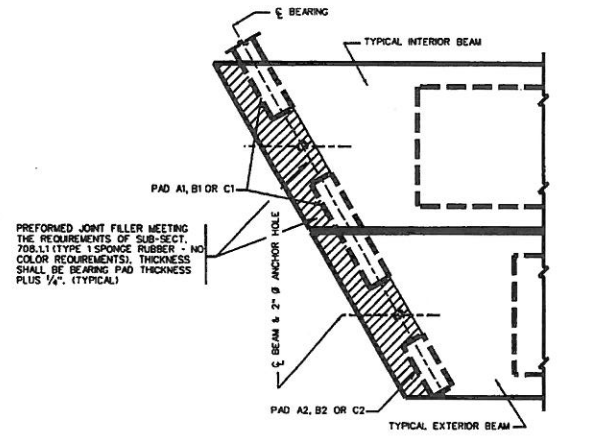
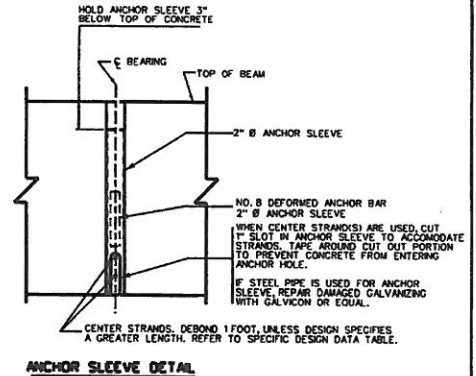
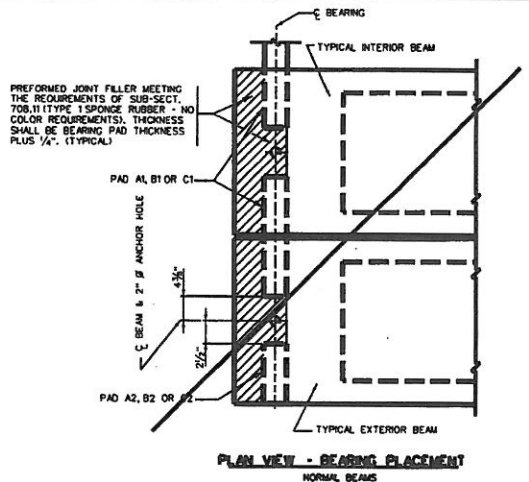
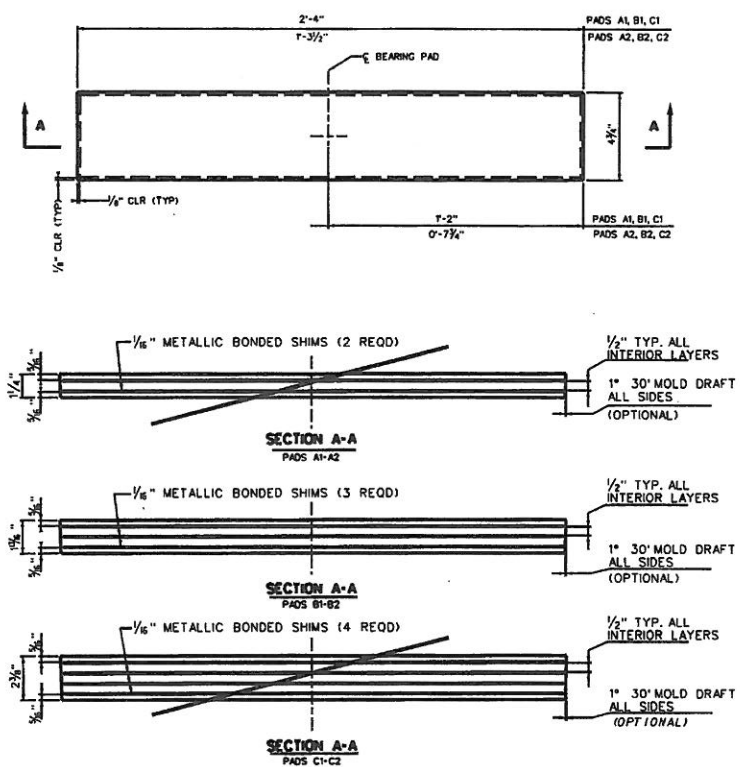
THIS SHEET SHALL BE USED IN CONNECTION WITH STANDARD SHEETS BR-817A & B THRU BR-842A & B, BR-8100, BR-8101, BR-8102B, BR-8103, BR-8104, BR-8105A & B AND BR-8106 AS APPROPRIATE.

APPROVED: *[Signature]* DATE: 02-22-07  
SPECIAL ENGINEERING DIVISION  
 WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION  
 PREPARED: 07-02-07  
 BRIDGE NO. 54-2/22-0.02  
 PRESTRESSED CONCRETE BEAM  
 SKEWED END REINFORCING  
 MISC. DESIGN AND ASSEMBLY DETAILS  
 STANDARD SHEET BR-8102A

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION  
 BRIDGE NO. 54-2/22-0.02  
 OVER  
 BIG RUN  
 ON  
 COUNTY ROUTE 2/22 (SLS)  
 IN  
 WOOD COUNTY  
 PRESTRESSED CONCRETE BEAM  
 SKEWED END REINFORCING  
 MISC. DESIGN AND ASSEMBLY DETAILS

DESIGNED BY: TMB/  
 DRAWN BY: TMB/  
 CHECKED BY: TMB/  
 REVIEWED BY: TMB/  
 DATE: 9-13  
 SCALE:  
 SHEET 17 of 27  
 BRIDGE NO. 54-2/22-0.02  
 0320

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
3354-2/22-0.02		3	WOOD	18	27



**NOTES:**

- ELASTOMERIC BEARING PADS ARE DESIGNED IN ACCORDANCE WITH DESIGN METHOD B CONTAINED IN SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. FABRICATOR SHALL BE IN ACCORDANCE WITH SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
- ALL BEARINGS ARE DESIGNED FOR A LOW TEMPERATURE ZONE C AND SHALL HAVE A DIAPHRAGM HARDNESS OF 80. METALLIC REINFORCEMENT SHALL HAVE A MINIMUM YIELD STRENGTH OF 36 KSI.
- BEARING PADS ARE DESIGNED FOR ZERO BRIDGE GRADE. FOR BRIDGE GRADES GREATER THAN 5%, PADS SHALL BE SPECIFICALLY DESIGNED FOR THE GRADE. AS AN ALTERNATE, CAST-IN-PLACE BEVELED SOLE PLATES MAY BE USED.
- 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 TIME OF ERECTION, BEFORE THE BEAMS ARE SECURED IN PLACE. METHOD OF CORRECTION SHALL PROVIDE AN EVEN, TOTAL BEARING AND A LEVEL TOP BEAM SURFACE. TOLERANCE AFTER CORRECTION SHALL BE 1/8" 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 BEAMS.
- THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B17A & B THRU BR-B42A & B, BR-B100, BR-B101, BR-B102A, BR-B103, BR-B104, BR-B105A & B AND BR-106 AS APPROPRIATE.

PAD	LENGTH	WIDTH	HEIGHT	NO. SHIMS	SHIM SIZE	SPAN RANGES	MAXIMUM REACTION	MAXIMUM MOVEMENT ONE DIRECTION
A1	4 3/4"	28"	1 1/4"	2	1/8" x 4 1/2" x 2'-3 3/4"	20' - 38'	55 KIPS	0.39"
B1	4 3/4"	28"	1 1/2"	3	1/8" x 4 1/2" x 2'-3 3/4"	40' - 78'	75 KIPS	0.80"
C1	4 3/4"	28"	2 3/8"	4	1/8" x 4 1/2" x 2'-3 3/4"	80' - 100'	89 KIPS	1.02"
A2	4 3/4"	19 1/2"	1 1/4"	2	1/8" x 4 1/2" x 1'-3 3/4"	20' - 38'	28 KIPS	0.39"
B2	4 3/4"	19 1/2"	1 1/2"	3	1/8" x 4 1/2" x 1'-3 3/4"	40' - 78'	38 KIPS	0.80"
C2	4 3/4"	19 1/2"	2 3/8"	4	1/8" x 4 1/2" x 1'-3 3/4"	80' - 100'	45 KIPS	1.02"

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

APPROVED: *[Signature]* DATE: 07-02-07  
 DIRECTOR, ENGINEERING DIVISION

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION

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

STANDARD SHEET BR-B102B

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 ENGINEERING DIVISION

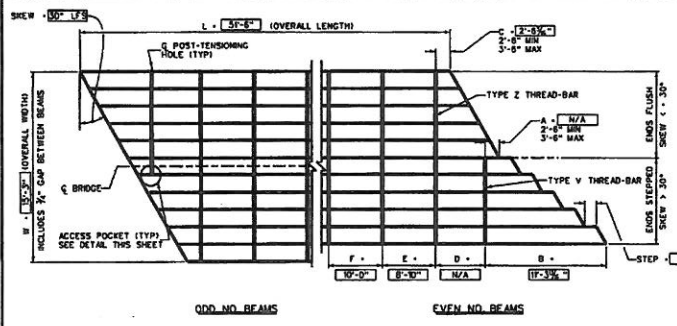
BRIDGE NO. 54-2/22-0.02  
 OVER  
 BIG RUN  
 ON  
 COUNTY ROUTE 2/22 (SLS)  
 IN  
 WOOD COUNTY

DESIGNED BY: THB  
 DRAWN BY: THB  
 CHECKED BY: THB  
 REVIEWED BY: THB  
 DATE: 9-13  
 SCALE:  
 SHEET 18 OF 27  
 BRIDGE NO. 54-2/22-0.02  
 10/20

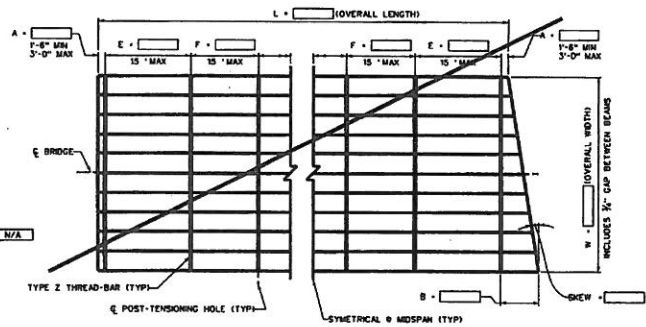
PRESTRESSED CONCRETE BEAM  
 ELASTOMERIC BEARING PAD DETAILS  
 MISC. DESIGN AND ASSEMBLY DETAILS



STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02		3	WOOD	19	27

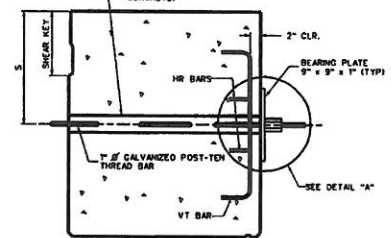


**POST-TENSIONING BAR SPACING PLAN**  
SKEW > 20°



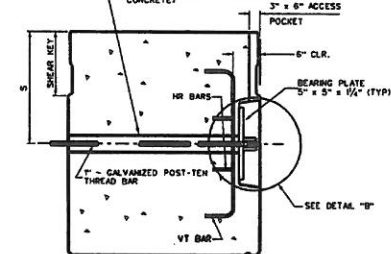
**POST-TENSIONING BAR SPACING PLAN**  
NORMAL OR SKEW < 20°

3" Ø GALVANIZED STEEL PIPE (AASHTO M252) OR 3" Ø PVC PIPE IN ACCORDANCE WITH SUB-SECTION 744.22 OF THE STANDARD SPECIFICATIONS (NON-REACTIVE WITH CONCRETE)



**POST-TENSIONING BAR DETAILS**

3" Ø GALVANIZED STEEL PIPE (AASHTO M252) OR 3" Ø PVC PIPE IN ACCORDANCE WITH SUB-SECTION 744.22 OF THE STANDARD SPECIFICATIONS (NON-REACTIVE WITH CONCRETE)



**ACCESS POCKET END POST-TENSIONING BAR**

TYPE 1 SPONGE RUBBER MEETING THE REQUIREMENTS OF 708.1.1 NO COLOR REQUIREMENT



**WASHER DETAIL**

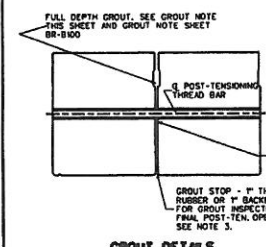
SPACE POST-TENSIONING THREAD BARS TO AVOID CONFLICT WITH GUARDRAIL INSERTS.

THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-817A & B THRU BR-822A & B, BR-820, BR-821, BR-822A & B, BR-824, BR-825A & B AND BR-826.

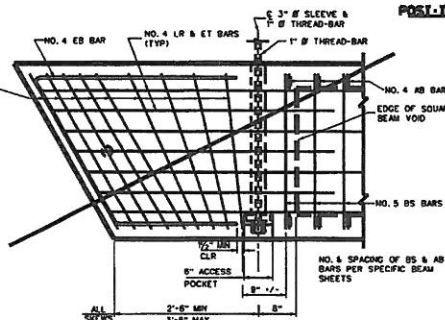
**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**ENGINEERING DIVISION**

BRIDGE NO. 54-2/22-0.02  
OVER  
BIG RUN  
ON  
COUNTY ROUTE 2/22 (SLS)  
IN  
WOOD COUNTY

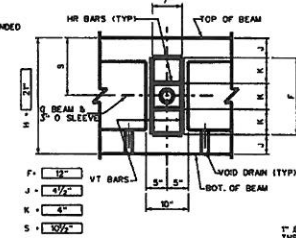
DESIGNED BY: [ ]  
CHECKED BY: [ ]  
REVIEWED BY: [ ]  
DATE: 9-13  
SCALE:  
SHEET NO. 19 OF 27  
PROJECT NUMBER 54-2/22-0.02  
10828



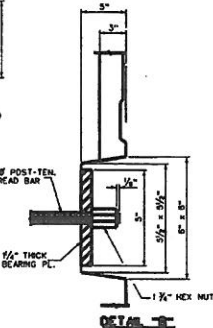
**GROUT DETAILS**



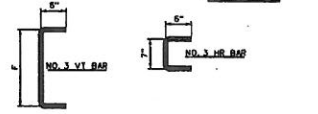
**SHEAR REINFORCEMENT DETAIL**  
BEAMS WITH ACCESS POCKETS



**REINFORCING DETAILS @ DIAPHRAGM**  
EXTERIOR BEAM & POCKETS ONLY



**DETAIL 'A'**



**DETAIL 'B'**

- SECTION WARNING NOTES**
- DO NOT STAND IN LINE WITH THE POST-TENSIONING BAR DURING TENSIONING PROCEDURES.
  - NUTS, COUPLERS AND EXTENSION RODS USED IN THE POST-TENSIONING WORK SHALL BE THE MATERIAL APPROVED BY THE MANUFACTURER OF THE HIGH STRENGTH POST-TENSIONING RODS. IN NO CASE SHALL THE CONTRACTOR USE NON-APPROVED MATERIAL OR MATERIAL FROM TWO DIFFERENT SOURCES.

**PROCEDURE NOTES**

- INSTALL ONE INCH THICK WASHER AND GROUT STOP BY GLUING TO ONE SIDE, FOR THE ENTIRE LENGTH OF EACH BEAM PRIOR TO SETTING BEAMS. GLUE SHALL BE AN APPROVED CONSTRUCTION TYPE GLUE OR EPOXY ADHESIVE. GROUT STOP MAY BE INSTALLED AFTER BEAMS ARE SET.
- GLUE A 3" x 2" x 2" PIECE OF PRESSURE TREATED PLYWOOD AT EACH THREAD-BAR LOCATION TO INSURE THAT A 3/4" GAP IS OBTAINED. PLYWOOD SPACERS TO BE OFFSET APPROXIMATELY 2 FEET FROM THE THREAD-BAR HOLE AND CENTERED ON THE HOLE DEPTH. PLYWOOD SPACERS ARE REQUIRED ON ONLY ONE BEAM EDGE FACE OF ADJUTING BEAMS. AFTER THE BEAMS ARE SET AND THE THREAD-BARS INSTALLED, PULL THE ENTIRE SUPERSTRUCTURE TOGETHER BY APPLYING A POST-TENSIONING FORCE OF APPROXIMATELY 3000 POUNDS. AT THIS STAGE THE GAP BETWEEN BEAMS SHALL BE A UNIFORM 3/4" WITH ALL SWEEP REMOVED. RECORD THE ACTUAL FORCE APPLIED.
- FILL THE GAP BETWEEN BEAMS AND SHEAR KEY FULL DEPTH WITH THE PRE-APPROVED, PRE-TESTED GROUT MIXTURE. FROM EACH BATCH, PREPARE JOB CONTROL GROUT CUBES FOR THREE AND SEVEN DAY TESTS. THESE JOB CONTROL SAMPLES WILL BE USED TO DETERMINE WHEN THE GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI. A MINIMUM OF THREE SPECIMENS PER TEST SHALL BE OBTAINED, AND THE AVERAGE OF THE TEST RESULTS USED. ACCEPTANCE SAMPLING AND TESTING OF THE GROUT IS THE RESPONSIBILITY OF THE CONTRACTOR; HOWEVER, A REPRESENTATIVE OF THE WYDOT SHALL WITNESS ALL OF THE ACCEPTANCE SAMPLING AND TESTING.  
  
TEST PROCEDURE SHALL BE ASTM C109 AS MODIFIED BY ASTM C1097. IN NO INSTANCE SHALL THE CONTRACTOR PROCEED WITH POST-TENSIONING OR OTHER BEAM ERECTION PROCEDURES UNTIL THE REQUIRED MINIMUM GROUT STRENGTH IS ATTAINED AND VERIFIED BY THE ENGINEER. IN THE EVENT THAT THE MINIMUM GROUT STRENGTH IS NOT ATTAINED, THE ENGINEER SHALL BE NOTIFIED AND CORRECTIVE ACTION TAKEN AT THE DIRECTION OF THE ENGINEER. SEE SHEAR KEY GROUT NOTE SHEET BR-8100 FOR ADDITIONAL REQUIREMENTS.  
  
AFTER THE GROUT HAS REACHED AN INITIAL SET CONDITION AND PRIOR TO ANY FINAL POST-TENSIONING PROCEDURES, THE CONTRACTOR SHALL REMOVE THE GROUT STOP AND INSPECT THE GROUT FOR VOIDS OR OTHER IRREGULARITIES. ANY VOIDS DEEPER THAN 2" FROM THE BOTTOM SHALL BE REGROUTED IN A MANNER ACCEPTABLE TO THE ENGINEER.
- AFTER GROUT HAS BEEN PLACED AND REACHED ITS MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AND HAS CURED A MINIMUM OF 3 DAYS, APPLY 50% OF THE FINAL POST-TENSIONING FORCE TO ALL THREAD-BARS, WORKING BEAM ENDS TO MIDSPAN. AFTER ALL THREAD-BARS HAVE BEEN TENSIONED TO 50%, APPLY THE REMAINING PERCENTAGE OF FINAL POST-TENSIONING FORCE, WORKING IN THE SAME SEQUENCE AS THE FIRST STAGE OF FINAL TENSIONING.
- MEASURE AND RECORD IN THE ELONGATION TABLE, THIS SHEET, THE ACTUAL TOTAL ELONGATION OF EACH THREAD-BAR. COMPARE THE MEASURED ELONGATION TO THE CALCULATED ELONGATION. A SIGNIFICANT DIFFERENCE BETWEEN MEASURED AND CALCULATED ELONGATIONS COULD INDICATE IMPROPER JACKING TECHNIQUES, FAULTY MATERIALS, FAULTY JACKS, OR IMPROPERLY CALIBRATED JACKS. IF THE DIFFERENCE IS GREATER THAN 15%, THEN THE JACK SHALL BE RE-CALIBRATED AND THE JACKING TECHNIQUES EVALUATED. IF, AFTER THE ABOVE STEPS ARE TAKEN, THE PERCENTAGE DIFFERENCE IS GREATER THAN 10%, THEN THE ENGINEER SHALL BE NOTIFIED AND CORRECTIVE ACTION TAKEN AT THE DIRECTION OF THE ENGINEER. ALL COSTS INVOLVED IN CORRECTION SHALL BE AT THE CONTRACTORS EXPENSE.
- USING SAW, TRIM EXCESS THREAD-BAR LEAVING 4" TO 6" PAST THE NUT. DO NOT TRIM THREAD-BARS BY TORCH CUTTING, TOUCH-UP TRIMMED ENDS WITH GALVANIZED OR EQUAL.
- INSTALL ANCHOR DOWELS AS DETAIL ON STANDARD SHEETS BR-8101 AND BR-8102A.

**FINAL POST-TENSIONING FORCE**  
TYPE Z BARS = 80 KIPS  
TYPE V BARS = 40 KIPS

POST-TENSIONING BAR LAYOUT SCHEDULE	
SPAN	50'-0"
SKEW	30° LFS
L	51'-6"
W	15'-3"
A	N/A
B	11'-3 1/2"
C	2'-6 3/4"
D	N/A
E	8'-10"
F	10'-0"
STEP	N/A

DIMENSIONS	
BEAM SIZE	REINFORCING BAR (DIM 1) SPACING (DIM 2) DIST
H	F J K S
DL	DL DL IN DL
17	12 3 1/2 4 8 1/2
21	12 4 1/2 4 10 1/2
27	18 4 1/2 6 13 1/2
33	24 4 1/2 8 16 1/2
39	30 4 1/2 10 19 1/2
42	33 4 1/2 11 21

GROUT STRENGTH TABLE		
	3 DAY	7 DAY
PRE-TEST STRENGTH		
JOB CONTROL STRENGTH		
GROUT TYPE & MANUFACTURER		

POST-TENSIONING BAR LENGTH		
BAR	FORMULA	LENGTH
(VEVEN)	3-3'	
Z	W-3'	15'-3"
V	3'-4'-6"	

ELONGATION (INCHES)															
BAR	CODE	CALC.	MEASURED												
			NO.1	NO.2	NO.3	NO.4	NO.5	NO.6	NO.7	NO.8	NO.				
Z	⊙														
V	⊙														

CALCULATED ⊙ - WFTJ / 24.8  
CALCULATED ⊙ - WFTJ / 99.2  
ODD NO. BEAMS  
CALCULATED ⊙ - WFTJ / 31 / 99.2

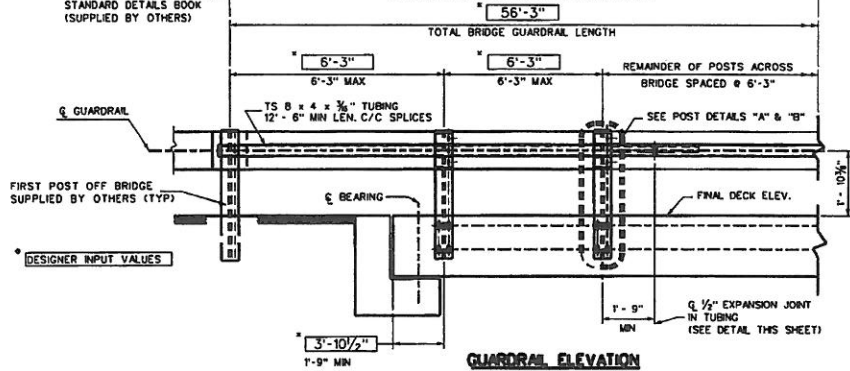
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ENGINEERING DIVISION

APPROVED: [ ]  
DATE: 07-02-07

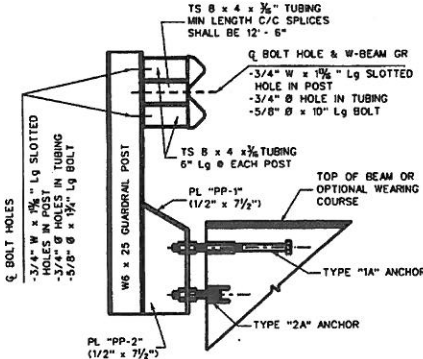
PRESTRESSED CONCRETE BEAM  
TRANSVERSE POST-TENSIONING DETAILS  
STANDARD SHEET BR-8103

BRIDGE APPROACH GUARDRAIL  
SEE SHEETS GR1 THRU GR11,  
STANDARD DETAILS BOOK  
(SUPPLIED BY OTHERS)

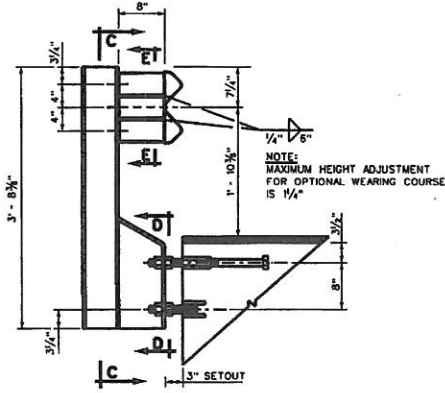
NOTE TO BEAM FABRICATOR: REFER TO BR-B101  
FOR SUPPLY AND INSTALLATION REQUIREMENTS



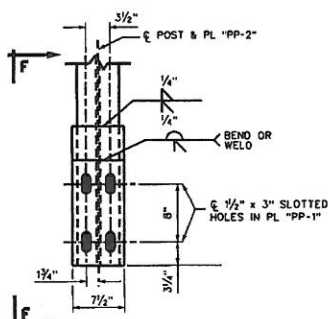
**GUARDRAIL ELEVATION**



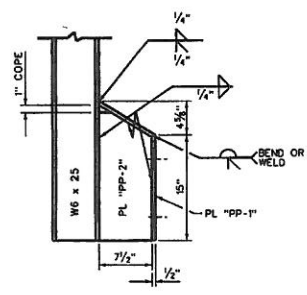
**GUARDRAIL POST DETAIL "A"**



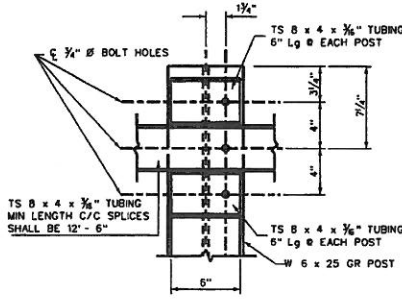
**GUARDRAIL POST DETAIL "B"**



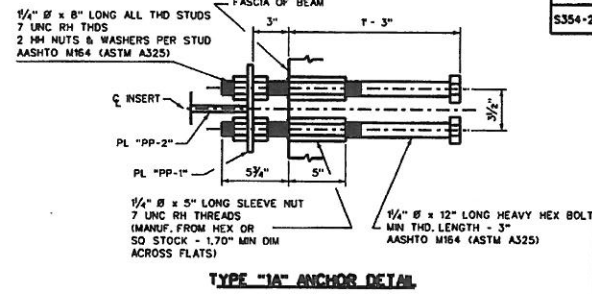
**SECTION D-D**



**SECTION F-F**

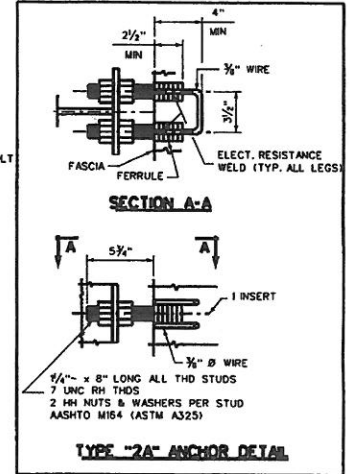


**SECTION E-E**

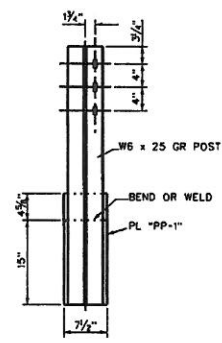


**TYPE "1A" ANCHOR DETAIL**

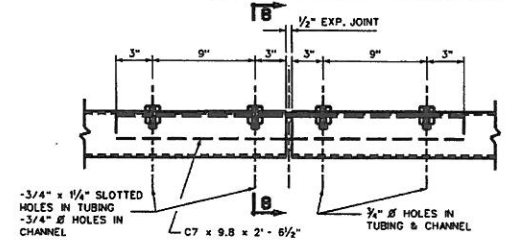
STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S354-2/22-0.02	-	3	WOOD	20	27



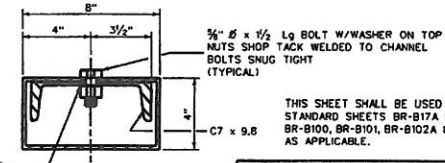
**TYPE "2A" ANCHOR DETAIL**



**SECTION C-C**



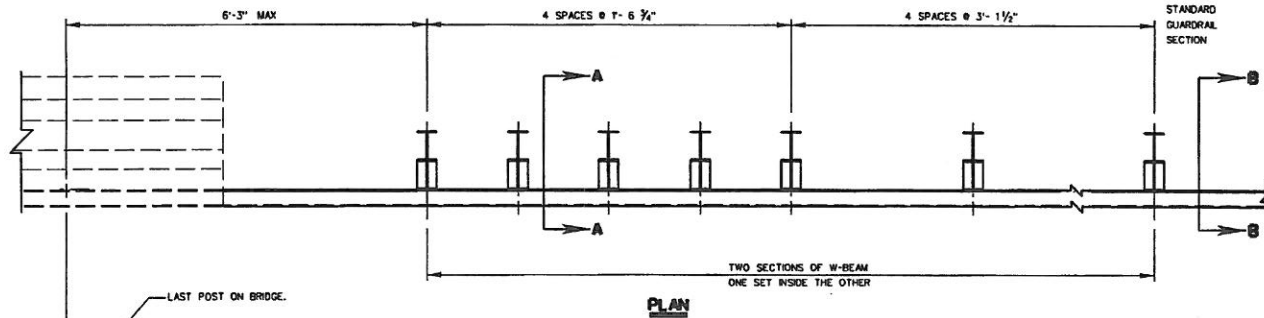
**TUBING SPLICE/EXPANSION JOINT DETAIL**



**SECTION B-B**

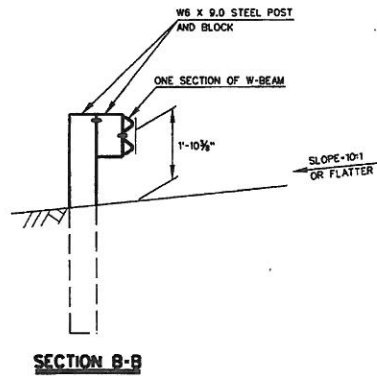
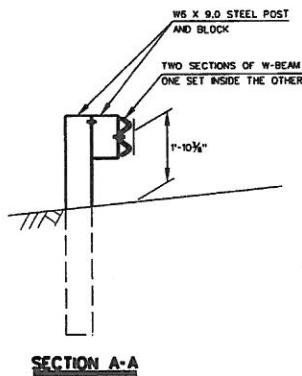
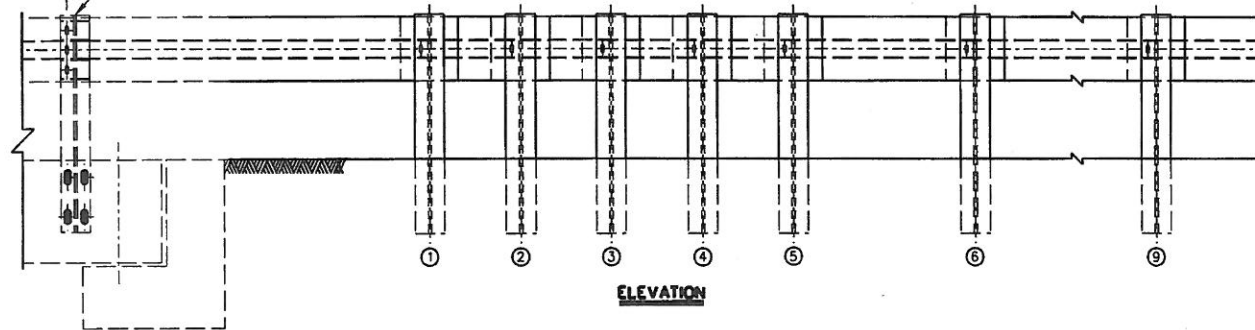
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS ENGINEERING DIVISION		DESIGNED BY: hrb
BRIDGE NO. 54-2/22-0.02 OVER BIG RUN ON COUNTY ROUTE 2/22 (SLS) IN WOOD COUNTY		CHECKED BY: hrb
PRESTRESSED CONCRETE BEAM TYPE TL-2 GUARDRAIL SYSTEM DESIGN & ASSEMBLY DETAILS		REVIEWED BY: hrb
STANDARD SHEET BR-B104		DATE: 9-13
		SCALE:
		SHEET NO. 20 of 27
		BRIDGE NUMBER 54-2/22-0.02
		DATE: 9/23

PROJECT NUMBER		DISTRICT	COUNTY	SHEET NO.	TOTAL
STATE	FEDERAL				
S354-2/22-0.02	-	3	WOOD	21	27



**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 5.
3. SEE STANDARD SHEET BR-B104 FOR ANCHOR DETAILS.
4. THERE IS NO SEPARATE PAY ITEM FOR THIS CONNECTION AND ALL COMPONENTS AS DETAILED HEREIN SHALL BE INCLUDED IN THE CONTRACT PRICE FOR GUARDRAIL.



THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B17A & B THRU BR-B42A & B, BR-B100, BR-B101, BR-B102A & B, BR-B103 AND BR-B104 AS APPLICABLE.

APPROVED: <i>[Signature]</i>	DATE: 07-02-07
DIRECTOR, ENGINEERING DIVISION	
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS ENGINEERING DIVISION	
DESIGNED BY: THW	PREPARED: 07-02-07
DRAWN BY: GWK	REVIEWED:
CHECKED BY: THW	
REVIEWED BY: THW	
DATE: 9-13	
SCALE:	
SHEET 21 OF 27	
PROJECT NO. S4-2/22-0.02	

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS ENGINEERING DIVISION	
BRIDGE NO. 54-2/22-0.02 OVER BIG RUN ON COUNTY ROUTE 2/22 (SLS) IN WOOD COUNTY	
TYPE TL-2 GUARDRAIL TRANSITION	

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.
7. Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules. Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

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: \_\_\_\_\_ Signed: \_\_\_\_\_
Date: \_\_\_\_\_ Title: \_\_\_\_\_

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**MANDATE:** Under W. Va. Code §5A-3-10a, 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: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**DEFINITIONS:**

**"Debt"** means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

**"Employer default"** means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

**"Related party"** means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

State of \_\_\_\_\_

County of \_\_\_\_\_, to-wit:

Taken, subscribed, and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

My Commission expires \_\_\_\_\_, 20\_\_.

**AFFIX SEAL HERE**

**NOTARY PUBLIC** \_\_\_\_\_

*Purchasing Affidavit (Revised 07/01/2012)*

**NOTE:**  
Vendor and Notary's date must be the same.  
Notary required to **AFFIX SEAL** on Purchasing Affidavit.