

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|---------------|-------|--------------------|-----------|--------------|
|              |             |              |             |               | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.       |       | 110503             | 95        | 233          |
|              |             |              |             | 07027         |       | 308' UNITS         |           | 41900        |

SUPERSTRUCTURE GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Dept. Standard Specifications for Highway Construction 2003 edition with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges 2002 with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

MATERIALS AND STRENGTHS:  
Slabs, Parapets, and Diaphragms:  
All concrete shall be class S(AE) with a minimum 28 day compressive strength  $f'_c = 4000$  PSI

Prestressed Concrete Girders: All concrete shall be class S with a minimum 28 day compressive strength  $f'_c = 5000$  PSI

REINFORCING STEEL: Reinforcing Steel shall conform to AASHTO M31-94, Grade 60 ( $f_y = 60,000$  PSI). Epoxy coated reinforcing steel shall conform to AASHTO M284.

ELASTOMERIC BEARINGS: For Elastomeric Bearings see Dwg. 41903.

STRUCTURAL STEEL: All Structural Steel shall be AASHTO M270, Gr.50W unless otherwise noted and shall be paid for as Structural Steel in Plate Girder Spans (M270, Gr.50W). AASHTO M270, Gr.50W Steel shall not be painted. All exposed surfaces to be cleaned in accordance with Subsection 807.84(e) of the Standard Specifications. Structural Steel completely embedded in concrete may be AASHTO M270, Gr.36.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will made for any adjustments due to substitutions.

Field connections to be bolted with high strength bolts. For  $\frac{3}{4}$ " dia. bolts: open holes =  $\frac{1}{8}$ " dia. unless otherwise noted; Bolt spacing =  $2\frac{3}{4}$ " unless otherwise noted; Minimum edge distance =  $1\frac{1}{8}$ " unless otherwise noted. For  $\frac{1}{2}$ " dia. bolts: open holes =  $\frac{1}{16}$ " dia. unless otherwise noted; Bolt spacing = 3" unless otherwise noted; minimum edge distance =  $1\frac{1}{2}$ " unless otherwise noted.

All welding that is to be done during fabrication of structural steel, including temporary welds shall be detailed on the shop drawings and submitted for approval. If the contractor or erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with a formal request to the Bridge Engineer for approval.

REINFORCING STEEL:  
Reinforcing steel shall be accurately located in the forms and firmly held in place by steelwire supports sufficient in size and number to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "Reinforcing Steel"

CONCRETE:  
Concrete in bridge superstructure shall be placed and consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The concrete bridge deck shall be given a trow finish as specified for final finishing in subsection 802.19 for a class 5 finish bridge roadway surface finish. Movement of the finish machine across the new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing.

SUPERSTRUCTURE NOTES - PRESTRESSED GIRDER UNITS

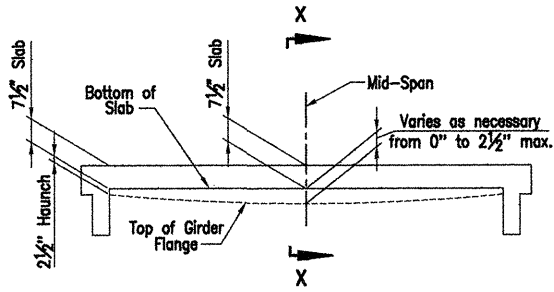
CONCRETE:

All concrete in slabs and diaphragms shall be Class S(AE) and shall have a minimum 28 day compressive strength,  $f'_c = 4000$  PSI. All midspan, and end of unit diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured. Interior bent diaphragms shall be cast monolithically with the slab. All exposed corners to be chamfered  $\frac{1}{4}$ " unless otherwise noted. The slab and intermediate bent diaphragms for the Prestressed Concrete Girder Units shall not be poured until at least 90 days after the release of the Prestressing Strands.

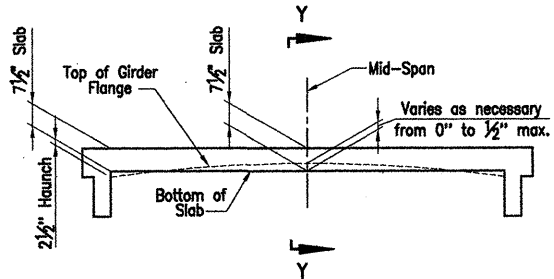
LOAD DISTRIBUTED TO GIRDERS:

| AASHTO Type III         | To Interior Girder    | To Exterior Girder    |
|-------------------------|-----------------------|-----------------------|
| Dead Load               |                       |                       |
| (a) to girder only      |                       |                       |
| girder weight           | 0.583 k/f             | 0.583 k/f             |
| slab + haunch           | 0.72 k/f              | 0.73 k/f              |
| int. diaphragm          | 2.32 kips             | 1.16 kips             |
| (b) to composite girder | $\pm 0.3$ k/f         | $\pm 0.3$ k/f         |
| Live Load               |                       |                       |
| (a) to composite girder | 1.303 Wheels + Impact | 1.186 Wheels + Impact |

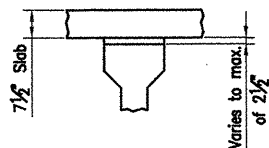
\* Includes 25 psf for future wearing surfaces



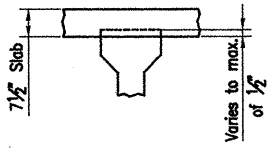
GIRDER ELEVATION  
N.T.S.



GIRDER ELEVATION  
N.T.S.



SECTION X-X  
N.T.S.



SECTION Y-Y  
N.T.S.

NOTE:

'Girder Elevation' sketches show the range of acceptability of the top of the Girder relative to bottom of slab after the placement of the slab. When the top of the Girder projects more than  $\frac{1}{2}$ " into the slab, a raise in Grade will be necessary.

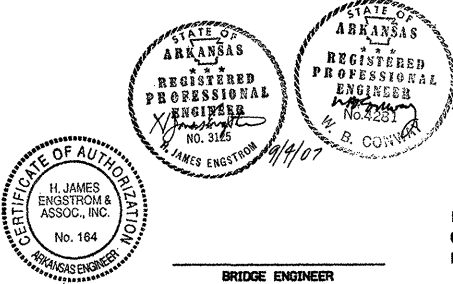
Girders shall be set in a sufficient number of spans so when adjustment is necessary the Profile Grade can be adjusted over suitable increments so the revised Grade Line will produce a smooth riding surface. Variation of haunch height will be at the Contractor's expense.

ALTERNATE NO. 1  
WHITE RIVER RELIEF BRIDGE  
DETAILS OF 308'-0" CONT.  
PRESTRESSED CONCRETE GIRDER UNITS  
(SHEET 6 OF 7)

ROC ROE & WHITE RIVER RELIEF  
STRS. & APPRS. (CLARENDON) (F)  
MONROE COUNTY

ROUTE 79 SEC. 13  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

Engstrom/Modjeski and Masters, Inc.



DRAWN BY: YO DATE: Sept. 07 FILENAME: b11050312.s06  
CHECKED BY: JES DATE: Nov. 01 SCALE: 1 1/2" = 1'-0"  
DESIGNED BY: YO DATE: Nov. 01  
BRIDGE NO. 07027 DRAWING NO. 41900