TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION INVESTMENT REPORT

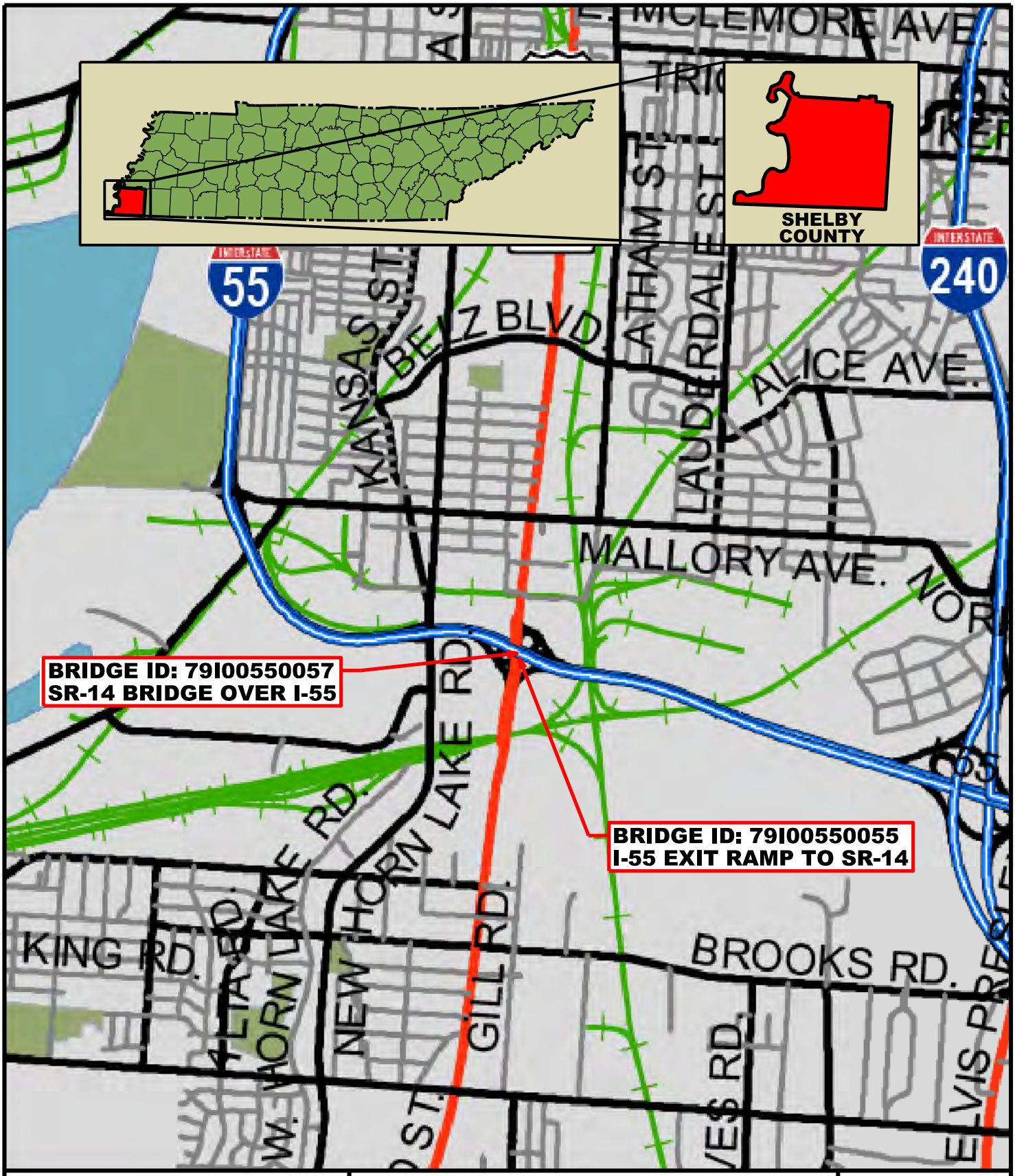
Interstate 55 and State Route 14
(South 3rd Street) Interchange
2 Bridges, Shelby County
PIN 128674.00

PREPARED BY SAIN ASSOCIATES
for the
Strategic Transportation Investments Division

Approved by PRESTON J ELLIOTT Digitally signed by PRESTON J ELLIOTT Date: 2021.01.05 12:20:57 -06'00' *Date* _____
Chief of Environment and Planning

Approved by Paul D. Degges, P.E. Digitally signed by Paul D. Degges, P.E. Date: 2020.12.23 10:01:59 -06'00' *Date* _____
Deputy Commissioner and Chief Engineer

Approved by:	Signature	DATE
TRANSPORTATION DIRECTOR STRATEGIC TRANSPORTATION INVESTMENTS DIVISION	Steven Allen (Sep 9, 2020 09:14 CDT)	Sep 9, 2020
ENGINEERING DIRECTOR REGION 4 PROJECT DEVELOPMENT		10/26/2020
ENGINEERING DIRECTOR STRUCTURES DIVISION		9/9/2020



TN TDOT Department of Transportation

AREA MAP

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
SR-14 Bridge over I-55
I-55 Exit Ramp Bridge to SR-14
Shelby County

PIN 128674.00

SCALE: 1"=0.5 MILE

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TABLE OF CONTENTS

Transportation Investment Report
Shelby County
Interstate 55 and State Route 14 (South 3rd St) Interchange, 2 Bridges
PIN 128674.00

EXECUTIVE SUMMARY

Project Description and Background

The bridge projects at Interstate 55 and State Route 14 (South 3rd Street) in Shelby County include the State Route 14 bridge over Interstate 55 and the northbound Interstate 55 exit ramp bridge to southbound State Route 14 (South 3rd Street). The proposed project includes the design and construction of the bridge replacement for two (2) bridges.

There is an existing project to the south on State Route 14 for a proposed single structure over the Nonconnah Creek and railroads. The design plans are in the Preliminary Plans and railroad coordination phase. The new structure will be 89 feet curb to curb with a flush median and the project right-of-way length is 0.2 miles. These projects should be coordinated, but constructed at different times, as both affect State Route 14 and impact the ramps in the southwest quadrant of the interchange. See Appendix for design plans for PIN 108883.00.

State Route 14 Bridge over Interstate 55 (LM 7.46)

- The existing structure is a four (4) span concrete bridge that is 192 feet long with six (6) twelve (12) feet wide lanes, four (4) feet wide median, and curb and gutter with sidewalk.
- The existing vertical clearance is 13'11" on Interstate 55 southbound.
- The proposed structure will be a 94 feet 6 inches out-to-out, two (2) span concrete bridge that is 200 feet long with six (6) twelve (12) feet wide lanes, four (4) feet wide flush median, and curb and gutter with sidewalk.
- The one (1) pier will be placed in the existing location, the center of Interstate 55. The grade will be raised to increase the vertical clearance to 16'6" minimum/17'0" preferred over Interstate 55.

The cost estimate for this bridge:

COST ESTIMATE SUMMARY (2020)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
128674.00	Bridge Replacement	$ 855,500	$ 388,400	$ 1,025,000	$ 10,169,600	$ 12,439,000

INFLATED COST ESTIMATE SUMMARY					Report Type:	Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2025	$ 1,091,900	$ 495,700	$ 1,308,200	$ 12,979,300	$ 15,875,700

Interstate 55 Exit Ramp Bridge to State Route 14 (LM 7.44)

- The existing structure is a seven (7) span concrete and steel bridge that is 512 feet long with one (1) sixteen (16) feet wide lane and shoulder widths of two (2) feet.

- The proposed structure will be a 43 feet 3 inches out-to-out, five (5) span steel bridge that is 660 feet long with two (2) twelve (12) feet wide lanes and shoulder widths of six (6) (inside) and twelve (12) (outside) feet, but will be striped for one (1) lane.
- The piers will placed in new locations. The grade will be raised to increase the vertical clearance to at least 16'6" minimum/17'0" preferred over the improved State Route 14 grade.

The cost estimate for this bridge:

COST ESTIMATE SUMMARY (2020)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
128674.00	Bridge Replacement	$ 1,321,900	$ -	$ 200,000	$16,242,500	$ 17,764,000

INFLATED COST ESTIMATE SUMMARY						Report Type: Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2025	$ 1,687,100	$ -	$ 255,200	$ 20,730,000	$ 22,671,900

The total cost estimate for both bridges combined:

COST ESTIMATE SUMMARY COMBINED BRIDGES					
Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
2020	$ 2,177,400	$ 388,400	$ 1,225,000	$ 26,412,100	$ 30,202,900
2025	$ 2,779,000	$ 495,700	$ 1,563,400	$ 33,709,300	$ 38,547,400

Recommended Construction Phasing

1. Widen the northbound Interstate 55 ramp to northbound State Route 14 for use as two (2) lanes.
2. Install temporary double left turns and temporary signal for northbound Interstate 55 ramp to State Route 14 southbound.
3. A truck detour shall be signed for northbound Interstate 55 to State Route 14 using Interstate 55 southbound from the Interstate 240 interchange to State Route 175 (Shelby Drive).
4. Remove northbound Interstate 55 to southbound State Route 14 ramp bridge.
5. Construct new ramp bridge.
6. Open ramp to traffic and remove temporary widening and double left turns.
7. Stage construct State Route 14 bridge.
    a. Keep two (2) lanes, one (1) lane in each direction, of traffic open on State Route 14 and Interstate 55 at all times.
    b. All construction to include lighting and ADA accessible ramps and sidewalks for the interchange. During construction, every effort should be made to accommodate the maintenance of pedestrian traffic.

FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	1

END SR-14 PROJECT

PROP. ROW

APPROX. WORK LIMIT

I-55

200' TOTAL LENGTH
2 SPANS
94'-6" OUT-TO-OUT

APPROX. WORK LIMIT

SEE APPENDIX PAGE 154 FOR EXISTING ITS INFRASTRUCTURE

APPROX. WORK LIMIT

660' TOTAL LENGTH
5 SPANS
43'-3" OUT-TO-OUT

BEGIN RAMP PROJECT

APPROX. WORK LIMIT

PROP. RETAINING WALL

APPROX. WORK LIMIT

BEGIN SR-14 PROJECT

END RAMP PROJECT

SR-14

ROW LEGEND

PROPOSED ROW
EXISTING ROW & PL

NOTE: ROW IS APPROXIMATE AND SHOWN FOR INFORMATIONAL PURPOSES ONLY

0' 200' 400' 600'

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
SR-14 Bridge over I-55
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

FIGURE 1
SR-14 @ I-55
2 BRIDGES

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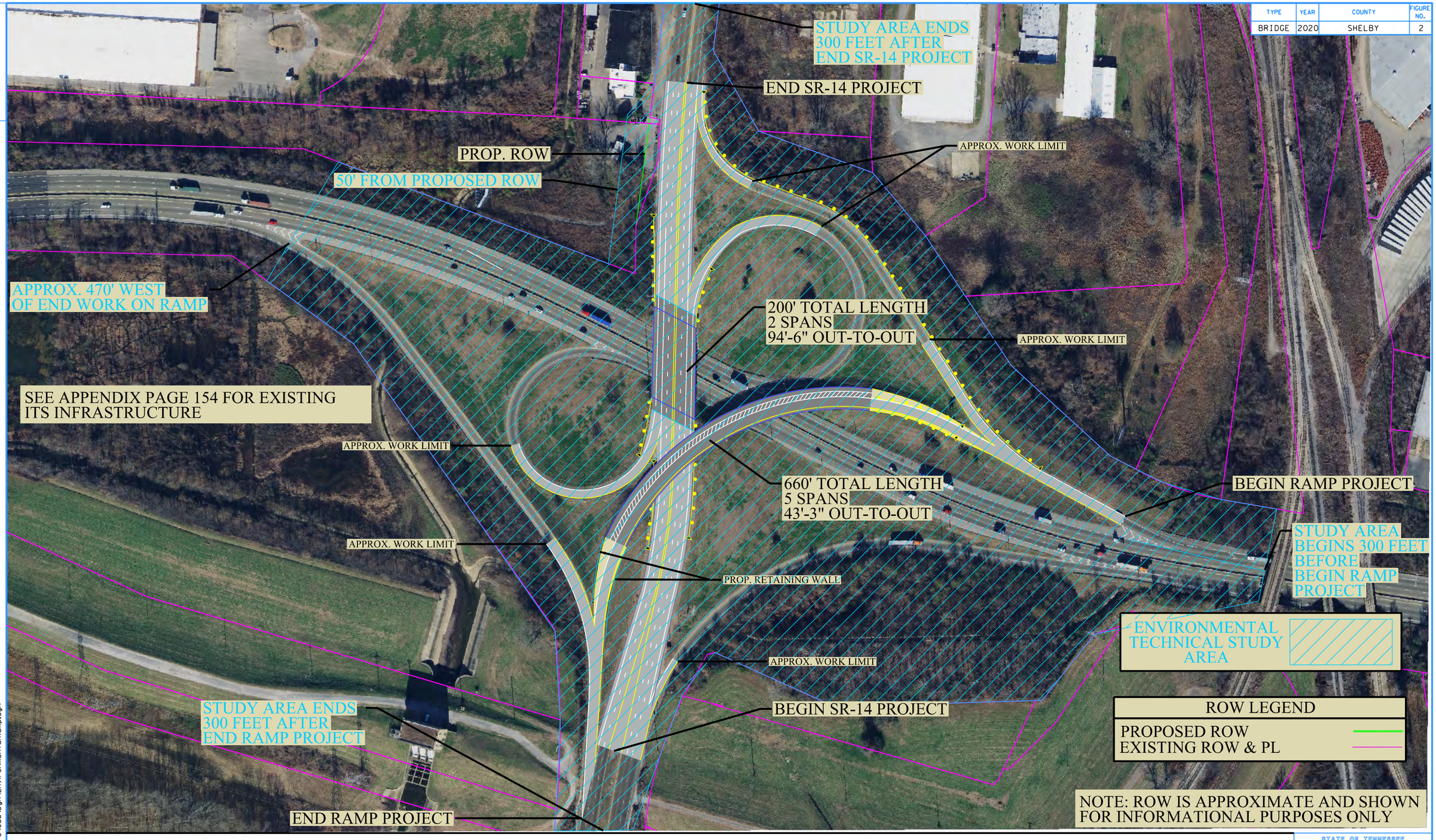
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	2



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ENVIRONMENTAL TECHNICAL STUDY AREA

Interstate 55 and State Route 14 (South 3rd St) Interchange
SR-14 Bridge over I-55
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION
INVESTMENTS DIVISION

FIGURE 2
ETSA
RAMP & SR-14

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SECTION 1

Bridge TIR
State Route 14 Bridge over Interstate 55
Shelby County
LM 7.46
PIN 128674.00

Bridge Transportation Investment Report

Summary of Improvements
PIN 128674.00
Shelby County
State Route 14 (South 3rd Street) Bridge over Interstate 55 (LM 7.46)
Bridge ID: 79I00550057

EXISTING STRUCTURE:

A field review was held for the above mentioned project on June 20, 2019. The existing structure, built in 1964, is a four (4) span pre-stressed concrete bridge crossing Interstate 55. The structure has an out-to-out width of 94 feet 6 inches. The overall structure length is 192 feet with approximately 13 feet 11 inches of vertical clearance. The sufficiency rating for this structure is 64.6 based on the Bridge Inspection Report from January 22, 2019. The weight limit is 18 tons. The existing structure and roadway approaches have six (6) travel lanes with width of twelve (12) feet, median width of four (4) feet, with curb and gutter and sidewalks. The primary purpose for the project is to raise the vertical clearance due to trailer trucks on Interstate 55 hitting the low beam.

FEATURE CROSSED:

The bridge crosses Interstate 55 which consists of six (6) lanes with width of twelve (12) feet and inside and outside shoulder widths of six (6) feet. The posted speed is 55 MPH. Interstate 55 is a south-north route, and is signed as such, but in the area of this interchange, it is oriented east-west.

TRAFFIC AND TYPICAL SECTION:

The route has a base year 2024 Average Annual Daily Traffic (AADT) of 25,590 and a design year 2044 AADT of 38,790. The route has a speed limit of 40 mph and a design speed of 40 mph was assumed for this project. The route is classified as an Urban Principal Arterial and Standard Drawing RD11-TS-3B and RD11-TS-6C was used for design considerations. Footnote 8 on the standard drawings refers to a four (4) feet median width being allowed under restrictive conditions. Given the existing median is four (4) feet wide and the loop ramps to Interstate 55 begin at the end of the bridge, the proposed median will be four (4) feet wide to minimize impact to the ramps. Therefore the typical section on the proposed structure will consist of four (4) travel lanes and two (2) right turn lanes at twelve (12) feet wide each, with flush median width of four (4) feet and two (2) feet wide shoulder with six and a half (6.5) feet wide sidewalk. The out-to-out width will remain 94 feet 6 inches.

PROPOSED IMPROVEMENTS AND MAINTENANCE OF TRAFFIC:

The proposed bridge is to be a two (2) span pre-stressed concrete bridge with an out-to-out based on the above recommendations of 94 feet 6 inches and total length of 200 feet. The clearance for the proposed structure will be 16’6” minimum/17’0” preferred. The grade will be raised to meet the proposed clearance and the horizontal alignment will remain as existing. The project will extend approximately 755 feet from the structure to the south and approximately 505 feet to the north in order to tie into the existing vertical grade. The bridge will be stage constructed with two (2) lanes of traffic maintained at all times on State Route 14 and Interstate 55.

There is an existing project to the south on State Route 14 for a proposed single structure over the Nonconnah Creek and railroads. The design plans are in the Preliminary Plans and railroad coordination phase. The new structure will be 89 feet curb to curb with a flush median and the project right-of-way length is 0.2 miles. These projects should be coordinated, but constructed at different times, as both

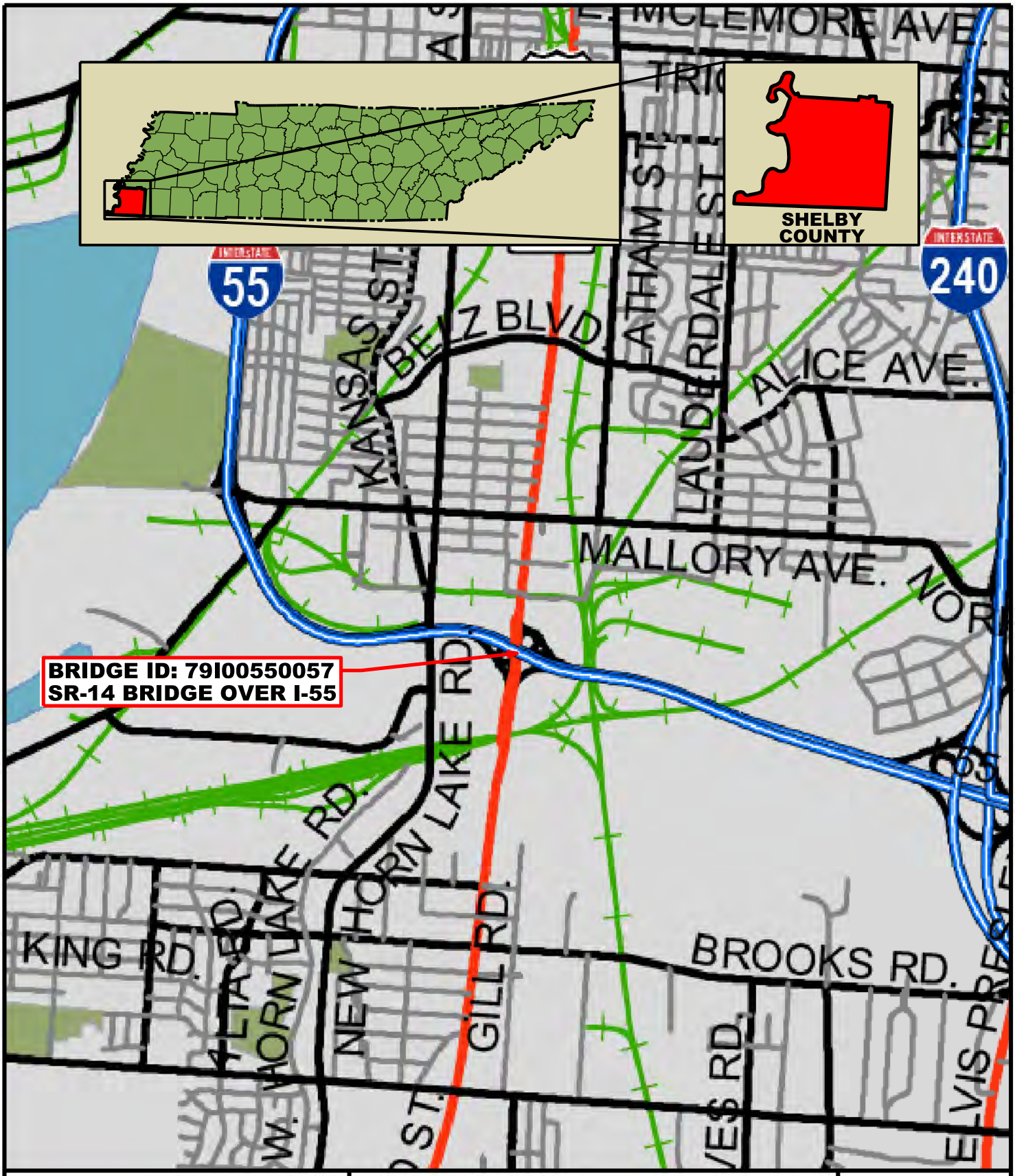
affect State Route 14 and impact the ramps in the southwest quadrant of the interchange. See Appendix for design plans for PIN 108883.00.

COST ESTIMATE:

The cost for the estimated construction, right-of-way, and preliminary engineering for this bridge replacement is approximately $12,439,000. Approximately 0.1 acre is expected to be acquired for this project. There are utilities that will require relocation will the bridge construction. Below is the cost estimate breakdown along with a five (5) year inflated cost estimate based on 5% per year:

COST ESTIMATE SUMMARY (2020)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
128674.00	Bridge Replacement	$ 855,500	$ 388,400	$ 1,025,000	$ 10,169,600	$ 12,439,000

INFLATED COST ESTIMATE SUMMARY					Report Type:	Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2025	$ 1,091,900	$ 495,700	$ 1,308,200	$ 12,979,300	$ 15,875,700



AREA MAP

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
SR-14 Bridge over I-55 (LM 7.46)
Shelby County

PIN 128674.00

SCALE: 1"=0.5 MILE

TN TDOT Department of Transportation

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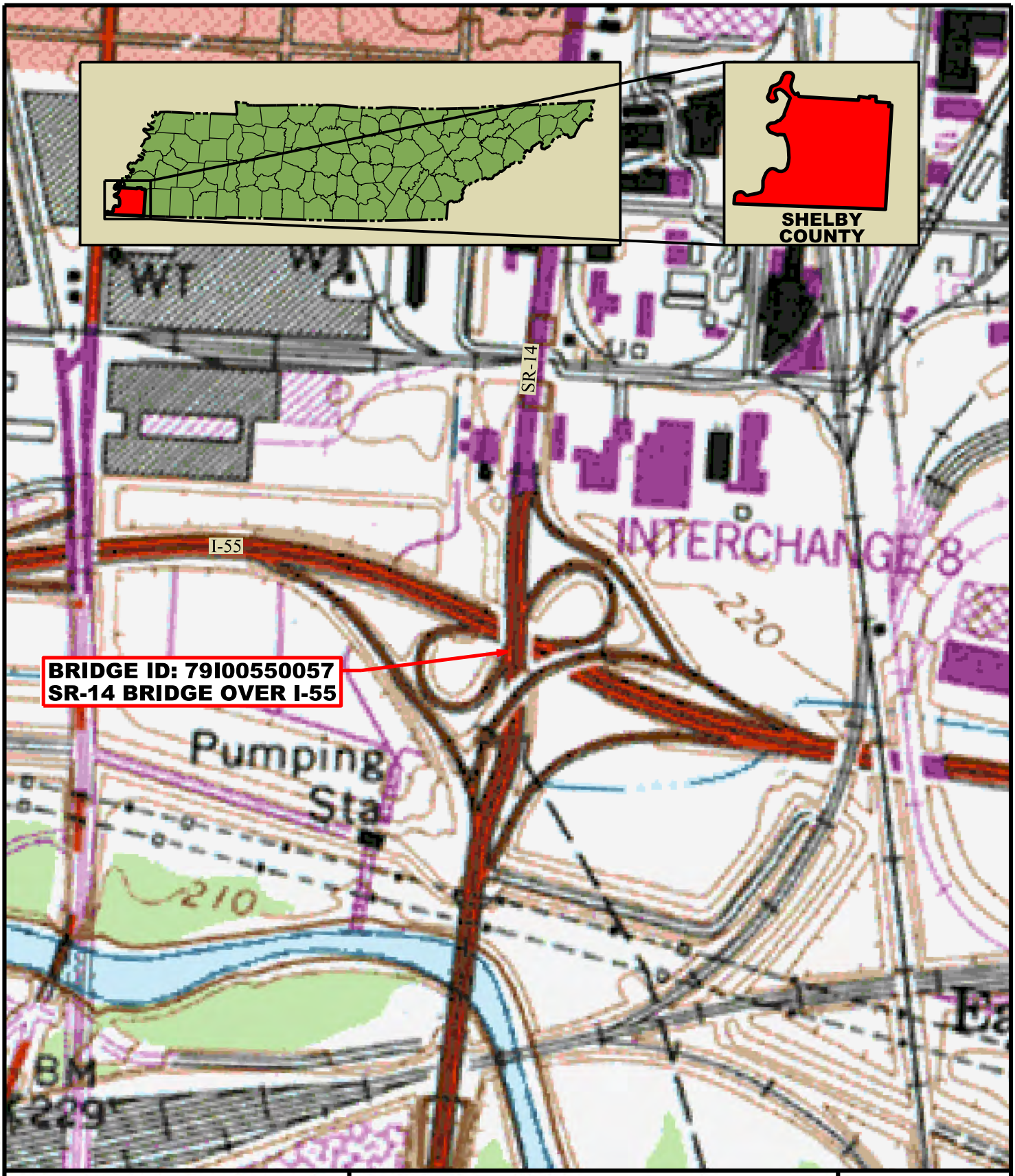

TOPOGRAPHIC MAP

TN TDOT Department of Transportation

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
SR-14 Bridge over I-55 (LM 7.46)
Shelby County

PIN 128674.00

SCALE: 1"=0.1 MILE

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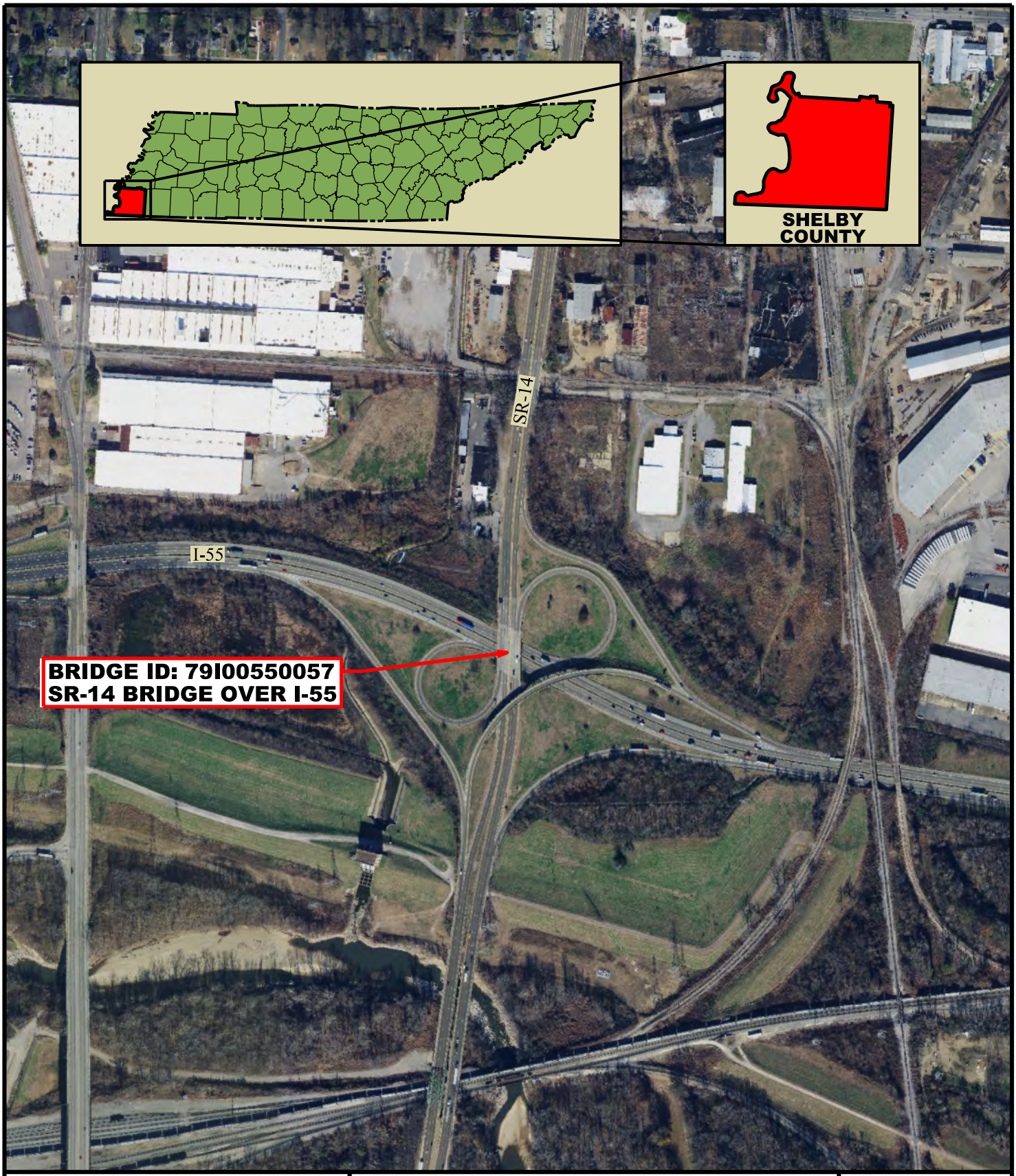

LOCATION MAP

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
SR-14 Bridge over I-55 (LM 7.46)
Shelby County

PIN 128674.00

SCALE: 1"=0.1 MILE

TN TDOT Department of Transportation

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FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	3

CONSTRUCTION INCLUDES ADA COMPLIANT RAMPS AND SIDEWALKS. ALL PEDESTRIAN SIGNAGE AND STRIPING SHALL BE UPDATED WITH THIS PROJECT.

SR-14

END SR-14 PROJECT

PROP. ROW

APPROX. WORK LIMIT

I-55

200' TOTAL LENGTH
2 SPANS
94'-6" OUT-TO-OUT

SEE APPENDIX PAGE 154 FOR EXISTING ITS INFRASTRUCTURE

APPROX. WORK LIMIT

APPROX. WORK LIMIT

BEGIN SR-14 PROJECT

ROW LEGEND

PROPOSED ROW
EXISTING ROW & PL

NOTE: ROW IS APPROXIMATE AND SHOWN FOR INFORMATIONAL PURPOSES ONLY

0' 200' 400' 600'

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
SR-14 Bridge over I-55
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

FIGURE 3
SR-14

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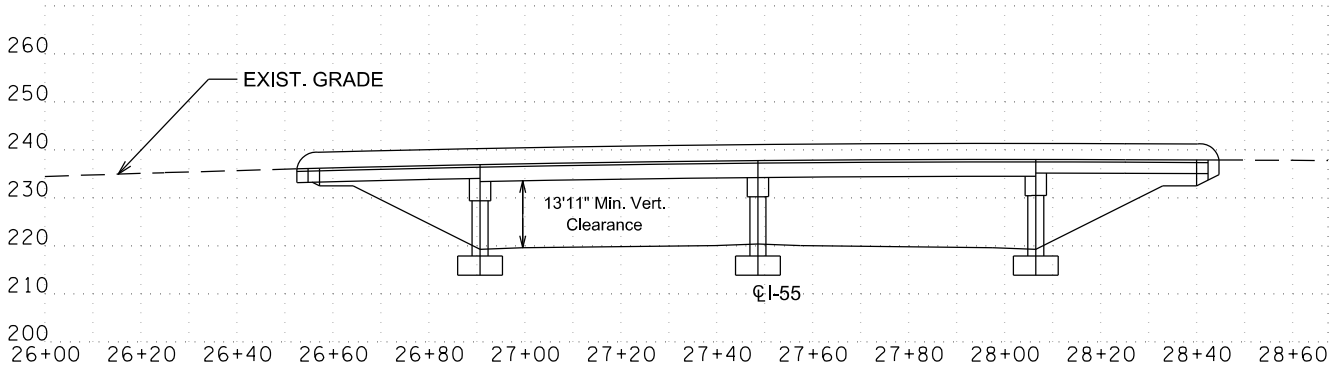
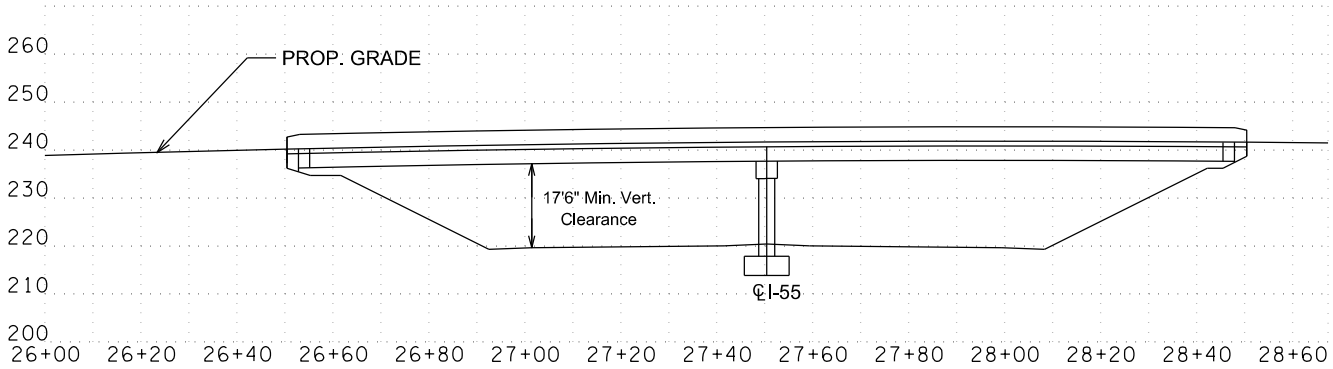
EXISTING STRUCTURE



PROPOSED STRUCTURE



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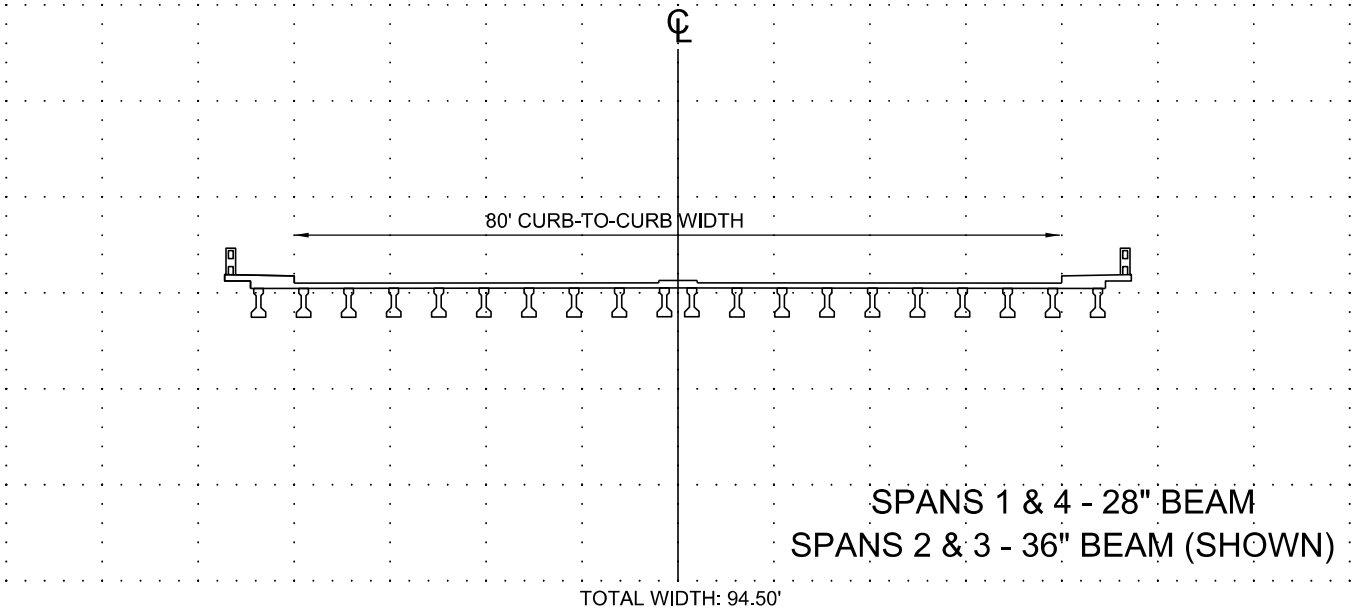
PROFILE

I-55 AND SR-14 INTERCHANGE SHELBY COUNTY

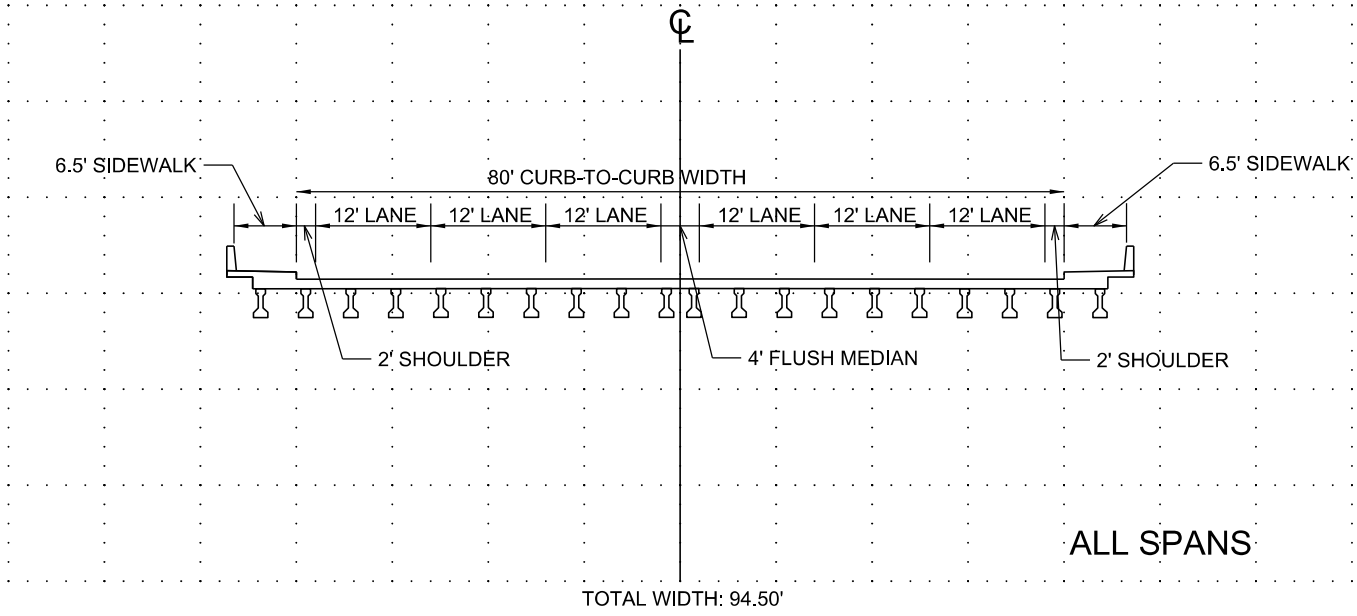
BRIDGE SR-14 OVER I-55 (L.M. 7.46)

BRIDGE ID: 79I00550057

EXISTING STRUCTURE



PROPOSED STRUCTURE

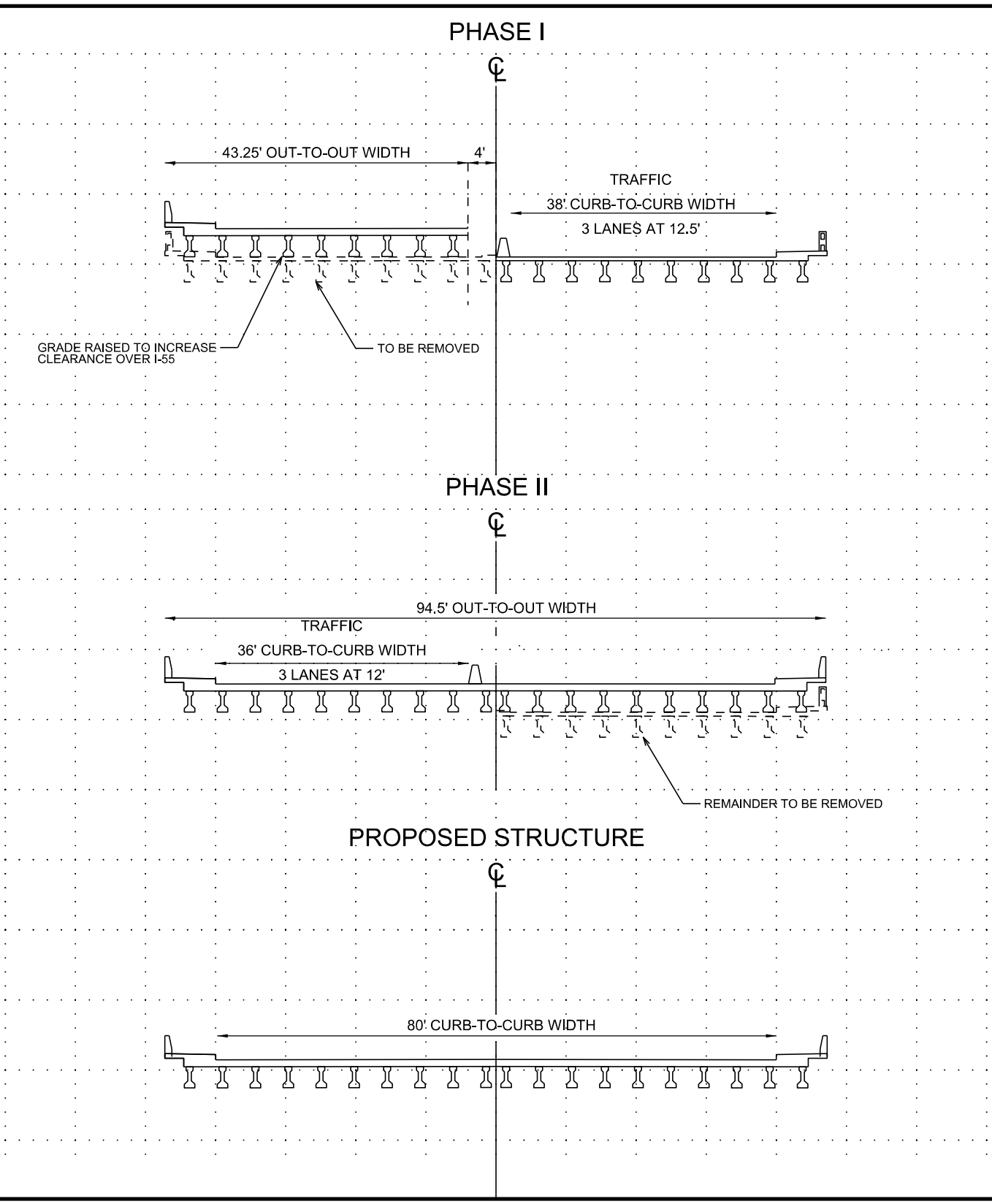


TYPICAL SECTION

I-55 AND SR-14 INTERCHANGE SHELBY COUNTY

BRIDGE SR-14 OVER I-55 (LM 7.46)

BRIDGE ID: 79I00550057



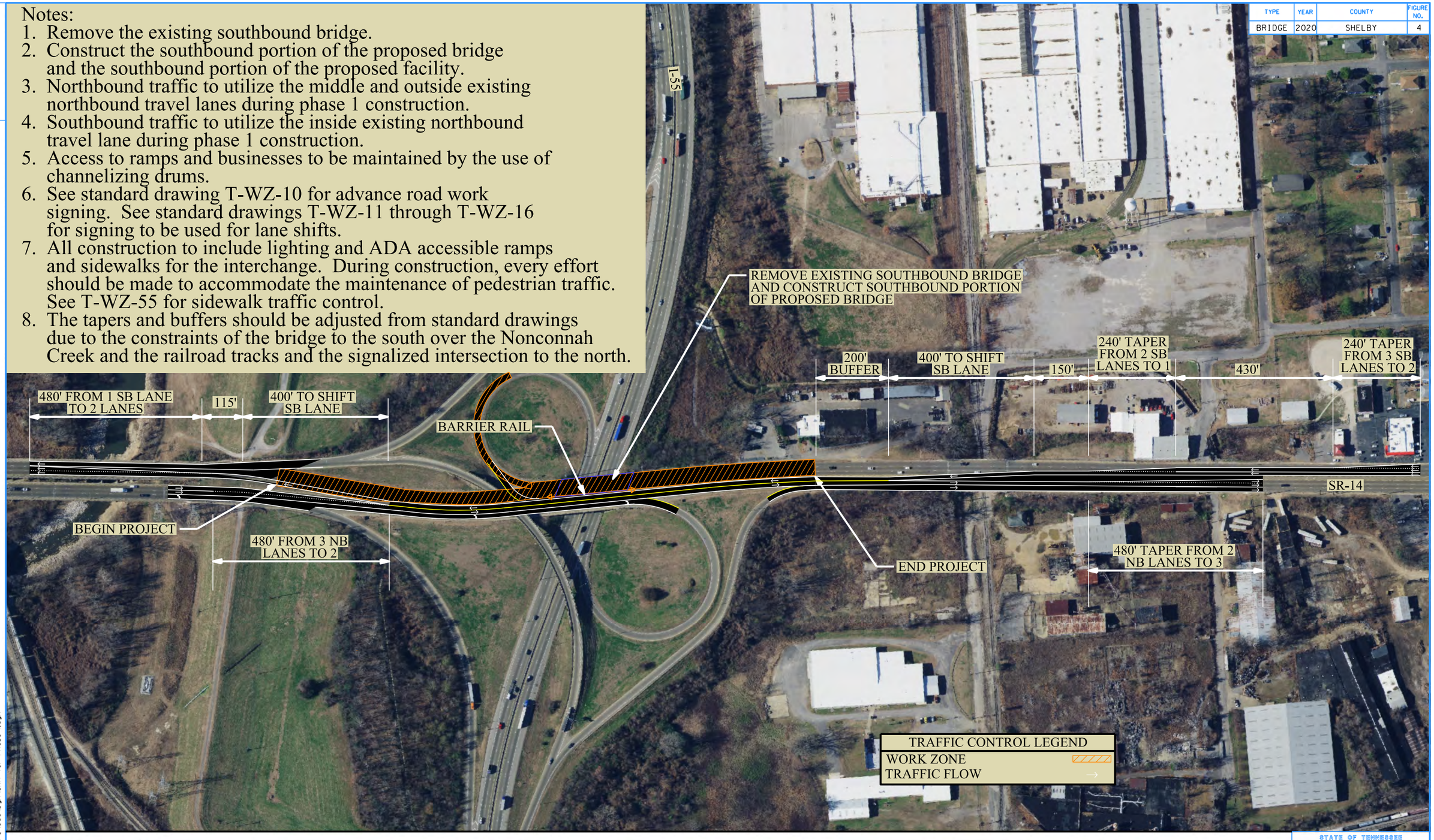
PHASED TYPICAL SECTION

I-55 AND SR-14 INTERCHANGE SHELBY COUNTY
BRIDGE SR-14 OVER I-55 (LM 7.46)
BRIDGE ID: 79I00550057

FILE NO.

Notes:
1. Remove the existing southbound bridge.
2. Construct the southbound portion of the proposed bridge and the southbound portion of the proposed facility.
3. Northbound traffic to utilize the middle and outside existing northbound travel lanes during phase 1 construction.
4. Southbound traffic to utilize the inside existing northbound travel lane during phase 1 construction.
5. Access to ramps and businesses to be maintained by the use of channelizing drums.
6. See standard drawing T-WZ-10 for advance road work signing. See standard drawings T-WZ-11 through T-WZ-16 for signing to be used for lane shifts.
7. All construction to include lighting and ADA accessible ramps and sidewalks for the interchange. During construction, every effort should be made to accommodate the maintenance of pedestrian traffic. See T-WZ-55 for sidewalk traffic control.
8. The tapers and buffers should be adjusted from standard drawings due to the constraints of the bridge to the south over the Nonconnah Creek and the railroad tracks and the signalized intersection to the north.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	4



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BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
SR-14 Bridge over I-55
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

FIGURE 4
SR-14
TRAFFIC CONTROL
PHASE I

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FILE NO.

Notes:

1. Remove the existing northbound bridge.
2. Construct the northbound portion of the proposed bridge and the northbound portion of the proposed facility.
3. Southbound traffic to utilize the middle and outside existing southbound travel lanes during phase 1 construction.
4. Northbound traffic to utilize the inside existing southbound travel lane during phase 1 construction.
5. Access to ramps and businesses to be maintained by the use of channelizing drums.
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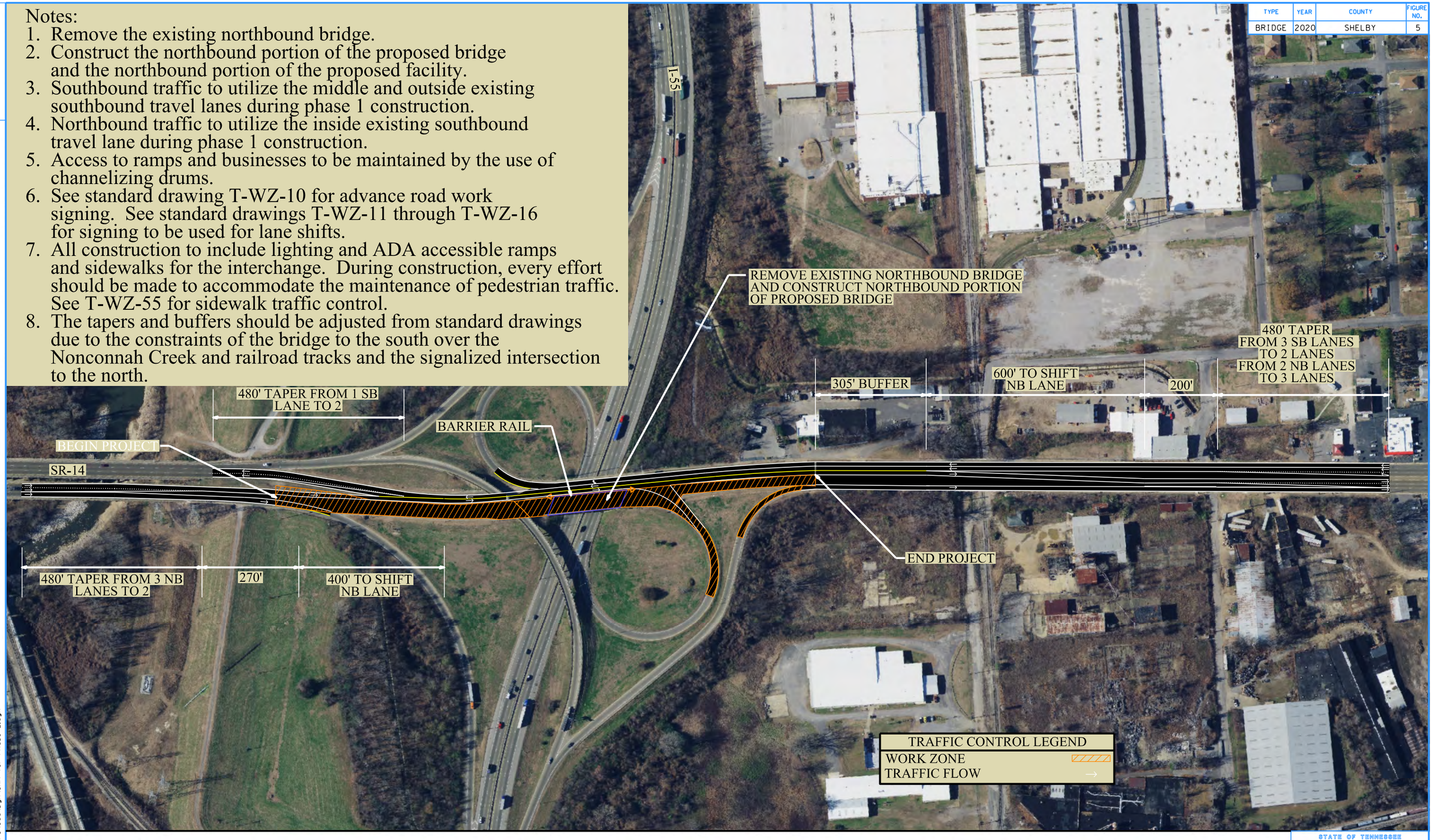
8. The tapers and buffers should be adjusted from standard drawings due to the constraints of the bridge to the south over the Nonconnah Creek and railroad tracks and the signalized intersection to the north.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	5



0′ 250′ 500′ 750′

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
SR-14 Bridge over I-55
SHELBY COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

FIGURE 5
SR-14
TRAFFIC CONTROL
PHASE 2

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COST ESTIMATE SUMMARY

Route:	State Route 14 @ Interstate 55
Description:	SR-14 Bridge over I-55
Project Type of Work:	Bridge Replacement
County:	Shelby
Length:	0.50 mile
Date:	July 14, 2020

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Pavement Removal		$0	$0	$0	$84,100
Asphalt Paving		$0	$0	$0	$372,000
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$0	$0	$572,500
Appurtenances		$0	$0	$0	$283,700
Structures		$0	$0	$0	$3,197,900
Fencing		$0	$0	$0	$0
Lighting & Signalization		$0	$0	$0	$1,000,000
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$333,300
Clearing and Grubbing		$0	$0	$0	$61,000
Seeding & Sodding		$0	$0	$0	$5,500
Rip-Rap or Slope Protection		$0	$0	$0	$31,900
Guardrail		$0	$0	$0	$39,700
Signing		$0	$0	$0	$300,000
Pavement Markings		$0	$0	$0	$7,000
Maintenance of Traffic		$0	$0	$0	$507,600
Mobilization (5%)		$0	$0	$0	$339,800
Other Items =	10%	$0	$0	$0	$713,600
Const. Contingency =	30%	$0	$0	$0	$1,395,500
Construction Estimate		$0	$0	$0	$9,245,100
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	$388,400
Utilities		$0	$0	$0	$1,025,000
Preliminary & Construction Engineering and Inspection					
Prelim. Eng.	9%	$0	$0	$0	$855,500
Const. Eng. & Inspec.	10%	$0	$0	$0	$924,500
Total Project Cost (2020)		$0	$0	$0	$ 12,439,000

PAY ITEM SUMMARY

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	TOOL QUANTITIES	ADDITIONAL QUANTITIES	TOOL QUANTITIES + ADDITIONAL QUANTITIES	Statewide UNIT COST	TOTAL COST
Pavment Removal							
202-03.01	REMOVAL OF ASPHALT PAVEMENT	SY	10000		10000	$ 4.66	$ 46,600.00
202-03.02	REMOVAL OF RIGID PAVEMENT	CY	309		309	$ 14.81	$ 4,570.99
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	SY	11546		11546	$ 2.85	$ 32,886.37
						PAVEMENT REMOVAL TOTAL (ROUNDED)	**$ 84,100**
Asphalt Roads							
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	8645		8645	$ 25.44	$ 219,929.04
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	119		119	$ 93.58	$ 11,112.00
307-02.02	ASPHALT CEMENT (PG70-22)(BPMB-HM) GRADING A-S	TON	1		1	$ 664.95	$ 868.96
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	42		42	$ 103.25	$ 4,362.68
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	162		162	$ 137.56	$ 22,251.82
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	2		2	$ 570.81	$ 1,131.92
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	7		7	$ 71.45	$ 511.42
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	4		4	$ 657.80	$ 2,689.67
411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	95		95	$ 114.06	$ 10,790.16
411-02.10	ACS MIX(PG70-22) GRADING D	TON	848		848	$ 115.89	$ 98,318.24
						PAVING TOTAL (ROUNDED)	**$ 372,000**
Concrete Roads							
						CONCRETE RAMPS AND ROADWAYS TOTAL (ROUNDED)	**$ -**
Drainage							
607-05.02	24" CONCRETE PIPE CULVERT (CLASS III)	LF	6459		6459	$ 70.51	$ 455,440.35
611-12.02	CATCH BASINS, TYPE 12, > 4' - 8' DEPTH	EA	13		13	$ 4,082.39	$ 53,743.89
611-14.02	CATCH BASINS, TYPE 14, > 4' - 8' DEPTH	EA	4		4	$ 6,847.88	$ 28,202.30
611-42.02	CATCH BASINS, TYPE 42, > 4' - 8' DEPTH	EA	2		2	$ 4,541.37	$ 8,501.44
710-02	Aggregate Underdrains (with pipe)	LF	4858		4858	$ 5.46	$ 26,522.50
						DRAINAGE TOTAL (ROUNDED)	**$ 572,500**
Appurtenances							
701-01.01	CONCRETE SIDEWALK (4 ")	SF	20629		20629	$ 5.25	$ 108,399.34
702-03	CONCRETE COMBINED CURB & GUTTER	CY	531		531	$ 330.12	$ 175,261.54
						ROADWAY AND PAVEMENT APPURTENANCES TOTAL (ROUNDED)	**$ 283,700**
Earthwork & Mineral							
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1		1	$ 89,013.84	$ 89,013.84
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	CY	2882		2882	$ 17.78	$ 51,253.94
203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	240		240	$ 33.75	$ 8,093.74
203-03	BORROW EXCAVATION (UNCLASSIFIED)	CY	647	15000	15647	$ 11.82	$ 184,899.21
						EARTHWORK & MINERAL TOTAL (ROUNDED)	**$ 333,300**
Structures							
N/A	Removal of Bridge	SF	18144		18144	$ 20.00	$ 362,880.00
N/A	New Bridge (Concrete Girder):	SF	18900		18900	$ 150.00	$ 2,835,000.00
						STRUCTURES TOTAL (ROUNDED)	**$ 3,197,900**
Interchanges and Unique Intersections							
						INTERCHANGES AND UNIQUE INTERSECTIONS TOTAL (ROUNDED)	**$ -**
Lighting & Signalization							
						LIGHTING & SIGNALIZATION TOTAL (ROUNDED)	**$ 1,000,000**
Guardrail							
705-01.01	GUARDRAIL AT BRIDGE ENDS	LF	100		100	$ 66.52	$ 6,651.84
705-02.02	SINGLE GUARDRAIL (TYPE 2)	LF	132	550	682	$ 16.41	$ 11,191.62

PAY ITEM SUMMARY

705-04.07	TAN ENERGY ABSORBING TERM (NCHRP 350, TL3)	EA	5	1	6	$ 2,341.51	$ 14,049.06
705-04.09	EARTH PAD FOR TYPE 38 GR END TREATMENT	EA	5	1	6	$ 1,292.40	$ 7,754.40
						GUARDRAIL TOTAL (ROUNDED)	$ 39,700
Seeding and Sodding							
801-01	SEEDING (WITH MULCH)	UNIT	95		95	$ 27.26	$ 2,590.79
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	71		71	$ 22.31	$ 1,590.26
801-02	SEEDING (WITHOUT MULCH)	UNIT	71		71	$ 17.70	$ 1,261.66
						SODDING TOTAL (ROUNDED)	$ 5,500
Maintenace of Traffic							
N/A	Traffic Control	LS	1		1	$ 500,000.00	$ 500,000.00
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	LF	132	118	250	$ 30.18	$ 7,545.00
						MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)	$ 507,600
Signs							
713-99.91	Signs	LS		1	1	$ 250,000.00	$ 250,000.00
Not Listed	Signs (Construction)	LS	1		1	$ 50,000.00	$ 50,000
						SIGNING TOTAL (ROUNDED)	$ 300,000
Pavement Markings							
716-13.07	Spray Thermo P.M. (40 mil 6")	LM		5.6	5.6	$ 1,237.50	$ 6,930.00
						PAVEMENT MARKINGS TOTAL (ROUNDED)	$ 7,000
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		1	1	$ 60,931.51	$ 60,931.51
						CLEAR AND GRUBBING TOTAL (ROUNDED)	$ 61,000.00
Railroad At-Grade Crossing							
						RAILROAD CROSSING OR SEPARATION TOTAL (ROUNDED)	$ -
Utilties							
N/A	Underground Power	LM	0.3		0.3	$ 750,000	$ 225,000
N/A	Underground Communication	LM	0.09		0.09	$ 90,000	$ 90,000
N/A	Underground Water	LM	0.3		0.3	$ 700,000	$ 210,000
						UTILITIES TOTAL (ROUNDED)	$ 525,000.00
Right-of-Way							
N/A	Right-of-Way	LS	1		1	$ 358,333.33	$ 358,333.33
						RIGHT-OF-WAY TOTAL (ROUNDED)	$ 358,400.00

COST ESTIMATE SUMMARY (2020)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
128674.00	Bridge Replacement	$ 855,500	$ 388,400	$ 1,025,000	$ 10,169,600	$ 12,439,000

INFLATED COST ESTIMATE SUMMARY					Report Type:	Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2025	$ 1,091,900	$ 495,700	$ 1,308,200	$ 12,979,300	$ 15,875,700

INFLATION INPUTS	
Inflation Rate:	5.00%

BRIDGE TIR

LOCATION			
Bridge #:	79100550057	Feature Crossed:	I-55
Road Name:	S 3rd St	Log mile:	7.46
Route ID:	SR014	System:	State
City:	Memphis	Functional Class:	Urban Principal Arterial
County:	Shelby	State Project Number	79005-0175-14
PIN:	128674.00		

ROADWAY		
	Existing	**Proposed (Preliminary Design Estimate)**
Design Standard		RD11-TS-3B & RD11-TS-6C / 2011 Green Book
Route Characteristics		
AADT:	25590	38790
AADT Year:	2024	2044
Terrain:	Flat	Flat
No. Lanes:	6	6
Speed(Posted):	40	40
Speed (Design):		40
Approach Character.		
Lane Width (ft):	12	12
Shoulder Width (ft):	C&G/SW	2' curb with 6" gutter/6' sidewalk
ROW Width (ft):	220+	220+
ROW Tracts Affected		2
ROW Required (acre)		0.1
Cross Section Width (ft):	76/94.5/220+	76/94.5/220+
Approach Length (ft):		755/505
Alignment:	tangent	tangent
Grade:		raise 4.0'
Surface Material:	Concrete	Concrete
Sidewalks (R/L):	Yes	Yes
App. Lower Than Structure	Yes	Yes
Utilities (list)	Lighting, water, power	Lighting, water, power
Utilities to be Relocated	Lighting, water, power	Lighting, water, power
Comments		

STRUCTURE		
	Existing	**Proposed (Preliminary Design Estimate)**
Bridge Characteristics		
Year Built	1964	
Load Limit	18	
Sufficiency Rating	64.6	
Skew	64	64
Structure Type	Pre-stressed concrete	Pre-stressed concrete
Structures in Channel	N/A	N/A
Length (ft)	192	200
No. Spans (App./Main)	2 | 2	| 2
Width (curb to curb) (ft)	80	80
Width (o to o) (ft)	94.5	94.5
Sidewalks on Structure	Yes	Yes
Vert. Clearance (ft)	13.92/14.17	17.5
Superstructure Depth (in)	46.4	48
Girder Depth (in)	36	36
Finish Grade-Low Girder (in)	42.5	48
High Water Marks	n/a	
Bridge Rail Type	Concrete Parapet	Concrete Parapet
Bridge Rail Height (ft)	3.33	3
Indication Overtopping	n/a	
Local Scour	n/a	
Obstructions	n/a	
Other Structures		
Comments		Piers to remain in existing locations and grade raised to meet minimum vertical clearance of 17'6"

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	

MAINTENANCE OF TRAFFIC	
Method of Maintaining Traffic	stage construct
Description	The bridge will be stage constructed with at least two (2) lanes, (one (1) lane in each direction) of traffic maintained at all times on SR-14 and I-55.
Comments	

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: 79005-0175-14 ROUTE: I-55 @ S.R. 14
COUNTY: SHELBY CITY: MEMPHIS
PROJECT PIN NUMBER: 128674.00
PROJECT DESCRIPTION: [1] S.R. 14 BRIDGE OVER I-55 TRAFFIC DATA.
[2] I-55 W.B. TO S.B. S.R. 14 EXIT RAMP TRAFFIC DATA.

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
[1]	25,590	2024	38,790	3,879	10	2044	65-35	7	11		
[2]	12,610	2024	11,320	932	8	2044	60-40	7	10		

REQUESTED BY: NAME ZANE PANNELL DATE 4/15/19
DIVISION S.T.I.D.
ADDRESS 1000 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: DEBBI HOWARD Debbi Howard DATE 5/10/19
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 5.10.19
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

THIS TRAFFIC IS BASED ON 2018 CYCLE AND RAMP COUNTS AND A SPECIAL 24 HOUR MACHINE COUNT [MAY 2019]. THE DESIGN YEAR TRAFFIC IS BASED ON GROWTH RATES FROM THE MEMPHIS MPO COMPUTER ASSIGNMENT MODEL. AADT's AND DHV's ARE INCLUDED.

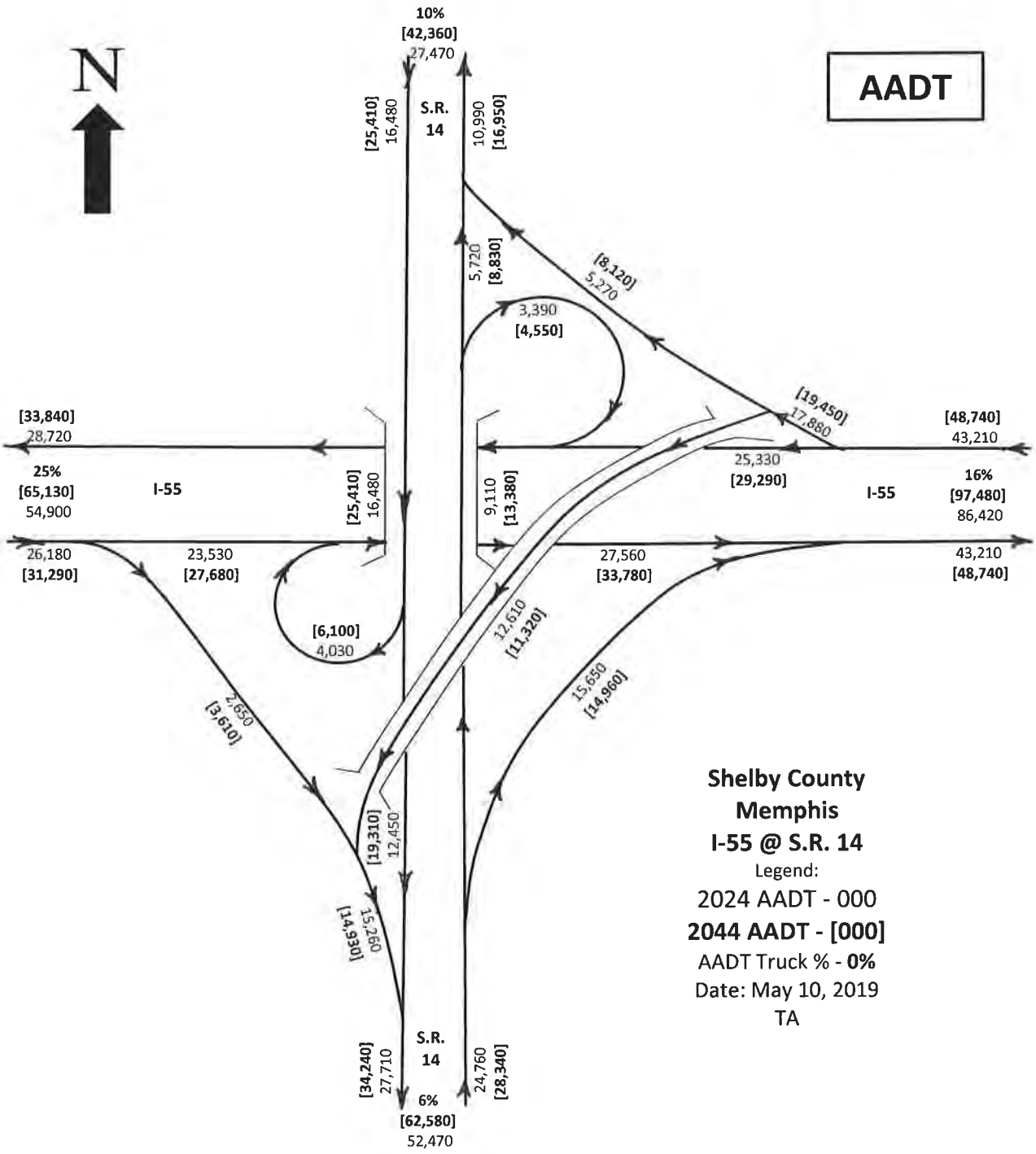
DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

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)

SHELBY COUNTY
MEMPHIS

I-55 @ S.R. 14

INTERCHANGE



Shelby County
Memphis
I-55 @ S.R. 14

Legend:

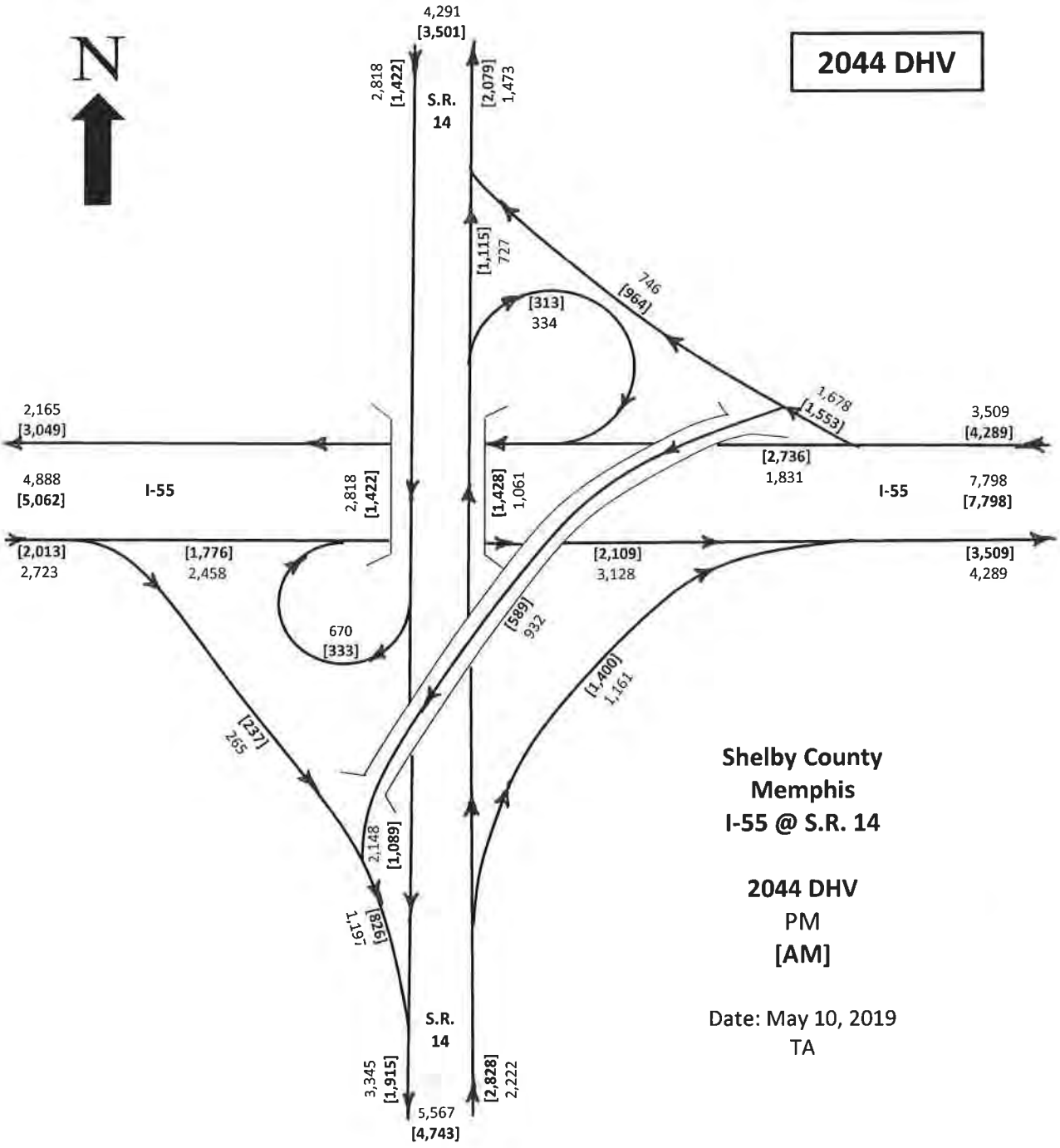
2024 AADT - 000

2044 AADT - [000]

AADT Truck % - **0%**

Date: May 10, 2019

TA



Shelby County
Memphis
I-55 @ S.R. 14

2044 DHV
PM
[AM]

Date: May 10, 2019
TA

National Flood Hazard Layer FIRMette

FEMA

90°3'49"W 35°4'51"N

90°3'11"W 35°4'21"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/13/2020 at 4:24 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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	x
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	
11.	Urban area, town, city, or community	x
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	x
16.	Hazardous materials site	

SITE VISIT ATTENDEES			Date: 06/20/19, Time: 1:30PM
Name	Organization	Phone	Email
Zane Pannell	TDOT STID	615-253-1078	zane.pannell@tn.gov
Dennis Moultrie	TDOT R4 Proj. Dev.	731-935-0339	dennis.moultrie@tn.gov
Derek Ryan	TDOT R4 Traffic	731-420-4033	derek.ryan@tn.gov
Elizabeth Carchell	TDOT R4 Proj. Dev.	731-234-0243	elizabeth.carchell@tn.gov
Stephen Lancaster	TDOT R4 Proj. Dev.	731-616-7147	jeffrey.lancaster@tn.gov
Glen Blankenship	TDOT R4 Survey	731-935-0137	glen.blankenship@tn.gov
Michelle Hunt	TDOT STID	931-253-4506	michelle.hunt@tn.gov
Juncheng Chen	TDOT STID		jungcheng.chen@tn.gov
Allyson Howell	TDOT STID		allyson.howell@tn.gov
Richard Holt	Sain Associates	931-309-6518	rholt@sain.com
Erin Curry	Sain Associates	931-424-0322	ecurry@sain.com

Bridge Number

I-55 approach, looking westbound

I-55 approach, looking eastbound

I-55 approach, looking westbound, clearance 14’2”

I-55 approach, looking eastbound, clearance 13’11”, damage

Looking northbound from bridge

Looking southbound from bridge

SR-14 approach, looking northbound, Ramp Bridge also in view

SR-14 approach, looking southbound, Ramp Bridge also in view

SECTION 2

Bridge TIR
Interstate 55 Exit Ramp Bridge to State Route 14
Shelby County
LM 7.44
PIN 128674.00

Bridge Transportation Investment Report

Summary of Improvements
PIN 128674.00
Shelby County
Interstate 55 Exit Ramp Bridge to State Route 14 (LM 7.44)
Bridge ID: 79I00550055

EXISTING STRUCTURE:

A field review was held for the above mentioned project on June 20, 2019. The existing structure, built in 1963, is a seven (7) span pre-stressed concrete and steel girder bridge crossing Interstate 55 and State Route 14. The structure has an out-to-out width of 26 feet 6 inches. The overall structure length is 512 feet with approximately 14 feet 6 inches of vertical clearance. The sufficiency rating for this structure is unknown based on the Bridge Inspection Report from December 13, 2018. The weight limit is unknown. The existing structure has one (1) travel lane with width of sixteen (16) feet and two (2) feet of shoulders. The existing roadway approach has one (1) travel lane with width of sixteen (16) feet with shoulder widths of five (5) and six (6) feet.

FEATURE CROSSED:

The bridge crosses Interstate 55 which consists of six (6) lanes with width of twelve (12) feet and shoulder widths of six (6) feet. The posted speed is 55 MPH. Interstate 55 is a south-north route, and is signed as such, but in the area of this interchange, it is oriented east-west. The bridge also crosses State Route 14 which consists of five (5) lanes with width of twelve (12) feet and curb and gutter with sidewalks. The posted speed is 40 MPH.

TRAFFIC AND TYPICAL SECTION:

The route has a base year 2024 Average Annual Daily Traffic (AADT) of 12,610 and a design year 2044 AADT of 11,320. The route has a speed limit of 40 mph and a design speed of 40 mph was assumed for this project. The route is classified as an Urban Interstate to Urban Arterial and Standard Drawing RD11-TS-4 was used for design considerations. The proposed structure will be a five (5) span steel bridge that is 660 feet long with one (1) lane at sixteen (16) feet, but will accommodate a future second lane at twelve (12) feet. The shoulder widths are six (6) (inside) and twelve (12) (outside) feet. The bridge will be striped for one (1) lane to accommodate the existing condition.

PROPOSED IMPROVEMENTS AND MAINTENANCE OF TRAFFIC:

The proposed bridge is to be a five (5) span steel girder bridge with an out-to-out based on the above recommendations of 43’3”and total length of 660 feet. The clearance for the proposed structure will be 16’6” minimum/17’0” preferred. The grade will be raised to meet the proposed clearance and the horizontal alignment will remain as existing. The project will extend approximately 615 feet from the structure to the east and approximately 605 feet to the south in order to tie into the existing vertical grade. The bridge will be removed and traffic will be maintained by rerouting traffic to the northbound Interstate 55 ramp to northbound State Route 14 on a widened ramp consisting of two (2) twelve (12) feet lanes. The southbound State Route 14 traffic will utilize temporary double left turn lanes and a temporary signal for the duration of the ramp bridge construction. A truck detour shall be signed for northbound Interstate 55 to State Route 14 using Interstate 55 southbound from the Interstate 240 interchange to State Route 175 (Shelby Drive). The cost of the traffic control plan is approximately $1,300,000 including the signal and the left turn lanes.

A traffic analysis was performed using Trafficware Synchro 10 to evaluate the effects of diverting traffic from the flyover ramp to a proposed temporary signal at the intersection of State Route 14 and the Interstate 55 ramp. Trafficware SimTraffic was used to report queue lengths. The analysis showed unsatisfactory queue lengths and LOS for a single left turn lane and the analysis for a dual left turn lane proved satisfactory. The queue lengths were deemed unsatisfactory if the queue extended to the interstate, or approximately 1400 feet in length. Widening and restriping the exit ramp and constructing a dual left turn lane from the exit ramp to S.R. 14 southbound would allow the proposed intersection to function more efficiently, especially during the PM peak hour when demand for the westbound left turning movement is highest. The traffic analysis results indicated that 200 feet of full width storage length achieved satisfactory levels of service, so the original ramp detour concept was adjusted to lengthen the inside left turn lane to 200 feet of full width storage length. Increasing this length also allows for multiple heavy vehicles to stack in the outside left turn lane without blocking access to the inside left turn lane. Construction of dual-left turn lanes on the exit ramp would significantly decrease the chance of the queue backing up to the interstate. The exit ramp would be widening to the inside for approximately 650 feet. A 90-second cycle length was used in both peak hour capacity analyses, and the splits were optimized after the cycle length was set. While the cycle lengths and phase splits used in this analysis represent a satisfactory starting point for a key part of the overall traffic control plan while the overpass is reconstructed, it will be necessary to monitor the performance of the signal with respect to the ramp queue. See the appendix for additional traffic analysis of the signal and left turn lanes.

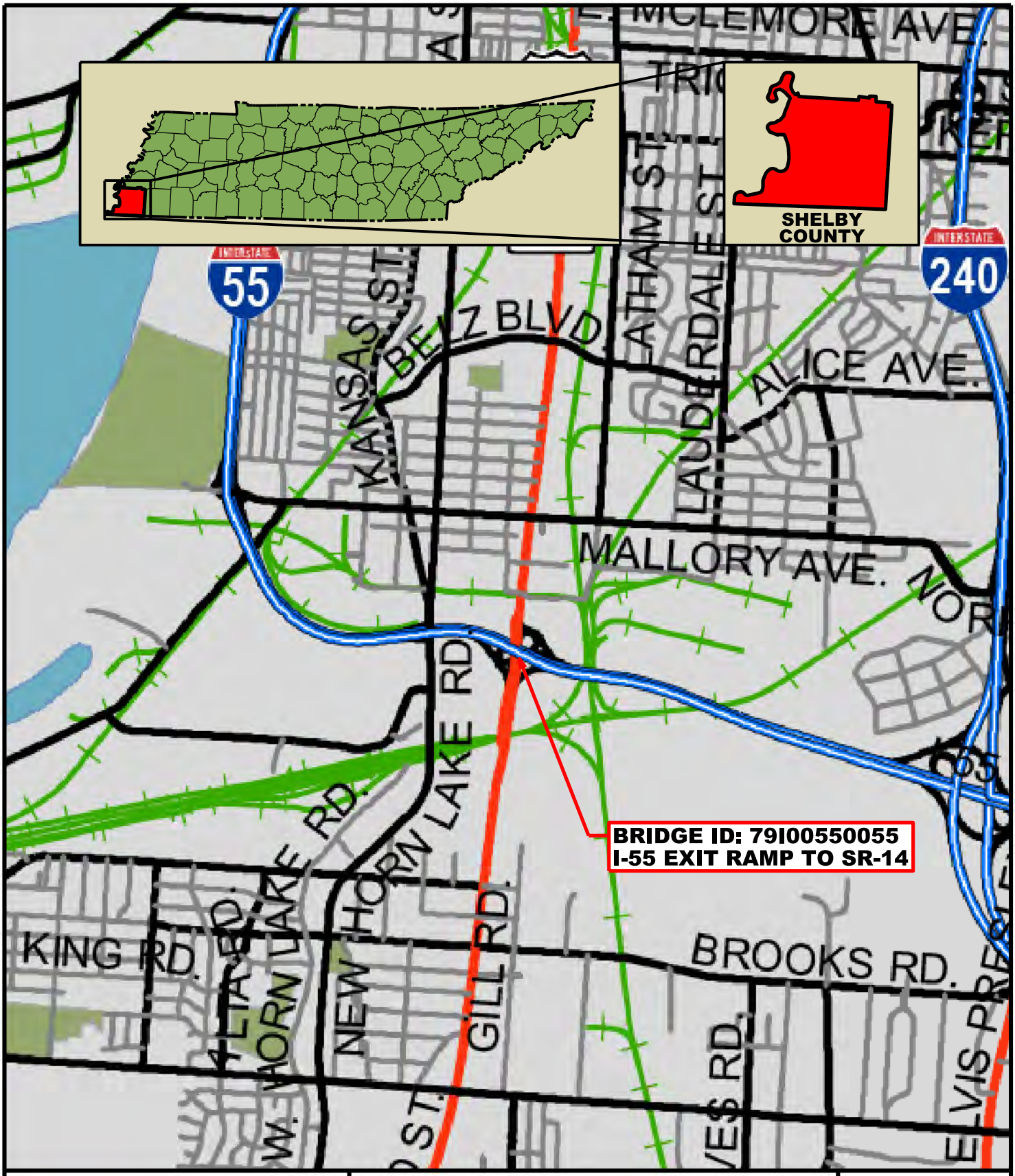
There is an existing project to the south on State Route 14 for a proposed single structure over the Nonconnah Creek and railroads. The design plans are in the Preliminary Plans and railroad coordination phase. The new structure will be 89 feet curb to curb with a flush median and the project right-of-way length is 0.2 miles. These projects should be coordinated, but constructed at different times, as both affect State Route 14 and impact the ramps in the southwest quadrant of the interchange. See Appendix for design plans for PIN 108883.00.

COST ESTIMATE:

The cost for the estimated construction and preliminary engineering for this bridge replacement is approximately $17,764,000. Right-of-way acquisition is not anticipated for this project. There are no expected utilities that will require relocation at this time; however, this could change based on the survey that is conducted during the design phase. Below is the cost estimate breakdown along with a five (5) year inflated cost estimate based on 5% per year:

COST ESTIMATE SUMMARY (2020)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
128674.00	Bridge Replacement	$ 1,321,900	$ -	$ 200,000	$16,242,500	$ 17,764,000

INFLATED COST ESTIMATE SUMMARY						Report Type: Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2025	$ 1,687,100	$ -	$ 255,200	$ 20,730,000	$ 22,671,900



AREA MAP

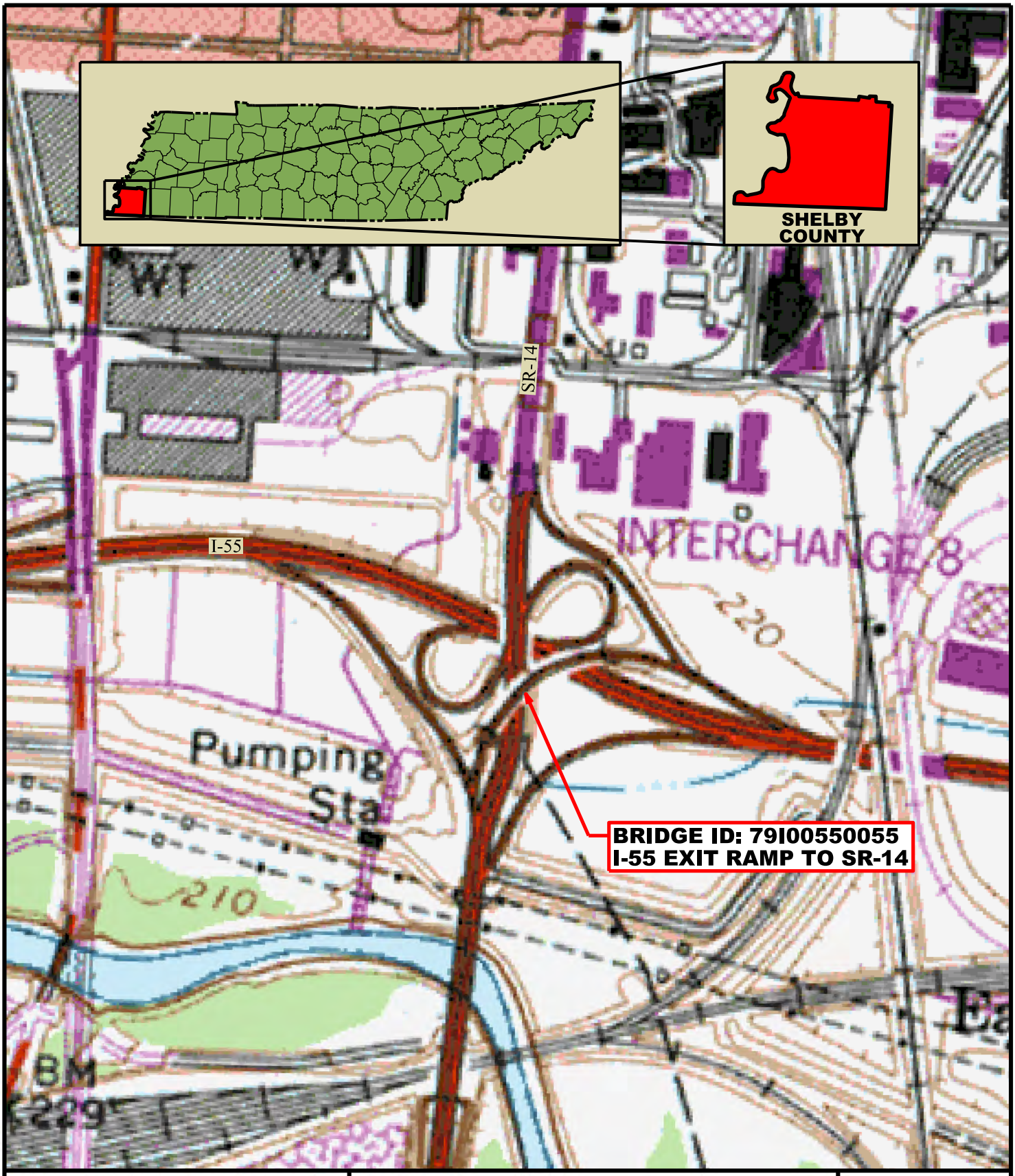
Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)
Shelby County

PIN 128674.00

SCALE: 1"=0.5 MILE

TN TDOT Department of Transportation

N



TOPOGRAPHIC MAP

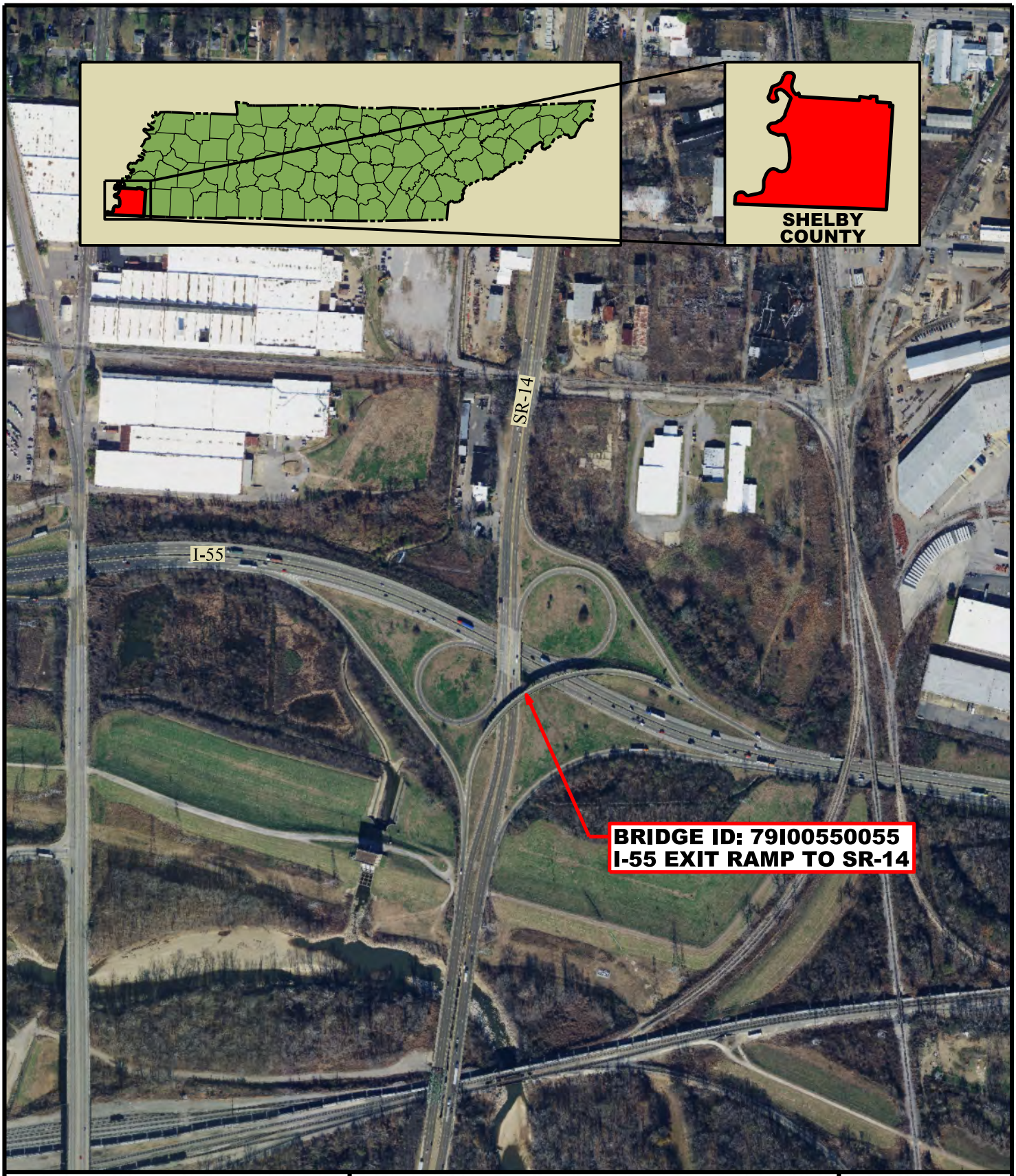
TN TDOT Department of Transportation

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)
Shelby County

PIN 128674.00

SCALE: 1"=0.1 MILE

N



TN TDOT Department of Transportation

LOCATION MAP

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)
Shelby County

PIN 128674.00

SCALE: 1"=0.1 MILE

N

FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	6

I-55

SEE APPENDIX PAGE 154 FOR EXISTING ITS INFRASTRUCTURE

APPROX. WORK LIMIT

660' TOTAL LENGTH
5 SPANS
43'-3" OUT-TO-OUT

BEGIN RAMP PROJECT

APPROX. WORK LIMIT

PROP. RETAINING WALL

END RAMP PROJECT

ROW LEGEND	
EXISTING ROW & PL	

NOTE: ROW IS APPROXIMATE AND SHOWN FOR INFORMATIONAL PURPOSES ONLY

0′ 150′ 300′ 450′

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

FIGURE 6
SR-14 @ I-55
RAMP

7/23/2020 7:17:50 AM
P:\2019\190137\Sainfrastructure\Cad\Dgn\Figure Ramp.dgn

FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	7

0′ 200′ 400′ 600′

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION
INVESTMENTS DIVISION

FIGURE 7
AM QUEUE
DIAGRAM

5/19/2020 3:45:56 PM
P:\2019\190137\Soinfrastructure\Cad\Dgn\Figure Ramp Queue Diagram AM Peak.dgn

FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	8

SINGLE: 456 FEET
DUAL: 295 FEET

I-55

SINGLE: 1400 FEET
DUAL: 496 FEET

SINGLE: 158 FEET
DUAL: 142 FEET

SR-14

95TH PERCENTILE QUEUE DIAGRAM
(2024 PM PEAK HOUR)

SINGLE LEFT TURN LANE

DUAL LEFT TURN LANE

Note: Existing ramp is a free-flow movement, which does not register a queue in analysis.

0′ 200′ 400′ 600′

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

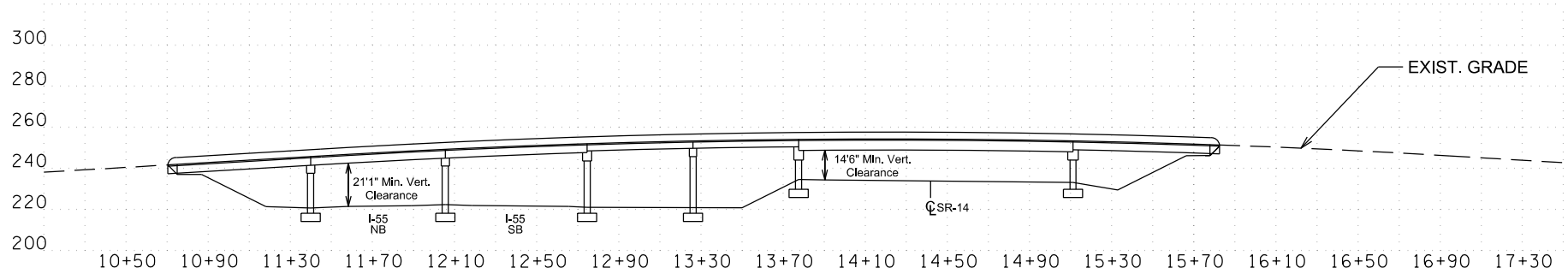
N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION
INVESTMENTS DIVISION

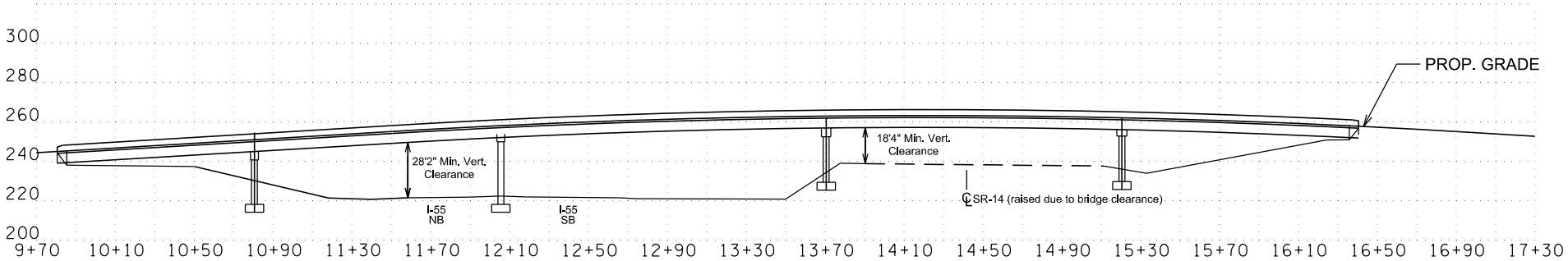
FIGURE 8
PM QUEUE
DIAGRAM

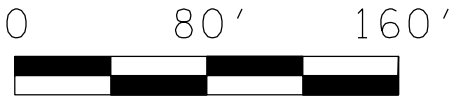
5/19/2020 3:45:22 PM
P:\2019\190137\Soinfrastructure\Cad\Dgn\Figure Ramp Queue Diagram PM Peak.dgn

EXISTING STRUCTURE



PROPOSED STRUCTURE





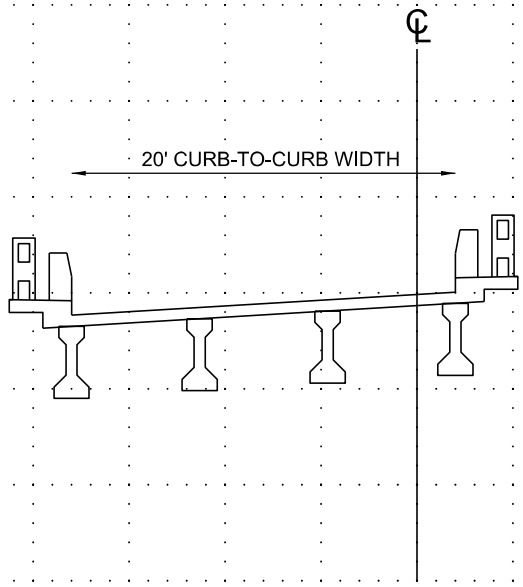
PROFILE

I-55 AND SR-14 INTERCHANGE SHELBY COUNTY

BRIDGE I-55 EXIT RAMP TO SR-14 (LM 7.44)

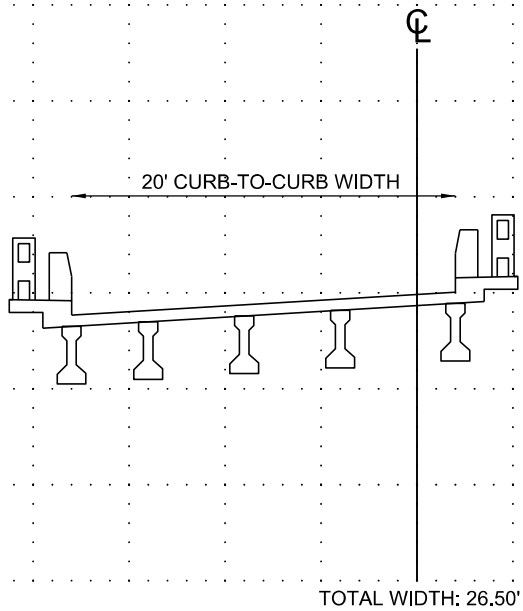
BRIDGE ID: 7910550055

EXISTING STRUCTURE



SPANS 1, 2, 3, 7

EXISTING STRUCTURE



SPANS 4, 5

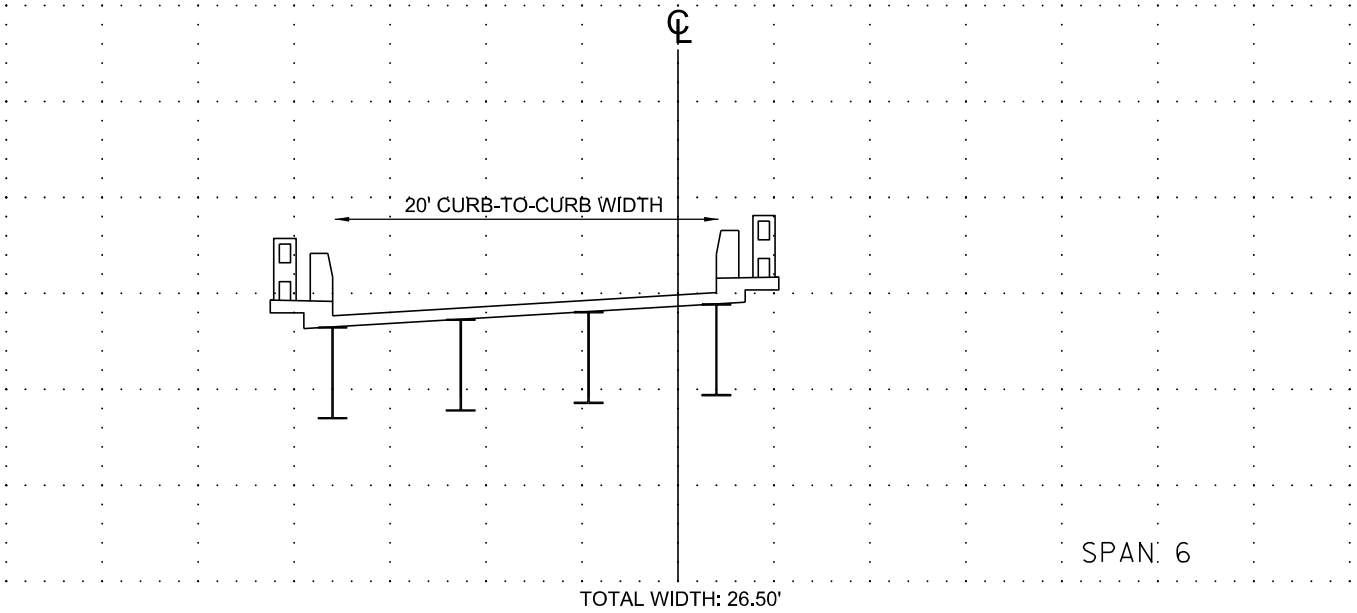
0' 5' 10' 15'

SCALE: 1" = 10'

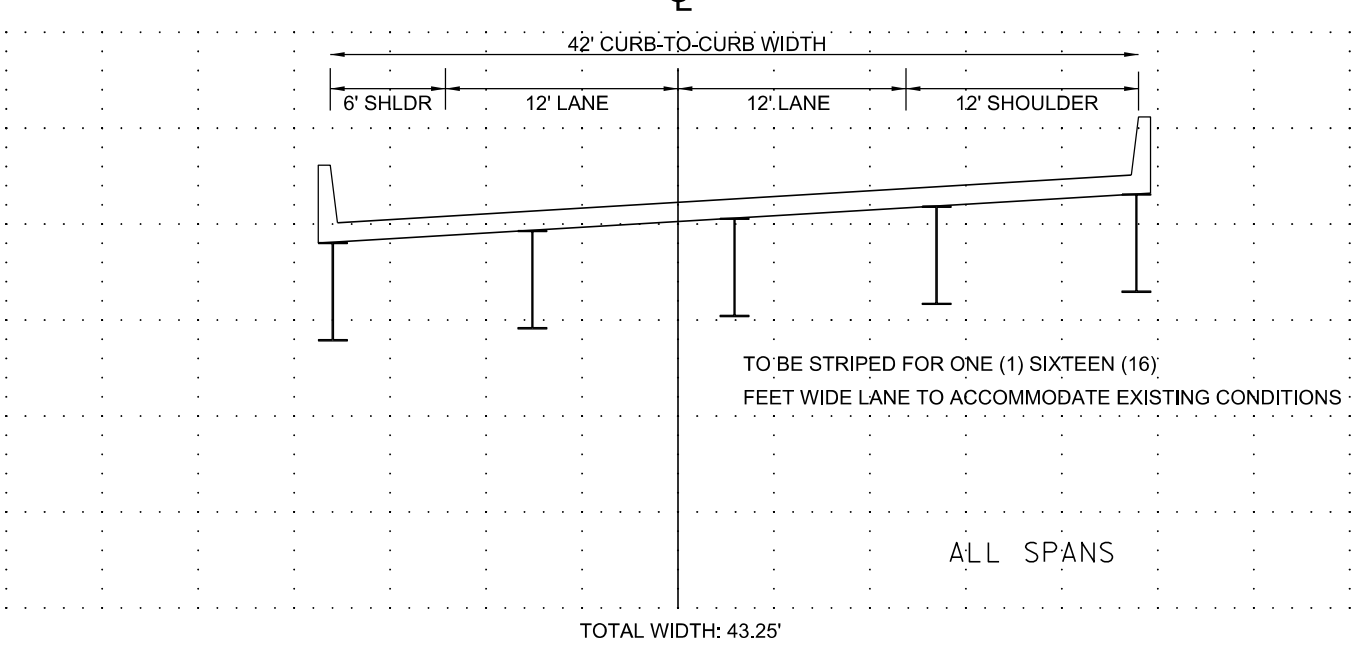
TYPICAL SECTION

I-55 AND SR-14 INTERCHANGE SHELBY COUNTY
BRIDGE I-55 EXIT RAMP TO SR-14 (LM 7.44)
BRIDGE ID: 79100550055

EXISTING STRUCTURE



PROPOSED STRUCTURE



0' 5' 10' 15'

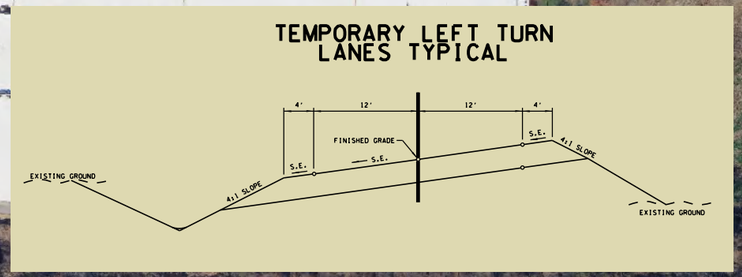
SCALE: 1" = 10'

TYPICAL SECTION

I-55 AND SR-14 INTERCHANGE SHELBY COUNTY
BRIDGE I-55 EXIT RAMP TO SR-14 (LM 7.44)
BRIDGE ID: 79100550055

FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	9



SR-14

TEMPORARY SIGNAL
& LEFT TURN LANES

I-55

-HOLD OUTSIDE SHOULDER OF NORTHBOUND RAMP TO SR-14
-WIDEN TO INSIDE TO ALLOW FOR
4' INSIDE SHOULDER & 2 - 12' LANES
-INSTALL TEMPORARY DRAINAGE BETWEEN RAMPS

SEE DETOUR MAP FOR TRUCK DETOUR FOR
I-55 NORTHBOUND TO SR-14.

INSTALL BARRICADE

0′ 200′ 400′ 600′

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION
INVESTMENTS DIVISION

FIGURE 9
RAMP
DETOUR

7/14/2020 10:5:8 AM
P:\2019\190137\Soln\frastructure\Cad\Dgn\Figure Ramp Detour.dgn

DETOUR MAP

Bridge TIR
Interstate 55 and State Route 14
(South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)
Shelby County

PIN 128674.00

SCALE: 1"=0.8 MILE

TN TDOT Department of Transportation

N

COST ESTIMATE SUMMARY

Route:	State Route 14 @ Interstate 55
Description:	I-55 Exit Ramp Bridge to SR-14
Project Type of Work:	Bridge Replacement
County:	Shelby
Length:	0.35
Date:	July 14, 2020

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Pavement Removal		$0	$0	$0	$50,500
Asphalt Paving		$0	$0	$0	$436,300
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$0	$0	$295,800
Appurtenances		$0	$0	$0	$82,900
Structures		$0	$0	$0	$7,830,300
Fencing		$0	$0	$0	$0
Lighting & Signalization		$0	$0	$0	$1,300,000
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$351,900
Clearing and Grubbing		$0	$0	$0	$61,000
Seeding & Sodding		$0	$0	$0	$14,200
Rip-Rap or Slope Protection		$0	$0	$0	$31,900
Guardrail		$0	$0	$0	$33,100
Signing		$0	$0	$0	$300,000
Pavement Markings		$0	$0	$0	$5,700
Maintenance of Traffic		$0	$0	$0	$605,000
Mobilization (5%)		$0	$0	$0	$569,900
Other Items =	10%	$0	$0	$0	$1,196,900
Const. Contingency =	30%	$0	$0	$0	$1,600,500
Construction Estimate		$0	$0	$0	$14,765,900
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	$200,000
Preliminary & Construction Engineering and Inspection					
Prelim. Eng.	9%	$0	$0	$0	$1,321,900
Const. Eng. & Inspec.	10%	$0	$0	$0	$1,476,600
Total Project Cost (2020)		$0	$0	$0	$ 17,764,000

PAY ITEM SUMMARY

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	TOOL QUANTITIES	ADDITIONAL QUANTITIES	TOOL QUANTITIES + ADDITIONAL QUANTITIES	Statewide UNIT COST	TOTAL COST
Pavment Removal							
202-03.01	REMOVAL OF ASPHALT PAVEMENT	SY	6111		6111	$ 4.66	$ 28,477.78
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	SY	5078		5078	$ 4.33	$ 22,008.26
						PAVEMENT REMOVAL TOTAL (ROUNDED)	**$ 50,500**
Asphalt Roads							
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	7708		7708	$ 25.82	$ 199,035.82
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	820		820	$ 84.00	$ 68,864.55
307-02.02	ASPHALT CEMENT (PG70-22)(BPMB-HM) GRADING A-S	TON	9		9	$ 664.95	$ 5,999.75
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	292		292	$ 86.18	$ 25,141.52
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	429		429	$ 121.97	$ 52,347.93
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	5		5	$ 570.81	$ 3,003.29
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	19		19	$ 62.25	$ 1,182.15
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	4		4	$ 657.80	$ 2,479.87
411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	163		163	$ 109.61	$ 17,813.74
411-02.10	ACS MIX(PG70-22) GRADING D	TON	493		493	$ 122.42	$ 60,362.72
						PAVING TOTAL (ROUNDED)	**$ 436,300**
Concrete Roads							
						CONCRETE RAMPS AND ROADWAYS TOTAL (ROUNDED)	**$ -**
Drainage							
607-05.02	24" CONCRETE PIPE CULVERT (CLASS III)	LF	3361		3361	$ 70.51	$ 237,004.60
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	CY	20		20	$ 933.92	$ 18,795.21
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB	1913		1913	$ 2.49	$ 4,762.13
611-12.02	CATCH BASINS, TYPE 12, > 4' - 8' DEPTH	EA	5		5	$ 4,082.39	$ 20,118.03
710-02	Aggregate Underdrains (with pipe)	LF	2767		2767	$ 5.46	$ 15,106.29
						DRAINAGE TOTAL (ROUNDED)	**$ 295,800**
Appurtenances							
701-01.01	CONCRETE SIDEWALK (4 ")	SF	37		37	$ 12.78	$ 466.40
702-03	CONCRETE COMBINED CURB & GUTTER	CY	235		235	$ 350.22	$ 82,356.03
						ROADWAY AND PAVEMENT APPURTENANCES TOTAL (ROUNDED)	**$ 82,900**
Earthwork & Mineral							
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1		1	$ 152,133.34	$ 152,133.34
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	CY	6225		6225	$ 16.03	$ 99,760.00
203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	518		518	$ 31.29	$ 16,205.72
203-03	BORROW EXCAVATION (UNCLASSIFIED)	CY	1398	5000	6398	$ 13.10	$ 83,796.90
						EARTHWORK & MINERAL TOTAL (ROUNDED)	**$ 351,900**
Structures							
N/A	Removal of Bridge	SF	13568		13568	$ 20.00	$ 271,360.00
N/A	New Bridge (Concrete Girder):	SF	28578		28578	$ 250.00	$ 7,144,500.00
604-07.01	RETAINING WALL	SF	5525		5525	$ 75.00	$ 414,375.00
						STRUCTURES TOTAL (ROUNDED)	**$ 7,830,300**
Interchanges and Unique Intersections							
						INTERCHANGES AND UNIQUE INTERSECTIONS TOTAL (ROUNDED)	**$ -**
Lighting & Signalization							
N/A	Traffic Signal	EA	1		1	$ 300,000.00	$ 300,000.00
						LIGHTING & SIGNALIZATION TOTAL (ROUNDED)	**$ 1,300,000**
Guardrail							
705-01.01	GUARDRAIL AT BRIDGE ENDS	LF	100		100	$ 66.52	$ 6,651.84

PAY ITEM SUMMARY

705-02.02	SINGLE GUARDRAIL (TYPE 2)	LF	165	1445	1610	$ 16.41	$ 26,420.10
						GUARDRAIL TOTAL (ROUNDED)	$ 33,100
Seeding and Sodding							
801-01	SEEDING (WITH MULCH)	UNIT	248		248	$ 27.26	$ 6,746.85
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	186		186	$ 22.31	$ 4,141.29
801-02	SEEDING (WITHOUT MULCH)	UNIT	186		186	$ 17.70	$ 3,285.56
						SODDING TOTAL (ROUNDED)	$ 14,200
Maintenace of Traffic							
N/A	Traffic Control	LS	1		1	$ 600,000.00	$ 600,000.00
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	LF	165		165	$ 30.18	$ 4,979.70
						MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)	$ 605,000
Signs							
713-99.91	Signs	LS		1	1	$ 250,000.00	$ 250,000.00
Not Listed	Signs (Construction)	LS	1		1	$ 50,000.00	$ 50,000
						SIGNING TOTAL (ROUNDED)	$ 300,000
Pavement Markings							
716-13.07	Spray Thermo P.M. (40 mil 6")	LM		4.6	4.6	$ 1,237.50	$ 5,692.50
						PAVEMENT MARKINGS TOTAL (ROUNDED)	$ 5,700
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		1	1	$ 60,931.51	$ 60,931.51
						CLEAR AND GRUBBING TOTAL (ROUNDED)	$ 61,000.00
Railroad At-Grade Crossing							
						RAILROAD CROSSING OR SEPARATION TOTAL (ROUNDED)	$ -
Utilties							
						UTILITIES TOTAL (ROUNDED)	$ -
Right-of-Way							
						RIGHT-OF-WAY TOTAL (ROUNDED)	$ -

COST ESTIMATE SUMMARY (2020)						
PIN	Project Type of Work	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Project Cost (2020):
128674.00	Bridge Replacement	$ 1,321,900	$ -	$ 200,000	$16,242,500	$ 17,764,000

INFLATED COST ESTIMATE SUMMARY					Report Type:	Bridge Replacement
No. of Years	Year	Preliminary Engineering:	Right-of-Way:	Utilities:	Construction:	Total Inflated Project Cost
5	2025	$ 1,687,100	$ -	$ 255,200	$ 20,730,000	$ 22,671,900

INFLATION INPUTS	
Inflation Rate:	5.00%

BRIDGE TIR

LOCATION			
Bridge #:	79100550055	Feature Crossed:	I-55 & SR-14
Road Name:	Ramp 7-A	Log mile:	7.44
Route ID:	I0055	System:	State
City:	Memphis	Functional Class:	Urban Interstate
County:	Shelby	State Project Number	79005-0175-14
PIN:	128674.00		

ROADWAY		
	Existing	**Proposed (Preliminary Design Estimate)**
Design Standard		RD11-TS-4 / 2011 Green Book
Route Characteristics		
AADT:	12610	11320
AADT Year:	2024	2044
Terrain:	Flat	Flat
No. Lanes:	1	1
Speed(Posted):	40	40
Speed (Design):		40
Approach Character.		
Lane Width (ft):	16	16
Shoulder Width (ft):	4/5	4/5
ROW Width (ft):	within interchange	within interchange
ROW Tracts Affected		N/A
ROW Required (acre)		N/A
Cross Section Width (ft):	16/26.5/-	16/26.5/-
Approach Length (ft):		615/605
Alignment:	curve	curve
Grade:		raise 3.8'
Surface Material:	Concrete	Concrete
Sidewalks (R/L):	No	No
App. Lower Than Structure	Yes	Yes
Utilities (list)	N/A	N/A
Utilities to be Relocated	N/A	N/A
Comments		

STRUCTURE		
	Existing	**Proposed (Preliminary Design Estimate)**
Bridge Characteristics		
Year Built	1963	
Load Limit	Unkown	
Sufficiency Rating	Unkown	
Skew	61	61
Structure Type	Concrete/Steel	Concrete/Steel
Structures in Channel	N/A	N/A
Length (ft)	512	660
No. Spans (App./Main)	2 | 5	2 | 3
Width (curb to curb) (ft)	20	42
Width (o to o) (ft)	26.5	43.3
Sidewalks on Structure	No	No
Vert. Clearance (ft)	14.5	18.333
Superstructure Depth (in)	46.92	72
Girder Depth (in)	57.6	60
Finish Grade-Low Girder (in)	64.56	72
High Water Marks	n/a	
Bridge Rail Type	Concrete Parapet	Concrete Parapet
Bridge Rail Height (ft)	3.33	3
Indication Overtopping	n/a	
Local Scour	n/a	
Obstructions	n/a	
Other Structures		
Comments		The bridge is being built to accommodate two lanes in the future but will be striped for one lane to accommodate the existing condition.

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	

MAINTENANCE OF TRAFFIC	
Method of Maintaining Traffic	on site detour
Description	The bridge will be removed and traffic will be maintained by rerouting traffic to the northbound I-55 ramp to northbound SR-14 on a widened ramp consisting of two (2) twelve (12) feet lanes. The southbound SR-14 traffic will utilize temporary double left turn lanes and a temporary signal for the duration of the ramp bridge construction. A truck detour to SR-14 using SR-175 shall be signed as well.
Comments	

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: 79005-0175-14 ROUTE: I-55 @ S.R. 14
COUNTY: SHELBY CITY: MEMPHIS
PROJECT PIN NUMBER: 128674.00
PROJECT DESCRIPTION: [1] S.R. 14 BRIDGE OVER I-55 TRAFFIC DATA.
[2] I-55 W.B. TO S.B. S.R. 14 EXIT RAMP TRAFFIC DATA.

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
[1]	25,590	2024	38,790	3,879	10	2044	65-35	7	11		
[2]	12,610	2024	11,320	932	8	2044	60-40	7	10		

REQUESTED BY: NAME ZANE PANNELL DATE 4/15/19
DIVISION S.T.I.D.
ADDRESS 1000 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: DEBBI HOWARD Debbi Howard DATE 5/10/19
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 5.10.19
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

THIS TRAFFIC IS BASED ON 2018 CYCLE AND RAMP COUNTS AND A SPECIAL 24 HOUR MACHINE COUNT [MAY 2019]. THE DESIGN YEAR TRAFFIC IS BASED ON GROWTH RATES FROM THE MEMPHIS MPO COMPUTER ASSIGNMENT MODEL. AADT's AND DHV's ARE INCLUDED.

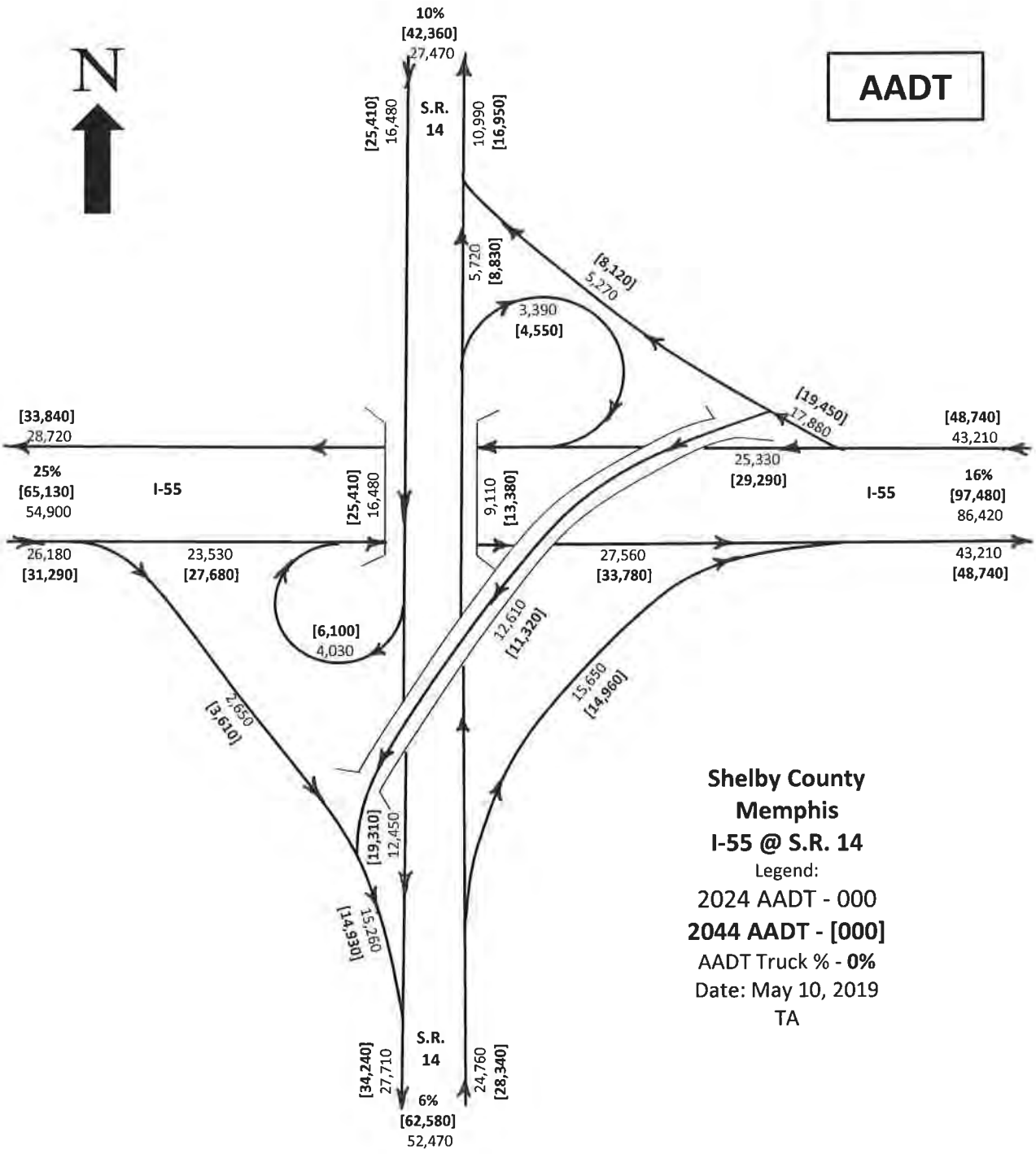
DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

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)

SHELBY COUNTY
MEMPHIS

I-55 @ S.R. 14

INTERCHANGE



Shelby County
Memphis
I-55 @ S.R. 14

Legend:

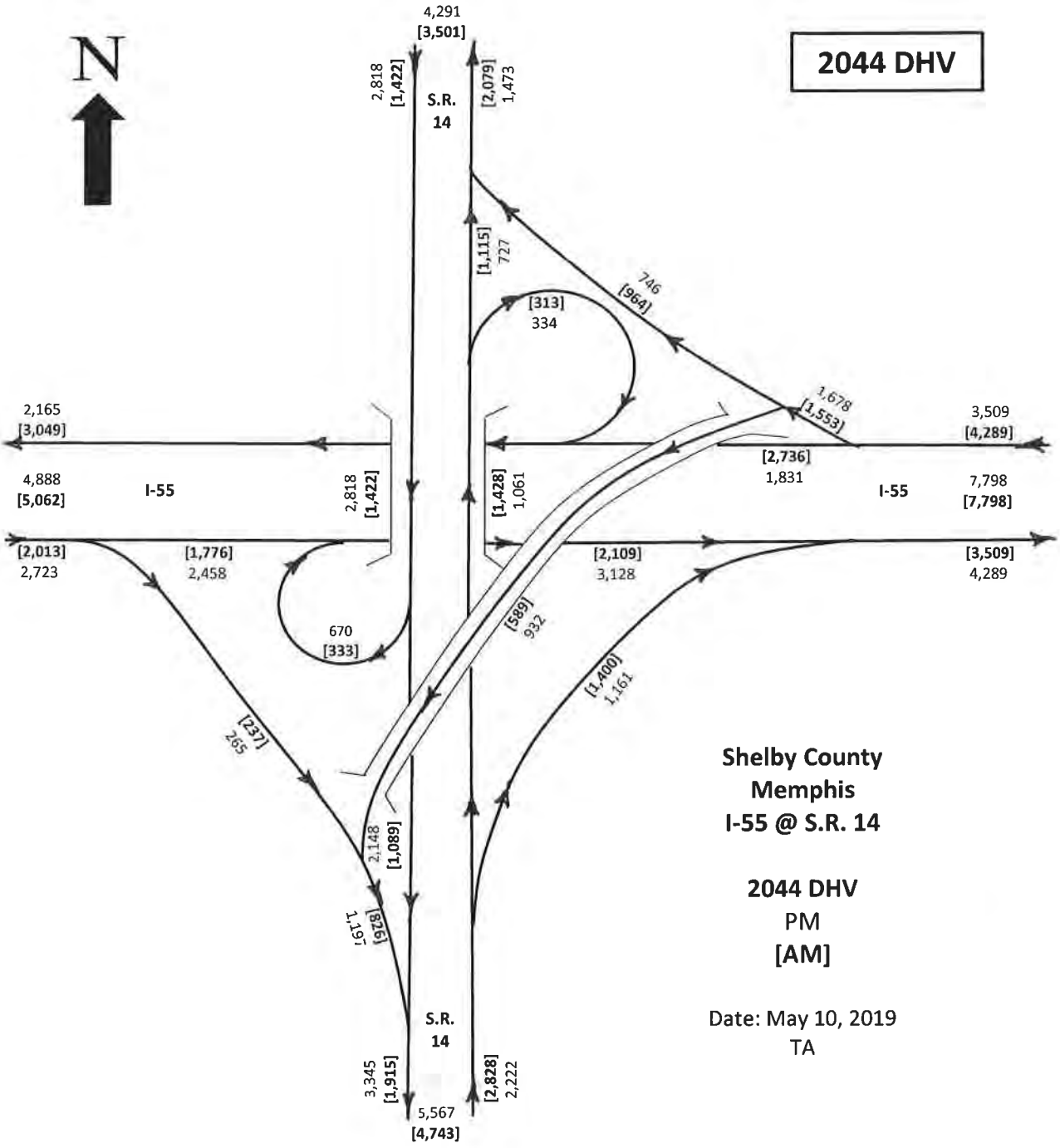
2024 AADT - 000

2044 AADT - [000]

AADT Truck % - **0%**

Date: May 10, 2019

TA



Shelby County
Memphis
I-55 @ S.R. 14

2044 DHV
PM
[AM]

Date: May 10, 2019
TA

National Flood Hazard Layer FIRMette

FEMA

90°3'49"W 35°4'51"N

90°3'11"W 35°4'21"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/13/2020 at 4:24 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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	x
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	
11.	Urban area, town, city, or community	x
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	x
16.	Hazardous materials site	

SITE VISIT ATTENDEES			Date: 06/20/19, Time: 1:30PM
Name	Organization	Phone	Email Email
Zane Pannell	TDOT STID	615-253-1078	zane.pannell@tn.gov
Dennis Moultrie	TDOT R4 Proj. Dev.	731-935-0339	dennis.moultrie@tn.gov
Derek Ryan	TDOT R4 Traffic	731-420-4033	derek.ryan@tn.gov
Elizabeth Carchell	TDOT R4 Proj. Dev.	731-234-0243	elizabeth.carchell@tn.gov
Stephen Lancaster	TDOT R4 Proj. Dev.	731-616-7147	jeffrey.lancaster@tn.gov
Glen Blankenship	TDOT R4 Survey	731-935-0137	glen.blankenship@tn.gov
Michelle Hunt	TDOT STID	931-253-4506	michelle.hunt@tn.gov
Juncheng Chen	TDOT STID		jungcheng.chen@tn.gov
Allyson Howell	TDOT STID		allyson.howell@tn.gov
Richard Holt	Sain Associates	931-309-6518	rholt@sain.com
Erin Curry	Sain Associates	931-424-0322	ecurry@sain.com

Transportation Investment Report for Bridge ID: 79I00550055
Shelby County
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)

Bridge Number

SR-14 approach, looking northbound, span 6

SR-14 approach, looking southbound

View from SR-14 approach, looking north, spans 2-5

View from SR-14, looking eastbound on I-55

View from ramp, looking east

View from ramp, looking west

Transportation Investment Report for Bridge ID: 79I00550055
Shelby County
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)

View from I-55, underside of bridge to west

Transportation Investment Report for Bridge ID: 79I00550055
Shelby County
I-55 Exit Ramp Bridge to SR-14 (LM 7.44)

View from I-55, underside of bridge to east

I-55 approach, looking westbound, SR-14 Bridge in background

I-55 approach, looking eastbound, SR-14 Bridge in foreground

APPENDIX

Grade Approval Plans
Traffic Analysis
ITS Relocation

Plans Form 2

RIGHT-OF-WAY PLANS REVISION

TO: Jeff Hoge, Director, R.O.W. Division : TDOT.HQ.ROW@tn.gov

We Are Submitting Herewith Plans Revision on:

County: Shelby **Project Nos.** BR-NH-14(46), 79022-2227-94, **P.I.N.** 108883.00

Description of Project: S.R. 14, Bridge & Apprs. Over IC R/R And Nonconnah Creek @ L.M. 7.13 (SBL)

Description of Revision:

Sheet 3 : REV. 10-05-15: REVISED TEMP. CONST. ESMT. HATCHING TO END AT OLD HORN LAKE RD. REVISED TRACT 11 TEMP. CONST. ESMT. AREA TO REFLECT THE CORRECTLY HATCHED AREA.

This revision made by the Region 4 Design Office in accordance with a verbal request from Region 4 Design Office by Seth Hendren, dated 10-05-15 .

Sheets Revised (Nos.) 3 Sheets Added (Nos.) X Sheets Eliminated (Nos.) X (1 sheet total)

Revised plans POSTED TO FILENET: 10-06-15

Filename: 108883-00-ROW-Rev-10-05-15.zip & 108883-00-ROW-Rev-10-05-15.pdf

Plan Revision Date 10-05-15

Jane Jones
Design Division

From: Seth Hendren
C. E. Mgr. 1, Region 4 Design Office

Date: 10-06-15

cc: **Manager, Region 4 R.O.W. Office:** TDOT.RG4.ROW@tn.gov
Environmental Division: TDOT.EnvironmentalDoc@tn.gov; Ecology.Plans@tn.gov; TDOT.Historians@tn.gov; Permits.Filenet.TDOT@tn.gov
Design Division, Quality Assurance: TDOT.QualityAssurance@tn.gov
Railroad Coordinator: Jim.Byrd@tn.gov
C.E. Manager 2, Reg. 4 Project Development: Gary.Scruggs@tn.gov
Trans. Proj. Spec. Spv. 2, Reg. 4 Design: Stephanie.Kissell@tn.gov
Designer: Derek.Link@tn.gov

Plans Form 2

RIGHT-OF-WAY PLANS REVISION

TO: Jeff Hoge, Director, R.O.W. Division : TDOT.HQ.ROW@tn.gov

We Are Submitting Herewith Plans Revision on:

County: Shelby **Project Nos.** BR-NH-14(46), 79022-2227-94, **P.I.N.** 108883.00

Description of Project: S.R. 14, Bridge & Apprs. Over IC R/R And Nonconnah Creek @ L.M. 7.13 (SBL)

Description of Revision:

Sheet 3 : REV. 09-29-15: ADDED DEED BOOK & PAGE NO. TO TRACT 11. CHANGED TAX MAP AND PARCEL NOS. ON TRACT 4. REVISED CONST. ESMT., ADDED PERM. MAINT. ESMT., AND REMOVED SLOPE ESMT. ON TRACT 11 TO THE PLAN VIEW AND R.O.W. ACQ. TABLE. ADDED DETAIL "A".

Sheet 5 : REV. 09-29-15: REVISED CONST. ESMT. AREA, ADDED PERM. MAINTENANCE ESMT. AREA, AND REMOVED SLOPE ESMT. AREA ON TRACT 11. ADDED DETAIL "A" LOCATION AND LABEL. REMOVED R/R CROSSING AGREEMENT NOTE.

This revision made by the Region 4 Design Office in accordance with a Plan Revision Request (Rev#R47910783), dated 03/10/15, an email, dated 03/11/15, both from the Region 4 R.O.W. Office, by Seth Hendren, and a verbal request, dated 09/25/15, from Region 4 Design Office, also by Seth Hendren.

Sheets Revised (Nos.) 3 & 4 Sheets Added (Nos.) X Sheets Eliminated (Nos.) X (2 sheets total)

Revised plans POSTED TO FILENET: 10-02-15

Filename: 108883-00-ROW-Rev-09-29-15.zip & 108883-00-ROW-Rev-09-29-15.pdf

Plan Revision Date 09-29-15

Jane Jones
Design Division

From: Seth Hendren
C. E. Mgr. 1, Region 4 Design Office

Date: 10-02-15

cc: **Manager, Region 4 R.O.W. Office:** TDOT.RG4.ROW@tn.gov
Environmental Division: TDOT.EnvironmentalDoc@tn.gov; Ecology.Plans@tn.gov; TDOT.Historians@tn.gov; Permits.Filenet.TDOT@tn.gov
Design Division, Quality Assurance: TDOT.QualityAssurance@tn.gov
Railroad Coordinator: Jim.Byrd@tn.gov
C.E. Manager 2, Reg. 4 Project Development: Gary.Scruggs@tn.gov
Trans. Proj. Spec. Spv. 2, Reg. 4 Design: Stephanie.Kissell@tn.gov
Designer: Derek.Link@tn.gov

Plans Form 2

RIGHT-OF-WAY PLANS REVISION

TO: Jeff Hoge, Director, R.O.W. Division : TDOT.HQ.ROW@tn.gov

We Are Submitting Herewith Plans Revision on:

County: Shelby **Project Nos.** BR-NH-14(46), 79022-2227-94, **P.I.N.** 108883.00

Description of Project: S.R. 14, Bridge & Apprs. Over IC R/R And Nonconnah Creek @ L.M. 7.13 (SBL)

Description of Revision:

Sheet 4 : REV. 10-13-14: REVISED STATION & OFFSET LABELS AROUND PROP. TEMP. CONST. ESM'T.

Sheet 5 : REV. 10-13-14: REVISED STATION & OFFSET LABELS AROUND PROP. TEMP. CONST. ESM'T.

This revision made by the Region 4 Design Office in accordance with a Plan Revision Request from the Region 4 R.O.W. Office by Seth Hendren, dated 10/06/14. (Rev.# R47910664)

Sheets Revised (Nos.) 4 & 5 Sheets Added (Nos.) X Sheets Eliminated (Nos.) X (2 sheets total)

Revised plans POSTED TO FILENET: 10-13-14

Filename: 108883-00-ROW-Rev-10-13-14.zip & 108883-00-ROW-Rev-10-13-14.pdf

Plan Revision Date 10-13-14

Jane Jones
Design Division

From: Tabitha Cavaness FOR TABITH CAVANES
C. E. Mgr. 1, Region 4 Design Office

Date: 10-13-14

cc: **Manager, Region 4 R.O.W. Office:** TDOT.RG4.ROW@tn.gov
Environmental Division: TDOT.EnvironmentalDoc@tn.gov; Ecology.Plans@tn.gov; TDOT.Historians@tn.gov; Permits.Filenet.TDOT@tn.gov
Design Division, Quality Assurance: TDOT.QualityAssurance@tn.gov
Railroad Coordinator: Jim.Byrd@tn.gov
Designer: Derek.Link@tn.gov

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
300 BENCHMARK PLACE
JACKSON, TENNESSEE 38301
(731) 935-0139

MEMORANDUM

TO: Program Operations Office: **TDOT.PDSO@tn.gov**
Attention: Federal Aid Section
Suite 600, James K. Polk Building
Nashville, TN 37243-1402

FROM: Tabitha Cavaness, Civil Engineering Manager 1
Region 4, Design Office

DATE: July 8, 2014

SUBJECT: **Right-of-way Funding Approval Request**
Project No: BR-NH-14(46), 79022-2227-94
PIN: 108883.00
Description: Shelby County, S.R. 14
Bridge and Approaches over NC R/R and Nonconnah Creek @ L.M. 7.13 (SBL)
CNIC

The Preliminary Cost Estimate was e-mailed and posted to FileNet on **07/08/14**

In accordance with the Roadway Design Guidelines, I am requesting funding approval for R.O.W. appraisals and acquisition. For your use, I have attached one (1) half-size title sheet of this project.

At your earliest convenience following funding approval, please initial and date below and return a copy of this form to my office.

Funding Approval for Right-of-Way Appraisals and Acquisition:

By: Ronnie Porter

Date: 9/3/14

Attachment

Cc:
Quality Assurance Office: **TDOT.QualityAssurance@tn.gov**
Project Development and Scheduling Office: **TDOT.PDSO@tn.gov**
Estimating and Bid Analysis Office: **TDOT.EstimatingOffice@tn.gov**
Designer: Derek Link / SPV 1: Raquel Cook

FUNDING AUTHORIZATION; APPROVAL

TO: RIGHT-OF-WAY DIVISION SUITE 600, JAMES K. POLK BUILDING	PIN: 108883.00	Federal Project Number: BR-NH-14(46)
FROM: OFFICE OF PROGRAM OPERATIONS FEDERAL-AID SECTION		State Project Number: 79022-2227-94
Environmental Approval Date: Type: Cat Excl Approval: 6/16/2014 Re-Eval:		County: Shelby

Termini: Length: 0.000

SR-14, Bridge over CNIC R/R and Nonconnah Creek, LM 7.13 SBL

Funding/ Estimate Information: (PROGOPS) Authorized: **8/28/2014**

	Authorized	Estimate	Est Date
ROW	100,000.00		
Utilities	25,000.00		
	125,000.00		

Plans Received		TRANS MGR 1
07/08/2014	Ben Lyle	PROGRAM OPERATIONS

Special Remarks: Funding Authorization / Approval: **ROW APPRAISALS/ ACQUISITION**

Funding Approved		TRANS MGR 2
9/3/2014	Ronnie Porter	PROGRAM OPERATIONS

Distribution: Original-File ☐ Right-of-Way ☐ Utility Section ☐

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TENN.	YEAR	SHEET NO.
	2014	1
FED. AID PROJ. NO.	BR-NH-14(46)	
STATE PROJ. NO.	79022-2227-94	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

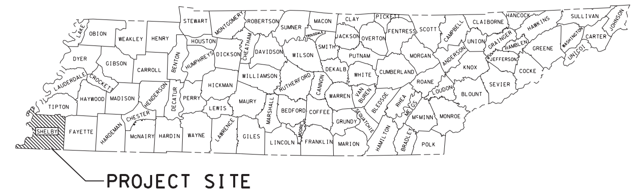
SHELBY COUNTY

STATE ROUTE 14
BRIDGE & APPROACH OVER IC R/R AND
NONCONNAH CREEK @ L.M. 7.13 (SBL)

R.O.W.

STATE HIGHWAY NO. 14   F.A.H.S. NO. N.A.

Index Of Sheets



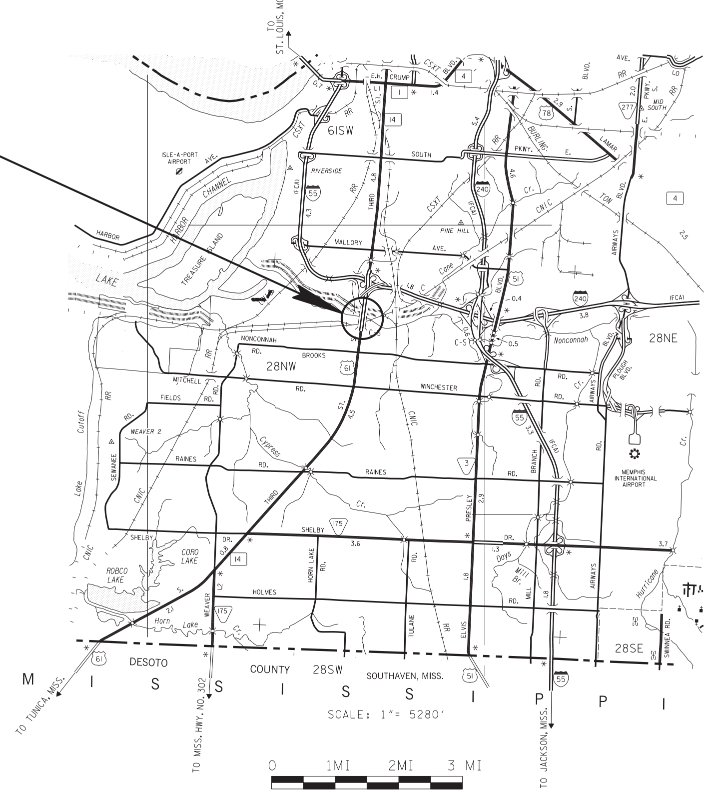
NO EXCLUSIONS
NO EQUATIONS

S.R. 14 S.B.L. TO BE
CLOSED DURING CONSTRUCTION

R.O.W.
PLANS

SEALED BY

(79022-2227-94)
PROJECT BR-NH-14(46) (R.O.W.)
STA. 60+85.12 TO STA. 71+41.42



R.O.W. LENGTH 0.200 MILES

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED:
JOHN SCHROER, COMMISSIONER

ORIGINAL SURVEY
03/07/12

TRAFFIC DATA	
ADT (2014)	20518
ADT (2034)	22567
DHV (2034)	1805
D	60 - 40
T (ADT)	8 %
T (DHV)	5 %
V	45 MPH

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR   DATE

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT DESIGN MANAGER 1 TABITHA CAVANESS, P.E., REG. 4

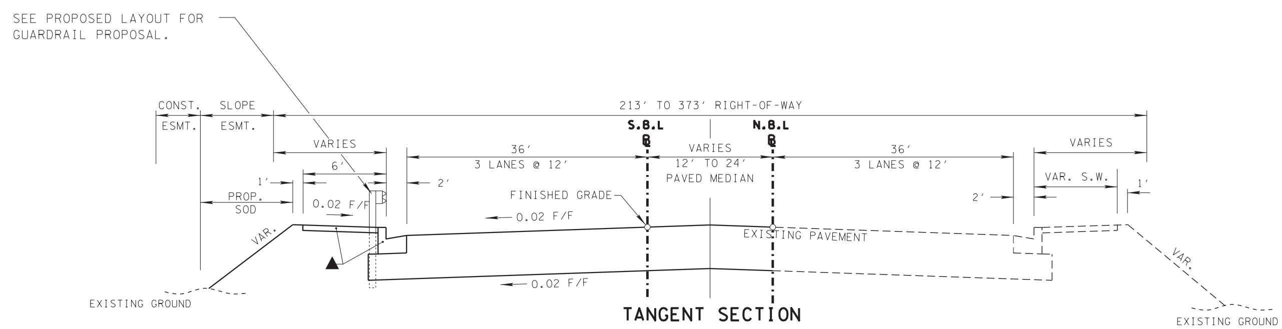
DESIGNER DEREK LINK, REG. 4

P.E. NO. 79022-1227-94

PIN NO. 108883.00

01-OCT-2015 16:12
\\JJ04wf01.tdot.state.tn.us\04SHARED\Design\DESIGN\DESIGNDL\Jobs\Shelby\SR-14\Nonconnah Crk & CNIC RR @ LM 7.13\Project\79SR14-001.dgn

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	2



TANGENT SECTION

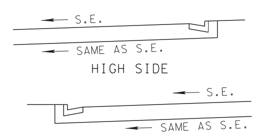
(BASED ON STD. DWG. RD01-TS-6)

S.R. 14

PROPOSED S.B.L. APPR.: FROM STA. 56+50 TO STA. 59+50± OVERLAY W/ ASPH AND/ OR BLACK BASE ONLY
FROM STA. 59+50± TO STA. 70+50± FULL DEPTH CONSTRUCTION
FROM STA. 70+50± TO STA. 77+00 OVERLAY W/ ASPH AND/OR BLACK BASE ONLY

PROPOSED N.B.L. APPR.: FROM STA. 56+50 TO STA. 77+00± OVERLAY N.B.L.

▲ PROPOSED C&G W/ SIDEWALK : FROM STA. 58+00± TO STA.62+15± & FROM STA. 70+50± TO STA. 71+65±



SUPERELEVATION DETAIL FOR SHOULDERS
(WHERE SHOULDERS MAY BE USED AS A THROUGH TRAFFIC LANE IN THE FUTURE)

PROPOSED PAVEMENT SCHEDULE	
✱	✱
✱	✱
✱	✱

R.O.W. PLANS

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND PAVEMENT SCHEDULE

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

01-OCT-2015 16:13
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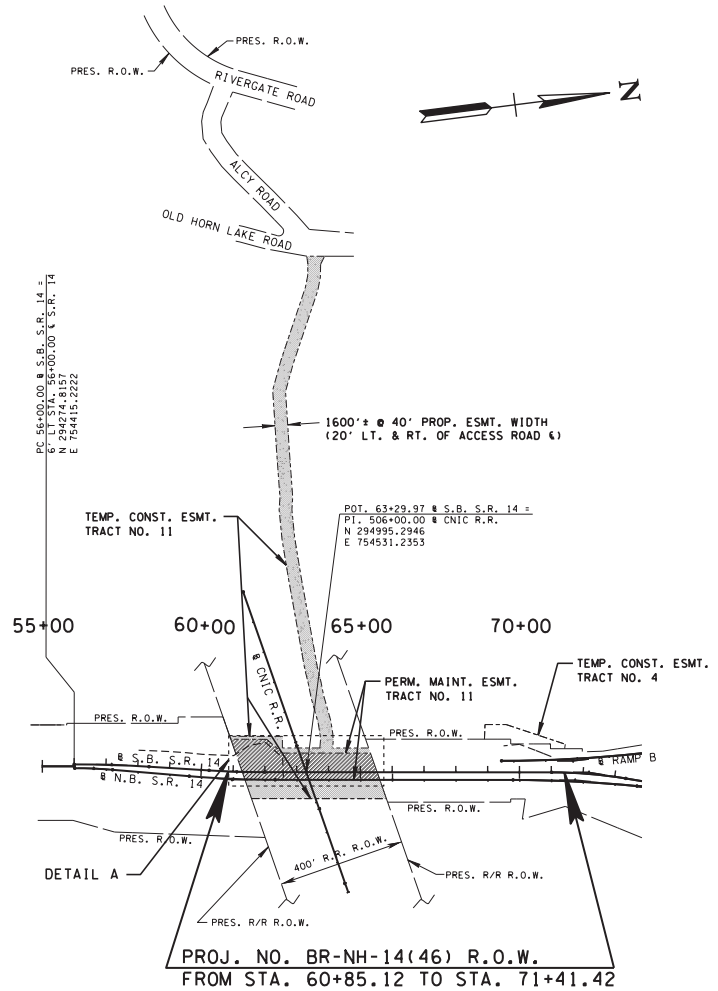


EASEMENT DETAILS

(FOR DETAILS NOT OTHERWISE SHOWN SEE PRESENT LAYOUT SHEETS 4 & 5.)

RIGHT - OF – WAY NOTES

IT IS INTENDED THAT ALL BUILDINGS AND/OR PORTIONS OF BUILDINGS THAT ARE WITHIN THE PROPOSEDRIGHT-OF-WAY AND/OR EASEMENT LINES FOR THE PROJECT BEREMOVED THERE FROM N THE PROCESS OFRIGHT-OF-WAY ACQUISITION. IF ANY SLCH BUILDINGS OR IMPROVEMENTS ARE NOT REMOVED IN THE COURSE OF RIGHT-OF-WAY ACQUISITON, THE CIVIL ENGINEERING MANAGER 2, DESIGN DIVISON AND THE CIVIL ENGINEERING MANAGER 1, REGIONAL DESIGN OFFICE, ARE TO BE NOTIFIED IN SUFFICIENT TIME TO PERMIT HAVING SUCH REMOVALS DESIGNATED AS A PART OF THE CONSTRUCTION CONTRACT.

ALL RAMPS MUST CONFORM TO THE DEPARTMENT'S "POLICY ON FINANCING CONSTRUCTION OF PUBLIC ROAD INTERSECTIONS AND DRIVEWAYS ON HIGHWAY RESURFACING, RECONSTRUCTION AND CONSTRUCTION PROJECTS ON NEW LOCATIONS", THE MANUAL ON RULES AND REGULATIONS FOR CONSTRUCTING DRIVEWAYS ON STATE HIGHWAY RIGHT-OF-WAY, STANDARD DRAWING RP-R-1, AND OTHER ACCEPTED DESIGN AND SAFETY STANDARDS

EXISTING PAVED DRIVEWAY PER TRACT REMAINDER WILL BE REPLACED IN KIND TO A TOUCHDOWN POIN".

WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY EXCEEDS 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED TO A TOUCHDOWN POINT OR UNTIL THE GRADE IS LESS THAN 7 PERCENT.

WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY IS LESS THAN 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED A SHOULDER WIDTH FROM THE EDGE OF PAVEMENT AND THE REMAINDER OF THAT DRIVEWAY REPLACED IN KIND TO A TOUCHDOWN POINT.

ANY NECESSARY PAVING OF DRIVEWAYS WIL. BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.

TRACT REMAINDERS NOT HAVING AN EXISTING DRIVEWAY WILL BE PROVIDED ONE 50-FOOT OPENING IN THE ACCESS CONTROL FENCE AND A DRIVEWAY WILL BE CONSTRUCTED UNLESS ACCESS IS PROVIDED FROM AN INTERSECTING ROAD OR BASED ON PHYSICAL CONDITIONS AND/OR CONFLICTS WITH OTHER DESIGN CONSIDERATIONS WHICH PREVENT AN ACCESS OPENING. PAVNG OF THESE NEW DRIVEWAYS WILL BE IN ACCORDANCE TO THE 7 PERCENT CRITERIA PREVIOUSLY MENTIONED FOR EXISTING DRIVEWAYS.

NEW DRIVEWAYS PROVIDED IN THE PLANS WILL BE PAVED BASED ON THE 7 PERCENT CRITERIA. THOSE 7 PERCENT OR STEEPER IN GRADE WILL BE PAVED AND THOSE FLATTER THAN 7 PERCENT WILL BE COVERED WITH BASE STONE.

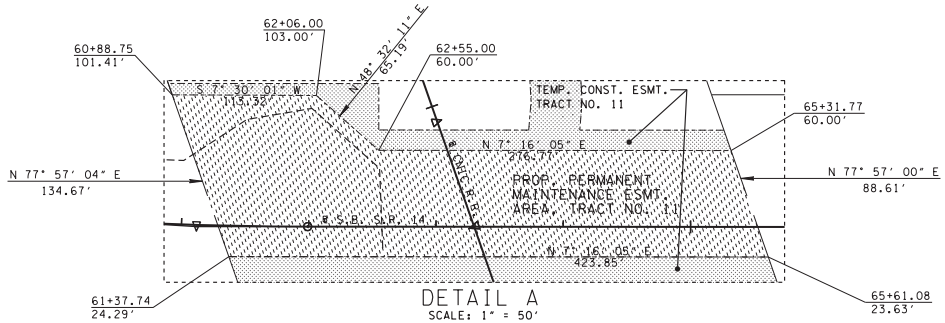
ON PROJECTS WITHOUT CURB AND GUTTER THAT ARE ON STATE ROUTES, IT WILL BE THE RESPONSIBILITY OF THE OWNER TO SECURE A PERMIT AND TO CONSTRUCT ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS.

ON PROJECTS WITH CURB AND GUTTER THAT ARE ON STATE ROUTES, IT WILL BE THE RESPONSIBILITY OF THE OWNER TO SECURE A PERMIT. AFTER THE PERMIT HAS BEEN GRANTED, THE DEPARTMENT WILL CONSTRUCT THE DRIVEWAY OR FIELD ENTRANCE THROUGH THE CURB AND SIDEWALK, PROVIDED THE CURB AND SIDEWALK HAVE NOT BEEN CONSTRUCTED. IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONSTRUCT THE DRIVEWAY OR FIELD ENTRANCE FROM BACK OF SIDEWALK TO TOUCHDOWN POINT FOR ANY ADDITIONAL DRIVEWAYS OR FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS.

EASEMENT REQUIRED FOR THE RAILROAD CROSSING IS TO BE OBTAINED BY THE UTILITIES ENGINEER BY PROVISIONS CONTAINED IN THE CROSSING AGREEMENT NEGOTIATED WITH THE RAILROAD.

SPECIAL RIGHT - OF – WAY NOTES

NO EXISTING IMPROVEMENT ON RAILROAD PROPERTY SHALL BE DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION OPERATIONS, OR WHILE ACCESSING CONSTRUCTION SITE THROUGH PROPOSED HAUL ROAD IN TEMPORARY CONSTRUCTION EASEMENT. DAMAGES TO ANY EXISTING IMPROVEMENTS AS A RESULT OF THE OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.



DETAIL A
SCALE: 1" = 50'

R.O.W. ACQUISITION TABLE

TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS				TOTAL AREA (ACRES)			AREA TO BE ACQUIRED (ACRES)			AREA REMAINING (ACRES)		EASEMENT (SQUARE FEET)		
		TAX MAP NO.	PARCEL NO.	DEED BK.	DEED PAGE	LEFT	RIGHT	TOTAL	LEFT	RGHT	TOTAL	LEFT	RIGHT	PERM MAINT.	SLOPE	CONST.
~~1~~	~~Belz Investco LP (PSO)~~	~~114P~~	~~36~~	~~AW0469~~		~~30.007~~		~~30.007~~				~~30.007~~				
~~2~~	~~Belz Investment Co. Inc.~~	~~114O~~	~~1~~	~~5433~~	~~286~~	~~7.200~~		~~7.200~~				~~7.200~~				
~~3~~	~~LFM, Inc.~~	~~114O~~	~~3C~~	~~JF3183~~			~~70.400~~	~~70.400~~					~~70.400~~			
4	Belz Investment Co. Inc.	134I	075002 00001 075001 000'Z	5626	415	26.442		26.442				26.442				0.209 AC
~~5~~	~~Belz Investment Co. Inc.~~	~~114J~~	~~1~~	~~5318~~	~~125~~		~~5.080~~	~~5.080~~					~~5.080~~			
~~6~~	~~Belz Investment Co. Inc.~~	~~114J~~	~~7Z~~	~~5626~~	~~415~~		~~10.030~~	~~10.030~~					~~10.030~~			
~~8~~	~~Belz Investment Co. Inc.~~	~~134I~~	~~6Z~~	~~5626~~	~~415~~	~~7.033~~		~~7.033~~				~~7.033~~				
~~9~~	~~Harding University~~	~~114J~~	~~7~~	~~T79616~~			~~2.327~~	~~2.327~~					~~2.327~~			
~~10~~	~~Belz Investment Co. Inc.~~	~~134I~~	~~8~~	~~6103~~	~~286~~	~~18.177~~		~~18.177~~				~~18.177~~				
Ⓐ 11	Illinois Central Railroad Co.	114P 114O	075002 00095 050119 00002	2778	207									0.943 AC		2.190 AC

Ⓐ INCLUDES 1.469 ACRES FOR HAUL ROAD ACCESS

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W	2014	BR-NH-14(46)	3

REV. 09-29-15: ADDED DEED BOOK & PAGE NO. TO TRACT 11. CHANGED TAX MAP AND PARCEL NOS. ON TRACT 4. REVISED CONST. ESMT., ADDED PERM. MAINT. ESMT., AND REMOVED SLOPE ESMT. ON TRACT 11 TO THE PLAN VIEW AND R.O.W. ACQ. TABLE. ADDED DETAIL "A".

REV. 10-05-15: REVISED TEMP. CONST. ESMT. HATCHING TO END AT OLD HORN LAKE RD. REVISED TRACT 11 TEMP. CONST. ESMT. AREA TO REFLECT THE CORRECTLY HATCHED AREA.

R.O.W. PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TCRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF WAY ACQUISITION TABLE, NOTES, & EASEMENT DETAILS

SCALE: 1":200'

06-OCT-205 09:34
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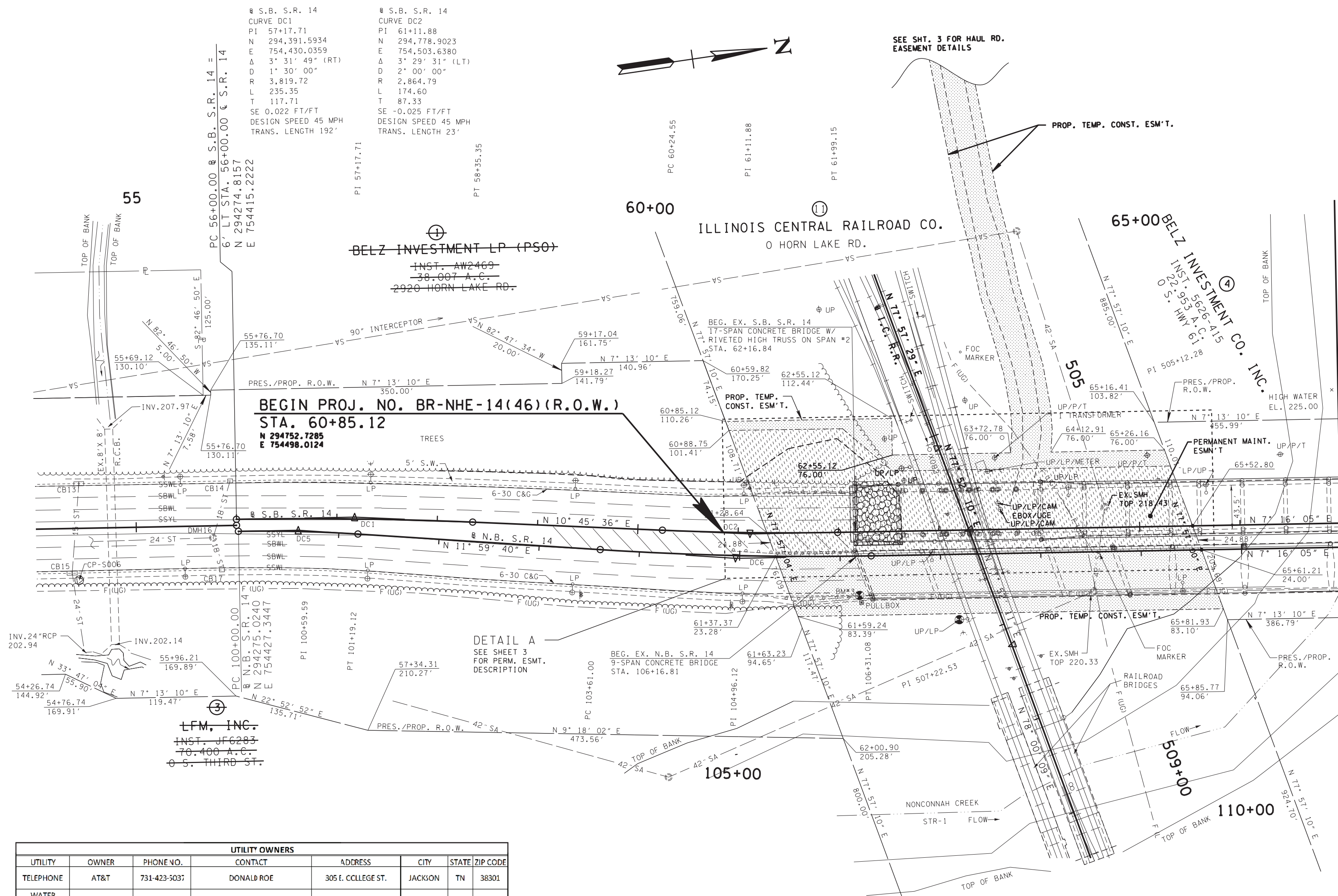
REV. 10-13-14: REVISED STATION & OFFSET LABELS AROUND PROP. TEMP. CONST. ESM'T.

REV. 09-29-15: REVISED CONST. ESMT. AREA, ADDED PERM. MAINTENANCE ESMT. AREA, AND REMOVED SLOPE ESMT. AREA ON TRACT 11. ADDED DETAIL "A" LOCATION AND LABEL. REMOVED R/R CROSSING AGREEMENT NOTE.



UTILITY OWNERS							
UTILITY	OWNER	PHONE NO.	CONTACT	ADDRESS	CITY	STATE	ZIP CODE
TELEPHONE	AT&T	731-423-5037	DONALD ROE	305 E. COLLEGE ST.	JACKSON	TN	38301
WATER NATURAL GAS POWER	MLGW	901-528-4186	TOM WORD	220 SOUTH MAIN ST.	MEMPHIS	TN	38103
SEWAGE	CITY OF MEMPHIS	901-576-5725	GARY VADEN	125 NORTH MAIN ST.	MEMPHIS	TN	38103
JET FUEL	VALERO	O: 662-895-7202 C: 901-848-1641	RICHARD WILLINGHAM Richard.Willingham@valero.com	771 WINGO RD.	BYHALIA	MS	38611
FIBER OPTIC	360 NETWORKS	270-970-4262	TOM SIMMONS	7864 WENTWORTH DR.	MEMPHIS	TN	38125
	TRANSCORE	901-451-4099	JOSHUA GILBERT joshua.gilbert@transcore.com	5250 PLEASANT VIEW RD. STE. #2	MEMPHIS	TN	38134
	WINDSTREAM	812-464-3964	BRYAN DAVIS	3701 COMMUNICATIONS WAY	EVANSVILLE	IN	47715
RAILROAD	I.C. R/R	601-914-2654	TOM KELLER	2151 NORTH MILL ST.	JACKSON	MS	39202

REFER TO SPECIAL NOTES ON SHEET. 6 REGARDING SEDIMENTS IN NONCONNAH CREEK

CONTROL POINTS						
POINT	NORTH	EAST	ELEV.	ALIGNMENT	STATION	OFFSET
CP-S068	293451.0867	754371.7570	237.70	℄ S.R. 14	-	OFF CHAIN
CP-S069	293820.5574	754418.0817	239.33	℄ S.R. 14	51+49.73	54.00' (RT)
CP-S070	296010.7479	754644.0452	230.08	℄ S.B. S.R. 14	73+46.55	38.00' (LT)
CP-S071	296293.4228	754725.4361	225.80	℄ S.B. S.R. 14	76+44.99	33.31' (LT)

R.O.W. PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.54+00 TO STA.67+00

SCALE: 1"=50'

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

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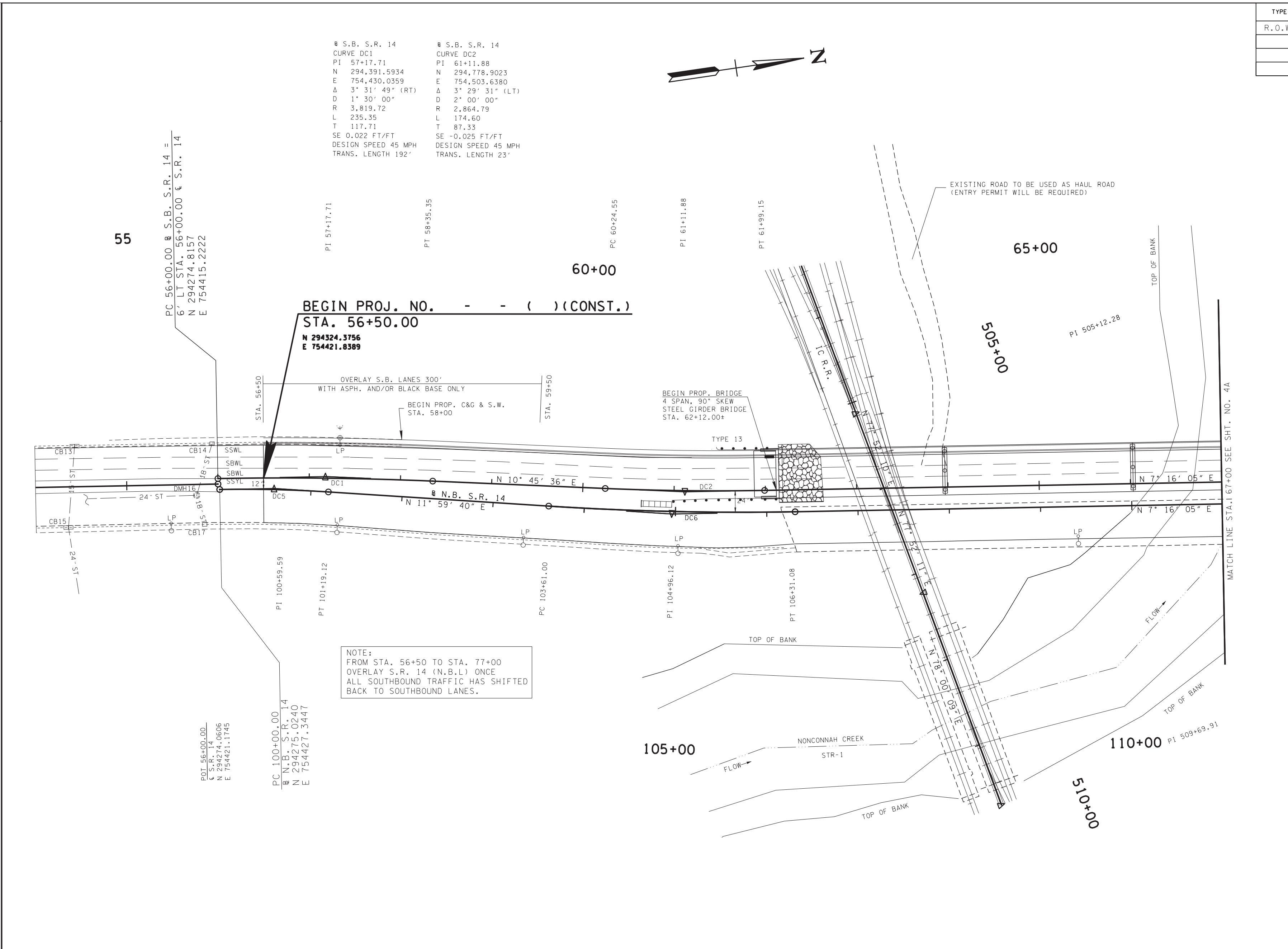
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	4A



R.O.W. PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.54+00 TO STA.67+00

SCALE: 1"=50'

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	4B

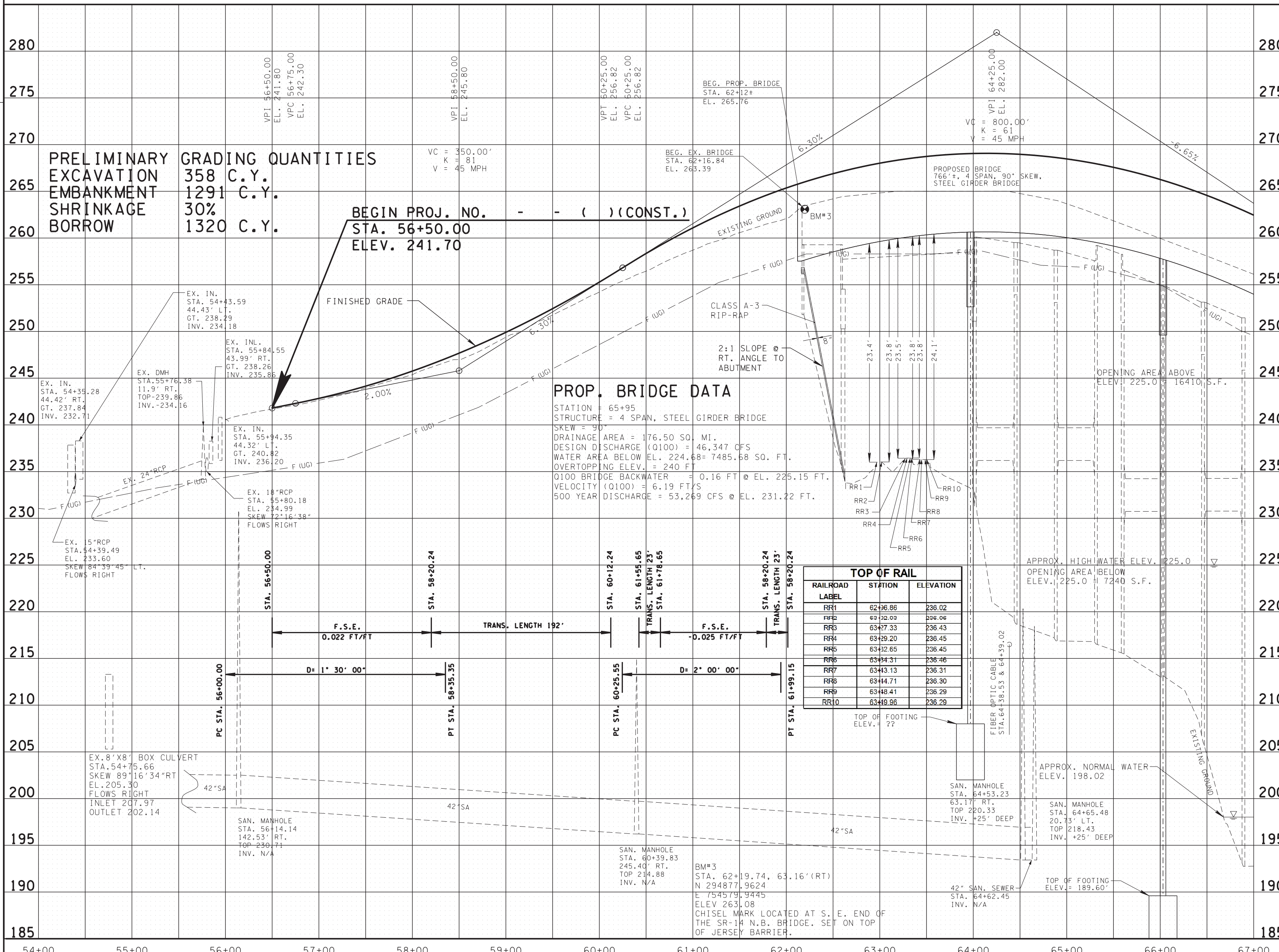
R.O.W. PLANS

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE

STA.54+00 TO STA.67+00
SCALE: 1"=50' HORIZ.
1"=5' VERT.



TOP OF RAIL		
RAILROAD LABEL	STATION	ELEVATION
RR1	62+96.86	236.02
RR2	63+02.03	236.06
RR3	63+27.33	236.43
RR4	63+29.20	236.45
RR5	63+32.65	236.45
RR6	63+34.31	236.46
RR7	63+43.13	236.31
RR8	63+44.71	236.30
RR9	63+48.41	236.29
RR10	63+49.96	236.29

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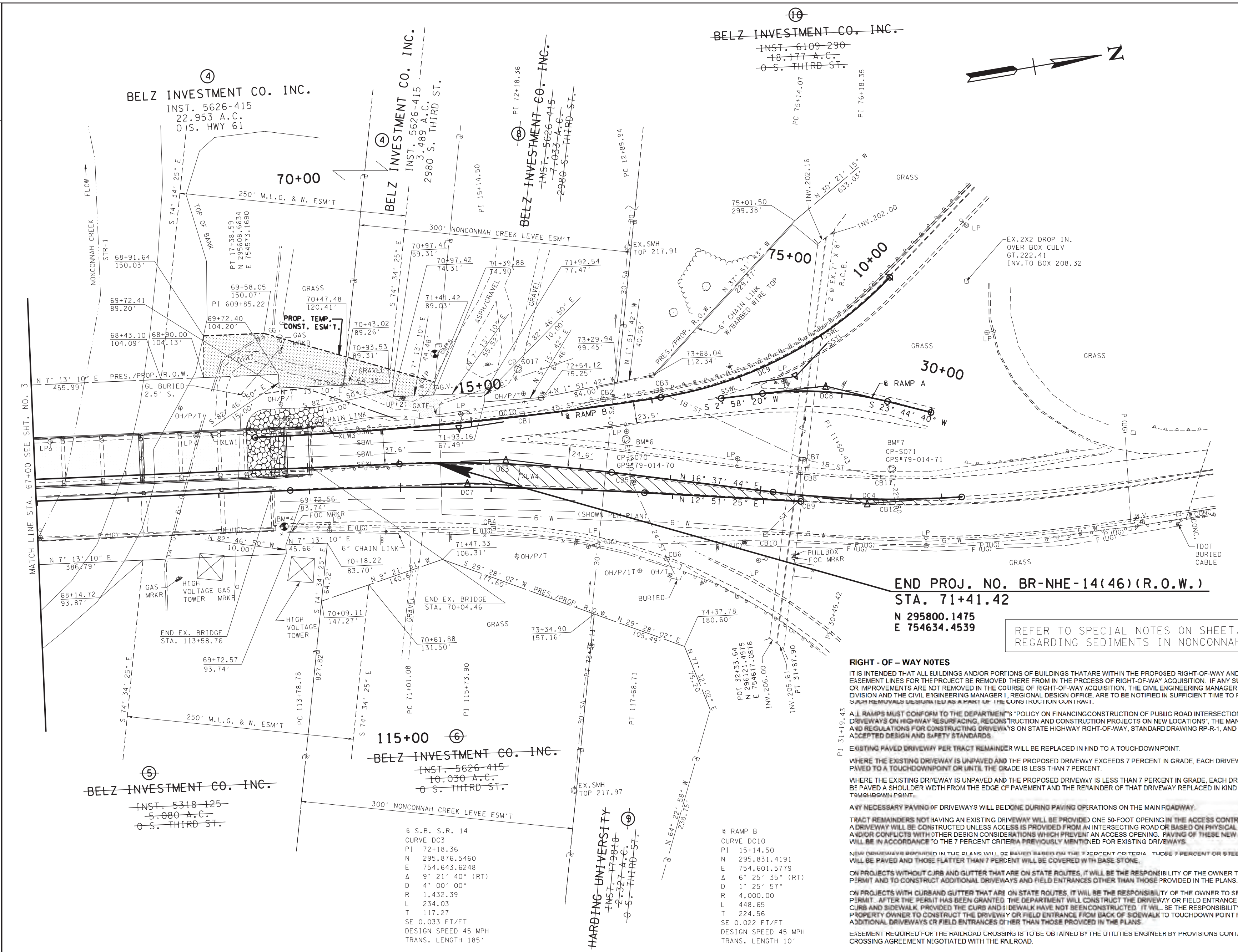
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	5

REV. 10-13-14: REVISED STATION & OFFSET LABELS AROUND PROP. TEMP. CONST. ESM'T.



REFER TO SPECIAL NOTES ON SHEET. 6
REGARDING SEDIMENTS IN NONCONNAH CREEK

RIGHT - OF – WAY NOTES

IT IS INTENDED THAT ALL BUILDINGS AND/OR PORTIONS OF BUILDINGS THATARE WITHIN THE PROPOSED RIGHT-OF-WAY AND/OR EASEMENT LINES FOR THE PROJECT BE REMOVED THERE FROM IN THE PROCESS OF RIGHT-OF-WAY ACQUISITION. IF ANY SUCH BUILDINGS OR IMPROVEMENTS ARE NOT REMOVED IN THE COURSE OF RIGHT-OF-WAY ACQUISITION, THE CIVIL ENGINEERING MANAGER 2 DESIGN DIVISION AND THE CIVIL ENGINEERING MANAGER 1, REGIONAL DESIGN OFFICE, ARE TO BE NOTIFIED IN SUFFICIENT TIME TO PERMIT HAVING SUCH REMOVALS DESIGNATED AS A PART OF THE CONSTRUCTION CONTRACT.

ALL RAMPS MUST CONFORM TO THE DEPARTMENT'S "POLICY ON FINANCINGCONSTRUCTION OF PUBLIC ROAD INTERSECTIONS AND DRIVEWAYS ON HIGHWAY RESURFACING, RECONSTRUCTION AND CONSTRUCTION PROJECTS ON NEW LOCATIONS", THE MANUAL ON RULES AND REGULATIONS FOR CONSTRUCTING DRIVEWAYS ON STATE HIGHWAY RIGHT-OF-WAY, STANDARD DRAWING RP-R-1, AND OTHER ACCEPTED DESIGN AND SAFETY STANDARDS.

EXISTING PAVED DRIVEWAY PER TRACT REMAINDER WILL BE REPLACED IN KIND TO A TOUCHDOWN POINT.

WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY EXCEEDS 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED TO A TOUCHDOWNPOINT OR UNTIL THE GRADE IS LESS THAN 7 PERCENT.

WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY IS LESS THAN 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED A SHOULDER WIDTH FROM THE EDGE OF PAVEMENT AND THE REMAINDER OF THAT DRIVEWAY REPLACED IN KIND TO A TOUCHDOWN POINT.

ANY NECESSARY PAVING OF DRIVEWAYS WILL BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.

TRACT REMAINDERS NOT HAVING AN EXISTING DRIVEWAY WILL BE PROVIDED ONE 50-FOOT OPENING IN THE ACCESS CONTROL FENCE AND A DRIVEWAY WILL BE CONSTRUCTED UNLESS ACCESS IS PROVIDED FROM AN INTERSECTING ROAD OR BASED ON PHYSICAL CONDITIONS AND/OR CONFLICTS WITH OTHER DESIGN CONSIDERATIONS WHICH PREVENT AN ACCESS OPENING. PAVING OF THESE NEW DRIVEWAYS WILL BE IN ACCORDANCE TO THE 7 PERCENT CRITERIA PREVIOUSLY MENTIONED FOR EXISTING DRIVEWAYS.

NEW DRIVEWAYS PROVIDED IN THE PLANS WILL BE PAVED BASED ON THE 7 PERCENT CRITERIA. THOSE 7 PERCENT OR STEEPER IN GRADE WILL BE PAVED AND THOSE FLATTER THAN 7 PERCENT WILL BE COVERED WITH BASE STONE.

ON PROJECTS WITHOUT CURB AND GUTTER THAT ARE ON STATE ROUTES, IT WILL BE THE RESPONSIBILITY OF THE OWNER TOSECURE A PERMIT AND TO CONSTRUCT ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS.

ON PROJECTS WITH CURBAND GUTTER THAT ARE ON STATE ROUTES, IT WILL BE THE RESPONSIBILITY OF THE OWNER TO SECURE A PERMIT. AFTER THE PERMIT HAS BEEN GRANTED THE DEPARTMENT WILL CONSTRUCT THE DRIVEWAY OR FIELD ENTRANCE THROUGH THE CURB AND SIDEWALK, PROVIDED THE CURB AND SIDEWALK HAVE NOT BEENCONSTRUCTED. IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONSTRUCT THE DRIVEWAY OR FIELD ENTRANCE FROM BACK OF SIDEWALK TO TOUCHDOWN POINT FOR ANY ADDITIONAL DRIVEWAYS OR FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS.

EASEMENT REQUIRED FOR THE RAILROAD CROSSING IS TO BE OBTAINED BY THE UTILITIES ENGINEER BY PROVISIONS CONTANED IN THE CROSSING AGREEMENT NEGOTIATED WITH THE RAILROAD.

CAUTION !
PRELIMINARY PLANS
SUBJECT TO CHANGE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.67+00 TO STA.77+22

SCALE: 1"=50'

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

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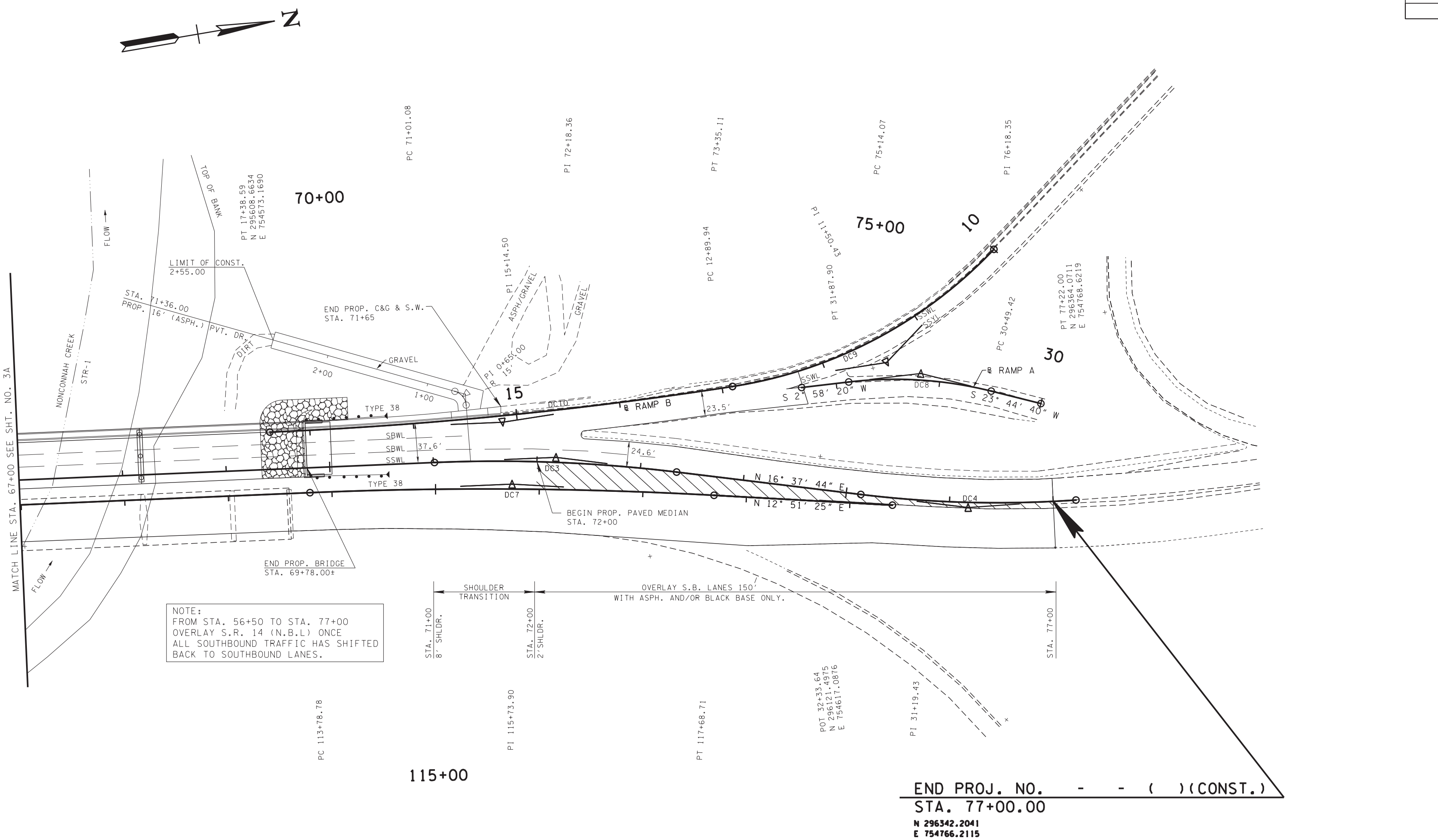
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	5A



℄ S.B. S.R. 14
CURVE DC3
PI 72+18.36
N 295,876.5460
E 754,643.6248
Δ 9° 21' 40" (RT)
D 4° 00' 00"
R 1,432.39
L 234.03
T 117.27
SE 0.033 FT/FT
DESIGN SPEED 45 MPH
TRANS. LENGTH 185'

℄ RAMP B
CURVE DC10
PI 15+14.50
N 295,831.4191
E 754,601.5779
Δ 6° 25' 35" (RT)
D 1° 25' 57"
R 4,000.00
L 448.65
T 224.56
SE 0.022 FT/FT
DESIGN SPEED 45 MPH
TRANS. LENGTH 10'

R.O.W. PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.67+00 TO STA.77+22

SCALE: 1"=50'

TENNESSEE D.O.T.
DESIGN DIVISION
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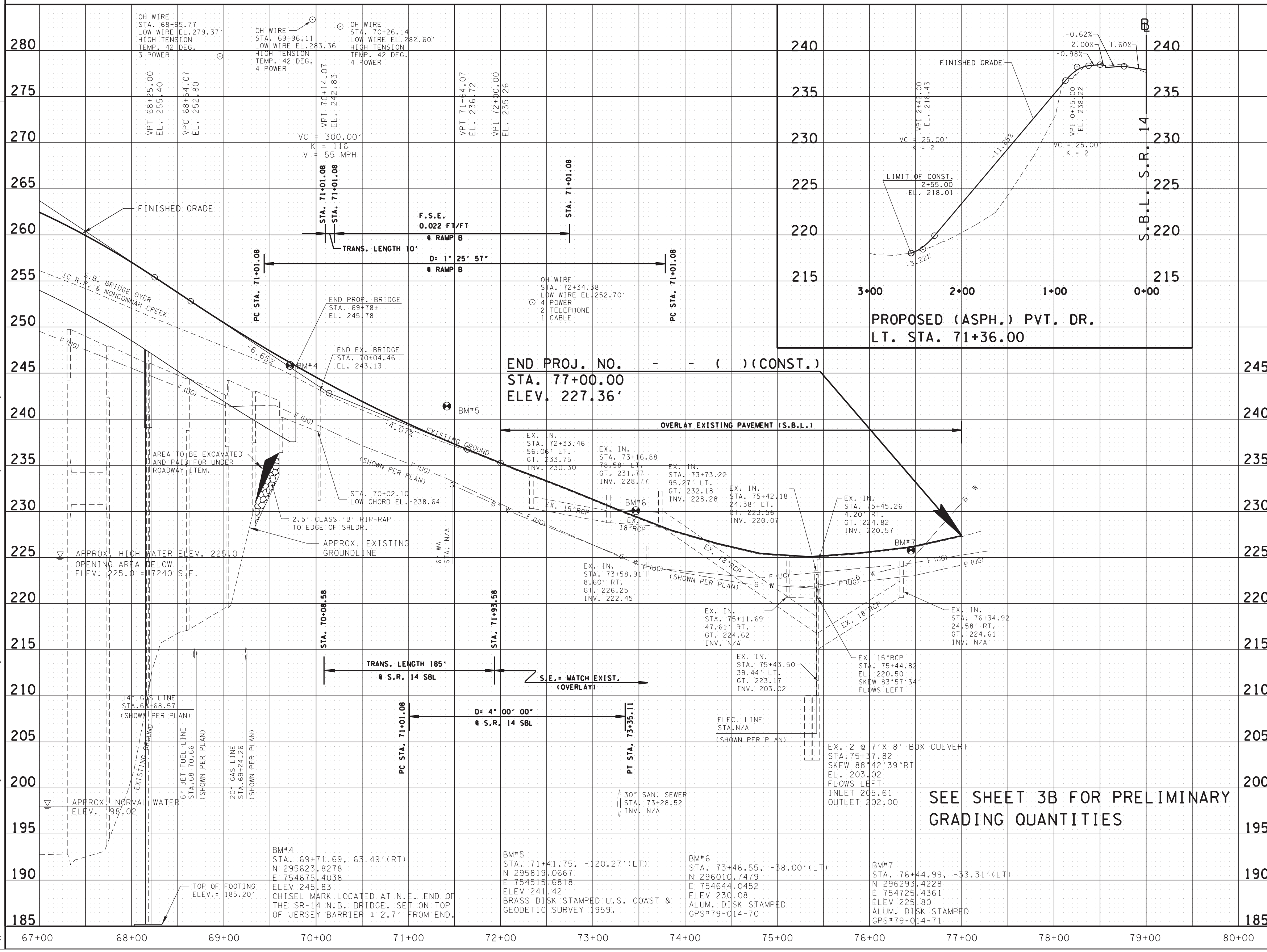
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	5B



CAUTION !
PRELIMINARY
PLANS
SUBJECT TO
CHANGE

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE

STA.67+00 TO STA.77+22
SCALE: 1"=50' HORIZ.
1"=5' VERT.

TENNESSEE D.O.T.
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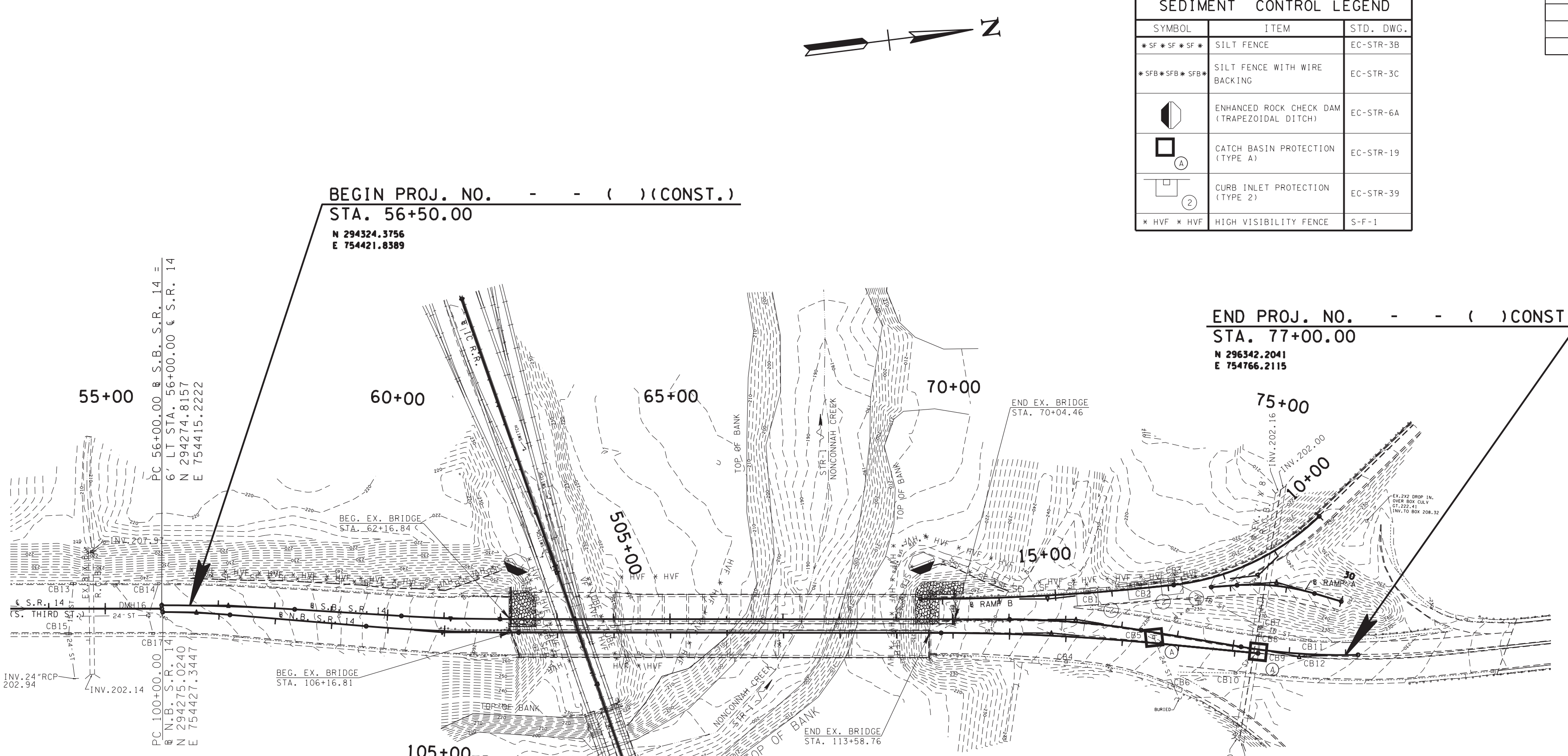
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	6

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
* SF * SF * SF *	SILT FENCE	EC-STR-3B
* SFB * SFB * SFB *	SILT FENCE WITH WIRE BACKING	EC-STR-3C
(symbol)	ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)	EC-STR-6A
(symbol) A	CATCH BASIN PROTECTION (TYPE A)	EC-STR-19
(symbol) 2	CURB INLET PROTECTION (TYPE 2)	EC-STR-39
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1



EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES

UTILITY RELOCATION

RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND MAINTAINED.

SILT FENCE SHALL BE INSTALLED ON THE DOWNSTREAMSIDE OF STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING NO FLOW CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.

UTILITY CROSSINGS FOR PERENNIAL STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. TENNESSEE DEPARTMENT OF ENVIROMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO UTILITIES IN THIS PROJECT IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC). THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLANS (SWPPP).

IT IS THE RESPONSIBILITY OF THE STATE UTILITY CONTRACTOR INSTALLER TO PROTECT FROM EROSION EXPOSED EARTH RESULTING FROM THEIR OPERATIONS AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF THEIR WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM THEIROPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFF-SITE AND ENTERING WATERS OF THE STATE/U.S.

FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), **TRENCHES SHALL BE BACKFILLED DAILY** AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE, BUT NO LATER THAN SEVEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOIL OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.

IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC), TENNESSEEDEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO THE STATE UTILITY CONTRACTORS IN THIS PROJECT, THEREFORE, THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTIONS PREVENTION PLANS (SWPPP). THE STATE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE STATE CONTRACT WORK.

TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORM WATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE TDOT PROJECT ENGINEER.

FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE TDOT RIGHT-OF-WAY, EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH FINAL VEGETATIVE COVER.

THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS (AS APPROVED BY THE TDOT PROJECT ENGINEER).

THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES TO REPLACE IN-PLACE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE TDOT PROJECT ENGINEER BEFORE COMMENCING WORK.

EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES

SEDIMENTS IN NONCONNAH CREEK ARE LISTED ON THE 303(D) LIST FOR DIOXINS (INCLUDING 2,3,7,8-TCDD), POLYCHLORINATED BIPHENYLS AND CHLORDANE. ANY SEDIMENT THAT IS REMOVED FROM THE RIVER SHALL BE REPLACED WITH CLEAN SUITABLE MATERIAL. ANY MATERIAL REMOVAL FROM, OR PLACEMENT ON, THE RIVER BOTTOM SHALL BE PERFORMED WITHIN A COFFERDAM.
THE SEDIMENT SHALL BE STOCKPILED BY THE CONTRACTOR, EITHER ON A BARGE OR ON AN UPLAND LOCATION ON TDOT RIGHT-OFWAY, AND CONTAINED SUCH THAT ITS RUNOFF CANNOT IMPACT THE RIVER. TDOT ENVIRONMENTAL DIVISION WILL BE RESPONSIBLE FOR SAMPLING AND DISPOSITION OF THE EXCAVATED MATERIAL. NOTIFY TDOT HAZARDOUS MATERIALS MANAGER, AT 615-532-8684 AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING SEDIMENT REMOVAL.

AS A PRECAUTION, WORKERS WHO ENCOUNTER WATER AND SEDIMENT IN NONCONNAH CREEK SHOULD WASH THEIR HANDS WITH SOAP AND POTABLE WATER BEFORE EATING AND SMOKING. THE WATER IN NONCONNAH CREEK IS NOT SUITABLE FOR DRINKING.

NPDES

NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF THEIR OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE ENGINEER. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN CONTAINED IN THE APPROVED SWPPP.

THE EPSC MEASURES AND/OR PLAN SHALL BE MODIFIED AS NECESSARY SO THAT THEY ARE EFFECTIVE AT ALL TIMES THROUGHOUT THE COURSE OF THE PROJECT.

THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES, INCLUDING WITHOUT LIMITATION AS FOLLOWS:

INITIAL CLEARING AND GRUBBING SHALL BE LIMITED TO THAT NECESSARY FOR THE INSTALLATION OF APPLICABLE EPSC MEASURES IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.

NO OTHER CLEARING AND GRUBBING OPERATIONS SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.

NO CULVERT OR BRIDGE CONSTRUCTION SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.

NO GRADING, EXCAVATION, CUTTING, OR FILLING, OR OTHER EARTHWORK SHALL BE STARTED BEFORE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN, INCORPORATED INTO THE SWPPP.

PERMANENT EPSC MEASURES SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OF ANY SEQUENCE OR PHASE. TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 15 CALENDAR DAYS. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE. UNPACKED GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER RUNS WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE.

STEEP SLOPES (A NATURAL OR CREATED SLOPE OF 35% GRADE (2.8H:1V) OR GREATER REGARDLESS OF HEIGHT) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED.

FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SUPPORT ACTIVITIES, TDOT PROJECTS ARE COVERED UNDER THE "WASTE AND BORROW" MANUAL PER THE SSWMP.

EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT HAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

R.O.W. PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EPSC PLAN
PHASE 1

STA.54+00 TO STA.77+22
SCALE: 1"=100'

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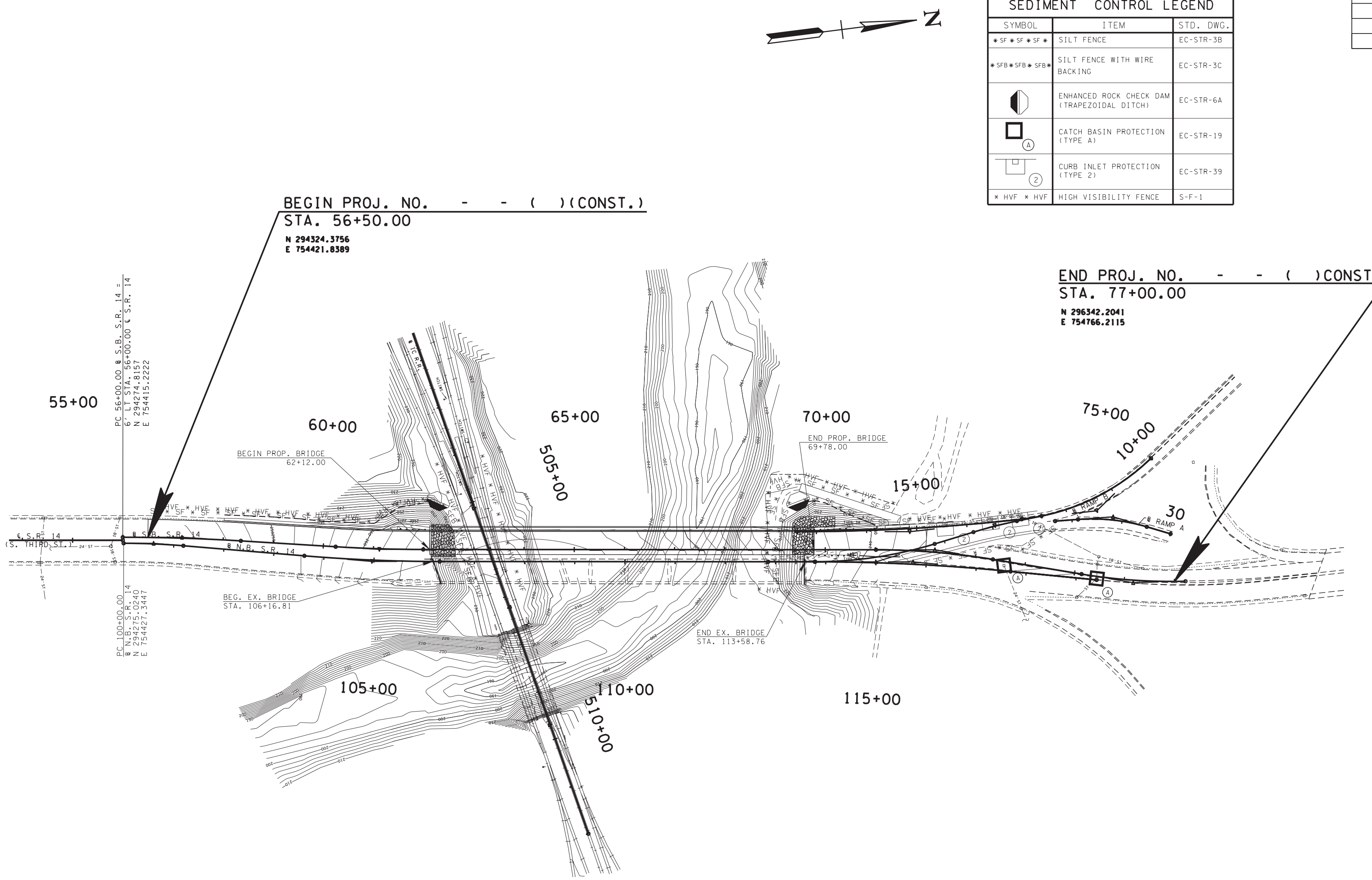
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	6A

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

SYMBOL	ITEM	STD. DWG.
* SF * SF * SF *	SILT FENCE	EC-STR-3B
* SFB * SFB * SFB *	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)	EC-STR-6A
(A)	CATCH BASIN PROTECTION (TYPE A)	EC-STR-19
(2)	CURB INLET PROTECTION (TYPE 2)	EC-STR-39
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EPSC PLAN PHASE 2

STA. 54+00 TO STA. 77+00
SCALE: 1"=100'

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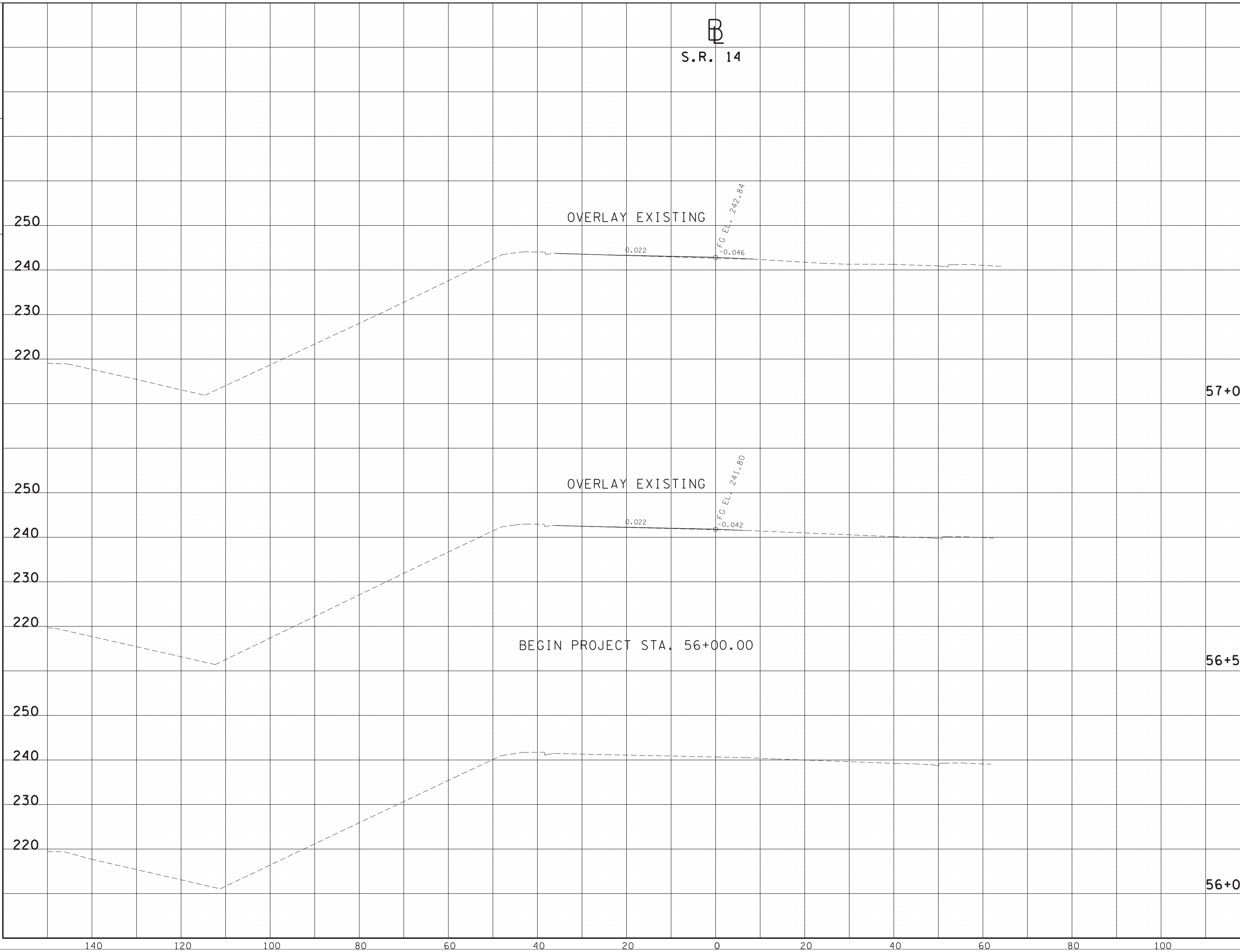
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	7

R.O.W. PLANS



ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL

BEGIN STA. 56+00.00
END STA. 57+00.00

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

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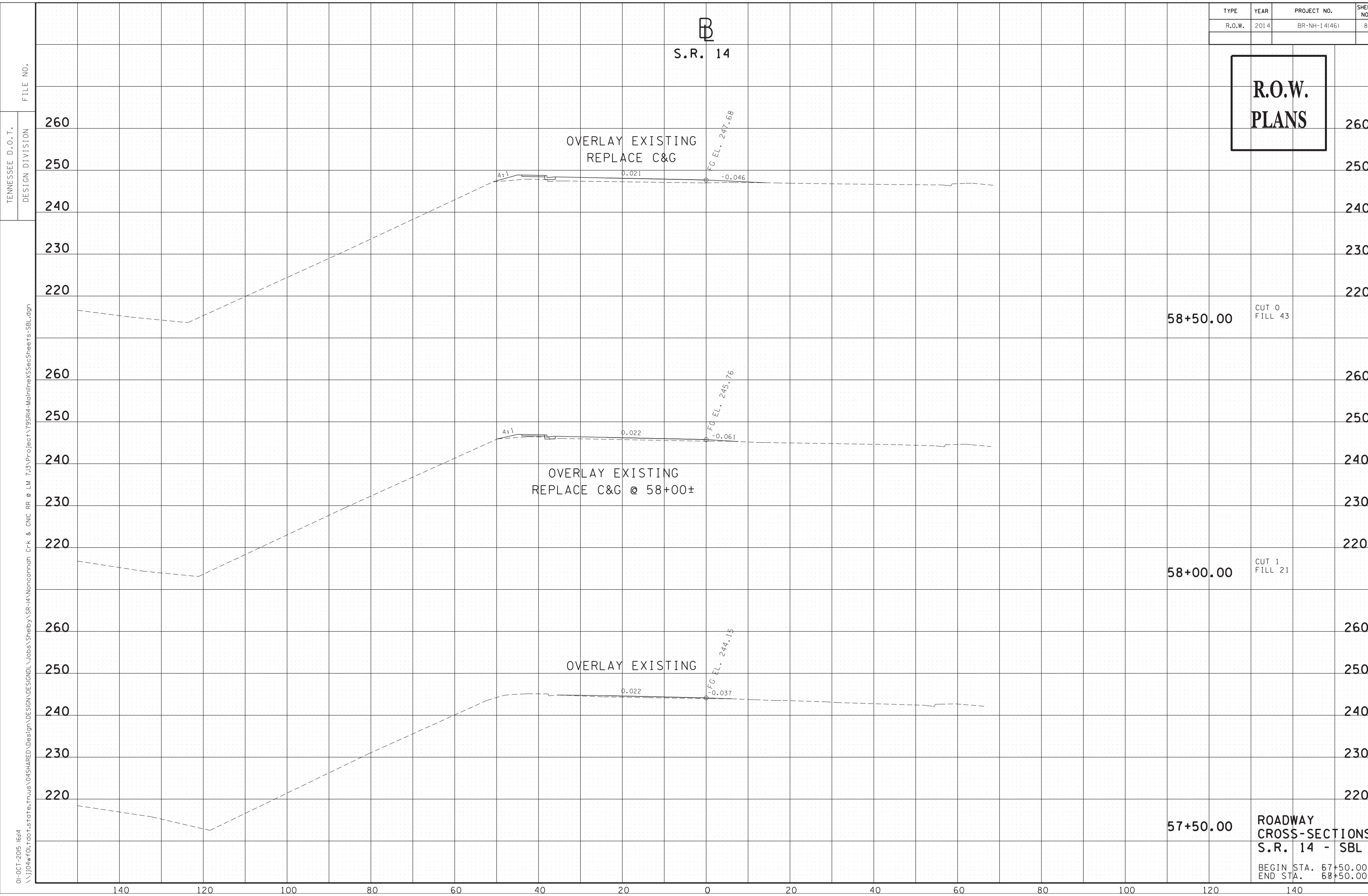

TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
8
R.O.W. PLANS
S.R. 14
OVERLAY EXISTING
REPLACE C&G
FG EL. 247.68
0.021
-0.046
4:1
58+50.00
CUT 0
FILL 43
OVERLAY EXISTING
REPLACE C&G @ 58+00±
FG EL. 245.76
0.022
-0.061
4:1
58+00.00
CUT 1
FILL 21
OVERLAY EXISTING
FG EL. 244.15
0.022
-0.037
57+50.00
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 57+50.00
END STA. 58+50.00
260
250
240
230
220
140
120
100
80
60
40
20
0
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
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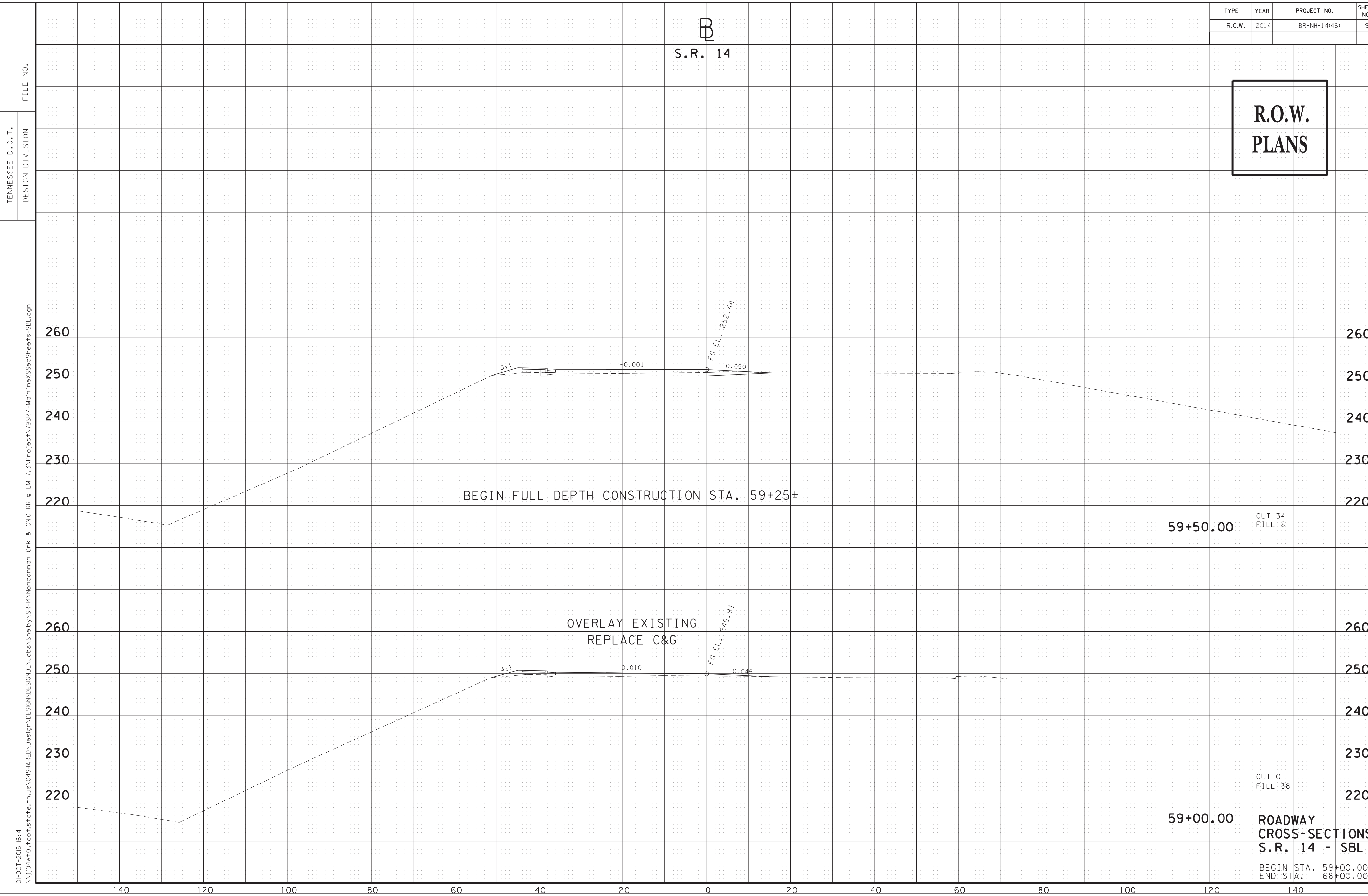
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
9
R.O.W. PLANS
S.R. 14
FG EL. 252.44
-0.001
-0.050
3:1
BEGIN FULL DEPTH CONSTRUCTION STA. 59+25±
59+50.00
CUT 34
FILL 8
OVERLAY EXISTING
REPLACE C&G
FG EL. 249.91
0.010
-0.045
4:1
CUT 0
FILL 38
59+00.00
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 59+00.00
END STA. 68+00.00
260
250
240
230
220
140
120
100
80
60
40
20
0
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
01-OCT-2015 16:14
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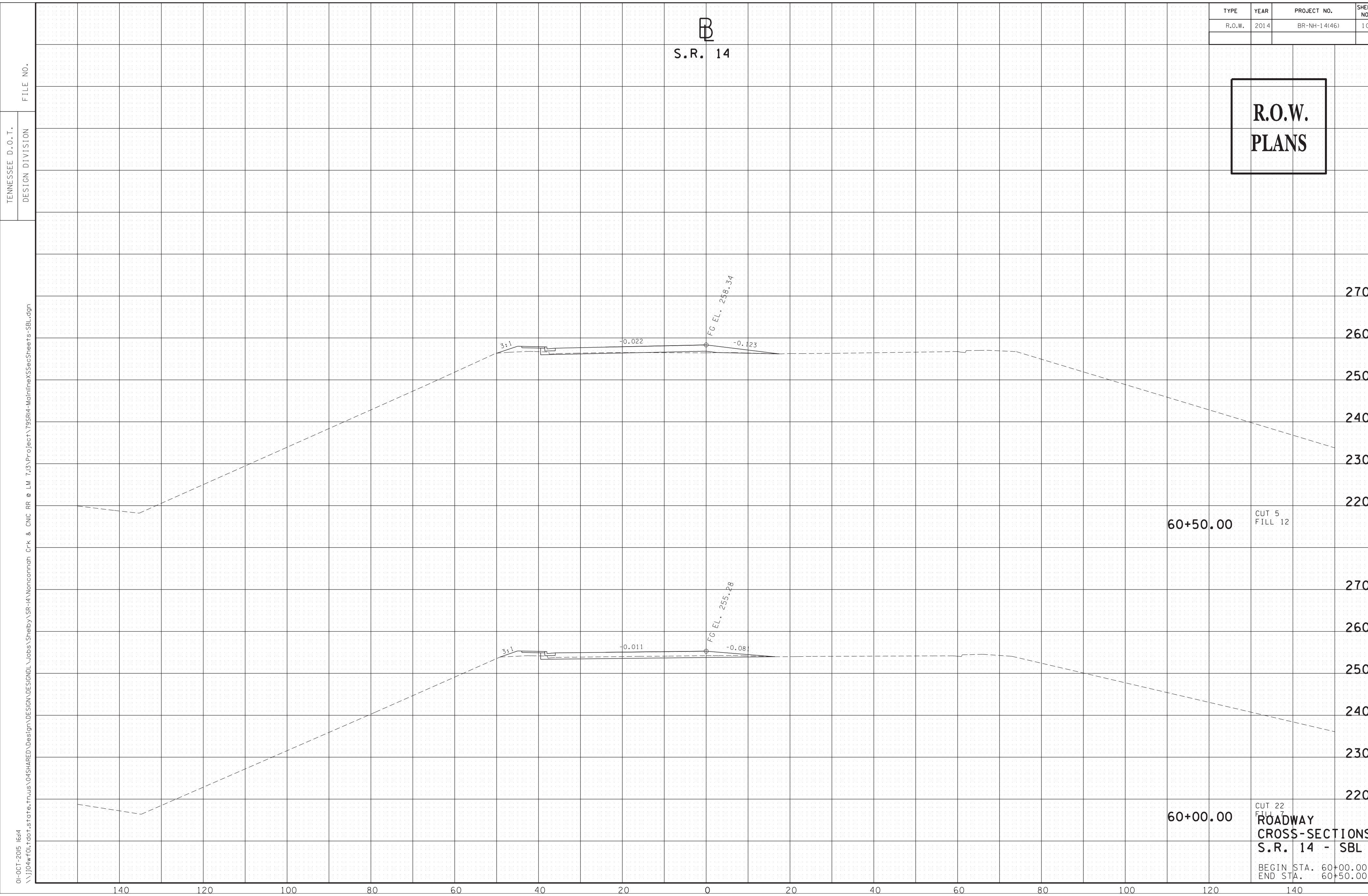
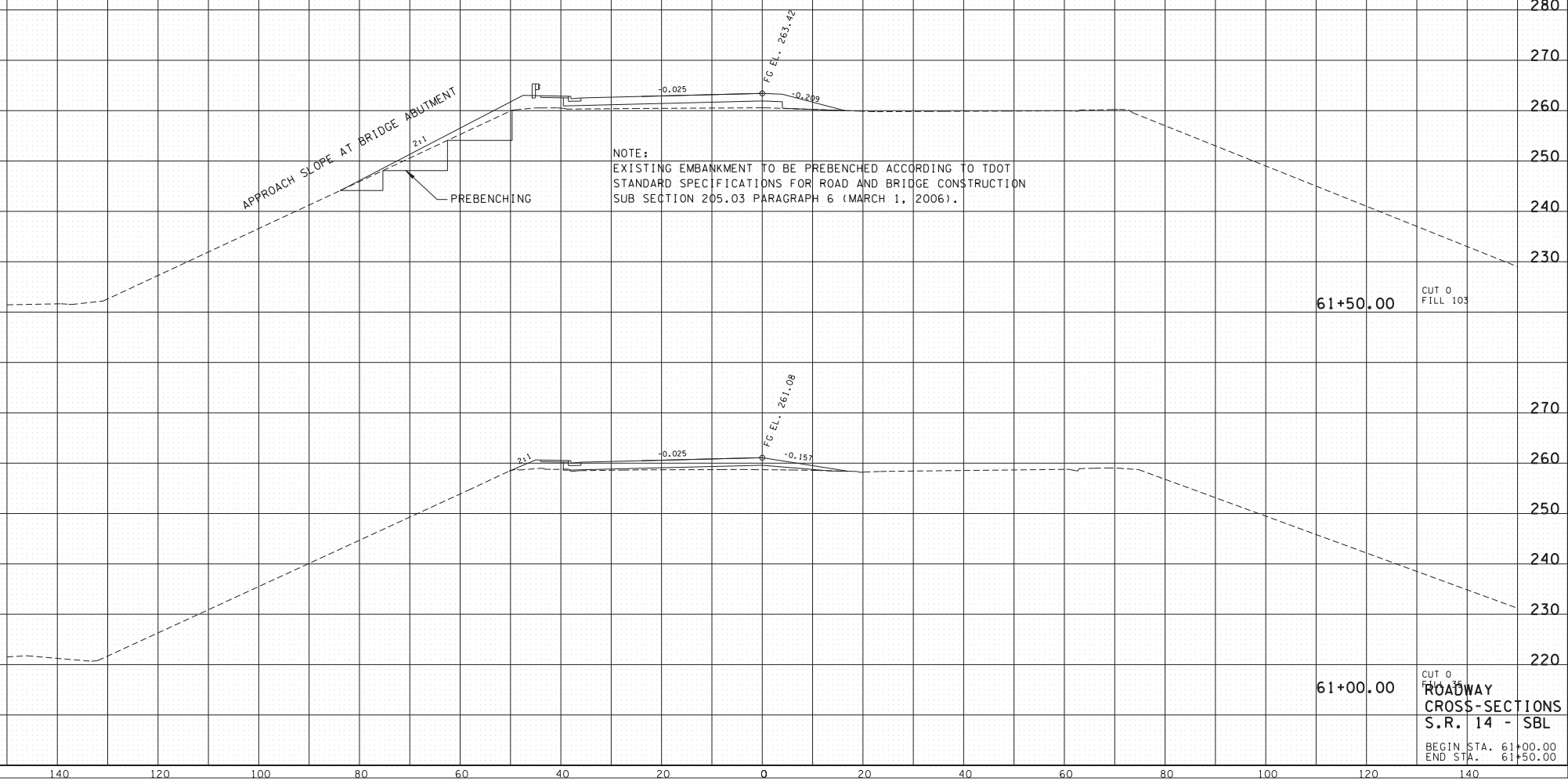

TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
10
R.O.W. PLANS
S.R. 14
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
FG EL. 258.34
-0.022
-0.123
3:1
60+50.00
CUT 5
FILL 12
FG EL. 255.28
-0.011
-0.081
60+00.00
CUT 22
FILL 7
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 60+00.00
END STA. 60+50.00
01-OCT-2015 16:14

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	11

S.R. 14

R.O.W. PLANS



ROADWAY CROSS-SECTIONS
S.R. 14 - SBL

BEGIN STA. 61+00.00
END STA. 61+50.00

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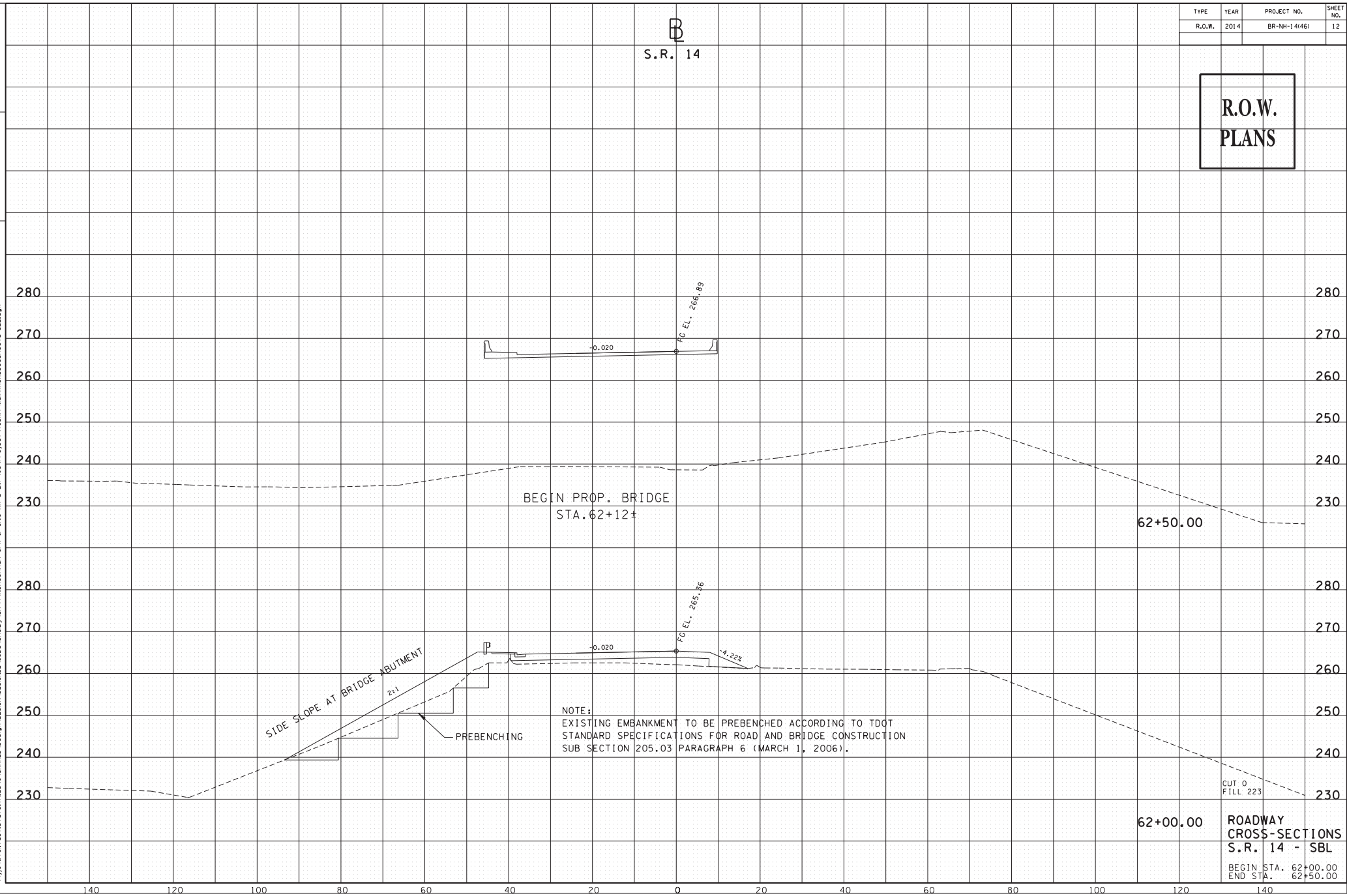
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	12

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

S.R. 14

R.O.W. PLANS



ROADWAY CROSS-SECTIONS
S.R. 14 - SBL

BEGIN STA. 62+00.00
END STA. 62+50.00

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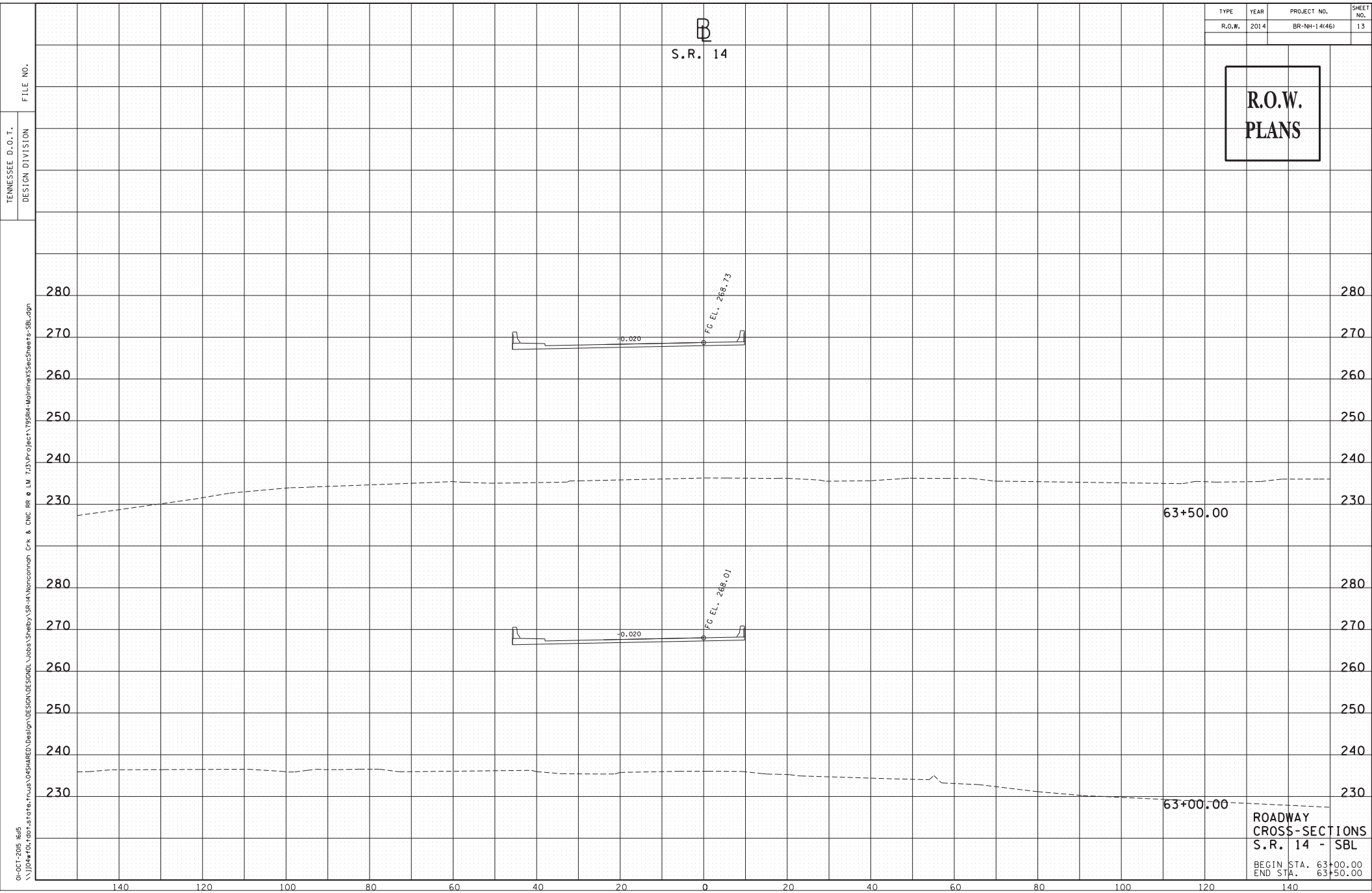
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
13
S.R. 14
R.O.W. PLANS
FG EL. 268.73
-0.020
63+50.00
FG EL. 268.01
-0.020
63+00.00
ROADWAY CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 63+00.00
END STA. 63+50.00
280
270
260
250
240
230
140
120
100
80
60
40
20
0
01-OCT-2015 16:15
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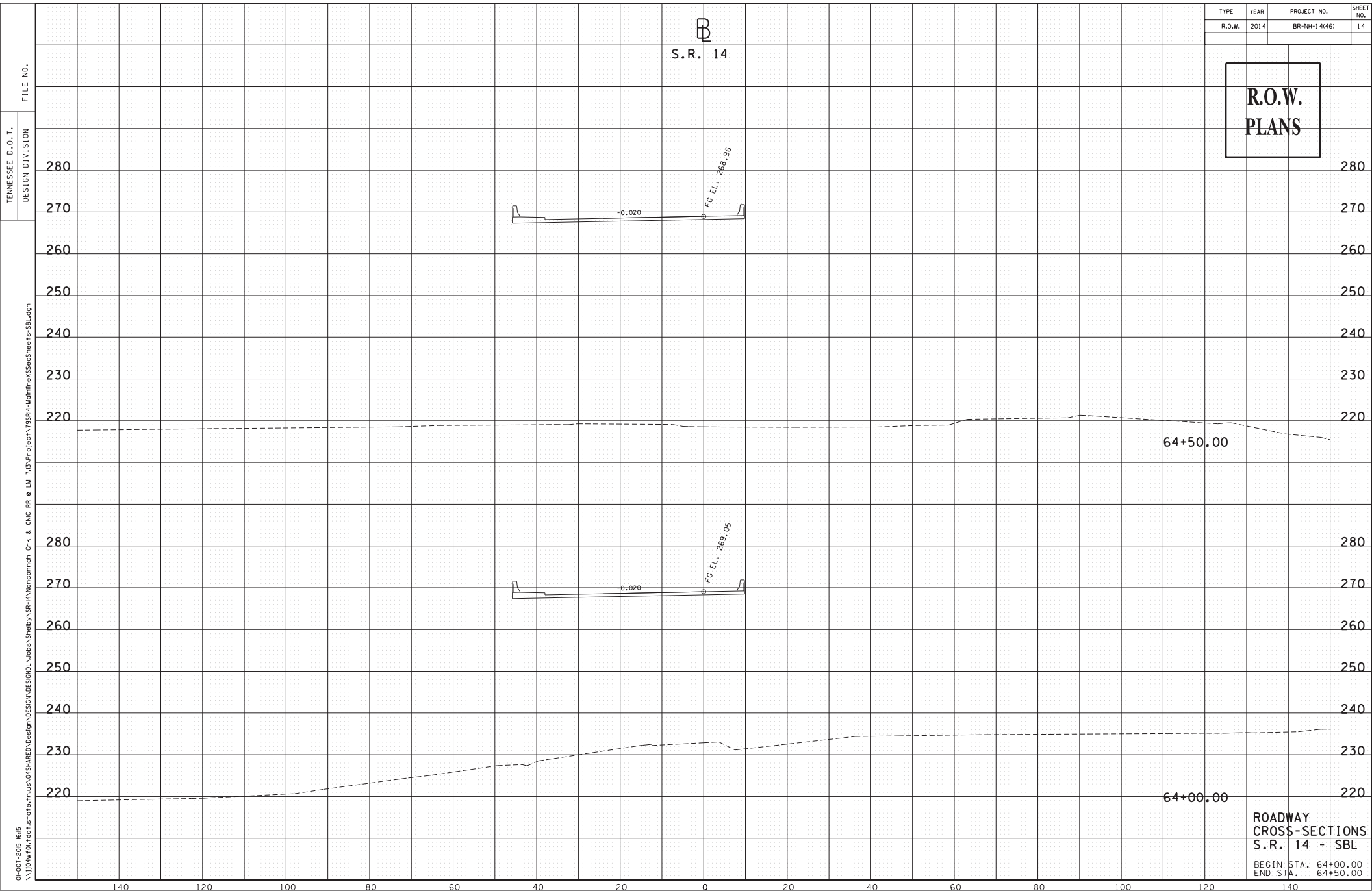
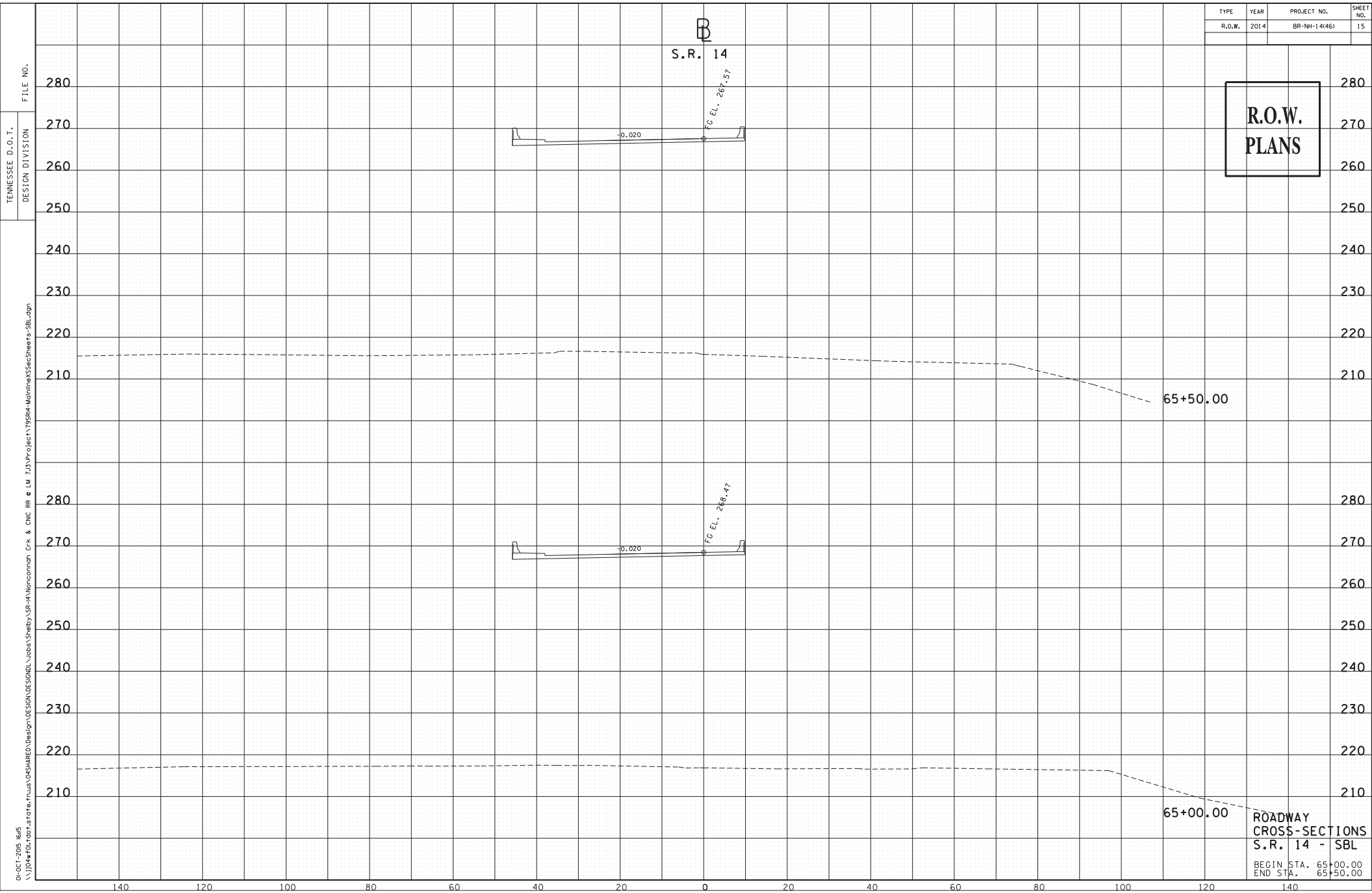
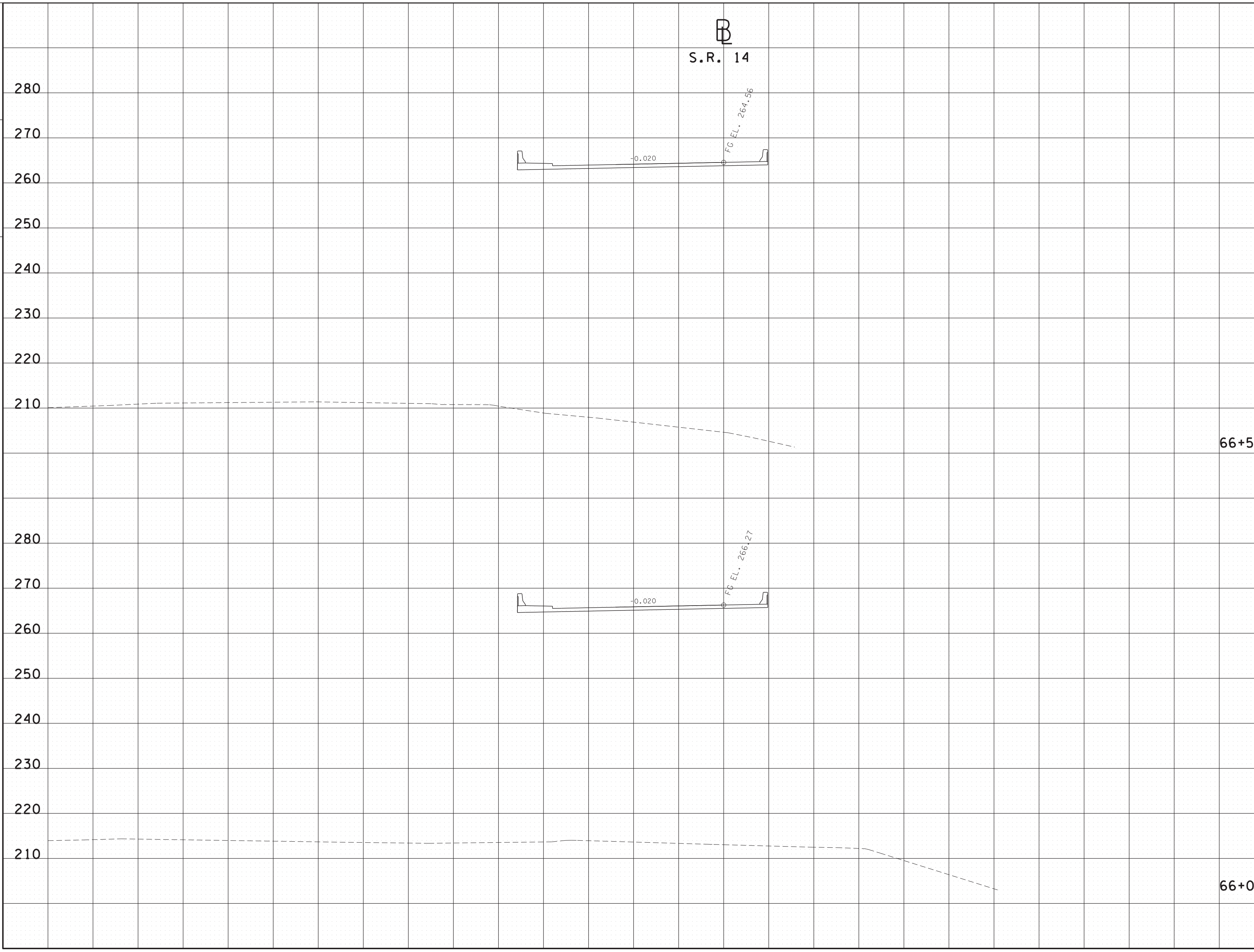

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
14
S.R. 14
R.O.W. PLANS
FG EL. 268.96
-0.020
FG EL. 269.05
-0.020
64+50.00
64+00.00
ROADWAY CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 64+00.00
END STA. 64+50.00
280
270
260
250
240
230
220
140
120
100
80
60
40
20
0
01-OCT-2015 16:15
\\jd04wfdlrdot.state.tn.us\045SHARED\Design\DESIGN\DESIGNDL\Jobs\Shelby\SR-14\Nonconnah Crk & CNC RR @ LM 7.13\Project\195R14-MainlineXSecSheets-SBL.dgn


TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
15
S.R. 14
FG EL. 267.57
-0.020
FG EL. 268.47
-0.020
65+50.00
65+00.00
R.O.W. PLANS
ROADWAY CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 65+00.00
END STA. 65+50.00
280
270
260
250
240
230
220
210
140
120
100
80
60
40
20
0
01-OCT-2015 16:15
\\jdotwfs\tdot.state.tn.us\045SHARED\Design\DESIGN\DESIGNDL\Jobs\Shelby\SR-14\Nonconnah Crk & CNC RR @ LM 7.13\Project\195RR4-MainlineXSecSheets-SBL.dgn

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	16



R.O.W. PLANS

ROADWAY CROSS-SECTIONS
S.R. 14 - SBL

BEGIN STA. 66+00.00
END STA. 66+50.00

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

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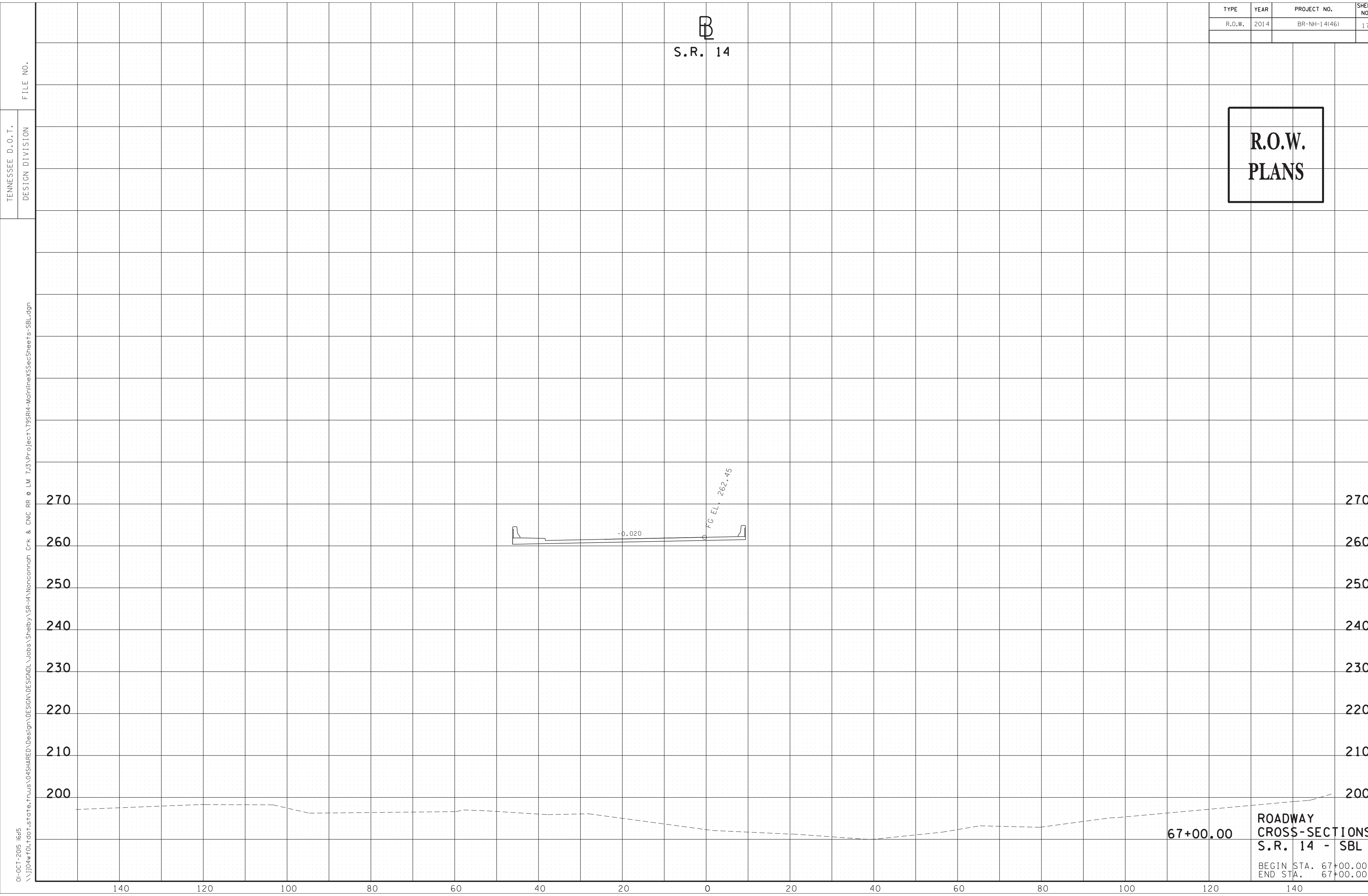
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
17
R.O.W. PLANS
S.R. 14
FG EL. 262.45
-0.020
67+00.00
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 67+00.00
END STA. 67+00.00
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
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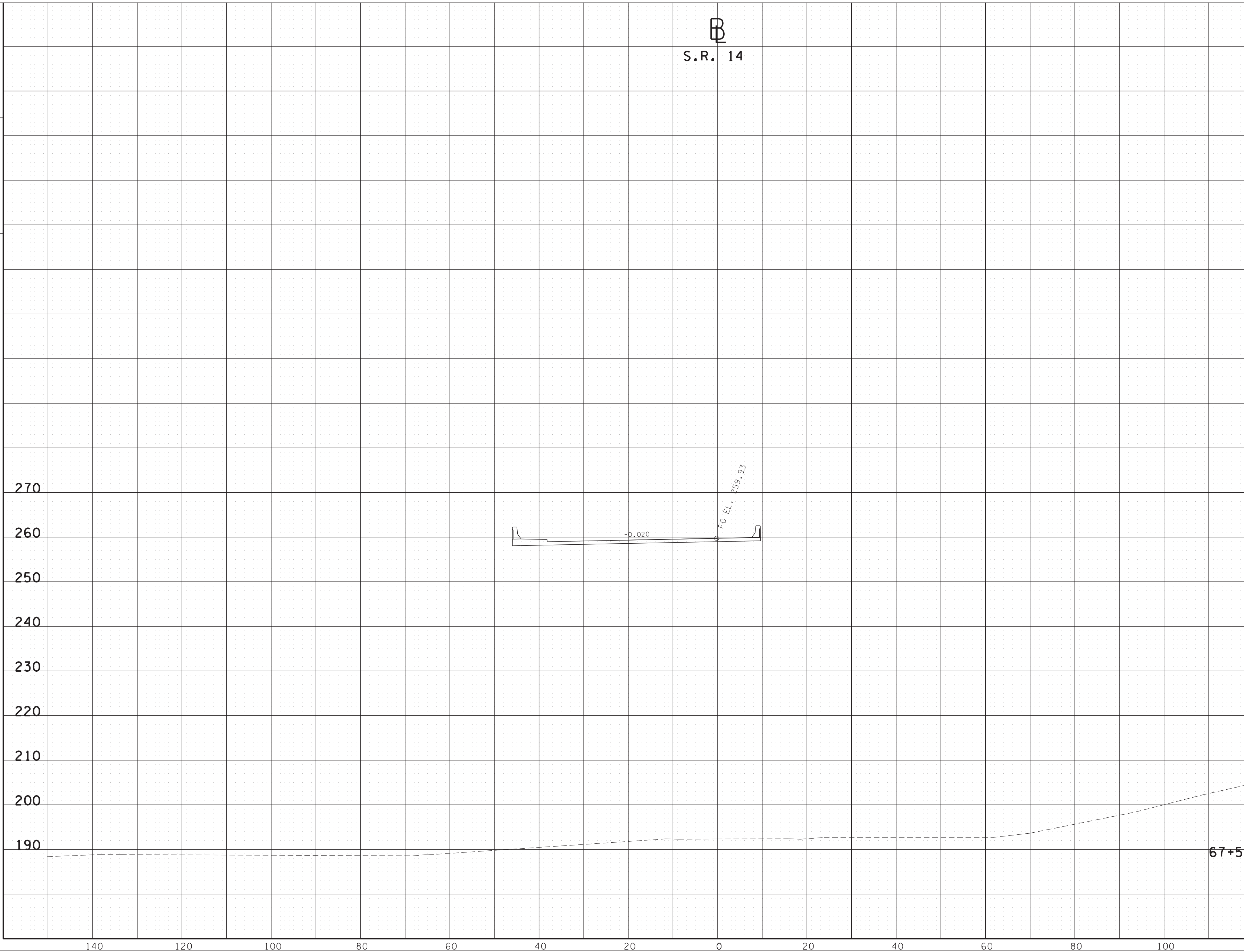
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	18

R.O.W. PLANS



ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL

BEGIN STA. 67+50.00
END STA. 67+50.00

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

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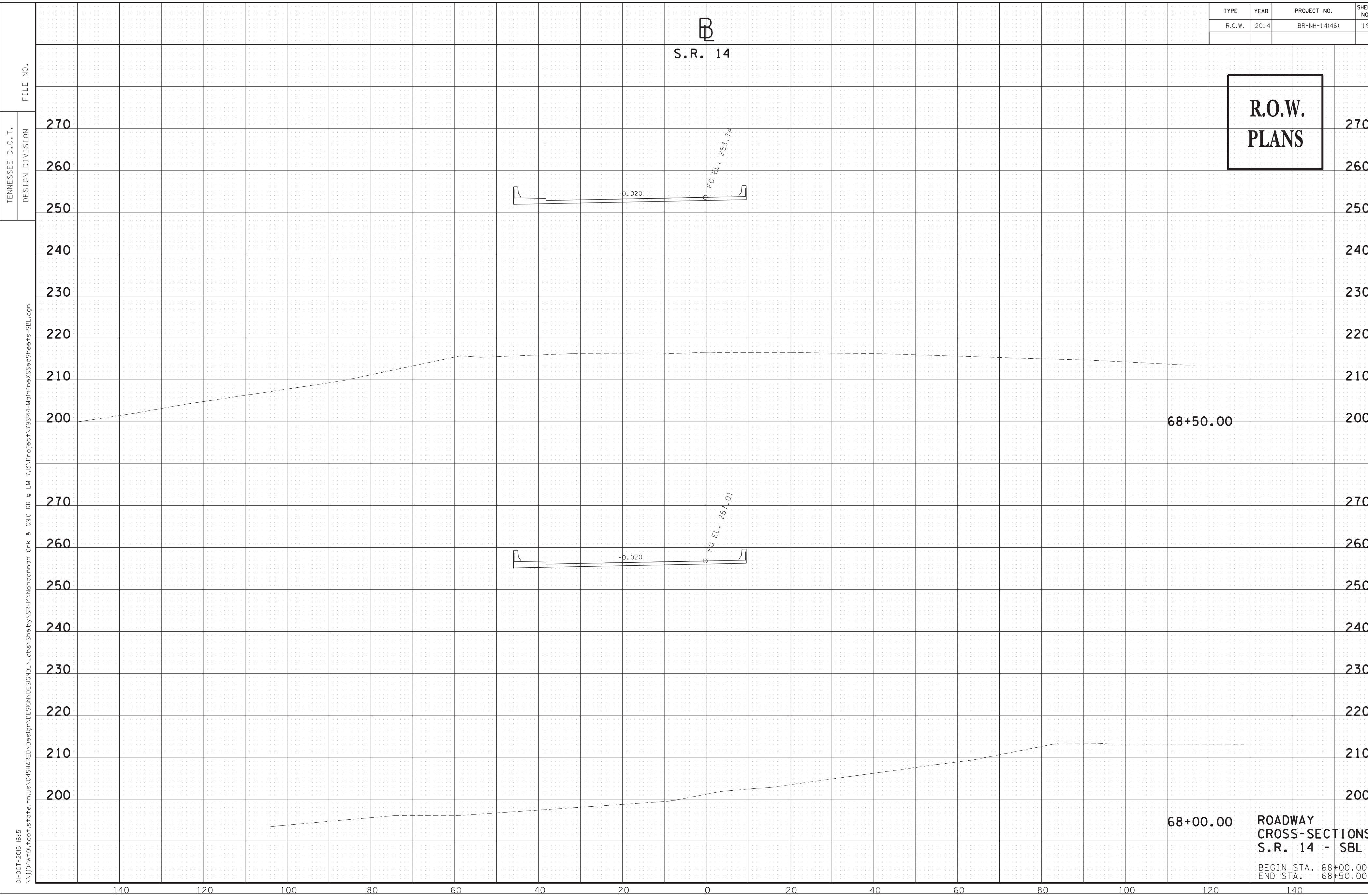
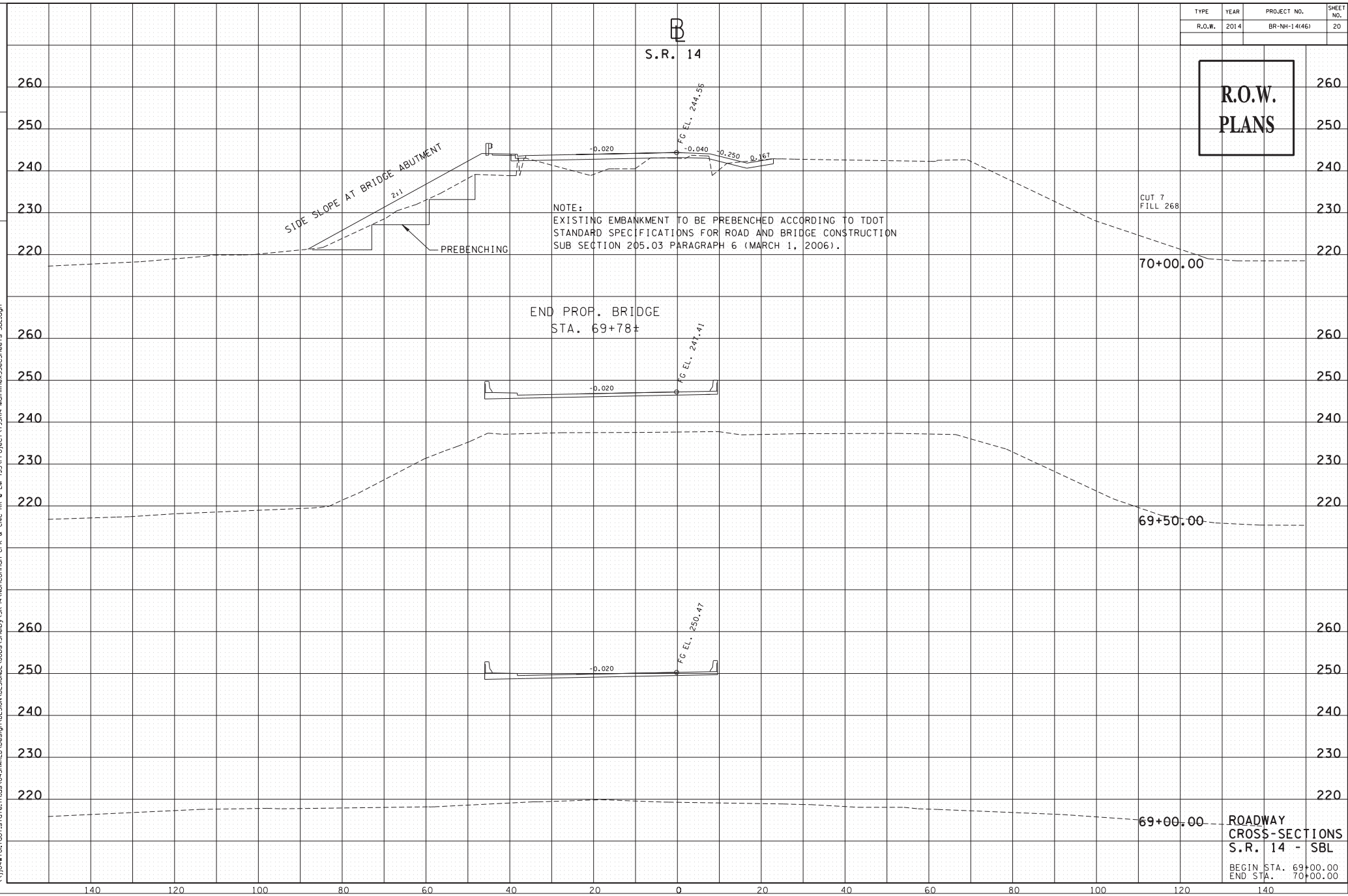
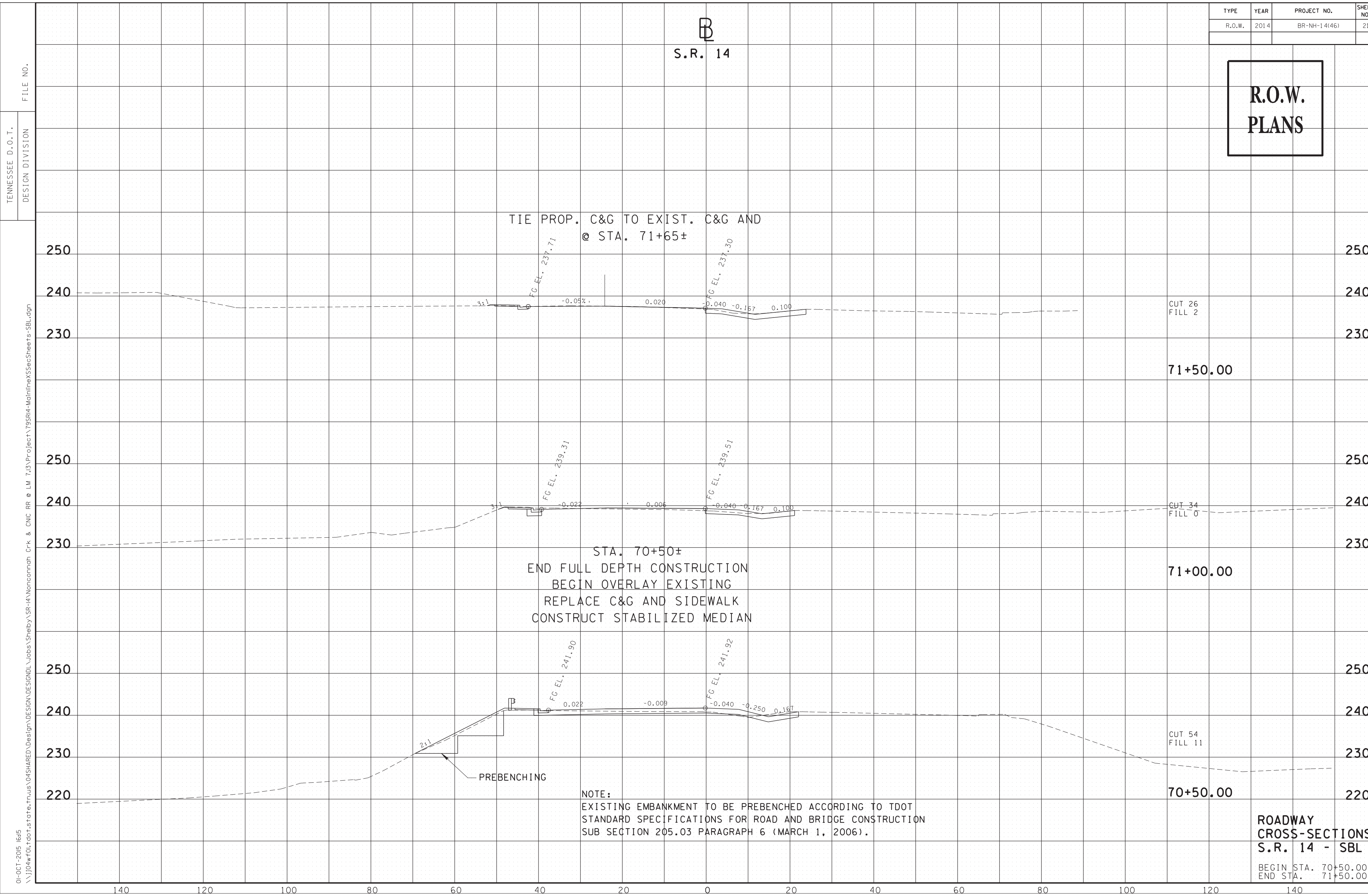
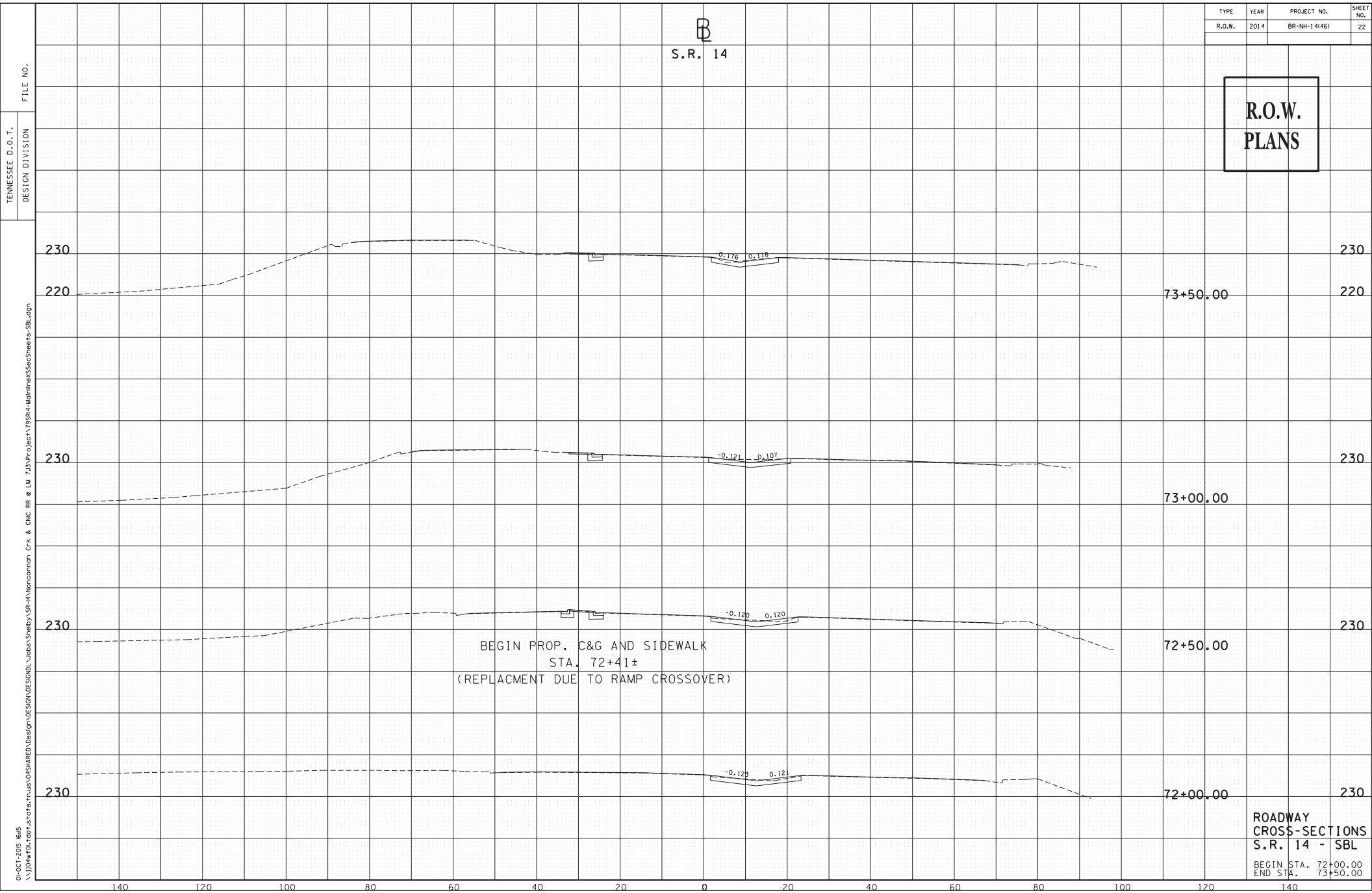

TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
19
R.O.W. PLANS
S.R. 14
FG EL. 253.74
-0.020
68+50.00
FG EL. 257.01
-0.020
68+00.00
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 68+00.00
END STA. 68+50.00
270
260
250
240
230
220
210
200
140
120
100
80
60
40
20
0
FILE NO.
TENNESSEE D.O.T.
DESIGN DIVISION
01-OCT-2015 16:15
\\j04wf01.tdot.state.tn.us\04SHARED\Design\DESIGN\DESIGNDL\Jobs\Shelby\SR-14\Nonconnah Crk & CNIC RR @ LM 7.13\Project\79SR14-MainlineXSSecSheets-SBL.dgn


TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
TYPE | YEAR | PROJECT NO. | SHEET NO.
R.O.W. | 2014 | BR-NH-14(46) | 20
S.R. 14
R.O.W. PLANS
FG EL. 244.56
-0.020
-0.040
-0.250
0.167
SIDE SLOPE AT BRIDGE ABUTMENT
2:1
PREBENCHING
NOTE:
EXISTING EMBANKMENT TO BE PREBENCHED ACCORDING TO TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUB SECTION 205.03 PARAGRAPH 6 (MARCH 1, 2006).
CUT 7
FILL 268
70+00.00
END PROP. BRIDGE
STA. 69+78±
FG EL. 247.41
-0.020
69+50.00
FG EL. 250.47
-0.020
69+00.00
ROADWAY CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 69+00.00
END STA. 70+00.00
260
250
240
230
220
140
120
100
80
60
40
20
0
01-OCT-2015 16:15
\\jd04wfdlrdot.state.tn.us\04SHARED\Design\DESIGN\DESIGNDL\Jobs\Shelby\SR-14\Nonconnah Crk & CNC RR @ LM 7.13\Project\195R14-MainlineXSecSheets-SBL.dgn



TYPE | YEAR | PROJECT NO. | SHEET NO.
R.O.W. | 2014 | BR-NH-14(46) | 21
R.O.W. PLANS
S.R. 14
TIE PROP. C&G TO EXIST. C&G AND
@ STA. 71+65±
FG EL. 237.71
FG EL. 237.30
CUT 26
FILL 2
71+50.00
FG EL. 239.31
FG EL. 239.51
CUT 34
FILL 0
71+00.00
STA. 70+50±
END FULL DEPTH CONSTRUCTION
BEGIN OVERLAY EXISTING
REPLACE C&G AND SIDEWALK
CONSTRUCT STABILIZED MEDIAN
FG EL. 241.90
FG EL. 241.92
CUT 54
FILL 11
PREBENCHING
70+50.00
NOTE:
EXISTING EMBANKMENT TO BE PREBENCHED ACCORDING TO TDOT
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
SUB SECTION 205.03 PARAGRAPH 6 (MARCH 1, 2006).
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 70+50.00
END STA. 71+50.00
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
01-OCT-2015 16:15


TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
22
S.R. 14
R.O.W. PLANS
230
220
230
220
73+50.00
-0.176
0.118
230
230
73+00.00
-0.121
-0.107
230
230
72+50.00
-0.120
0.120
BEGIN PROP. C&G AND SIDEWALK
STA. 72+41±
(REPLACMENT DUE TO RAMP CROSSOVER)
230
230
72+00.00
-0.123
0.121
ROADWAY
CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 72+00.00
END STA. 73+50.00
140
120
100
80
60
40
20
0
20
40
60
80
100
120
140
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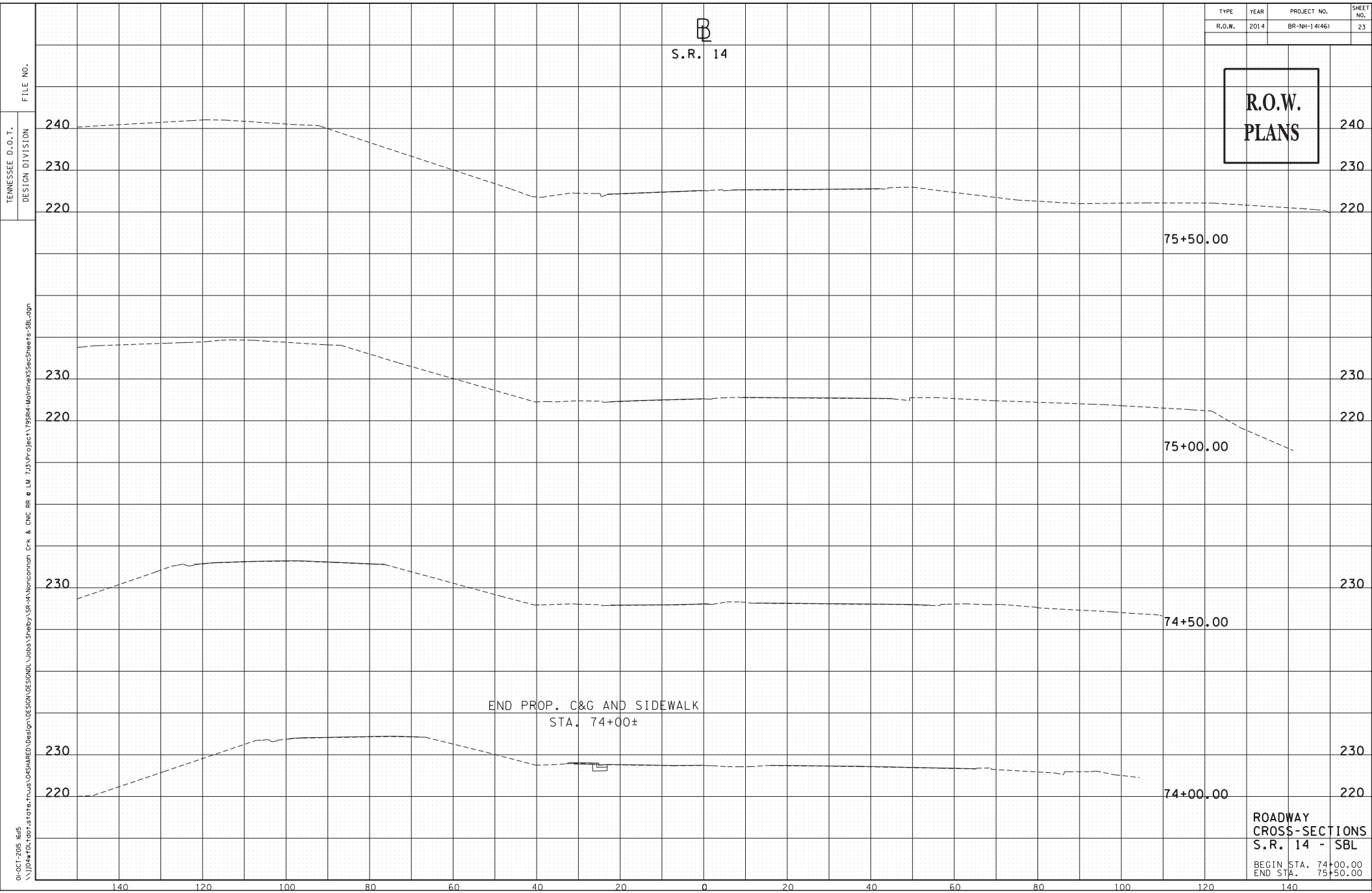
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
TYPE
YEAR
PROJECT NO.
SHEET NO.
R.O.W.
2014
BR-NH-14(46)
23
S.R. 14
R.O.W. PLANS
240
230
220
75+50.00
75+00.00
74+50.00
74+00.00
END PROP. C&G AND SIDEWALK
STA. 74+00±
ROADWAY CROSS-SECTIONS
S.R. 14 - SBL
BEGIN STA. 74+00.00
END STA. 75+50.00
140 120 100 80 60 40 20 0 20 40 60 80 100 120 140
01-OCT-2015 16:15
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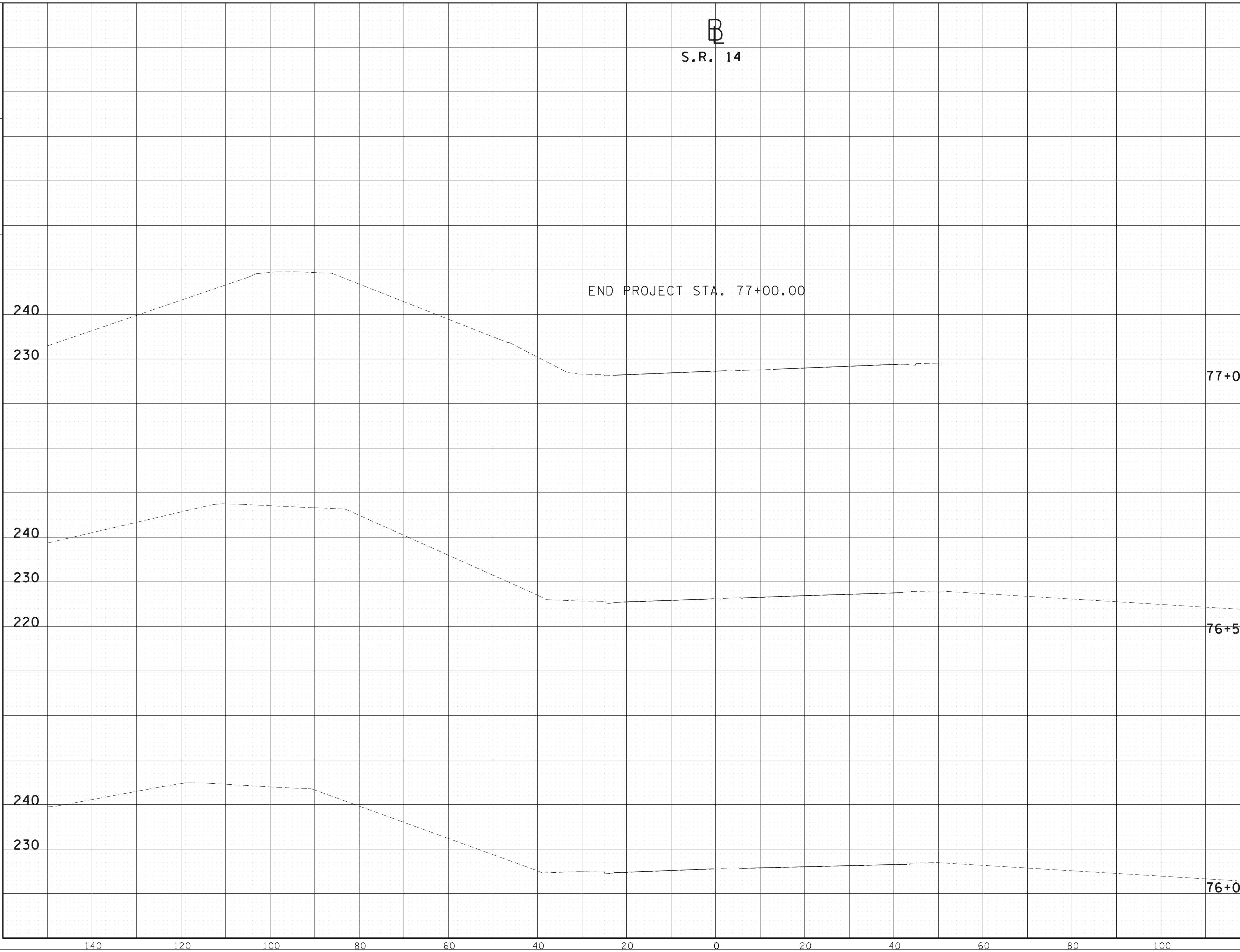
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	BR-NH-14(46)	24

R.O.W. PLANS



ROADWAY CROSS-SECTIONS
S.R. 14 - SBL

BEGIN STA. 76+00.00
END STA. 77+00.00

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

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Traffic analysis was performed using Trafficware's Synchro 10 software to evaluate the effects of diverting traffic from the flyover ramp to a proposed temporary signal at the intersection of S.R. 14 and the I-55 westbound exit ramp. Traffic volumes provided by TDOT included average annual daily traffic (AADT) and design hourly volumes (DHV) for the design year 2024. Figures 1 and 2 display the design hour volumes for 2024.

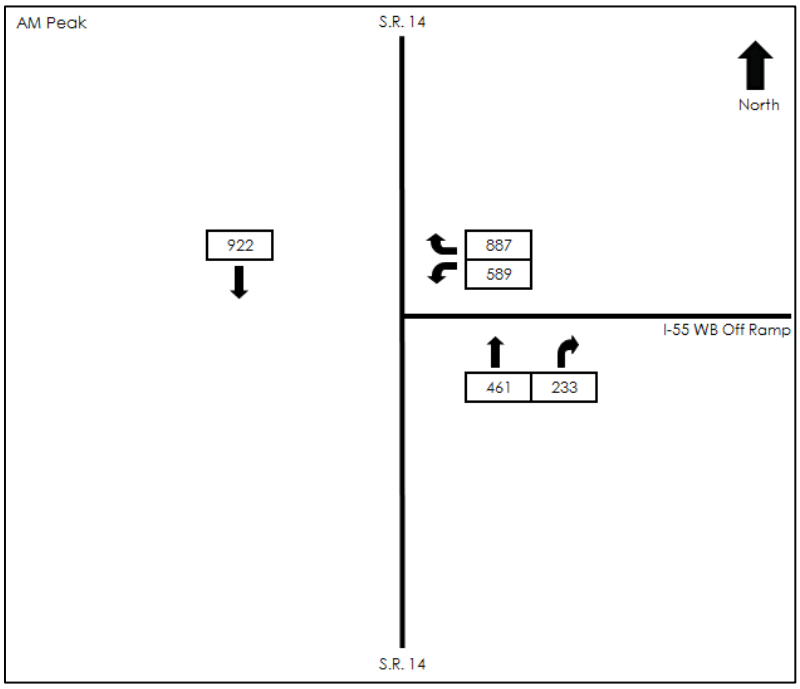


Figure 1: 2024 AM Design Hourly Volumes

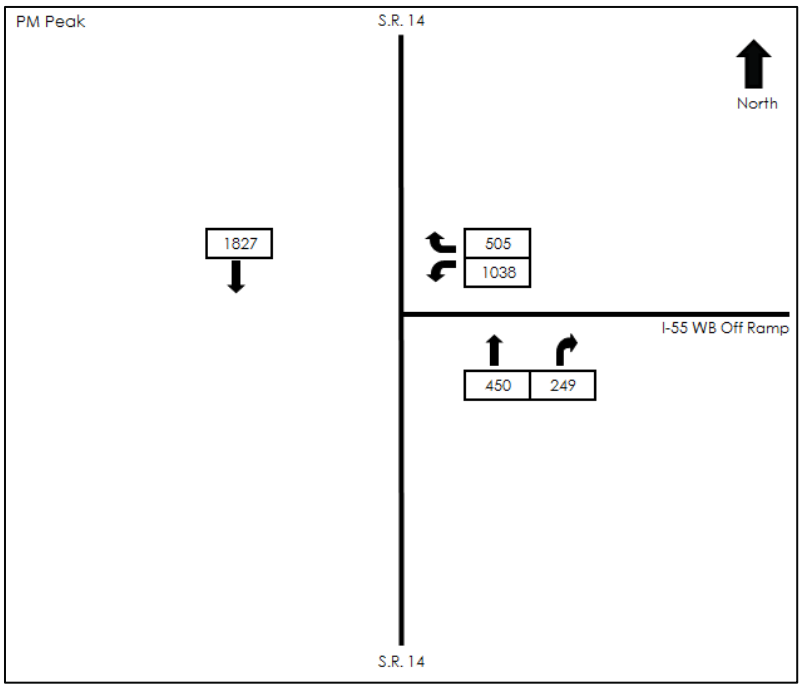


Figure 2: 2024 PM Design Hourly Volumes

The primary concern of the proposed traffic control plan is keeping the queue on the exit ramp from reaching the mainline of I-55. From a proposed stop line at the temporary signal, there is approximately 1,400 feet of storage length to the gore point at the exit ramp diverge. Table 1 contains capacity analysis results with 2024 DHV. The analysis included the assumption of optimized signal timings for each scenario.

Diverting traffic for the purposes of a bridge replacement detour at a high-volume interchange will negatively affect other movements; consequently, certain approaches would be expected to register level-of-service (LOS) F. However, the most relevant metric at the proposed exit ramp intersection is the 95th percentile queue lengths. With the one left turn lane scenario, significant queuing is expected along the ramp for design year 2024. The exit ramp queue is not expected to reach the gore point during the AM peak hour, but the exit ramp queue could reach the gore point in the PM peak hour.

Table 1 displays the LOS, control delay (seconds per vehicle), and 95th percentile queue lengths (feet) from SimTraffic analysis. The LOS was computed based on the *Highway Capacity Manual* (HCM 6th Edition) delay thresholds using the delay values from the SimTraffic analysis.

Table 1: Capacity Analysis Results – Single Left Turn Lane Scenario

Approach	S.R. 14 NB				S.R. 14 SB		Proposed I-55 WB Exit Ramp				Intersection	
Lane Group	Through		Right		Through		Left		Right			
Peak Hour	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Level of Service	B	B	A	A	B	C	**E**	**F**	**E**	**F**	-	-
95th Percentile Queue Length (ft)	133	158	0	0	193	456	836	**1400***	836	**1400***	-	-
Delay (s/veh)	14	18	5	5	19	31	80	300+	80	300+	-	-

*A queue length of 1,400 feet on the exit ramp indicates that the queue reaches the gore point of the mainline interstate, according to the capacity analysis.

Due to the unsatisfactory queue lengths and LOS shown with one left turn lane, a second scenario was analyzed using two left turn lanes on the I-55 westbound exit ramp. The capacity analysis results for this scenario are shown in Table 2. This alternative concept also includes restriping of the exit ramp to include two lanes (one lane for the left-turning movement and one lane for the right-turning movement). The full length restriping extends approximately 750 feet from the stop line of the westbound exit ramp approach to S.R. 14. The inside full-width left turn lane extends approximately 200 feet from the stop line of the westbound exit ramp approach to S.R. 14. A 90-

second cycle length was used in both peak hour capacity analyses, and the splits were optimized after the cycle length was set.

Table 2 displays the LOS, control delay (seconds per vehicle), and 95th percentile queue lengths (feet) from SimTraffic analysis. The LOS was computed based on the HCM 6th Edition delay thresholds using the delay values from the SimTraffic analysis.

Table 2: Capacity Analysis Results – Dual Left Turn Lane Scenario

Approach	S.R. 14 NB				S.R. 14 SB		Proposed I-55 WB Exit Ramp				Intersection	
Lane Group	Through		Right		Through		Left		Right			
Peak Hour	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Level of Service	A	B	A	A	A	B	B	C	A	A	**C**	**C**
95th Percentile Queue Length (ft)	111	142	0	0	162	295	152	496	152	496	-	-
Delay (s/veh)	9	14	5	5	11	20	16	30	10	6	**11**	**19**

LOS, queue lengths, and vehicle delay improve with this lane configuration. Storage space for left turning vehicles increases, which decreases the likelihood of a queue blocking the free flow right turn from the exit ramp to S.R. 14 northbound. For year 2024, acceptable LOS and manageable queue lengths are expected at all approaches based on the analysis.

The cycle lengths and phase splits used in this analysis represent a satisfactory starting point for a key part of the overall traffic control plan while the overpass is reconstructed; however, it will be necessary to monitor the performance of the signal with respect to the ramp queue. Based on this analysis and projected design hour volumes, the PM peak hour traffic operations may require more maintenance than that of the AM peak hour. S.R. 14 has more space to utilize for queue management than the I-55 westbound exit ramp. There is approximately 2000 feet and 5000 feet of roadway between the proposed signal and the adjacent signals to the north and south, respectively. With the priority of preventing the ramp queue from reaching the mainline of I-55, one option for queue management on the ramp is to use the storage capacity on S.R. 14 by reducing its green time in favor of adding time to flush the ramp. Traffic conditions during a detour can change quickly, and field adjustment to proposed signal timings is a key tool to utilize in this scenario.

In summary, restriping the exit ramp and constructing a dual left turn lane from the exit ramp to S.R. 14 southbound would allow the proposed intersection to function more

efficiently, especially during the PM peak hour when demand for the westbound left turning movement is highest. The traffic analysis results indicated that 200 feet of full width storage length achieved satisfactory levels of service, so the original ramp detour concept was adjusted to lengthen the inside left turn lane to 200 feet of full width storage length. Increasing this length also allows for multiple heavy vehicles to stack in the outside left turn lane without blocking access to the inside left turn lane. Construction of dual-left turn lanes on the exit ramp would significantly decrease the chance of the queue backing up to the interstate.

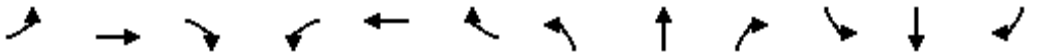
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	589	887	461	233	0	922
Future Volume (vph)	589	887	461	233	0	922
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950					
Satd. Flow (prot)	1687	1509	3374	1509	0	4848
Flt Permitted	0.950					
Satd. Flow (perm)	1687	1509	3374	1509	0	4848
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		67		253		
Link Speed (mph)	25		40			40
Link Distance (ft)	438		468			585
Travel Time (s)	11.9		8.0			10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	640	964	501	253	0	1002
Shared Lane Traffic (%)						
Lane Group Flow (vph)	640	964	501	253	0	1002
Turn Type	Prot	Perm	NA	Perm		NA
Protected Phases	8		2			6
Permitted Phases		8		2		
Detector Phase	8	8	2	2		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	23.0	23.0	23.0	23.0		23.0
Total Split (s)	52.0	52.0	23.0	23.0		23.0
Total Split (%)	69.3%	69.3%	30.7%	30.7%		30.7%
Maximum Green (s)	47.0	47.0	18.0	18.0		18.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	Min	Min		Min
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	47.0	47.0	18.0	18.0		18.0
Actuated g/C Ratio	0.63	0.63	0.24	0.24		0.24
v/c Ratio	0.61	0.99	0.62	0.46		0.86
Control Delay	11.5	43.0	29.4	6.5		36.6
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	11.5	43.0	29.4	6.5		36.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	B	D	C	A		D
Approach Delay	30.4		21.7			36.6
Approach LOS	C		C			D
Stops (vph)	337	655	397	31		824
Fuel Used(gal)	5	14	8	1		19
CO Emissions (g/hr)	340	950	568	94		1302
NOx Emissions (g/hr)	66	185	110	18		253
VOC Emissions (g/hr)	79	220	132	22		302
Dilemma Vehicles (#)	0	0	27	0		60
Queue Length 50th (ft)	158	372	110	0		164
Queue Length 95th (ft)	253	#684	158	54		#233
Internal Link Dist (ft)	358		388			505
Turn Bay Length (ft)	200					
Base Capacity (vph)	1057	970	809	554		1163
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.61	0.99	0.62	0.46		0.86

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 30.3		Intersection LOS: C	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: S.R. 14 & I-55 WB Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	589	0	887	0	461	233	0	922	0
Future Volume (vph)	0	0	0	589	0	887	0	461	233	0	922	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		750	0		0	0		0
Storage Lanes	0		0	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.950							
Satd. Flow (prot)	0	0	0	1603	1603	1509	0	3374	1509	0	4848	0
Flt Permitted				0.950	0.950							
Satd. Flow (perm)	0	0	0	1603	1603	1509	0	3374	1509	0	4848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						62			253			
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		191			1401			1833			1567	
Travel Time (s)		4.3			38.2			31.2			26.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	640	0	964	0	501	253	0	1002	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	320	320	964	0	501	253	0	1002	0
Turn Type				Split	NA	Perm		NA	Perm		NA	
Protected Phases				8	8			2			6	
Permitted Phases						8			2			
Detector Phase				8	8	8		2	2		6	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0		12.0	12.0		12.0	
Minimum Split (s)				23.0	23.0	23.0		23.0	23.0		23.0	
Total Split (s)				64.0	64.0	64.0		26.0	26.0		26.0	
Total Split (%)				71.1%	71.1%	71.1%		28.9%	28.9%		28.9%	
Maximum Green (s)				59.0	59.0	59.0		21.0	21.0		21.0	
Yellow Time (s)				4.0	4.0	4.0		4.0	4.0		4.0	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0		1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0		0.0	
Total Lost Time (s)				5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0		3.0	
Recall Mode				None	None	None		Min	Min		Min	
Walk Time (s)				7.0	7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				11.0	11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)				0	0	0		0	0		0	
Act Effct Green (s)				56.5	56.5	56.5		20.6	20.6		20.6	
Actuated g/C Ratio				0.65	0.65	0.65		0.24	0.24		0.24	
v/c Ratio				0.31	0.31	0.96		0.63	0.46		0.87	
Control Delay				7.7	7.7	36.5		34.5	6.9		42.4	
Queue Delay				0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay				7.7	7.7	36.5		34.5	6.9		42.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS				A	A	D		C	A		D	
Approach Delay					25.0			25.2			42.4	
Approach LOS					C			C			D	
Stops (vph)				118	118	659		399	29		829	
Fuel Used(gal)				4	4	20		13	4		26	
CO Emissions (g/hr)				309	309	1377		901	245		1811	
NOx Emissions (g/hr)				60	60	268		175	48		352	
VOC Emissions (g/hr)				72	72	319		209	57		420	
Dilemma Vehicles (#)				0	0	0		23	0		49	
Queue Length 50th (ft)				72	72	428		135	0		202	
Queue Length 95th (ft)				115	115	#771		189	59		#276	
Internal Link Dist (ft)		111			1321			1753			1487	
Turn Bay Length (ft)				200		750						
Base Capacity (vph)				1089	1089	1045		816	557		1173	
Starvation Cap Reductn				0	0	0		0	0		0	
Spillback Cap Reductn				0	0	0		0	0		0	
Storage Cap Reductn				0	0	0		0	0		0	
Reduced v/c Ratio				0.29	0.29	0.92		0.61	0.45		0.85	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 87.2			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 30.2		Intersection LOS: C	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: S.R. 14 & I-55 WB Ramps

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1038	505	450	249	0	1827
Future Volume (vph)	1038	505	450	249	0	1827
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950					
Satd. Flow (prot)	1687	1509	3374	1509	0	4848
Flt Permitted	0.950					
Satd. Flow (perm)	1687	1509	3374	1509	0	4848
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		182		271		
Link Speed (mph)	25		40			40
Link Distance (ft)	438		468			585
Travel Time (s)	11.9		8.0			10.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1128	549	489	271	0	1986
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1128	549	489	271	0	1986
Turn Type	Prot	Perm	NA	Perm		NA
Protected Phases	8		2			6
Permitted Phases		8		2		
Detector Phase	8	8	2	2		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	23.0	23.0	23.0	23.0		23.0
Total Split (s)	72.0	72.0	48.0	48.0		48.0
Total Split (%)	60.0%	60.0%	40.0%	40.0%		40.0%
Maximum Green (s)	67.0	67.0	43.0	43.0		43.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	Min	Min		Min
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	67.0	67.0	43.0	43.0		43.0
Actuated g/C Ratio	0.56	0.56	0.36	0.36		0.36
v/c Ratio	1.20	0.60	0.40	0.38		1.14
Control Delay	126.5	14.2	30.1	4.8		107.9
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	126.5	14.2	30.1	4.8		107.9

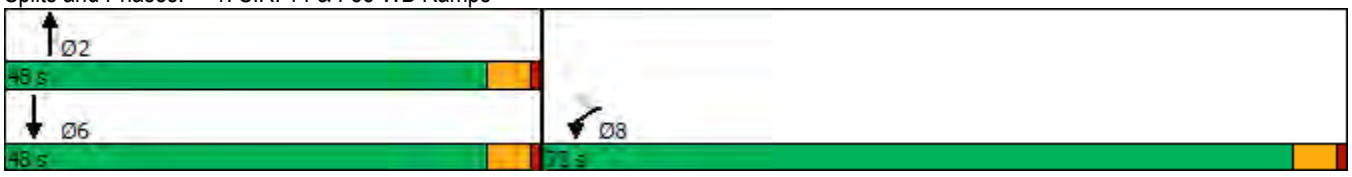
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	F	B	C	A		F
Approach Delay	89.7		21.1			107.9
Approach LOS	F		C			F
Stops (vph)	839	227	329	22		1570
Fuel Used(gal)	34	4	7	1		63
CO Emissions (g/hr)	2364	295	519	87		4391
NOx Emissions (g/hr)	460	57	101	17		854
VOC Emissions (g/hr)	548	68	120	20		1018
Dilemma Vehicles (#)	0	0	14	0		66
Queue Length 50th (ft)	~1059	176	148	0		~659
Queue Length 95th (ft)	#1317	286	196	56		#756
Internal Link Dist (ft)	358		388			505
Turn Bay Length (ft)	200					
Base Capacity (vph)	941	922	1209	714		1737
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	1.20	0.60	0.40	0.38		1.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 86.1		Intersection LOS: F	
Intersection Capacity Utilization 101.1%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: S.R. 14 & I-55 WB Ramps



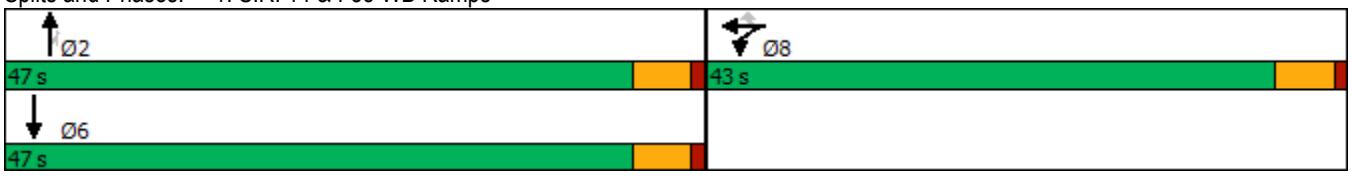
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1038	0	505	0	450	249	0	1827	0
Future Volume (vph)	0	0	0	1038	0	505	0	450	249	0	1827	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		750	0		0	0		0
Storage Lanes	0		0	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.950							
Satd. Flow (prot)	0	0	0	1603	1603	1509	0	3374	1509	0	4848	0
Flt Permitted				0.950	0.950							
Satd. Flow (perm)	0	0	0	1603	1603	1509	0	3374	1509	0	4848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						279			271			
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		238			1411			1798			1851	
Travel Time (s)		5.4			38.5			30.6			31.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1128	0	549	0	489	271	0	1986	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	564	564	549	0	489	271	0	1986	0
Turn Type				Split	NA	Perm		NA	Perm		NA	
Protected Phases				8	8			2			6	
Permitted Phases						8			2			
Detector Phase				8	8	8		2	2		6	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0		12.0	12.0		12.0	
Minimum Split (s)				23.0	23.0	23.0		23.0	23.0		23.0	
Total Split (s)				43.0	43.0	43.0		47.0	47.0		47.0	
Total Split (%)				47.8%	47.8%	47.8%		52.2%	52.2%		52.2%	
Maximum Green (s)				38.0	38.0	38.0		42.0	42.0		42.0	
Yellow Time (s)				4.0	4.0	4.0		4.0	4.0		4.0	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0		1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0		0.0	
Total Lost Time (s)				5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0		3.0	
Recall Mode				None	None	None		Min	Min		Min	
Walk Time (s)				7.0	7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				11.0	11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)				0	0	0		0	0		0	
Act Effct Green (s)				34.6	34.6	34.6		40.9	40.9		40.9	
Actuated g/C Ratio				0.40	0.40	0.40		0.48	0.48		0.48	
v/c Ratio				0.87	0.87	0.71		0.30	0.31		0.86	
Control Delay				39.6	39.6	15.7		14.8	2.9		25.2	
Queue Delay				0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay				39.6	39.6	15.7		14.8	2.9		25.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS				D	D	B		B	A		C	
Approach Delay					31.8			10.6			25.2	
Approach LOS					C			B			C	
Stops (vph)				438	438	219		259	20		1515	
Fuel Used(gal)				12	12	9		9	3		47	
CO Emissions (g/hr)				846	846	595		657	236		3299	
NOx Emissions (g/hr)				165	165	116		128	46		642	
VOC Emissions (g/hr)				196	196	138		152	55		764	
Dilemma Vehicles (#)				0	0	0		20	0		101	
Queue Length 50th (ft)				292	292	118		87	0		360	
Queue Length 95th (ft)				#492	#492	242		122	40		432	
Internal Link Dist (ft)		158			1331			1718			1771	
Turn Bay Length (ft)				200		750						
Base Capacity (vph)				717	717	829		1668	883		2397	
Starvation Cap Reductn				0	0	0		0	0		0	
Spillback Cap Reductn				0	0	0		0	0		0	
Storage Cap Reductn				0	0	0		0	0		0	
Reduced v/c Ratio				0.79	0.79	0.66		0.29	0.31		0.83	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 85.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 72.4% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: S.R. 14 & I-55 WB Ramps



1: S.R. 14 & I-55 WB Ramps Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	R	T	T	R	T	T	T	
Denied Del/Veh (s)									70.1
Total Del/Veh (s)	11.9	80.4	14.3	12.4	4.7	18.8	13.6	8.4	31.7

Total Network Performance

Denied Del/Veh (s)	70.1
Total Del/Veh (s)	38.4

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	220	339	262	245	247	220	190
Average Queue (ft)	165	55	99	65	128	111	51
95th Queue (ft)	241	238	165	140	191	184	129
Link Distance (ft)		1360	1518	1518	1605	1605	1605
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	3						
Queuing Penalty (veh)	27						

Network Summary

Network wide Queuing Penalty: 27

1: S.R. 14 & I-55 WB Ramps Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	R	T	T	R	T	T	T	
Denied Del/Veh (s)									78.5
Total Del/Veh (s)	11.9	79.2	13.0	12.1	4.9	20.6	15.5	11.7	31.9

Total Network Performance

Denied Del/Veh (s)	78.5
Total Del/Veh (s)	38.7

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	222	326	162	138	262	214	190
Average Queue (ft)	166	50	87	56	152	129	66
95th Queue (ft)	233	233	136	110	235	216	161
Link Distance (ft)		1360	1518	1518	1605	1605	1605
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	2						
Queuing Penalty (veh)	22						

Network Summary

Network wide Queuing Penalty: 22

1: S.R. 14 & I-55 WB Ramps Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	R	T	T	R	T	T	T	
Denied Del/Veh (s)									100.0
Total Del/Veh (s)	12.2	81.6	15.1	12.5	5.2	19.4	12.9	9.9	32.3

Total Network Performance

Denied Del/Veh (s)	100.0
Total Del/Veh (s)	39.2

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	225	1412	167	115	202	169	171
Average Queue (ft)	169	203	89	55	130	106	49
95th Queue (ft)	228	975	131	93	181	171	114
Link Distance (ft)		1360	1518	1518	1605	1605	1605
Upstream Blk Time (%)		2					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	3	0					
Queuing Penalty (veh)	28	1					

Network Summary

Network wide Queuing Penalty: 29

1: S.R. 14 & I-55 WB Ramps Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	R	T	T	R	T	T	T	
Denied Del/Veh (s)									84.6
Total Del/Veh (s)	11.8	79.5	13.9	10.1	5.0	18.3	15.4	9.1	30.7

Total Network Performance

Denied Del/Veh (s)	84.6
Total Del/Veh (s)	37.4

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	224	1399	137	140	240	210	197
Average Queue (ft)	154	115	89	58	131	135	80
95th Queue (ft)	223	654	131	105	199	215	177
Link Distance (ft)		1360	1518	1518	1605	1605	1605
Upstream Blk Time (%)		1					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	2						
Queuing Penalty (veh)	16						

Network Summary

Network wide Queuing Penalty: 16

1: S.R. 14 & I-55 WB Ramps Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	R	T	T	R	T	T	T	
Denied Del/Veh (s)									83.2
Total Del/Veh (s)	11.9	78.6	14.5	11.5	4.9	18.3	13.0	8.4	31.0

Total Network Performance

Denied Del/Veh (s)	83.2
Total Del/Veh (s)	37.8

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	224	1394	159	146	223	186	151
Average Queue (ft)	167	184	86	55	133	106	60
95th Queue (ft)	231	880	138	104	184	165	132
Link Distance (ft)		1360	1518	1518	1605	1605	1605
Upstream Blk Time (%)		1					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	2						
Queuing Penalty (veh)	23						

Network Summary

Network wide Queuing Penalty: 23

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	7.2	7.6	0.1	0.2	0.1	3.5
Total Del/Veh (s)	15.2	8.9	8.4	4.7	10.1	10.1

Total Network Performance

Denied Del/Veh (s)	3.5
Total Del/Veh (s)	16.9

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	146	154	136	109	160	174	178
Average Queue (ft)	76	107	65	44	102	74	33
95th Queue (ft)	126	148	110	96	148	143	98
Link Distance (ft)		1359	1791	1791	1520	1520	1520
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	15.5	14.9	0.1	0.2	0.1	7.5
Total Del/Veh (s)	15.6	10.3	9.2	5.3	11.2	11.0

Total Network Performance

Denied Del/Veh (s)	7.5
Total Del/Veh (s)	18.3

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	144	182	147	118	162	156	131
Average Queue (ft)	78	109	69	43	106	81	28
95th Queue (ft)	118	151	111	79	159	138	88
Link Distance (ft)		1359	1791	1791	1520	1520	1520
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Network Summary

Network wide Queuing Penalty: 0

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	18.9	19.7	0.1	0.2	0.1	9.4
Total Del/Veh (s)	15.8	9.8	9.5	5.2	10.2	10.7

Total Network Performance

Denied Del/Veh (s)	9.4
Total Del/Veh (s)	17.7

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	222	201	165	118	172	166	132
Average Queue (ft)	77	115	69	51	105	83	27
95th Queue (ft)	138	158	119	107	159	148	83
Link Distance (ft)		1359	1791	1791	1520	1520	1520
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)		0					
Queuing Penalty (veh)		1					

Network Summary

Network wide Queuing Penalty: 1

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	17.1	16.6	0.1	0.2	0.1	8.1
Total Del/Veh (s)	15.8	9.9	9.1	5.1	10.8	10.8

Total Network Performance

Denied Del/Veh (s)	8.1
Total Del/Veh (s)	17.7

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	135	154	129	71	212	162	107
Average Queue (ft)	76	105	65	42	103	87	26
95th Queue (ft)	126	143	100	76	172	157	68
Link Distance (ft)		1359	1791	1791	1520	1520	1520
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	9.9	9.5	0.1	0.2	0.1	4.6
Total Del/Veh (s)	15.4	9.1	9.4	5.0	11.5	10.7

Total Network Performance

Denied Del/Veh (s)	4.6
Total Del/Veh (s)	17.6

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	142	158	131	124	196	180	124
Average Queue (ft)	78	116	73	40	106	87	27
95th Queue (ft)	124	159	117	82	174	164	81
Link Distance (ft)		1359	1791	1791	1520	1520	1520
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	598.6	621.2	0.1	0.1	0.1	226.8
Total Del/Veh (s)	120.9	96.6	17.8	5.0	29.9	51.4

Total Network Performance

Denied Del/Veh (s)	226.8
Total Del/Veh (s)	57.1

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	225	1390	224	233	451	471	402
Average Queue (ft)	224	1371	99	87	305	290	250
95th Queue (ft)	228	1392	166	161	438	433	382
Link Distance (ft)		1338	2037	2037	1922	1922	1922
Upstream Blk Time (%)		59					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	42	0					
Queuing Penalty (veh)	211	4					

Network Summary

Network wide Queuing Penalty: 215

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	632.2	623.9	0.1	0.2	0.1	229.5
Total Del/Veh (s)	116.4	97.1	18.8	5.1	32.6	51.2

Total Network Performance

Denied Del/Veh (s)	229.5
Total Del/Veh (s)	56.6

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	225	1401	179	177	454	454	431
Average Queue (ft)	224	1372	102	81	317	310	278
95th Queue (ft)	230	1397	159	143	448	446	433
Link Distance (ft)		1338	2037	2037	1922	1922	1922
Upstream Blk Time (%)		57					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	38	0					
Queuing Penalty (veh)	189	1					

Network Summary

Network wide Queuing Penalty: 191

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	549.2	556.3	0.1	0.2	0.1	210.4
Total Del/Veh (s)	114.4	93.6	18.6	5.3	33.1	51.7

Total Network Performance

Denied Del/Veh (s)	210.4
Total Del/Veh (s)	57.2

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	225	1401	197	183	620	588	594
Average Queue (ft)	224	1354	98	79	320	319	269
95th Queue (ft)	230	1497	151	144	512	502	438
Link Distance (ft)		1338	2037	2037	1922	1922	1922
Upstream Blk Time (%)		54					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	39	0					
Queuing Penalty (veh)	196	2					

Network Summary

Network wide Queuing Penalty: 198

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	578.4	559.8	0.1	0.2	0.1	217.3
Total Del/Veh (s)	115.5	94.9	18.7	5.1	29.7	50.2

Total Network Performance

Denied Del/Veh (s)	217.3
Total Del/Veh (s)	55.7

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	225	1401	186	179	439	459	397
Average Queue (ft)	224	1373	104	88	290	291	252
95th Queue (ft)	225	1395	164	161	404	415	383
Link Distance (ft)		1338	2037	2037	1922	1922	1922
Upstream Blk Time (%)		57					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	38	0					
Queuing Penalty (veh)	192	4					

Network Summary

Network wide Queuing Penalty: 196

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	646.2	609.5	0.1	0.2	0.1	247.3
Total Del/Veh (s)	117.0	94.3	16.5	5.4	30.7	50.8

Total Network Performance

Denied Del/Veh (s)	247.3
Total Del/Veh (s)	56.1

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	T	T
Maximum Queue (ft)	225	1390	180	167	496	433	419
Average Queue (ft)	224	1357	97	73	306	295	262
95th Queue (ft)	225	1431	152	125	465	450	442
Link Distance (ft)		1338	2037	2037	1922	1922	1922
Upstream Blk Time (%)		56					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	42	0					
Queuing Penalty (veh)	212	0					

Network Summary

Network wide Queuing Penalty: 212

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	7.7	7.7	0.1	0.2	0.1	3.0
Total Del/Veh (s)	28.9	6.3	14.3	5.0	18.5	18.3

Total Network Performance

Denied Del/Veh (s)	3.0
Total Del/Veh (s)	23.8

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	225	551	184	121	314	316	245
Average Queue (ft)	210	313	98	71	208	205	157
95th Queue (ft)	259	484	156	127	280	269	243
Link Distance (ft)		1369	1762	1762	1803	1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	4	15					
Queuing Penalty (veh)	42	157					

Network Summary

Network wide Queuing Penalty: 199

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	5.4	5.4	0.1	0.2	0.1	2.1
Total Del/Veh (s)	28.9	6.5	14.2	5.3	20.2	19.2

Total Network Performance

Denied Del/Veh (s)	2.1
Total Del/Veh (s)	24.8

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	225	717	164	117	400	392	288
Average Queue (ft)	207	293	93	61	218	220	186
95th Queue (ft)	257	484	144	114	300	312	291
Link Distance (ft)		1369	1762	1762	1803	1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	3	14					
Queuing Penalty (veh)	32	141					

Network Summary

Network wide Queuing Penalty: 173

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	7.8	8.2	0.1	0.1	0.1	3.1
Total Del/Veh (s)	31.9	6.7	13.0	5.2	19.5	19.5

Total Network Performance

Denied Del/Veh (s)	3.1
Total Del/Veh (s)	24.9

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	225	591	174	132	305	389	312
Average Queue (ft)	211	324	83	56	209	201	156
95th Queue (ft)	255	525	140	103	301	295	268
Link Distance (ft)		1369	1762	1762	1803	1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	5	17					
Queuing Penalty (veh)	52	172					

Network Summary

Network wide Queuing Penalty: 224

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	5.3	5.0	0.1	0.2	0.1	2.0
Total Del/Veh (s)	30.8	6.4	12.3	5.1	19.3	18.6

Total Network Performance

Denied Del/Veh (s)	2.0
Total Del/Veh (s)	24.2

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	225	616	156	141	317	316	300
Average Queue (ft)	201	326	77	54	219	220	180
95th Queue (ft)	267	559	130	112	288	298	275
Link Distance (ft)		1369	1762	1762	1803	1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	4	14					
Queuing Penalty (veh)	36	147					

Network Summary

Network wide Queuing Penalty: 184

1: S.R. 14 & I-55 WB Ramps Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	6.6	7.1	0.1	0.2	0.1	2.6
Total Del/Veh (s)	30.4	6.4	14.1	5.0	21.3	20.1

Total Network Performance

Denied Del/Veh (s)	2.6
Total Del/Veh (s)	25.6

Intersection: 1: S.R. 14 & I-55 WB Ramps

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T
Maximum Queue (ft)	225	565	156	149	345	341	297
Average Queue (ft)	213	340	93	62	227	223	189
95th Queue (ft)	249	540	138	115	314	306	282
Link Distance (ft)		1369	1762	1762	1803	1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						
Storage Blk Time (%)	5	18					
Queuing Penalty (veh)	48	179					

Network Summary

Network wide Queuing Penalty: 227

Curry, Erin

From: Gregory Dyer
Sent: Thursday, June 25, 2020 3:34 PM
To: Caleb Smith
Cc: Michelle Nickerson; Eric Flora; Khuzaima Mahdi; Taniya Sultana
Subject: RE: Shelby County I-55 & SR-14 Interchange (2 Bridges) PIN 128674.00
Attachments: PIN 128674.00 Shelby Co SR14 I55 Bridge Existing ITS.pdf

Hi Caleb,
TDOT does has existing ITS infrastructure in the project area which may need to be relocated during construction. We provided a markup in the attachment. Specifically, conduit, fiber, electrical and one (1) CCTV camera may be impacted. The relocation cost will vary depending on the extent of affected ITS infrastructure and any required temporary devices to maintain operations within our Region 4 service area. We've estimated the relocation to cost approximately $90,000.

Let us know if you need any more info.

Thanks,

Greg Dyer, P.E. | Civil Engineering Manager I
Traffic Operations Division/Intelligent Transportation Systems (ITS) Office
James K. Polk Bldg, 18th Floor
505 Deaderick St., Nashville, TN 37243
Office: 615-253-0046
Greg.Dyer@tn.gov

From: Caleb Smith <Caleb.Smith@tn.gov>
Sent: Wednesday, June 10, 2020 2:45 PM
To: Ted Kniazewycz <Ted.Kniazewycz@tn.gov>; TDOT.Env NEPA <TDOT.Env.NEPA@tn.gov>; Gary Scruggs <Gary.Scruggs@tn.gov>; Rachel S. Webb <Rachel.S.Webb@tn.gov>; Glen Blankenship <Glen.Blankenship@tn.gov>; Stephanie Kissell <Stephanie.Kissell@tn.gov>; Seth Hendren <Seth.Hendren@tn.gov>; Scott Pate <Scott.Pate@tn.gov>; Jason D. Moody <Jason.D.Moody@tn.gov>; Jason Blankenship <Jason.Blankenship@tn.gov>; Steve Sellers <Steve.Sellers@tn.gov>; Veda Nguyen <Veda.Nguyen@tn.gov>; Michelle Nickerson <Michelle.Nickerson@tn.gov>; Gregory Dyer <Greg.Dyer@tn.gov>; Wesley Peck <Wesley.Peck@tn.gov>; TDOT MultimodalPlanning <TDOT.MultimodalPlanning@tn.gov>; Matthew Cushing <Matthew.Cushing@tn.gov>; Suzanne Carlson <Suzanne.Carlson@tn.gov>; Dennis Moultrie <Dennis.Moultrie@tn.gov>; Derek Ryan <Derek.Ryan@tn.gov>; elizabeth.carchell@tn.gov; Jeffrey Lancaster <Jeffrey.Lancaster@tn.gov>
Cc: Jason Baker <Jason.Baker@tn.gov>; Steve Allen <Steve.Allen@tn.gov>; Jim Waters <Jim.Waters@tn.gov>; Brian Hurst <Brian.Hurst@tn.gov>; Michael Gilbert <Michael.Gilbert@tn.gov>; Tammy Sellers <Tammy.Sellers@tn.gov>; Klint Rommel <Klint.Rommel@tn.gov>; Antoine Hawkins <Antoine.Hawkins@tn.gov>
Subject: Shelby County I-55 & SR-14 Interchange (2 Bridges) PIN 128674.00

All,

FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2020	SHELBY	6

Conduit Bank Type 4 Bored
Conduit Bank Type 4 Bored
Conduit Bank Type 4
Type 'D' Pull Box
I-55
Type 'D' Pull Box
Conduit Bank Type 4
CCTV Camera
Conduit Bank Type 4
Type 'E' Pull Box
Conduit Bank Type 4 Bored
2" Electrical Conduit
APPROX. WORK LIMIT
Conduit Bank Type 4
Type 'E' Pull Box
Radar Detection System
Type 'E' and 'C' Pull Box
Conduit Bank Type 4 Bored
660' TOTAL LENGTH
5 SPANS
48'-6" OUT-TO-OUT
BEGIN RAMP PROJECT
2" Electrical Conduit
Conduit Bank Type 4
APPROX. WORK LIMIT
Conduit Bank Type 4 Bored
PROP. RETAINING WALL
Type 'D' Pull Box
Type 'E' Pull Box
Type 'E' Pull Box
Type 'D' Pull Box
Electrical Demarcation
Type 'C' Pull Box
END RAMP PROJECT

ROW LEGEND

EXISTING ROW & PL

NOTE: ROW IS APPROXIMATE AND SHOWN FOR INFORMATIONAL PURPOSES ONLY

0′ 150′ 300′ 450′

BRIDGE REPLACEMENT

Interstate 55 and State Route 14 (South 3rd St) Interchange
I-55 Exit Ramp Bridge to SR-14
SHELBY COUNTY

N

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

FIGURE 6
SR-14 @ I-55
RAMP

5/19/2020 3:38:24 PM
P:\209\90137\Solnfrastructure\Cad\Dgn\Figure Ramp.dgn