

WEST VIRGINIA

DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS SUPERSTRUCTURE REPLACEMENT

> BEAR FORK I-BEAM STATE PROJECT NO. S311-8-5.23 C.R. 8 (SLS) FREEMANS CREEK DISTRICT GILMER COUNTY

PROJECT LENGTH

STA. 0+00.00 TO STA. 0+26.94 = 26.94 L.F. = 0.005 MI. BRIDGE

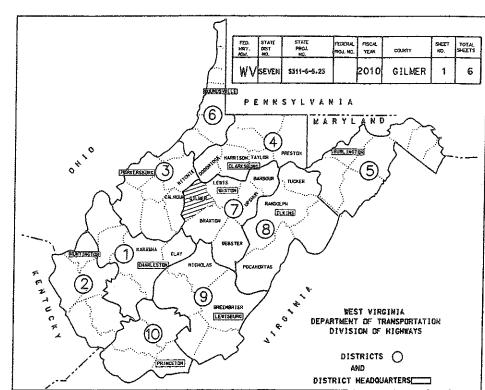
INDEX TO SHEETS

OF QUANTITIES, AND SCOPE OF WORK.

MAILING DIAGRAM AND DECK CLIP DETAILS.

TITLE SHEET GENERAL NOTES DESCRIPTION

TOTAL LENGTH = 26.94 L.F. = 0.005 MI.



TYPE OF CONSTRUCTION

SUPERSTRUCTURE REPLACEMENT BR. ND. 11-8-5.23 (7917.1)

C.R. B (SLS) TO #V 18 (F) PRIVATE DRIVE UNNAMED ____

STANDARD DETAIL BOOK VOLUME 1. DATED JAN. 1. 2000 & VOLUME II DATED JAN. 1. 1994. SHALL APPLY TO THIS

	ŀ	1	REGIE
REVISIONS	DATE	BY	FOR A
REBY CERTIFY THAT THIS IS A OF THE PLANS OF PROJECT S31	CDRRECT 1-8-5.23		APPRO
men Baria	7-16-	10	

CONVENTIONAL SIGNS STATE LINE CORPORATION LINE PROPOSED R/W LINE PROPERTY LINE EXISTING FENCE DITCH EDGE OF STREAM GAS LINE WATER LINE TELEPHONE LINE ELECTRIC LINE TELEPHONE POLE

COMBINED POWER AND TELEPHONE POLE SHRUB RIGHT OF WAY MARKER

STANDARD SHEETS

NO.	DATE
BR-2A	8-93
	<u> </u>

PREPARED BY: DATE 05-10 BKR CHECKED BY GFL 06-10 REVIEWED BY: 06-10 WRW

TO WV 47 (F)

EXISTING ELEVATION VIEW AND DECK SECTION. ESTIMATE PROPOSED DECK SECTION. STEEL LAYOUT. AND BEARING DETAILS ELEVATION VIEW. ABUT. DETAILS, AND DIAPHRAGM DETAILS.

DESIGN DESIGNATION

A.D.T. (2006)

A.D.T. (2026) 60

D.H.V.

GOVERNING SPECIFICATIONS

The governing provisions applicable to this project are the West Virginia Department of Highways Standard Specifications, Roads and Bridges, adopted 2000, as amended by the current* Supplemental Specifications of the West Virginia Department of Highways, the contract plans and the contract documents.

*Current Supplemental Specifications shall be the Specifications in effect on the first day of project advertisement

DESIGN-NEW STRUCTURES (1)

This bridge is designed for an HL-93 live load capacity, as well as for a 25 p.s.f. wearing surface. Design Unit Stresses

orcing Steel-f₃= 20,000 p.s.i. Structural Steel (A36)-f_S= 20,000 p.s.i. Structural Steel (A588)-f_S= 27,000 p.s.i.

Class B Concrete-fr= 3,000 p.s.i. Class B Concrete—f_C= 1,200 p.s.i. Class B Concrete—n = 10

DESIGN-REHABILITAION AND STRENGTHENING (2)

This bridge is strengthened for a live load capacity of @ Strengthening steel design stress-

CONCRETE (CAST~IN-PLACE) (3)

Concrete shall be cured in accordance with Subsection 801.12 of the Standard Specifications, if the costed burian shall conform to the requirements of Subsection 207.5 of the Standard

Specifications.

The minimum covering measured trom the surface of the concrete to the face of any reinforcing stee ber, shall be 3 inches if the contrete is in contact with the ground surface and 2 inches otherwise, except as

SUBSTRUCTURE CONCRETE (CAST-IN-PLACE) (4)

Alt-encrete in the substructure shall be Class B, air entrained.

Chamfer all exposed edges of the substructure concrete 1 inch, except for the abutment outs, which

shell be charmfored 34 kinch.

The exposed surface of the substructure shell be class 1, Ordinary Surface Pinish, in accordance with Subsection 801.11 of the Standard Segerifications, except for the abutment curbs and wingwells, which shall be Class 2, Rubbed Finish, in accordance with Subsection 801.112 of the Standard Specifications. The abutment curtain wall shall not be powed until after the superstructure is in place.

The abument curtain wall shall not be polyred until affect the superstructure is in place. For footings embedded in rock, the top of the sudment footing shall be maintained at the elevations shown on the plans. The footings shall be carried a minimum—of 1 foot into solid rock and poured against the face of the rock without forms, except where the rock excavation is not the entire depth of the footing. The abument 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 enchor both befor with non-shrink grout after anchor boths are set. The non-shrink grout shall consist of 1 part regular portland cement, 1 part silice sand and 1 part non-shrink admixture. The cost of the non-shrink grout shall be included in Pey Itam 501–2, "Class B Concrete".

SUPERSTRUCTURE CONCRETE (CAST-IN-PLACE) (5)

All concrete in the superstructure shall be Class K, air entrained. All concrete for decks, curbs, parapets or medians shall be Class K, air entrained, consuming 7 bags of coment per cubic yard. Chamfer all exposed edges of the cycles parapets or mediants 34". The exposed surfaces of the curbs shall be Class 2. Butched Finish in accordance with Subsection 601.11.2 of the Standard Specifications. Bridge decks shell be finished in accordance with Subsection 601.11.4 of the Standard Specifications.

REINFORCING STEEL BARS 6

All reinforcing steel bars shall be intermediate grade billet steel, Grade 40 or 60 in accordance with Subsection 709.1 of the Standard Specifications . The requirements of Section 602 of the Standard Specifications shall be followed.

The minimum spiles length or dowel bar embedment shall be 30 bar diameters. Reinforcement under the shees or other bearing device shall be so placed so as to avoid interference with drilling of anchor bolt holes.

with driving of sector bott noise.

The inspector shall select rendom bars from the reinforcing bar list for test bars. He shall cut 5-0" from the bars chosen, rebars have been detailed to allow a 30 bar diameter splice at each end. One rebar for each 10 tons or fraction thereof of each size has been included in the bill of steel and will be paid reast no each at tops or industrial interegrant each size has been industrial in a ball or scenario which paid for under item 602-1. In the event all bars of any one size are not sent in-one shipment, the supplier shall, at his expense, furnish one-day for each 10 tons or fraction thereof, for each extra-clipment. In the event that any shipment of material has been pra-tested and has been identified in accordance

with Materiels Control, Soil and Testing Division's Informational Memorandum Number 17(1M-17); shipment may be accepted without further testing subject to record sampling procedures.

STRUCTURE EXCAVATION (FOOTINGS FOUNDED IN ROCK) (7)

Structure excavation quantities through SEM SII shall be measured from the top of rock to the original ground line, 18 Inches outside the feet lines of the footings. No excavation will be classified as were or rock excavation. Rock shell to excavate and paid for as structure excavation. To the nest lines of the footings any. Book Shall be excavated until a level surface is provided with the entire Tooting, segling on hard-rock

STEEL TOUGHNESS REQUIREMENT (*)

The provisions of the AASHTO Specifications in accordance with Article 615.4.9 of the Standard Specifications shall apply to those items of structural steel as shown and/or designated by these plans.

PAINTING (NEW STRUCTURES) (9)

Since and field painting shall be in accordance with Section 615 of the current Standard Specifications and/or Special Provisions. OPTION: (9A)

shell consist of one shop prime coat, one field prime coat and two field finish coats. Shop Prime Coak One complete coat of vinyl shop primer conforming to the requirements of scitor 717.6 the Standard Specifications. This will replace the shop paint specified in Subsection 615.6.3.

Film thickness shall be a minimum of two (2) miles.

Field Prime Cost: One complete cost of dinseedallyd primer conforming to the requirements of settle 711.8 of the Standard Specifications. Dry film thickness shall be a minimum of two (2) miles.

Dursection 7.1.8 of the Standard Specifications. Dry film thickness shall be a minimum of two (2) mils. First Finish Cost: One complete pigmented finish cost conforming to the requirements of Subsection 711.10 of the Standard Specifications. The Color shall be ① in accordance with Federal Standard 595, number ②. Dry film thickness shall be a minimum of two (2) mils.

Top Finish Cost: One complete pigmented finish cost-conforming to the requirements of Subsection 711.11 of the Standard Specifications. The color shall be ② in accordance with Federal Standard 595, number ②. Dry film thickness shall be a minimum of two (2) mils.

Paim system shall consist of shop prime coat, intermediate field fogocat and finish topcoat. Field painting shall also include touch-up and repair of prior paint. Paint system shall be the inorganic zinc rich system meeting the requirements of Section 21.20 of the Standard Specifications.

Shop Prime Cost: Shall conform to the requirements of Subaction 711.20.2 of the Standard

thickness shall be minimum three (3) mils. Intermediate Field Coat: Shell conform to the requirements of Subsection 711.20.3 of the Standard

Topcoat: Shall conform to the requirements of Subsection 711.20.4 of the Standard Specifications. The color shall be a in accordance with Federal Standard 595, number (F). Dry film thickness OPTION: (9C)

Plaint system shall consist of application of shop prime cost and field touch-up and rep of shop cost. Paint system shell be the inorganic zinc rich primer meeting the requirements of \$71.20.2 of the Standard Spacifications. Dry film thickness shall be a minimum three [3] mile.

CLEANING AND PAINTING (EXISTING STRUCTURES) (8)

Rield cleaning and painting shall be in accordance with either OPTION (10A) or (10B) iso conform to all applicable requirements of Section 620 of the current Standard be and/or Special Provisions. When it is determined that the structure contains an enhezardous existing paint system then option (10C) shall also apply.

OPTION: WA Cleaning: The portions of the structure listed in the special notes and quantity sheet, which is lately per cent, shall be cleaned in accordance with Subsection 620.6.1 of the Standard

The remaining portions of the structure not specified, shall be cleaned in thion 520.6.2. It is not intended that sound, adherent old paint be removed unless it is excessively

Attention is called to the requirements of paragraph 2 of Section 620.6 which requires

Attention is called to the equirements of paragraph 2 of section/occo which requires that edges of paint be properly fastifiered to produce a smooth appearance.

In the event that there is a difference of opinion as to which afreas must be sandblasted or hand cleaned or to the extent of surface cleaking or surface preparation, the decision of the Engineer shell be final.

Spot Painting: All steel surfaces clearing to the regular extended to be are metal shelf-receive one cost of linearchity/de primer conforming to the requirements of Section (11.8 of the Standard Specifications. This cost shell be tinted with a tinting agent, type as recommended by the Vaint manufactiver and approved by the Engineer.

Prime Cost: One complete cost of linearchity primer shell be applied to the entire structure upon completion of the spot painting. The primer shall point from to the requirements of Section 711.8 of the Standard Specifications. Dry film thickness shall be a minimum of two (2) mils.

Intermediate Field Cost: Upon completion of application of the prime cost, the antire structure shall receive a minimum of one complete color undergal conforming to the requirements of Section 711.10 of the Standard Specifications. Dry film thickness shalf be a minimum two (2) mills. The color shall be in accordance with Federal Standard 595, number (2).

secondance with Federal Standard 595, number (©).

Top Coa-Primented Finish Coat: Upón completion of application of the intermediate cost, the entire structure shall receive a minimum of one somplete pigmented thists coat conforming to the requirements o Section 711.11 of the Standard Specifications, Dry film thickness shall be a minimum two (2) mils. The color shall be © in accordance with Fedgrafi Standard 695, number ©.

OPTRON: (10B) Cleaning: All surfaces to be painted shall be cleaned and prepared in accordance with Section of the Standard Specifications to a "white metal" or "near white metal" condition. The paint

Field Prime Coat: All bare surfaces shall be primed with an organic zinc vick primer conforming

nts of SSPC Specification Number 20, Type 2. Dry film thickness of the primer shall to the requirements of loss of Specification Number 20, type 2, bry min thickness of the be a minimum of four (4) mils.

Field intermediate Cost: The field intermediate cost shall conform to the requirement of the standard Specifications.

Coat: The field top coat shall conform to the requirements of Article 713,20.4

of the Standard Specifications. The color shall be ① in accordance with Federal Standard 395, number ⑥ Ory film phickness of the total point system shall be a minimum seven (7) mills. ØPTION: (100)

Environmental Protection: All portions of the structure shall be cleaned in accordance with the at Provision for 620-Cleaning and Painting Existing Steel Bridges, Sub-articles 620.1, 620.9, 620.10, 620.11, and 620.12 as contained in these plans.

STRUCTURE EXCAVATION (FOOTINGS FOUNDED ON PILES) (1)

Structure excevation quantifies through earth fill shell-be massured from the bottom of the footing to the original ground line-18 mones outside the neatline of the footings. No excevation will be classified a

PREFORMED ELASTOMERIC JOINT SEALER 12

The preformed elastomeric joint sealer shall conform to the requirements of Section 624 of the

BRIDGE GUARDRAIL (13)

The guardrait, buffer and terminal sections, posts and and anchors shall-conform to the requirements as set forth by the West Virginia Department of Highways Standard Details Book (Standard Sheets G.R.1 through G.R.7, as applicable) and Shaets G.R.1 through G.R.7, as applicable) and Shaets G.R.1 through G.R.7, as applicable and Shaets G.R.1 through G.R.7, as applicable and anchorage after G.R.7 through G.R.7

STRUCTURAL STEEL (4)

All structural steel shall conform to the requirements of ASTM A36 (f_S=20,000 p.s.i.) unless

For superstructures utilizing steel grid flooring, structural steel conforming to the requirements A588 (fs=27,000 p.s.i.) may be substituted for ASTM A36 steef. No painting shall be required for OPTION: (14A)

All ASTM A36 steel shall be blast cleamed and shop primed in accordance with Section 615 of the Standard Specifications.

STEEL GRID FLOORING (CONCRETE FILLED TYPE)

The steel grid flooring shall conform to all applicable requirements of Section 625-of the current Standard Specifications and/or all Special Provisions of the West Virginia Department Highways.

The grid shall conform to all applicable requirements as set forth by the Bridge Grid Flooring Manufacturers tion. Size and type shall be as specified on the plans. to all requirements of ASTM A36, A572 or A588, type as specified

Cleaning: All surfaces to be painted shall be cleaned and prepared in accordance with Section 615.6 of the Standard Specifications to a "white metal" or "near white metal" condition. The paint

system shall be as follows:

The steel grid flooring and alt-fomponents shall either be shop painted with an inorganic zinc rich primer meeting Subspection 711.20.2 of the Standard Specifications or hot dipped galvanized equirements of ASTM A123. Type of coating shall be as specified on the plans

All reinforcing steel shall be number 3 billet steel bars either Grade 40 or 60 in accordance with Subsection 1041 of the Standard Specifications.

The concrete used to fill the steel grid shall be Class A air entrained. The design stresses for this concrete are f_c=3,500 psi, f_c=1,400 psi and n=10.

STEEL GRID FLOORING (OPEN TYPE) 15

The steel grid flooring shall conform to all applicable requirements of Section 621 of the current The steeling to Thomas and comorm to all applicable requirements of section of the current Stendard Specifications and/or all Special Provisions of the West Virginia Department of Highways. The grid shall conform to all applicable requirements as set forth by the Bridge Grid Flooring Manufacturers Association. Size and type shall be as specified on the plans. The steel grid flooring shall conform to all requirements of ASTM A36, A572 or A588, type as specified

Cleaning: All surfaces to be painted shall be cleaned and prepared in accordance with Section 615.6 of the Standard Specifications to a "white metal" or "near white metal" condition. The paint

The steel grid flooring and all components shall either be shop painted with an inorganic zinc rich mimer meeting Subsection 711.20.2 of the Standard Specifications or hot dipped as meeting requirements of ASTM A123. Type of coating shall be as specified on the plans.

MAINTAINING TRAFFIC (17)

Traffic shall be maintained in accordance with Section 636 and Subsection 104.5 of the Standard

NAIL LAMINATED WOOD DECK (19)

PROJECT NUMBER

S311-8-5.23

COUNTY

GILMER

NO. SHTS

2

Pine Bridge Lumber all lumber shall be surfaced four sides, pressure treated No. 2 Medium. Grain or better Southern Pine as specified by current Grading Rules for Southern Pine Lumber published by the Southern Pine Inspection Bureau, New Orleans, Louisians.

PUBLIC STATE ROADS DIST. DIV. NO.

7

W.VA.

General Timber Deck Notes: The allowable bending stress shall not be less than 1,200 p.s.i. and the allowable shearing stress shall

All lumber shall be sized by being processed through a hit-or-miss surfacer

This material shall be subject to random sampling and testing for compliance with the above

Material will be accepted in bundles when the shipment is accompanied by a certificated, issued by a Department of Highways Materials Control, Soil and Testing Division certified inspector, showing that the lumber in the "white" meets the above requirements. When said certificate is not available, the material will be inspected by Department of Highways personnel at the delivery site and stacked and struck by the vendor.

<u>Treatment:</u> material for pressure treatment shall be in accordance with Subsection 710.5 of the

Standard Specifications. Treatment shall be by either the full cell or empty cell process at 150 to 200 p.s.i. and a minimum retention as specified by the American Wood Preservative Association Standard C-2 Standard Specifications, Treat shall be obtained

Material and/or workmanship shall conform to the requirements of Subsection 710.1 of the Standard

[] Delivery: material shall be delivered in minimum shipments of 2,000 board feet or as directed by the per. A maximum of 15 calendar days will be allowed for delivery following notification by the Engineer he vendor shall notify the Engineer one working day prior to delivery of the material.

[*[General; any deviation from the above requirements may be cause for rejection, by the Engineer, of the entire shipment of lumber.

All non-specified material in any shipment shall be rejected and will be removed from the West Virginia Department of Highways storage area by the vendor prior to acceptance of the suitable material. Notification shall be made on all receiving documents and/or delivery stips specifying reason(s) for rejection of any portion of a shipment. The signatures of both the Department of Highways and delivering agency representatives shall be affixed to documents on which rejection reason(s) is recorded.

The vendor must furnish to the Engineer a certificate of inspection, certifying that the the specifications for quality of lumber, preservative and retention required. A certified meets the specifications for quality of lumber, preservative and retention required. A certified copy of the certificate of inspection must be attached to the invoice.

Under no circumstances may the vendor ship nor will the Department of Highways accept or pay for quantities of material in excess of the quantity stated on the purchase order, except upon

The inspection agencies listed hereinafter may be considered as prequalified. If a vendor desires inspection by responsible agencies other than those listed, advance approval must be obtained from the terials Control, Soil and Testing Division, 312 Michigan Avenue, Charleston, West Virginia 25305. Qualified Lumber Inspection Agencies:

McCallum Inspection Company

Froehling and Robertson, Inc. Richmond, Virginia

A. W. Williams Inspection Company Mobile, Alabama

Southern Pines Inspection Bureau

Refecto the appropriate Standard Plan sheet for design stresses, specifications or notes.

PRESTRESSED CONCRETE SUPERSTRUCTURE (9)

Although the plans are detailed for a particular type of prestressed concrete beam, although the plans are detailed for a particular type of prestressed concrete beam, although the plans are detailed for a particular type of prestressed concrete beam, although the prestressed concrete beam may be furnished with the following-stipulations:

a) Supplier must submit proposed alternate with design computations for review and approval by the Department of Highways.

b) Contractor must supply revised modified construction plans showing all revisions and modifications as required by the use of the alternate beam for review and approval by the Department of Highways.

Department of Highways.

c) Completion date of the project will not be extended due to any delay encountered in obtaining alternate began and revised modified plan approval by the Department of Highways, d) The project canot be started until the revised modified plans are approved by the Bepartment

NOTE SELECTION TABLE
 CODE
 YES
 NO
 CODE
 YES
 NO

 1
 V
 10B
 V
 These items are for Purchase Order Contract only. 15 16 17 8 🗸 THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION 17 9A DIVISION OF HIGHWAYS-STRUCTURES 18 ✓ 19 AKR TRAIN SY SUPERSTRUCTURE REPLACEMENT PLANS OF DWW OFFECTION BYS REAR FORK W-BEAM DERECTOR, STRUCTURES DIVISION AEWED BY: WRW CONTROL VALUE ON C.R. 8 (SLS) OVER BEAR FORK CODE VALUE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION 11-25-90 Ø5-1Ø A NA B NA C NA GILMER COUNTY DIVISION OF HIGHWAYS-STRUCTURES NONE STANDARD BRIDGE PLANS SHEET HOL **GENERAL NOTES** BRIDGE NUMBER STANDARD SHEET BR-2A **GENERAL NOTES** 11-8-5.23 (7917.1)

PROJECT	NUMBERS	WV DISTRICT SEVEN	COUNTY	SHEET	OF
FEDERAL	STATE \$311-8-5.23		GILMER	3	6

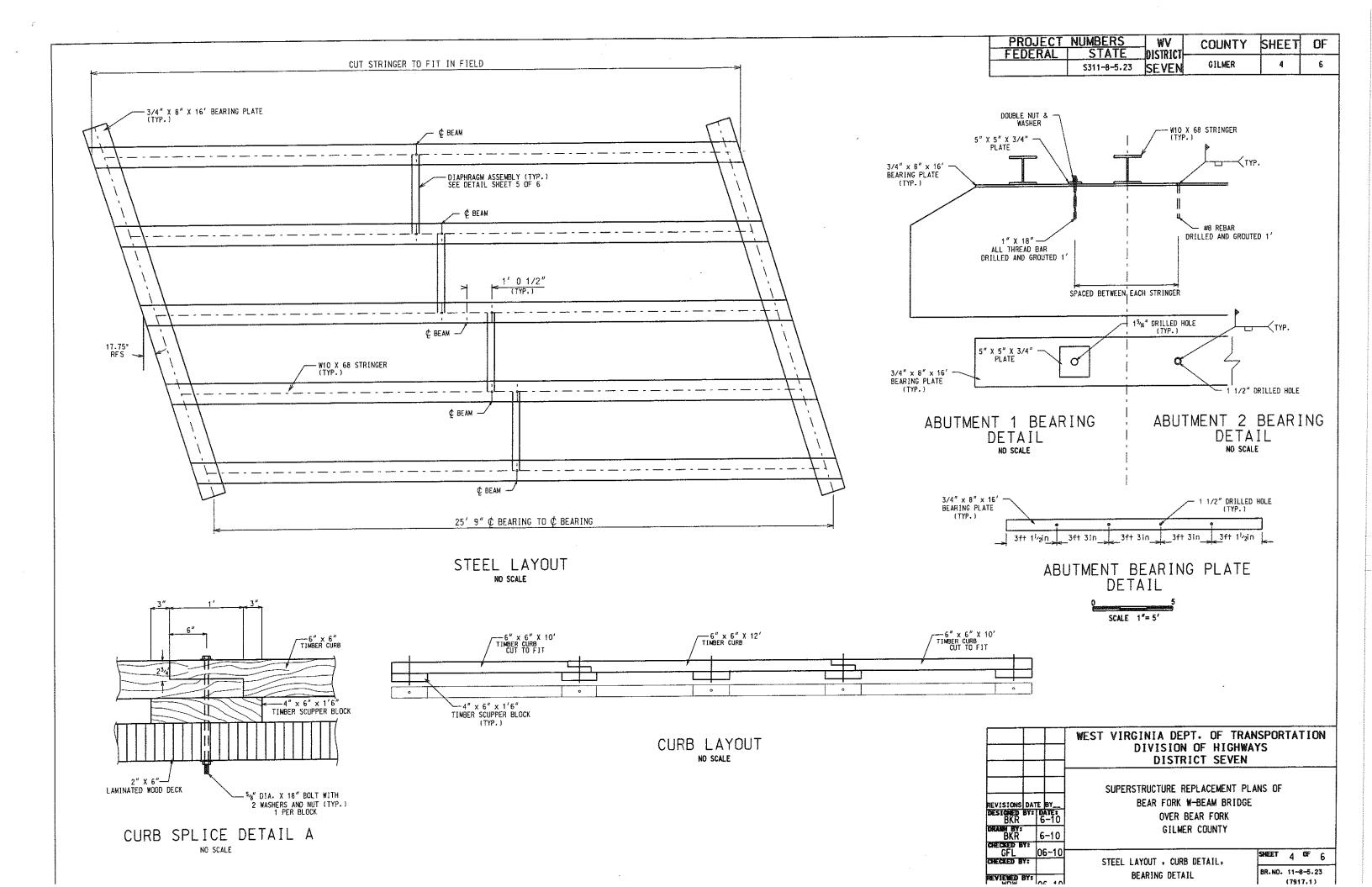
	ESTIMATE OF QU	TITMAL	IES	
	PROJECT NO. S31 FOR INFORMATION			
DESCRIPTION DECK TIMBER CURB TIMBER CURB TIMBER BLOCKOUT NAILS NAILING CLIPS *STRINGERS *BEARING PLATES *BACKWALL THREAD BARS *WOOUBLE NUTS & WASHERS #B REBAR	₩/NUT	UNITS EA EA EA LB LB LB LB TON EA TON EA	NO. AND SIZE 2" X 6" X 18' 6" X 6" X 10' 4" X 6" X 10' 4" X 6" X 16' 20 PENNY TF=3,4" 5-\(\) 10 X 68 X 30' 2-3,4" X 2' 6" X 20' 4-EA 5"X 5"X3,4" 3' X 3' X 6' W/NUT AND WASHER 1" X 18" LONG 1' LONG	TOTAL 210 2 4 1 100 135 10200 654 3063 185 4 20 4 16 16 4 4

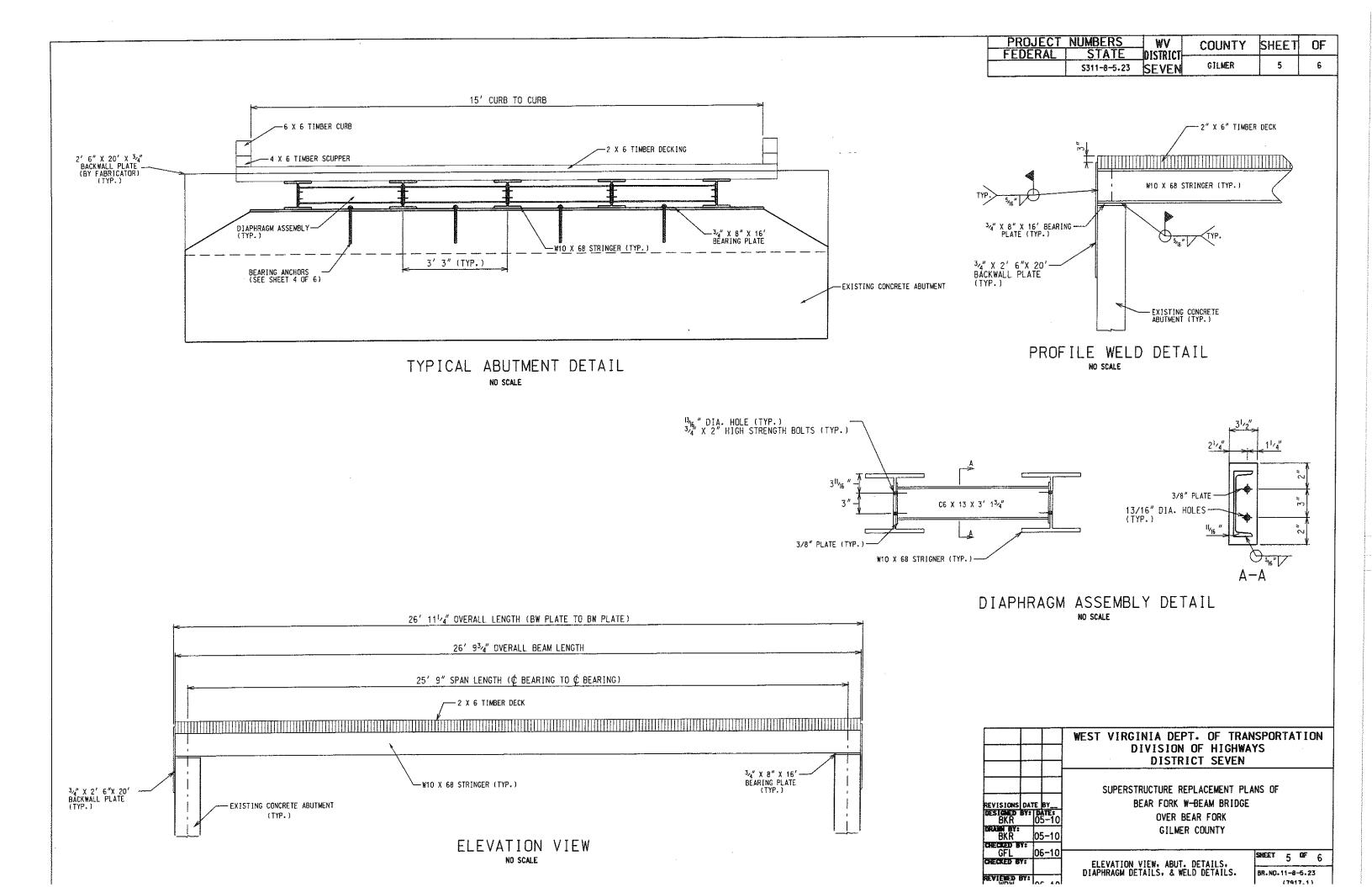
* -ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM M223 GRADE 50 AND SHALL BE GALVANIZED AND FABRICATED AS SHOWN ON SHEETS 4 & 5 OF 6. GALVANIZING SHALL CONFORM TO THE WVDOH SPECIFICATIONS, JAN 2003, FOR SECTION 689.

SCOPE OF WORK

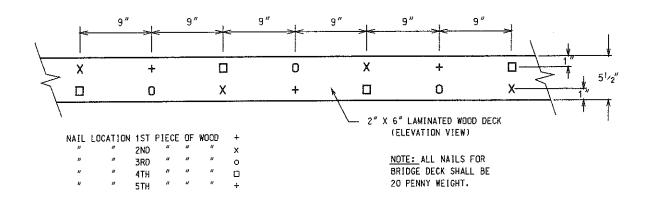
- REMOVE EXISTING DECK AND SUPERSTRUCTURE.
 PLACE AND WELD NEW STRINGERS AND BACKWALL PLATES.
 PLACE NEW TIMBER DECK.
 REPAIR SHOULDERS AND APPROACHES.
 SITE DRESS, SEED, AND MULCH ALL DISTURBED AREAS.

		WEST VIRGINIA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT SEVEN	4		
REVISIONS DA DESIGNED BY BKR DRAWN BY: BKR CHECKED BY:	05-10 05-10	SUPERSTRUCTURE REPLACEMENT PLANS OF BEAR FORK W-BEAM ON C.R. 8 (SLS) OVER BEAR FORK GILMER COUNTY			
GFL CHECKED BY:	06-10	EXISTING ELEVATION AND END VIEW, SHEET 3 OF	6		
REVIEWED BY:		ESTIMATE OF QUANTITIES, & SCOPE OF 11-8-5.23	, ,,		

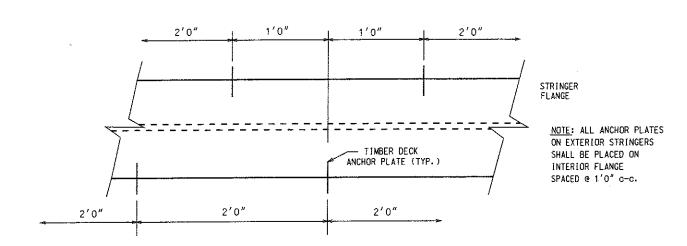




	PROJECT	NUMBERS	WV	COUNTY	SHEET	OF
ŀ	FEDERAL	STATE \$311-8-5.23	SEVEN	GILMER	6	6



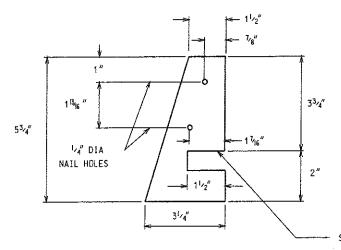
TIMBER DECK NAILING DIAGRAM NO SCALE



DECK ANCHOR PLATE SPACING DETAIL

(INTERIOR STRINGER)

NO SCALE



SLOT FOR TIGHT FIT ON FLANGE OF STRINGER
W10X68 FLANGE THICKNESS = $\frac{3}{4}$ " - 135 pcs

DECK ANCHOR PLATE DETAILS

