TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION INVESTMENT REPORT
Special Bridge Replacement Program

Interstate 275
Bridge over Elm Street,
Log Mile 0.39 Knox County
PIN 124437.00

PREPARED BY VOLKERT, INC.
FOR THE TENNESSEE DEPARTMENT OF TRANSPORTATION
Strategic Transportation Investments Division

Approved by _____ ***Date*** 12/29/21
Chief of Environment and Planning

Approved by _____ ***Date*** 12/20/21
Deputy Commissioner and Chief Engineer

Approved by:	Signature	DATE
TRANSPORTATION DIRECTOR STRATEGIC TRANSPORTATION INVESTMENTS DIVISION		3/10 21
ENGINEERING DIRECTOR REGION 2 PROJECT DEVELOPMENT		4/8/21
ENGINEERING DIRECTOR STRUCTURES DIVISION		3/15/2021

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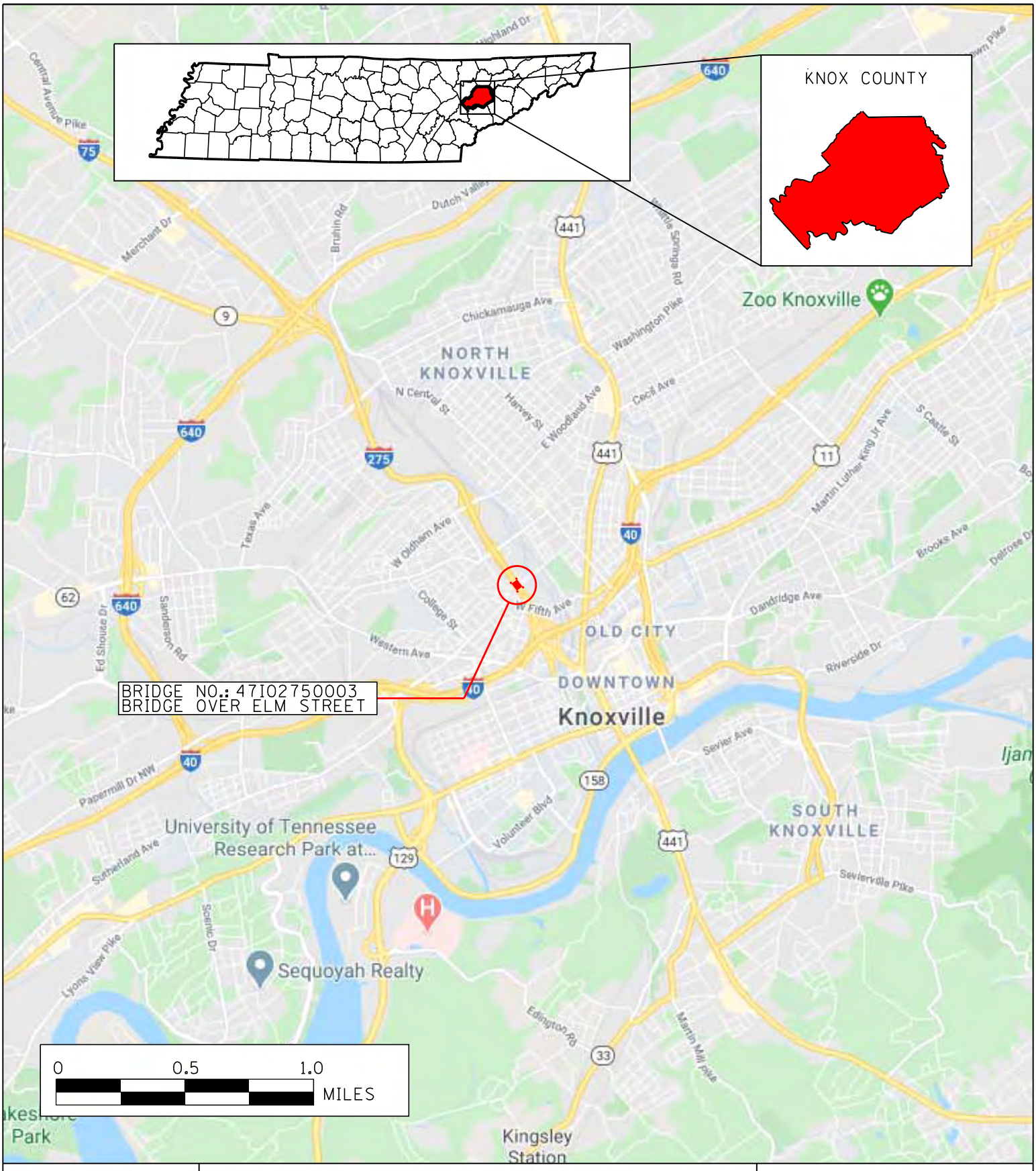

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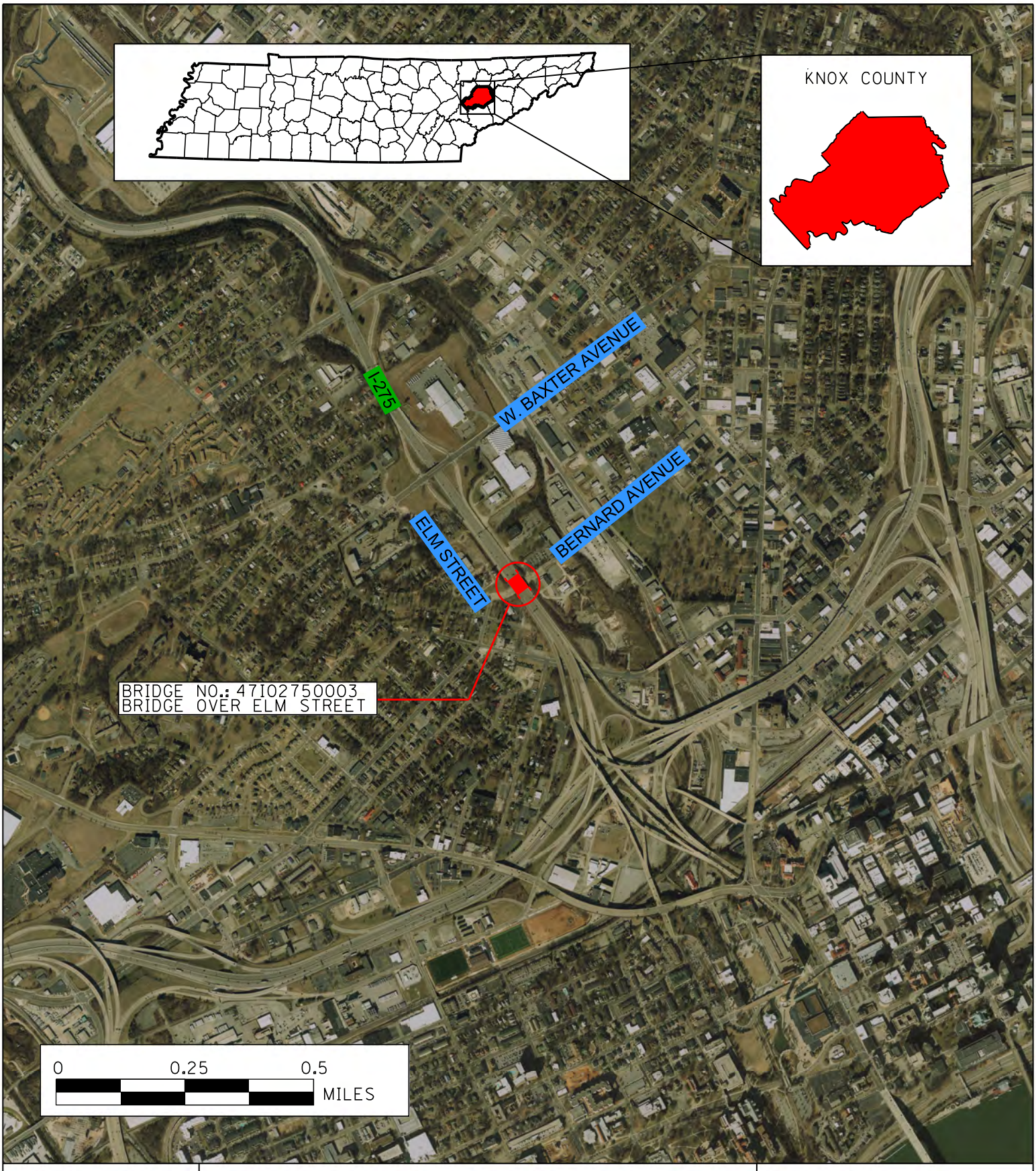
AREA MAP
BRIDGE TIR
INTERSTATE 275
BRIDGE OVER ELM STREET (L.M. 0.39)
KNOX COUNTY

TN TDOT Department of Transportation



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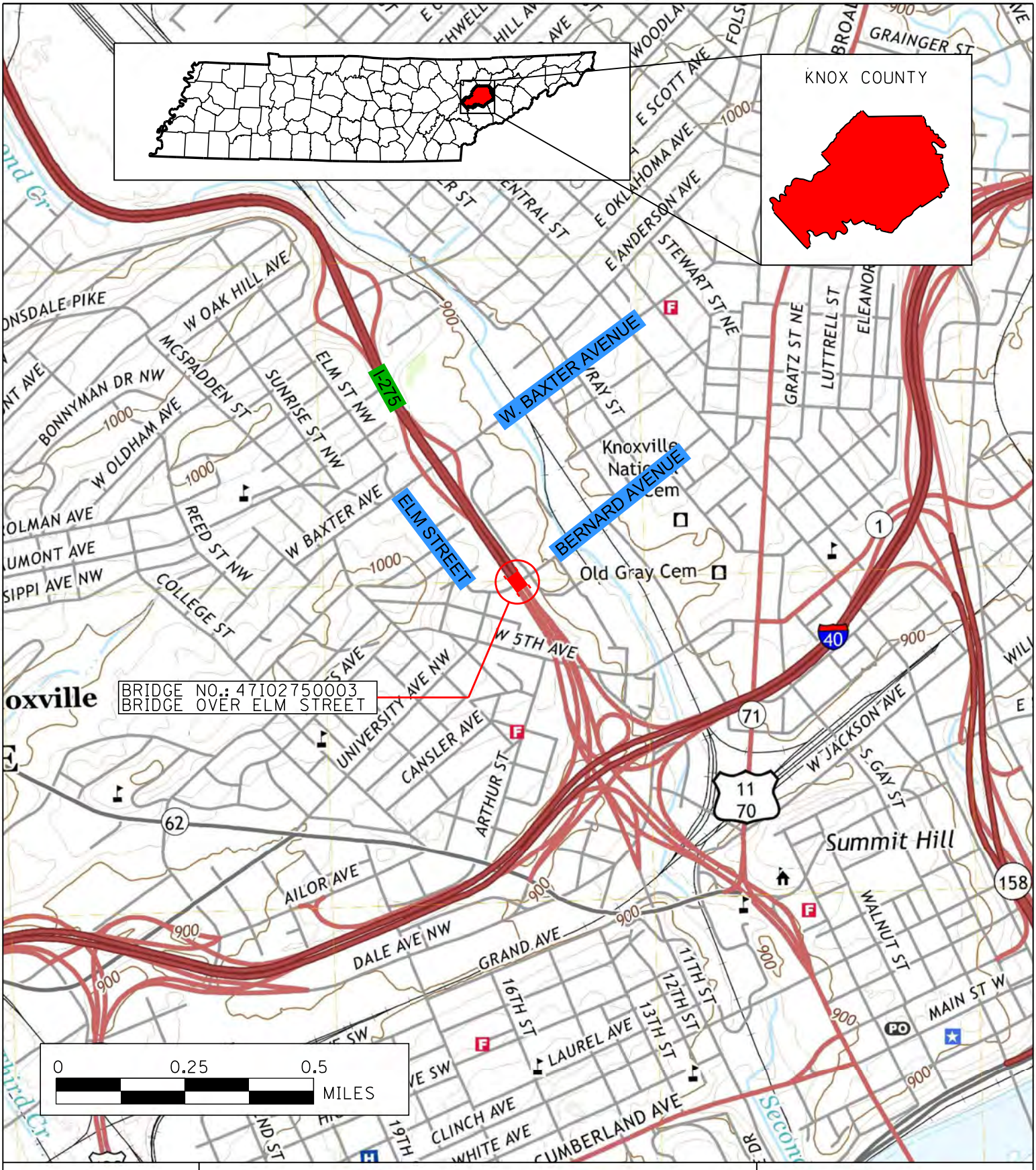
LOCATION MAP
BRIDGE TIR
INTERSTATE 275
BRIDGE OVER ELM STREET (L.M. 0.39)
KNOX COUNTY

TN TDOT Department of Transportation



TOPOGRAPHIC MAP
BRIDGE TIR
INTERSTATE 275
BRIDGE OVER ELM STREET (L.M. 0.39)
KNOX COUNTY

TN TDOT Department of Transportation

Bridge Transportation Investment Report – IMPROVE Act

Summary of Improvements
PIN 124437.00
Knox County
Interstate 275 – Bridge over Elm Street/Bernard Avenue (LM 0.39)
Bridge ID: 47I02750003

EXISTING STRUCTURE:

A field review was held for the above-mentioned project on August 13, 2020. The existing structure, built in 1954 as a four-span concrete tee beam bridge, was widened in 1984 on each side with precast boxes and precast deck panels. The structure has an out-to-out width of one hundred forty-four (144) feet and an overall structure length of approximately one hundred thirty-four (134) feet. The vertical clearance is approximately fourteen (14) feet six (6) inches measured from the inside lane of eastbound Elm Street/Bernard Avenue. In 2014, I-275 was restriped and resurfaced with an open-graded friction coarse (OGFC) mix. The sufficiency rating for this structure is 65.5 based on the Bridge Inspection Report from October 24, 2018.

TRAFFIC AND TYPICAL SECTION:

Interstate 275 has a base year 2025 Annual Average Daily Traffic (AADT) of 74,920 and a design year 2045 AADT of 83,310. There is a 55-mph posted speed limit on Interstate 275 with the design speed recommended to be 60-mph. The northbound lanes on the existing structure consists of three (3) twelve (12) foot travel lanes, one (1) varying width merge lane, and a six (6) foot interior and twelve (12) foot exterior shoulder. The southbound lanes on the existing structure consist of three (3) twelve (12) foot travel lanes, one (1) sixteen (16) foot off-ramp which merges into travel lanes, and one (1) varying width exterior and one (1) six (6) foot interior shoulders. The resurfacing and restriping completed in 2014 adjusted the southbound lanes, creating a wider exterior shoulder. With the existing shoulders, travel lanes, and median barrier, the existing approach roadway is approximately one-hundred-forty-four (144) feet in width.

This route is classified at an Urban Interstate and Standard Drawing RD11-TS-5B was used for design considerations. The roadway on the proposed structure is recommended to be the same as the existing to minimize project length, however the southbound exterior shoulder shall be widened to allow full shoulder width. With the interior and exterior shoulders, travel lanes, tapered ramp lanes, and median barrier, the proposed exterior curb-to-curb width is one-hundred-forty-four (144) feet in width. With STD-1-1 concrete barriers, the proposed out-to-out is one-hundred-forty-four (144) feet.

PROPOSED IMPROVEMENTS AND MAINTENANCE OF TRAFFIC:

The skew of the existing structure is ninety (90) degrees with Elm Street/Bernard Avenue and will remain the same. The grade of the proposed structure will remain approximately the same and maintain the current minimum vertical clearance. The proposed alignment for the replacement structure will remain the same, and the bridge will be constructed using accelerated bridge construction (ABC). Two detours are provided for I-275 traffic and shall utilize I-40 and I-640. In addition, Elm Street/Bernard Avenue will be closed to pedestrian and vehicular traffic during construction. Since no State Routes are available, local traffic shall be detoured using Baxter Avenue and Marion Street, however, sidewalks and ADA accommodations are limited. The City of Knoxville is currently constructing an extension of Marion Street into Blackstock Avenue known as the I-275 Business Park Access Improvements Project. This project includes the restriping Elm Street/Bernard Avenue, regrading of the east side slopes, and installation of

new fiber lines on the south end of the bridge. With construction slated to be completed in September 2021, the new Marion Street extension and 5th Avenue could be a viable detour for pedestrian traffic.

In 2014, the existing concrete pavement section along I-275 was resurfaced with an open-graded friction (OGFC) overlay. The roadway approaches will be removed and replaced in-kind.

The recommended structure is to consist of two (2) forty-seven (47) feet spans for a total length of ninety-four (94) feet. The proposed abutments shall be constructed behind the existing exterior bents and retaining walls shall be constructed in front of the proposed bents. In addition, the existing center bent shall be modified and will remain in place. No improvements are proposed for Elm Street/Bernard Avenue under the bridge, and sidewalks shall remain in place.

Overhead power lines run parallel along Elm Street, and overhead power is present across I-275 at the southern end of the bridge. In addition, underground natural gas and underground fiber are present at the southern end of the bridge and run parallel along Elm Street. Fiber conduit is attached to the southern abutment and attached to the underside of the deck. Moreover, power conduit is attached to the underside of the deck and extends to the mounted lights across each bent. Underground natural gas, overhead power, and underground fiber shall be relocated during construction. In addition, TDOT maintained conduit, fiber, electrical service, and one (1) CCTV shall also be relocated. It is estimated that no right-of-way (ROW) tracts will be affected.

COST ESTIMATE:

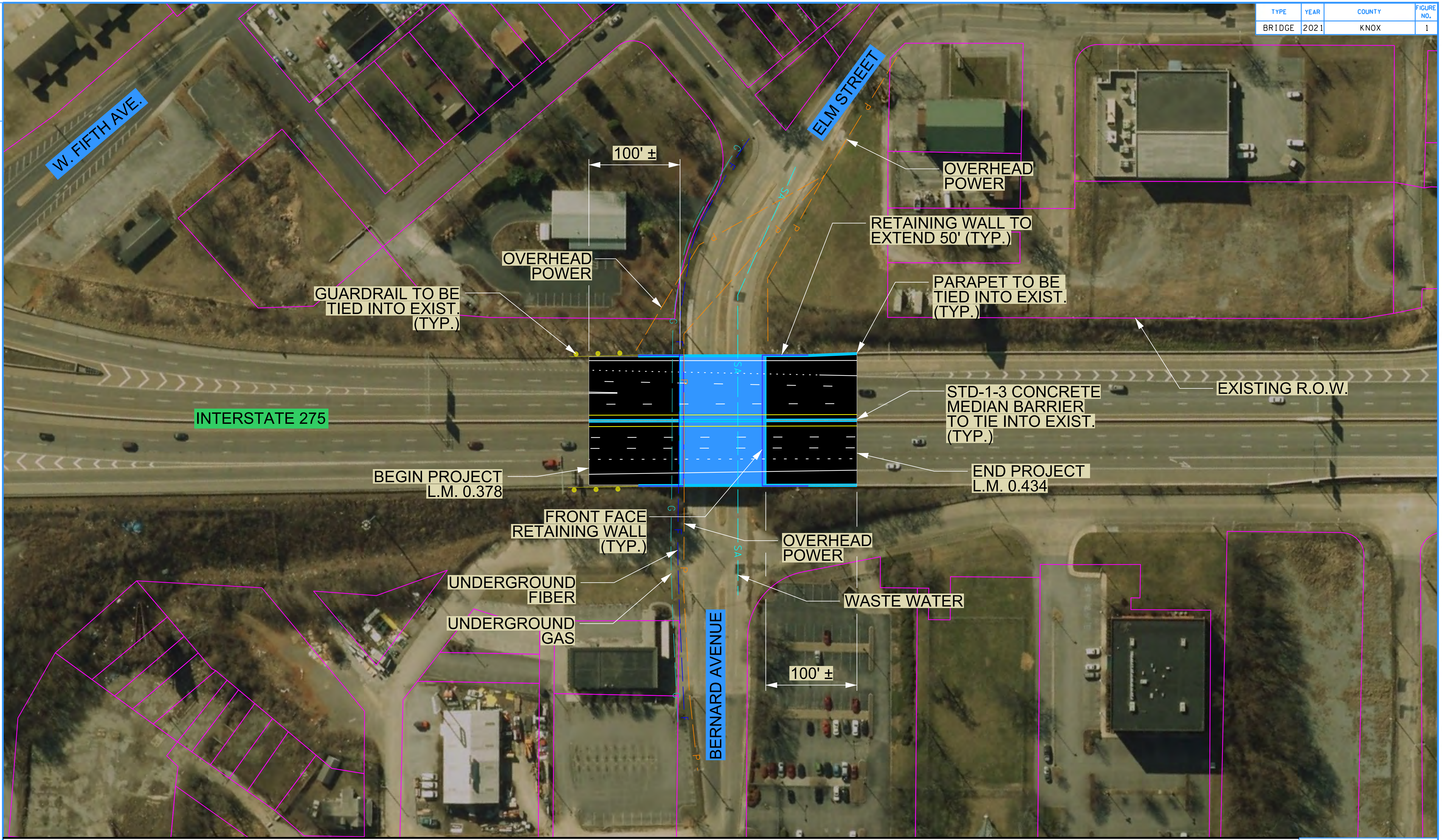
The cost for the estimated required approach work, replacement, and preliminary engineering for this bridge replacement is approximately $7,940,000 and the five (5) year inflated estimate is approximately $10,100,000.

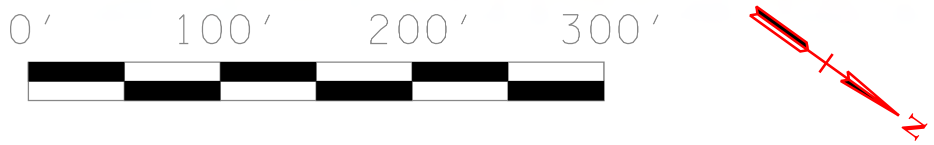
COST ESTIMATE SUMMARY (2021)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2021):
124437.00	Bridge Replacement	$ 678,000	$ -	$ 484,000	$ 6,780,000	$ 7,940,000

INFLATED COST ESTIMATE SUMMARY					Report Type:	Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2026	$ 865,000	$ -	$ 618,000	$ 8,650,000	$ 10,100,000

TENNESSEE D.O.T.
S.T.I.D.
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2021	KNOX	1





BRIDGE REPLACEMENT

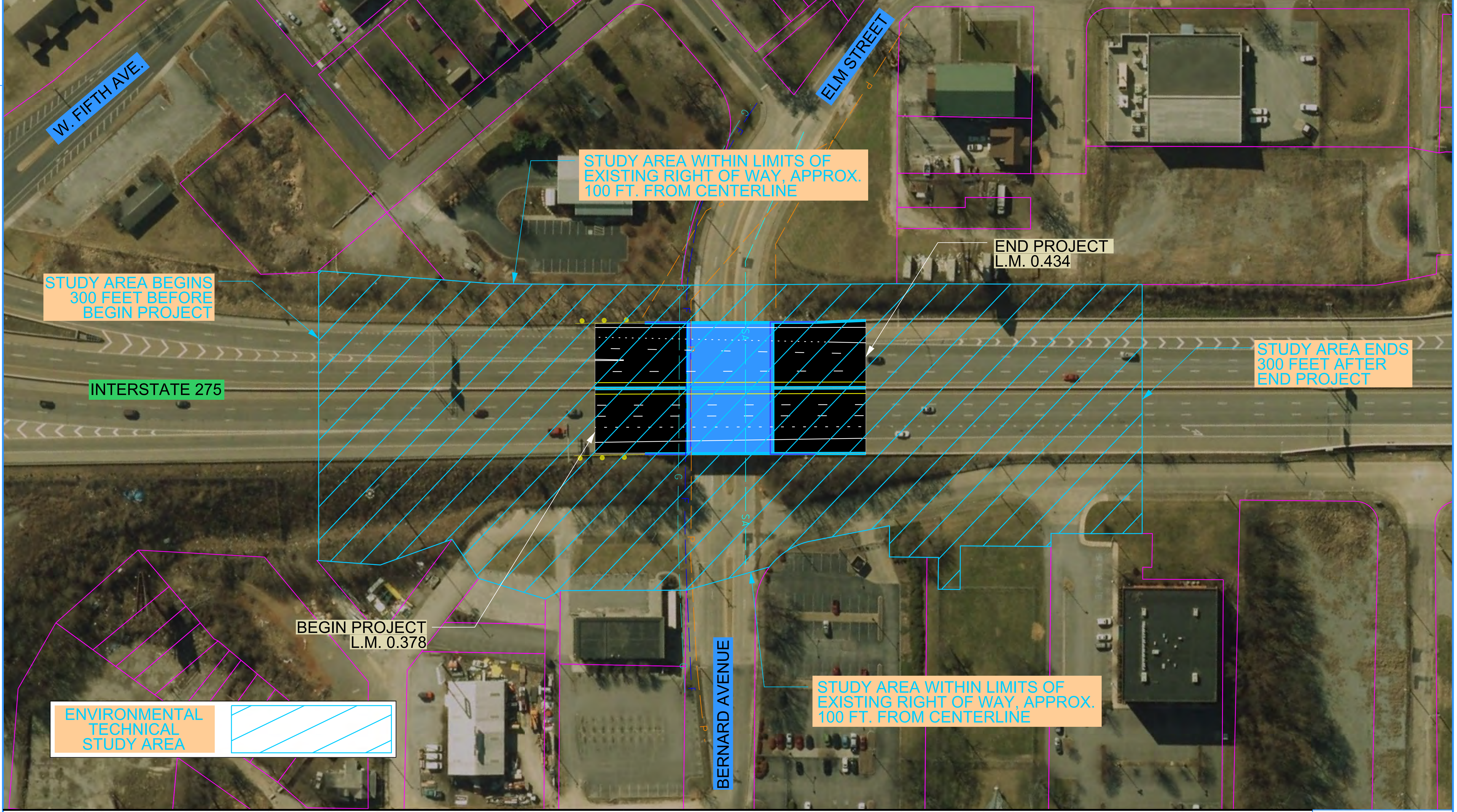
INTERSTATE 275
BRIDGE OVER ELM STREET @ L.M. 0.39
KNOX COUNTY

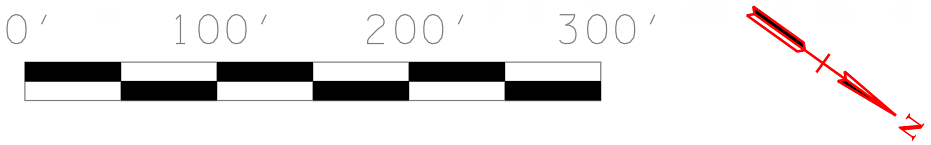
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

FIGURE 1
I-275
L.M. 0.39

TENNESSEE D.O.T.
S.T.I.D.
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2021	KNOX	2





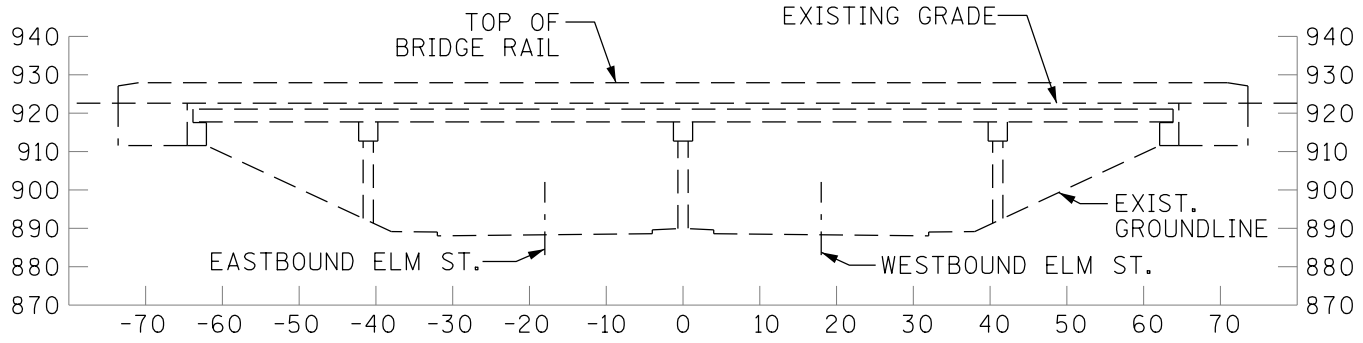
ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 275
BRIDGE OVER ELM STREET @ L.M. 0.39
KNOX COUNTY

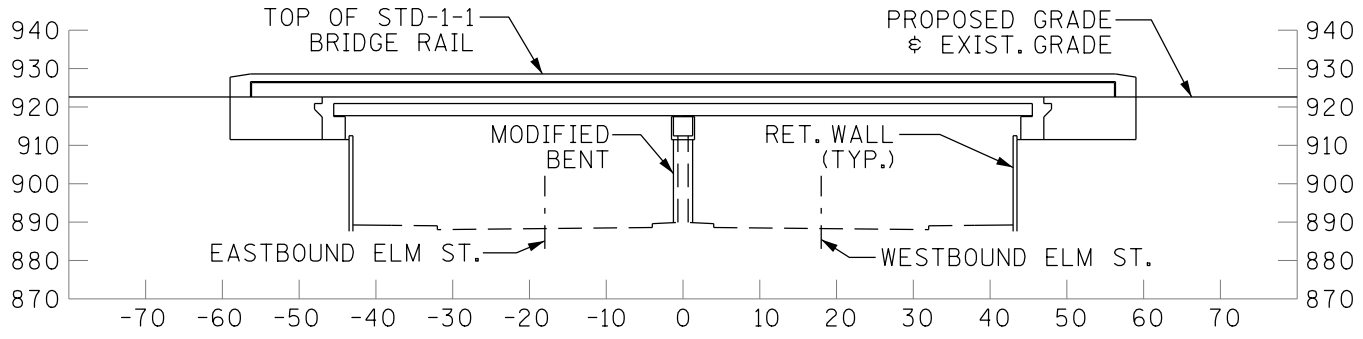
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

FIGURE 2
I-275
L.M. 0.39

$$$$SYTIME$$$$$$
$$$DGNSPEC$$



EXISTING STRUCTURE (EAST ELEVATION)



PROPOSED STRUCTURE (EAST ELEVATION)

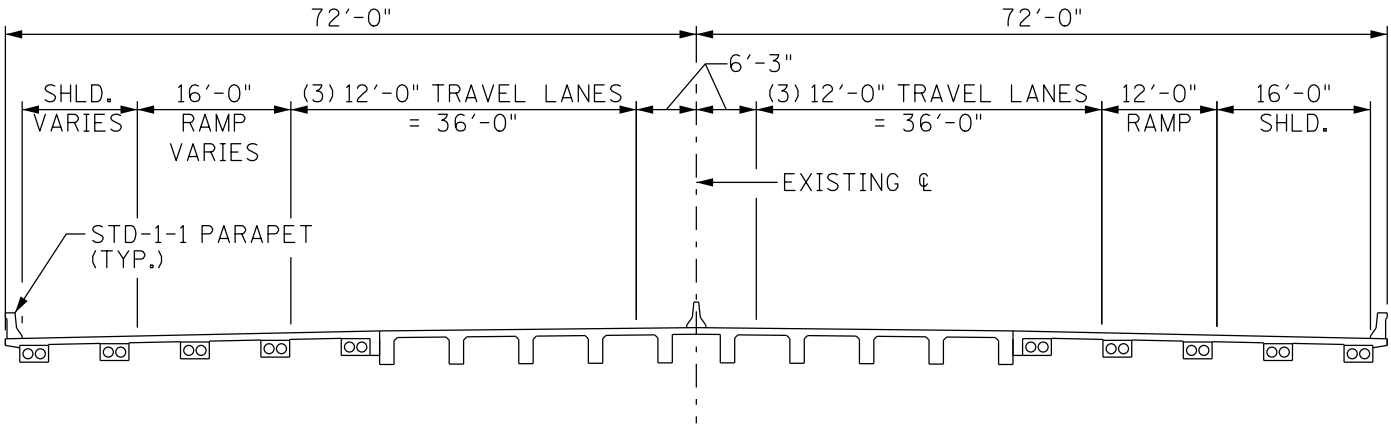
0' 25' 50'

SCALE 1" = 25'

PROPOSED BRIDGE PROFILE

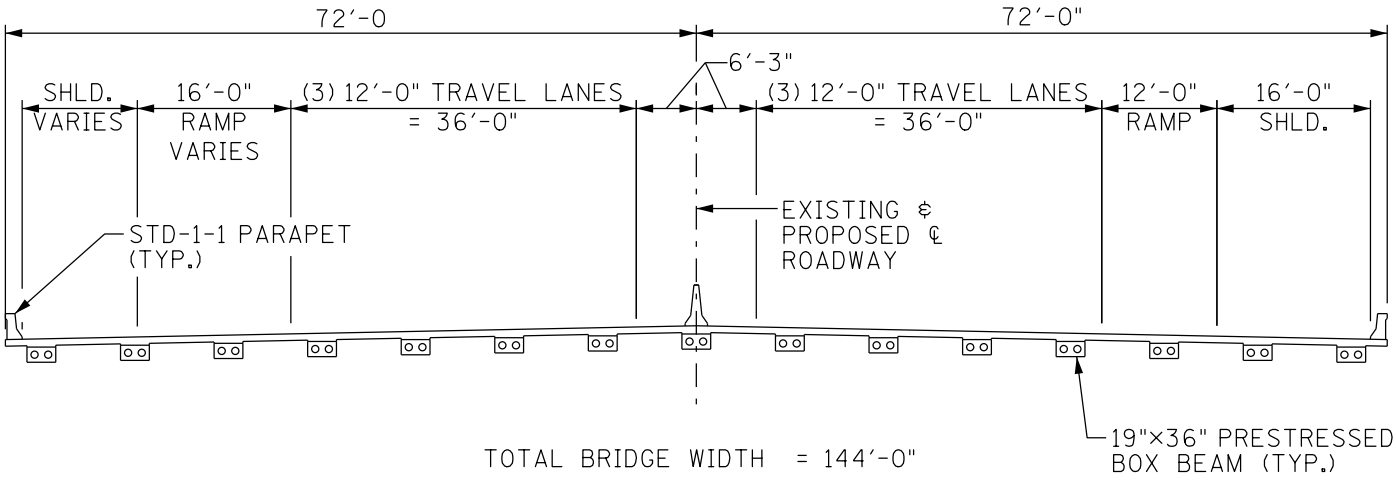
INTERSTATE 275 KNOX COUNTY
BRIDGE OVER ELM STREET L.M. 0.39
BRIDGE ID: 47I02750003

EXISTING STRUCTURE



TOTAL BRIDGE WIDTH = 144′-0"

PROPOSED STRUCTURE



TOTAL BRIDGE WIDTH = 144′-0"

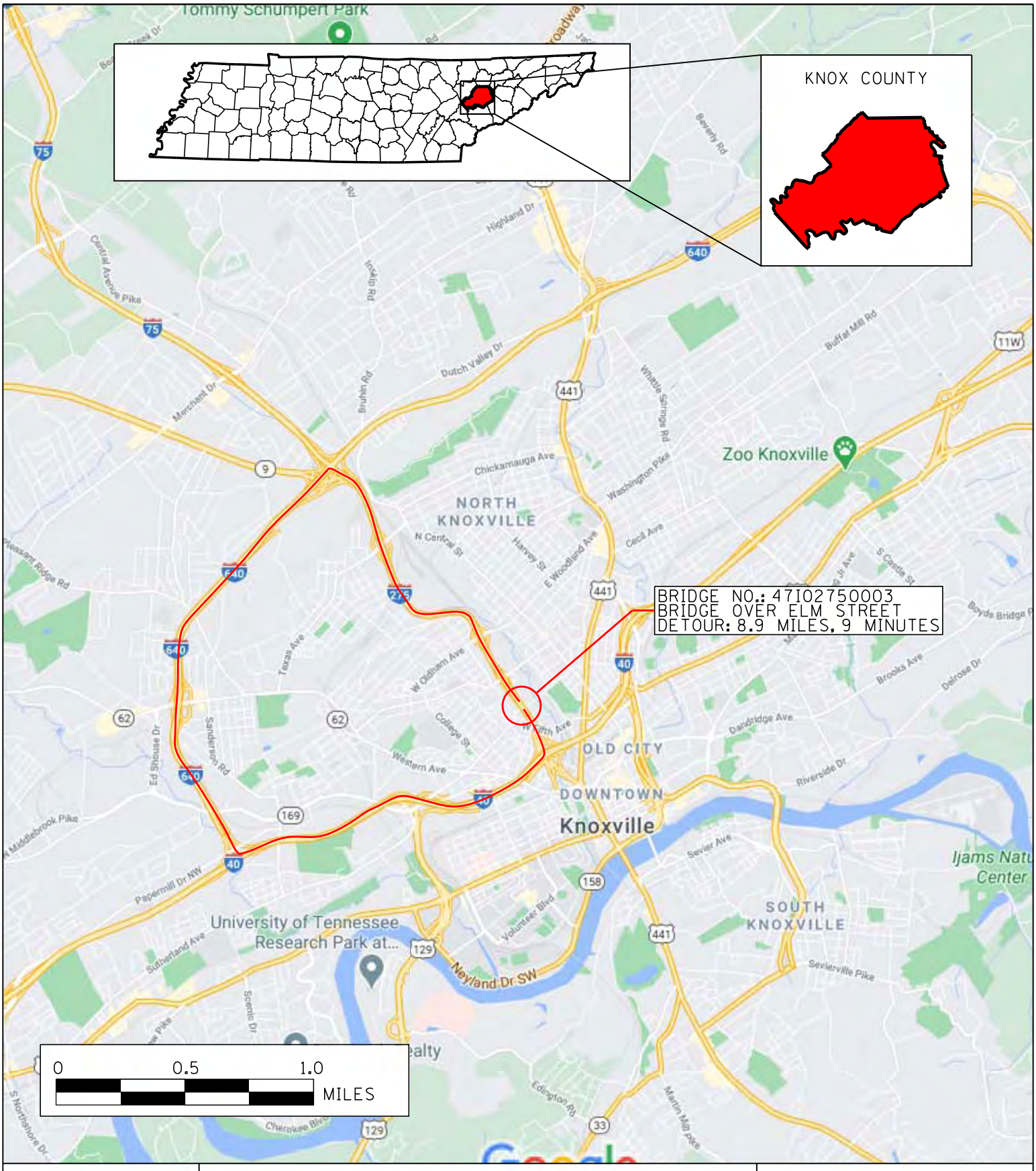
NOTE: BRIDGE TO BE CONSTRUCTED USING ACCELERATED BRIDGE CONSTRUCTION (ABC).

0' 20' 40'

SCALE 1" = 20'

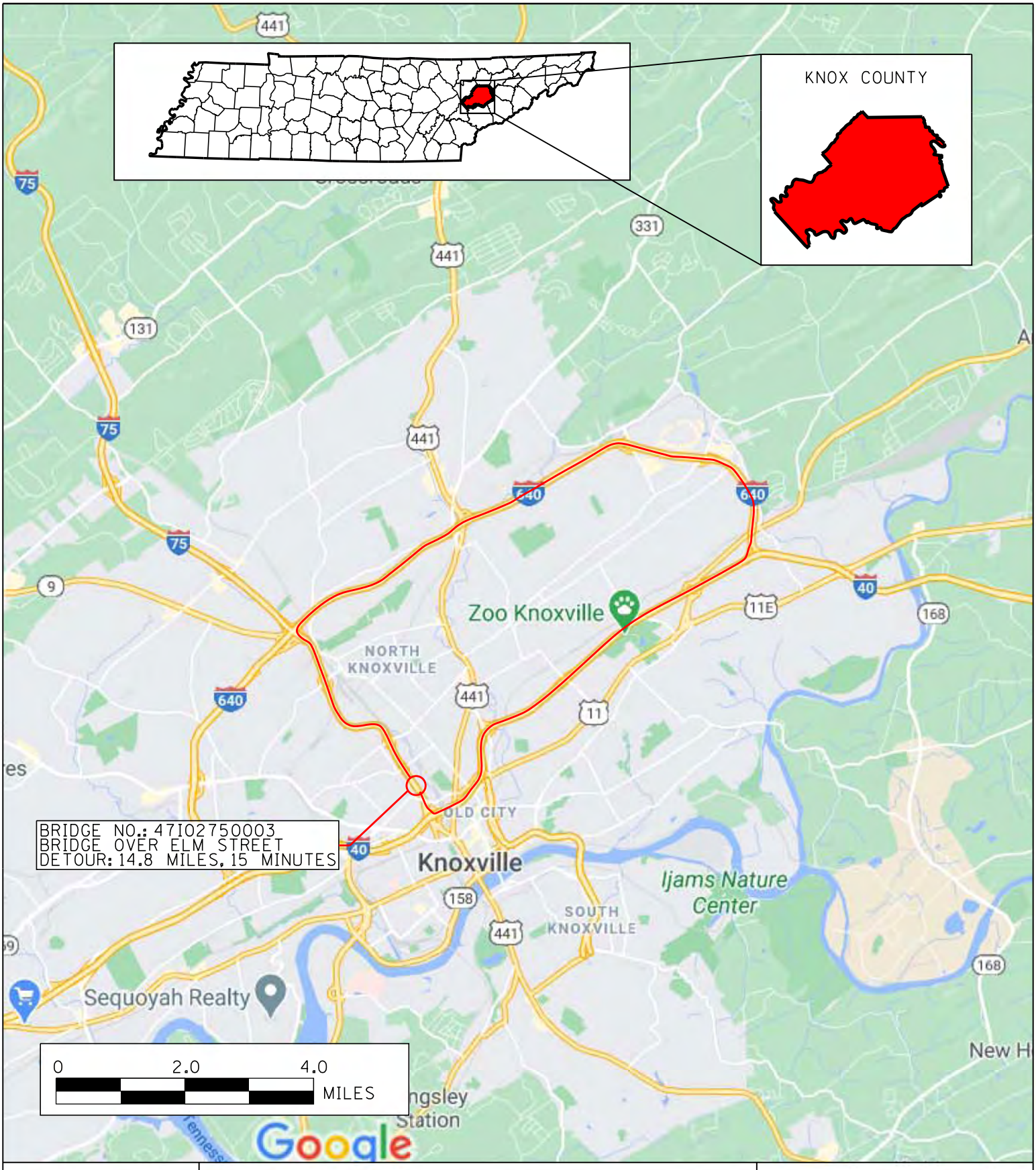
PROPOSED TYPICAL SECTION

INTERSTATE 275 KNOX COUNTY
BRIDGE OVER ELM STREET L.M. 0.39
BRIDGE ID: 47I02750003



DETOUR MAP NO. 1
BRIDGE TIR
INTERSTATE 275
BRIDGE OVER ELM STREET (L.M. 0.39)
KNOX COUNTY

TN TDOT Department of Transportation



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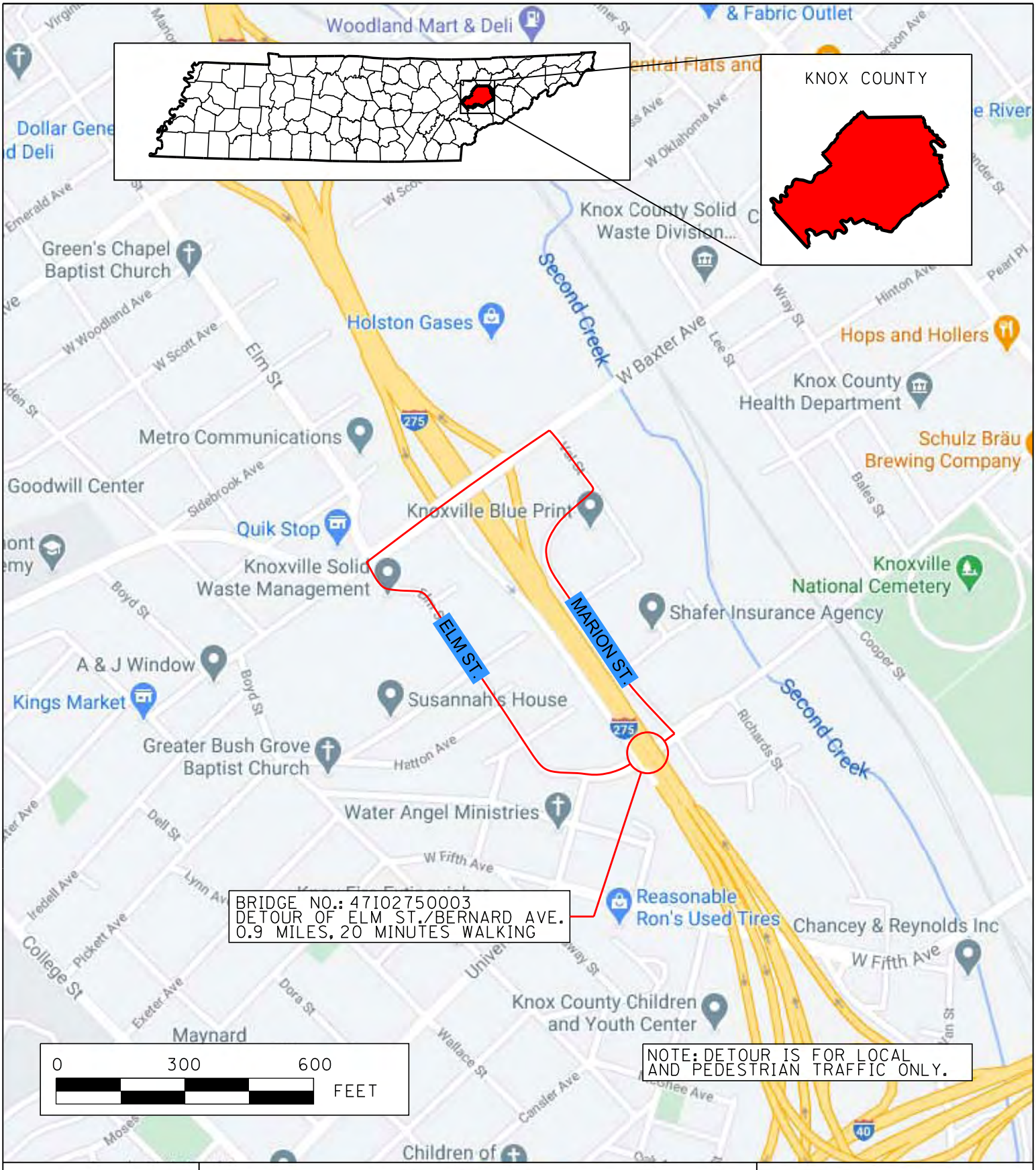
DETOUR MAP NO. 2
BRIDGE TIR
INTERSTATE 275
BRIDGE OVER ELM STREET (L.M. 0.39)
KNOX COUNTY

TN TDOT Department of Transportation



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LOCAL TRAFFIC DETOUR MAP
BRIDGE TIR
INTERSTATE 275
BRIDGE OVER ELM STREET (L.M. 0.39)
KNOX COUNTY

TN TDOT Department of Transportation

COST ESTIMATE SUMMARY

Route:	I 275
Description:	Interstate 275 over Elm St./Bernard Ave.
Project Type of Work:	Bridge Replacement
County:	Knox
Length:	0.06 Miles
Date:	March 4, 2021
Estimate Type:	Concept

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$19,000
Asphalt Paving		$0	$0	$0	$96,200
Concrete Pavement		$0	$0	$0	$428,000
Drainage		$0	$0	$0	$49,100
Appurtenances		$0	$0	$0	$53,300
Structures		$0	$0	$0	$4,060,000
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$0
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$92,600
Clearing and Grubbing		$0	$0	$0	$15,300
Seeding & Sodding		$0	$0	$0	$1,300
Rip-Rap or Slope Protection		$0	$0	$0	$31,900
Guardrail		$0	$0	$0	$8,700
Signing		$0	$0	$0	$40,500
Pavement Markings		$0	$0	$0	$1,000
Maintenance of Traffic		$0	$0	$0	$21,800
Mobilization	5%	$0	$0	$0	$246,000
Other Items	10%	$0	$0	$0	$516,000
Const. Contingency	30%	$0	$0	$0	$486,000
Const. Eng. & Inspec.	10%	$0	$0	$0	$617,000
Construction Estimate		$0	$0	$0	$6,780,000
Interchanges & Unique Intersections					
Roundabouts		$0	$0	$0	$0
Interchanges		$0	$0	$0	$0
Right-of-Way & Utilties		**LOCAL**	**STATE**	**FEDERAL**	**TOTAL**
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$0
Utilities		$0	$0	$0	$484,000
Preliminary & Construction Engineering and Inspection					
Prelim. Eng.	10%	$0	$0	$0	$678,000
Total Project Cost (2021)		$0	$0	$0	$ 7,940,000

PAY ITEM SUMMARY

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	TOOL QUANTITIES	ADDITIONAL QUANTITIES	TOOL QUANTITIES + ADDITIONAL QUANTITIES	Statewide UNIT COST	TOTAL COST
							<-- Unit Cost Trends with Quantities
Pavment Removal							
202-03.02	REMOVAL OF RIGID PAVEMENT	CY	1282		1282	$ 14.81	$ 18,989.27
						PAVEMENT REMOVAL TOTAL (ROUNDED)	$ 19,000
Asphalt Roads							
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	487		487	$ 34.97	$ 17,034.73
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	45		45	$ 158.17	$ 7,046.35
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	1		1	$ 570.81	$ 311.74
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	2		2	$ 83.62	$ 164.83
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	0	1	1	$ 657.80	$ 657.80
406-04.02	High Friction Surface Treatment	SY		3200	3200	$ 20.94	$ 67,008.00
411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	32		32	$ 123.04	$ 3,910.77
						PAVING TOTAL (ROUNDED)	$ 96,200
Concrete Roads							
313-03	TREATED PERMEABLE BASE	SY	4616	-1416	3200	$ 25.10	$ 80,310.32
501-01.03	PORTLAND CEMENT CONCRETE PAVEMENT (PLAIN) 10"	SY	4616	-1416	3200	$ 108.57	$ 347,412.42
						CONCRETE RAMPS AND ROADWAYS TOTAL (ROUNDED)	$ 427,800
Drainage							
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	LF		500	500	$ 3.52	$ 1,760.00
607-05.02	24" CONCRETE PIPE CULVERT (CLASS III)	LF	400		400	$ 75.01	$ 29,971.00
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	CY	2		2	$ 1,338.21	$ 2,413.06
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB	171		171	$ 2.87	$ 491.80
611-12.02	CATCH BASINS, TYPE 12, > 4' - 8' DEPTH	EA	1		1	$ 4,082.39	$ 4,023.61
611-31.03	CATCH BASINS, TYPE 31, > 8' - 12' DEPTH	EA		1	1	$ 10,365.03	$ 10,365.03
						DRAINAGE TOTAL (ROUNDED)	$ 49,100
Appurtenances							
711-05.71	51IN SINGLE SLOPE CONCRETE BARRIER WALL	LF	296	199	495	$ 107.60	$ 53,227.57
						ROADWAY AND PAVEMENT APPURTENANCES TOTAL (ROUNDED)	$ 53,300
Earthwork & Mineral							
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1		1	$ 76,559.28	$ 76,559.28
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	CY	549		549	$ 21.56	$ 11,846.63
203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	46		46	$ 39.04	$ 1,784.84
203-03	BORROW EXCAVATION (UNCLASSIFIED)	CY	123		123	$ 18.75	$ 2,313.69
						EARTHWORK & MINERAL TOTAL (ROUNDED)	$ 92,600
Structures							
N/A	Removal of Bridge	SF	18605		18605	$ 40.00	$ 744,192.00
N/A	New Bridge (Concrete Girder):	SF	13536		13536	$ 200.00	$ 2,707,200.00
604-07.01	RETAINING WALL	SF	6100		6100	$ 100.00	$ 610,000.00
						STRUCTURES TOTAL (ROUNDED)	$ 4,061,400
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	$ 66.52	$ 6,651.84
705-06.01	W Beam GR (Type 2) Mash TL3	LF	15	25	40	$ 20.07	$ 798.46
705-02.03	SINGLE GUARDRAIL (TYPE 2) LONG POST	LF		60	60	$ 20.60	$ 1,236.00
						GUARDRAIL TOTAL (ROUNDED)	$ 8,700

PAY ITEM SUMMARY

Seeding and Sodding

801-01	SEEDING (WITH MULCH)	UNIT	22		22	$ 27.26	$ 604.52
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	17		17	$ 22.31	$ 371.06
801-02	SEEDING (WITHOUT MULCH)	UNIT	17		17	$ 17.70	$ 294.39
						SODDING TOTAL (ROUNDED)	$ 1,300

Maintenace of Traffic

712-01	TRAFFIC CONTROL	LS		1	1	$ 21,717.03	$ 21,717.03
						MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)	$ 21,800

Signs

713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EA		6	6	$ 5,916.82	$ 35,500.92
Not Listed	Signs (Construction)	LS	1		1	$ -	$ 4,900
						SIGNING TOTAL (ROUNDED)	$ 40,500

Pavement Markings

716-13.07	Spray Thermo P.M. (40 mil 6")	LM		0.75	0.75	$ 1,237.50	$ 928.13
						PAVEMENT MARKINGS TOTAL (ROUNDED)	$ 1,000

Fencing

						FENCE TOTAL (ROUNDED)	$ -

Rip-Rap

709-05.05	Machined Rip-Rap (Class A-3)	TON	800		800	$ 39.85	$ 31,880.00
						RIP-RAP & SLOPE PROTECTION TOTAL (ROUNDED)	$ 31,900.00

Clearing and Grubing

201-01	Clearing and Grubbing	LS		0.25	0.25	$ 60,931.51	$ 15,232.88
						CLEAR AND GRUBBING TOTAL (ROUNDED)	$ 15,300.00

Railroad At-Grade Crossing

						RAILROAD CROSSING OR SEPARATION TOTAL (ROUNDED)	$ -

Utilties

N/A	Overhead Distribution	LM	0.2		0.2	$ 750,000	$ 150,000
N/A	Overhead Transmission	LM	0.1		0.1	$ 750,000	$ 75,000
N/A	Underground Communication	LM	0.1		0.1	$ 380,000	$ 38,000
N/A	Underground Gas	LM	0.1		0.1	$ 1,210,000	$ 121,000
N/A	ITS Relocation	LS		1	1	$ 100,000	$ 100,000
						UTILITIES TOTAL (ROUNDED)	$ 484,000.00

Right-of-Way

						RIGHT-OF-WAY TOTAL (ROUNDED)	$ -

BRIDGE TIR

KnoxCo.
Interstate 275

LOCATION			
Bridge #:	47I02750003	Feature Crossed:	Elm Street/Bernard Avenue
Road Name:	Interstate 275	Log mile:	0.39
Route ID:	I-275	System:	02-INTERSTATE URBAN
City:	Knoxville	Functional Class:	Urban Interstate
County:	Knox	State Project Number:	47005-0161-04
PIN:	124437.00		

ROADWAY		
	Existing	**Proposed (Preliminary Design Estimate)**
Design Standard		RD11-TS-5B/2011 Green Book
Route Characteristics		
AADT:	74,920	83,310
AADT Year:	2025	2045
Terrain:	Flat	Flat
No. Lanes:	8	8
Speed(Posted):	55	55
Speed (Design):		60
Approach Character.		
Lane Width (ft):	12	12
Shoulder Width (ft):	Varies	Varies
ROW Width (ft):	200	200
ROW Tracts Affected		0
ROW Required (acre)		0
Cross Section Width (ft):	141	145
Approach Length (ft):		100
Alignment:	Tangent	Tangent
Grade:		Same as Existing
Surface Material:	Pavement	Pavement
Sidewalks (R/L):	No	No
App. Lower Than Structure	No	No
Utilities (list)	UG Gas, UG Fiber, OH Power	UG Gas, UG Fiber, OH Power
Utilities to be Relocated	Yes	Yes
Comments		UG Gas, UG Fiber, and OH Power to be relocated during construction. Bridge mounted conduit and mounted lighting shall be removed. Wastewater shall not be damaged during construction. Existing TDOT conduit, fiber, electrical service, and one CCTV camera shall be relocated.

BRIDGE TIR

KnoxCo.
Interstate 275

STRUCTURE		
	Existing	**Proposed (Preliminary Design Estimate)**
Bridge Characteristics		
Year Built	1954	
Load Limit	20 tons	
Sufficiency Rating	65.5	
Skew	90	90
Structure Type	Concrete Tee Beam	Precast Prestressed Box Beam
Structures in Channel	N/A	N/A
Length (ft)	134	94
No. Spans (App./Main)	0 | 4	0 | 2
Width (curb to curb) (ft)	141	145
Width (o to o) (ft)	144	148
Sidewalks on Structure	No	No
Vert. Clearance (ft)	14.5	14.5
Superstructure Depth (in)	Varies	29.25
Girder Depth (in)	Varies	19
Finish Grade-Low Girder (in)	43.2	45.6
High Water Marks	N/A	
Bridge Rail Type	STD-1-1	STD-1-1
Bridge Rail Height (ft)	2.67	2.67
Indication Overtopping	No	
Local Scour	No	
Obstructions	No	
Other Structures	N/A	N/A
Comments		

BRIDGE TIR

FLOW RATES (from USGS StreamStats Program Version 4)	
Drainage Area (sq. miles)	N/A
10 Year Discharge Rate (Q10) cfs	N/A
50 Year Discharge Rate (Q50) cfs	N/A
100 Year Discharge Rate (Q100) cfs	N/A
CHANNEL	
Depth (ft)	N/A
Width of Normal Flow (ft)	N/A
Depth of Normal Flow (ft)	N/A
Skew of Channel with Roadway	N/A
Type of Material in Stream Bed	N/A
Type of Vegetation on Banks	N/A
Are Channel Banks Stable	N/A
Signs of Stream Aggradation	N/A
Signs of Stream Degradation	N/A
Drift or Drift Potential	N/A
Comments	
FLOODPLAIN	
Skew Same as Channel	N/A
Symmetrical About Channel	N/A
Approx. Floor Elevations	N/A
Type of Vegetation in Floodplain	N/A
Any Buildings in Floodplain	N/A
Flood Information From Locals	N/A
Comments	N/A
MAINTENANCE OF TRAFFIC	
Method of Maintaining Traffic	temporary detour
Description	Bridge to be constructed using ABC bridge construction techniques during weekend closures. Traffic to be detoured via Interstate 640.
Comments	Local Elm Street/Bernard Ave. vehicular and pedestrian traffic shall be detoured along Baxter Avenue and Marion Street during construction.

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: 47005-0161-04 ROUTE: I-275
COUNTY: KNOX CITY: KNOXVILLE
PROJECT PIN NUMBER: 124437.00
PROJECT DESCRIPTION: BRIDGE AND APPROACHES OVER ELM STREET @ L.M. 0.39.

DIVISION REQUESTING:

		PAVEMENT DESIGN	☐
MAINTENANCE	☐	STRUCTURES	☐
S.T.I.D.	☒	SURVEY & ROADWAY DESIGN	☐
PROG. DEVELOPMENT & ADM.	☐	TRAFFIC SIGNAL DESIGN	☐
PUBLIC TRANS. & AERO.	☐	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
74,920	2025	83,310	8,331	10	2045	65-35	3	4		

REQUESTED BY: NAME AMY RAUCH DATE 5/1/20
DIVISION S.T.I.D.
ADDRESS 1000 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: DEBBI HOWARD DATE
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 5/1/2020
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

THIS TRAFFIC IS BASED ON A 2019 CYCLE COUNT. THE DESIGN YEAR TRAFFIC IS BASED ON GROWTH RATE FROM THE KNOXVILLE TPO COMPUTER ASSIGNMENT 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. 4/1/18)

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	X
8.	Institutional usages	
	a. School or other educational institution	
	b. Church or other religious institution (Cemetery)	X
	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	
11.	Urban area, town, city, or community	
12.	Waterway, lake, pond, river, stream, spring	
	Permit required: Coast Guard	
	Section 404	
	TVA Section 26a review	
	NPDES	
	Aquatic Resource Alteration	
13.	Other	
14.	Location coordinated with local officials	
15.	Railroad crossings	
16.	Hazardous materials site	

BRIDGE TIR

KnoxCo.
Interstate 275

SITE VISIT ATTENDEES			DATE: 8/13/2020
Name	Organization	Phone	Email
Andy Padgett	TDOT R1 Traffic	865-594-2456	andrew.padgett@tn.gov
Nicholas Barnard	TDOT R1 Traffic	865-594-2456	nicholas.barnard@tn.gov
Eric Schindler	TDOT R1 Survey	865-314-0236	eric.shindler@tn.gov
Stephanie Wallis	TDOT R1 Proj. Dev.	865-594-2676	stephanie.wallis@tn.gov
Amy Rauch	TDOT STID	615-741-0969	amy.rauch@tn.gov
Andrew Allsbrook	Volkert	615-656-1845	andrew.allsbrook@volkert.com
John Allen	Volkert	615-406-9263	john.allen@volkert.com

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

West Elevation (Looking East)

East Elevation (Looking West)

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

East Elevation Looking Northwest Showing Pier No. 2

Left Lanes (Southbound) Looking South

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Right Lanes (Northbound) Looking South

Looking Southeast Across Top of Deck

Joint at Abutment (Typical)

Median Bridge Rail Showing Damage (Typical)

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Backside of Southeast Corner of Flume at Abutment No. 1 (Typical)

Bernard Avenue East Approaches

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Elm St./Bernard Ave. West Approaches

Marion Street South Approach (Looking South)

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Marion Street North Approach (Looking North)

East Profile of Bridge Looking South

Underground Gas and Overhead Lines at Southeast Corner of Bridge

Mounted Conduit to Underside of Deck and Abutment No. 1 (Southwest Corner)

Overhead Utilities and Mounted Power to Bent No. 1

West Profile of Bridge Looking North

Underground Gas and Fiber at East Corner of Bernard Ave./University St.

Span No. 3 Looking East Showing Conduit & Lighting Mounted to Bents (Typical)

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Wastewater Manholes in Eastbound Lanes at Bernard/Marion Intersection (Looking West)

Wastewater Manhole in Eastbound Lanes (Looking East)

Wastewater Manhole at University/Bernard Intersection (Looking East)

Eastbound Sidewalk Under Span No. 1 Evidence of Poor Drainage

Underside of Deck (Typical)

Abutment and Concrete Lined Slope (Typical)

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Bent No. 2 Looking South

Bent No. 3 Looking North

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Spall on Bottom of Bent No. 2 (Typical)

Spall on Beam Ends (Typical)

Transportation Investment Report for Bridge ID: 47I02750003
Knox County
I-275 over Elm Street/Bernard Avenue

Spall on Bottom of Deck (Typical)

Damaged Beams Due to Impact Over Eastbound Lanes (Typical)

APPENDIX

Summary of NEPA Comments

AIR QUALITY AND NOISE:
Although this project, as presented will not result in air quality or noise impacts, the project is within the PM 2.5 maintenance area. It is exempt; however, we are required to get concurrence from the Knoxville Area IAC. [Note: PPRM is only showing state funding at this time, however, if the proposed project will receive any federal funding, we will need an updated TIP page in order to process the PM 2.5 clearance.

HAZARDOUS MATERIALS:
No hazardous materials issues if they stay in the current right of way, but just light commercial us adjacent to the bridge. The asbestos survey has been completed, asbestos was detected, and a commitment has been added in PPRM.

HISTORIC PRESERVATION:
Based on the information provided, there are no historic preservation concerns as currently proposed.

ARCHAEOLOGY:
There are no archaeological concerns for this site based on the information provided.

ECOLOGY:

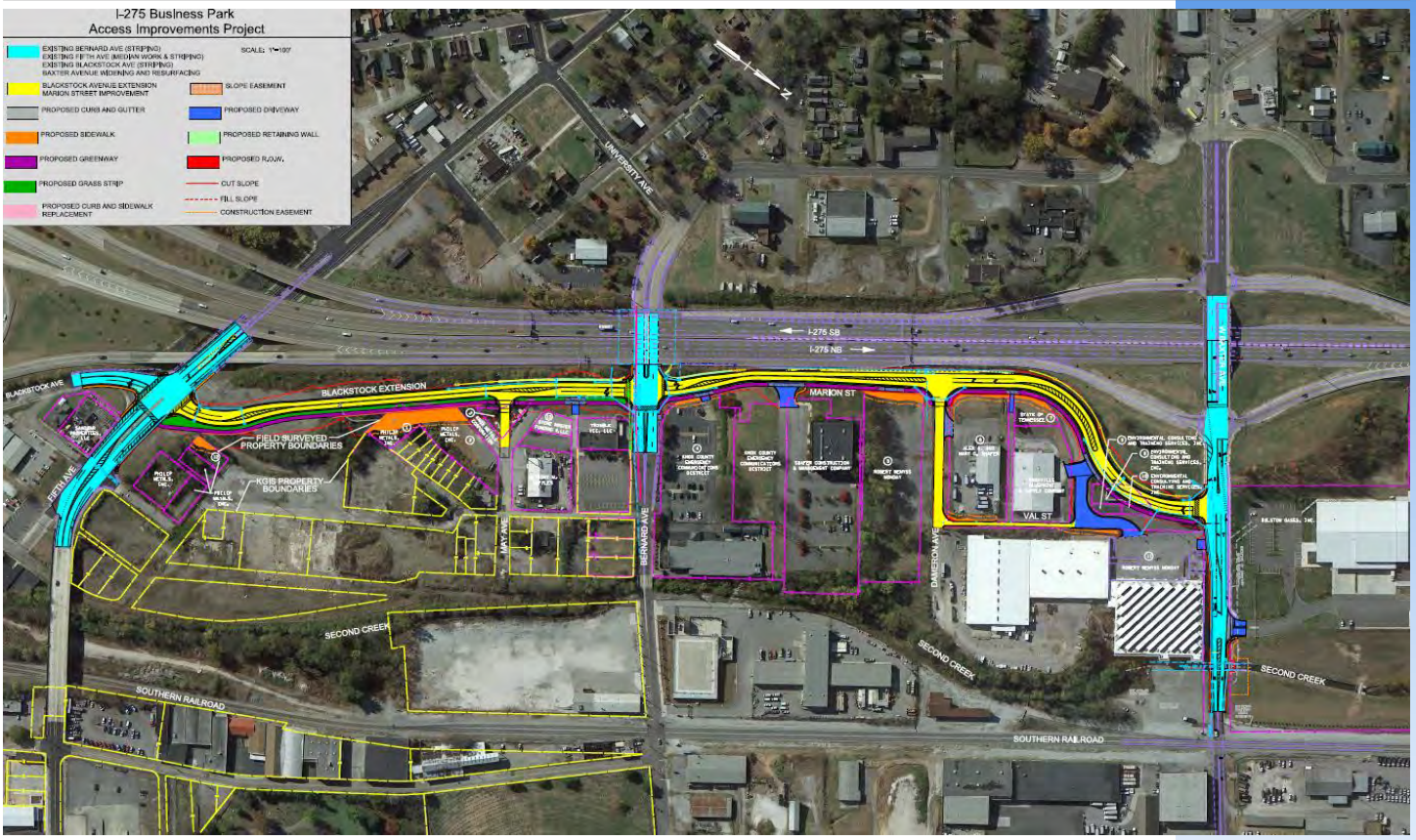
- There do not appear to be any aquatic resources within the limits of the proposed project.
- A review of the TDEC/DNH database on 7-24-2020 indicated a 2008 record for the federally listed endangered gray bat (Myotis grisescens) in the Summit Hill Parking garage which is withing one mile of the proposed project.

MULTIMODAL TRANSPORTATION:
For this type of project, the Office of Multimodal Planning is most interested in traffic control. Mostly, in areas where the land use suggests pedestrian need, and where existing accommodations exist, closing the roadway underneath the bridge during construction should not cut off pedestrians in the area from access to areas on the other side of the bridge. Admittedly, this is often difficult.

In this case, it is still necessary to consider pedestrians in traffic control plans. If there is a way to accommodate pedestrians underneath the bridge during phased construction, this is still preferred. However, considering the adjacent accommodations on 5th Avenue and on Baxter Avenue, the need is less dire that for other projects. These detours are still longer than preferred for pedestrians, but manageable if necessary. Minimally, adequate signage in the area is necessary to ensure that pedestrian traffic can re-route well in advance of any closings.

Note: Maintaining pedestrian access should be considered as the neighborhood on the west side of I-275 potentially is an environmental justice community. There are several places of employment on both sides of the interstate in the proposed project area, as well as several religious organizations in the area that may be served by pedestrian facilities. Additionally, Marion Street located adjacent to the east side of I-275 appears to be an important route for businesses located on this roadway.

I-275 Business Park Access Improvements Project



Project Description: In order to improve access and encourage redevelopment, the City of Knoxville is proposing to extend Blackstock Avenue approximately 1,100 feet from W. Fifth Avenue to Bernard Avenue. The project will extend approximately 1,600 feet north along Marion Street to Baxter Avenue and approximately 325 feet east and 325 feet west along Baxter Avenue. The proposed improvements will include a new two-lane road consisting of 11-foot travel lanes, curb and gutter, a five-foot sidewalk, and a 10-foot multipurpose trail from W. Fifth Avenue to Bernard Avenue. Improvements will also be made to Marion Street from Bernard Avenue to Baxter Avenue, including the addition of curb and gutter, sidewalk and greenway and the realignment of Marion Street from Dameron Avenue to Baxter Avenue. Minor intersection improvements are proposed for Fifth Avenue & Blackstock Avenue; Blackstock Avenue at Bernard Avenue & Marion Street; and Marion Street at Baxter Avenue.

Schedule:
Bid Opening: October 23, 2019
Notice to Proceed: July 6, 2020
Contract Completion Date: September 26, 2021

Current Contract Price: $ 5,481,102

Engineering Department August 2020 Status: A pre-construction meeting was held on Wednesday, February 26, 2020.

Project Designer: CDM Smith
Construction Contractor: Jones Bros Contractors, LLC

City of Knoxville Contact
Construction Engineer: Robin L. Tipton, PE (865) 215-6100

CITY OF KNOXVILLE
Indya Kincannon, Mayor

W. Harold Cannon, Jr., P.E.
Engineering Director