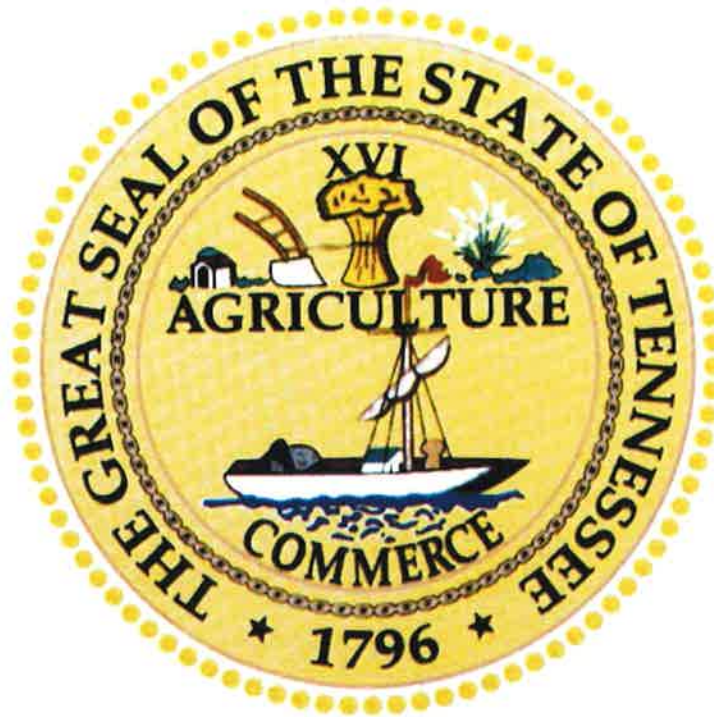


TENNESSEE
DEPARTMENT OF TRANSPORTATION



TRANSPORTATION INVESTMENT REPORT

Special Bridge Replacement Program

Local Route 03899 – Fort Robinson Drive

Bridge over Reedy Creek,

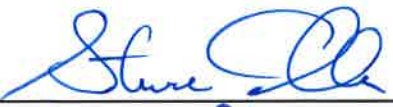

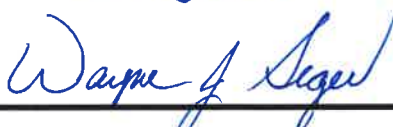
Log Mile 0.39 Sullivan County

PIN 122156.00

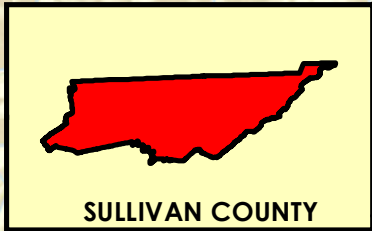
PREPARED BY TENNESSEE DEPARTMENT OF TRANSPORTATION
Strategic Transportation Investments Division

Approved by  Date 12.22.15
 Chief of Environment and Planning

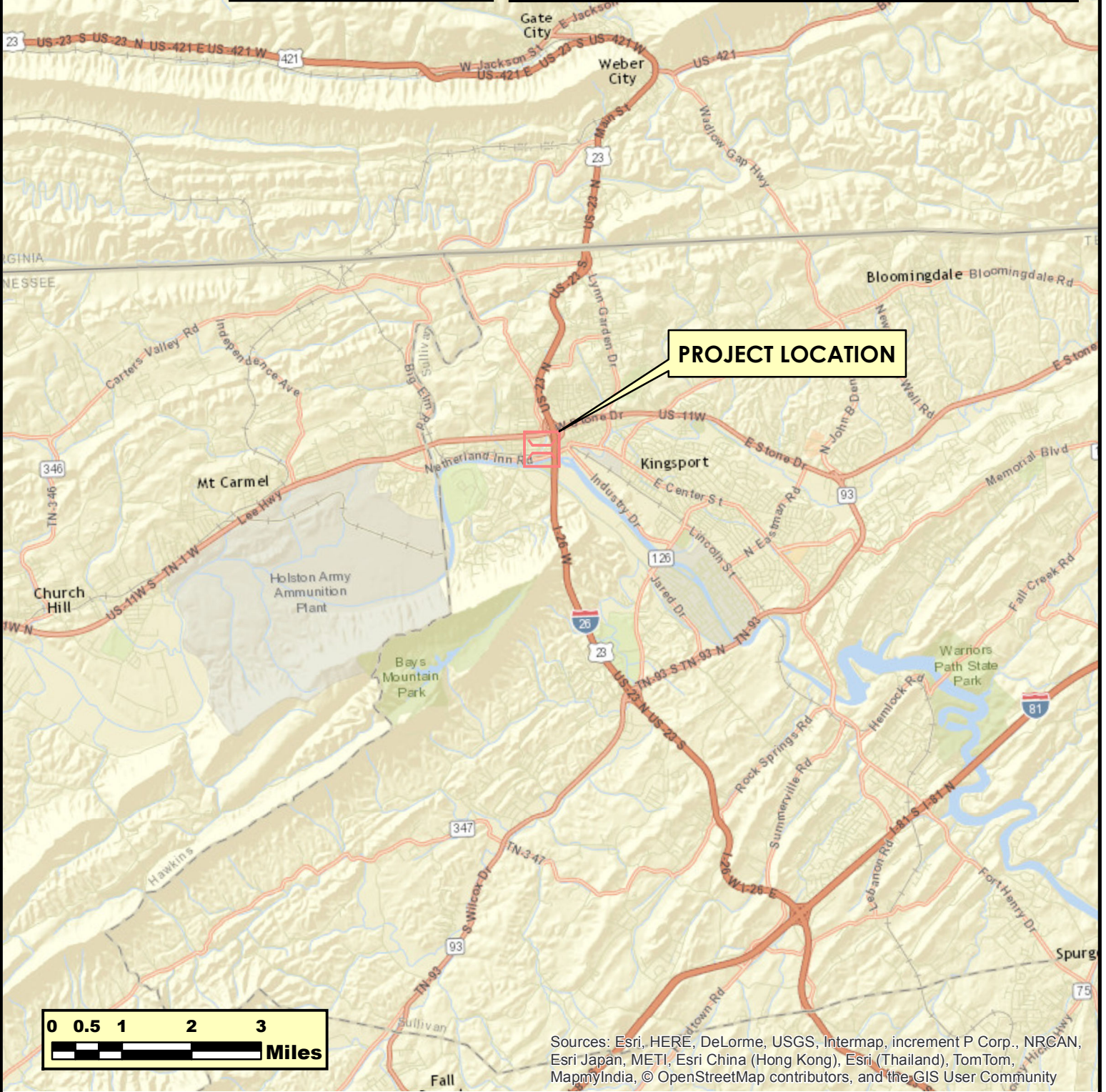
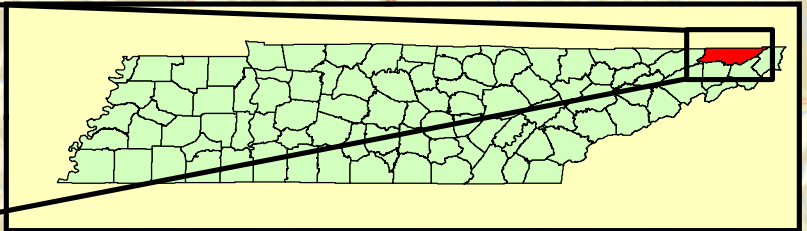
Approved by  Date 12/28/15
 Deputy Commissioner and Chief Engineer

Approved by:	Signature	DATE
TRANSPORTATION DIRECTOR STRATEGIC TRANSPORTATION INVESTMENTS DIVISION		12-10-15
ENGINEERING DIRECTOR DESIGN DIVISION		12-9-15
ENGINEERING DIRECTOR STRUCTURES DIVISION		12.22.15

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



SULLIVAN COUNTY

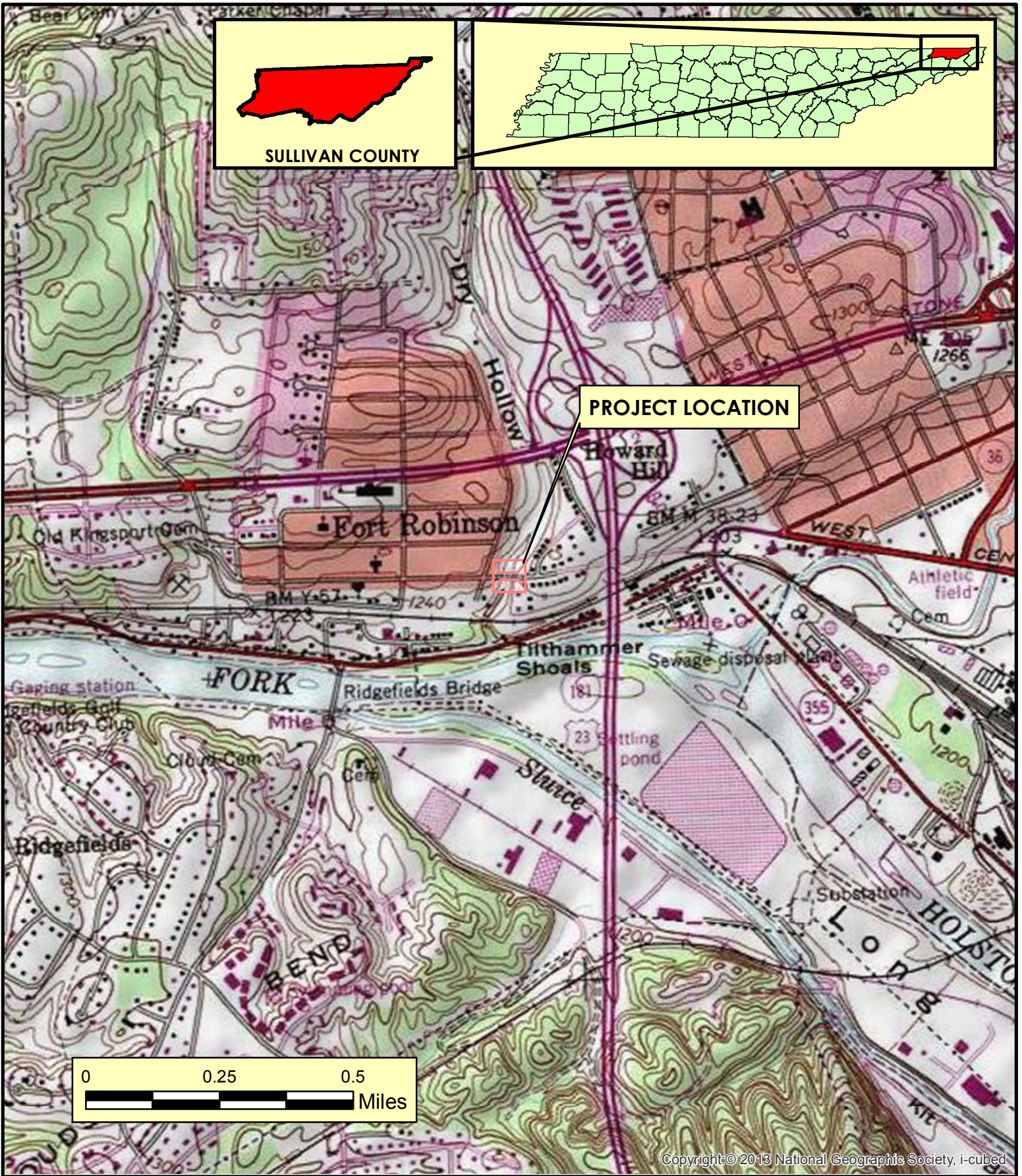
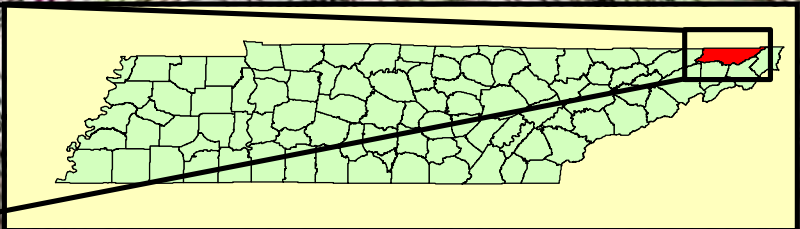
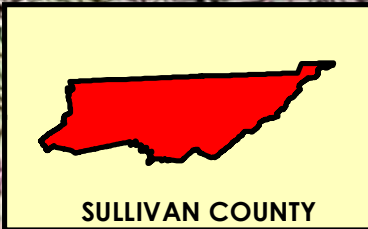


Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



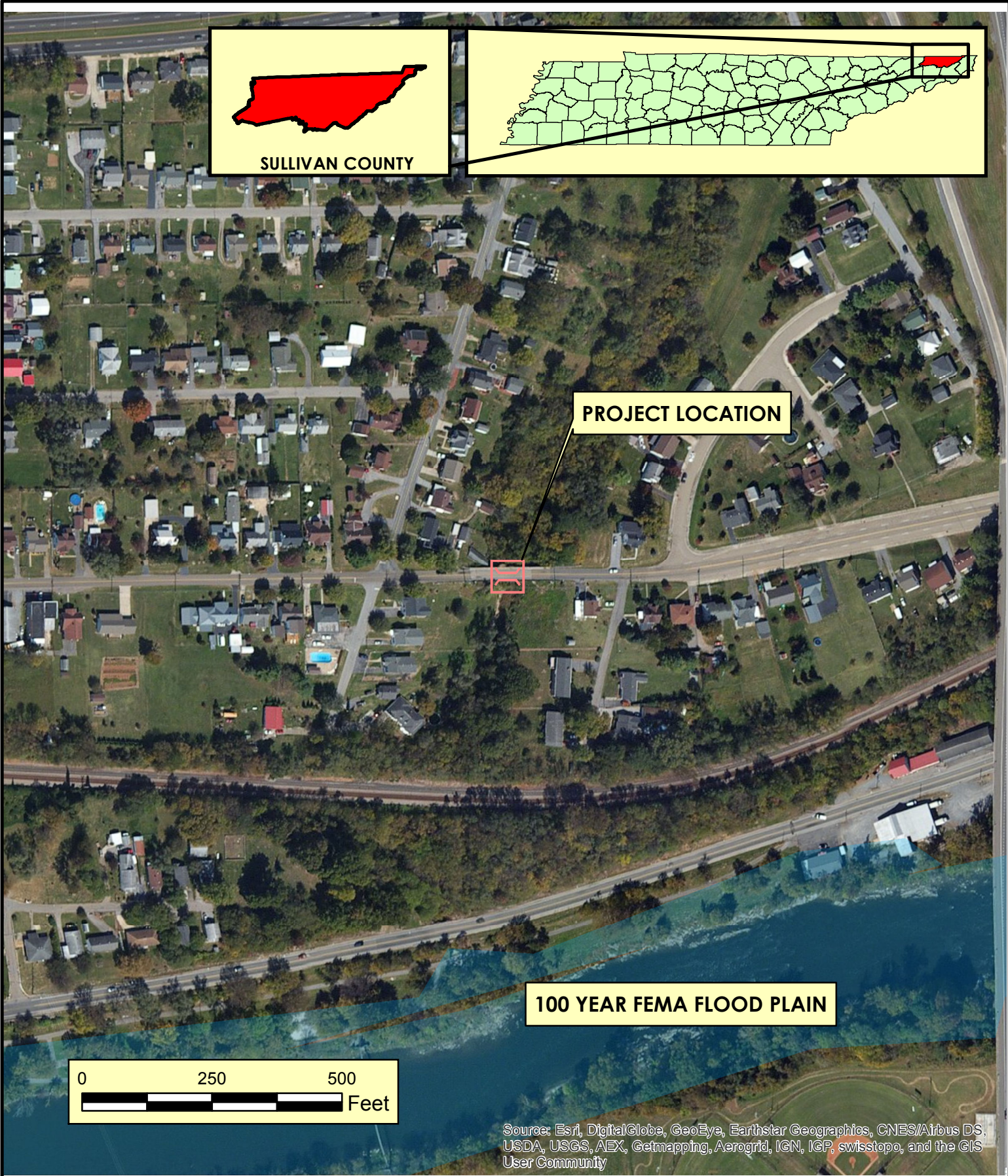
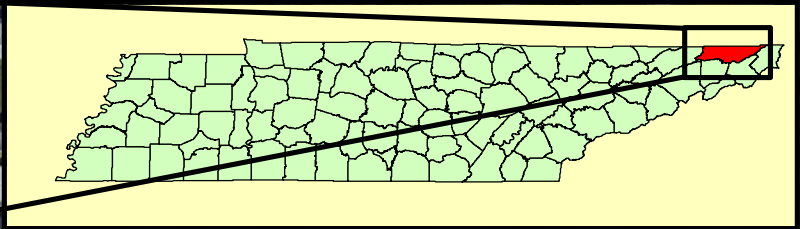
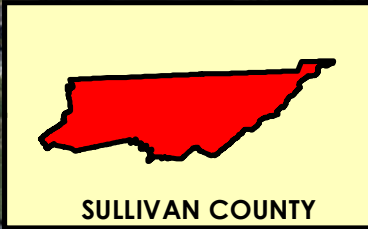
AREA MAP
BRIDGE TIR
LOCAL ROUTE 03899 (FORT ROBINSON DRIVE)
BRIDGE OVER REEDY CREEK CREEK LM 0.39
SULLIVAN COUNTY





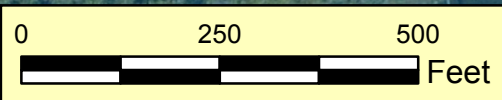
TOPOGRAPHIC MAP
BRIDGE TIR
LOCAL ROUTE 03899 (FORT ROBINSON DRIVE)
BRIDGE OVER REEDY CREEK CREEK LM 0.39
SULLIVAN COUNTY





PROJECT LOCATION

100 YEAR FEMA FLOOD PLAIN



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



LOCATION MAP
BRIDGE TIR
LOCAL ROUTE 03899 (FORT ROBINSON DRIVE)
BRIDGE OVER REEDY CREEK CREEK LM 0.39
SULLIVAN COUNTY



BRIDGE REPLACEMENT ANALYSIS, NEEDS, AND COSTS

County: Sullivan Route: Fort Robinson Drive Log Mile: 0.39
Feature Crossed: Creek System: Local Road
Functional Class: Urban Major Collector Bridge ID: 820A0700001

EXISTING CONDITIONS

2020 AADT: 3,390 App. Cross Section: 20' / 24' / 40' No. Lanes: 2
Approach Alignment: tangent sections on each approach Year Built: 1938 Load Limit: 15 tons
Width (out to out): 27' Sidewalks: Right 3' Left 3' Length: 144'
No. Spans: Approach: -- Main: 7
Substructure: Concrete Piers Vertical Clearance: 42' Sufficiency Rating: 45.9
Other: _____

PROPOSED IMPROVEMENTS

STANDARDS FROM RD01-TS-2 Type of Work: Replacement
Design Year: 2040 Design AADT: 5,630 Terrain Rolling ADL (F): -- (R): --
Project Length: 545 ft Bridge Length: 150 ft Approach Length: 150' from west/ 245' from east
Design Speed (MPH): 35 Posted Speed (MPH): 30
Approach Width: 24' / 30' / As Required Bridge Width (O to O): 43 ft No. Lanes: 2
Right-of-Way Required: 0.1 Ac Tract(s) 5 Structure Type: Prestressed Concrete (Type II Beams)

MAINTENANCE OF TRAFFIC

Temporary Detour: Temporary Runaround: Stage Construct:
Alternate Route: Traffic to use the following 3 mile detour during construction of the proposed bridge. Fort Robinson Dr. to SR-355 to SR-36 to SR-1 (US-11W) back to Fort Robinson Dr. Will require coordination between TDOT and City of Kingsport.

Remarks: _____

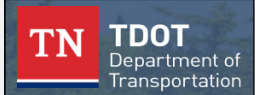
ESTIMATED COST

Right-of-Way: \$37,300 Approaches: \$626,300 Structure: \$1,496,100
Preliminary Engineering: \$242,000 Utilities: \$86,300 Misc./Cont.: \$982,000
Mobilization: \$71,000 Total: \$3,541,000

Remarks: The grade is to remain the same as well as the current alignment. The typical section on the proposed structure will consist of two (2) twelve (12) foot travel lanes and three (3) foot shoulders on each side between curb and gutter with five (5) foot sidewalks on both sides. TDOT Standard RD01-TS-2 (Design Standards ADT greater than 2000) requires 8' shoulders. A design exception will be required. ROW will be required to widen the bridge approaches and adjust the slopes.

Field Investigation by: Stephanie Wallis (Region 1 Project Development), Jordan Livesay (Region 1 Project Development), Justin McGill (Region 1 Project Development), Jim Hensley (City of Kingsport Traffic), Ron Campbell (Region 1 Bridge Engineer), Michael Thompson (City of Kingsport Public Works), Zane Pannell (S.T.I.D.), David Duncan (S.T.I.D.), Mike Gilbert (S.T.I.D)

Route: Fort Robinson Drive (L.R. 03899)
 Description: Bridge over Reedy Creek L.M. 0.39
 County: Sullivan
 Length: 545 feet
 Date: October 5, 2015



DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	20%	0%	80%	
Construction Items				
Pavement Removal	\$200	\$0	\$700	\$900
Asphalt Paving	\$10,700	\$0	\$42,900	\$53,600
Concrete Pavement	\$0	\$0	\$0	\$0
Drainage	\$5,300	\$0	\$21,100	\$26,400
Appurtenances	\$7,900	\$0	\$31,600	\$39,500
Structures	\$299,200	\$0	\$1,196,900	\$1,496,100
Fencing	\$0	\$0	\$0	\$0
Signalization	\$0	\$0	\$0	\$0
Railroad Crossing or Separation	\$0	\$0	\$0	\$0
Earthwork	\$22,200	\$0	\$88,900	\$111,100
Clearing and Grubbing	\$0	\$0	\$0	\$0
Seeding & Sodding	\$400	\$0	\$1,400	\$1,800
Rip-Rap or Slope Protection	\$3,000	\$0	\$12,200	\$15,200
Guardrail	\$3,100	\$0	\$12,500	\$15,600
Signing	\$300	\$0	\$1,200	\$1,500
Pavement Markings	\$300	\$0	\$1,000	\$1,300
Maintenance of Traffic	\$2,100	\$0	\$8,600	\$10,700
Mobilization (5%)	\$17,700	\$0	\$71,000	\$88,700
Other Items	25% \$93,100	\$0	\$372,500	\$465,600
Const. Contingency =	60% \$99,800	\$0	\$399,300	\$499,100
Construction Estimate	\$565,400	\$0	\$2,261,700	\$2,827,100
Interchanges & Unique Intersections				
Roundabouts	\$0	\$0	\$0	\$0
Interchanges	\$0	\$0	\$0	\$0
Right-of-Way & Utilities				
Right-of-Way	\$7,500	\$0	\$29,800	\$37,300
Utilities	\$69,000	\$69,000	\$69,000	\$86,300
Preliminary & Construction Engineering and Inspection				
Prelim. Eng. (10%)	\$59,000	\$0	\$236,100	\$295,100
Const. Eng. & Inspec. (10%)	\$59,000	\$0	\$236,100	\$295,100
Total Project Cost	\$708,200	\$0	\$2,832,800	\$ 3,541,000

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	TOOLBOX			ADDITIONAL			TN - 2014	
			QUANTITIES	QUANTITIES	QUANTITIES	QUANTITIES	UNIT COST	TOTAL COST		
Pavement Removal										
415-01.02	Cold Planning Bituminous Pavement	SY	587			587			\$ 1.47	\$ 862.40
PAVEMENT REMOVAL TOTAL (ROUNDED)										\$ 900
Asphalt Roads										
307-02.01	Asphalt Concrete Mix (PG70-22) (BPMB-HM) Grading A	TON	202			202			\$ 78.76	\$ 15,941.02
307-02.02	Asphalt Cement (PG70-22)(BPMB-HM) Grading A-S	TON	5			5			\$ 842.76	\$ 4,004.80
307-02.03	Aggregate (BPMB-HM) Grading A-S Mix	TON	154			154			\$ 49.99	\$ 7,680.86
307-02.08	Asphalt Concrete Mix (PG70-22) (BPMB-HM) Grading B-M2	TON	133			133			\$ 78.99	\$ 10,473.02
402-01	Bituminous Material For Prime Coat (PC)	TON	2			2			\$ 497.96	\$ 1,052.20
402-02	Aggregate For Cover Material (PC)	TON	8			8			\$ 23.81	\$ 181.59
403-01	Bituminous Material For Tack Coat (TC)	TON	1			1			\$ 626.55	\$ 668.32
411-01.07	ACS (PG64-22) GR "E"	TON	28			28			\$ 92.37	\$ 2,621.46
411-02.10	ACS Mix(PG70-22) Grading D	TON	117			117			\$ 93.96	\$ 10,955.74
PAVING TOTAL (ROUNDED)										\$ 53,600
Concrete Roads										
CONCRETE RAMPS AND ROADWAYS TOTAL (ROUNDED)										\$ -
Drainage										
611-12.02	Catch Basins, Type 12, > 4' - 8' Depth	EA	4			4			\$ 3,912.72	\$ 15,650.88
611-14.02	Catch Basins, Type 14, > 4' - 8' Depth	EA	1			1			\$ 5,975.89	\$ 4,732.90
710.02	Aggregate Underdrains (with pipe)	LF	1056			1056			\$ 4.22	\$ 4,456.32
DRAINAGE TOTAL (ROUNDED)										\$ 26,400.00
Appurtenances										
701-01.01	Concrete Sidewalk (4")	SF	4752			4752			\$ 4.08	\$ 19,388.16
702-03	Concrete Combined Curb & Gutter	CY	84			84			\$ 238.63	\$ 20,041.03
ROADWAY AND PAVEMENT APPURTENANCES TOTAL (ROUNDED)										\$ 39,500.00
Earthwork & Mineral										
105-01	Construction Stakes, Lines, and Grades	LS	1			1			\$ 50,000.00	\$ 50,000.00
203-01	Road & Drainage Excavation (Unclassified)	CY	4576			4576			\$ 5.10	\$ 23,337.60
203-03	Borrow Excavation (Unclassified)	CY	458			458			\$ 5.20	\$ 2,379.52
303-01	Mineral Aggregate, Type A Base, Grading D	TON	1858			1858			\$ 19.00	\$ 35,301.29
EARTHWORK & MINERAL TOTAL (ROUNDED)										\$ 111,100.00
Structures										
N/A	Removal of Bridge	SF	4004			4004			\$ 20.00	\$ 80,080.00
N/A	New Bridge (Type 2 Prestressed Concrete)	SF	6450			6450			\$ 200.00	\$ 1,290,000.00
604-07.01	Retaining Wall	SF	1260			1260			\$ 100.00	\$ 126,000.00
STRUCTURES TOTAL (ROUNDED)										\$ 1,496,100.00
Interchanges and Unique Intersections										
INTERCHANGES AND UNIQUE INTERSECTIONS TOTAL (ROUNDED)										\$ -
Lighting & Signalization										
LIGHTING & SIGNALIZATION TOTAL (ROUNDED)										\$ -
Guardrail										
705-01.01	Guardrail at Bridge Ends	LF	100			100			\$ 64.44	\$ 6,444.00
705-02.02	Single Guardrail (Type 2)	LF	120			120			\$ 15.65	\$ 1,878.00
705-04.04	Guardrail Terminal (Type 21)	EA	4			4			\$ 1,813.42	\$ 7,253.68
GUARDRAIL TOTAL (ROUNDED)										\$ 15,600.00
Seeding and Sodding										
801-01	Seeding (With Mulch)	UNIT	33			33			\$ 25.90	\$ 854.70
801-01.07	Temporary Seeding (With Mulch)	UNIT	25			25			\$ 18.40	\$ 455.40
801-02	Seeding (Without Mulch)	UNIT	25			25			\$ 19.47	\$ 481.88
SODDING TOTAL (ROUNDED)										\$ 1,800.00
Maintenance of Traffic										
N/A	Traffic Control	LS	1			1			\$ 10,000.00	\$ 10,000.00
712-02.02	Interconnected Portable Barrier Rail	LF	26			26			\$ 26.47	\$ 698.81
MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)										\$ 10,700.00
Signs										
Not Listed	Signs	LS	10,000			10			\$ 150.00	\$ 1,500.00
SIGNING TOTAL (ROUNDED)										\$ 1,500.00
Pavement Markings										
716-13.06	Spray Thermo P.M. (40 mil 4")	LM	0.9200			0.9200			\$ 1,376.74	\$ 1,266.60
PAVEMENT MARKINGS TOTAL (ROUNDED)										\$ 1,300.00
Fencing										
FENCE TOTAL (ROUNDED)										\$ -
709-05.05	Machined Rip-Rap (Class A-3)	TON	500			500			\$ 30.37	\$ 15,185.00
RIP-RAP & SLOPE PROTECTION TOTAL (ROUNDED)										\$ 15,200.00
Clearing and Grubbing										
CLEAR AND GRUBBING TOTAL (ROUNDED)										\$ -

Railroad At-Grade Crossing

						RAILROAD CROSSING OR SEPARATION TOTAL (ROUNDED)		\$	-
Utilities									
N/A	Overhead Distribution	LM	0.1	0.1	\$	375,000	\$	37,500	
N/A	Underground Gas	LM	0.1	0.1	\$	250,000	\$	25,000	
N/A	Underground Water	LM	0.1	0.1	\$	237,600	\$	23,760	
						UTILITIES TOTAL (ROUNDED)		\$	86,300.00
Right-of-Way									
N/A	Right-of-Way	LS	1	1	\$	37,272.73	\$	37,272.73	
						RIGHT-OF-WAY TOTAL (ROUNDED)		\$	37,300.00



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS 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: Steve Allen, Transportation Director
Strategic Transportation Investments Division

FROM: Zane Pannell, Transportation Project Specialist
Strategic Transportation Investments Division

DATE: November 17, 2015

SUBJECT: TIR Field Review (Special Bridge Replacement Program)
Fort Robinson Drive (03899), Bridge over Reedy Creek
Log Mile 0.39
Sullivan County
PIN: 122156.00

A field review was held for the above-mentioned project on September 18, 2015.

The existing structure is a seven (7) span concrete bridge with an out-to-out width of twenty-seven (27) feet. The overall bridge length is 144 feet with approximately forty-two (42) feet for the vertical clearance. The sufficiency rating for this bridge is 45.9. 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 7.5 feet and the 10-year flow depth is 5.4 feet.

The proposed alignment for this structure will remain on the existing centerline and at the existing elevation. There is a posted speed limit of thirty (30) mph on Fort Robinson Drive; the proposed bridge will be designed to meet TDOT standard RD01-TS-2 for a design speed of thirty five (35) mph. The proposed structure will be a three (3) span prestressed concrete bridge with a total vertical clearance of forty (40) feet and a length of 150 feet. It is estimated that a small amount of ROW will be required to widen the bridge approaches and adjust the side slopes. Based on evidence in the field, cost for relocating overhead power lines, water lines attached to the bridge, and gas lines attached to the bridge have been accounted for within the cost estimate.

The route has a base year 2020 AADT of 3,390 and a design year 2040 AADT of 5,630. The existing structure has two (2) ten (10) foot travel lanes, shoulder width of two (2) feet on each side, and forty (40) feet of R.O.W. The typical section on the proposed structure will consist of two (2) twelve (12) foot travel lanes and shoulder width of (3) feet on each side between curb and gutter with five (5) foot sidewalks on both sides. A design exception will have to be included to minimize the footprint and reduce the R.O.W. cost. The project will extend 150 feet from the structure to the west and 245 feet from the structure to east. The total bridge width will have an out-to-out width of forty-three (43) feet.

The City of Kingsport recommends closing Fort Robinson Drive during construction since detour time will be minimal (See Detour Map); it will also expedite the construction process. TDOT will need to coordinate with the City of Kingsport for detouring traffic.

The required approach work, estimated replacement, and preliminary engineering costs for this bridge replacement are approximately \$3,541,000. The local match will be \$708,200 based on the current 80% and 20% local match Grant Bridge Program.

ZP

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		
2.	Airport (existing or proposed)		
3.	Commercial area, shopping center		
4.	Floodplains		
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		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		
13.	Other		
14.	Location coordinated with local officials		X
15.	Railroad crossings		
16.	Hazardous materials site		

**TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION**

PROJECT NO.: 99109-1453-04 ROUTE: FORT ROBINSON DR. [03899]
 COUNTY: SULLIVAN CITY: KINGSPORT
 PROJECT PIN NUMBER: 122156.00
 PROJECT DESCRIPTION: BRIDGE REPLACEMENT OVER BRANCH OF REEDY CREEK @ L.M. 0.39.

DIVISION REQUESTING:

MAINTENANCE PAVEMENT DESIGN
 S.T.I.D. STRUCTURES
 PROG. DEVELOPMENT & ADM. SURVEY & ROADWAY 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
3,390	2020	5,630	619	11	2040	65-35	1	1		

REQUESTED BY: NAME MIKE GILBERT DATE 7/21/15
 DIVISION S.T.I.D.
 ADDRESS 1000 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: TONY ARMSTRONG Tony Armstrong DATE 7-21-15
 TRANSPORTATION MANAGER 1
 SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: MIKE PRESLEY Mike Presley DATE 7-21-15
 TRANSPORTATION MANAGER 2
 SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

THIS TRAFFIC IS BASED ON 2014 CYCLE COUNT STATION 276. THE DESIGN YEAR TRAFFIC IS BASED ON THE AVERAGE GROWTH RATE FROM THE KINGSPORT MPO TRAVEL DEMAND MODEL.

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.

(REV. 2/27/14)

10/16/2015 8:29:46 AM X:\Projects\Sullivan\Fort Robinson Drive 03899\Bridges over Branch of Reedy Creek\Project Files\Microstation\DN Files\fort robinson proposed option 2.dgn

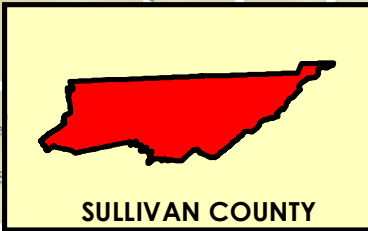


BRIDGE TRANSPORTATION INVESTMENT REPORT

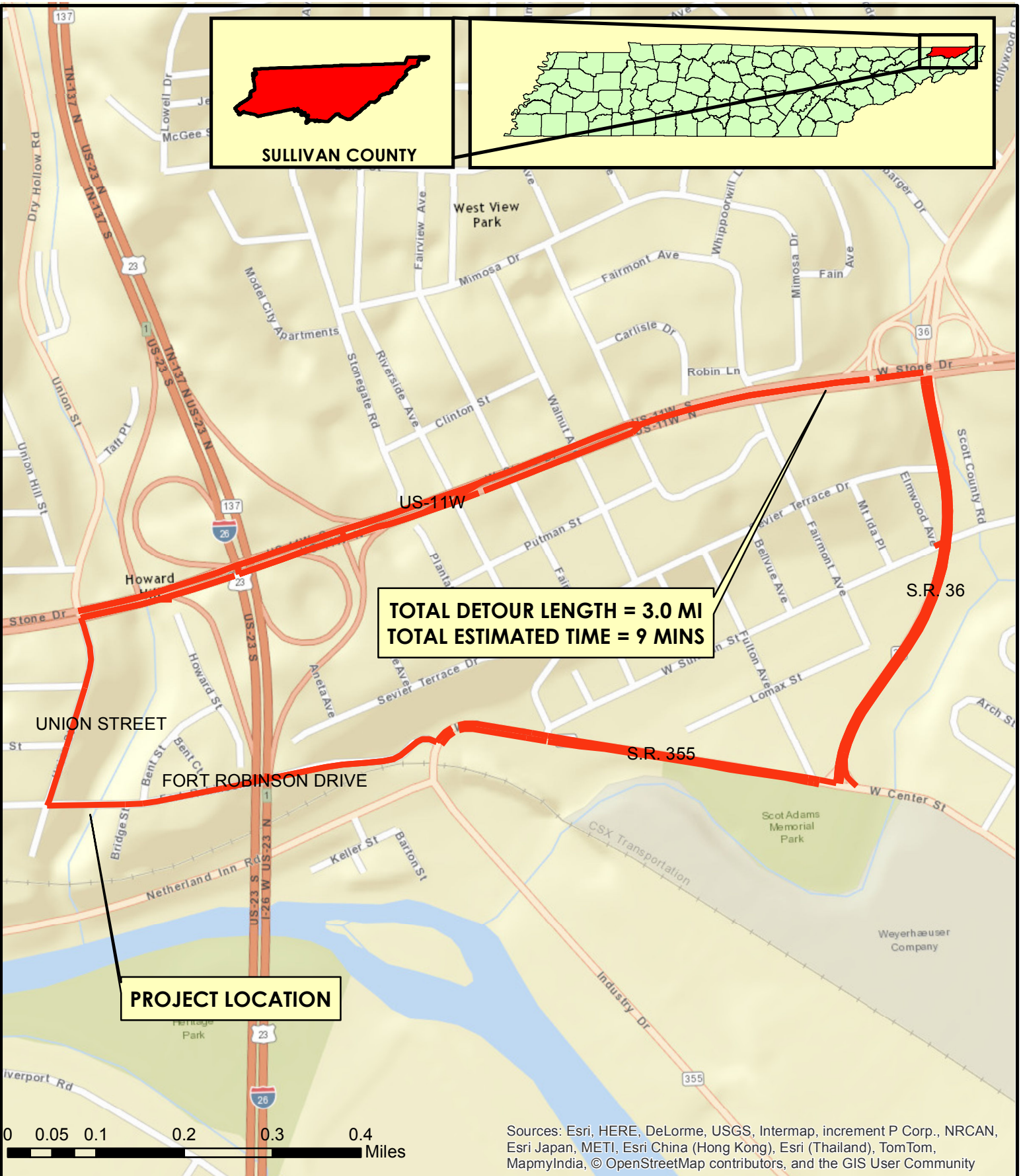
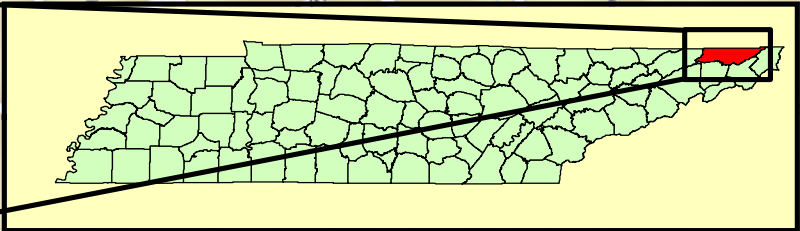
FORT ROBINSON DRIVE
L.M. 0.39
SULLIVAN COUNTY

12' Lanes
3' Shoulders
5' Sidewalks

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.
PROPOSED
L.R. 03899
L.M. 0.39

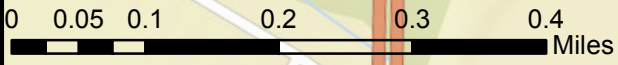


SULLIVAN COUNTY



TOTAL DETOUR LENGTH = 3.0 MI
TOTAL ESTIMATED TIME = 9 MINS

PROJECT LOCATION



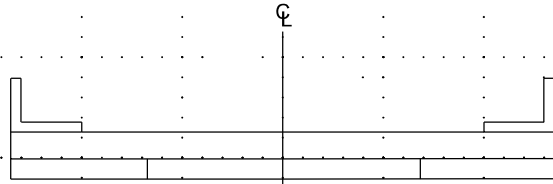
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DETOUR MAP
BRIDGE TIR
LOCAL ROUTE 03899 (FORT ROBINSON DRIVE)
BRIDGE OVER REEDY CREEK LM 0.39
SULLIVAN COUNTY

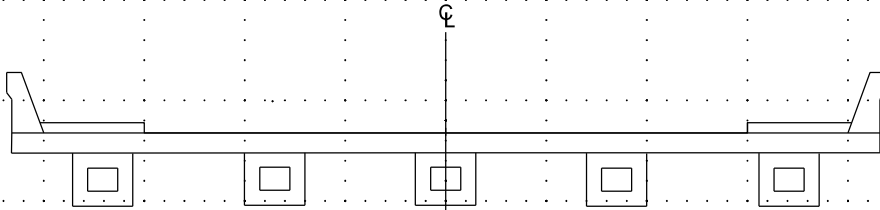


EXISTING STRUCTURE

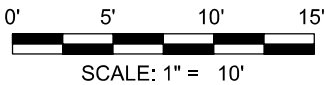


TOTAL WIDTH: 27'-2"
CURB TO CURB WIDTH: 20'

COMPLETED PROPOSED STRUCTURE



TOTAL WIDTH: 43'
CURB TO CURB WIDTH: 30'



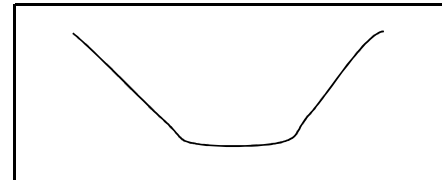
BRIDGE TYPICAL SECTION
FORT ROBINSON DRIVE (03899) SULLIVAN COUNTY
BRIDGE OVER REEDY CREEK L.M. 0.39
BRIDGE ID 820A0700001

SITE INSPECTION

INSPECTION MADE BY: Zane Pannell BRIDGE ID: 820A0700001 COUNTY: Sullivan
 Date: 11/17/15 Route Name: Fort Robinson Drive Stream Name: Reedy Creek

CHANNEL

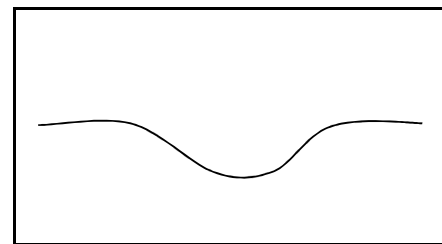
Approx depth and width of channel: Horizontal: 20' Vertical: 3'
 Depth of normal flow: -- In Reservoir: Yes No
 Depth of Ordinary High Water: --
 Type of material in stream bed: Silty Clay
 Type of vegetation on banks: Large Timber
 "N" factor of the channel: 0.03
 Are channel banks stable: Yes No
 Skew of the channel with the roadway: 90°



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.: 0.15 Right U.S.: 0.15
 Left D.S.: 0.15 Right D.S.: 0.15
 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

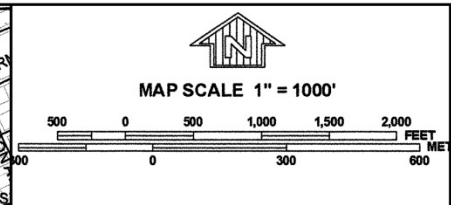
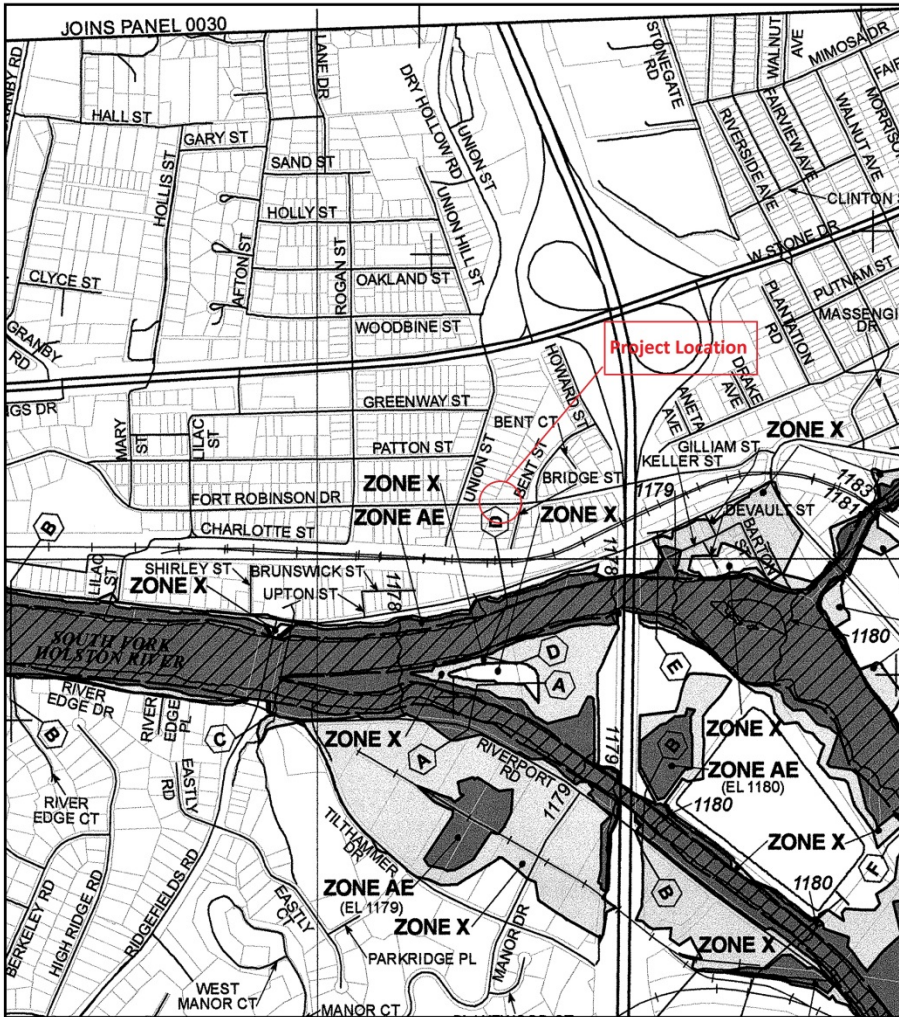
Length: 143 No. of spans: 7 Structure type: Concrete cast-in-place No. of lanes: 2 Skew: 90°
 Width (out to out): 27' Width (curb to curb): 20' Approach: paved graveled
 Sidewalks on Structure: Yes No Bridgerail type: Concrete Bridgerail height = 3'
 Superstructure depth: 2' Finished Grade to low girder = 2' Girder depth = 1'
 Are any substructures in the channel? Yes No Vertical Clearance = 42 ft
 Indications of overtopping: None
 High water marks: None
 Local scour: Yes, -- No
 Any signs of stream aggradation or degradation? Erosion in channel and banks
 Any drift or drift potential? Yes, -- No
 Any obstructions (pipes,stock fences,etc.)? --

PROPOSED STRUCTURE

Replacement Rehabilitate Widening New Location
 Bridge length: 150 ft Bridge type: Concrete Span arrangement: 3 @ 50' Skew: 90°
 Bridge width: 43 ft Sidewalks: Yes 5' both sides Design Speed (MPH): 35 ADT (2040) = 5,630
 Proposed grade: Existing, will not change Proposed alignment: Existing, will not change
 Method of maintaining traffic: Stage construction On site detour Close road Shift Centerline
 Cost of proposed Structure: \$175 per ft² X 150 / 43.0 length (ft) / width (ft) Cost = \$1,128,750
 Cost of bridge removal: \$20 per ft² X 143 / 28.0 length (ft) / width (ft) Cost = \$80,080
 Detour structure: Type and size = N/A Cost = N/A

Total Structure Cost = \$1,208,830

Fort Robinson Drive



PANEL 0040D

FIRM

FLOOD INSURANCE RATE MAP SULLIVAN COUNTY, TENNESSEE AND INCORPORATED AREAS


PANEL 40 OF 375
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KINGSFORD, CITY OF	470184	0040	D
SULLIVAN COUNTY	470181	0040	D

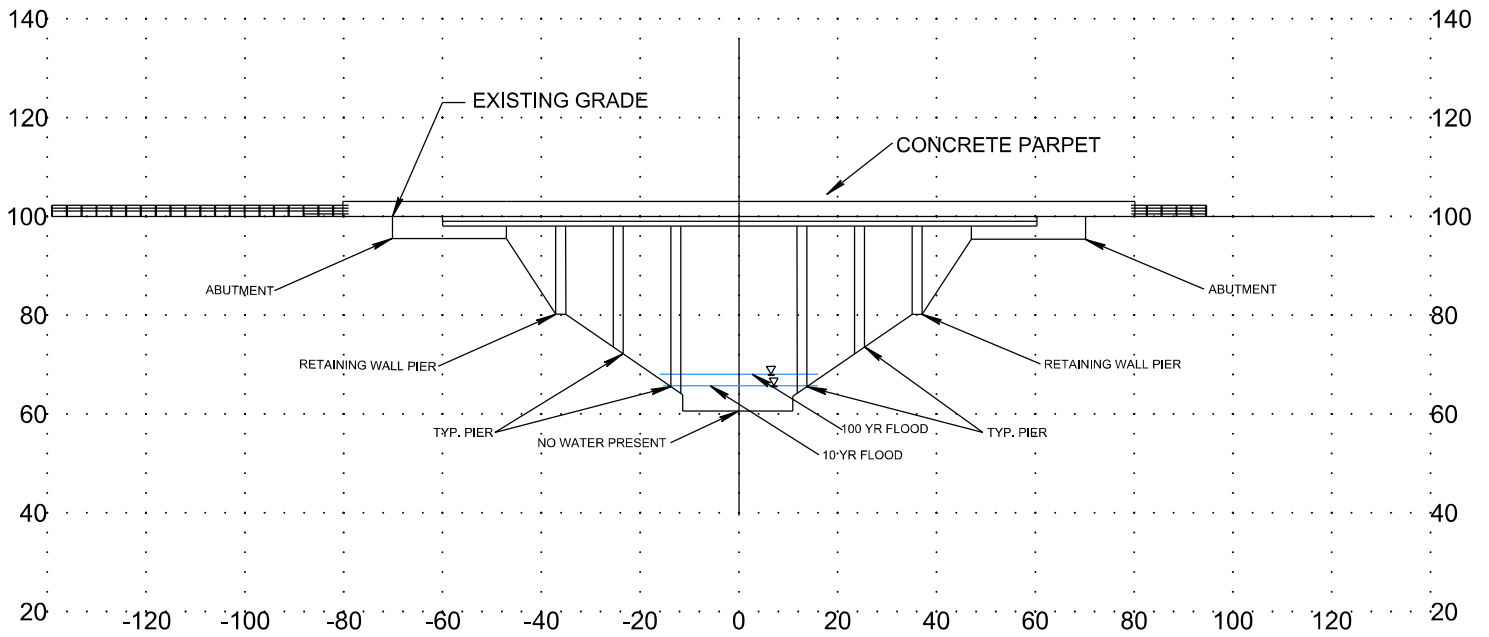
Note to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
47163C0040D
EFFECTIVE DATE
SEPTEMBER 29, 2006

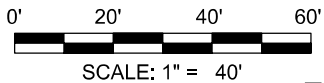
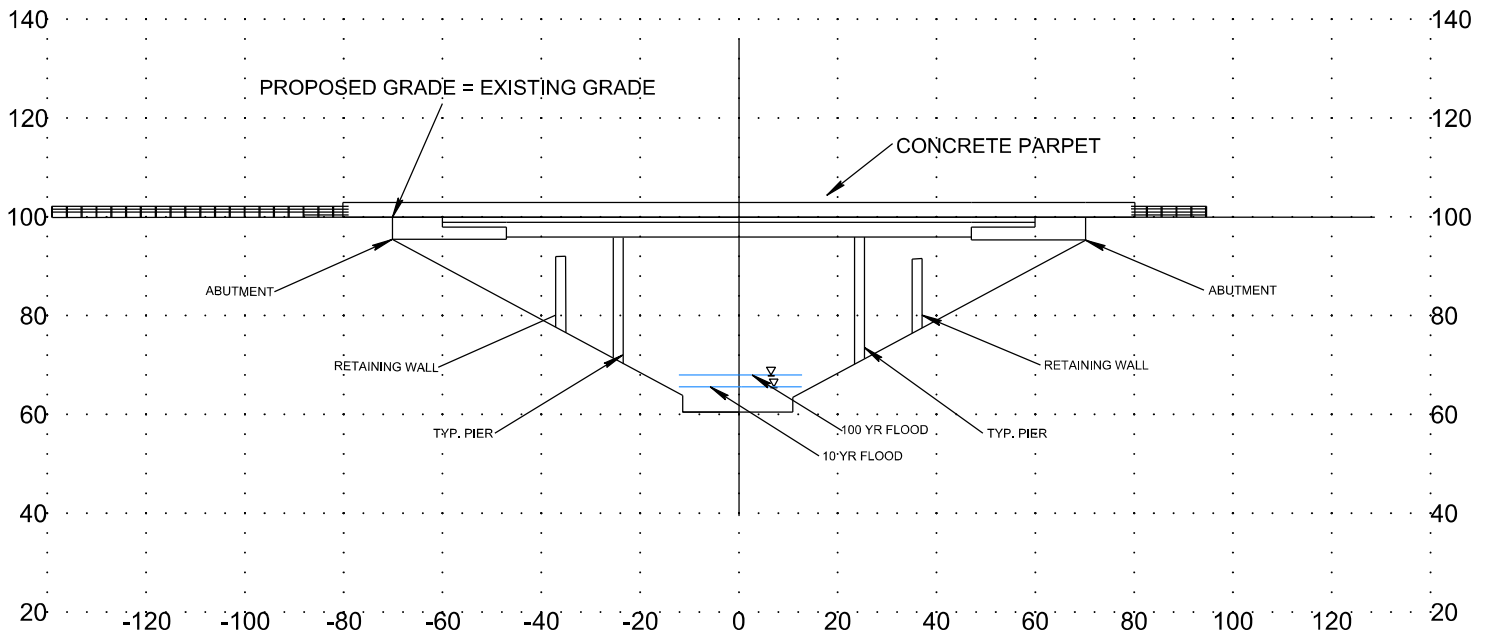

 Federal Emergency Management Agency

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

EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



BRIDGE SECTIONS

FORT ROBINSON DRIVE (03899) SULLIVAN COUNTY
BRIDGE OVER REEDY CREEK @ L.M. 0.39
BRIDGE ID: 820A0700001

BRIDGE ID: 820A0700001
Sullivan County



Westbound Bridge Approach on Local Route 03899



Eastbound Bridge Approach on Local Route 03899

BRIDGE ID: 820A0700001
Sullivan County



Center of Bridge Looking West on Local Route 03899



Center of Bridge Looking East on Local Route 03899

BRIDGE ID: 820A0700001
Sullivan County



Downstream



Downstream Right

BRIDGE ID: 820A0700001
Sullivan County



Downstream Left



Upstream

BRIDGE ID: 820A0700001
Sullivan County



Upstream Left

BRIDGE ID: 820A0700001
Sullivan County



Underneath Bridge Deck

BRIDGE ID: 820A0700001
Sullivan County



Bridge Piers

BRIDGE ID: 820A0700001
Sullivan County



Man Hole to the Right of Downstream

BRIDGE ID: 820A0700001
Sullivan County



Hole on Bridge Deck with Exposed Rebar

BRIDGE ID: 820A0700001
Sullivan County



Gas Line Underneath Bridge Deck