

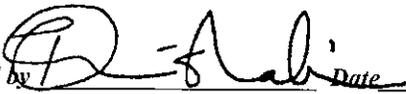
# TRANSPORTATION PLANNING REPORT

## Special Bridge Replacement Program

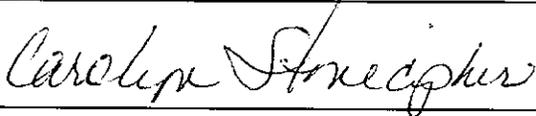
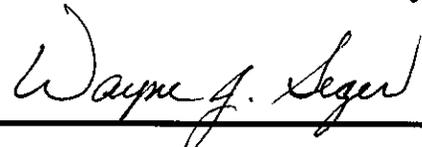
LOCAL ROUTE 0A125 – CIRCLE DRIVE  
BRIDGE OVER FURNACE CREEK @ L.M. 0.84  
JOHNSON COUNTY  
PIN: 117018.00



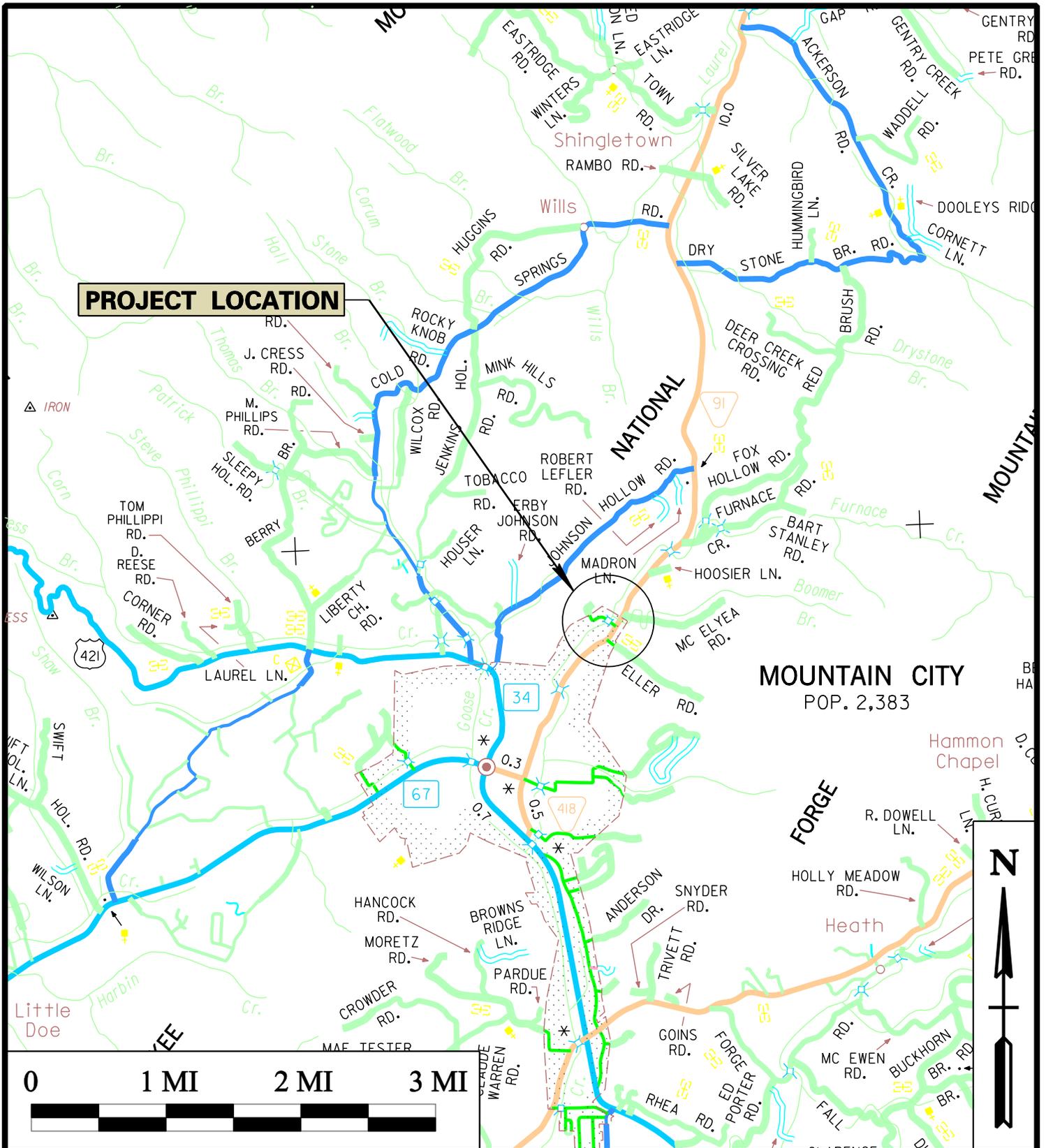
PREPARED BY  
TENNESSEE DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION

Approved by  Date \_\_\_\_\_  
Chief of Environment and Planning

Approved by  Date 5/20/13  
Deputy Commissioner and Chief Engineer

Approved by:	Signature	DATE
Transportation Director Project Planning Division		4-23-13
Engineering Director Design Division		4-29-13
Engineering Director Structures Division		5-13-13

This document is covered by 23 USC § 409 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 409.

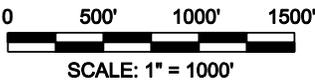
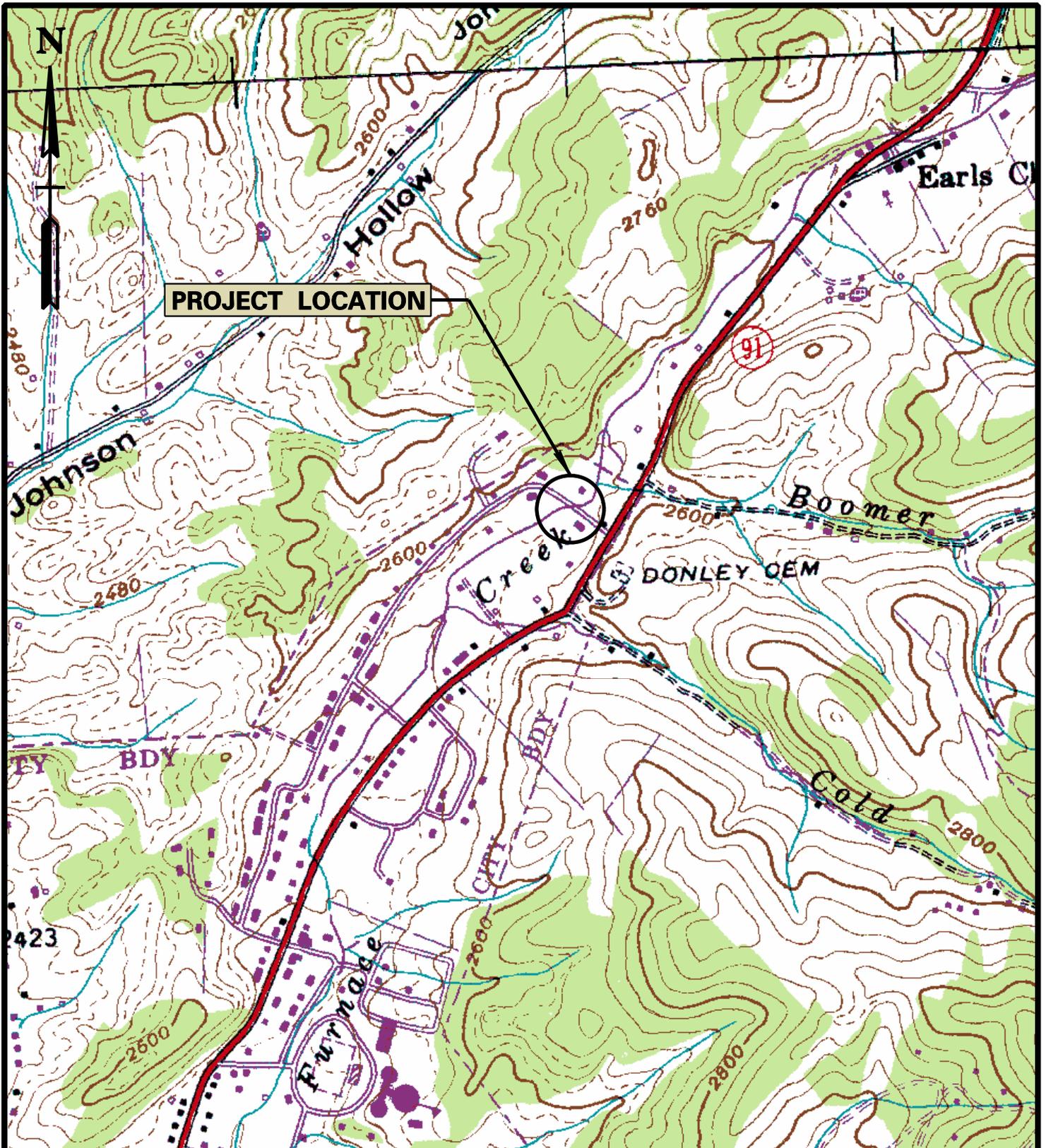


**PROJECT LOCATION**

**MOUNTAIN CITY**  
POP. 2,383

**AREA MAP**

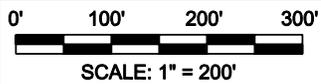
**ROUTE 0A125 JOHNSON COUNTY**  
**BRIDGE OVER FURNACE CREEK @ L.M. 0.84**  
**BRIDGE ID 460A1330001**



**PROJECT MAP**  
**ROUTE 0A125 JOHNSON COUNTY**  
**BRIDGE OVER FURNACE CREEK @ L.M. 0.84**  
**BRIDGE ID 460A1330001**



**PROJECT LOCATION**



**AERIAL MAP**  
**ROUTE 0A125 JOHNSON COUNTY**  
**BRIDGE OVER FURNACE CREEK @ L.M. 0.84**  
**BRIDGE ID 460A1330001**

**TRANSPORTATION PLANNING WORKSHEET  
BRIDGE REPLACEMENT ANALYSIS, NEEDS, AND COSTS**

County: Johnson Route: Circle Drive (0A125) Log Mile: 0.84  
 Feature Crossed: Furnace Creek System: Local  
 Functional Class: Rural Local Bridge ID: 460A1330001

**EXISTING CONDITIONS**

2017 AADT: 160 App. Cross Section: 20'/24'/52' No. Lanes: 2  
 Approach Alignment: Tangent Year Built: 1970 Load Limit: H14  
 Width (out to out): 21' 3" Sidewalks: Right -- Left -- Length: 24  
 No. Spans: Approach: -- Main: 1  
 Substructure: -- Vertical Clearance: 4.2' Sufficiency Rating: 27.5  
 Other: None

**PROPOSED IMPROVEMENTS**

STANDARDS FROM RD01-TS- 1A Type of Work: Replace  
 Design Year: 2037 Design AADT: 190 Terrain Mount. DHV: 25  
 Project Length: 350 ft Bridge Length: 26 ft Approach Length: 100 ft  
 Design Speed (MPH): 30 Posted Speed (MPH): 20  
 Approach Width: 20' / 24' / As Req'd Bridge Width (O to O): 29.5 ft No. Lanes: 2  
 Right-of-Way Required (Acres): 0 Tract(s): 0 Structure Type: Box Bridge (2@12'x8')

**MAINTENANCE OF TRAFFIC**

Temporary Detour:  Temporary Runaround:  Stage Construct:   
 Alternate Route: Close Circle Road at Bridge over Furnace Creek (L.M. 0.84). Circle Road loops back to N Church Street. The detour time is minimal (see detour map).  
 Remarks: \_\_\_\_\_

**ESTIMATED COST**

Right-of-Way: \$0 Approaches: \$90,400 Structure: \$98,000  
 Preliminary Engineering: \$24,800 Utilities: \$26,000 Misc./Cont.: \$22,500  
 Mobilization: \$10,800 Total: \$272,500

Remarks: The existing alignment is to be maintained and grade is to be raised 1.6 ft with a total roadway width of 24 feet. Two 10' lanes and two 2' shoulders will be used in order to match the existing (20' min required by RD01-TS-1A). No ROW will be required for this bridge replacement.  
 Field Investigation by: Randy Plummer (Reg. 1 Design), Bailee Young (Reg. 1 Intern), Mike Gilbert (Planning) Terrance Hill (Planning), David Duncan (Planning)

Route:	Circle Road (0A125)
Description:	Bridge Replacement over Furnace Creek @ L.M. 0.84
County:	Johnson
Length:	326 Feet
Date:	January 2, 2013

<u>DESCRIPTION</u>	<u>STATE</u>	<u>LOCAL</u>	<u>FEDERAL</u>	<u>TOTAL</u>
Right-of-Way	\$ -	\$ -	\$ -	\$ -
Clearing and Grubbing	\$ -	\$ 400	\$ 1,600	\$ 2,000
Earthwork	\$ -	\$ -	\$ -	\$ -
Railroad Crossing or Separation	\$ -	\$ -	\$ -	\$ -
Drainage	\$ -	\$ 320	\$ 1,280	\$ 1,600
Utilities	\$ -	\$ 5,200	\$ 20,800	\$ 26,000
Structures	\$ -	\$ 19,700	\$ 78,800	\$ 98,500
Pavement Removal	\$ -	\$ 300	\$ 1,400	\$ 1,700
Paving	\$ -	\$ 6,700	\$ 26,600	\$ 33,300
Roadway and Pavement Appurtenances	\$ -	\$ -	\$ -	\$ -
Retaining Walls	\$ -	\$ -	\$ -	\$ -
Topsoil	\$ -	\$ -	\$ -	\$ -
Seeding	\$ -	\$ -	\$ -	\$ -
Sodding	\$ -	\$ -	\$ -	\$ -
Rip-Rap or Slope Protection	\$ -	\$ 300	\$ 1,200	\$ 1,500
Fencing	\$ -	\$ -	\$ -	\$ -
Signing	\$ -	\$ -	\$ -	\$ -
Pavement Markings	\$ -	\$ 100	\$ 300	\$ 400
Lighting	\$ -	\$ -	\$ -	\$ -
Signalization	\$ -	\$ -	\$ -	\$ -
Guardrail	\$ -	\$ 3,400	\$ 13,700	\$ 17,100
Pay Item and Quantity Adjustment (15%)	\$ -	\$ 5,500	\$ 21,900	\$ 27,300
Maintenance of Traffic	\$ -	\$ 1,000	\$ 4,000	\$ 5,000
Mobilization (5%)	\$ -	\$ 2,100	\$ 8,600	\$ 10,800
CONSTRUCTION COST (rounded)	\$ -	\$ 45,000	\$ 180,200	\$ 225,200
Engineering and Contingency (10%)	\$ -	\$ 4,500	\$ 18,000	\$ 22,500
TOTAL CONSTRUCTION COST (rounded)	\$ -	\$ 49,500	\$ 198,200	\$ 247,700
Preliminary Engineering (10%)	\$ -	\$ 5,000	\$ 19,800	\$ 24,800
<b>PROJECT COST<sup>1</sup> (rounded)</b>	<b>\$ -</b>	<b>\$ 54,500</b>	<b>\$ 218,000</b>	<b>\$ 272,500</b>

<sup>1</sup> For estimating future project costs, a compounded inflation rate of 10 % should be applied from the date of this estimate.

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
-	Right-of-Way	LS	LS		\$ -
<b>RIGHT-OF-WAY TOTAL (ROUNDED)</b>					<b>\$ -</b>
201-01	Clearing and Grubbing	LS	LS	\$ 2,000.00	\$ 2,000
<b>CLEAR AND GRUBBING TOTAL (ROUNDED)</b>					<b>\$ 2,000</b>
203-03	Borrow Excavation (Unclassified)	LS	LS	\$ 7,300.00	\$ 7,300
<b>EARTHWORK TOTAL (ROUNDED)</b>					<b>\$ 7,300</b>
202-03.01	Removal of Asphalt Pavement	SY	267	\$ 5.20	\$ 1,388
415-01.02	Cold Planing Bituminous Pavement	SY	133	\$ 1.84	\$ 245
<b>PAVEMENT REMOVAL TOTAL (ROUNDED)</b>					<b>\$ 1,700</b>
209-08.02	Temporary Silt Fence (w/ backing)	LF	400	\$ 4.00	\$ 1,600
<b>DRAINAGE TOTAL (ROUNDED)</b>					<b>\$ 1,600</b>
	Above Ground Utilities	LF	2100	\$ 10.00	\$ 21,000
770-18.10	35FT Wood Pole	EA	1	\$ 5,000.00	\$ 5,000
<b>UTILITIES TOTAL (ROUNDED)</b>					<b>\$ 26,000</b>
	Removal of Existing Bridge	SF	510	\$ 20.00	\$ 10,200
	Box Bridge	SF	767	\$ 115.00	\$ 88,205
<b>STRUCTURES TOTAL (ROUNDED)</b>					<b>\$ 98,500</b>
--	Full Depth Paving	SY	533.33	\$ 32.00	\$ 17,067
411-03.10	ACS Mix (PG76-22) Grading D	TON	17.7	\$ 96.00	\$ 1,699
403-01	Bituminous Material for Tack Coat (TC)	TON	0.2	\$ 511.00	\$ 102
303-01	Mineral Aggregate, TY A Base, Grading D	TON	685.7	\$ 21.00	\$ 14,400
<b>PAVING TOTAL (ROUNDED)</b>					<b>\$ 33,300</b>
712-01	Traffic Control	LS	\$ 5,000	\$ 5,000.00	\$ 5,000
<b>MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)</b>					<b>\$ 5,000</b>
716-11.01	Spray Thermo Pvmt Mrkng (4" Line)	LM	0.20	\$ 1,834.00	\$ 367
<b>PAVEMENT MARKINGS TOTAL (ROUNDED)</b>					<b>\$ 400</b>
705-01.04	Metal Beam Guard Fence (Guardrail)	LF	54	\$ 55.46	\$ 2,995
705-04.04	Type 21 End Terminal	EACH	4	\$ 2,100.00	\$ 8,400
705-01.01	Guardrail at Bridge Ends	LF	92	\$ 62.00	\$ 5,704
<b>GUARDRAIL TOTAL (ROUNDED)</b>					<b>\$ 17,100</b>
709-05.06	Machined Rip-Rap (Class A-1)	TON	50	\$ 30.00	\$ 1,500
<b>RIP-RAP OR SLOPE PROTECTION TOTAL (ROUNDED)</b>					<b>\$ 1,500</b>



**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION**

**PROJECT PLANNING DIVISION**  
SUITE 1000, JAMES K. POLK BUILDING  
505 DEADERICK STREET  
NASHVILLE, TN 37243  
(615) 741-2208

**JOHN C. SCHROER**  
COMMISSIONER

**BILL HASLAM**  
GOVERNOR

**MEMORANDUM**

**TO:** Project Planning Office

**FROM:** David Duncan, Roadway Specialist I  
Conceptual and NEPA Planning Office

**DATE:** January 2, 2013

**SUBJECT:** TPR Field Review (Special Bridge Replacement Program)  
Local Route 0A125 Bridge over Furnace Creek  
Log Mile 0.84  
Johnson County  
PIN: 117018.00

A field review was held for the above-mentioned project on June 6, 2012.

The existing structure is a single span steel girder bridge with an out-to-out width of 21.25' feet. The overall bridge length is 24 feet with approximately 4.2 feet for the vertical clearance. The sufficiency rating for this bridge is 27.5. The 10-year and 100-year discharges and depths of flow for the drainage basin were determined using the appropriate regression equations. It was determined that the 100-year flow depth is 10.1 feet and the 10-year flow depth is 7.5 feet.

The proposed alignment for this structure will remain on the existing centerline and will be designed to meet TDOT design standard RD01-TS-1A for a design speed of 30 mph (AADT  $\leq$  400, Mountainous). The proposed structure will be a two (2) barrel box culvert with a total clearance of eight (8) feet (4.2 feet existing) which will require that the grade be raised 1.6 feet. It is estimated that the bridge replacement can be done within existing ROW (52') since no additional roadway width is being added to the approaches. There is a utility pole adjacent to the structure that will have to be relocated in order to change the slopes for the grade adjustments.

The route has a base year (2017) AADT of 160 and a design year (2037) AADT of 190. The bridge over Furnace Creek will consist of an out-to-out width of 29.5 feet with two ten (10) feet lanes and two (2) feet shoulders which is not required by standard drawing RD01-TS-1A but will

match the existing roadway width. The length of the entire project will be approximately 326 feet. The recommended proposed structure will be a concrete box bridge with a total length of twenty-six (26) feet.

It is recommended with the consent of Mountain City that Circle Road be closed during construction since detour time will be minimal and no loss of access will be involved (See Detour Map).

The required approach work, utility relocations, estimated replacement, and preliminary engineering costs for this bridge is approximately \$272,500.

DD

cc: File

## CHECK LIST OF DETERMINANTS FOR LOCATION STUDY

If any of the following facilities or ESE categories are located within the project area or corridor, place an "x" in the blank opposite the item. Where more than one alternate is to be considered, place its letter designation in the blank.

1. Agricultural land usage		X
2. Airport (existing or proposed)		
3. Commercial area, shopping center		
4. Floodplains		X
5. Forested land		
6. Historical, cultural, or natural landmark		
7. Industrial park, factory		
8. Institutional usages		
a. School or other educational institution		
b. Church or other religious institution (Cemetery)		
c. Hospital or other medical facility		
d. Public building, e.g., fire station		
e. Defense installation		
9. Recreation usages		
a. Park or recreational area		
b. Game preserve or wildlife area		
10. Residential establishment		X
11. Urban area, town, city, or community (MOUNTAIN CITY, TN)		X
12. Waterway, lake, pond, river, stream, spring		X
Permit required:	Coast Guard	
	Section 404	X
	TVA Section 26a review	X
	NPDES	X
	Aquatic Resource Alteration	X
13. Other		
14. Location coordinated with local officials		
15. Railroad crossings		
16. Hazardous materials site		

**TENNESSEE DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION**

PROJECT NO.: \_\_\_\_\_ ROUTE: Circle Rd. (0A125)  
 COUNTY: Johnson CITY: Mountain City  
 PROJECT PIN NUMBER: 117018.00  
 PROJECT DESCRIPTION: Special Bridge Replacement Program  
Bridge over Furnace Creek  
L.M. 0.84

**DIVISION REQUESTING:**

MAINTENANCE  PAVEMENT DESIGN   
 PLANNING  STRUCTURES   
 PROG. DEVELOPMENT & ADM.  SURVEY & DESIGN   
 PUBLIC TRANS. & AERO.  TRAFFIC SIGNAL DESIGN   
 OTHER   
 YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: \_\_\_\_\_  
 PROJECTED LETTING DATE: \_\_\_\_\_

**TRAFFIC ASSIGNMENT:**

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
160	2017	190	25	13	2037	65-35	1	2		

REQUESTED BY: NAME Michael Gilbert DATE 4/12/12  
 DIVISION Planning  
 ADDRESS 10<sup>th</sup> Floor  
J.K. Polk Bldg

REVIEWED BY: TONY ARMSTRONG Tony Armstrong DATE 4.20.12  
 TRANSPORTATION MANAGER 1  
 SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: DUDLEY DANIEL Dudley Daniel DATE 20 Apr 12  
 TRANSPORTATION MANAGER 2  
 SUITE 1000, JAMES K. POLK BUILDING

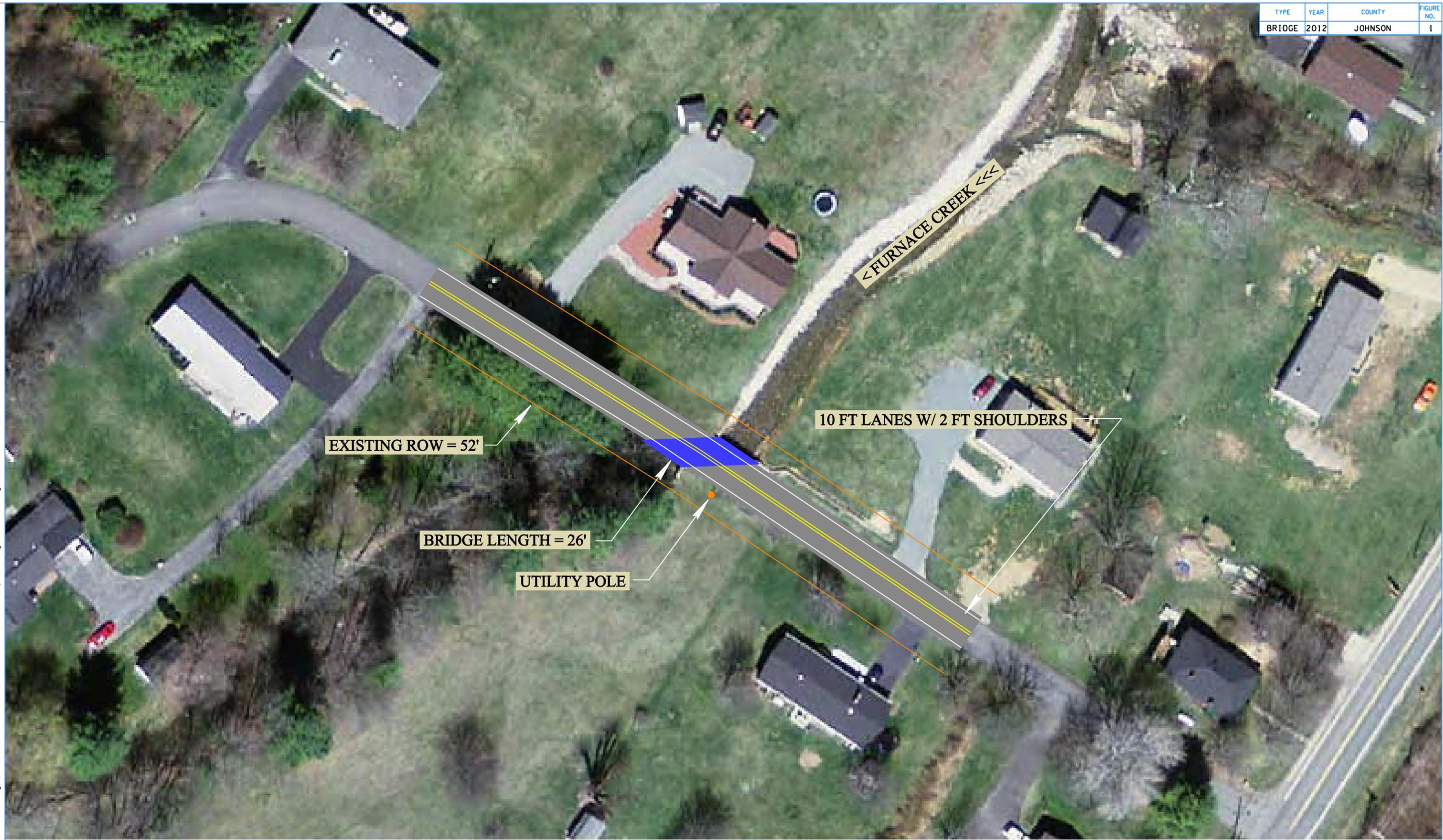
**COMMENTS:**

This Traffic Based on [24 hour] Machine Count, (April 2012). The Future Traffic is based on Growth Rate from the ADAM Computer Program.

**DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.**

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.  
 SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2012	JOHNSON	1

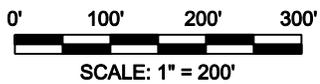
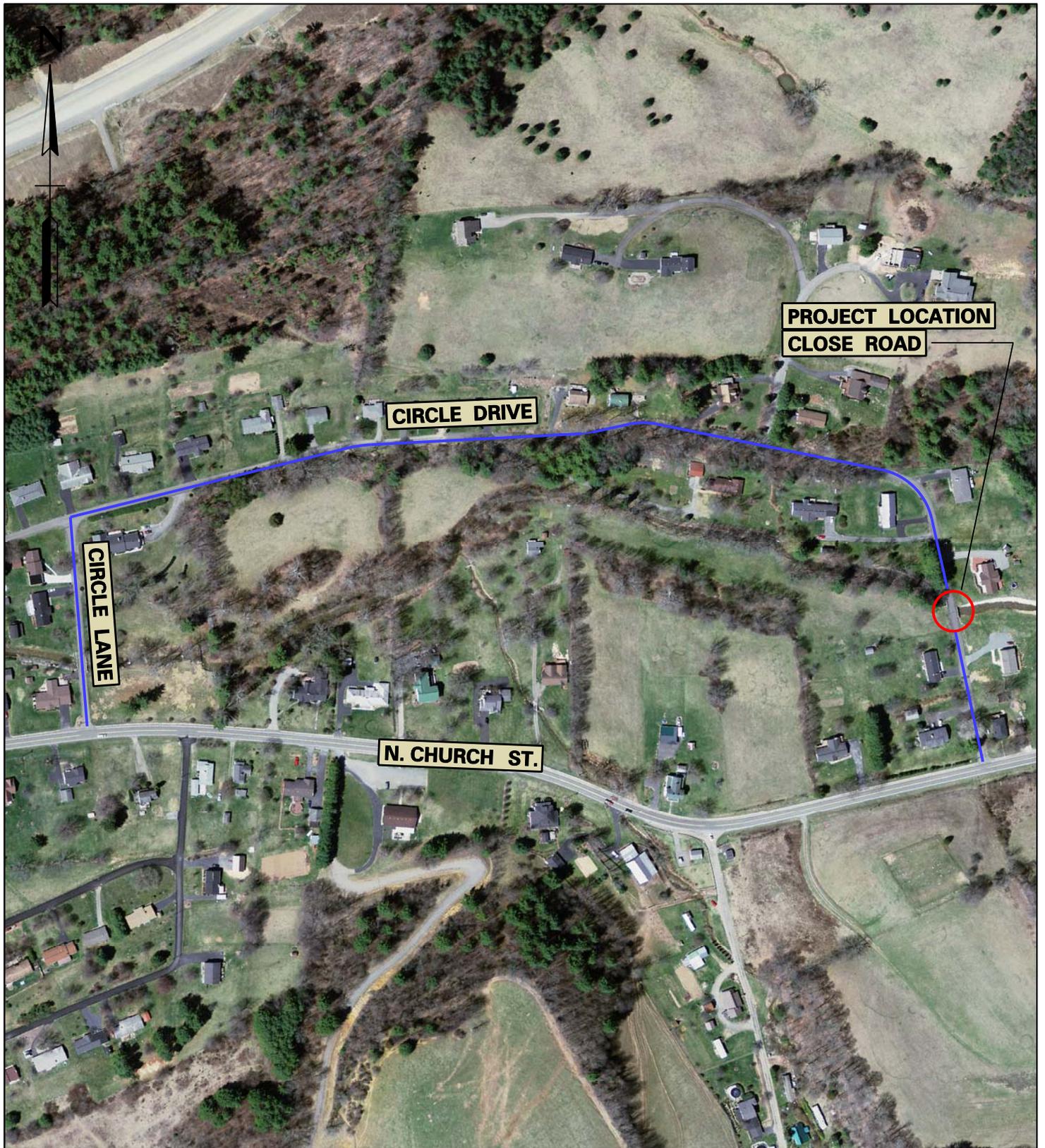


8/7/2012 11:08 AM X:\Projects\Johnson\Circle Road OA125\Bridge over Furnace Creek (L.M. 0.84)\Microstation\Proposed Alignment OA125.dgn



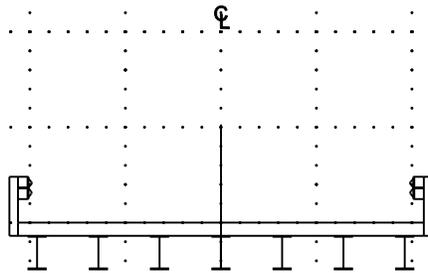
**BRIDGE REPLACEMENT**  
OA125 L.M. 0.84  
BRIDGE ID: 460A1330001  
JOHNSON COUNTY

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION  
  
FIGURE 1  
OA125  
L.M. 0.84

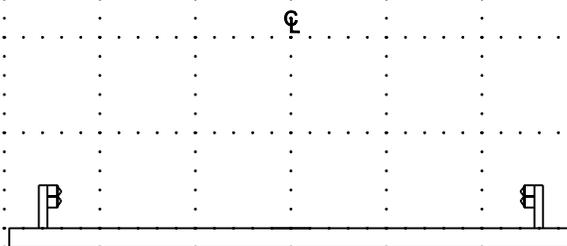


**DETOUR MAP**  
**ROUTE 0A125 JOHNSON COUNTY**  
**BRIDGE OVER FURNACE CREEK @ L.M. 0.84**  
**BRIDGE ID 460A1330001**

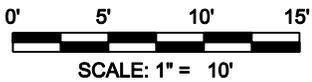
EXISTING



COMPLETED PROPOSED STRUCTURE



TOTAL WIDTH = 29.5'



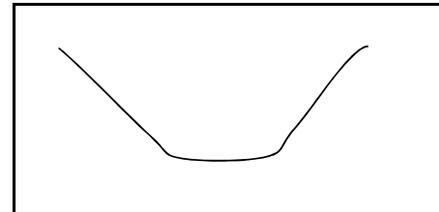
**STAGE CONSTRUCTION DETAIL**  
**CIRCLE DRIVE (0A125) JOHNSON COUNTY**  
**BRIDGE OVER FURNACE CREEK @ L.M. 0.84**  
**BRIDGE ID 460A1330001**

## SITE INSPECTION

INSPECTION MADE BY: David Duncan BRIDGE ID: 460A1330001 COUNTY: Johnson  
 Date: 1/2/13 Route Name: Circle Drive (0A125) Stream Name: Furnace Creek @ L.M. 0.84

### CHANNEL

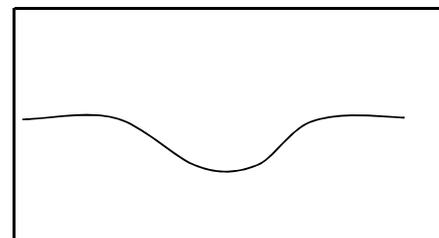
Approx depth and width of channel: Horizontal: 24' Vertical: 1'  
 Depth of normal flow: 1' In Reservoir:  Yes  No  
 Depth of Ordinary High Water: --  
 Type of material in stream bed: Stone and Rip Rap  
 Type of vegetation on banks: Grass  
 "N" factor of the channel: 0.03  
 Are channel banks stable:  Yes  No  
 If the streambed is gravel:  $D_{30} =$  --  $D_{85} =$  --  
 Skew of the channel with the roadway: 35°



Channel Shape Sketch

### FLOODPLAIN

Is the skew same as the channel?  Yes  No  
 Is it symmetrical about the channel?  Yes  No  
 Type of vegetation in the floodplain and "N" factors  
 Left U.S.: Grass (0.035) Right U.S.: Grass (0.035)  
 Left D.S.: Grass (0.035) Right D.S.: Grass (0.035)  
 Are roadway approaches lower than the structure?  Yes  No  
 Are there any buildings in the floodplain?  Yes  No  
 Approx. floor elevations: --  
 Flood information from local residents:  
 (elevations & dates) --



Floodplain Sketch

### EXISTING STRUCTURE

Length: 24' No. of spans: 1 Structure type: Steel Beams No. of lanes: 2 Skew: 35°  
 Width (out to out): 21' 3" Width (curb to curb): 19' 8" Approach:  paved  graveled  
 Sidewalks on Structure:  Yes  No Bridgerail type: Guardrail Bridgerail height = 2.4'  
 Superstructure depth: 4.8' Finished Grade to low girder = 2.4' Girder depth = 1'  
 Are any substructures in the channel?  Yes  No Vertical Clearance = 4.2' ft  
 Indications of overtopping: None  
 High water marks: Low Chord  
 Local scour:  Yes, \_\_\_\_\_  No  
 Any signs of stream  aggradation or  degradation? \_\_\_\_\_  
 Any drift or drift potential?  Yes, \_\_\_\_\_  No  
 Any obstructions (pipes, stock fences, etc.)? None

### PROPOSED STRUCTURE

Replacement  Rehabilitate  Widening  New Location  
 Bridge length: 26 ft Bridge type: Box Bridge Span arrangement: 2 @ 12 x 8' Skew: 35°  
 Bridge width: 29.5 ft Sidewalks: None Design Speed (MPH): 30 ADT ( 2037 ) = 190  
 Proposed grade: Raise 1.6' Proposed alignment: Maintain Existing  
 Method of maintaining traffic:  Stage construction  On site detour  Close road  Shift Centerline  
 Cost of proposed Structure: \$115 per ft<sup>2</sup> X 26 / 29.5 length (ft) / width (ft) Cost = \$88,000  
 Cost of bridge removal: \$20 per ft<sup>2</sup> X 24 / 21.3 length (ft) / width (ft) Cost = \$10,000  
 Detour structure: Type and size = -- Cost = \$0  
**Total Structure Cost = \$98,000**

**Bridge TPR Flow Calculations  
For Hydrologic Area 2  
Area > 300 Acres**

County: Johnson  
 Bridge ID: 460A1330001  
 Route: Circle Drive (0A125)  
 Feature Crossed: Furnace Creek  
 Log Mile: 0.84

By: DD  
 Date: 1/2/13  
 PIN: 117018

**DRAINAGE BASIN**

Measurement from quad = 3,520 acres  
 Contributing Drainage Area, CDA = acres/640 = 5.50 sq. mi.

**USGS REGRESSION EQUATIONS FOR FLOW**

$Q_2 = 207(CDA)^{0.725} =$  712 cfs  
 $Q_5 = 344(CDA)^{0.715} =$  1,164 cfs  
 $Q_{10} = 444(CDA)^{0.711} =$  1,492 cfs  
 $Q_{25} = 578(CDA)^{0.708} =$  1,932 cfs  
 $Q_{50} = 682(CDA)^{0.706} =$  2,272 cfs  
 $Q_{100} = 788(CDA)^{0.705} =$  2,621 cfs

**DEPTH OF FLOW EQUATIONS**

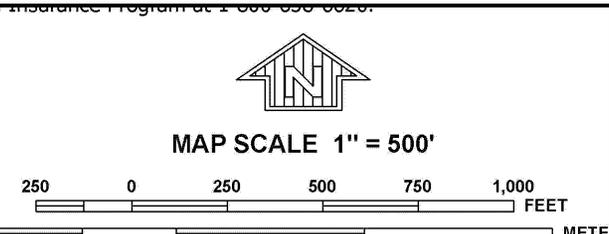
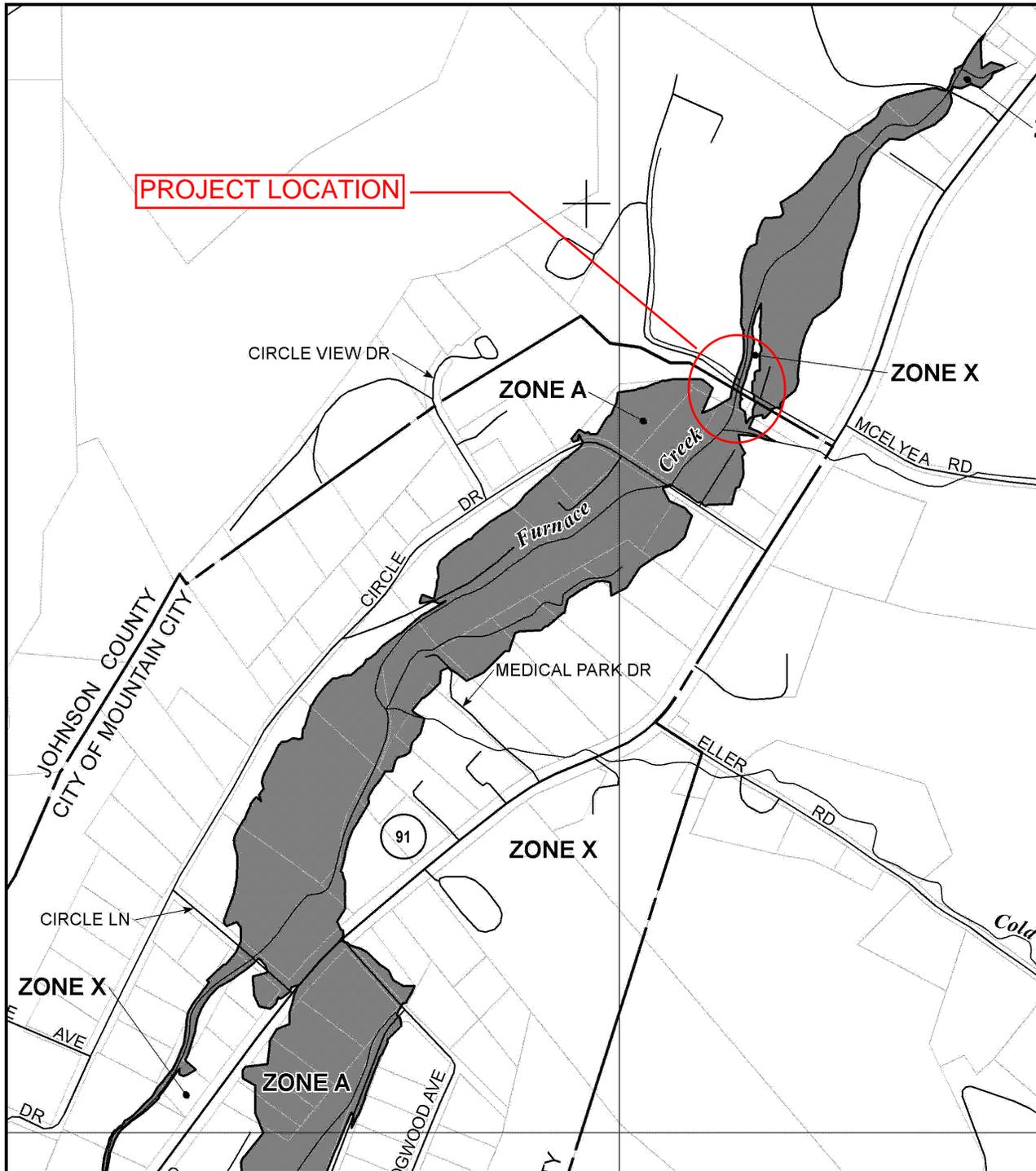
10-Year Flood Depth =  $5.33(CDA)^{0.197} =$  7.5 ft  
 100-Year Flood Depth =  $7.43(CDA)^{0.181} =$  10.1 ft

**AREAS**

Existing Area Below Low Chord = 566 ft<sup>2</sup>  
 Proposed Area Below Low Chord = 570 ft<sup>2</sup>  
 Proposed 10-Year Flood Area,  $A_{10} =$  183 ft<sup>2</sup>  
 Proposed 100-Year Flood Area,  $A_{100} =$  303 ft<sup>2</sup>

**VELOCITIES**

Proposed 10-Year Flood Velocity,  $V_{10} = Q_{10}/A_{10} =$  8.2 fps  
 Proposed 100-Year Flood Velocity,  $V_{100} = Q_{100}/A_{100} =$  8.7 fps



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0131C

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**JOHNSON COUNTY,**  
**TENNESSEE**  
**AND INCORPORATED AREAS**

**PANEL 131 OF 275**  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
JOHNSON COUNTY	470230	0131	C
MOUNTAIN CITY, CITY OF	470275	0131	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

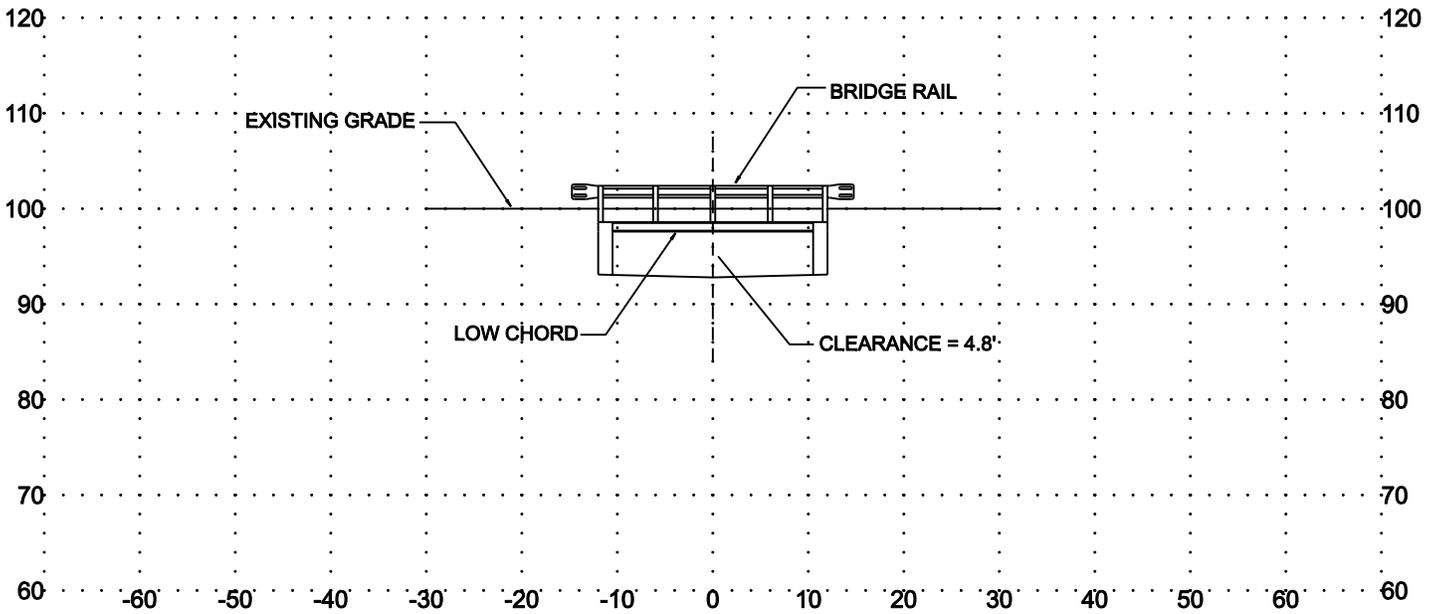


**MAP NUMBER**  
**47091C0131C**  
**EFFECTIVE DATE**  
**JUNE 16, 2009**

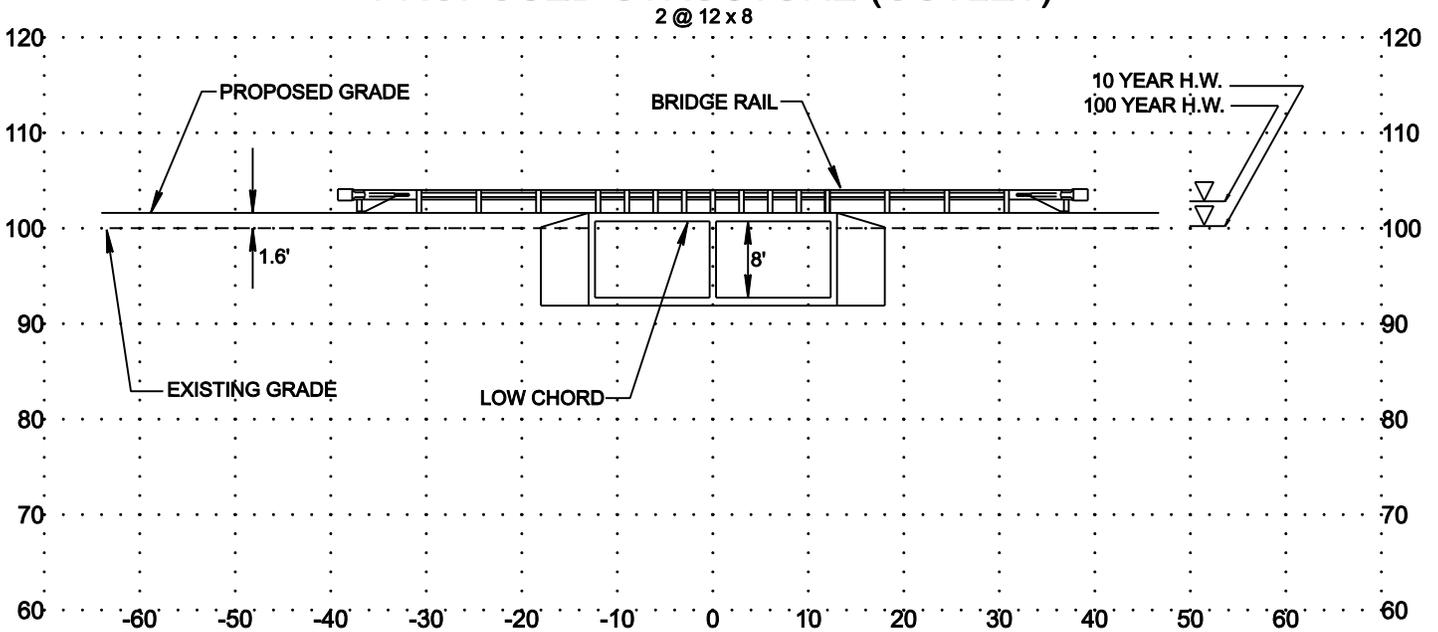
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

## EXISTING STRUCTURE (OUTLET)



## PROPOSED STRUCTURE (OUTLET)



**BRIDGE SECTIONS**  
**CIRCLE DRIVE (0A125) JOHNSON COUNTY**  
**BRIDGE OVER FURNACE CREEK @ L.M. 0.84**  
**BRIDGE ID 460A1330001**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Westbound Approach (Looking West)**



**Westbound Approach (Looking East)**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Eastbound Approach (Looking West)**



**Eastbound Approach (Looking East)**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Upstream**



**Upstream Right**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Upstream Right**



**Downstream**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Downstream Right**



**Downstream Left**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Inlet**



**Outlet**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**County – Local Route – Log Mile**



**Guardrail Attached to the Structure**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**Weight Limit Sign**



**Utility Pole Adjacent to the Structure**

Johnson County – Local Route 0A125 (Circle Road)  
Bridge over Furnace Creek @ L.M. 0.84



**View under the Deck #1**



**View under the Deck #2**