

PROJECT	DESIGNATION
1592421	1592421 (NB) / 1901368 (SB)
CONTRACT	BRIDGE FILE
B-39052	031-80-02807 NBL & SBL

INDEX				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
031-80-02807 NBL & SBL	TWIN COMPOSITE HYBRID-BEAM-TIE BEAM	SINGLE SPAN 132'-0" NO SKEW	NORFOLK SOUTHERN RAILROAD & CR 100 S	100+86.50 LINE "NR-NBL" (NB) 100+85.56 LINE "NR-SBL" (SB)

KIN DESIGNATION NUMBERS	
DESIGNATION	PROJECT DESCRIPTION
1592421 (LEAD)	ROADWAY AND NB US 31 BRIDGE OVER N'S RAILROAD AND CR 100 S
1901368	SB US 31 BRIDGE OVER N'S RAILROAD AND CR 100 S

INDIANA DEPARTMENT OF TRANSPORTATION



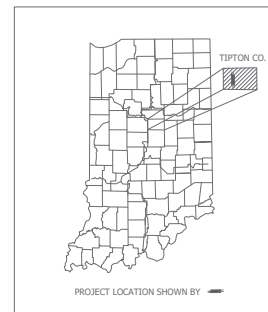
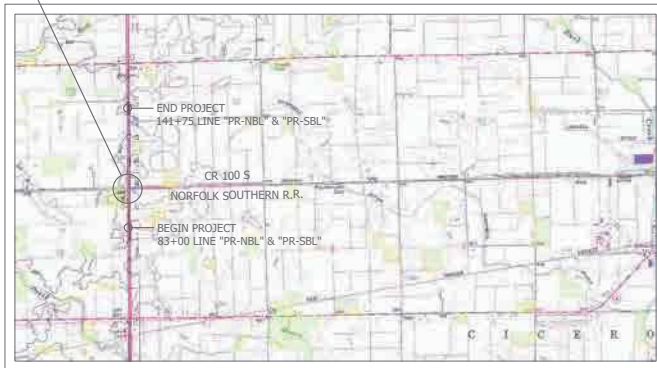
BRIDGE PLANS

FOR SPANS OVER 20 FEET
 ROUTE: U.S. 31 AT: RP 149+19
 PROJECT NO. 1592421 P.E.
 1592421 CONST.
 1592421 R/W

TRAFFIC DATA	U.S. 31	C.R. 100 S.
A.A.D.T. (2023)	28 619 V.P.D.	130 V.P.D.
A.A.D.T. (2043)	32 190 V.P.D.	450 V.P.D.
D.V.T. (2043)	2.3% V.P.P.	51 V.P.P.
DIRECTIONAL DISTRIBUTION	49.69% NB / 50.31% SB	50% WB / 50% EB
TRUCKS	20% A.A.D.T.	5% A.A.D.T.
	12% D.V.V.	
DESIGN DATA		
DESIGN SPEED	70 M.P.H.	45 M.P.H.
PROJECT DESIGN CRITERIA	4B (NON-FREEWAY)	3B (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL	LOCAL ROAD
RURAL/URBAN	RURAL	RURAL
TERRAIN	LEVEL	LEVEL
ACCESS CONTROL	FULL	NONE

PROJECT LOCATION
 BRIDGE FILE NO. 031-80-02807 NBL & SBL
 DES. NO. 1592421 (NB) / 1901368 (SB)
 GRADE SEPARATION STRUCTURE
 US 31 OVER NORFOLK SOUTHERN
 RAILROAD & CR 100 S

Construction of a Grade Separation Structure Carrying US 31 over Norfolk Southern Railroad and CR 100 S, Located 0.98 miles North of SR 28, in Sections 1, 6, 7 & 12, Township 21 North, Range 3 & 4 East, Between Cicero & Jefferson Townships, in Tipton County Indiana.



LATITUDE: 40°17'21.64"N LONGITUDE: -86°07'37.36"W

BRIDGE LENGTH : 0.023 MI.
 ROADWAY LENGTH : 1.089 MI.
 TOTAL LENGTH : 1.112 MI.
 MAX GRADE : -3.00%

Scale 1" = 2000'

[INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED 2020 TO BE USED WITH THESE PLANS]

B-39052

LOCATION MAP
TIPTON COUNTY



8440 Allison Pointe Boulevard, Suite 200
 Indianapolis, IN 46250
 Phone 317-895-2585
 www.ucindy.com

PLANS PREPARED BY:	UNITED CONSULTING	(317) 895-2585
CERTIFIED BY:		PHONE NUMBER
APPROVED FOR LETTING:		DATE
	INDIANA DEPARTMENT OF TRANSPORTATION	DATE

BRIDGE FILE	
031-80-02807 NBL & SBL	DESIGNATION
1592421 (NB) / 1901368 (SB)	
SURVEY BOOK	
1	SHEETS
1	OF 155
CONTRACT	
B-39052	PROJECT
	1592421

UTILITIES			
ELECTRIC:	Duke Energy 1000 E. Main St. Plainfield, IN 46168 Attn: Tyler Coon Ph: (317) 838-2806	COMMUNICATIONS:	AT&T 116 E. Taylor St. Kokomo, IN 46901 Attn: David Smith Ph: (765) 454-5021
	Duke Energy (Transmission) 1000 E. Main St. Plainfield, IN 46168 Attn: Dwayne Wright Ph: (317) 838-2044		Comcast 5330 E. 65th St. Indianapolis, IN 46220 Attn: Scott Evans Ph: (317) 752-6569
	Duke Energy (Distribution) 1619 W. Defenbaugh St. Kokomo, IN 46902 Attn: Carl Johnson Ph: (765) 454-6189	STORM SEWER:	City of Tipton - Sanitary Sewer 891 Berryman Pike Tipton, IN 46072 Attn: Rex Boyer Ph: (765) 675-7292
	City of Tipton - Electric 891 Berryman Pike Tipton, IN 46072 Attn: Rex Boyer Ph: (765) 675-7292	FIBER:	Intelligent Fiber Network 3921 Clarks Creek Road Plainfield, IN 46168 Attn: Shawn Wright Ph: (317) 777-7119
TELEPHONE:	Smithville Communications 1600 W. Temperance St. Ellettsville, IN 47429 Attn: Brad Hudoff Ph: (812) 340-3857		

GENERAL NOTES
All earth shoulders, median areas, and cut and fill slopes shall be plan or mulch seeded except where sodding is specified.
The final cross sections of the grading contract will be the original cross sections of the paving contract. However, partial or complete cross sections shall be taken if necessary to determine the actual excavation quantities.
The paper relocation will be cross sectioned by the Engineer before construction.
All limited access right-of-way (L.A. RW) is to be fenced with farm field type fence (Estimated Quantity = 7,640 LFT).

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29-30	GROUND IMPROVEMENTS AT AREA OF MUCK
31	CROWN SHEET DIAGRAM
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RAILROAD NOTES
All work on, over, under, or adjacent to Norfolk Southern (NS) right-of-way shall be done in accordance with the Norfolk Southern "Special Provisions for the Protection of Railway Interests" (NS Special Provisions).
"One Call" services do not locate buried railroad signal and communications lines. The contractor shall contact the railroad's representative two (2) days in advance of those pieces where excavation, pile driving, or heavy loads may damage railroad underground lines on railroad property. Upon request from the contractor or agency, railroad signal forces will locate and paint mark or flag railroad underground signal, communication, and power lines in the area to be disturbed for the contractor. The contractor shall avoid excavation or other disturbance of these lines which are critical to the safety of the railroad and the public. If disturbance or excavation is required near a buried railroad signal, communication, or power line, the line shall be potholed manually with careful hand excavation by the contractor and protected by the contractor during the course of the disturbance under the supervision and direction of a railroad signal representative.
All utility installations or relocations on Norfolk Southern right-of-way that are required in conjunction with this project can be installed or relocated as part of the project provided the construction is performed by the utility owner, project contractor, or project contractor's sub-contractor. However, the utility must submit an application for the installation or relocation to ACCDM for appropriate handling for license agreement and applicable fees. For utility applications go to: http://www.nscorp.com/content/nscorp/en/real-estate/norfolk-southern-services/wire-pipeline-fiber-optic-projects.html
Note: License agreement must be executed prior to utility being installed or relocated.
For projects exceeding 30 days of construction, Contractor shall provide the flagman a small work area with a desk/counter and chair within the field-site trailer, including the use of bathroom facilities, where the flagman can check in/out with the Project, as well as to the flagman's home terminal. The work area should provide access to two (2) electrical outlets for recharging radio(s), and a laptop computer, as needed at the field/site trailer. This should aid in maximizing the flagman's time and efficiency on the Project.
Norfolk Southern will be provided as-built drawings of the bridge showing the actual clearances as constructed. Depth, size, and location of all foundation components shall be shown on the drawings.

REVISIONS		
SHEET No.	DATE	REVISION

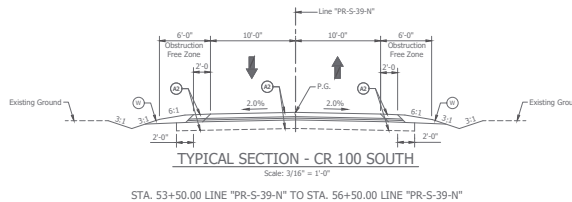
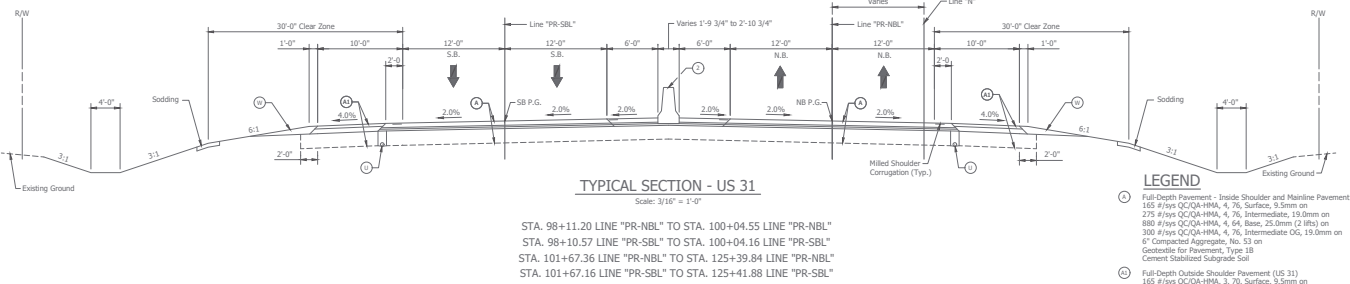
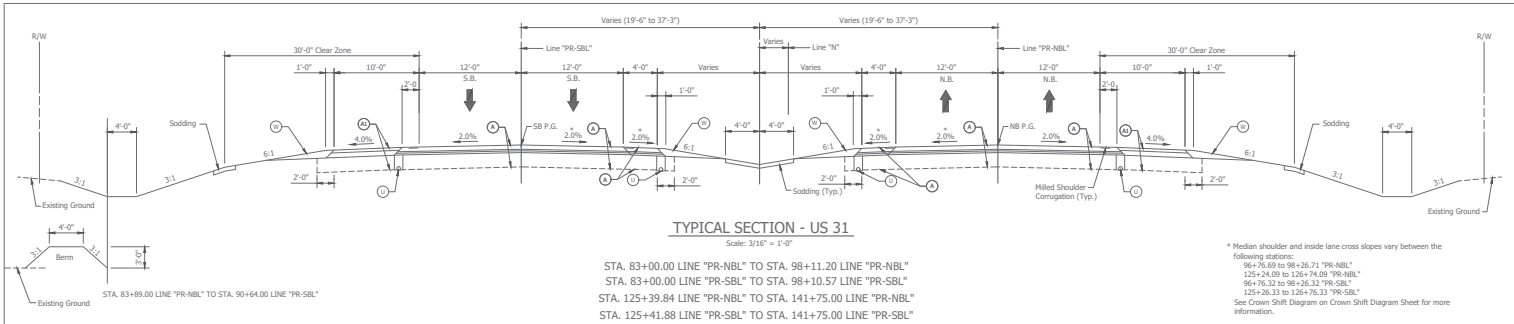



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 Indianapolis, IN 46250
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INDIANA
 DEPARTMENT OF TRANSPORTATION
 INDEX
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	COORDINATION	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	-	SHEETS	2 of 155
CONTRACT	B-39052	PROJECT	1592421

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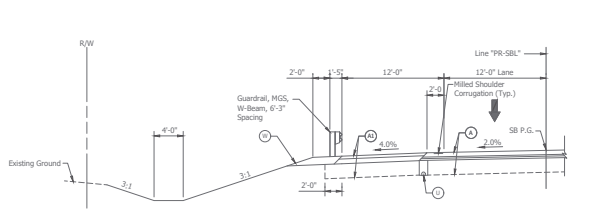
- LEGEND**
- (A) Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 165 #/yds QC/QA-HMA, 4, 76, Surface, 9.5mm on
 275 #/yds QC/QA-HMA, 4, 76, Intermediate, 19.0mm on
 800 #/yds QC/QA-HMA, 4, 64, Base, 25.0mm (2 lifts) on
 300 #/yds QC/QA-HMA, 4, 76, Intermediate OG, 19.0mm on
 6" Compacted Aggregate, No. 53 on
 Geotextile for Pavement, Type 1B
 Cement Stabilized Subgrade Soil
 - (B) Full-Depth Outside Shoulder Pavement (US 31)
 165 #/yds QC/QA-HMA, 3, 70, Surface, 9.5mm on
 275 #/yds QC/QA-HMA, 3, 70, Intermediate, 19.0mm on
 400 #/yds QC/QA-HMA, 3, 64, Base, 25.0mm on
 12" Compacted Aggregate, No. 53 on
 Geotextile for Pavement, Type 1B
 Cement Stabilized Subgrade Soil
 - (C) Full-Depth Pavement (CR 100S)
 165 #/yds QC/QA-HMA, 2, 64, Surface, 9.5mm on
 275 #/yds QC/QA-HMA, 2, 64, Intermediate, 19.0mm on
 6" Compacted Aggregate, No. 53 on
 Geotextile for Pavement, Type 1B
 Cement Stabilized Subgrade Soil
 - (D) Concrete Barrier, 45"
 - (E) Curb, Concrete
 - (F) Milling, Asphalt, 1-1.17" thick
 165 #/yds QC/QA-HMA, 4, 76, Surface, 9.5mm on
 Existing HMA Pavement
 - (G) Milling, Asphalt, 1-1.17" thick
 165 #/yds QC/QA-HMA, 2, 64, Surface, 9.5mm on
 Existing HMA Pavement
 - (H) Underdrain
 - (I) Compacted Aggregate, No. 53
 - (J) HMA for Approaches, Type B
 165 #/yds HMA Surface, Type B on
 275 #/yds HMA Intermediate, Type B on
 6" Compacted Aggregate, No. 53 on
 Subgrade Treatment, Type II (6" Comp. Agg., No. 53)

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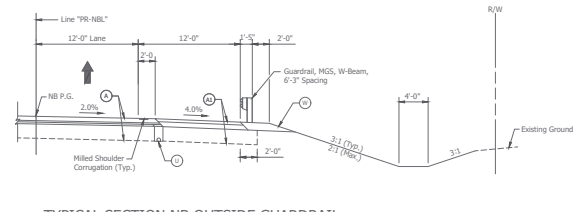
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: CID	DRAWN: RSI	
CHECKED: JRL	CHECKED: CJD	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 TYPICAL SECTIONS
 US 31 OVER NS RAILROAD & CR100S

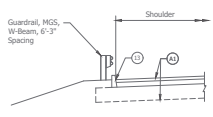
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AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
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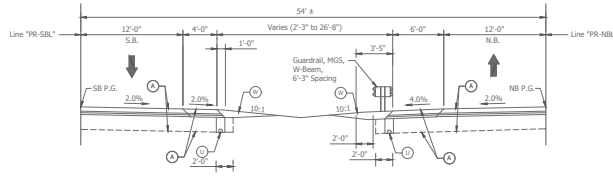
TYPICAL SECTION - SB OUTSIDE GUARDRAIL
 Scale: 3/16" = 1'-0"
 STA. 101+66.70 LINE "PR-SBL" TO STA. 103+88.58 LINE "PR-SBL"
 STA. 132+74.70 LINE "PR-SBL" TO STA. 135+43.45 LINE "PR-SBL"



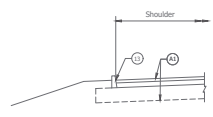
TYPICAL SECTION NB OUTSIDE GUARDRAIL
 Scale: 3/16" = 1'-0"
 STA. 97+83.28 LINE "PR-NBL" TO STA. 100+05.15 LINE "PR-NBL"
 STA. 104+93.75 LINE "PR-NBL" TO STA. 110+75.00 LINE "PR-NBL"



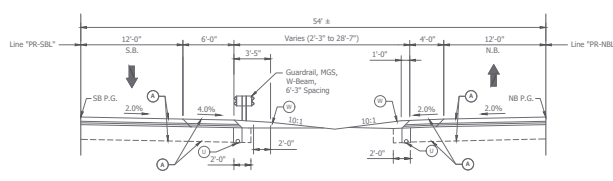
TYPICAL - CURB WITH GUARDRAIL
 Scale: 3/16" = 1'-0"
 STA. 101+67.29 LINE "PR-SBL" TO STA. 101+99.19 LINE "PR-SBL"



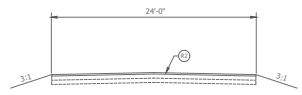
TYPICAL SECTION - NB INSIDE GUARDRAIL
 Scale: 3/16" = 1'-0"
 STA. 125+39.84 LINE "PR-NBL" TO STA. 131+74.22 LINE "PR-NBL"



TYPICAL - CURB WITHOUT GUARDRAIL
 Scale: 3/16" = 1'-0"
 STA. 99+73.62 LINE "PR-SBL" TO STA. 100+04.16 LINE "PR-SBL"



TYPICAL SECTION - SB INSIDE GUARDRAIL
 Scale: 3/16" = 1'-0"
 STA. 92+01.20 LINE "PR-SBL" TO STA. 98+10.57 LINE "PR-SBL"



TYPICAL SECTION - COMMON DRIVE
 Scale: 3/16" = 1'-0"
 STA. 108+38.40 LINE "PR-NBL" TO STA. 126+06.93 LINE "PR-NBL"

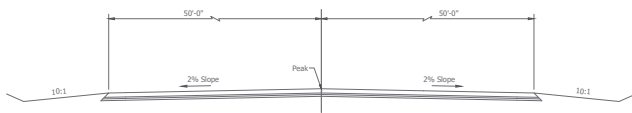
- LEGEND**
- ① Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 165 #/ys QC/QA-HMA, 4, 76, Surface, 9.5mm on
 275 #/ys QC/QA-HMA, 4, 76, Intermediate, 19.0mm on
 480 #/ys QC/QA-HMA, 4, 64, Base, 25.0mm (2 lifts) on
 300 #/ys QC/QA-HMA, 4, 76, Intermediate OG, 19.0mm on
 6" Compacted Aggregate, No. 53 on
 Geotextile for Pavement, Type 18
 Cement Stabilized Subgrade Soil
 - ② Full-Depth Outside Shoulder Pavement (US 31)
 165 #/ys QC/QA-HMA, 4, 76, Surface, 9.5mm on
 275 #/ys QC/QA-HMA, 4, 76, Intermediate, 19.0mm on
 480 #/ys QC/QA-HMA, 4, 64, Base, 25.0mm on
 13" Compacted Aggregate, No. 53 on
 Geotextile for Pavement, Type 18
 Cement Stabilized Subgrade Soil
 - ③ Full-Depth Pavement (CR 1005)
 165 #/ys QC/QA-HMA, 2, 64, Surface, 9.5mm on
 275 #/ys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on
 6" Compacted Aggregate, No. 53 on
 Geotextile for Pavement, Type 18
 Cement Stabilized Subgrade Soil
 - ④ Concrete Barrier, 45"
 - ⑤ Curb, Concrete
 - ⑥ Milling, Asphalt, 1-1/2", then
 165 #/ys HMA Surface, 4, 76, Surface, 9.5mm on
 Existing HMA Pavement
 - ⑦ Milling, Asphalt, 1-1/2", then
 165 #/ys QC/QA-HMA, 2, 64, Surface, 9.5mm on
 Existing HMA Pavement
 - ⑧ 6" Underdrain
 - ⑨ Compacted Aggregate, No. 53
 - ⑩ HMA for Approaches, Type B
 165 #/ys HMA Surface, Type B on
 275 #/ys HMA Intermediate, Type B on
 6" Compacted Aggregate, No. 53 on
 Subgrade Treatment, Type II (6" Comp. Agg., No. 53)

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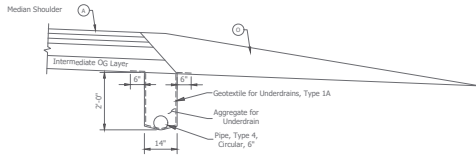
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: CID	DRAWN: RSI	
CHECKED: JRL	CHECKED: CJD	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 TYPICAL SECTIONS
 US 31 OVER NS RAILROAD & CR1005

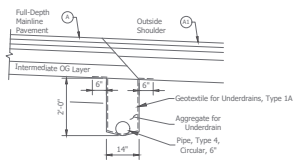
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NB) / 1591368 (SB)
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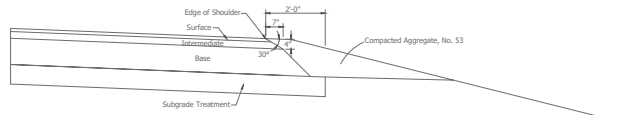
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No Scale



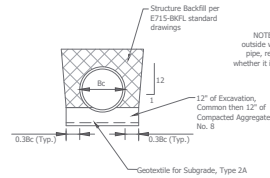
UNDERDRAIN DETAIL FOR HMA PAVEMENT - MEDIAN
REVERSE AS NECESSARY
No Scale



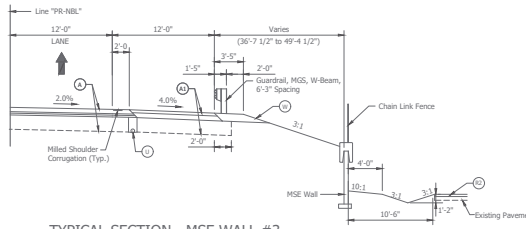
UNDERDRAIN DETAIL FOR HMA PAVEMENT - OUTSIDE
REVERSE AS NECESSARY
No Scale



SAFETY EDGE DETAIL - HMA
No Scale



UNDERCUT AT STRUCTURES 1A AND 2
No Scale



TYPICAL SECTION - MSE WALL #3
Scale: 3/16" = 1'-0"
STA. 108+00.00 "PR-NBL" TO STA. 110+50.00 "PR-NBL"

LEGEND

- ① Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
165 #/yrs OC/QA-HMA, 4, 76, Surface, 9.5mm on 275 #/yrs OC/QA-HMA, 4, 76, Intermediate, 19.0mm on 888 #/yrs OC/QA-HMA, 4, 64, Base, 25.0mm (2.85) on 300 #/yrs OC/QA-HMA, 4, 76, Intermediate OG, 19.0mm on 6" Compacted Aggregate, No. 53 on Geotextile for Pavement, Type 1B Cement Stabilized Subgrade Soil
- ② Full-Depth Outside Shoulder Pavement (US 31)
165 #/yrs OC/QA-HMA, 3, 70, Surface, 9.5mm on 275 #/yrs OC/QA-HMA, 3, 70, Intermediate, 19.0mm on 440 #/yrs OC/QA-HMA, 3, 64, Base, 25.0mm on 12" Compacted Aggregate, No. 53 on Geotextile for Pavement, Type 1B Cement Stabilized Subgrade Soil
- ③ Full-Depth Pavement (CR 1605)
165 #/yrs OC/QA-HMA, 2, 64, Surface, 9.5mm on 275 #/yrs OC/QA-HMA, 2, 64, Intermediate, 19.0mm on 6" Compacted Aggregate, No. 53 on Geotextile for Pavement, Type 1B Cement Stabilized Subgrade Soil
- ④ Concrete Barrier, 45"
- ⑤ Curb, Concrete
- ⑥ Milling, Asphalt, 1-1/2", then 165 #/yrs OC/QA-HMA, 4, 76, Surface, 9.5mm on Existing HMA Pavement
- ⑦ Milling, Asphalt, 1-1/2", then 165 #/yrs OC/QA-HMA, 2, 64, Surface, 9.5mm on Existing HMA Pavement
- ⑧ 6" Underdrain
- ⑨ Compacted Aggregate, No. 53
- ⑩ HMA for Approaches, Type B
165 #/yrs HMA Surface, Type B on 275 #/yrs HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53 on Subgrade Treatment, Type II (6" Comp. Agg., No. 53)



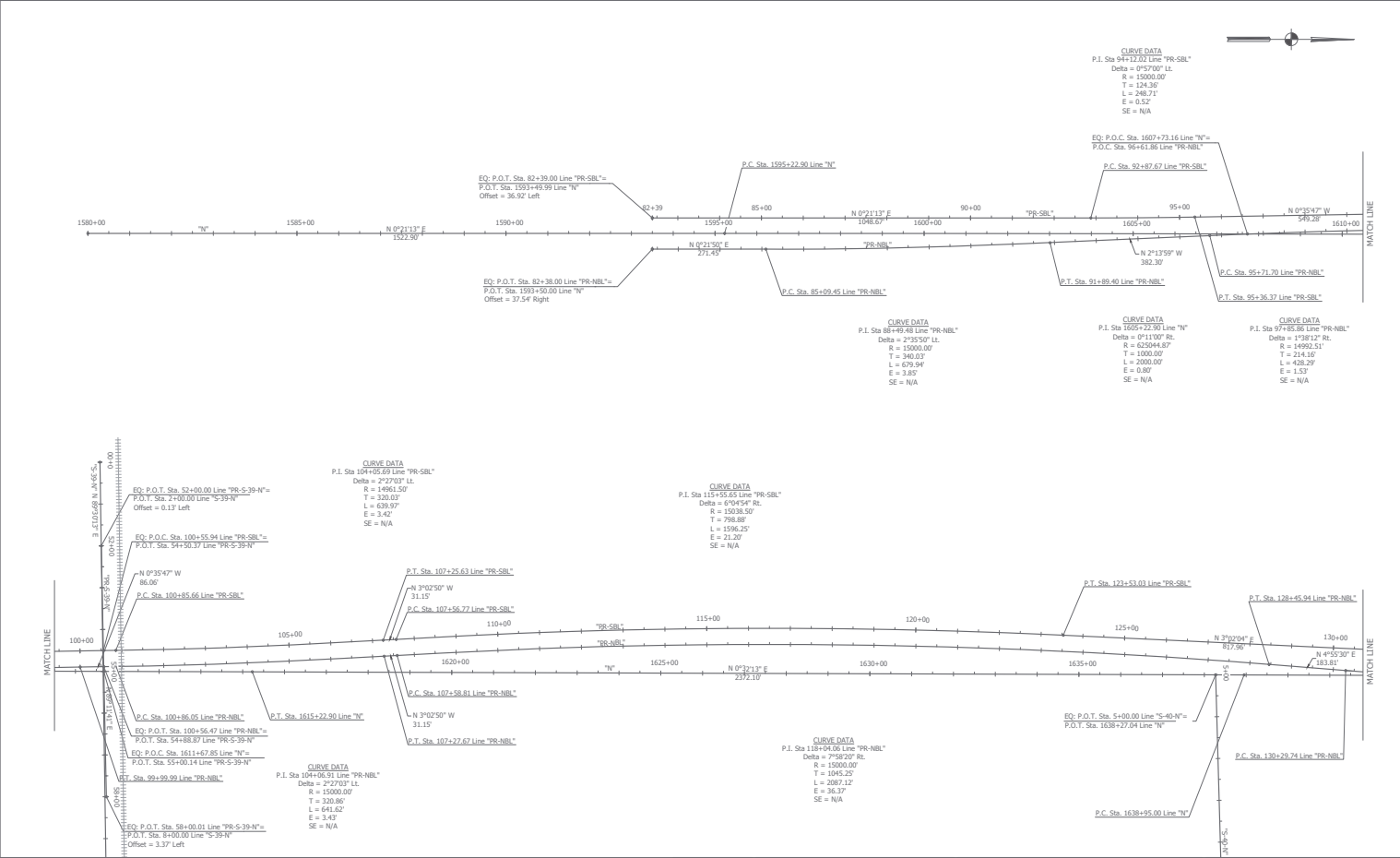
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: CID	DRAWN: RSI	
CHECKED: JRL	CHECKED: CJD	

INDIANA
DEPARTMENT OF TRANSPORTATION
TYPICAL SECTIONS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
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UNITED
Consulting

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Indianapolis, IN 46250
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: <u> </u> CD	DRAWN: <u> </u> JSI	
CHECKED: <u> </u> NJK	CHECKED: <u> </u> LCD	

INDIANA
DEPARTMENT OF TRANSPORTATION

GEOMETRIC TIE-UP DIAGRAM
US 31 OVER NS RAILROAD & CR1005

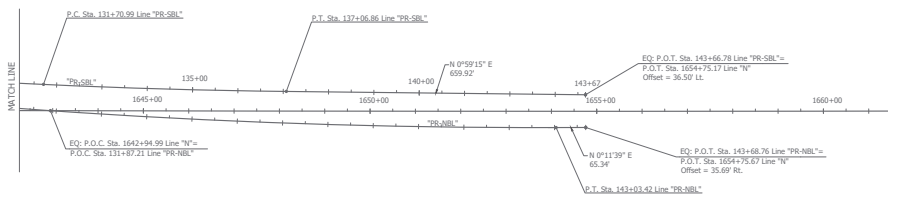
HORIZONTAL SCALE	BRIDGE FILE
1"=100'	031-03-20807 REL & SBL
VERTICAL SCALE	DESIGNATION
N/A	150241 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
B-2802	150241

TBM SUMMARY

BENCHMARK	ADA DIFF.	STATION	OFFSET	DESCRIPTION
HCS BM # 211 Reset 1960	900.30	OPOC 1611+11.6 "N"	122.3' LT	N.G.S. Benchmark Disk stamped "7 211 RESET 1960" found at the southwest corner of the intersection of US31 & CR 100 South
TBM 101	900.00	OPOC 1600+32.2 "N"	86.2' LT	Mag Spike set in the East Face of Power Pole #7M 4480 on west side of US31 and 1,100' south of CR 100 South
TBM 102	904.45	OPOC 1585+94.8 "N"	84.7' LT	Mag Spike set in the East Face of Power Pole #211-9861 on west side of US31 and 0.5 mile south of CR 100 South
TBM 103	897.22	OPOC 1625+93.8 "N"	86.6' RT	Mag Spike set in the West Face of Power Pole (no number) on east side of US31 and 1,400' north of CR 100 South
TBM 104	901.12	OPOC 1633+05.9 "N"	83.6' RT	Mag Spike set in the West Face of Power Pole (no number) on east side of US31 and 500' south of CR 50 South

CURVE DATA
 P.I. Sta 137+38.95 Line "PR-SBL"
 Delta = 292.06° L
 R = 15000.00'
 T = 267.96'
 L = 535.87'
 E = 2.39'
 SE = N/A

CURVE DATA
 P.I. Sta 1659+76.07 Line "N"
 Delta = 0°20'08" L
 R = 491106.68'
 T = 2081.07'
 L = 4162.12'
 E = 4.41'
 SE = N/A



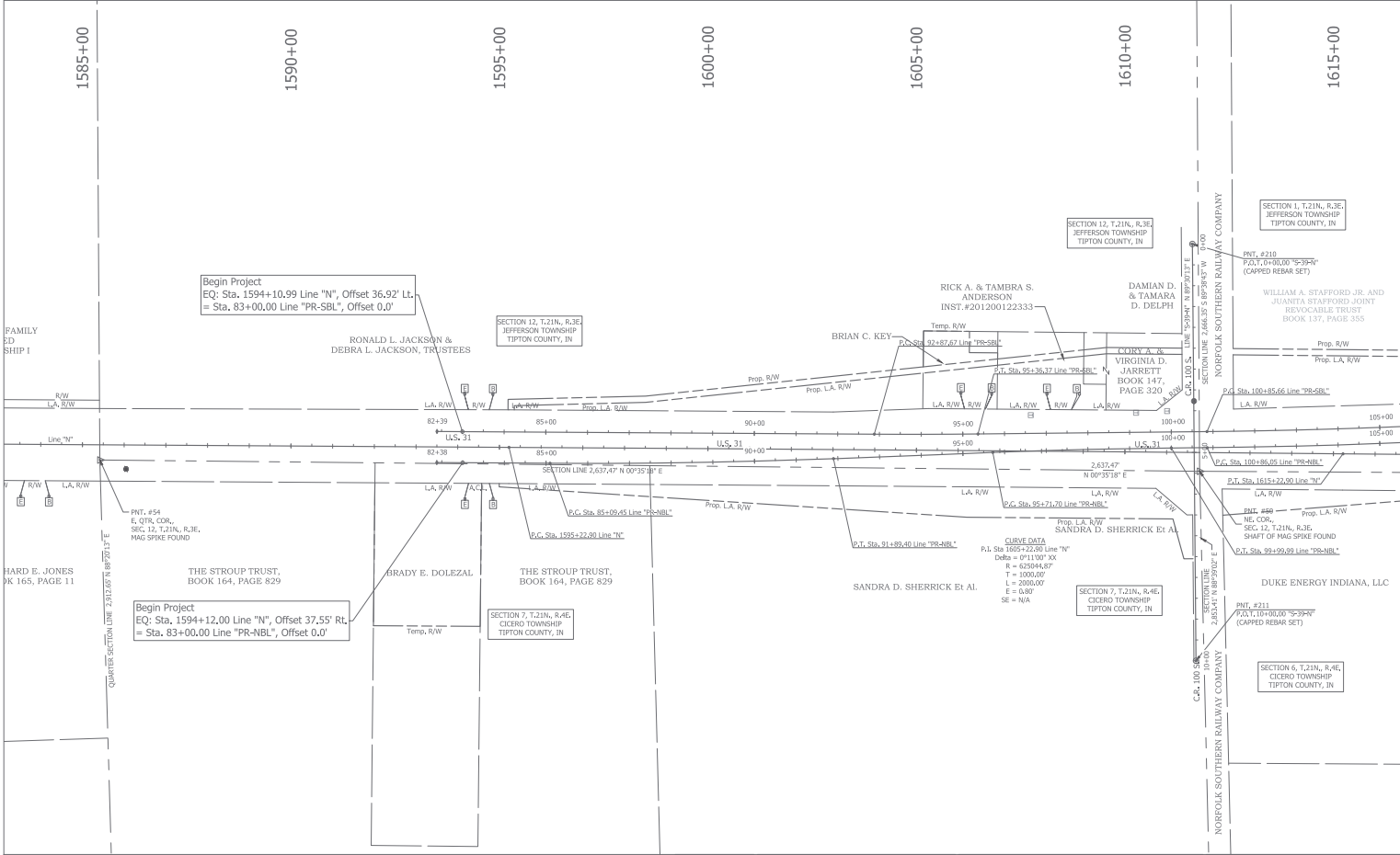
<p>50 NORTHING 45173.9176 EASTING 40147.8985</p> <p>NE. COR., SEC. 12, T.21N., R.3E.</p>	<p>59 NORTHING 50102.4513 EASTING 37231.9789</p> <p>N. QTR. COR., SEC. 1, T.21N., R.3E.</p>	<p>62 NORTHING 47883.5537 EASTING 42965.6833</p> <p>CENTER OF SEC. 6, T.21N., R.4E.</p>	<p>65 NORTHING 42821.1124 EASTING 43032.2454</p> <p>CENTER OF SEC. 7, T.21N., R.4E.</p>	<p>202 NORTHING 44494.8122 EASTING 40027.2081</p> <p>P.O.C. 1605+00.00 "N"</p>	<p>205 NORTHING 45517.6746 EASTING 40105.9566</p> <p>P.T. 1615+22.90 "N"</p>	<p>208 NORTHING 47889.6705 EASTING 40128.1862</p> <p>P.C. 1638+95.00 "N"</p>	<p>211 NORTHING 45105.2221 EASTING 40602.5943</p> <p>P.O.T. 10+00.00 "S-39-N"</p>
<p>54 NORTHING 42538.5847 EASTING 40120.0216</p> <p>E. QTR. COR., SEC. 12, T.21N., R.3E.</p>	<p>60 NORTHING 50126.7177 EASTING 40181.0794</p> <p>NE. COR., SEC. 1, T.21N., R.3E.</p>	<p>63 NORTHING 45241.1135 EASTING 43003.5186</p> <p>S. QTR. COR., SEC. 6, T.21N., R.4E.</p>	<p>200 NORTHING 42394.8573 EASTING 40583.4649</p> <p>P.O.T. 1584+00.00 "N"</p>	<p>203 NORTHING 44517.7177 EASTING 40056.5897</p> <p>P.I. 1605+22.90 "N"</p>	<p>206 NORTHING 46094.7273 EASTING 40116.0499</p> <p>P.O.T. 1626+00.00 "N"</p>	<p>209 NORTHING 48094.6440 EASTING 40134.2657</p> <p>P.O.C. 1646+00.00 "N"</p>	<p>212 NORTHING 47824.9838 EASTING 40277.5128</p> <p>P.O.T. 6+50.00 "S-40-N"</p>
<p>57 NORTHING 45157.4086 EASTING 37481.0585</p> <p>N. QTR. COR., SEC. 12, T.21N., R.3E.</p>	<p>61 NORTHING 50137.7980 EASTING 40186.0903</p> <p>N. QTR. COR., SEC. 6, T.21N., R.4E.</p>	<p>64 NORTHING 47927.4891 EASTING 40165.0129</p> <p>E. QTR. COR., SEC. 1, T.21N., R.3E.</p>	<p>201 NORTHING 45177.7359 EASTING 40090.4145</p> <p>P.C. 1595+22.90 "N"</p>	<p>204 NORTHING 45102.8912 EASTING 40107.7149</p> <p>P.O.C. 1611+64.10 "N" = P.O.T. 5+00.00 "S-39-N"</p>	<p>207 NORTHING 47821.7164 EASTING 40127.5498</p> <p>P.O.T. 5+00.00 "S-40-N"</p>	<p>210 NORTHING 45156.5385 EASTING 39650.6318</p> <p>P.O.T. 0+00.00 "S-39-N"</p>	<p>213 NORTHING 47828.2513 EASTING 40427.4772</p> <p>P.O.T. 8+00.00 "S-40-N"</p>

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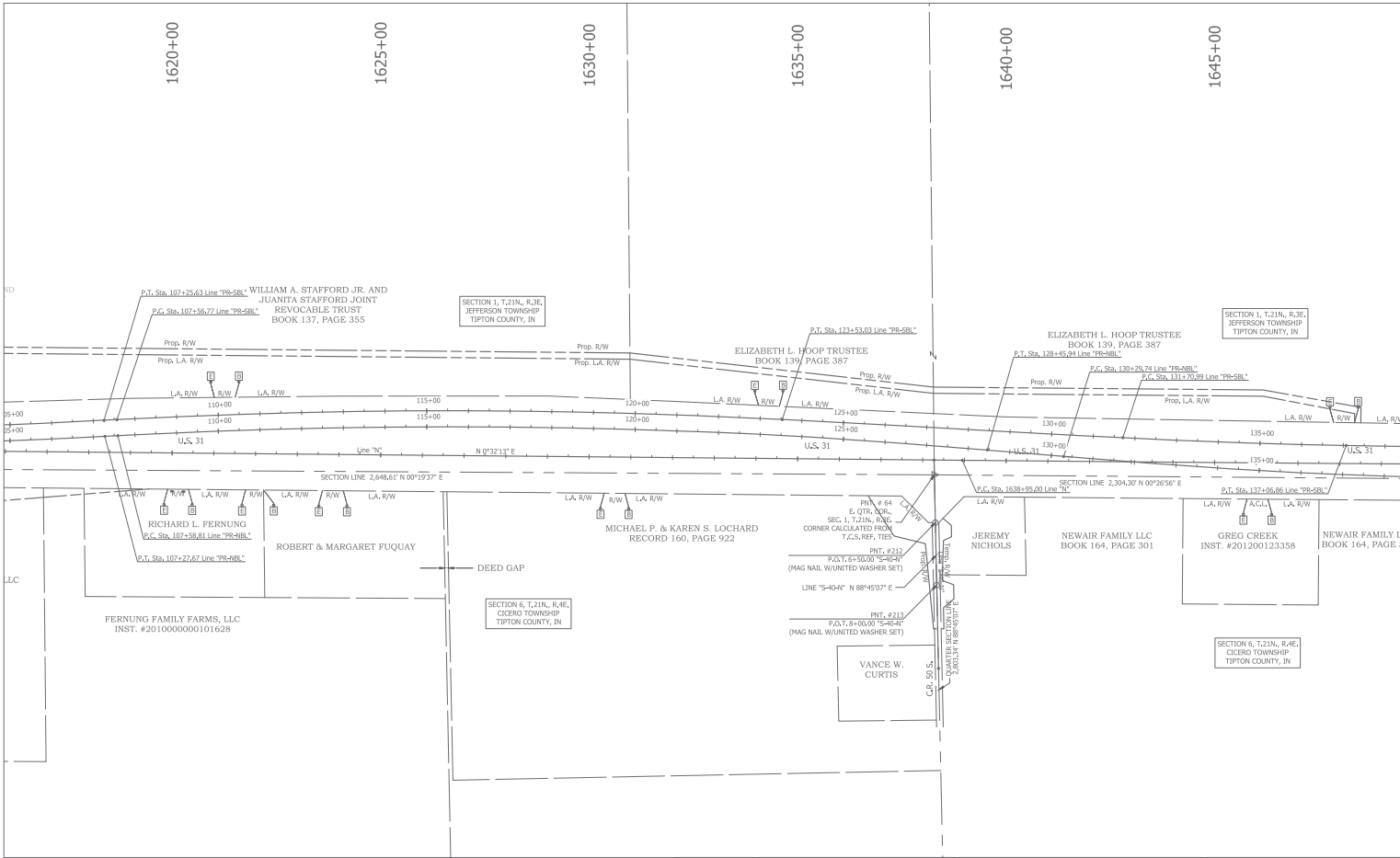
INDIANA
 DEPARTMENT OF TRANSPORTATION
 GEOMETRIC TIE-UP DIAGRAM
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	1"=100'	BRIDGE FILE	031-03-20807 REL & SRL
VERTICAL SCALE	N/A	OCCUPATION	190421 (NB) / 190138 (SB)
SURVEY BOOK	B-29052	SHEETS	7 of 155
CONTRACT	B-29052	PROJECT	192421

File Name: I:\BRIDGE\15217\Bridges\Drawings\Tie-Up Diagram.dwg Plot Date: 6/26/2020 Plotted By: Rich Boone



	8440 Allison Pointe Boulevard, Suite 200 Indianapolis, IN 46250 Phone 317-895-2585 www.ucindy.com	RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER: _____ DATE: _____ DESIGNED: CID DRAWN: RSI CHECKED: JRL CHECKED: CJD	INDIANA DEPARTMENT OF TRANSPORTATION PLAT US 31 OVER NS RAILROAD & CR100S	HORIZONTAL SCALE: AS NOTED BRIDGE FILE: 031-80-02807 NBL & SBL VERTICAL SCALE: AS NOTED OBSERVATION: 1592421 (NB) / 1901368 (SB)
		SURVEY BOOK: 8 of 155 SHEETS: 8 of 155 CONTRACT: B-39052 PROJECT: 1592421		



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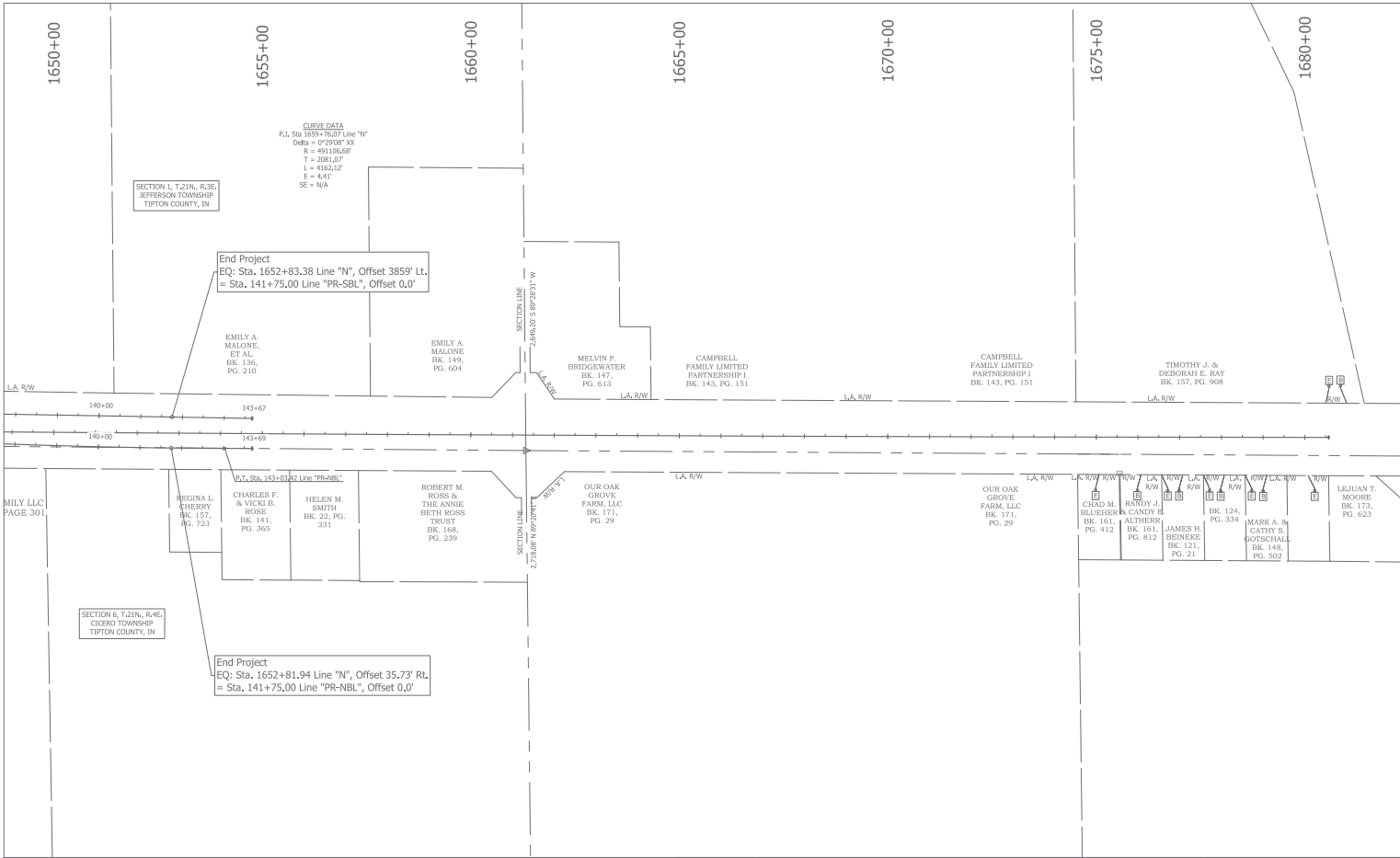
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RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	DATE:
DESIGNED: CID	DRAWN: RSI	
CHECKED: JRL	CHECKED: CID	

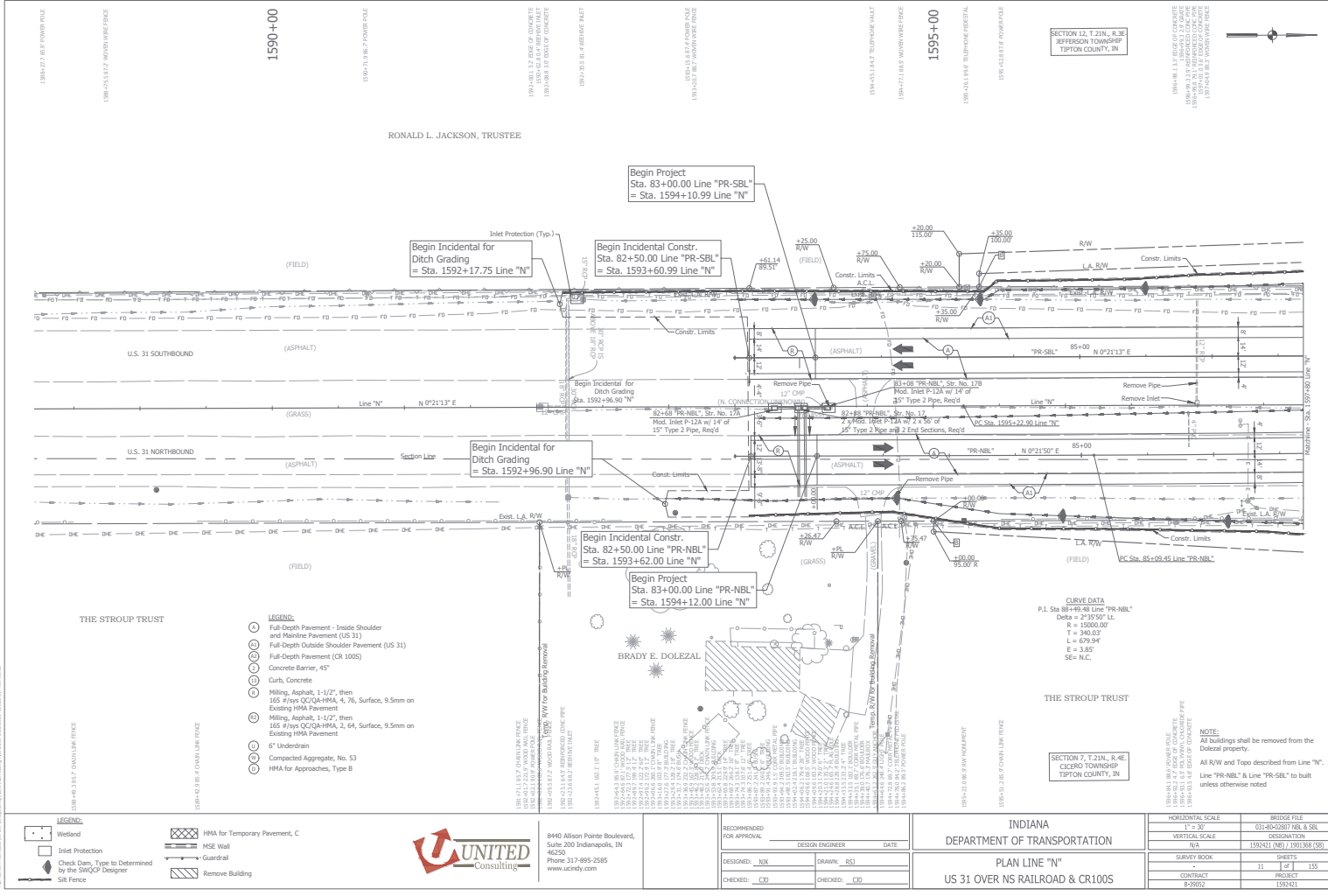
INDIANA
DEPARTMENT OF TRANSPORTATION

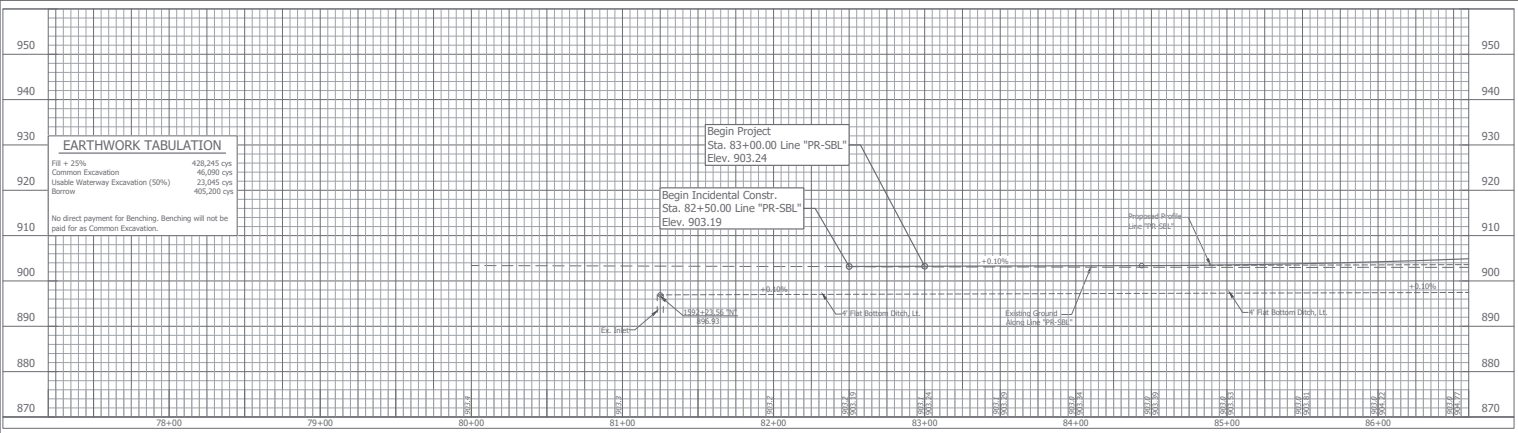
PLAT
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
9	of 155
CONTRACT	PROJECT
B-39052	1592421

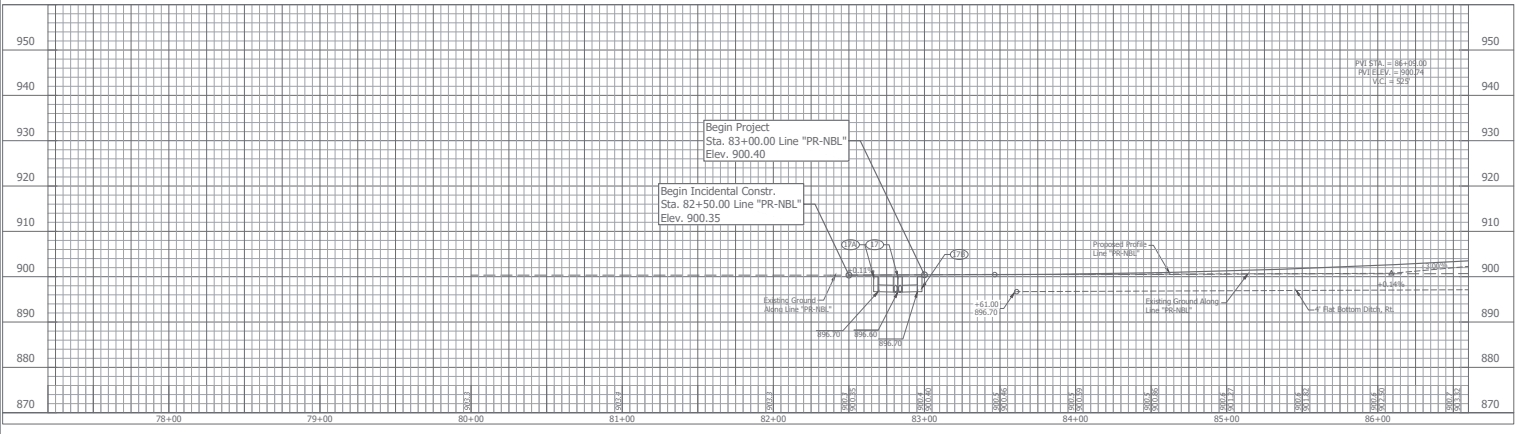


	8440 Allison Pointe Boulevard, Suite 200 Indianapolis, IN 46250 Phone 317-895-2585 www.ucindy.com	RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION PLAT US 31 OVER NS RAILROAD & CR100S	HORIZONTAL SCALE _____ BRIDGE FILE _____ AS NOTED 031-80-02807 NBL & SBL VERTICAL SCALE _____ DESIGNATION _____ AS NOTED 1592421 (NB) / 1591368 (SB)
		DESIGNED: CID _____ DRAWN: RSI _____ CHECKED: JRL _____ CHECKED: CID _____		SURVEY BOOK _____ SHEETS _____ 10 of 155 CONTRACT _____ PROJECT _____ B-39052 1592421





SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

EARTHWORK TABULATION

Fill + 25%	428,245 cys
Common Excavation	46,590 cys
Usable Waterway Excavation (50%)	23,045 cys
Borrow	405,200 cys

No direct payment for benching. Benchng will not be paid for as Common Excavation.



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DESIGNED: NIK	DRAWN: JSI
CHECKED: CED	CHECKED: CED

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PROFILE DETAILS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20107 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NS) / 150138 (SB)
SURVEY BOOK	SHEETS
CONTRACT	12 of 155
B-29852	PROJECT
	159421

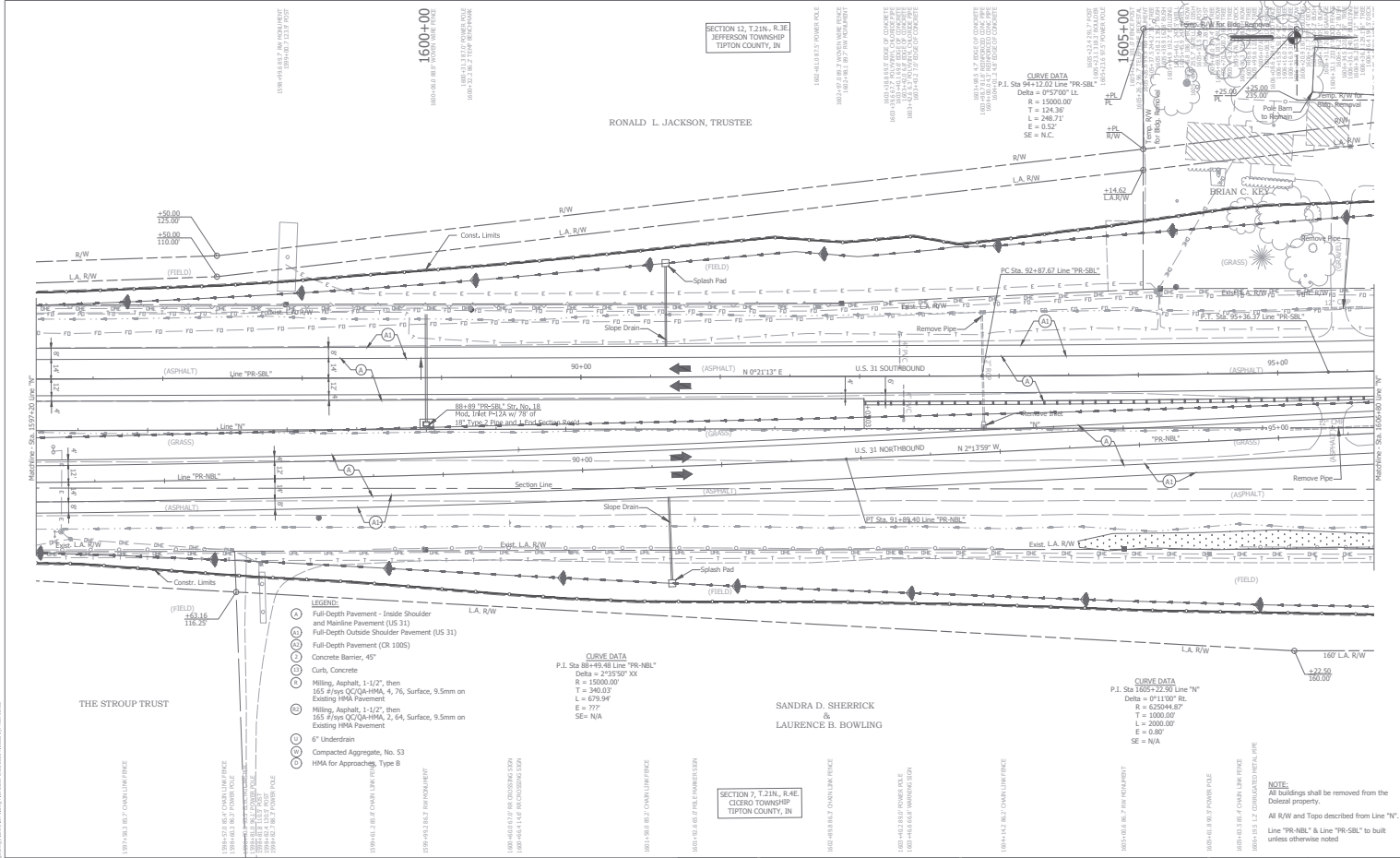
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SECTION 12, T.21N., R.1E
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

RONALD L. JACKSON, TRUSTEE

SECTION 7, T.21N., R.4E
CICERO TOWNSHIP
TIPTON COUNTY, IN

SANDRA D. SHERRICK
&
LAURENCE B. BOWLING



- LEGEND:**
- (A) Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - (B) Full-Depth Pavement (CR 1005)
 - (C) Concrete Barrier, 45"
 - (D) Curb, Concrete
 - (E) Milling, Asphalt, 1-1/2", then 165 #/cys CC/CA-HMA, 4, 76, Surface, 9.5mm on Existing HMA Pavement
 - (F) Milling, Asphalt, 1-1/2", then 165 #/cys CC/CA-HMA, 2, 94, Surface, 9.5mm on Existing HMA Pavement
 - (G) 6" Underdrain
 - (H) Compacted Aggregate, No. 53
 - (I) HMA for Approaches, Type B

CURVE DATA
P.I. Sta 88+49.48 Line "PR-NBL"
Delta = 2°15'50" XX
R = 15000.00'
T = 346.03'
L = 679.94'
E = 77'
SE = N/A

CURVE DATA
P.I. Sta 1557+22.90 Line "N"
Delta = 0°11'01" RT
R = 6250+448.7'
T = 1000.00'
L = 2000.00'
E = 0.00'
SE = N/A

- LEGEND:**
- Wetland
 - Jetted Protection
 - Check Dam, Type to be Determined by the SWQCP Designer
 - Silt Fence
 - HMA for Temporary Pavement, C
 - HSE Wall
 - Guardrail
 - Remove Building



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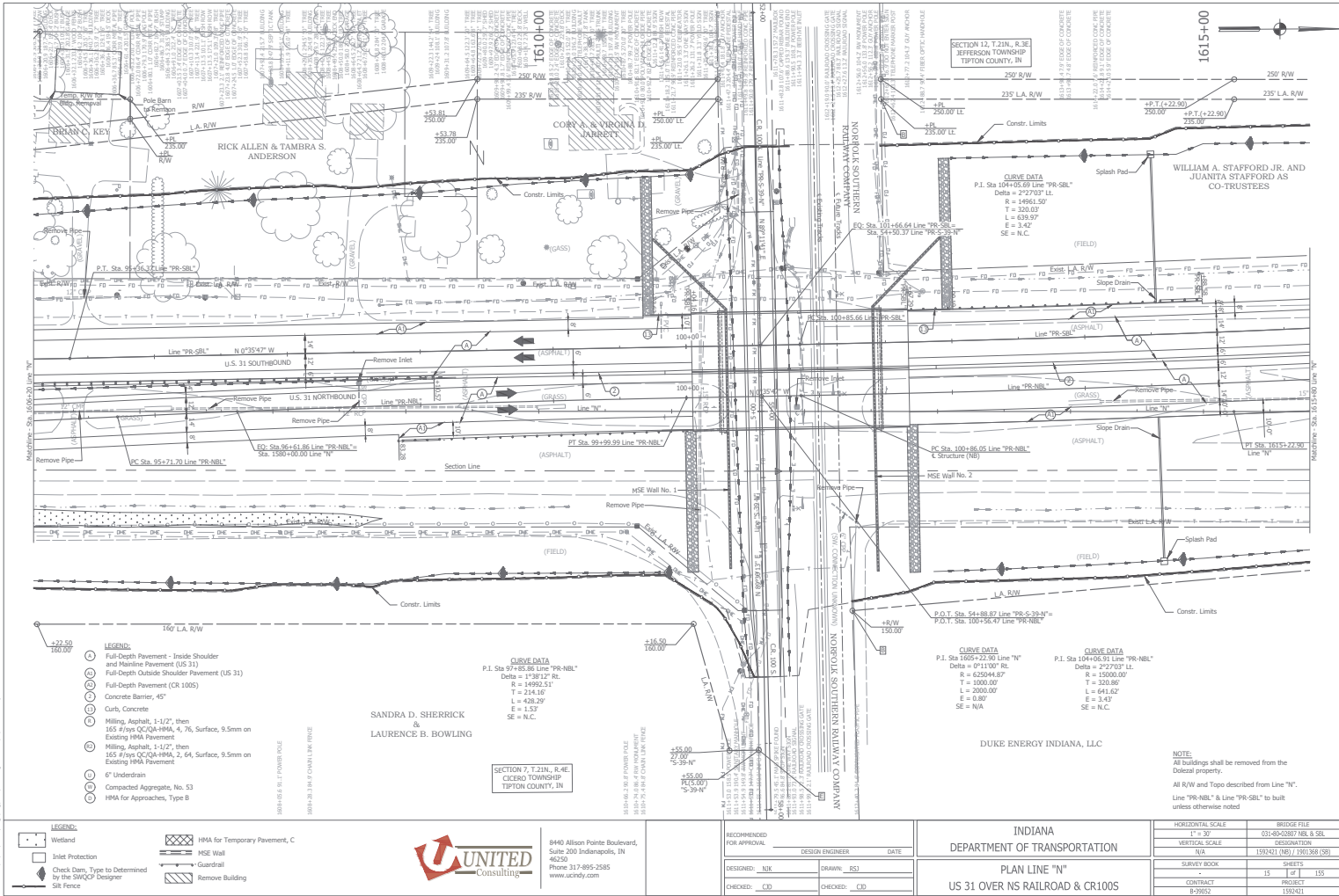
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: JSI	
CHECKED: CED	CHECKED: CJD	

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-43-28107 TEL & SBL
VERTICAL SCALE 1" = 10'	ORGANIZATION 159241 (186) / 1501388 (58)
SURVEY BOOK	SHEETS 13 of 155
CONTRACT B-29852	PROJECT 1594261

18: 1/10/2017 10:52:02 AM C:\Users\jason\OneDrive\Documents\Projects\1594261\1594261.dwg (1594261.dwg) 1594261.dwg



- LEGEND:**
- ① Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - ② Full-Depth Outside Shoulder Pavement (US 31)
 - ③ Full-Depth Pavement (CR 1005)
 - ④ Concrete Barrier, 45"
 - ⑤ Curb, Concrete
 - ⑥ Milling, Asphalt, 1-1/2", then 1SS 57mm CCQA-HMA, 4, 7%, Surface, 9.5mm on Existing HMA Pavement
 - ⑦ Milling, Asphalt, 1-1/2", then 1SS 57mm CCQA-HMA, 2, 6%, Surface, 9.5mm on Existing HMA Pavement
 - ⑧ 6" Underdrain
 - ⑨ Compacted Aggregate, No. 53
 - ⑩ HMA for Approaches, Type B

SANDRA D. SHERRICK & LAURENCE B. BOWLING

SECTION 7, T.21N, R.4E
CICERO TOWNSHIP
TIPTON COUNTY, IN

DUKE ENERGY INDIANA, LLC

NOTE:
All buildings shall be removed from the Detour property.
All R/W and Topo described from the Line "NR" & Line "PR-SBL" to built unless otherwise noted

- LEGEND:**
- Wetland
 - Inlet Protection
 - Check Dam, Type to be Determined by the SWQCP Designer
 - Silt Fence
 - HMA for Temporary Pavement, C
 - MSE Wall
 - Guardrail
 - Remove Building

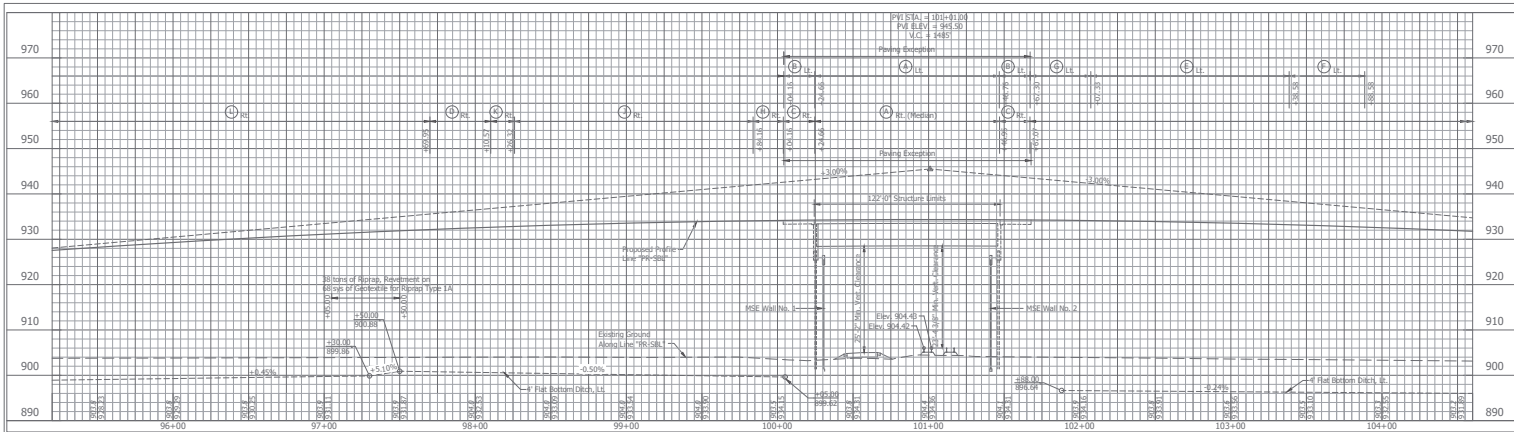


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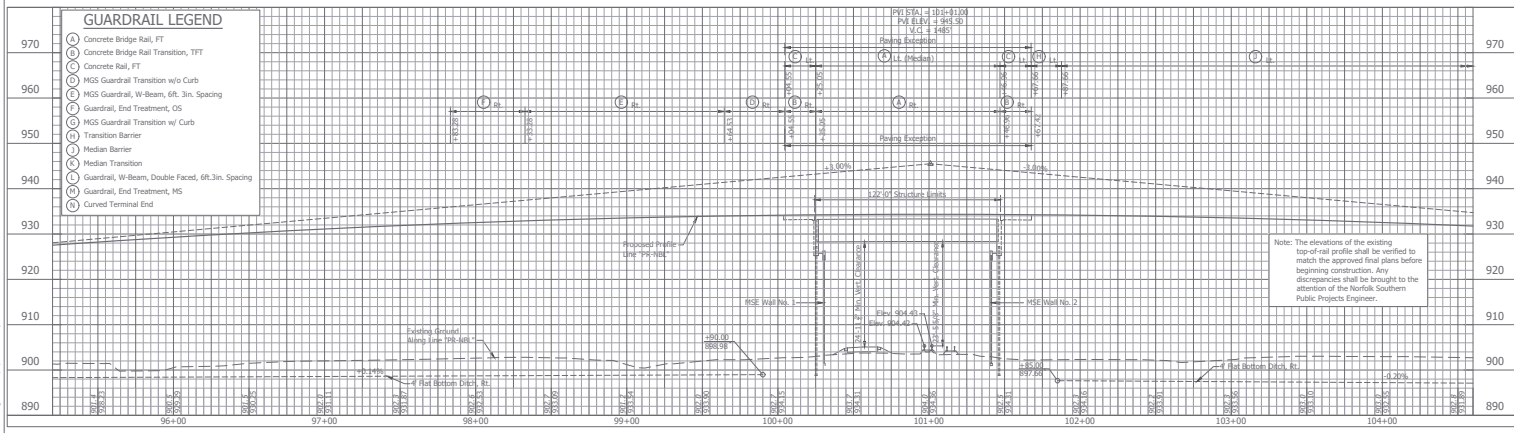
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: SSI	
CHECKED: CED	CHECKED: CD	

INDIANA
DEPARTMENT OF TRANSPORTATION
PLAN LINE "N"
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-03-20807 TEL & SBL
VERTICAL SCALE 1" = 10'	ORGANIZATION 159241 (186) / 1501388 (58)
SURVEY BOOK	SHEETS 15 of 155
CONTRACT B-2982	PROJECT 159481



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

GUARDRAIL LEGEND

- ⊙ Concrete Bridge Rail, FT
- ⊙ Concrete Bridge Rail Transition, TFT
- ⊙ Concrete Rail, FT
- ⊙ MS Guardrail Transition w/o Curb
- ⊙ MS Guardrail, W-Beam, 6ft. 3in. Spacing
- ⊙ Guardrail, End Treatment, OS
- ⊙ MS Guardrail Transition w/ Curb
- ⊙ Transition Barrier
- ⊙ Median Barrier
- ⊙ Median Transition
- ⊙ Guardrail, W-Beam, Double Facet, 6ft. 3in. Spacing
- ⊙ Guardrail, End Treatment, MS
- ⊙ Curved Terminal End



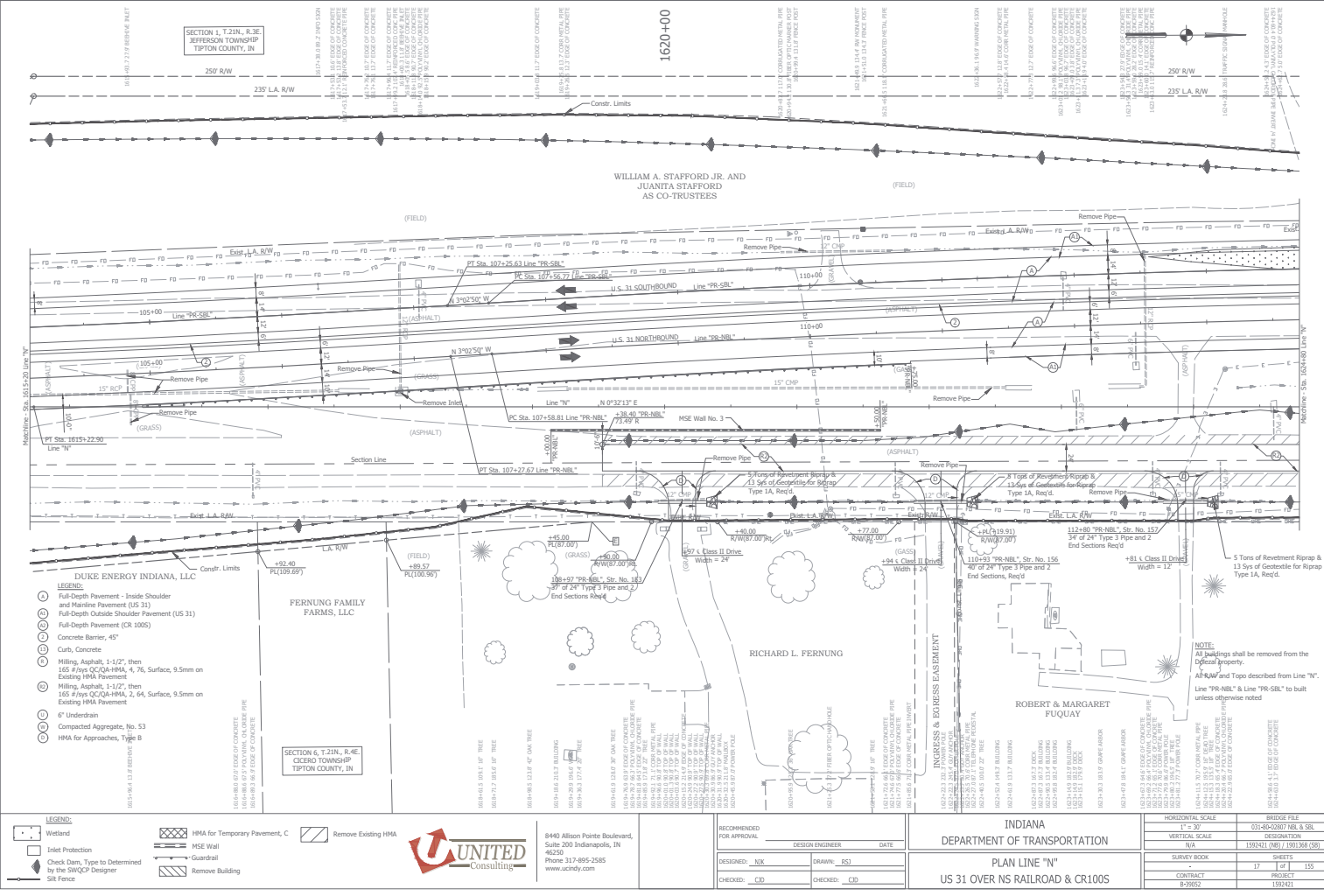
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: RSI	
CHECKED: CED	CHECKED: CED	

INDIANA
 DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-43-20807 76L & SBL
VERTICAL SCALE 1" = 10'	DESIGNATION 150241 (NS) / 150138 (SB)
SURVEY BOOK	SHEETS
CONTRACT B-2982	35 of 155
	PROJECT 159421



SECTION 1, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

WILLIAM A. STAFFORD JR. AND
JUANITA STAFFORD
AS CO-TRUSTEES

DUKE ENERGY INDIANA, LLC

FERNUNG FAMILY
FARMS, LLC

RICHARD L. FERNUNG

ROBERT & MARGARET
FUQUAY

SECTION 6, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

- LEGEND:**
- Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - Full-Depth Pavement (US 31)
 - Full-Depth Pavement (CR 1005)
 - Concrete Barrier, 45"
 - Curb, Concrete
 - Milling, Asphalt, 1-1/2", then 105 #/Yrs. CCQA-HMA, 4, 7%, Surface, 9.5mm on Existing HMA Pavement
 - Milling, Asphalt, 1-1/2", then 150 #/Yrs. CCQA-HMA, 2, 6%, Surface, 9.5mm on Existing HMA Pavement
 - 6" Underdrain
 - Compacted Aggregate, No. 53
 - HMA for Approaches, Type 8

- LEGEND:**
- Wetland
 - Enter Protection
 - Check Dam, Type to be Determined by the SWQCP Designer
 - Silt Fence
 - HMA for Temporary Pavement, C
 - MSE Wall
 - Remove Existing HMA
 - Guardrail
 - Remove Building



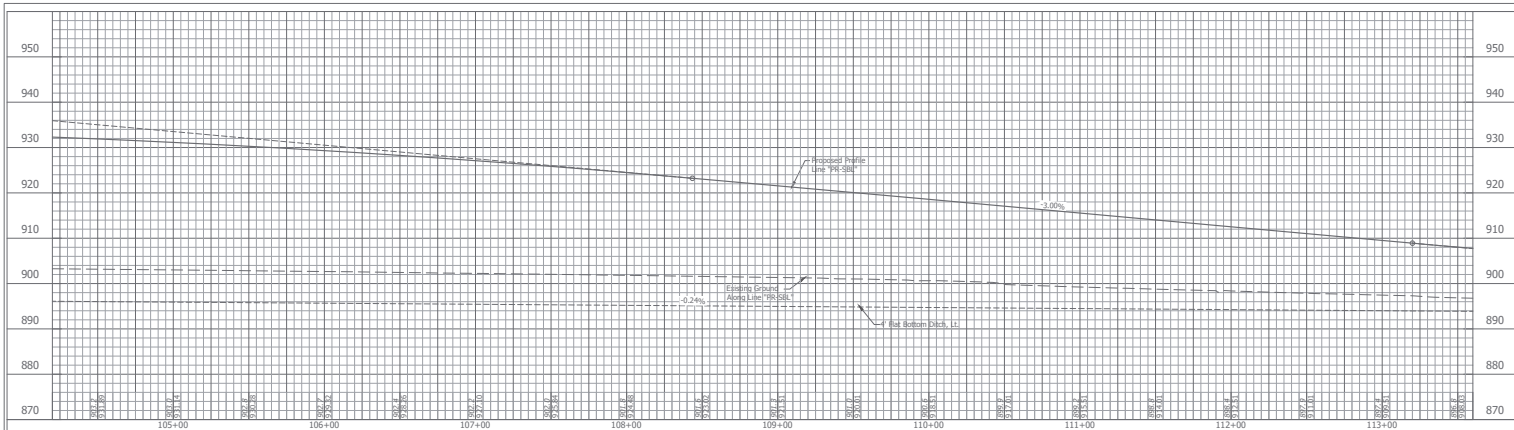
8440 Allison Pointe Boulevard,
Suite 200 Indianapolis, IN
46250
Phone 317-895-2585
www.unity.com

DESIGNED: NIK	DRAWN: ISI
CHECKED: CED	CHECKED: CD

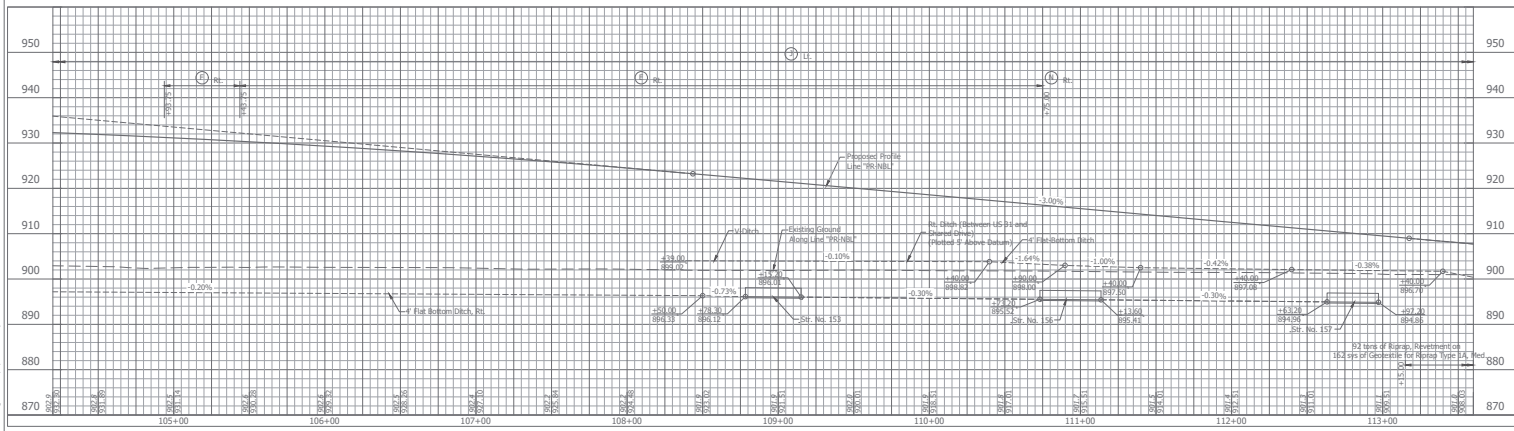
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	0343-2807 TEL & SRL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	150241 (186) / 150138 (158)
SURVEY BOOK	SHEETS
B-29952	17 of 155
CONTRACT	PROJECT
B-29952	159461



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

FOR GUARDRAIL LEGEND, SEE SHEET 16.

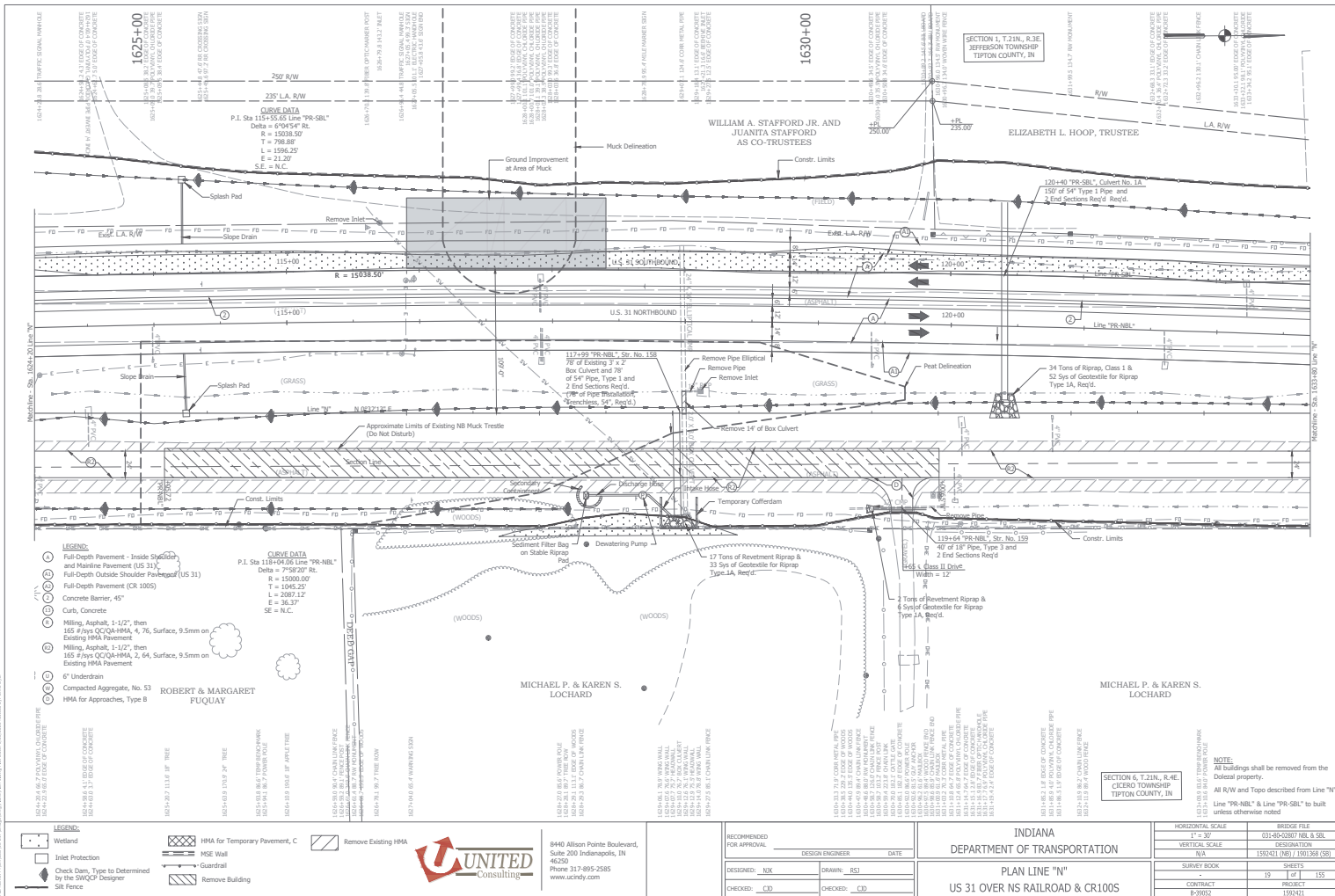


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RECOMMENDED FOR APPROVAL: _____
DESIGN ENGINEER: _____ DATE: _____
DESIGNED: NIK DRAWN: ISI
CHECKED: CED CHECKED: CED

INDIANA DEPARTMENT OF TRANSPORTATION
PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-43-20107 TEL & SBL
VERTICAL SCALE 1" = 10'	DESCRIPTION 150'x11 (NS) / 150'x88 (SB)
SURVEY BOOK -	SHEETS 18 of 155
CONTRACT B-29852	PROJECT 159421



- LEGEND:**
- Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - Full-Depth Outside Shoulder Pavement (US 31)
 - Full-Depth Pavement (CR 1005)
 - Concrete Barrier, 45"
 - Curb, Concrete
 - Milling, Asphalt, 1-1/2", then 165 #/yds CCQA-HMA, 4, 7 1/2, Surface, 9.5mm on Existing HMA Pavement
 - Milling, Asphalt, 1-1/2", then 165 #/yds CCQA-HMA, 2, 64, Surface, 9.5mm on Existing HMA Pavement
 - Underdrain
 - Compacted Aggregate, No. 53 HMA for Approaches, Type B

- LEGEND:**
- Wetland
 - Inlet Protection
 - Check Dam, Type to be Determined by the SWQCP Designer
 - Silt Fence
 - HMA for Temporary Pavement, C
 - MSE Wall
 - Guardrail
 - Remove Building
 - Remove Existing HMA

CURVE DATA
 P.I. Sta 118+94.85 Line "PR-NBL"
 Delta = 6°04'54" RL
 R = 15008.50
 T = 788.86'
 L = 1596.25'
 E = 21.20'
 SE = N.C.

CURVE DATA
 P.I. Sta 119+04.85 Line "PR-NBL"
 Delta = 7°58'20" RL
 R = 15000.00'
 T = 1046.20'
 L = 2087.12'
 E = 36.37'
 SE = N.C.



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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: ISI	
CHECKED: CED	CHECKED: CD	

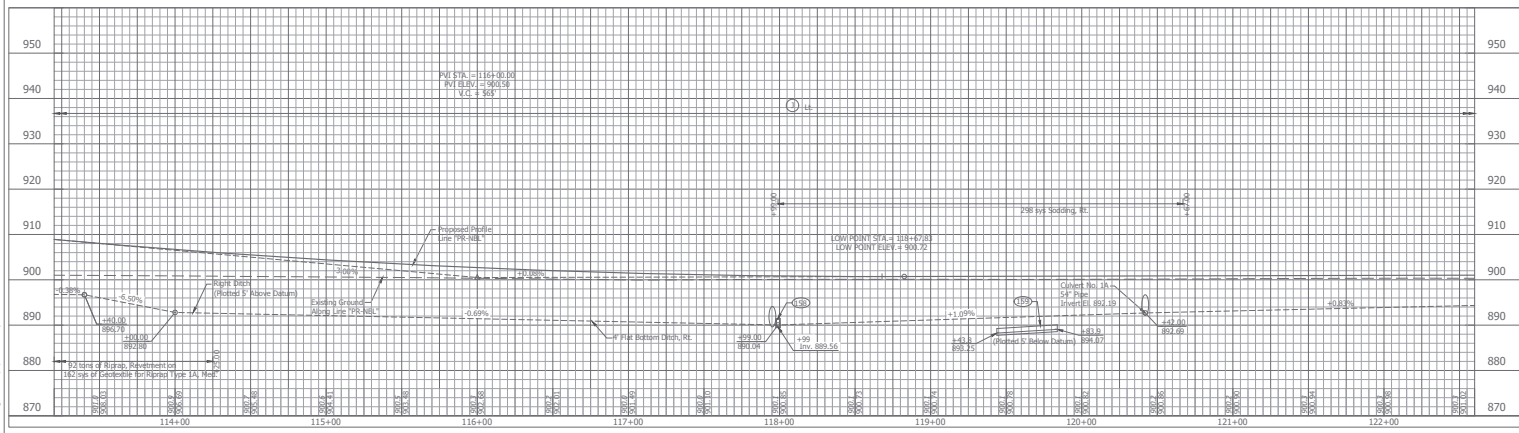
INDIANA
 DEPARTMENT OF TRANSPORTATION
 PLAN LINE "N"
 US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2807 TEL & SBL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
	19 of 155
CONTRACT	PROJECT
B-2982	159461

NOTE:
 All buildings shall be removed from the local property.
 Line "PR-NBL" & Line "PR-SBL" to be built unless otherwise noted.



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

FOR GUARDRAIL LEGEND, SEE SHEET 16.



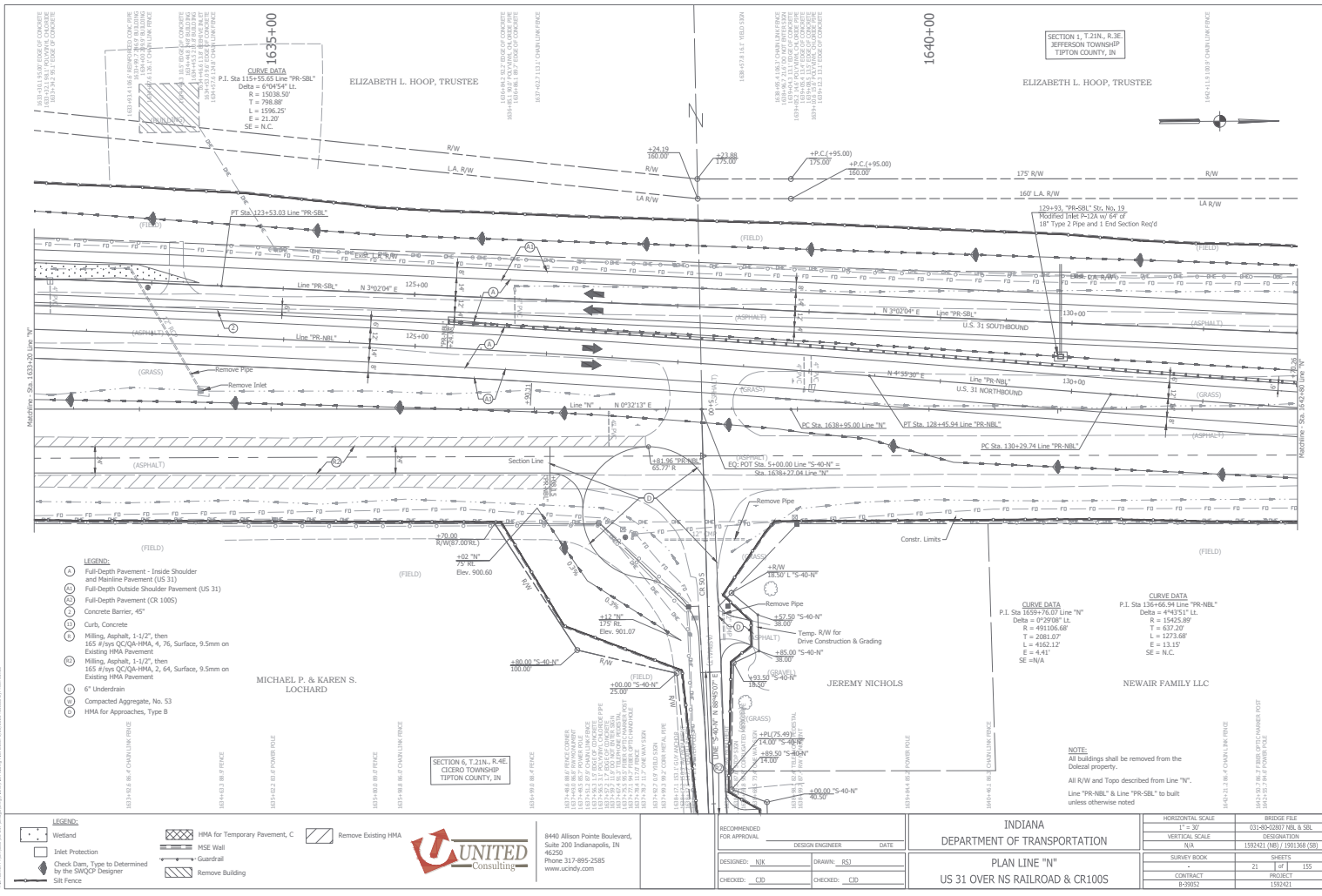
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Phone 317-895-2585
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: <u> </u>	DRAWN: <u> </u>	
CHECKED: <u> </u>	CHECKED: <u> </u>	

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-43-20807 TEL & SBL
VERTICAL SCALE 1" = 10'	DESIGNATION 150421 (NS) / 150138 (SB)
SURVEY BOOK	SHEETS
CONTRACT B-29852	20 of 155
	PROJECT 150421



SECTION 1, T.21N, R.3E
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN



CURVE DATA
P.I. Sta 115+55.66 Line "PR-SBL"
Delta = 6°04'54" LL
R = 15038.50
T = 798.88
L = 1556.25
E = 21.20
SE = N.C.

CURVE DATA
P.I. Sta 136+66.94 Line "PR-NBL"
Delta = 4°45'11" LL
R = 15425.89
T = 637.30
L = 1273.68
E = 13.15
SE = N.C.

- LEGEND:**
- Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - Full-Depth Pavement (CR 1005)
 - Concrete Barrier, 45"
 - Curb, Concrete
 - Milling, Asphalt, 1-1/2", then 165 #/yds CC-QA-HMA, 4, 76, Surface, 9.5mm on Existing HMA Pavement
 - Milling, Asphalt, 1-1/2", then 165 #/yds CC-QA-HMA, 2, 64, Surface, 9.5mm on Existing HMA Pavement
 - 6" Underdrain
 - Compacted Aggregate, No. 53
 - HMA for Approaches, Type B

NOTE:
All buildings shall be removed from the Obsolete property.
All R/W and Toss described from Line "N".
Line "PR-NBL" & Line "PR-SBL" to be built unless otherwise noted.

- LEGEND:**
- Wetland
 - Inlet Protection
 - Check Dam, Type to be Determined by the SWQCP Designer
 - Silt Fence
 - HMA for Temporary Pavement, C
 - RSE Wall
 - Guardrail
 - Remove Building
 - Remove Existing HMA

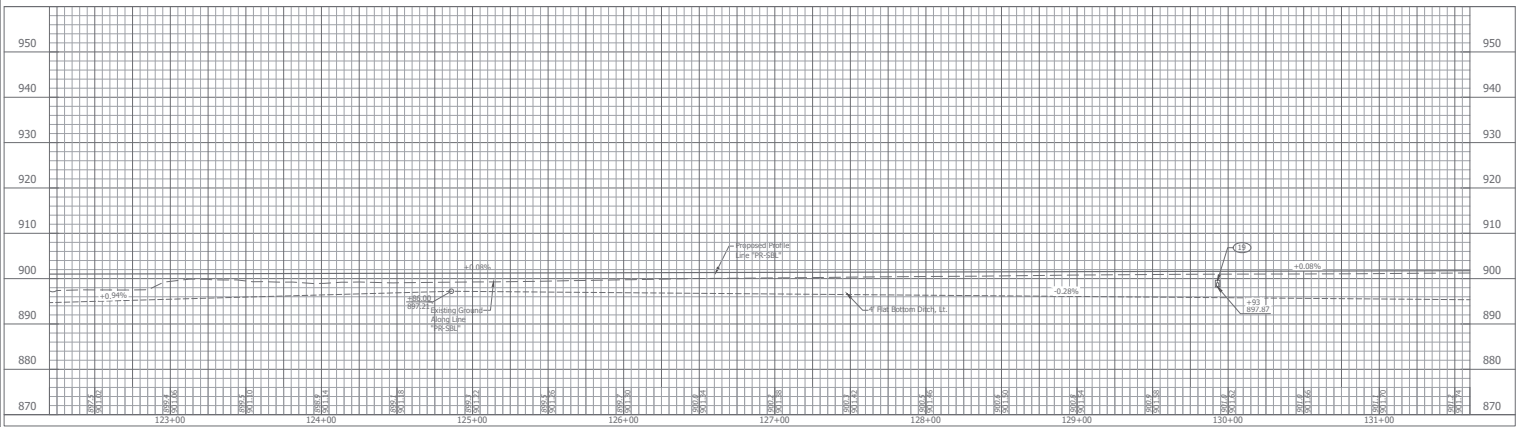


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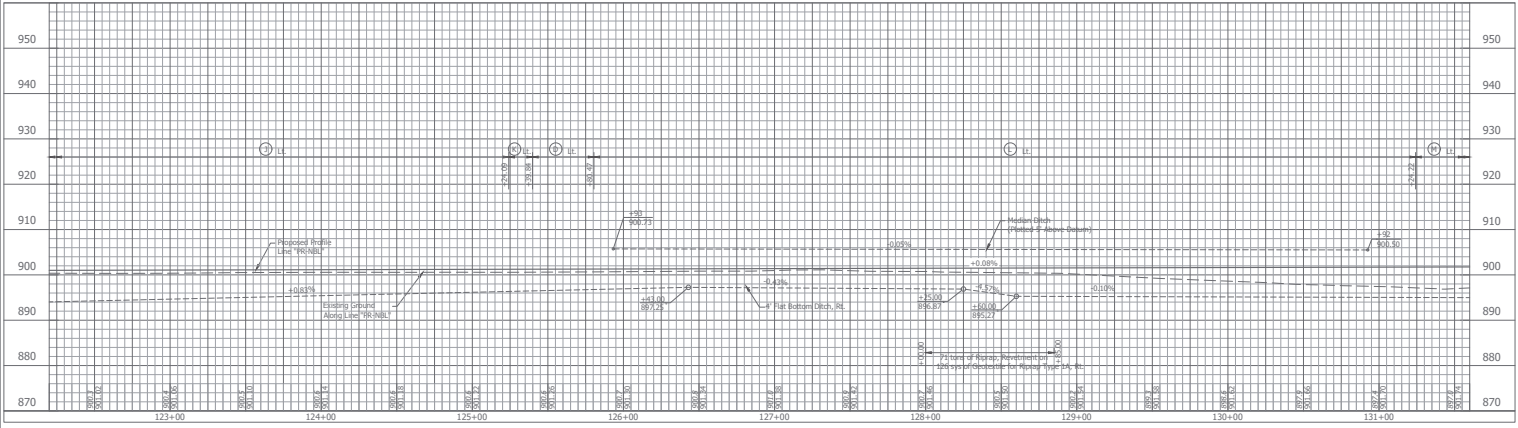
DESIGNED: NIK	CHECKED: CED
DRAWN: ISI	CHECKED: CD

INDIANA
DEPARTMENT OF TRANSPORTATION
PLAN LINE "N"
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-03-20807 TEL & SBL
VERTICAL SCALE 1" = 10'	SECTION NUMBER 159241 (NS) / 159138 (SBL)
SURVEY BOOK	SHEETS 21 of 155
CONTRACT B-29852	PROJECT 159461



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

FOR GUARDRAIL LEGEND, SEE SHEET 14.



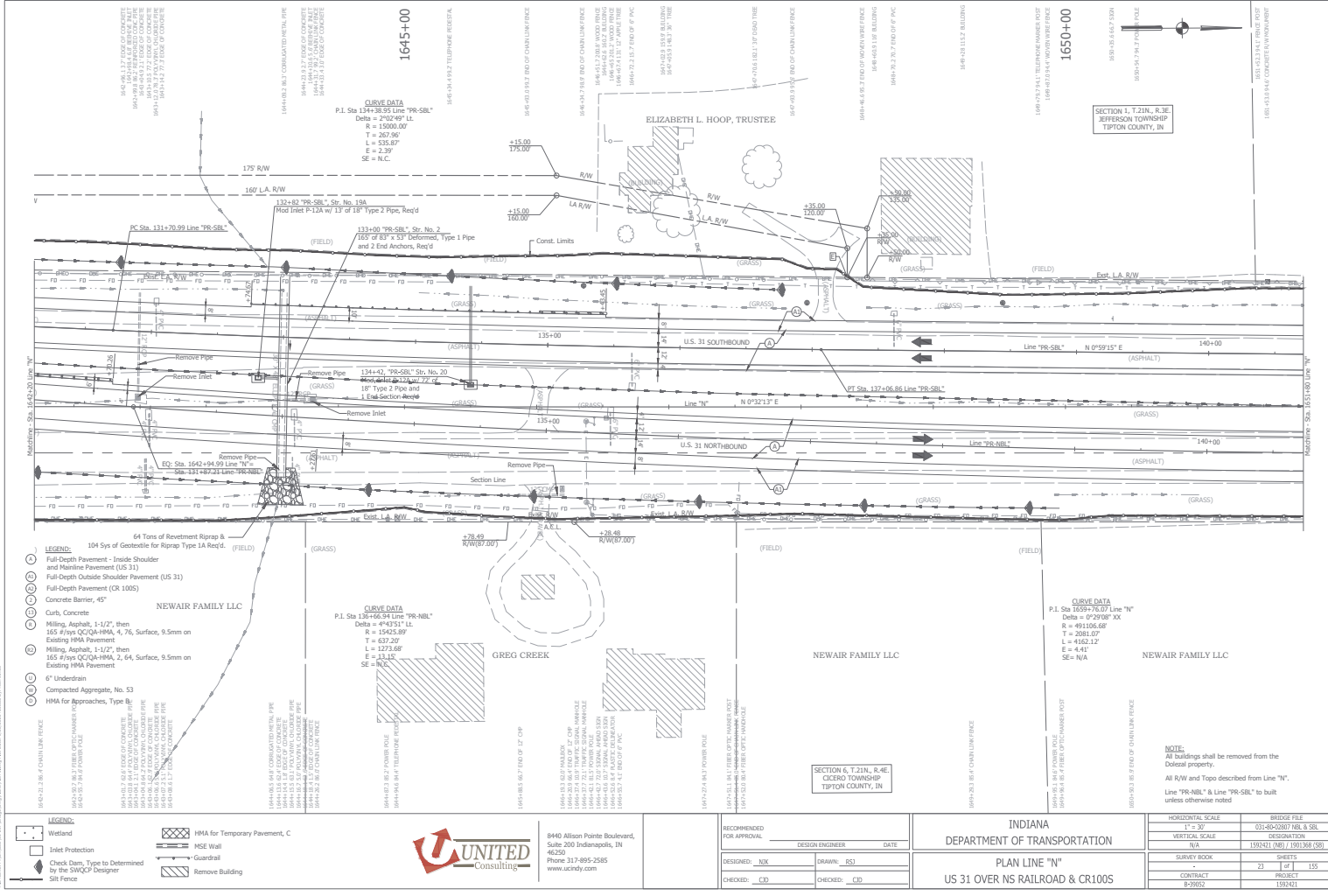
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Phone 317-895-2585
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: JSI	
CHECKED: CED	CHECKED: CJD	

INDIANA
DEPARTMENT OF TRANSPORTATION
PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-43-20807 TEL & SBL
VERTICAL SCALE 1" = 10'	DESCRIPTION 150'x41' (NS) / 150'x38' (SB)
SURVEY BOOK	SHEETS
CONTRACT B-29852	22 of 155
	PROJECT 159481

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1645+00

1650+00

CURVE DATA
 P.I. Sta 134+38.95 Line "PR-SBL"
 Delta = 270°49' L
 R = 15000.00'
 T = 267.96'
 L = 535.87'
 E = 2.38'
 SE = N.C.

CURVE DATA
 P.I. Sta 137+46.66 Line "PR-NBL"
 Delta = 0°29'08" XX
 R = 493306.68'
 T = 2081.07'
 L = 4182.12'
 E = 4.41'
 SE = N/A

SECTION 1, T21N, R3E
 JEFFERSON TOWNSHIP
 TIPTON COUNTY, IN

SECTION 6, T21N, R3E
 JEFFERSON TOWNSHIP
 TIPTON COUNTY, IN

NOTE:
 All buildings shall be removed from the
 Deleted property.
 All R/W and Topo described from Line "N".
 Line "PR-NBL" & Line "PR-SBL" to be built
 unless otherwise noted.

- LEGEND:**
- 104 Sys of Geotextile for Riprap Type 1A Req'd.
 - Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - Full-Depth Outside Shoulder Pavement (US 31)
 - Full-Depth Pavement (CR 1005)
 - Concrete Barrier, 45"
 - Cu/Ss, Concrete
 - Milling, Asphalt, 1-1/2", then 165 #/sys OC/QA-HMA, 4, 76, Surface, 9.5mm on Existing HMA Pavement
 - Milling, Asphalt, 1-1/2", then 165 #/sys OC/QA-HMA, 2, 64, Surface, 9.5mm on Existing HMA Pavement
 - 6" Underdrain
 - Compacted Aggregate, No. 53
 - HMA for Approaches, Type B

- 1842+12.28 6' CHAIN LINK FENCE
- 1842+32.28 6' CHAIN LINK FENCE
- 1842+52.28 6' CHAIN LINK FENCE
- 1842+72.28 6' CHAIN LINK FENCE
- 1842+92.28 6' CHAIN LINK FENCE
- 1843+12.28 6' CHAIN LINK FENCE
- 1843+32.28 6' CHAIN LINK FENCE
- 1843+52.28 6' CHAIN LINK FENCE
- 1843+72.28 6' CHAIN LINK FENCE
- 1843+92.28 6' CHAIN LINK FENCE
- 1844+12.28 6' CHAIN LINK FENCE
- 1844+32.28 6' CHAIN LINK FENCE
- 1844+52.28 6' CHAIN LINK FENCE
- 1844+72.28 6' CHAIN LINK FENCE
- 1844+92.28 6' CHAIN LINK FENCE
- 1845+12.28 6' CHAIN LINK FENCE
- 1845+32.28 6' CHAIN LINK FENCE
- 1845+52.28 6' CHAIN LINK FENCE
- 1845+72.28 6' CHAIN LINK FENCE
- 1845+92.28 6' CHAIN LINK FENCE

- LEGEND:**
- Wetland
 - Intert Protection
 - Check Dam, Type as Determined by the SWQCP Designer
 - Silt Fence
 - HMA for Temporary Pavement, C
 - MSE Wall
 - Guardrail
 - Remove Building

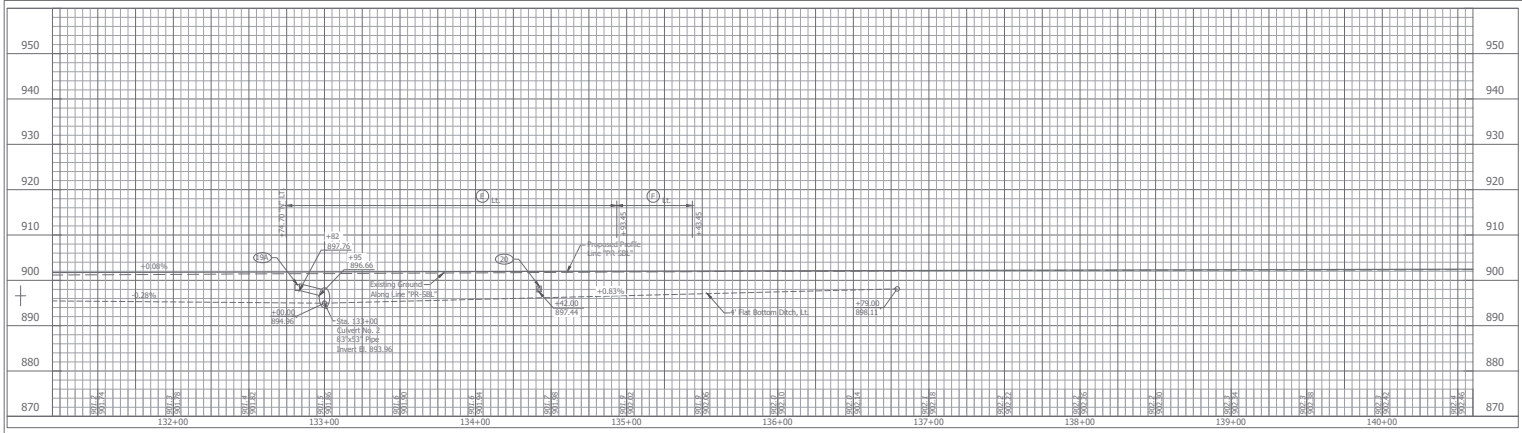


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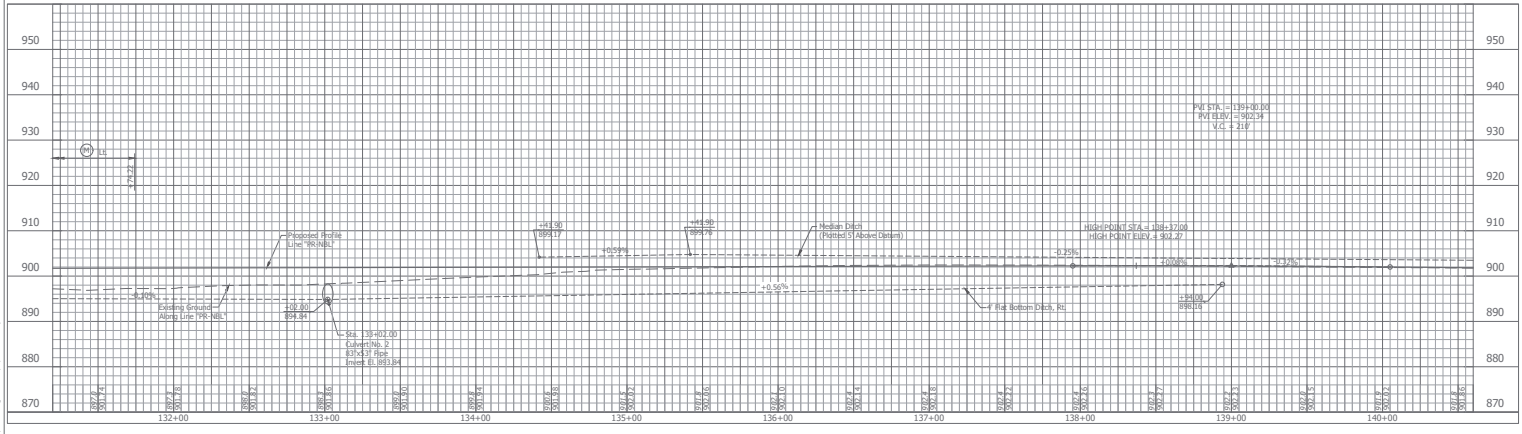
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: ISI	
CHECKED: CED	CHECKED: CD	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PLAN LINE "N"
 US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIEF FILE
1" = 30'	03-43-20807 TEL & SBL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	159241 (18) / 150138 (58)
SURVEY BOOK	SHEETS
	23 of 155
CONTRACT	PROJECT
B-2982	159241



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

FOR GUARDRAIL LEGEND, SEE SHEET 16.



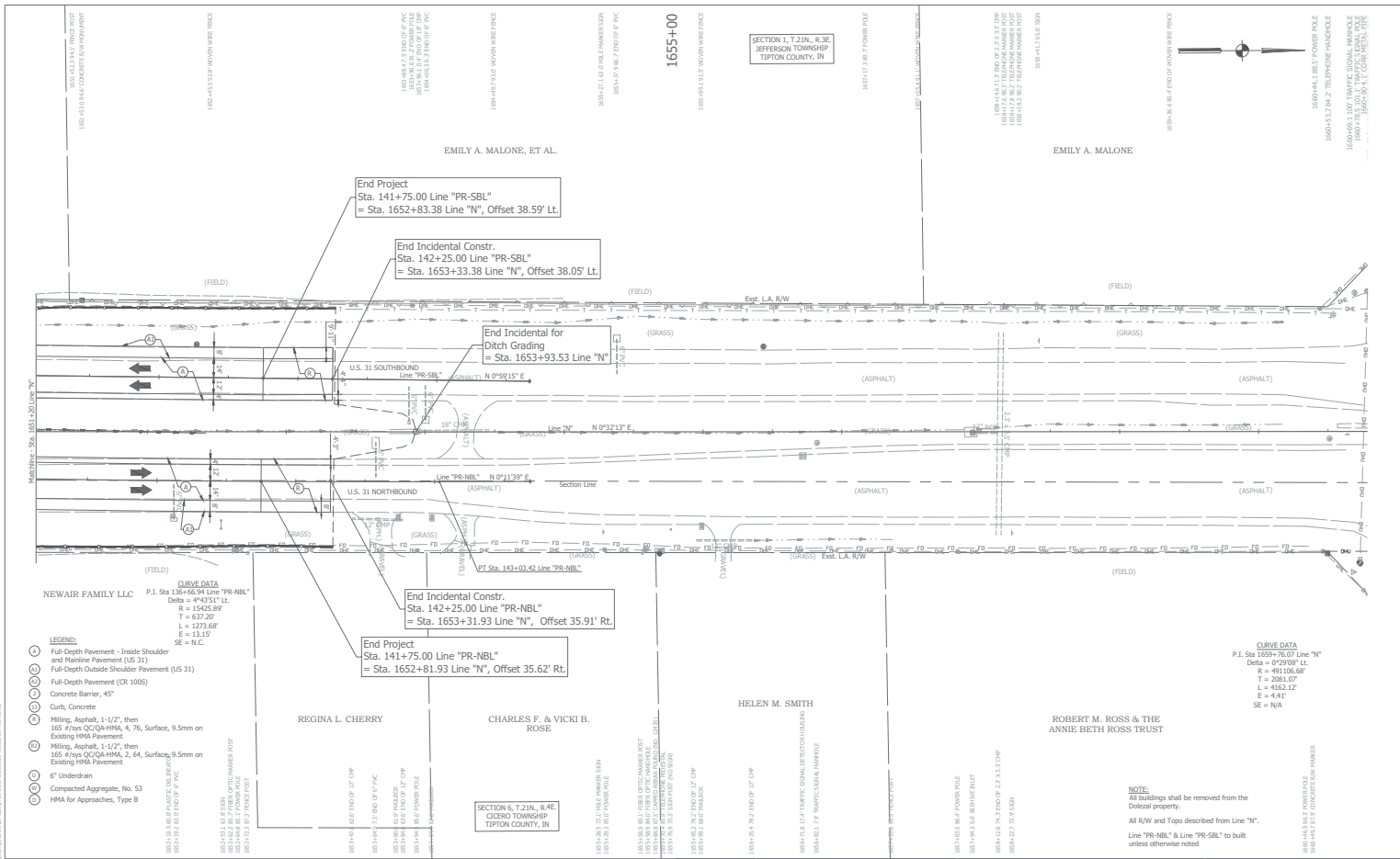
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NIK	DRAWN: ISI	
CHECKED: CED	CHECKED: CED	

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 03-40-20807 TEL & SBL
VERTICAL SCALE 1" = 10'	DESIGNATION 150241 (NS) / 1501388 (SB)
SURVEY BOOK	SHEETS
CONTRACT B-2982	24 of 155
	PROJECT 159481



- LEGEND:**
- (A) Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
 - (B) Full-Depth Outside Shoulder Pavement (US 31)
 - (C) Full-Depth Pavement (CR 1005)
 - (D) Concrete Barrier, 45"
 - (E) Curb, Concrete
 - (F) Milling, Asphalt, 1-1/2", then 165 #/sq. CCQA-HMA, 4, 76, Surface, 9.5mm on Existing HMA Pavement
 - (G) Milling, Asphalt, 1-1/2", then 165 #/sq. CCQA-HMA, 2, 64, Surface, 9.5mm on Existing HMA Pavement
 - (H) 6" Underdrain
 - (I) Compacted Aggregate, No. 53
 - (J) HMA for Approaches, Type B

- LEGEND:**
- Wetland
 - Int'l Protection
 - Check Dam, Type as Determined by the SWQCP Designer
 - Site Fence
 - HMA for Temporary Pavement, C
 - HSE Wall
 - Guardrail
 - Remove Building



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RECOMMENDED FOR APPROVAL

DESIGNED	DATE
DESIGNED: NIK	DATE:
CHECKED: CED	CHECKED: CED

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (18) / 150138 (58)
SURVEY BOOK	SHEETS
	25 of 155
CONTRACT	PROJECT
B-2982	159461

NOTE:
All buildings shall be removed from the
Dotted property.
All R/W and Topo described from Line "N".
Line "PR-NBL" & Line "PR-SBL" to built
unless otherwise noted

CURVE DATA
P.I. Sta 1659+76.07 Line "N"
Delta = 9°29'00" LL
R = 491106.68'
T = 2081.07'
L = 1662.14'
E = 4.41'
SE = N/A

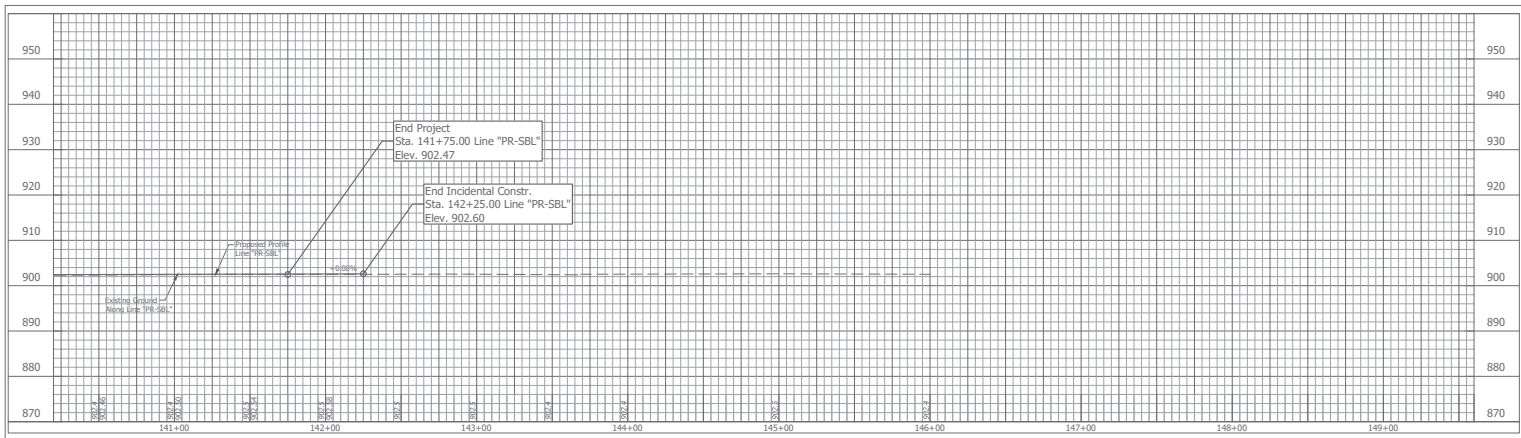
End Project
Sta. 141+75.00 Line "PR-SBL"
= Sta. 1652+83.38 Line "N", Offset 38.59' Lt.

End Incidental Constr.
Sta. 142+25.00 Line "PR-SBL"
= Sta. 1653+33.38 Line "N", Offset 38.05' Lt.

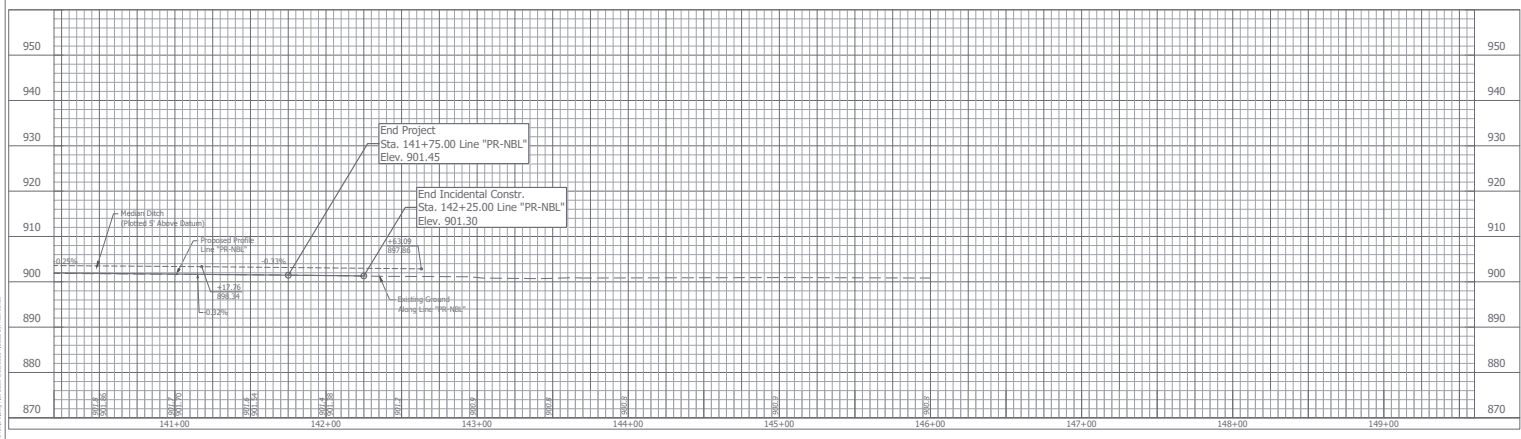
End Incidental for
Ditch Grading
= Sta. 1653+93.53 Line "N"

End Incidental Constr.
Sta. 142+25.00 Line "PR-NBL"
= Sta. 1653+31.93 Line "N", Offset 35.91' Rt.

End Project
Sta. 141+75.00 Line "PR-NBL"
= Sta. 1652+81.93 Line "N", Offset 35.62' Rt.



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"



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RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE _____

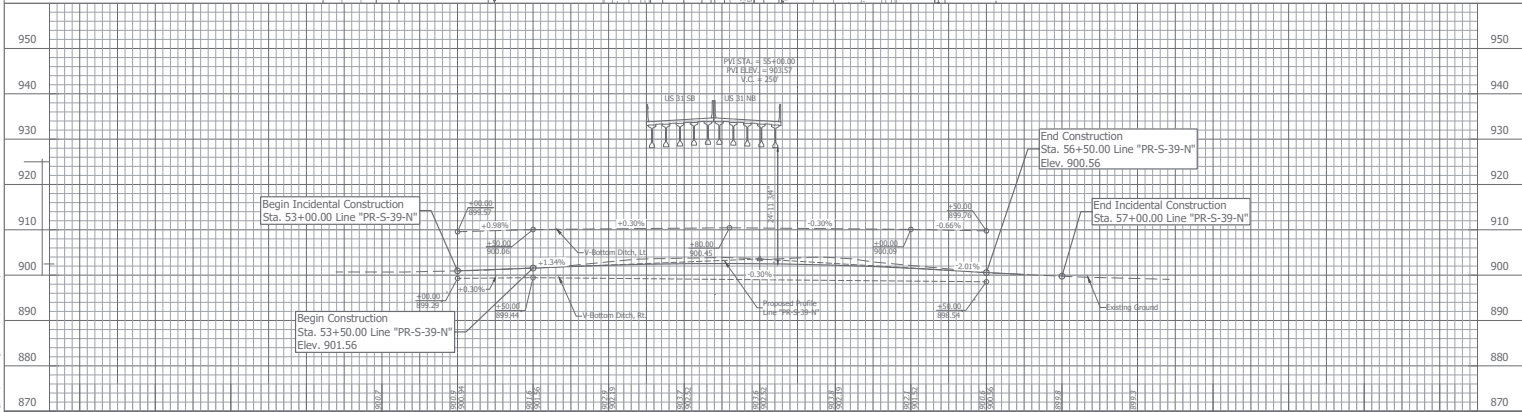
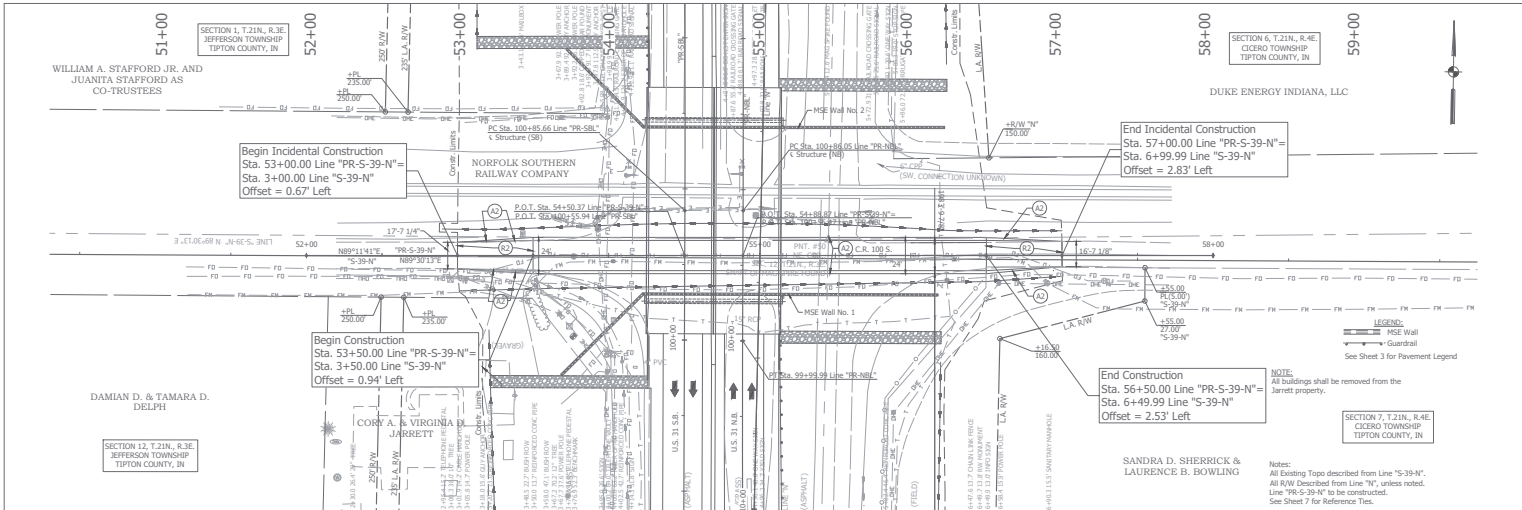
DESIGNED: NIK _____ DRAWN: BSI _____
CHECKED: CED _____ CHECKED: CED _____

INDIANA
DEPARTMENT OF TRANSPORTATION

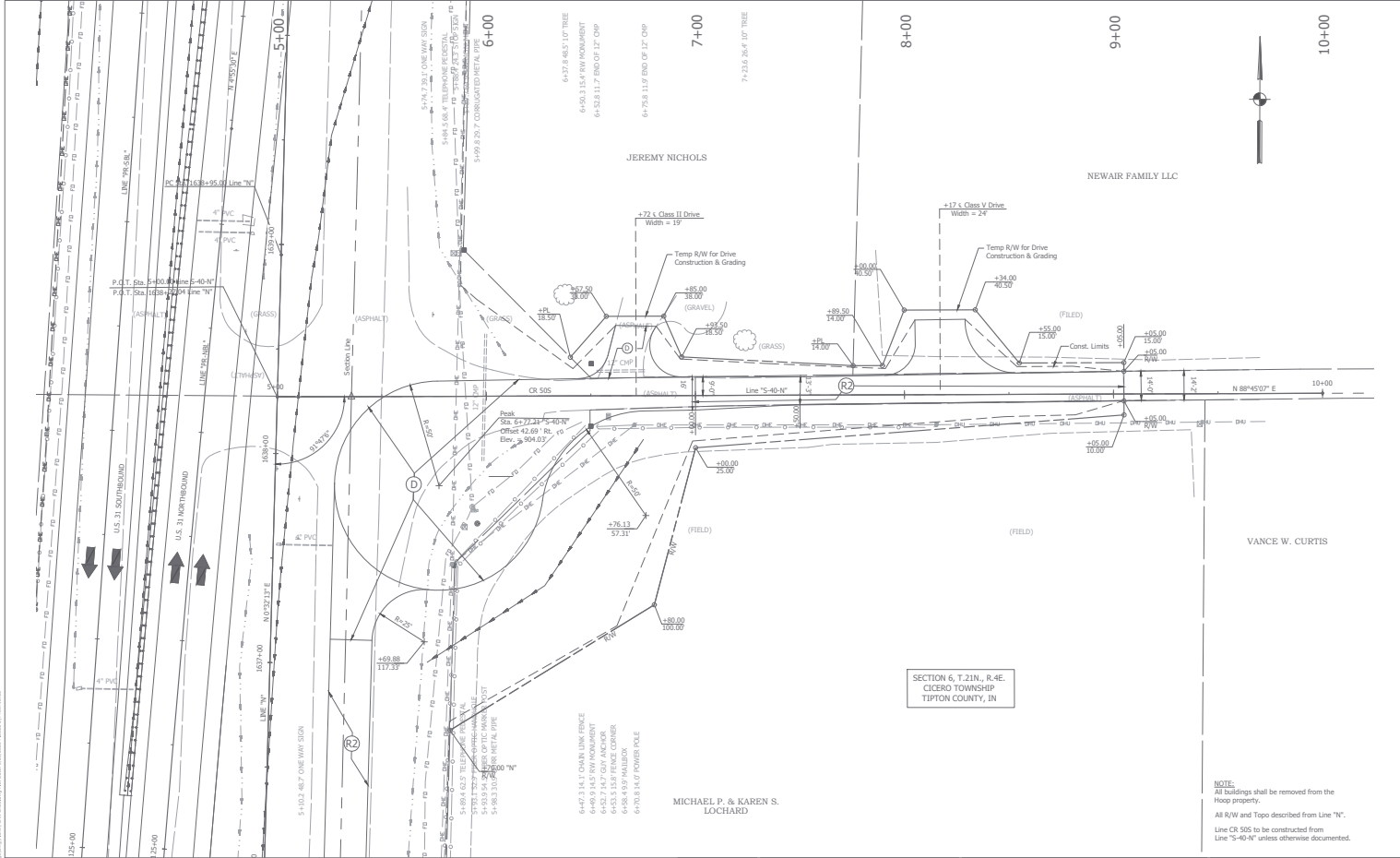
PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20807 REL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NBI) / 1501368 (SB)
SURVEY BOOK	SHEETS
-	25 of 155
CONTRACT	PROJECT
B-29852	1594NE1

H:\Users\jprince\Documents\Projects\03-43-20807\03-43-20807-150241-NBI-1501368-SB.dwg, 03/10/2015, Revision No. 003



 CAPPED REBAR SET LINE "S-39-N" NO REFERENCES AVAILABLE		 8440 Allison Pointe Boulevard, Suite 200 Indianapolis, IN 46250 Phone 317-895-2585 www.ucindy.com	RECOMMENDED FOR APPROVAL: _____ DATE: _____ DESIGN ENGINEER: _____		INDIANA DEPARTMENT OF TRANSPORTATION PLAN & PROFILE - CR1005 US 31 OVER NS RAILROAD & CR1005	HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 10' BRIDGE FILE: 03-03-2007 REL & SRL DESIGNATION: 150421 (NS) / 150138 (SB)	
 CAPPED REBAR SET LINE "S-39-N" NO REFERENCES AVAILABLE			DESIGNED: EJS CHECKED: CED	DRAWN: DIZ CHECKED: CED		SURVEY BOOK: _____ SHEETS: 27 of 155 CONTRACT: B-20052 PROJECT: 150421	



NOTE:
 All buildings shall be removed from the Hoop property.
 All R/W and Topo described from Line "N".
 Line CR 505 to be constructed from Line "S-40-N" unless otherwise documented.

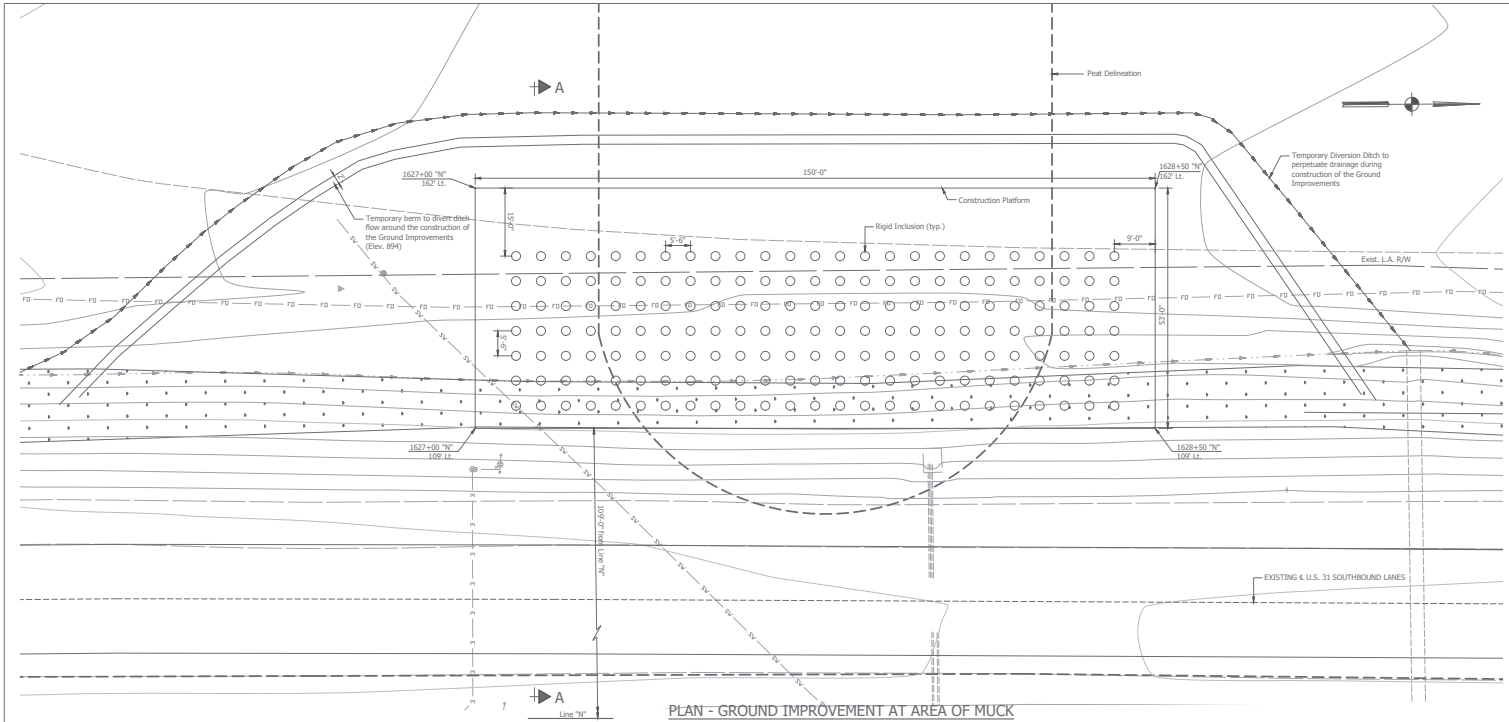
LEGEND:
 Guardrail
 See Sheet 3 for Pavement Legend

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RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	DATE:
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

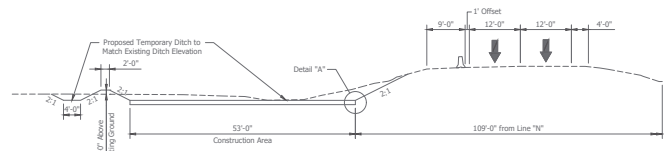
INDIANA
 DEPARTMENT OF TRANSPORTATION
 PLAN LINE "S-40-N"
 US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE 1" = 20'	BRODIE FILE 03-40-2887 TEL & SRL
VERTICAL SCALE 1" = 5'	SECTION 150241 (NS) / 150138 (SR)
SURVEY BOOK	SHEETS
CONTRACT	NO. OF SHEETS
B-2887	28 OF 155
	PROJECT
	159461



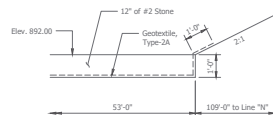
PLAN - GROUND IMPROVEMENT AT AREA OF MUCK

Scale: 1"0" = 10'-0"



SECTION "A-A" - OPTIONAL PRE-PHASE I MOT

Scale: 3/32" = 1'-0"



DETAIL "A-A"

Scale: 1/2" = 1'-0"

BILL OF MATERIALS

Ground Improvement at Area of Muck	884 typ
Vibrating Wire Pressure Cells	4 each
Data Logging System	4 each
Settlement Plate	4 each

LEGEND:

	MSE Wall
	Guardrail
	Check Dam, Type to be Determined by the SWQCP Designer
	Silk Fence
	Wetland

See Sheet 3 for Pavement Legend

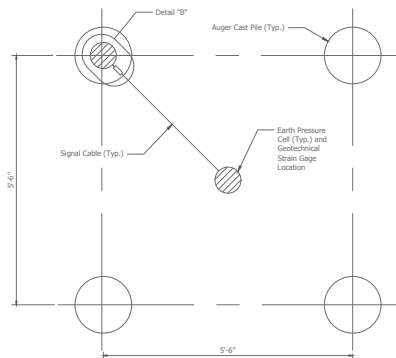


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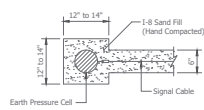
RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	DATE:
DESIGNED: CD	DRAWN: AJM	
CHECKED: EEI	CHECKED: CD	

INDIANA
DEPARTMENT OF TRANSPORTATION
GROUND IMPROVEMENT AT AREA OF MUCK
US 31 OVER NS RAILROAD & CR100S

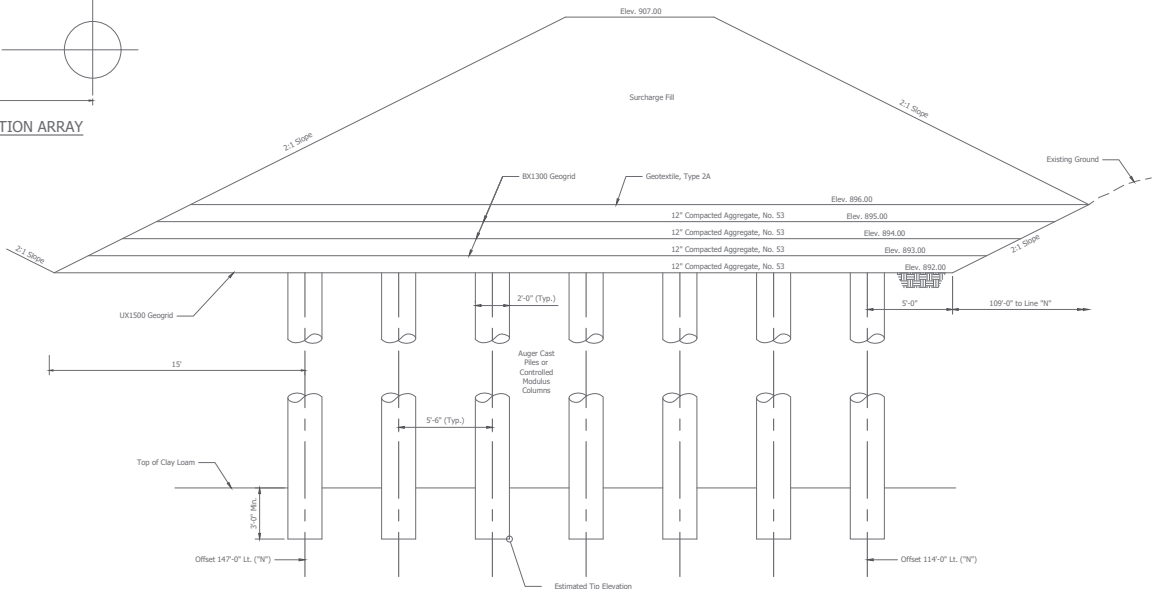
HORIZONTAL SCALE	1" = 30'	BRIDGE FILE	03143-22807 TEL & SRL
VERTICAL SCALE	1/4" = 1'-0"	DESIGNATION	159241 (186) / 1501388 (58)
SURVEY BOOK	-	SHEETS	29 of 155
CONTRACT	B-29852	PROJECT	159241



GEOTECHNICAL INSTRUMENTATION ARRAY
Scale: 1'-0" = 1'-0"



DETAIL "B"
Scale: 1'-0" = 1'-0"



ELEVATION - COLUMN SUPPORTED EMBANKMENT
Scale: 3/8" = 1'-0"

LEGEND:

	MSE Wall		Wetland
	Guardrail		
See Sheet 3 for Pavement Legend			
	Check Dam, Type to be Determined by the SWQCP Designer		
	Silk Fence		



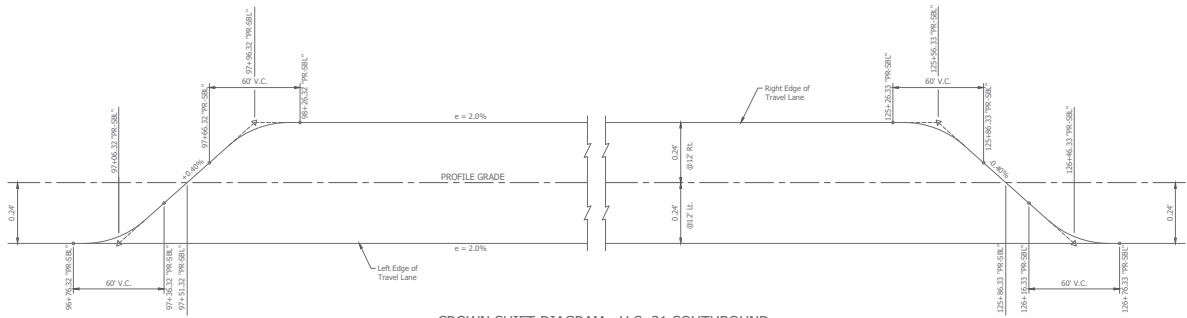
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RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	DATE:
DESIGNED: <u>CD</u>	DRAWN: <u>AIM</u>	
CHECKED: <u>EEI</u>	CHECKED: <u>CD</u>	

INDIANA
DEPARTMENT OF TRANSPORTATION
GROUND IMPROVEMENT AT AREA OF MUCK
US 31 OVER NS RAILROAD & CR100S

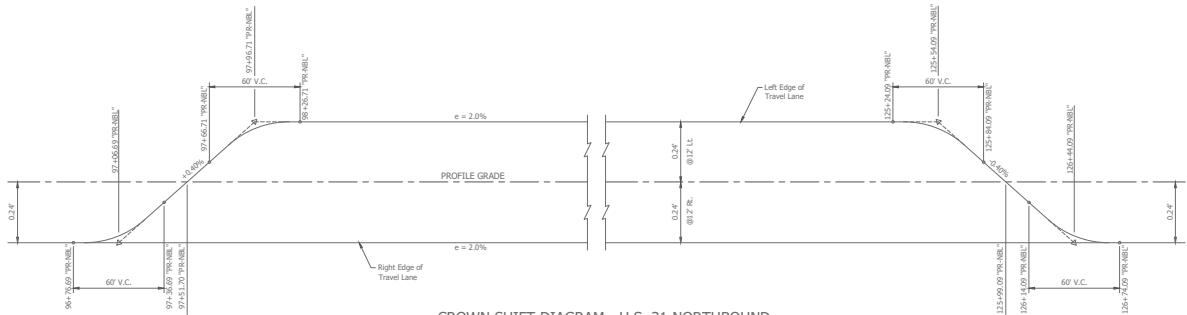
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03143-02807 TAB & S&L
VERTICAL SCALE	DESCRIPTION
1/4" = 1'-0"	159241 (NS) / 1501388 (S)
SURVEY BOOK	SHEETS
-	30 of 155
CONTRACT	PROJECT
B-29852	159241

18: H:\Users\jprince\Documents\2017\159241\1501388\159241-02807-Tab&S&L.dwg (10/20/17) 11:48:54 AM



CROWN SHIFT DIAGRAM - U.S. 31 SOUTHBOUND

Scale: 1" = 30' Horiz.
Scale: 1" = 10' Vert.



CROWN SHIFT DIAGRAM - U.S. 31 NORTHBOUND

Scale: 1" = 30' Horiz.
Scale: 1" = 10' Vert.

NOTES:
Superelevation is not required by geometric design.
Superelevation Diagram is used to convert normal crown roadway to 2% Tilt Section for Drainage.

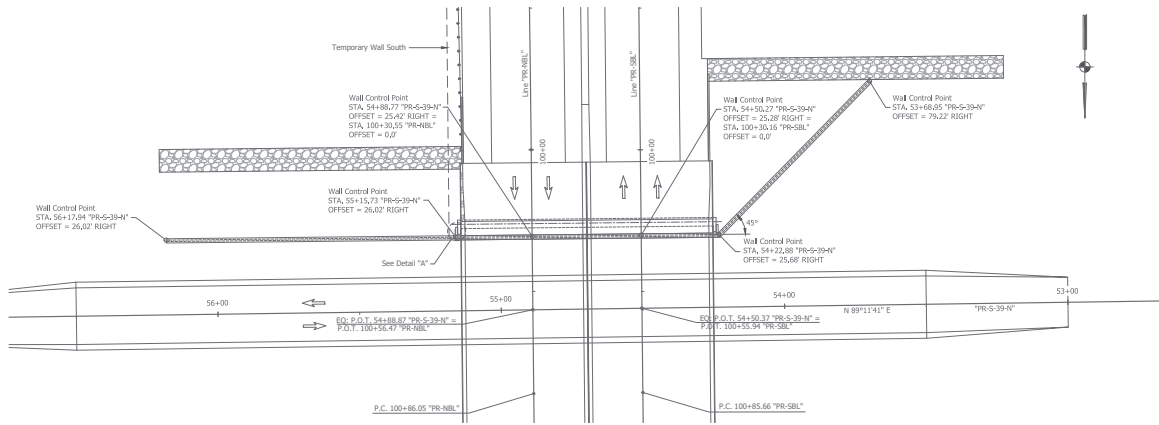


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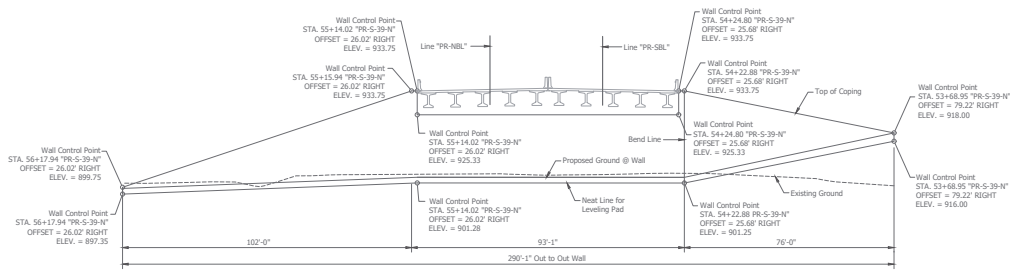
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: CID	DRAWN: ISI	
CHECKED: NIK	CHECKED: CID	

INDIANA
DEPARTMENT OF TRANSPORTATION
CROWN SHIFT DIAGRAM
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-03-25007 TEL & SRL
VERTICAL SCALE	SECTION
AS NOTED	150421 (NS) / 1501388 (SB)
SURVEY BOOK	SHEETS
	31 of 155
CONTRACT	PROJECT
B-20052	1504241



PLAN - MSE WALL No. 1
Scale: 1/16" = 1'-0"



ELEVATION - MSE WALL No. 1
Scale: 1/16" = 1'-0"

NOTES:
All stations and offsets described from Line "PR-S-39-N".
All stations, offsets & dimensions are measured to the back face of wall.
For Additional MSE Wall details, see sheets 33-35.
For Temporary Wall details, see sheets 36-37.

File Name: P:\BNC\CD\UP-217\Bldg\DWG\Plan\MSE Wall 2.dwg Pkg Date: 6/26/2021 Plotted By: Rich Jones



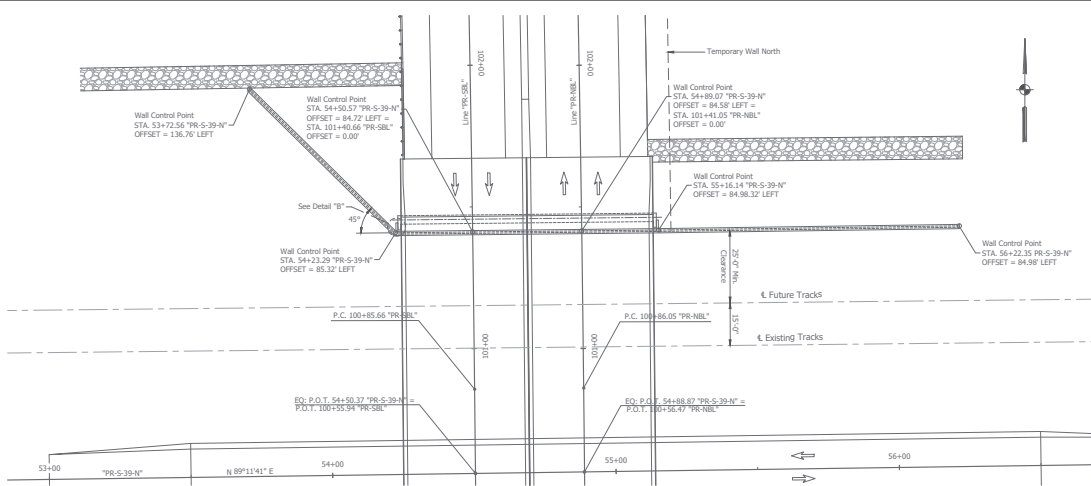
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Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED	DRAWN	RSJ
CHECKED	JDS	CHECKED: NAR

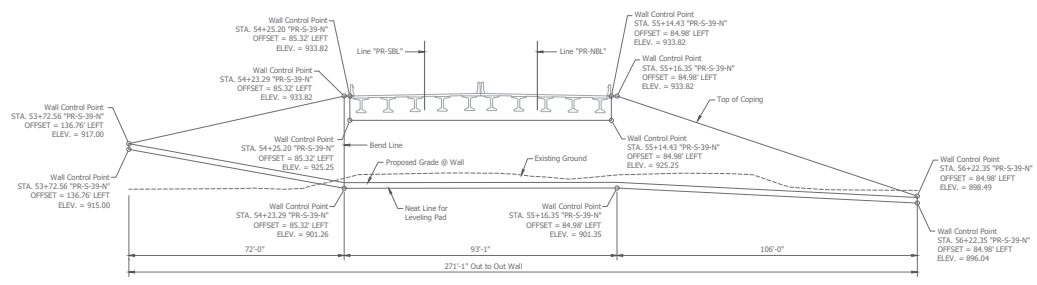
INDIANA
DEPARTMENT OF TRANSPORTATION

MSE WALL
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BROCKE FILE
VERTICAL SCALE	AS NOTED	0318002007 NBL & SBL DESIGNATION
SURVEY BOOK	32	155
CONTRACT	B-2002	PROJECT 150421



PLAN - MSE WALL No. 2
Scale: 1/16" = 1'-0"



ELEVATION - MSE WALL No. 2
Scale: 1/16" = 1'-0"

NOTES:
All stations and offsets described from Line "PR-S-39-N".
All stations, offsets & dimensions are measured to the back face of wall.
For Additional MSE Wall details, see sheets 32 & 34-35.
For Temporary Wall details, see sheets 36-37.

File Name: P:\BNC\CD\UP-217\Bldg\DWG\Main\MSE Wall_2.dwg Pkg Date: 6/26/2021 Plotted By: Rich Jones

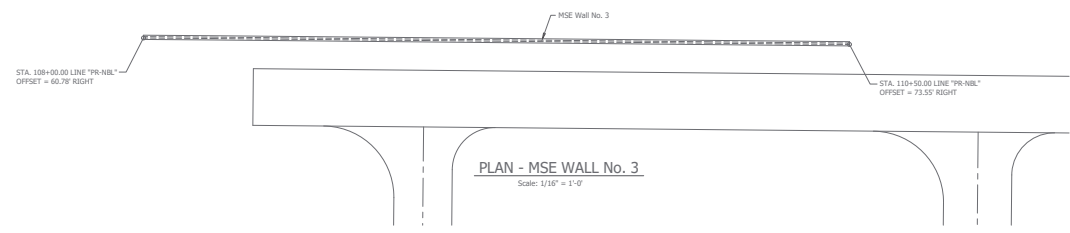
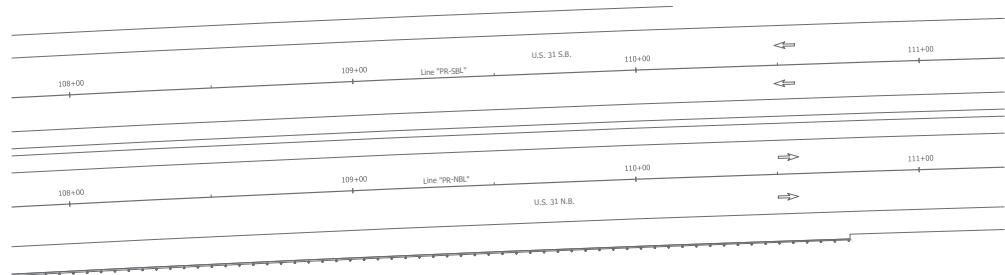
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: <u>NBR</u>	DRAWN: <u>RSJ</u>	
CHECKED: <u>JDS</u>	CHECKED: <u>JDS</u>	

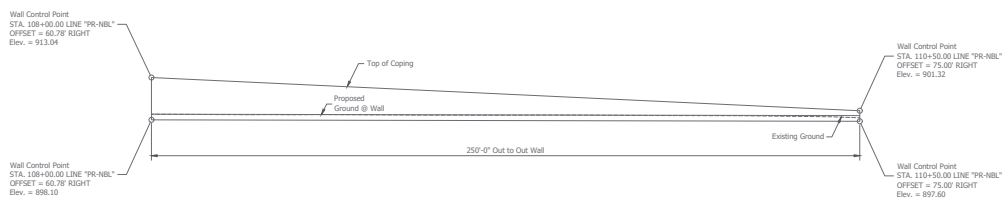
INDIANA
DEPARTMENT OF TRANSPORTATION

MSE WALL
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031802087 NBL & SRL
VERTICAL SCALE	AS NOTED	DESIGNATION	150421 (N) / 150136 (S)
SURVEY BOOK		SHEETS	33 of 155
CONTRACT	B-2002	PROJECT	150421



PLAN - MSE WALL No. 3
Scale: 1/16" = 1'-0"



ELEVATION - MSE WALL No. 3
Scale: 1/16" = 1'-0"

NOTES:
All stations and offsets described from Line "PR-NBL", unless noted.
All stations, offsets & dimensions are measured to the back face of wall.
For Additional MSE Wall details, see sheets 32-33 & 35.

File Name: P:\BNC\CD\16-217\Bidge\Draw\Plan\MSE Wall 3.dwg Rev Date: 6/26/2021 Plotted By: Rich Jones



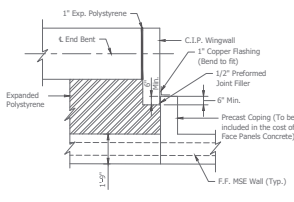
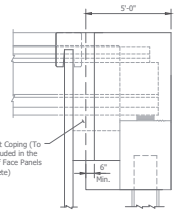
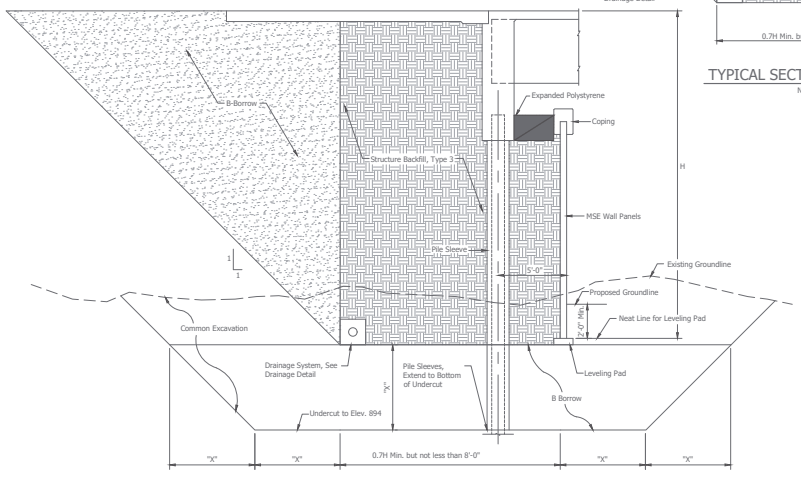
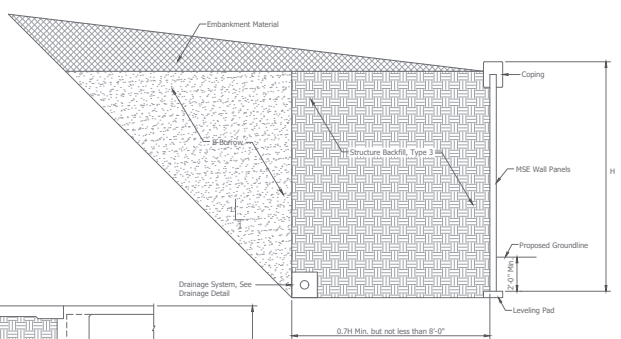
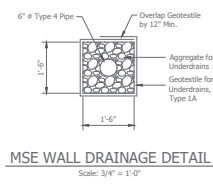
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DESIGNED: <u>NBR</u>	DRAWN: <u>RSJ</u>
CHECKED: <u>JDS</u>	CHECKED: <u>NBR</u>

INDIANA
DEPARTMENT OF TRANSPORTATION

MSE WALL
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	03160-0267 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	150'x41' (N) / 150'x40' (S)
SURVEY BOOK		SHEETS	34 of 155
CONTRACT	B-2002	PROJECT	150241



BILL OF MATERIALS

MSE WALL No. 1

PAY ITEM	QUANTITY
Face Panels, Concrete	4986 sqf.
Wall Erection	4986 sqf.
Leveling Pad, Concrete	249 lf.
B Borrow	1824 cys.
Structure Backfill, Type 3	4566 cys.
6" # 4 Type 4 Pipe	249 lf.
Geotextiles for Underdrains, Type 1A	194 cys.
Aggregate for Underdrains	19 cys.
**Excavation, Common	2639 cys.
**Expanded Polystyrene	35 cys.

MSE WALL No. 2

PAY ITEM	QUANTITY
Face Panels, Concrete	4986 sqf.
Wall Erection	4986 sqf.
Leveling Pad, Concrete	250 lf.
B Borrow	1722 cys.
Structure Backfill, Type 3	4653 cys.
6" # 4 Type 4 Pipe	250 lf.
Geotextiles for Underdrains, Type 1A	195 cys.
Aggregate for Underdrains	19 cys.
**Excavation, Common	2283 cys.
**Expanded Polystyrene	35 cys.

MSE WALL No. 3

PAY ITEM	QUANTITY
Face Panels, Concrete	2327 sqf.
Wall Erection	2327 sqf.
Leveling Pad, Concrete	250 lf.
B Borrow	424 cys.
Structure Backfill, Type 3	722 cys.
6" # 4 Type 4 Pipe	250 lf.
Geotextiles for Underdrains, Type 1A	195 cys.
Aggregate for Underdrains	19 cys.
**Excavation, Common	234 cys.

* Undistributed Quantity
** Included in the cost of Wall
*** Estimated Quantity

DESIGN DATA

Design in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth edition, 2017, and its Subsequent Interims.

The leveling pad, leveling pad step locations, elevations, dimensions, and resulting structure backfill and B Borrow backfill quantities are conceptual and are provided for information only. The contractor shall be responsible for the quantity on which it bases its bid.

Maximum factored bearing resistance = 8,400 psf.

NOTES:
All sections, offsets & dimensions are measured to the back face of wall.
For Additional MSE Wall details, see sheets 32-34.

File Name: P:\BRIDGE\05-217\Bridges\Draw\Main\MSE Wall_2.dwg Pkg Date: 6/26/2021 Plotted By: Rich Jones



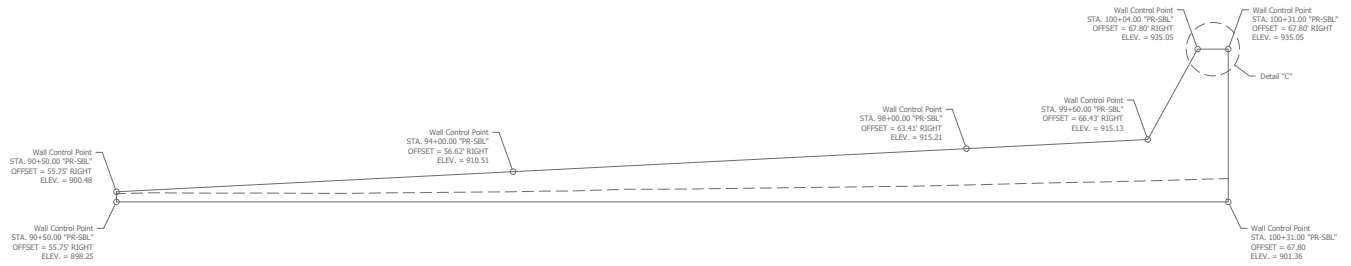
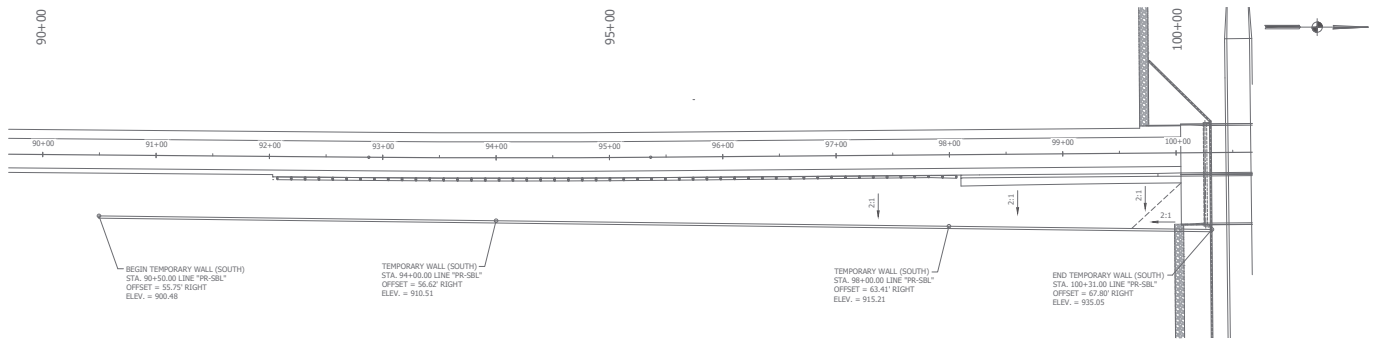
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NAR	DRAWN: RSD	
CHECKED: JDS	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	03-40-02607 N&L & S&L
VERTICAL SCALE	AS NOTED	DESIGNATION	159241 (N&L) / 159136 (S&L)
SURVEY BOOK		SHEETS	
		35	of 155
CONTRACT	B-2952	PROJECT	1591431



BILL OF MATERIALS

TEMPORARY WALL SOUTH	
PAY ITEM	QUANTITY
Temporary Wire Facing	13,537 sq. ft.
Temporary Wall Erection	13,537 sq. ft.

NOTES:
All stations and offsets described from Line "PR-SBL".
All stations, offsets & dimensions are measured to the back face of wall.
For Detail "C", See Sheet 37.

File Name: P:\BR\CD\UP-217\Bldg\Temp\HSE\Wall\Temp\Temp.mxd Date: 6/26/2021 Plotted By: Rich Jones

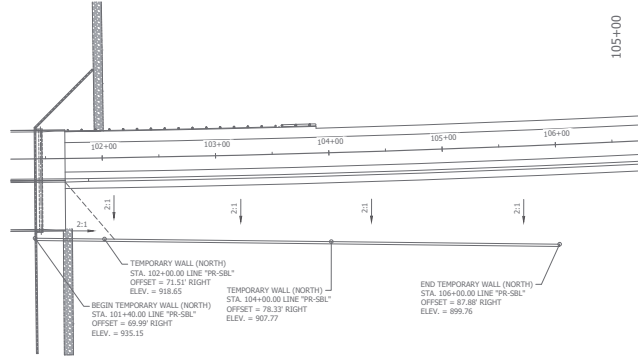


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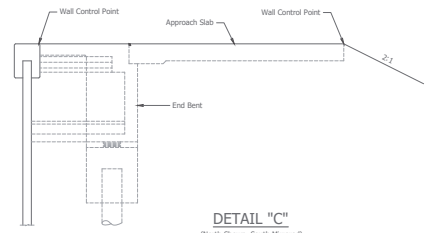
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: JES	DRAWN: RSD	
CHECKED: CID	CHECKED: CID	

INDIANA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WALL - SOUTH
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BROCK FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (IND) / 1591368 (SD)
SURVEY BOOK		SHEETS	36 of 155
CONTRACT	B-39052	PROJECT	1592421

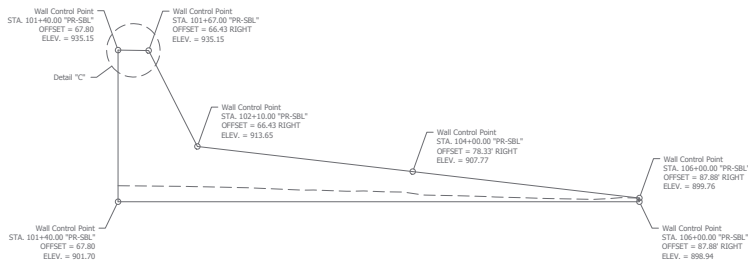


PLAN - TEMPORARY RETAINING WALL NORTH
Scale: 1" = 40'



BILL OF MATERIALS

TEMPORARY WALL NORTH	
PRY ITEM	QUANTITY
Temporary Wire Fencing	5,410 sft.
Temporary Wall Erection	5,410 sft.



ELEVATION - TEMPORARY RETAINING WALL NORTH
Scale: 1" = 40' Horiz.
Scale: 1" = 10' Vert.

NOTES:
All stations and offsets described from Line "PR-SBL".
All stations, offsets & dimensions are measured to the back face of wall.

File Name: P:\BRIDGE\DWG\Plans\Temp MSE Wall.dwg Pkg Date: 6/26/2021 Plotted By: Rich Jones

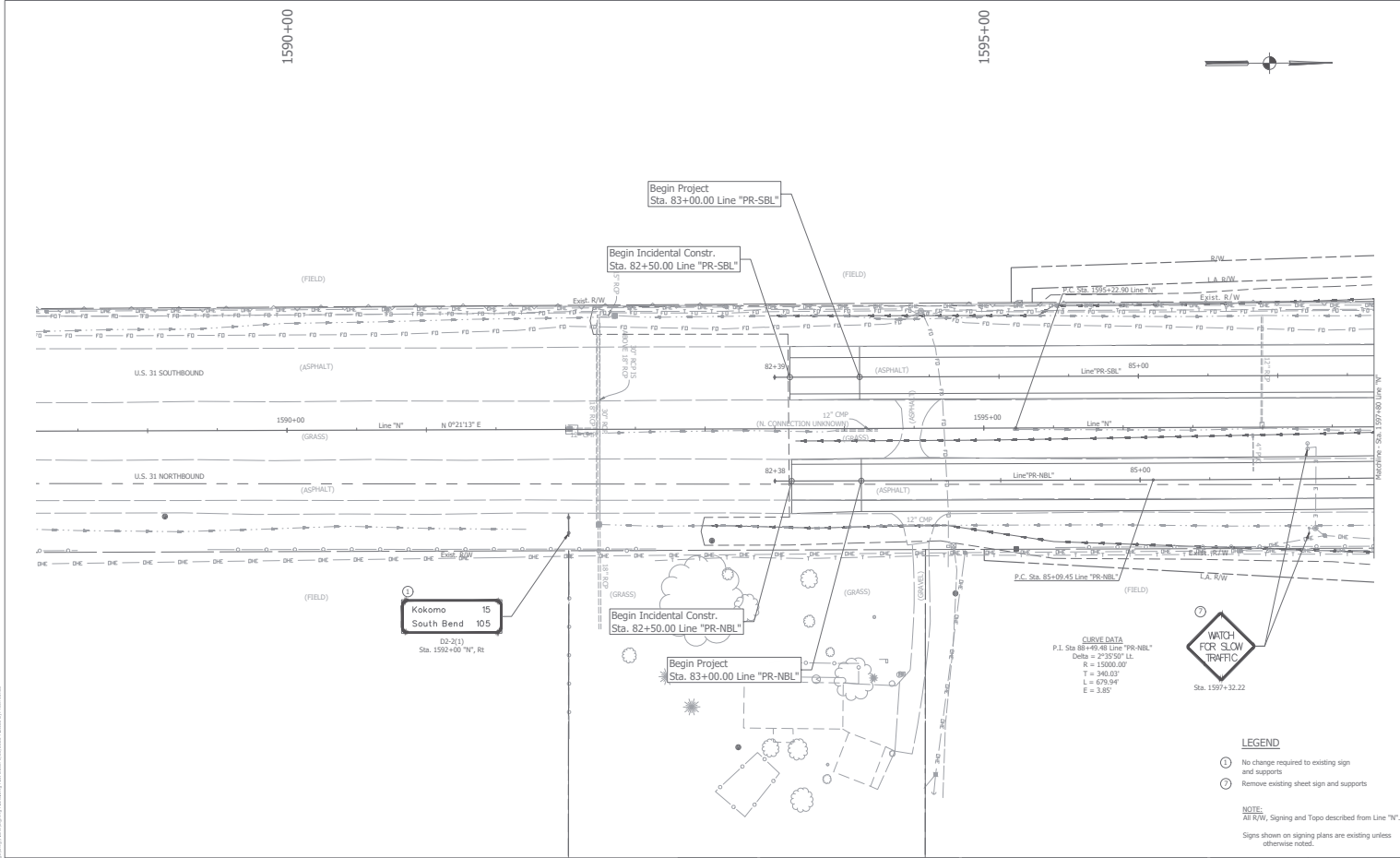


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DRAWN	RSD	
CHECKED	CJD	

INDIANA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WALL - NORTH
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (IND) / 1501368 (SD)
SURVEY BOOK	37	SHEETS	155
CONTRACT	B-38052	PROJECT	1592421



- LEGEND**
- ① No change required to existing sign and supports
 - ② Remove existing sheet sign and supports

NOTE:
All R/W, Signing and Topo described from Line "N".
Signs shown on signing plans are existing unless otherwise noted.

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DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
DEPARTMENT OF TRANSPORTATION
SIGNING PLANS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1/4" = 10'	159241 (NS) / 150138 (SB)
SURVEY BOOK	SHEETS
	38 of 155
CONTRACT	PROJECT
B-2982	159241

EXIT 148
28
Frankfort
Tipton
1/2 MILE

CURVE DATA
 P.I. Sta 94+12.02 Line "FR-SBL"
 Delta = 0°27'07" L
 R = 15000.00'
 T = 124.30'
 L = 248.71'
 E = 0.52'

CURVE DATA
 P.I. Sta 1005+22.90 Line "N"
 Delta = 0°11'00" R
 R = 625044.87'
 T = 1000.00'
 L = 2000.00'
 E = 0.80'

- LEGEND**
- ① No change required to existing sign and supports
 - ② Remove existing sheet sign and supports
 - ③ Remove existing panel sign from ground-mounted supports
 - Ⓞ Existing panel sign on new supports

NOTE:
 All R/W, Signing and Topo described from Line "N".

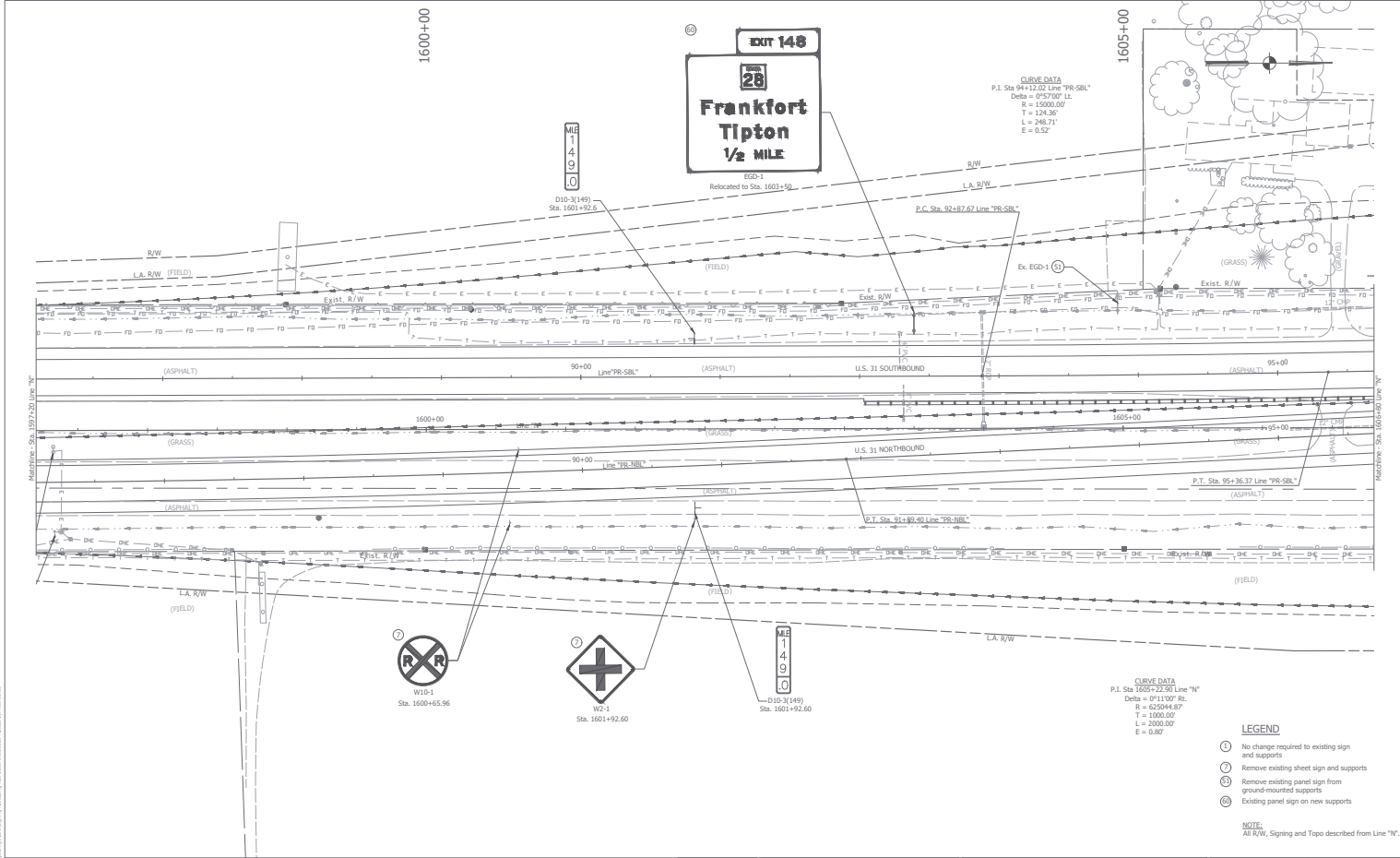


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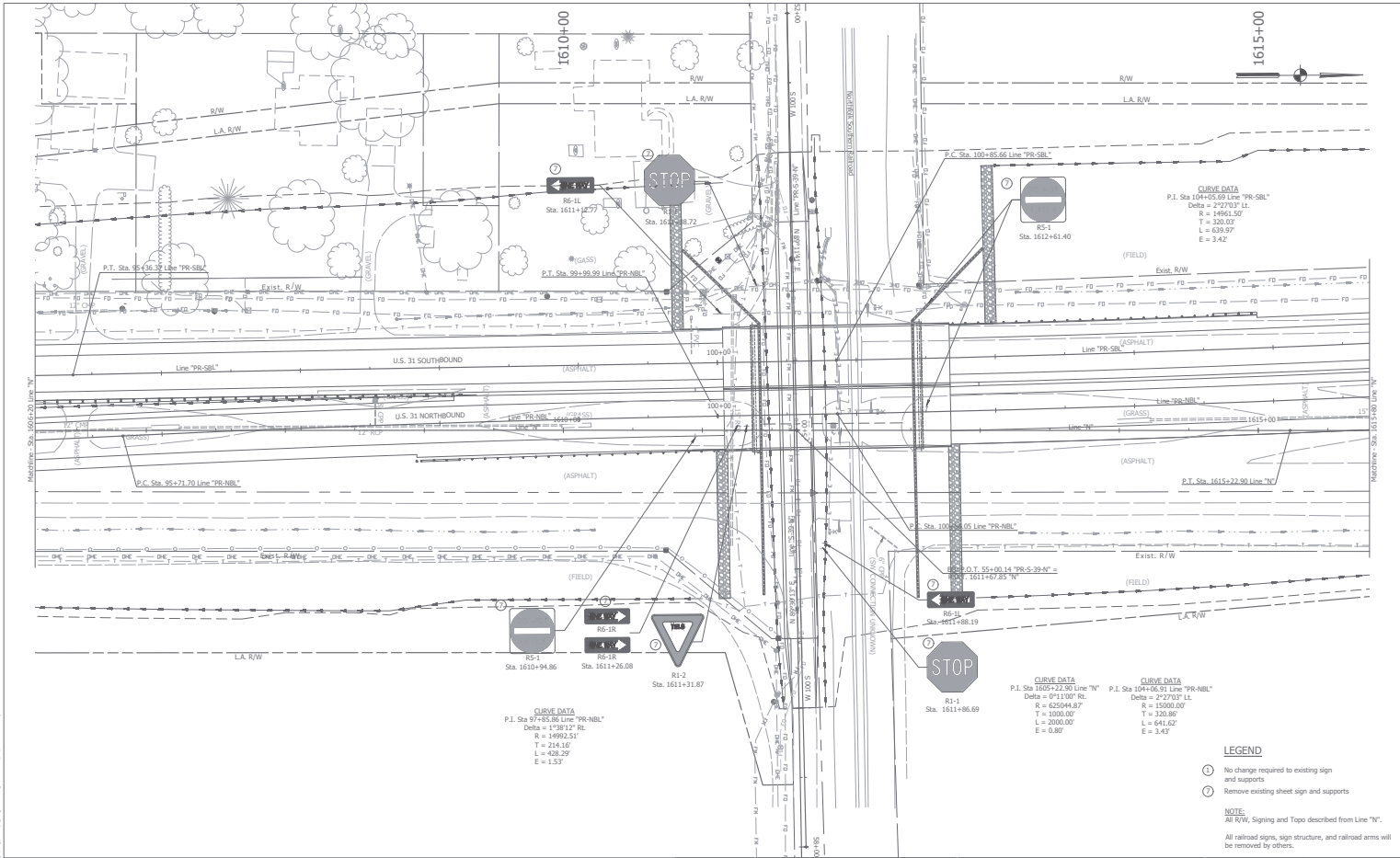
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SIGNING PLANS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRODGE FILE
1" = 30'	03140-28807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
N/A	159141 (NS) / 1501388 (SB)
SURVEY BOOK	SHEETS
	39 of 155
CONTRACT	PROJECT
B-28852	159141



18: 1/10/2017 10:00:00 AM C:\Users\j... \Documents\Projects\159141\1501388\159141-28807-Tel & SBL.dwg (159141-28807-Tel & SBL.dwg)

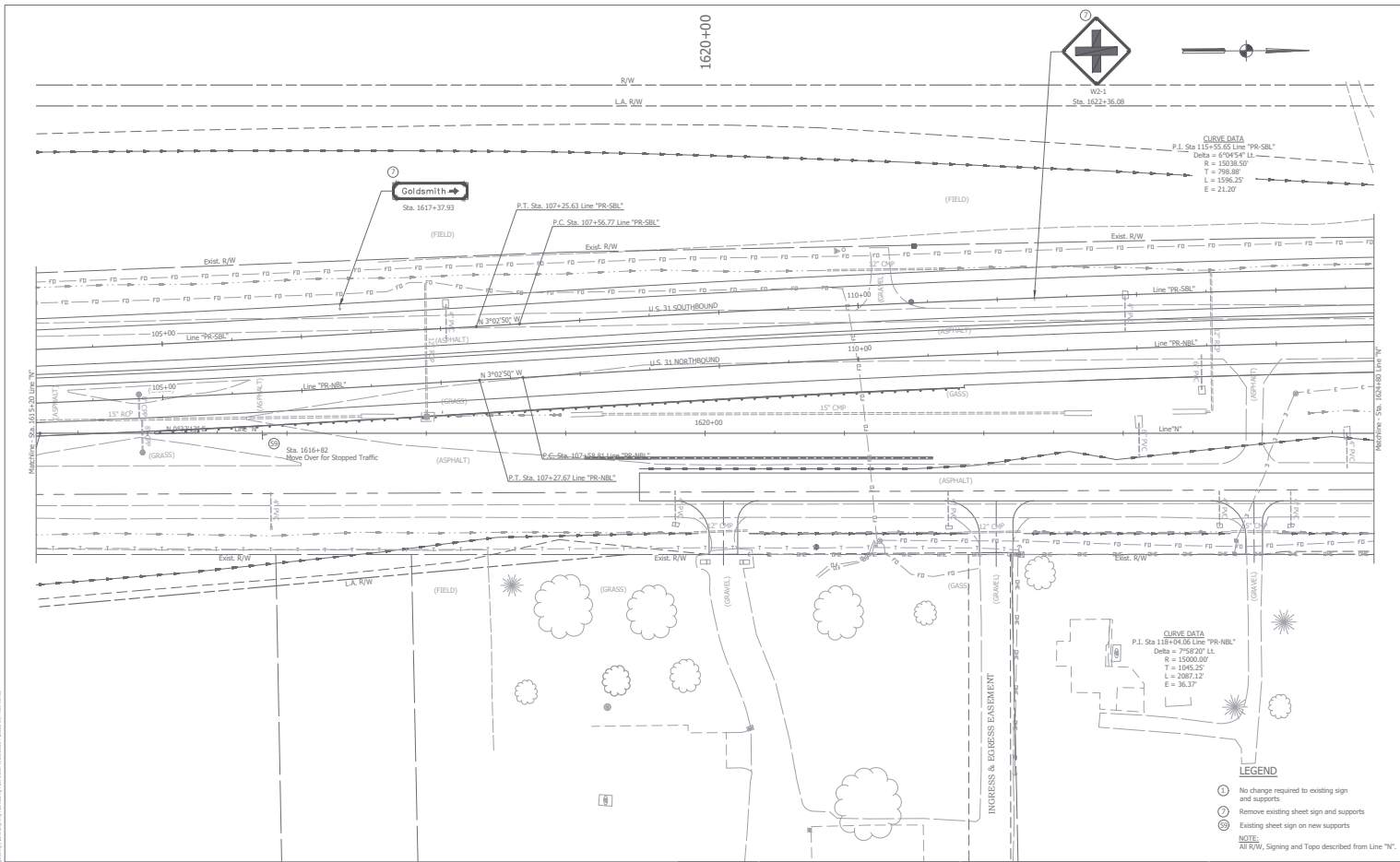


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SIGNING PLANS
 US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2887 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	159241 (NS) / 150138 (SBL)
SURVEY BOOK	SHEETS
	40 of 155
CONTRACT	PROJECT
B-2982	159241



- LEGEND**
- ① No change required to existing sign and supports
 - ② Remove existing sheet sign and supports
 - ③ Existing sheet sign on new supports
- NOTE:**
All R/W, Signing and Topo described from Line "N".

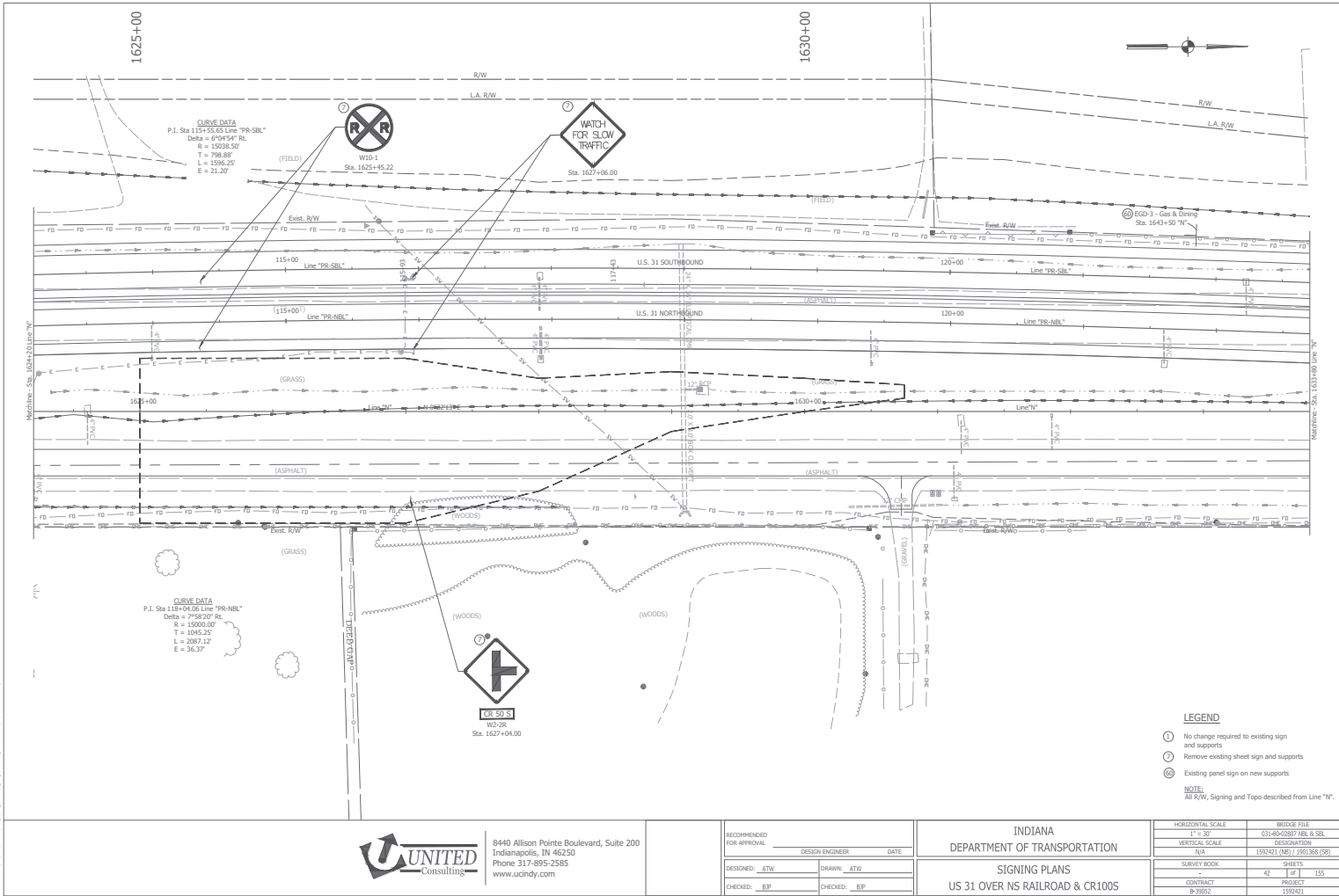
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA DEPARTMENT OF TRANSPORTATION
SIGNING PLANS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-03-02807 TEL & SBL
VERTICAL SCALE	SECTION NUMBER
N/A	1501241 (NS) / 1501248 (SBL)
SURVEY BOOK	SHEETS
	41 of 155
CONTRACT	PROJECT
B-2882	1501241

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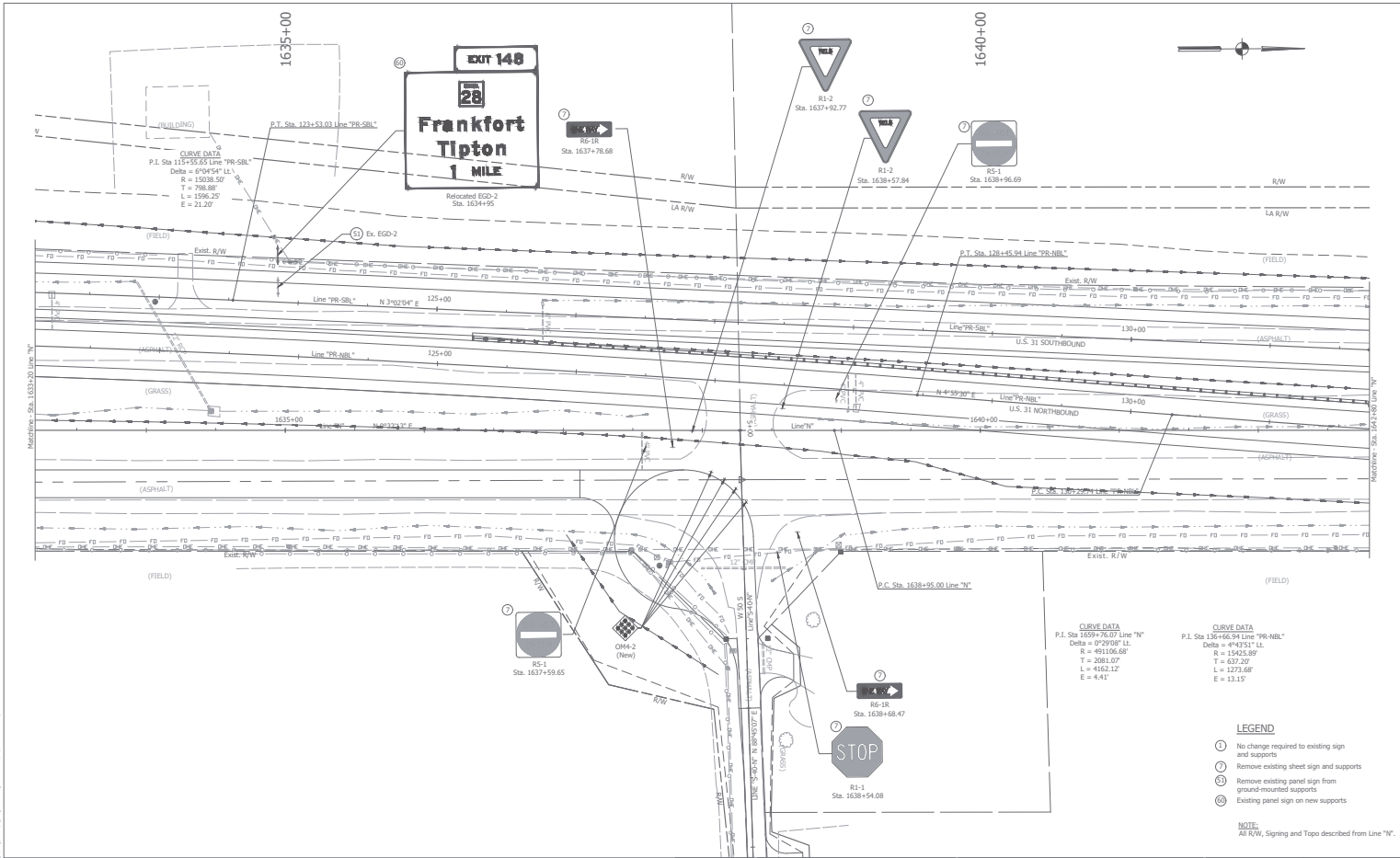


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SIGNING PLANS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2887 TEL & SBL
VERTICAL SCALE	SECTION
N/A	159241 (NS) / 159138 (SB)
SURVEY BOOK	SHEETS
-	42 of 155
CONTRACT	PROJECT
B-39852	159241



CURVE DATA
 P.I. Sta 1639+76.07 Line "N"
 Delta = 97°29'08" L
 R = 491106.68'
 T = 3981.07'
 L = 4162.12'
 E = 4.41'

CURVE DATA
 P.I. Sta 136+66.94 Line "PR-NBL"
 Delta = 4°43'51" L
 R = 15425.89'
 T = 637.30'
 L = 1273.68'
 E = 13.15'

- LEGEND**
- ① No change required to existing sign and supports
 - ② Remove existing sheet sign and supports
 - ③ Remove existing panel sign from ground-mounted supports
 - ④ Existing panel sign on new supports

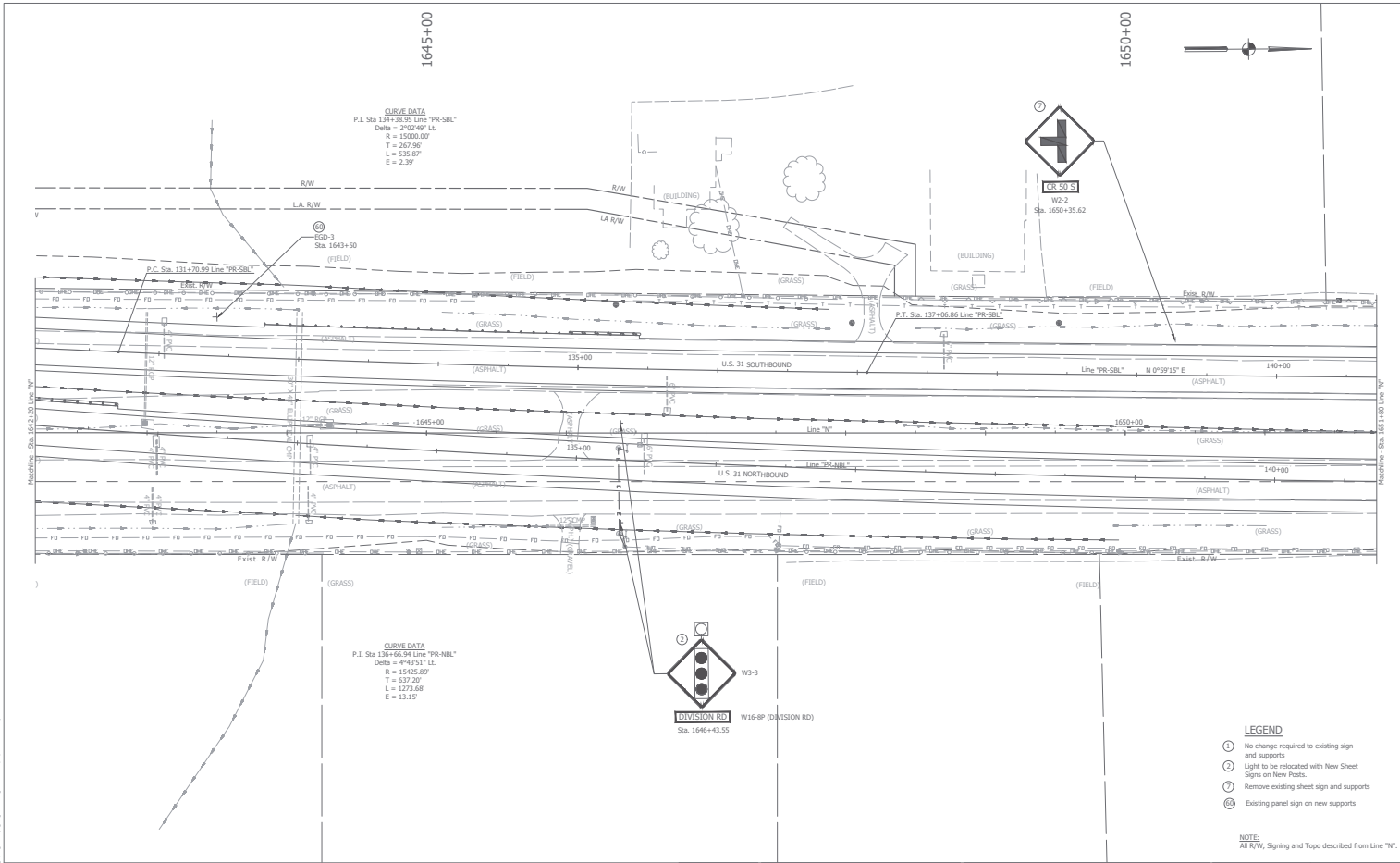
NOTE:
 All R/W, Signing and Topo described from Line "N".

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SIGNING PLANS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-20807 TAB. & SBL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	159241 (NS) / 159138 (SB)
SURVEY BOOK	SHEETS
	43 of 155
CONTRACT	PROJECT
B-2982	159241



- LEGEND**
- ① No change required to existing sign and supports
 - ② Light to be replicated with New Sheet Signs on New Posts.
 - ③ Remove existing sheet sign and supports
 - Ⓞ Existing panel sign on new supports

NOTE:
All R/W, Signing and Topo described from Line 'W'.



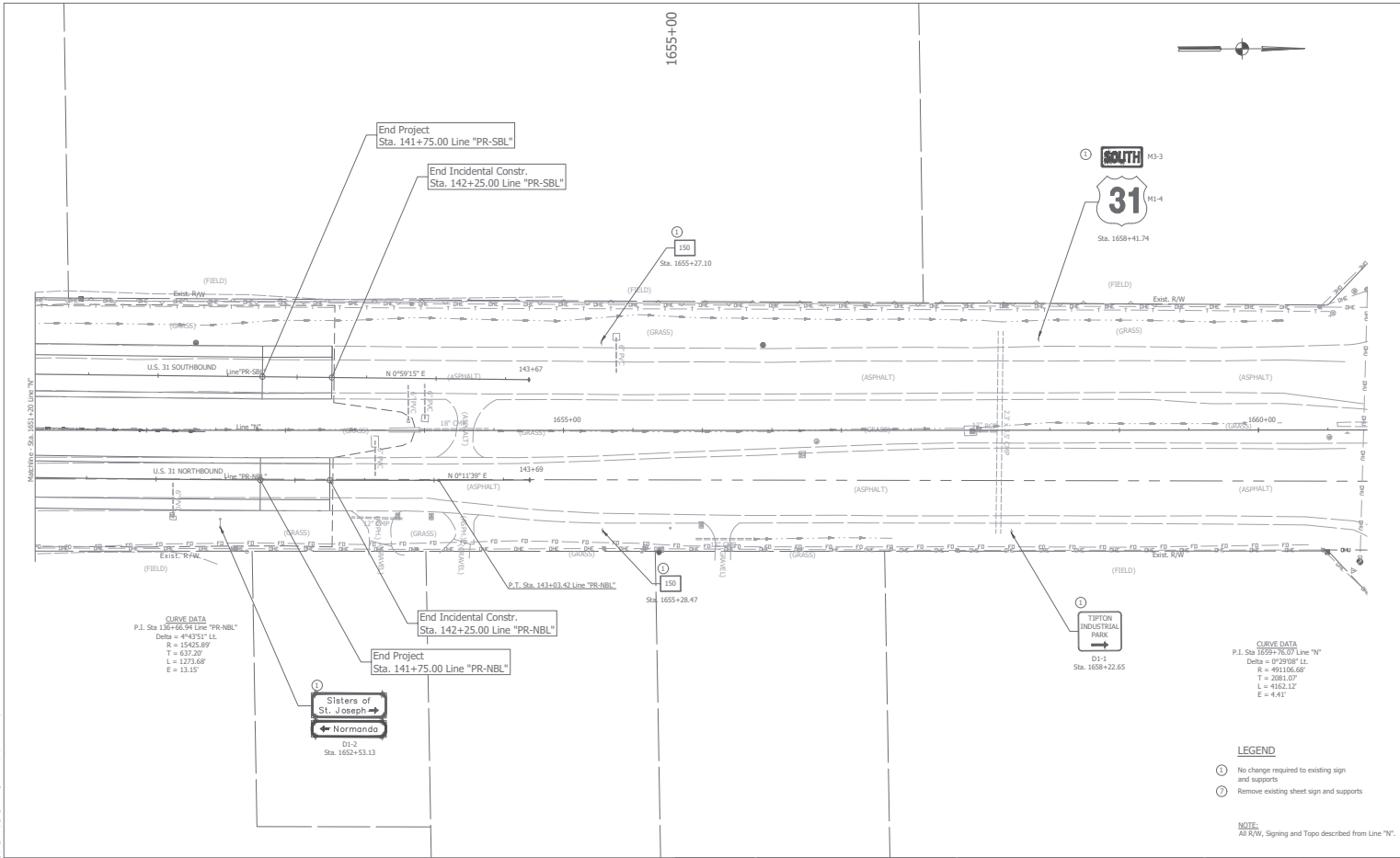
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
DEPARTMENT OF TRANSPORTATION

SIGNING PLANS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-02807 TEL & SBL
VERTICAL SCALE	SECTION NUMBER
N/A	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
-	44 of 155
CONTRACT	PROJECT
B-29852	1594241



CURVE DATA
 P.I. Sta 138+66.91 Line "PR-NBL"
 Delta = 4°43'51" LL
 R = 15425.89
 T = 637.20
 L = 273.68
 E = 13.15

CURVE DATA
 P.I. Sta 1659+76.07 Line "N"
 Delta = 0°29'00" LL
 R = 49106.66
 T = 2081.07
 L = 4162.32
 E = 4.41

LEGEND

- ① No change required to existing sign and supports
- ② Remove existing sheet sign and supports

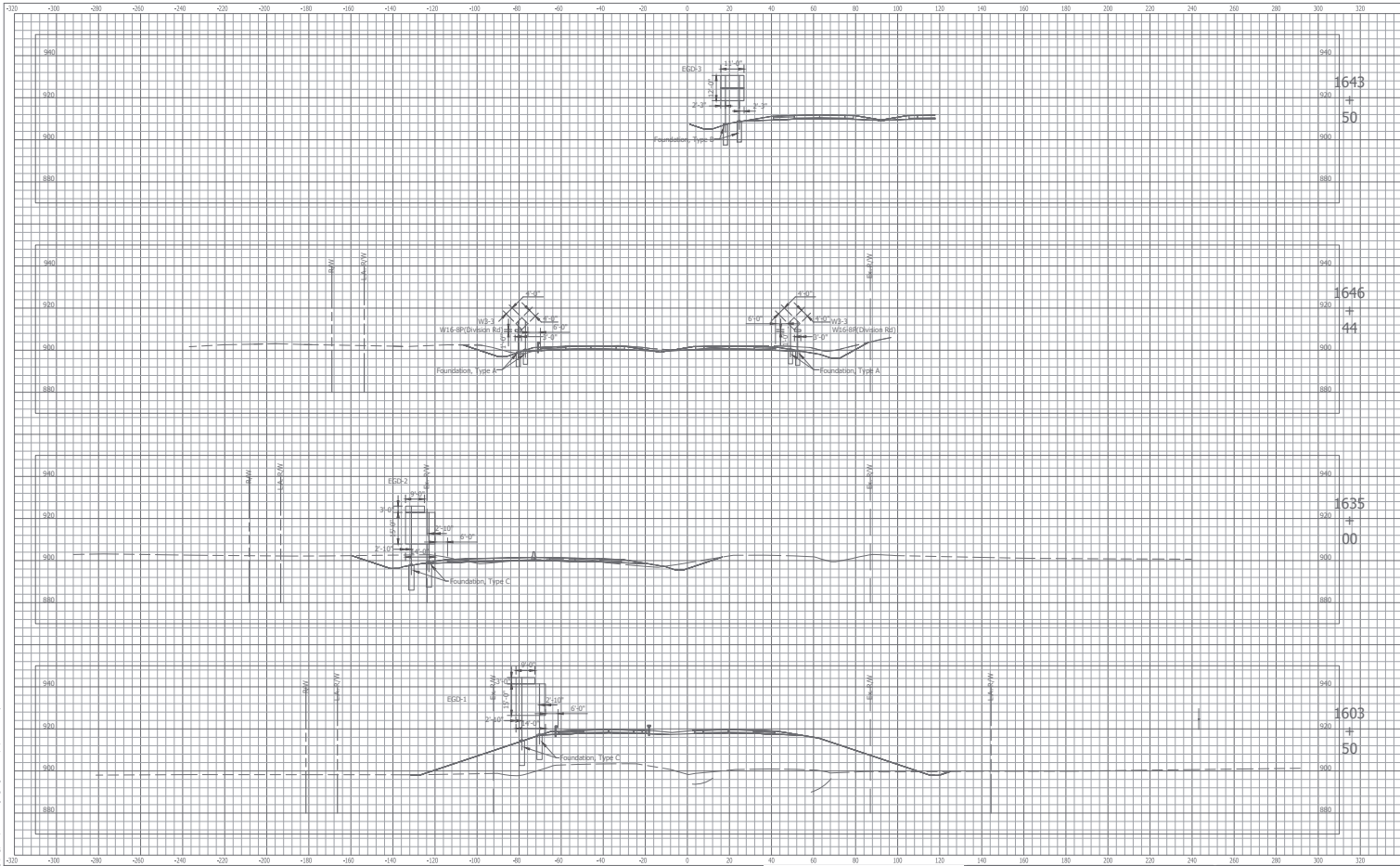
NOTE:
 All RW, Signing and Topo described from Line "N".

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SIGNING PLANS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-03-2007 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
-	45 of 155
CONTRACT	PROJECT
B-2992	150241

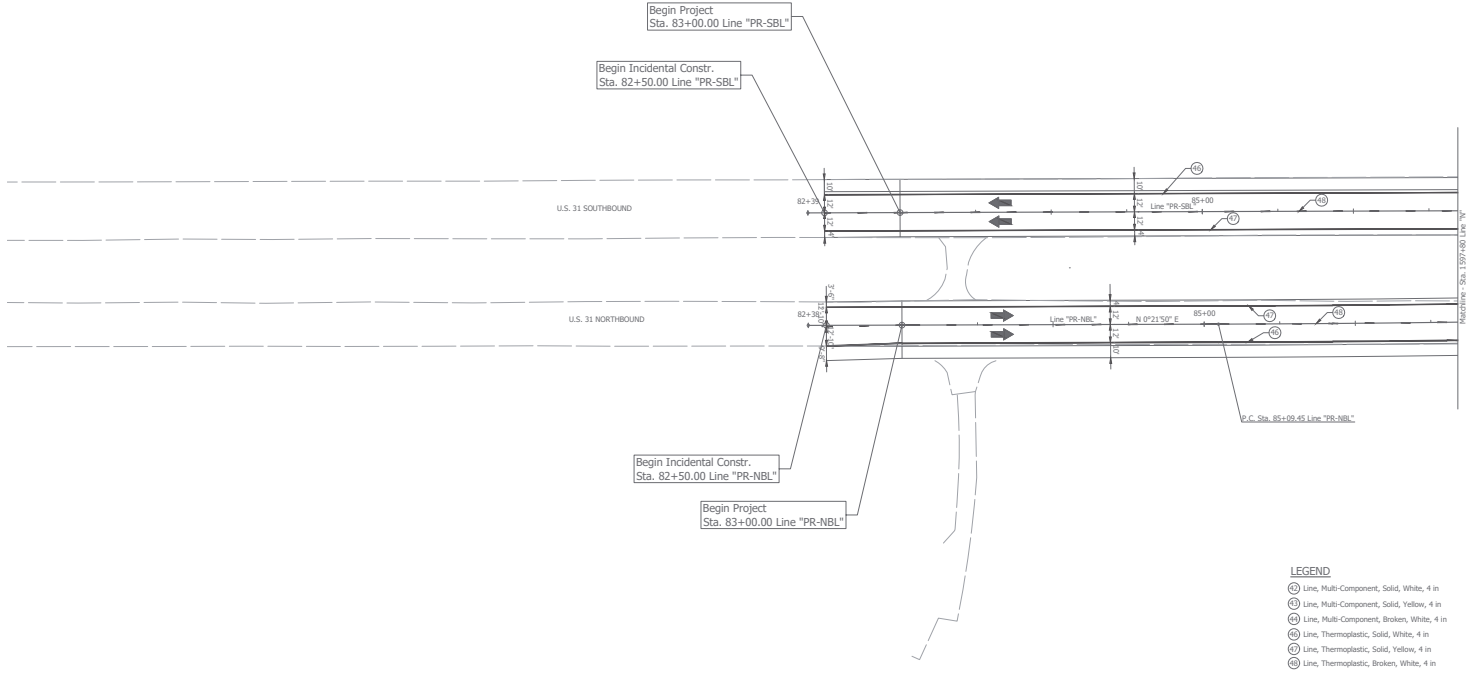


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DESIGNED: BSH
 CHECKED: BFP
 DRAWN: HAC
 CHECKED: BFP

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SIGNING CROSS SECTIONS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	1" = 20'	BRIDGE FILE	031-03-20107 TEL & SRL
VERTICAL SCALE	1" = 20'	DESIGNATION	150241 (18) / 150138 (08)
SURVEY BOOK	46	SHEETS	46 of 155
CONTRACT	B-29802	PROJECT	1592421



LEGEND

- Ⓛ Line, Multi-Component, Solid, White, 4 in
- Ⓜ Line, Multi-Component, Solid, Yellow, 4 in
- Ⓢ Line, Multi-Component, Broken, White, 4 in
- ⓐ Line, Thermoplastic, Solid, White, 4 in
- ⓑ Line, Thermoplastic, Solid, Yellow, 4 in
- ⓓ Line, Thermoplastic, Broken, White, 4 in

NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 8' apart.

NOTE:
 ALL EXISTING PAVEMENT MARKINGS OUTSIDE THE PROJECT LIMITS THAT WERE DISTURBED BY THE MAINTENANCE OF TRAFFIC SHALL BE REPLACED.



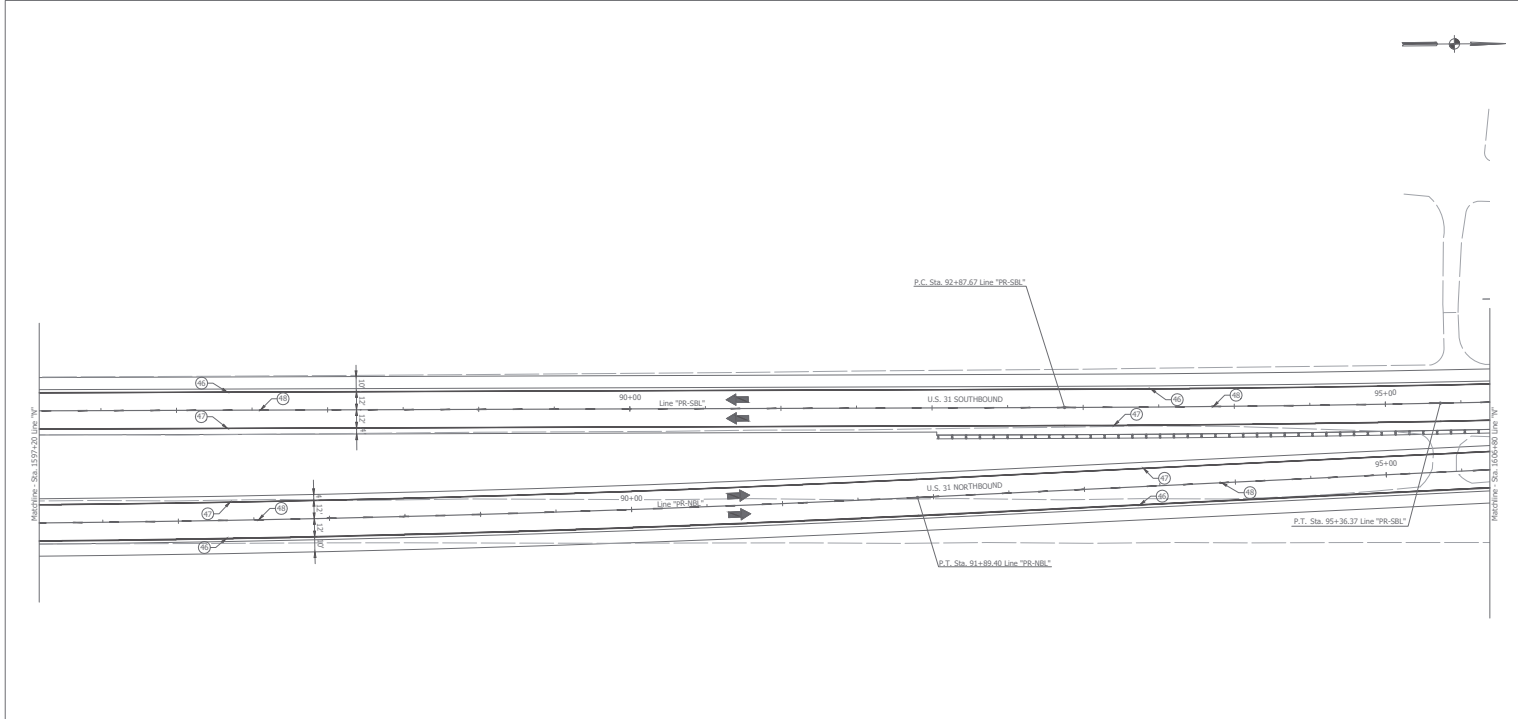
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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: ATW _____	DRAWN: ATW _____	
CHECKED: BJP _____	CHECKED: BJP _____	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE 1" = 30'	BRIIDGE FILE 03-03-2007 NBL & SBL
VERTICAL SCALE 1" = 10'	DESIGNATION 159241 (NBL) / 159138 (SBL)
SURVEY BOOK -	SHEETS 47 of 155
CONTRACT B-3982	PROJECT 159421

18: 10/15/2010 1:20:00 PM C:\Users\jbp\Desktop\Projects\159241\159241_PAVEMENT MARKINGS.dwg Plot Date: 10/15/2010 1:20:00 PM Plot By: jbp



- LEGEND**
- ① Line, Multi-Component, Solid, White, 4 in
 - ② Line, Multi-Component, Solid, Yellow, 4 in
 - ③ Line, Multi-Component, Broken, White, 4 in
 - ④ Line, Thermoplastic, Solid, White, 4 in
 - ⑤ Line, Thermoplastic, Solid, Yellow, 4 in
 - ⑥ Line, Thermoplastic, Broken, White, 4 in

NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 80' apart.

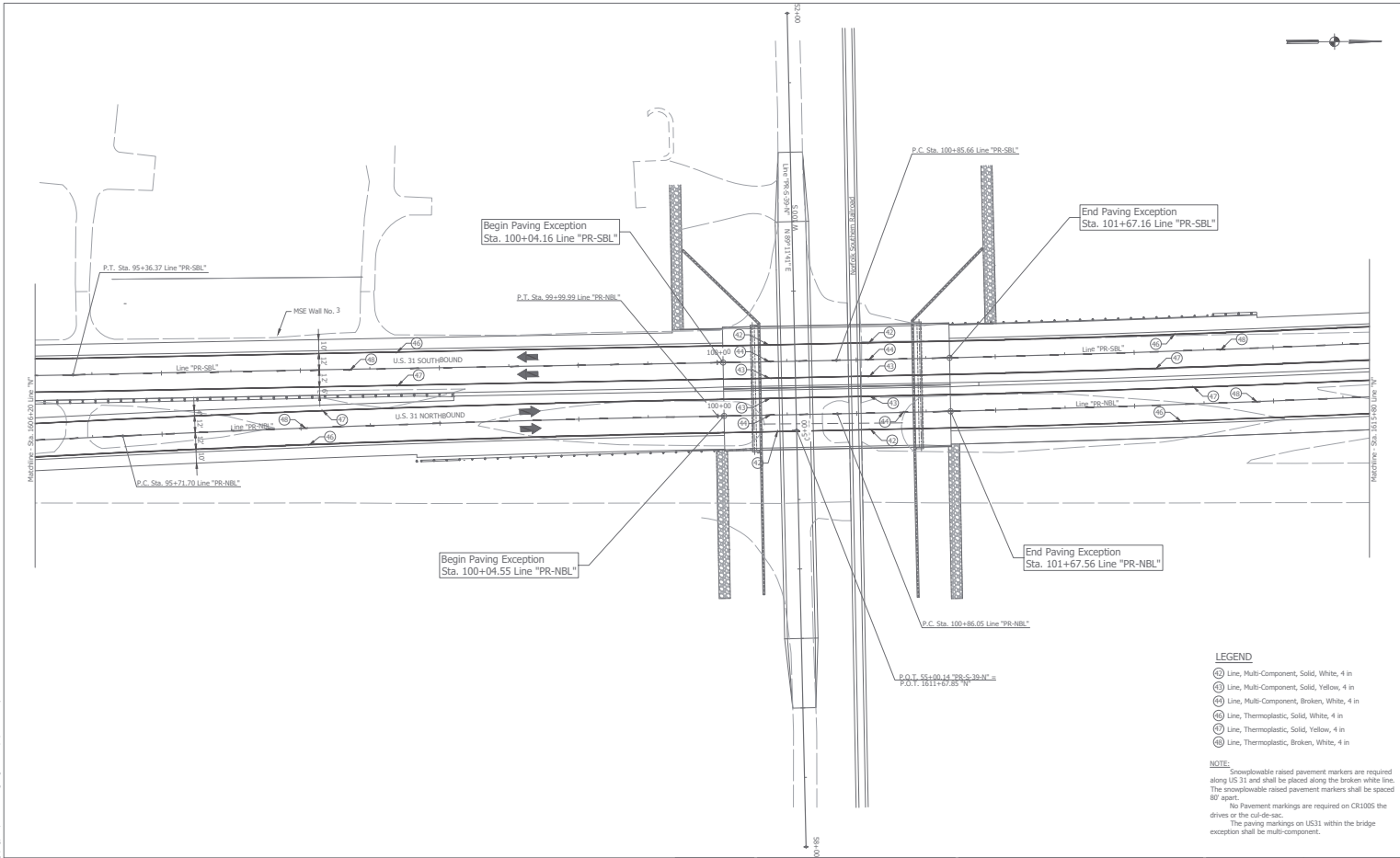
18. 1/10/2017 10:58:22 AM C:\Users\jgibson\OneDrive\Documents\Projects\180000\180000.dwg


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-03-2007 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150141 (NS) / 150138 (SB)
SURVEY BOOK	SHEETS
	48 of 155
CONTRACT	PROJECT
B-29852	150141



- LEGEND**
- ① Line, Multi-Component, Solid, White, 4 in
 - ② Line, Multi-Component, Solid, Yellow, 4 in
 - ③ Line, Multi-Component, Broken, White, 4 in
 - ④ Line, Thermoplastic, Solid, White, 4 in
 - ⑤ Line, Thermoplastic, Solid, Yellow, 4 in
 - ⑥ Line, Thermoplastic, Broken, White, 4 in

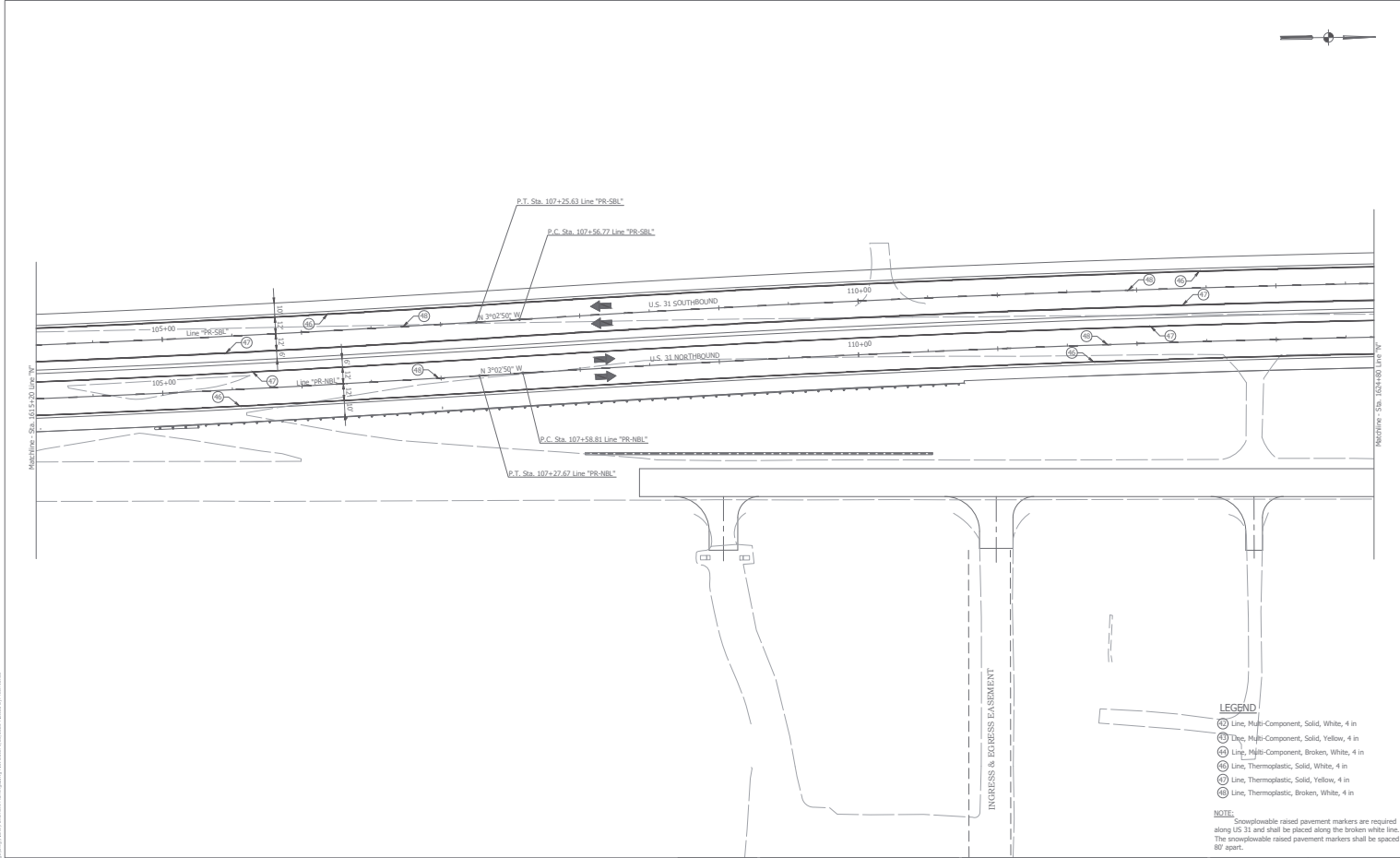
NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 80' apart.
 No Pavement markings are required on CR100S the drives or the cul-de-sac.
 The paving markings on US31 within the bridge exception shall be multi-component.

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BROODIE FILE
1" = 30'	03140-02807 NBL & SBL
VERTICAL SCALE	SECTION NUMBER
1" = 1'	1502421 (NBL) / 1501388 (SBL)
SURVEY BOOK	SHEETS
	49 of 155
CONTRACT	PROJECT
B-2982	1594241



- LEGEND**
- (1) Line, Multi-Component, Solid, White, 4 in
 - (2) Line, Multi-Component, Solid, Yellow, 4 in
 - (3) Line, Multi-Component, Broken, White, 4 in
 - (4) Line, Thermoplastic, Solid, White, 4 in
 - (5) Line, Thermoplastic, Solid, Yellow, 4 in
 - (6) Line, Thermoplastic, Broken, White, 4 in

NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 80' apart.

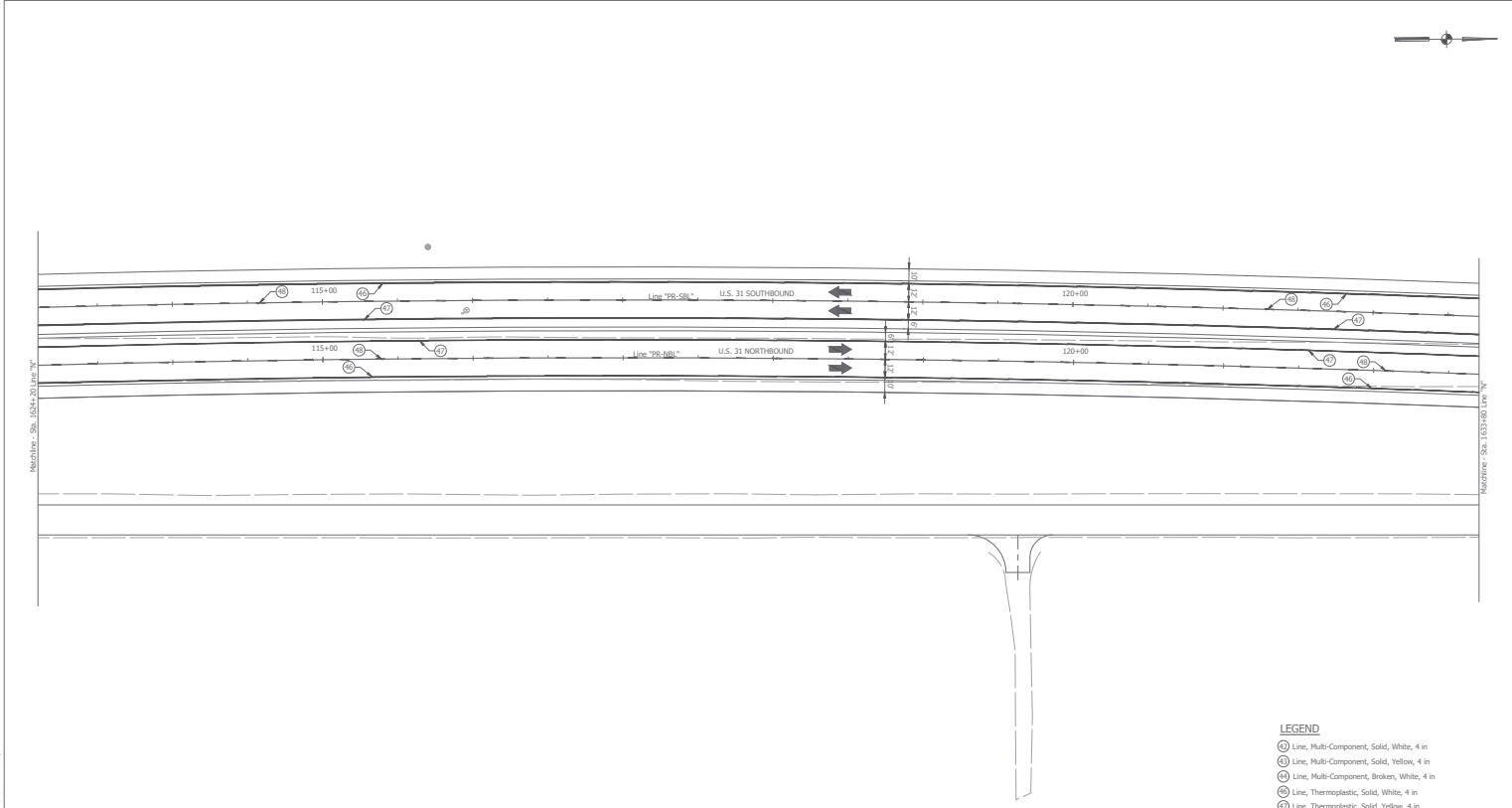
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 8440 Allison Pointe Boulevard, Suite 200
 Indianapolis, IN 46250
 Phone 317-895-2585
 www.ucindy.com

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-03-2007 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1/4"	150'x1 (NS) / 150'x2 (SB)
SURVEY BOOK	SHEETS
	50 of 155
CONTRACT	PROJECT
B-2982	159421

18. 10/15/17 10:00:00 AM C:\Users\jgibson\OneDrive\Documents\Projects\159421\159421.dwg (159421.dwg)



LEGEND

- (A) Line, Multi-Component, Solid, White, 4 in
- (B) Line, Multi-Component, Solid, Yellow, 4 in
- (C) Line, Multi-Component, Broken, White, 4 in
- (D) Line, Thermoplastic, Solid, White, 4 in
- (E) Line, Thermoplastic, Solid, Yellow, 4 in
- (F) Line, Thermoplastic, Broken, White, 4 in

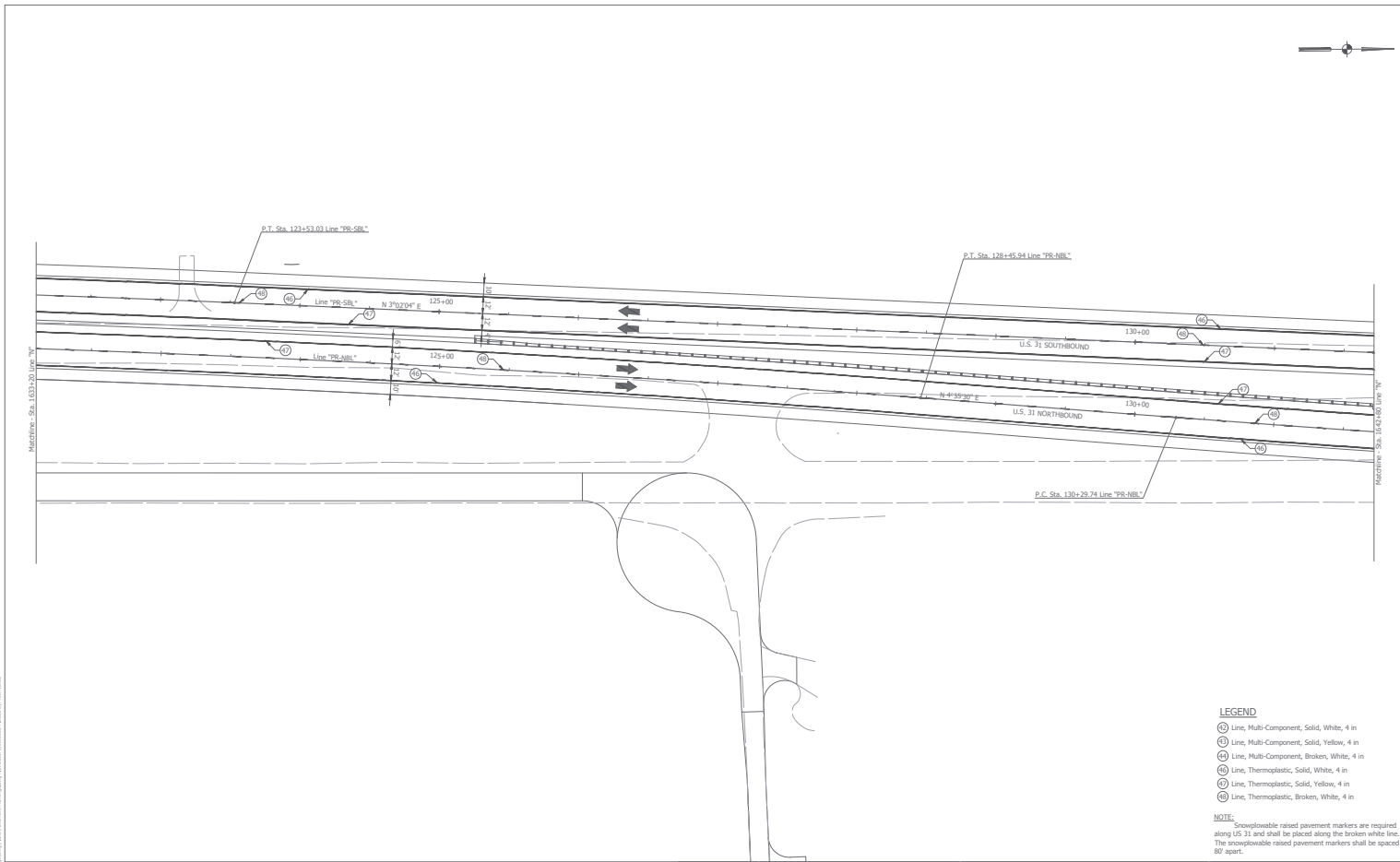
NOTE: Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 80' apart.

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RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW
CHECKED: BP	CHECKED: BP

INDIANA
 DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BIDGE FILE
1" = 30'	03-03-2007 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NS) / 150138 (SB)
SURVEY BOOK	SHEETS
-	51 OF 155
CONTRACT	PROJECT
B-29852	150241



- LEGEND**
- ① Line, Multi-Component, Solid, White, 4 in
 - ② Line, Multi-Component, Solid, Yellow, 4 in
 - ③ Line, Multi-Component, Broken, White, 4 in
 - ④ Line, Thermoplastic, Solid, White, 4 in
 - ⑤ Line, Thermoplastic, Solid, Yellow, 4 in
 - ⑥ Line, Thermoplastic, Broken, White, 4 in

NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 80' apart.

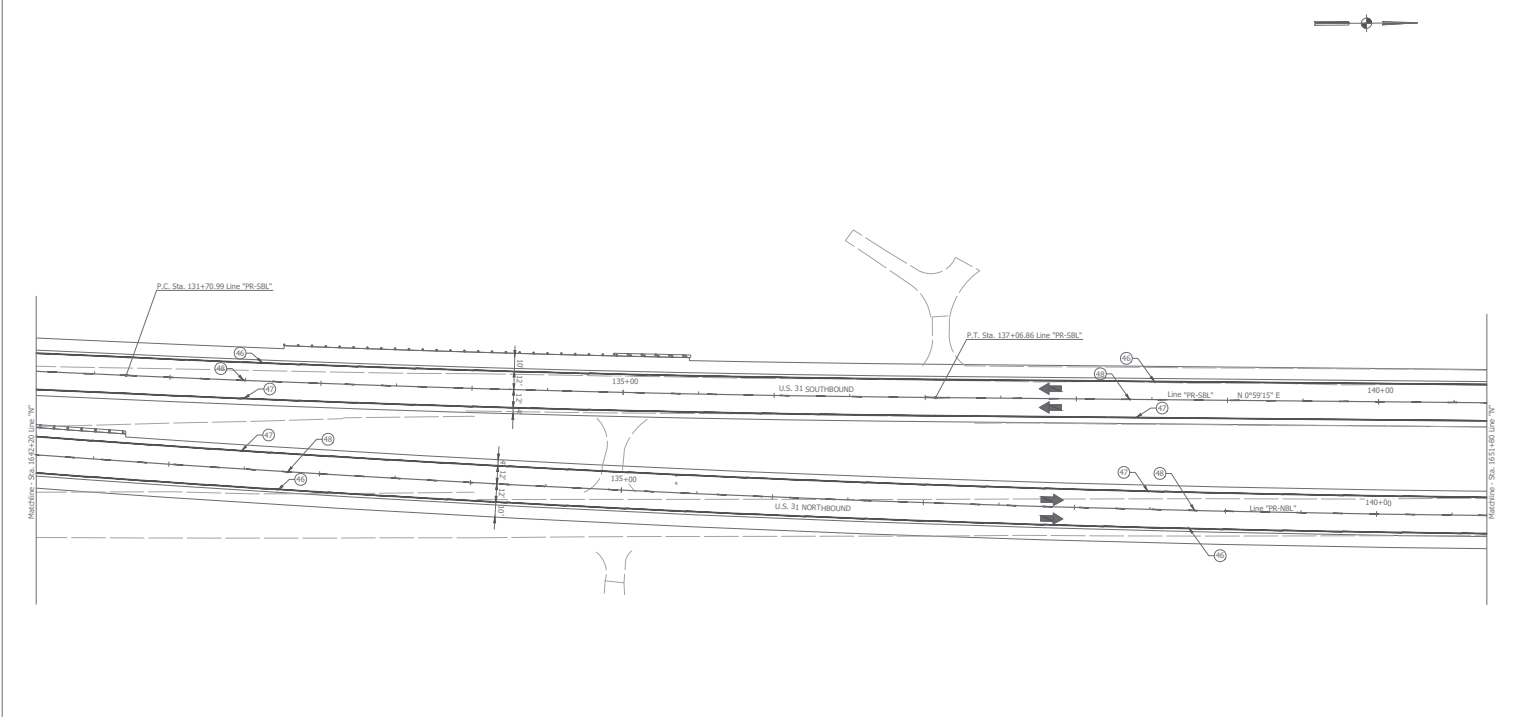
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-03-2007 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
	52 of 155
CONTRACT	PROJECT
B-29852	150241

18. 1/10/10 10:00 AM C:\Users\jgibson\Documents\Projects\150241\150241.dwg (150241.dwg)



- LEGEND**
- ⑦ Line, Multi-Component, Solid, White, 4 in
 - ⑧ Line, Multi-Component, Solid, Yellow, 4 in
 - ⑨ Line, Multi-Component, Broken, White, 4 in
 - ⑩ Line, Thermoplastic, Solid, White, 4 in
 - ⑪ Line, Thermoplastic, Solid, Yellow, 4 in
 - ⑫ Line, Thermoplastic, Broken, White, 4 in

NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 8' apart.

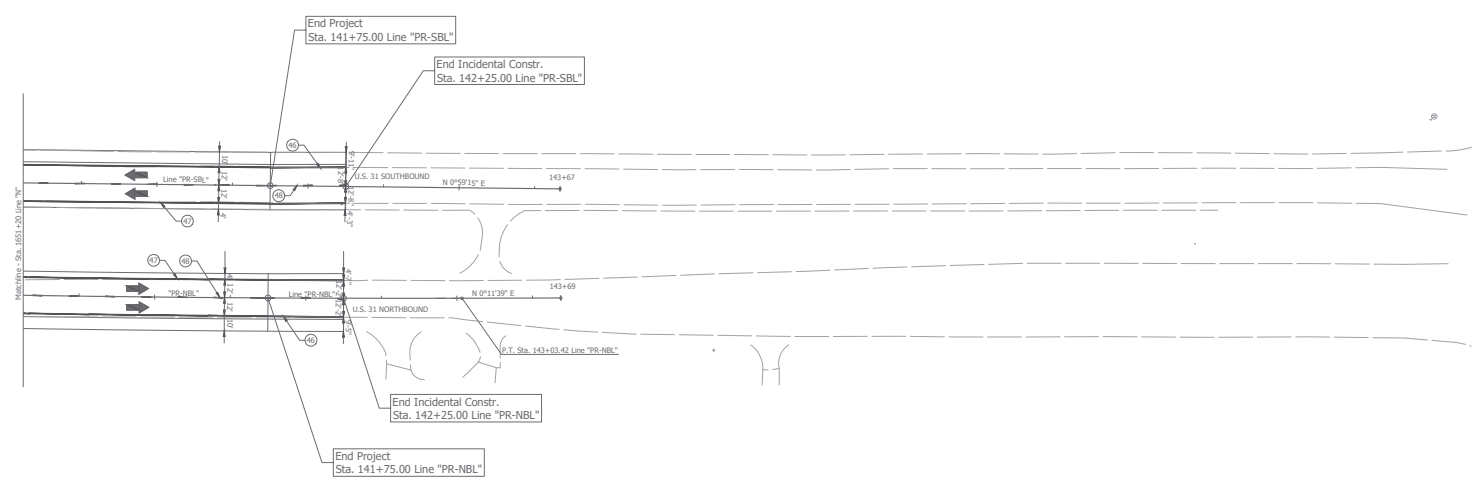


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DESIGNED: <u>ATW</u>	DRAWN: <u>ATW</u>	
CHECKED: <u>BP</u>	CHECKED: <u>BP</u>	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIIDGE FILE
1" = 30'	03143-2007 TEL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	150241 (NS) / 1501368 (SB)
SURVEY BOOK	SHEETS
	53 of 155
CONTRACT	PROJECT
B-28852	1594241



- LEGEND**
- ① Line, Multi-Component, Solid, White, 4 in
 - ② Line, Multi-Component, Solid, Yellow, 4 in
 - ③ Line, Multi-Component, Broken, White, 4 in
 - ④ Line, Thermoplastic, Solid, White, 4 in
 - ⑤ Line, Thermoplastic, Solid, Yellow, 4 in
 - ⑥ Line, Thermoplastic, Broken, White, 4 in

NOTE:
 Snowplowable raised pavement markers are required along US 31 and shall be placed along the broken white line. The snowplowable raised pavement markers shall be spaced 8' apart.

NOTE:
 ALL EXISTING PAVEMENT MARKINGS OUTSIDE THE PROJECT LIMITS THAT WERE DISTURBED BY THE MAINTENANCE OF TRAFFIC SHALL BE REPLACED.



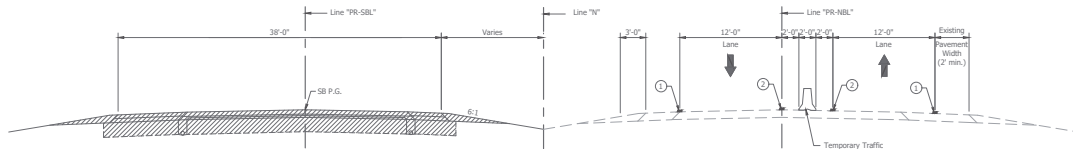
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: ATW	DRAWN: ATW	
CHECKED: BBP	CHECKED: BBP	

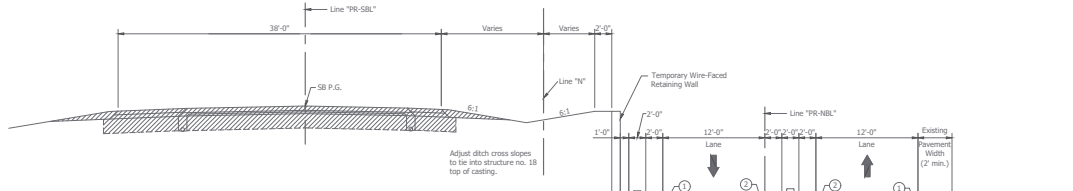
INDIANA
 DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS
 US 31 OVER NS RAILROAD & CR100S

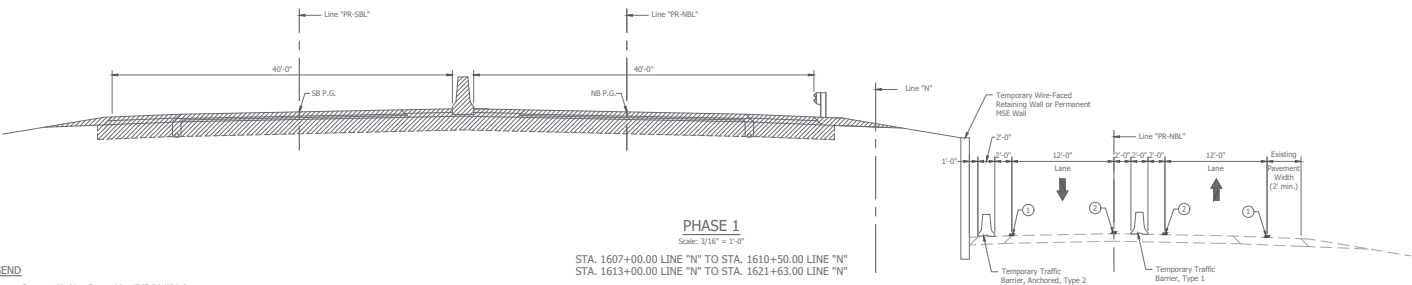
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03143-02807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NS) / 1501388 (SB)
SURVEY BOOK	SHEETS
	54 of 155
CONTRACT	PROJECT
B-29852	1594261



PHASE 1
 Scale: 3/16" = 1'-0"
 STA. 1593+61.00 LINE "N" TO STA. 1601+50.00 LINE "N"
 STA. 1621+50.00 LINE "N" TO STA. 1653+32.97 LINE "N"



PHASE 1
 Scale: 3/16" = 1'-0"
 STA. 1601+50.00 LINE "N" TO STA. 1611+56.00 LINE "N"
 STA. 1612+66.00 LINE "N" TO STA. 1620+36.00 LINE "N"



PHASE 1
 Scale: 3/16" = 1'-0"
 STA. 1607+00.00 LINE "N" TO STA. 1610+50.00 LINE "N"
 STA. 1613+00.00 LINE "N" TO STA. 1621+63.00 LINE "N"

- LEGEND**
- Temporary Pavement Marking, Removable, 4" (Solid, White)
 - Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ▨ Construction Area

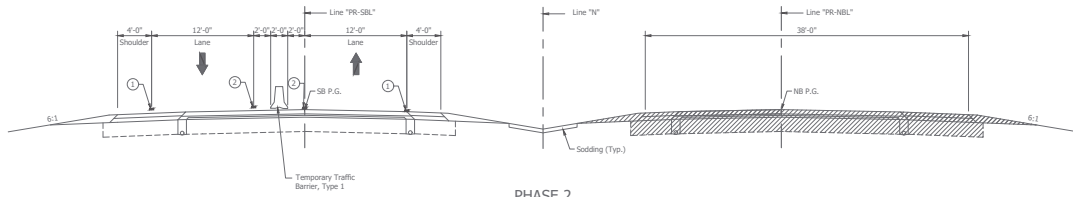


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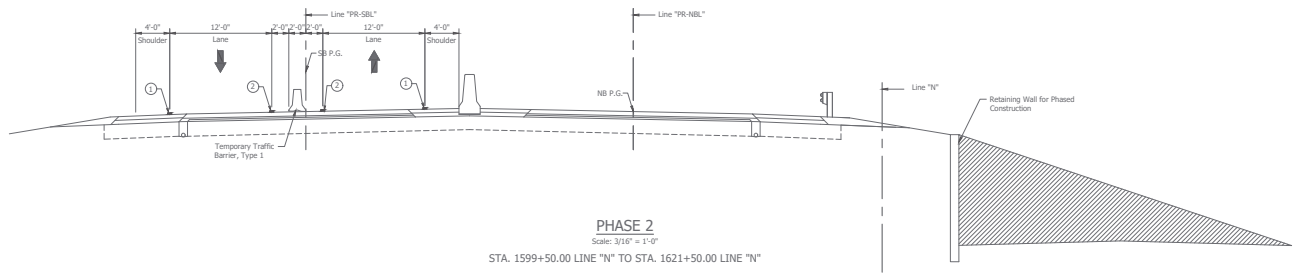
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: MAC	
CHECKED: BJP	CHECKED: BJP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 TYPICAL CROSS SECTIONS

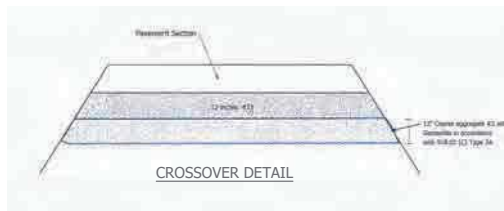
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	55 of 155
CONTRACT	PROJECT
B-39052	1592421



PHASE 2
 Scale: 3/16" = 1'-0"
 STA. 1593+61.00 LINE "N" TO STA. 1599+50.00 LINE "N"
 STA. 1621+50.00 LINE "N" TO STA. 1653+32.97 LINE "N"



PHASE 2
 Scale: 3/16" = 1'-0"
 STA. 1599+50.00 LINE "N" TO STA. 1621+50.00 LINE "N"



- LEGEND**
- ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ▨ Construction Area
 - ⊗ HMA for Temporary Pavement, C
 165 #Ays HMA Surface, Type C on
 275 #Ays HMA Intermediate, Type C on
 440 #Ays HMA Base, Type C on
 12" Compacted Aggregate, No. 53 on
 12" Compacted Aggregate, No. 2
 W/ Geotextile for Subgrade, Type 2A

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CHECKED: BJP	CHECKED: BJP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 TYPICAL CROSS SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
-	56 of 155
CONTRACT	PROJECT
B-39052	1592421

1580+00

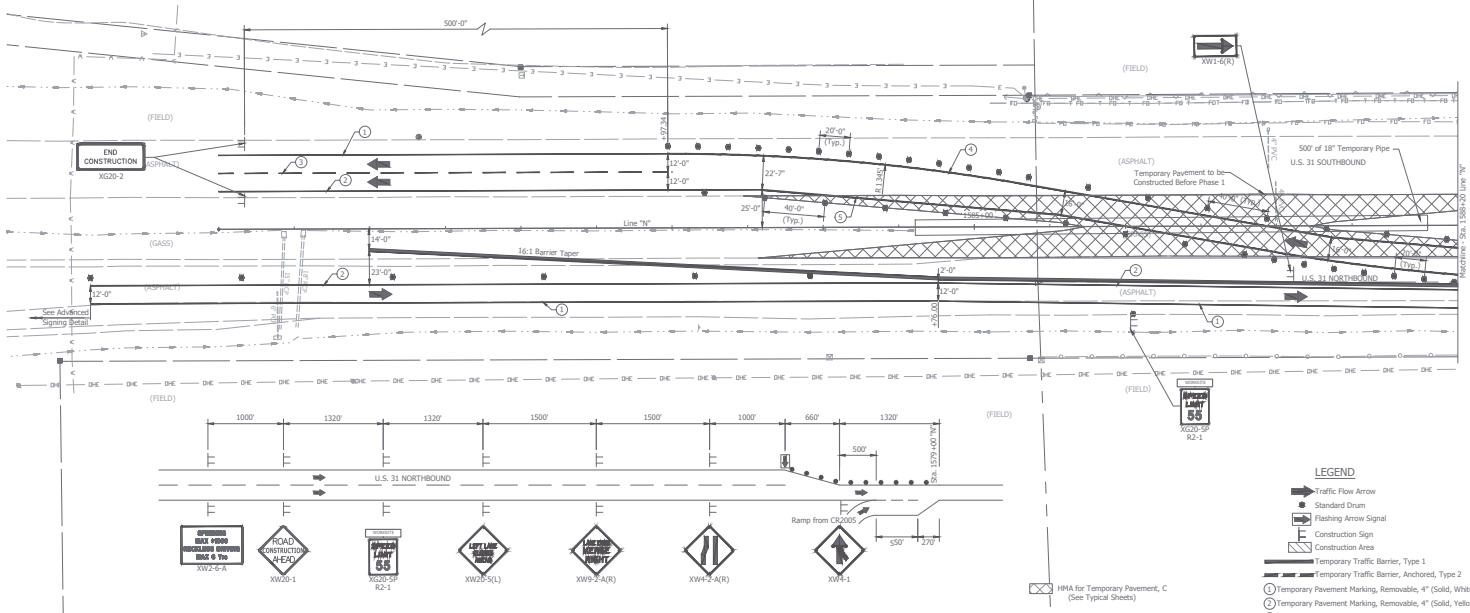
1585+00

ITEM	UNIT	PHASE		PROJECT QUANTITY
		PHASE 1	PHASE 2	
Construction Sign, Type A	EACH	36	36	36
Construction Sign, Type B	EACH	3	3	3
Energy Absorbing Terminal, C, 11.3	EACH	6	6	6
Temporary Worksite Speed Display Assembly	EACH	9	9	9
Barricade, III-A	LFT	96	96	96
Temporary Crossover Drainage Pipe	LFT	500	0	500
Temporary Traffic Barrier, Type 1	LFT	8912	8912	8912
Temporary Traffic Barrier, Type 2	LFT	2155		2155
Flashing Arrow Sign	DAY	720	720	1440
Signal Head, Red/White	EACH	4	8	12
Temp. Paint Marking, Removable, 4"	LFT	36728	34300	71028
Temp. Paint Marking, Removable, 8"	LFT	5230	5118	10348
Temp. Trans. Paint Marking, Removable, 24"	LFT	48	48	96

NOTE: See Approach Table for HMA & Aggregate Qyts

MAINTENANCE OF TRAFFIC NOTES:

- Existing pavement markings that conflict with proposed pavement markings shall be removed, and replaced following that stage of construction.
- Existing signs that conflict with proposed staging shall be covered during construction and uncovered after construction.
- For temporary crossover information, see INDOT Standard Drawing No. E-801-TCCD-01 to E-801-TCCD-07.
- Maximum Drum Spacing: 100' on tangents, 50' on tapers.
- Existing median inlets shall remain to facilitate drainage.
- Norfolk Southern will be responsible for removing the crossing signals and existing crossing surface between the ends of the cross ties.



ADVANCED SIGNING DETAIL NORTHBOUND

Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
 Milling, Asphalt: 1-1/2" thick
 165 #/yds OC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

NOTE: All stations from Line "N" unless otherwise noted.



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INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20807 TEL & SRL
VERTICAL SCALE	SECTION NUMBER
1/4" = 10'	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
	57 of 155
CONTRACT	PROJECT
B-2982	159461

1590+00

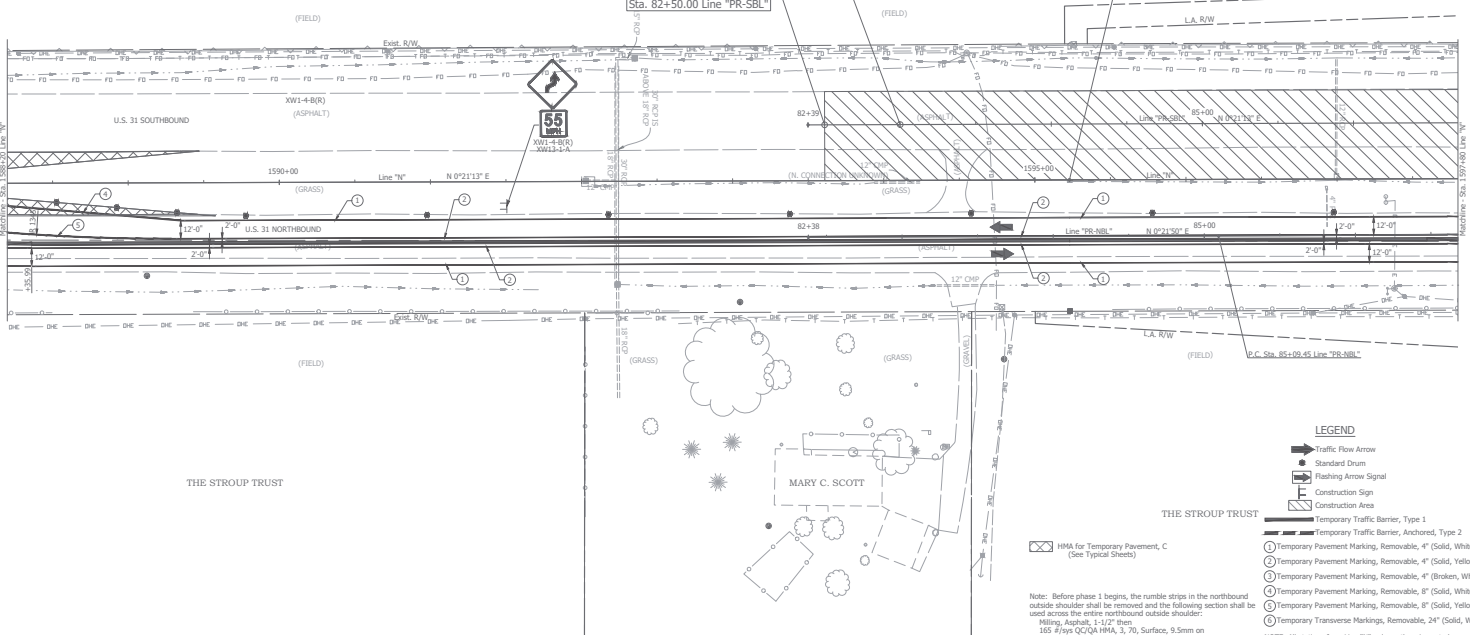
1595+00

RONALD L. JACKSON

Begin Project
Sta. 83+00.00 Line "PR-SBL"

Begin Incidental Constr.
Sta. 82+50.00 Line "PR-SBL"

P.C. Sta. 1595+23.90 Line "TC"



LEGEND

- ➔ Traffic Flow Arrow
- Standard Drum
- ⚡ Flashing Arrow Signal
- ▭ Construction Sign
- ▭ Construction Area
- ▭ Temporary Traffic Barrier, Type 1
- ▭ Temporary Traffic Barrier, Anchored, Type 2
- ⊙ Temporary Pavement Marking, Removable, 4" (Solid, White)
- ⊙ Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
- ⊙ Temporary Pavement Marking, Removable, 4" (Broken, White)
- ⊙ Temporary Pavement Marking, Removable, 8" (Solid, White)
- ⊙ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
- ⊙ Temporary Transverse Marking, Removable, 24" (Solid, White)

Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
 Milling, Asphalt: 1 1/2" thick
 165 #/yds GC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

NOTE: All stations from Line "N" unless otherwise noted.

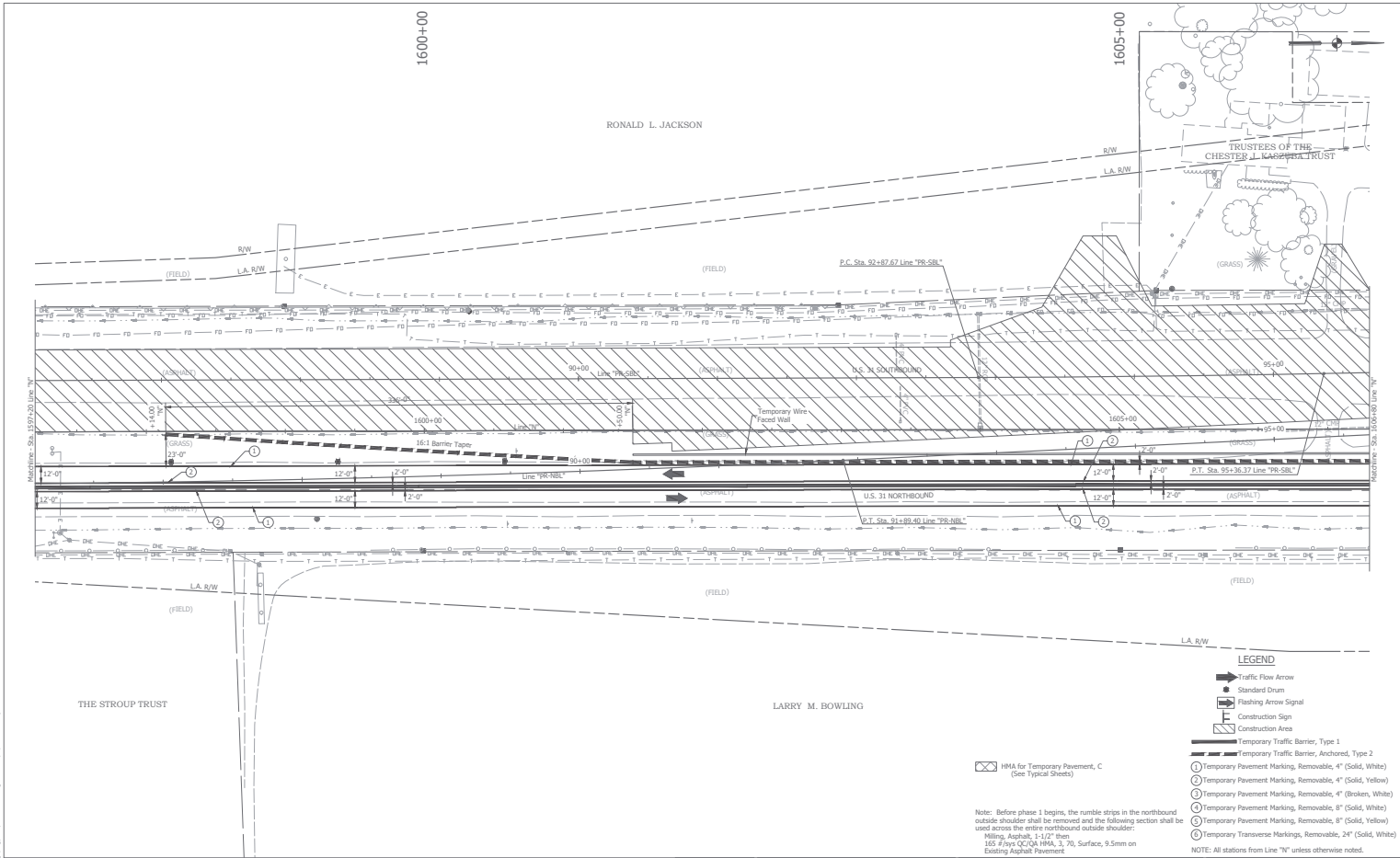


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CHECKED: BJP	CHECKED: BJP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2087 TEL & SBL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	159241 (18) / 159138 (58)
SURVEY BOOK	SHEETS
	88 of 155
CONTRACT	PROJECT
B-29852	159241



- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⚡ Flashing Arrow Signal
 - ⚡ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Anchored, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

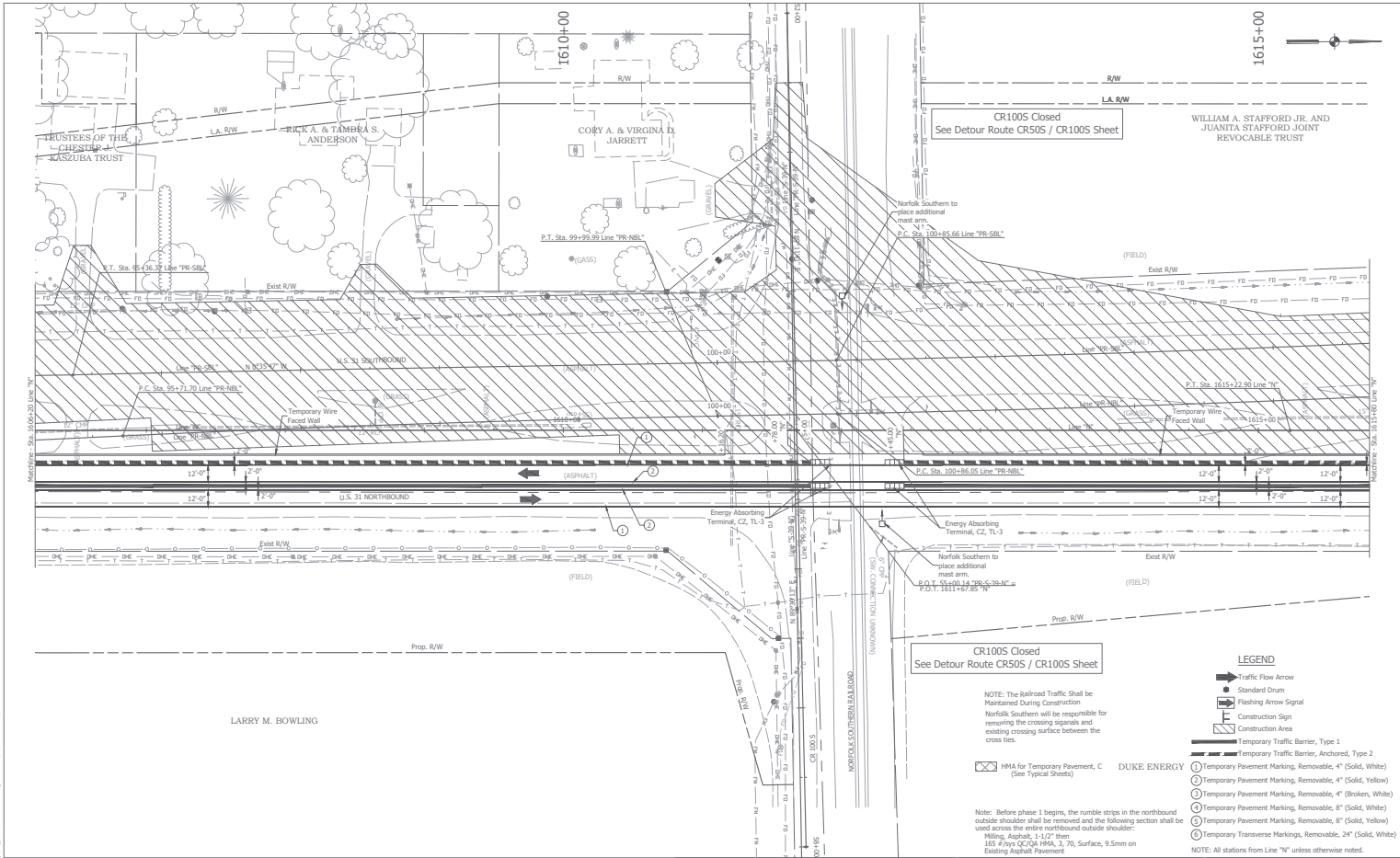
Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
 Milling, Asphalt: 1 1/2" thick
 165 #/yds GC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-28807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1/4"	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
	59 of 155
CONTRACT	PROJECT
B-29852	159421



LARRY M. BOWLING

CR1005 Closed
See Detour Route CR505 / CR1005 Sheet

NOTE: The Railroad Traffic Shall be Maintained During Construction
Norfolk Southern will be responsible for reworking the crossing signals and existing crossing surface between the cross ties.

HMA for Temporary Pavement, C (See Typical Sheets)

DUKE ENERGY

Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
Willing, Asphalt: 1-1/2" from
165 #/yds GC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⚡ Flashing Arrow Signal
 - ▭ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Anchored, Type 2
 - Temporary Pavement Marking, Removable, 4" (Solid, White)
 - Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - Temporary Pavement Marking, Removable, 4" (Broken, White)
 - Temporary Pavement Marking, Removable, 8" (Solid, White)
 - Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.



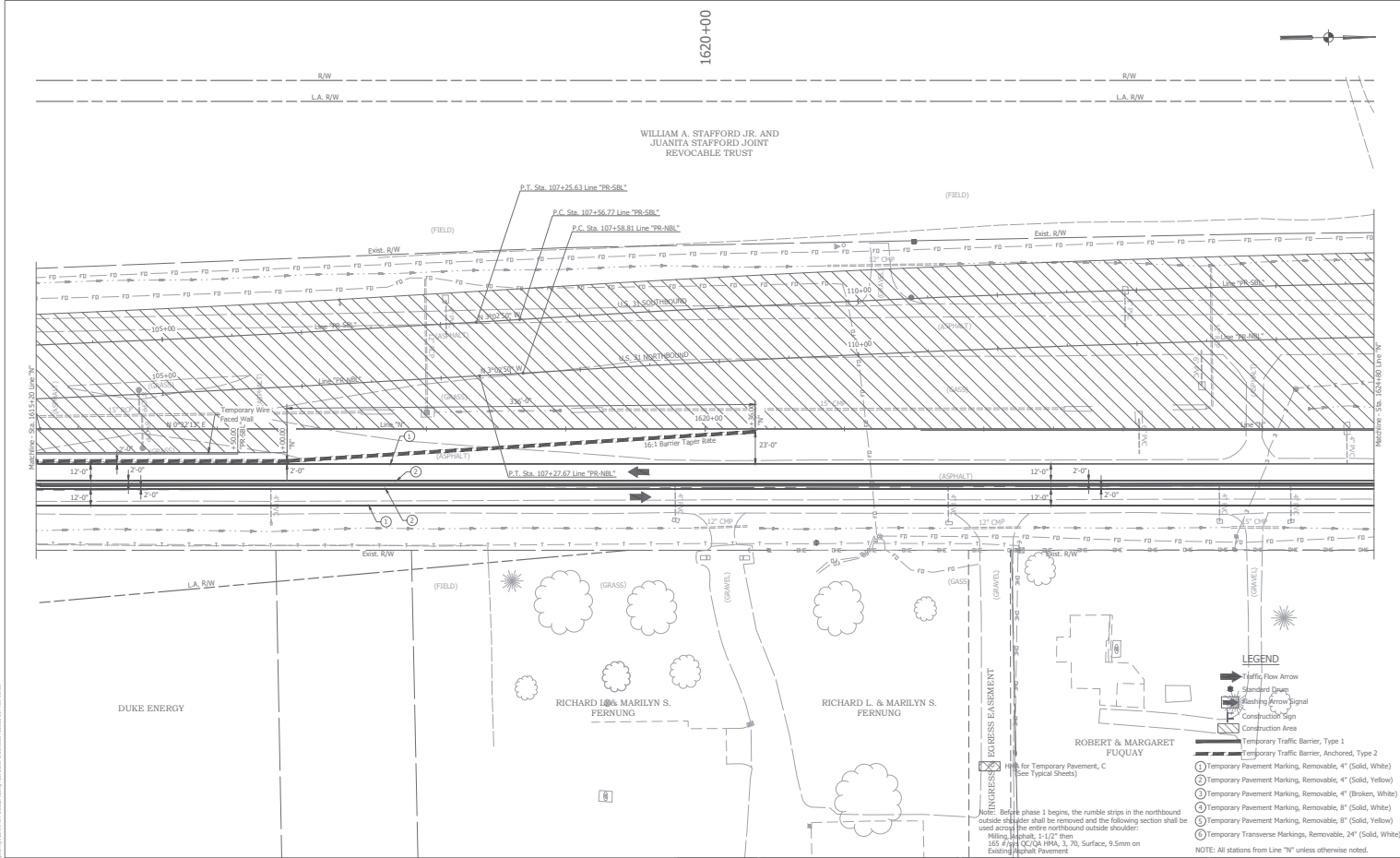
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DESIGNED: BSH	DRAWN: HAC	
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INDIANA
DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC
PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03143-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150421 (186) / 1501388 (58)
SURVEY BOOK	SHEETS
	60 of 155
CONTRACT	PROJECT
B-29852	159421

1620+00

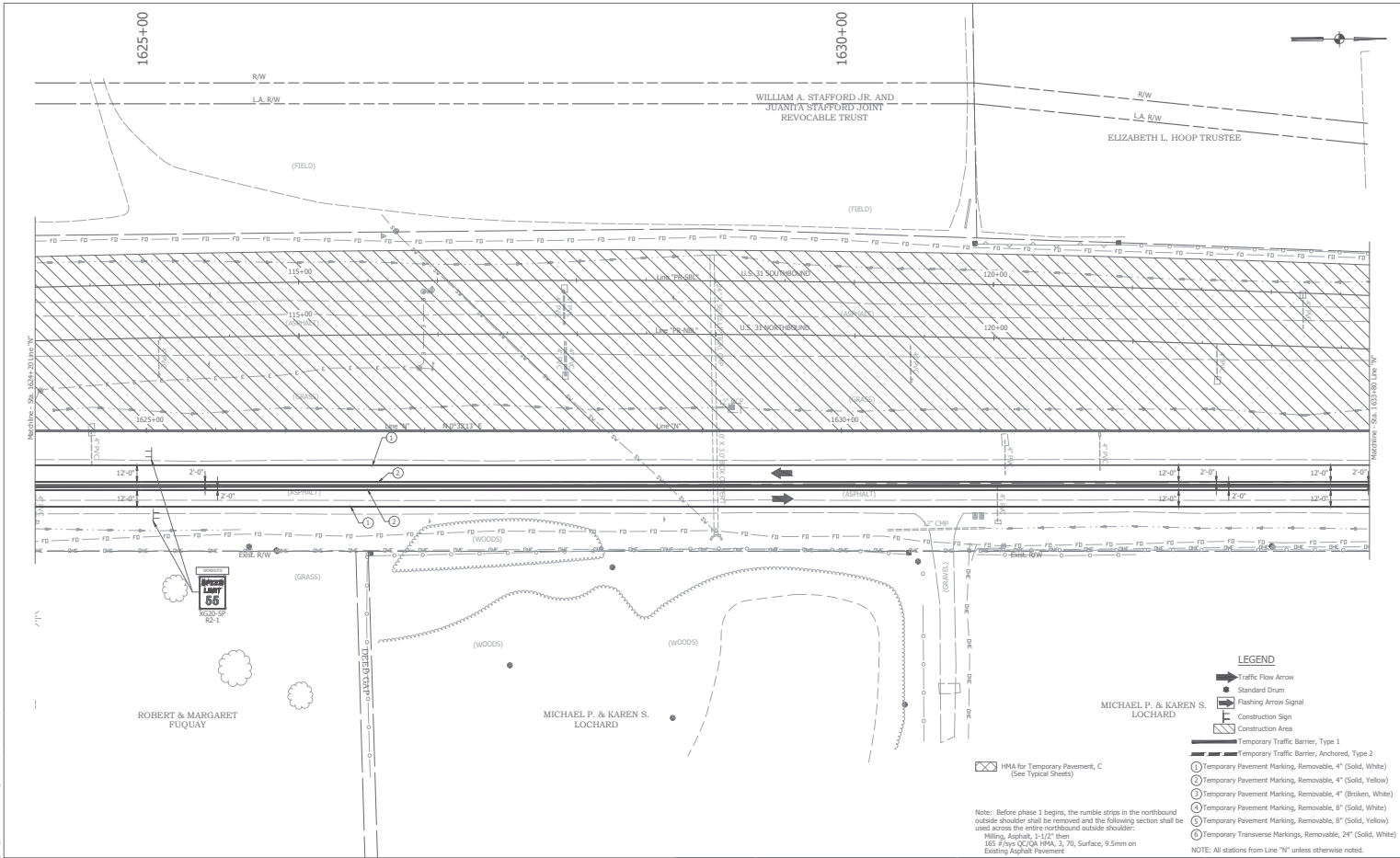


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2087 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
	61 of 155
CONTRACT	PROJECT
B-2982	159421



- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⚡ Flashing Arrow Signal
 - ⚠ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Anchored, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
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 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

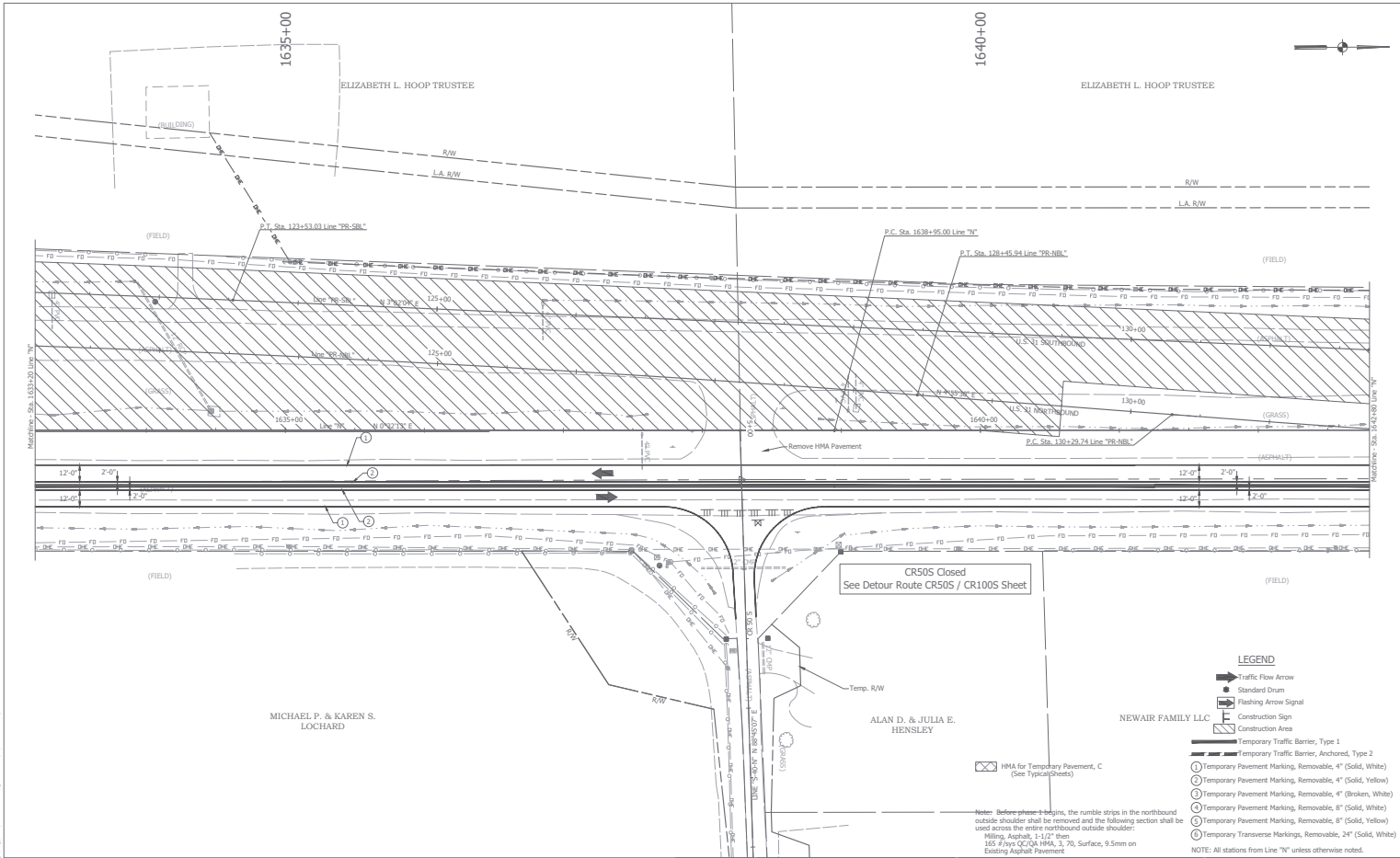
Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
 Milling, Asphalt, 1 1/2" thick
 165 #/yds GC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

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CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-20807 TEL & SRL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	150241 (186) / 1501388 (58)
SURVEY BOOK	SHEETS
	62 of 155
CONTRACT	PROJECT
B-29852	159461



- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⚡ Flashing Arrow Signal
 - ▭ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Anchored, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
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 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

MICHAEL P. & KAREN S. LOCHARD

ALAN D. & JULIA E. HENSLEY

NEWAIR FAMILY LLC

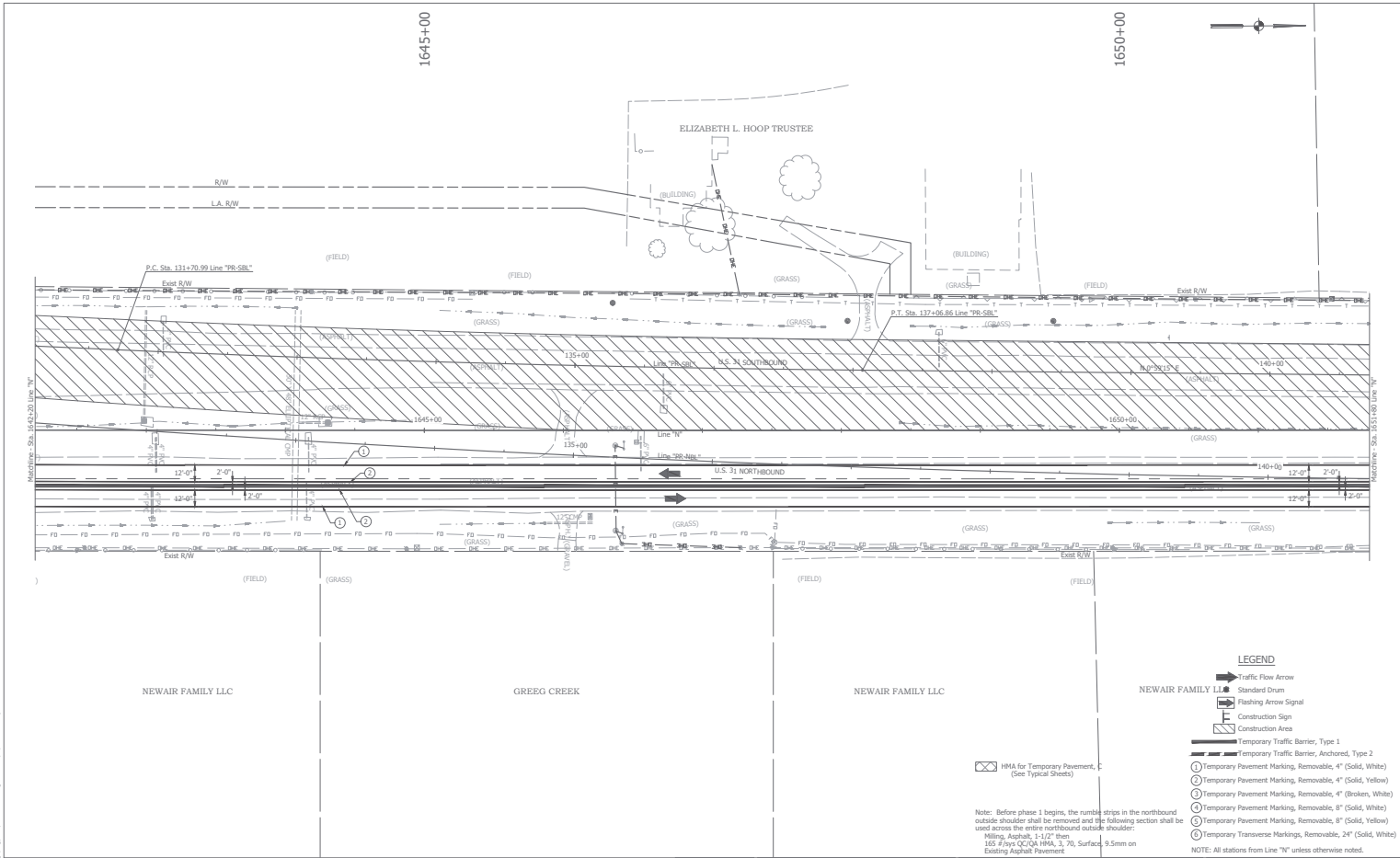


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	0340-20807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
	63 of 155
CONTRACT	PROJECT
B-29852	159461

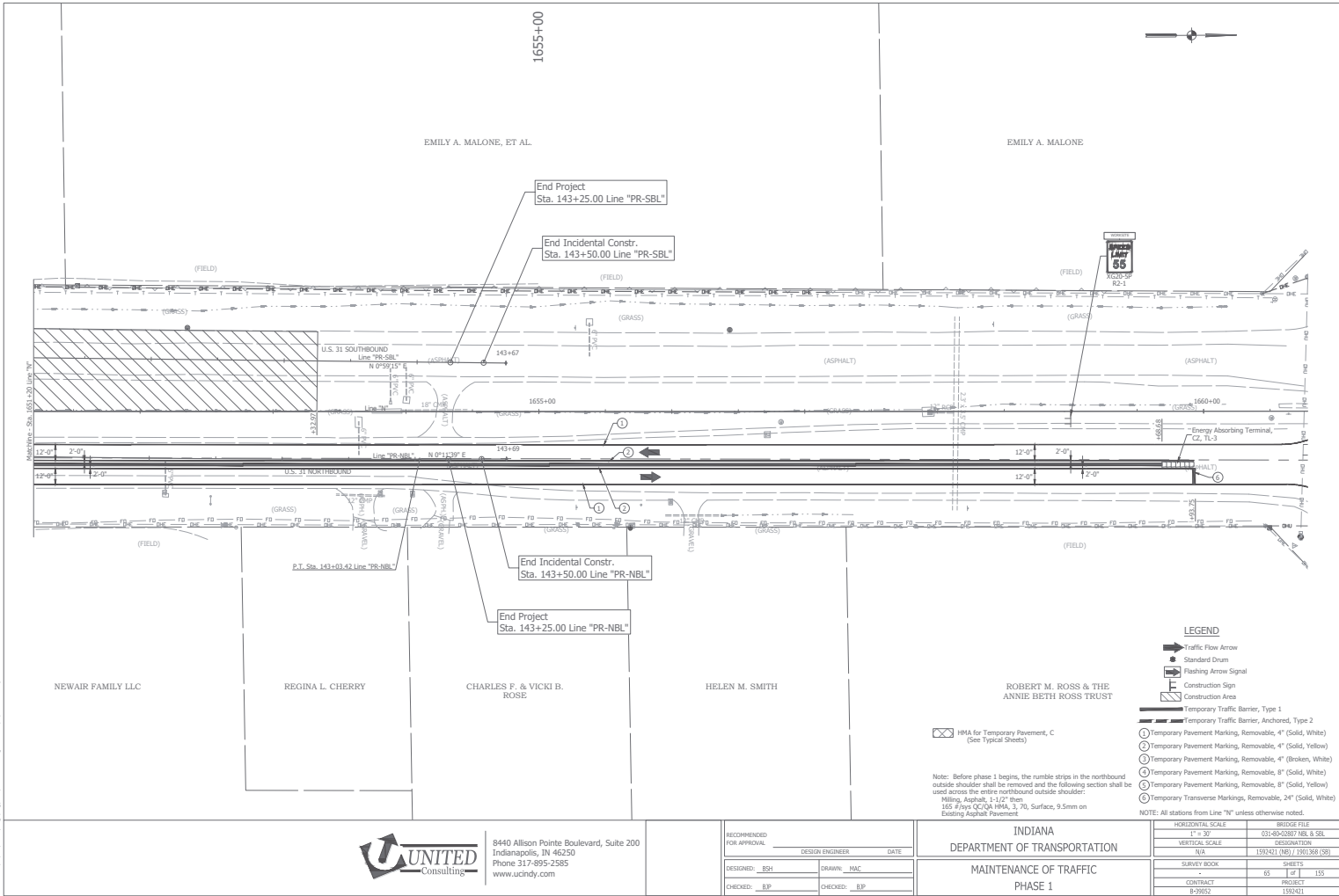


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 www.ucindy.com

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	0343-2887 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
	64 of 155
CONTRACT	PROJECT
B-29852	159421



- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⚡ Flashing Arrow Signal
 - ⚡ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Anchored, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

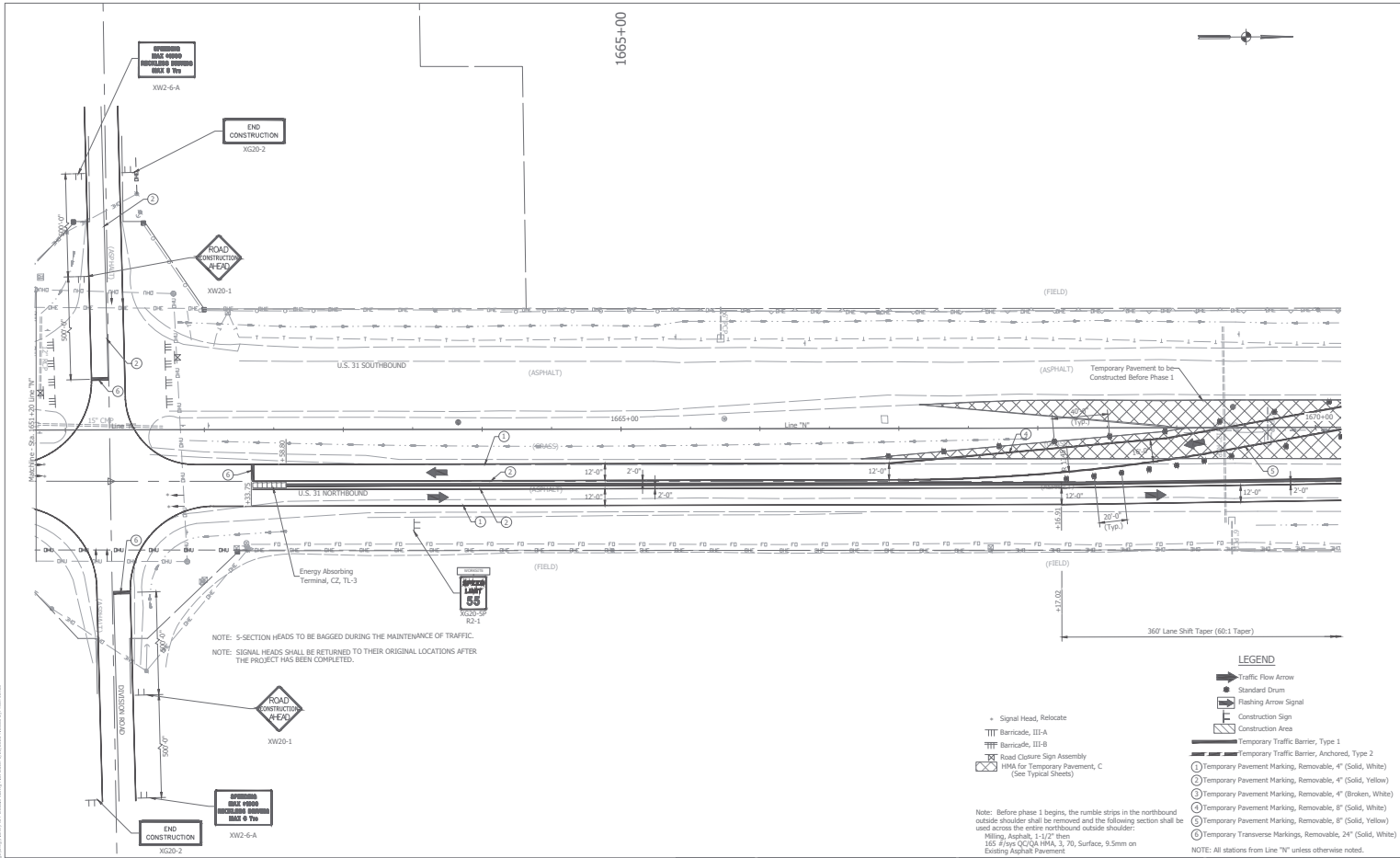
Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
 Milling, Asphalt: 1-1/2" thick
 165 #/Yds GC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
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CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150541 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
	65 of 155
CONTRACT	PROJECT
B-29852	159481



NOTE: S-SECTION HEADS TO BE BAGGED DURING THE MAINTENANCE OF TRAFFIC.
 NOTE: SIGNAL HEADS SHALL BE RETURNED TO THEIR ORIGINAL LOCATIONS AFTER THE PROJECT HAS BEEN COMPLETED.

- Signal Head, Relocate
- TTT Barricade, II-A
- TTT Barricade, II-B
- RT Road Closure Sign Assembly
- ⊗ HMA for Temporary Pavement, C (See Typical Details)

Note: Before phase 1 begins, the rumble strips in the northbound outside shoulder shall be removed and the following section shall be used across the entire northbound outside shoulder:
 Milling, Asphalt, 1-1/2" thick
 165 #/yds GC/QA HMA, 3, 70, Surface, 9.5mm on Existing Asphalt Pavement

LEGEND

- ➔ Traffic Flow Arrow
- Standard Drum
- ⬇ Flashing Arrow Signal
- ▭ Construction Area
- ▭ Construction Sign
- ▬ Temporary Traffic Barrier, Type 1
- ▬ Temporary Traffic Barrier, Anchored, Type 2
- ① Temporary Pavement Marking, Removable, 4" (Solid, White)
- ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
- ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
- ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
- ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
- ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)

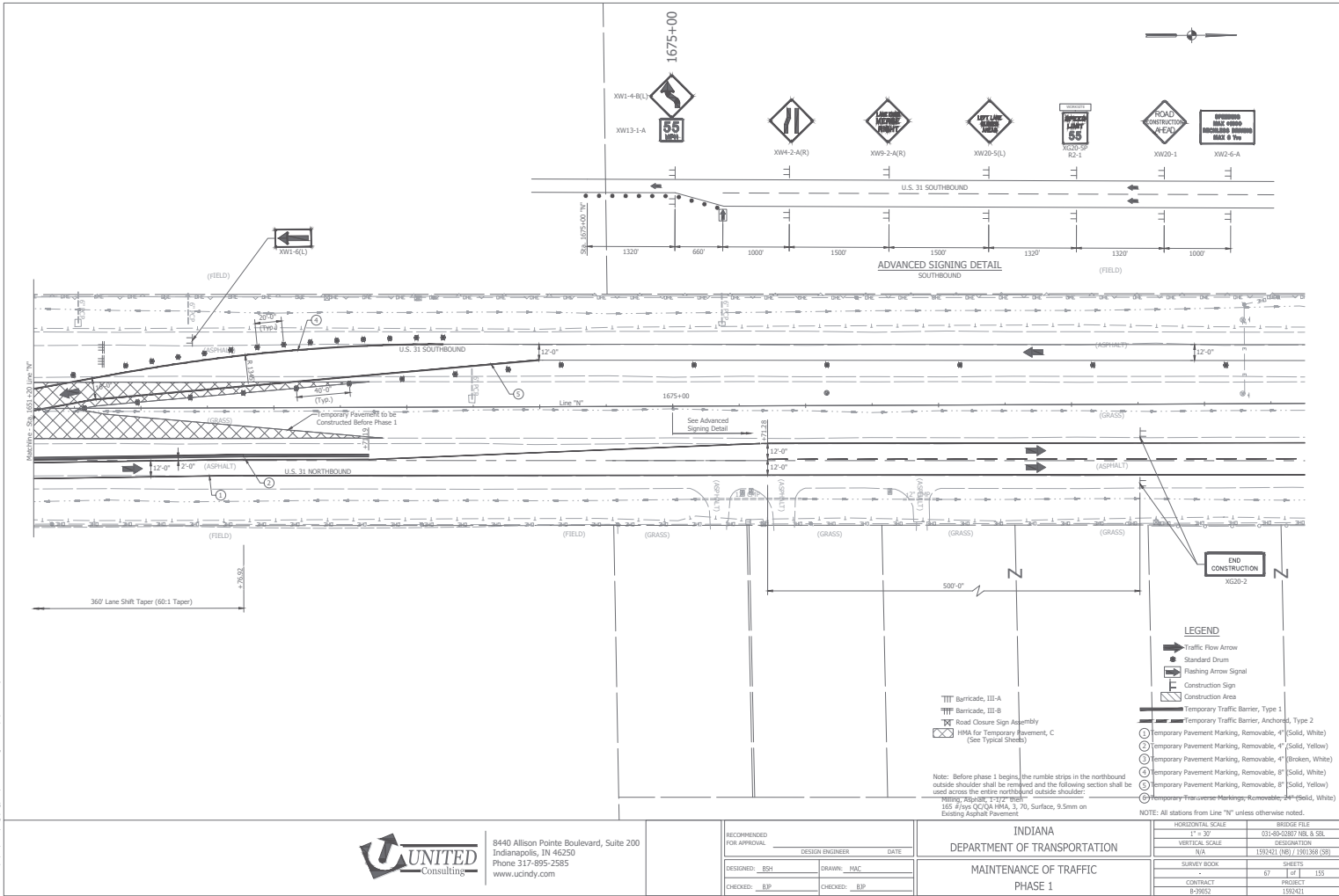
NOTE: All stations from Line "N" unless otherwise noted.

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BJP	CHECKED: BJP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20807 TEL & SRL
VERTICAL SCALE	SECTION NUMBER
1" = 10'	150241 (18) / 150138 (18)
SURVEY BOOK	SHEETS
	66 of 155
CONTRACT	PROJECT
B-29852	159421



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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

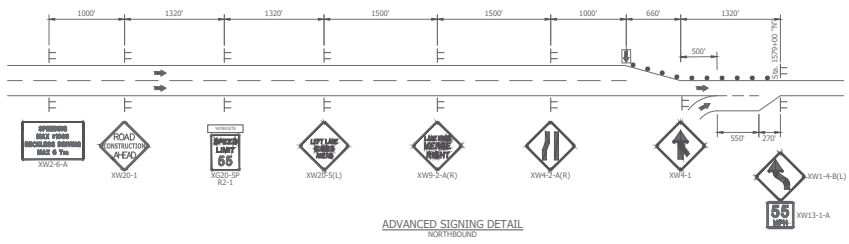
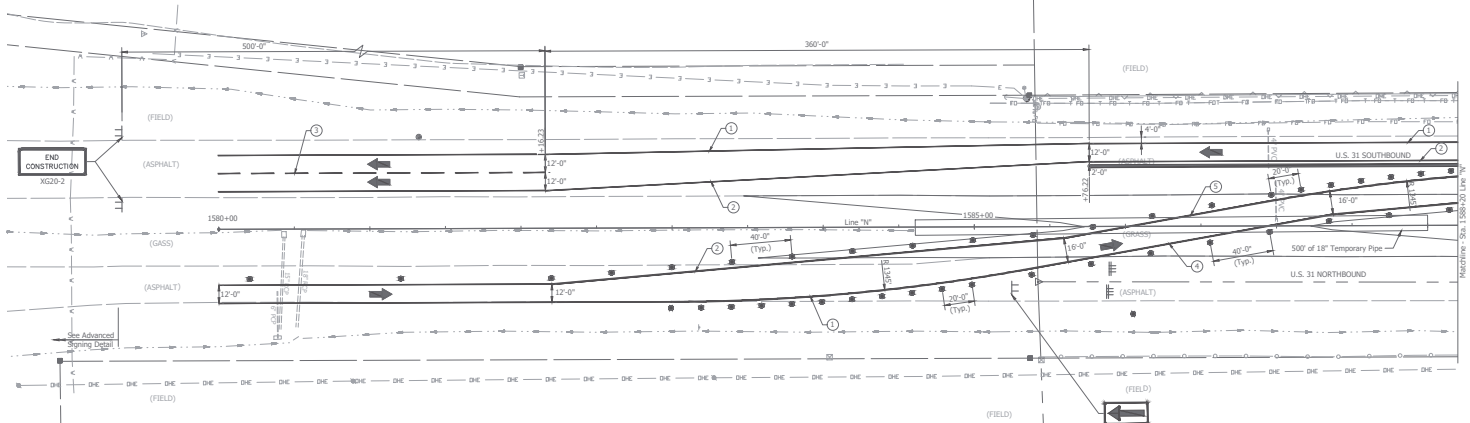
INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-28307 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
-	67 of 155
CONTRACT	PROJECT
B-29852	159421

1580+00

1585+00

- MAINTENANCE OF TRAFFIC NOTES:**
- Existing pavement markings that conflict with proposed pavement markings shall be removed, and replaced following that stage of construction.
 - Existing signs that conflict with proposed staging shall be covered during construction and uncovered after construction.
 - For temporary crossover information, see INDOT Standard Drawing No. E-801-TCCD-01 to E-801-TCCD-07.
 - Maximum Drum Spacing: 120' on tangents, 60' on tapers.
 - Existing median inlets shall remain to facilitate drainage.



EX. POSTED SPEED LIMIT 60 MPH

ADVANCED SIGNING DETAIL
NORTHBOUND

LEGEND

- Traffic Flow Arrow
 - Standard Drum
 - Flashing Arrow Signal
 - Construction Area
 - Construction Sign
 - Temporary Traffic Barrier, Type 1
 - Temporary Traffic Barrier, Type 2
 - Temporary Pavement Marking, Removable, 4" (Solid, White)
 - Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - Temporary Pavement Marking, Removable, 4" (Broken, White)
 - Temporary Pavement Marking, Removable, 8" (Solid, White)
 - Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
 Milling, Asphalt: 1-1/2" then
 185 #/yds O/CQA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement



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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

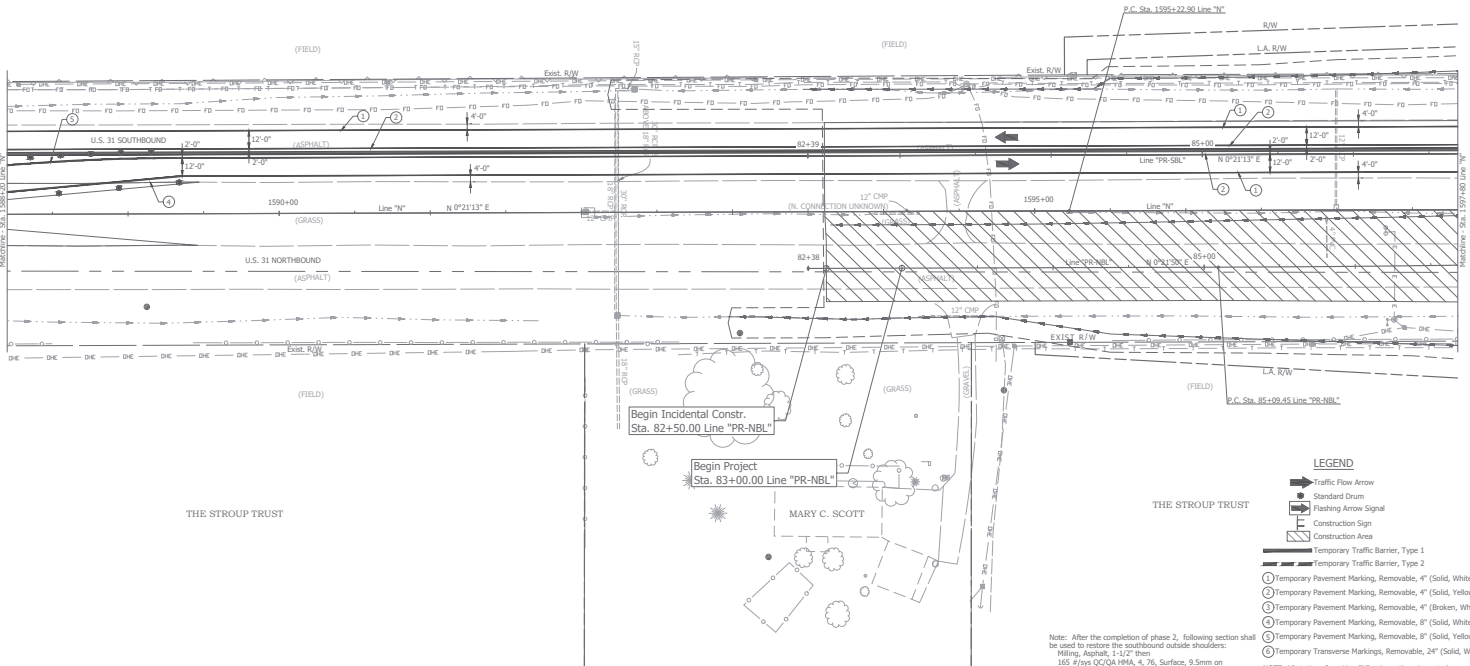
INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	1580+01 (NB) / 1581+38 (SB)
SURVEY BOOK	SHEETS
-	88 of 155
CONTRACT	PROJECT
B-29852	1584K1

1590+00

1595+00

RONALD L. JACKSON



THE STROUP TRUST

THE STROUP TRUST

LEGEND

- ➔ Traffic Flow Arrow
- Standard Drum
- ⊠ Flashing Arrow Signal
- ▭ Construction Sign
- ▭ Construction Area
- ▬ Temporary Traffic Barrier, Type 1
- ▬ Temporary Traffic Barrier, Type 2
- ⊙ Temporary Pavement Marking, Removable, 4" (Solid, White)
- ⊙ Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
- ⊙ Temporary Pavement Marking, Removable, 4" (Broken, White)
- ⊙ Temporary Pavement Marking, Removable, 8" (Solid, White)
- ⊙ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
- ⊙ Temporary Transverse Markings, Removable, 24" (Solid, White)

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
 Milling Asphalt: 1-1/2" then
 165 # frys OC/OA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

NOTE: All stations from Line "N" unless otherwise noted.



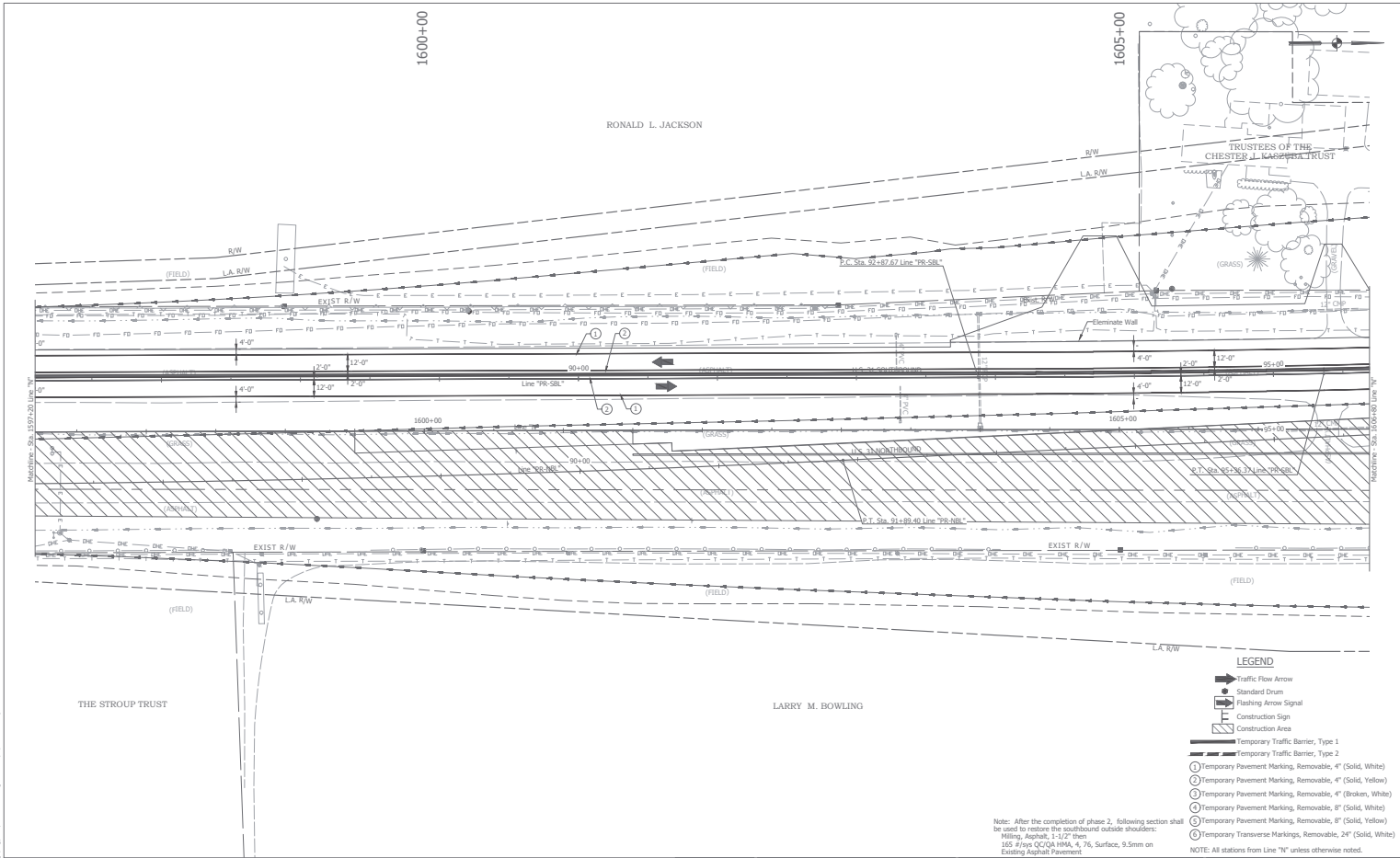
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
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CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRODIE FILE
1" = 30'	03140-02807 T&L & S&L
VERTICAL SCALE	SECTION NUMBER
N/A	159241 (N&S) / 1591368 (S&S)
SURVEY BOOK	SHEETS
	69 of 155
CONTRACT	PROJECT
B-2892	159241

FILE: I:\Projects\2015\159241\159241.dwg (159241.dwg) Date: 04/20/2015 10:00:00 AM



Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulder:
 Milling Asphalt 1-1/2" then
 165 #/ys OC/QA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

LEGEND

- ➔ Traffic Flow Arrow
- Standard Drum
- ⊙ Flashing Arrow Signal
- ⊞ Construction Sign
- ▭ Construction Area
- ▨ Temporary Traffic Barrier, Type 1
- ▩ Temporary Traffic Barrier, Type 2
- ⊙ Temporary Pavement Marking, Removable, 4" (Solid, White)
- ⊙ Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
- ⊙ Temporary Pavement Marking, Removable, 4" (Broken, White)
- ⊙ Temporary Pavement Marking, Removable, 8" (Solid, White)
- ⊙ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
- ⊙ Temporary Transverse Markings, Removable, 24" (Solid, White)

NOTE: All stations from Line "N" unless otherwise noted.

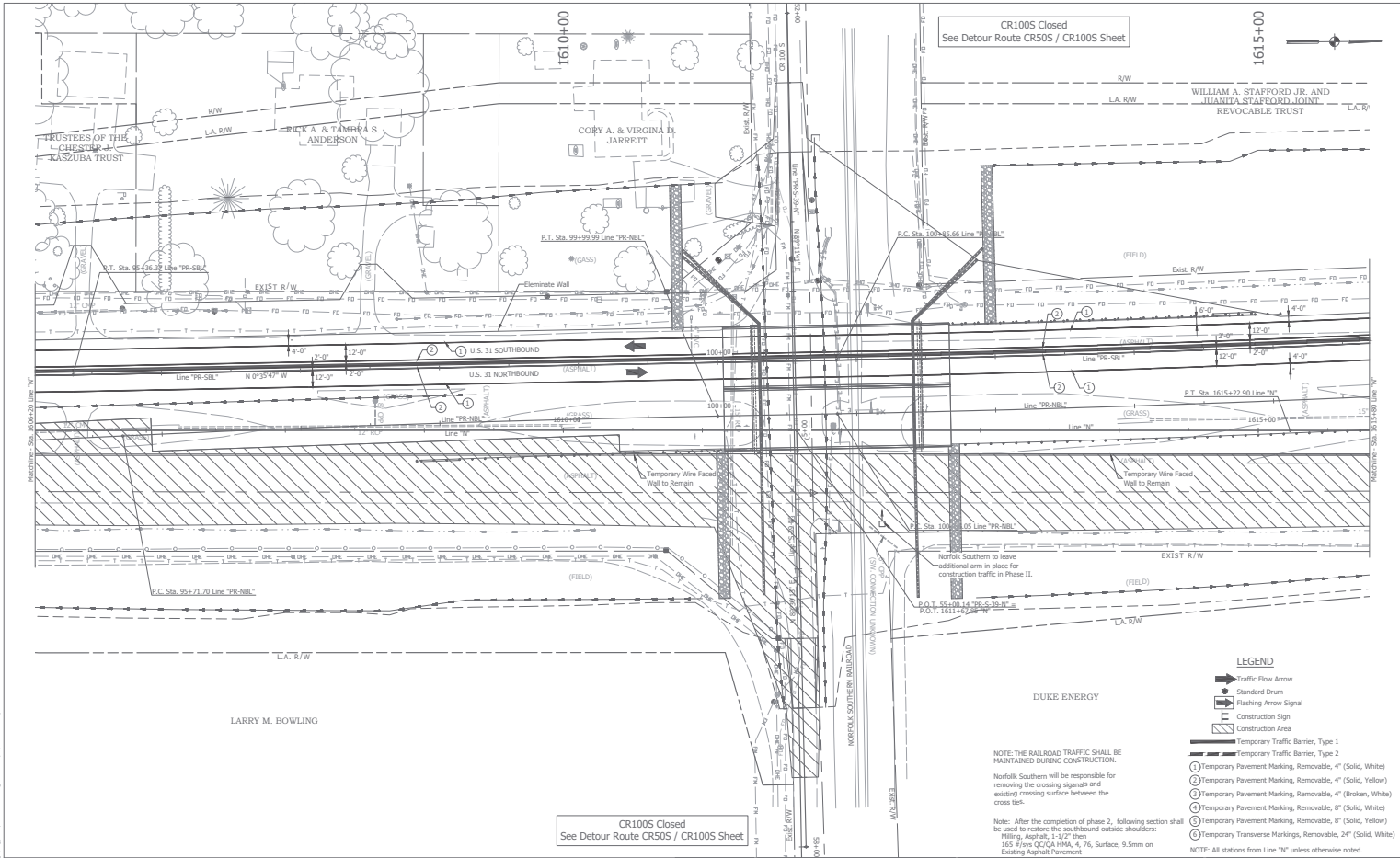
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-2887 TEL & SRL
VERTICAL SCALE	SECTION NUMBER
1/4" = 1'	150241 (N8) / 150138 (S8)
SURVEY BOOK	SHEETS
	70 of 155
CONTRACT	PROJECT
B-2982	159421



CR1005 Closed
See Detour Route CR505 / CR100S Sheet

1615+00

CR1005 Closed
See Detour Route CR505 / CR100S Sheet

LEGEND

- Traffic Flow Arrow
- Standard Drum
- Flashing Arrow Signal
- Construction Sign
- Construction Area
- Temporary Traffic Barrier, Type 1
- Temporary Traffic Barrier, Type 2
- Temporary Pavement Marking, Removable, 4" (Solid, White)
- Temporary Pavement Marking, Removable, 4" (Broken, White)
- Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
- Temporary Pavement Marking, Removable, 24" (Solid, White)
- Temporary Transverse Markings, Removable, 24" (Solid, White)

NOTE: THE RAILROAD TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION.
Norfolk Southern will be responsible for removing the crossing signs and adding crossing surface between the cross ties.

NOTE: After the completion of phase 2, following section shall be used to restore the southbound outside shoulder:
Mixing: Asphalt 2-1/2" then
165 #/yds O/C/OA HMA 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

NOTE: All stations from Line "N" unless otherwise noted.



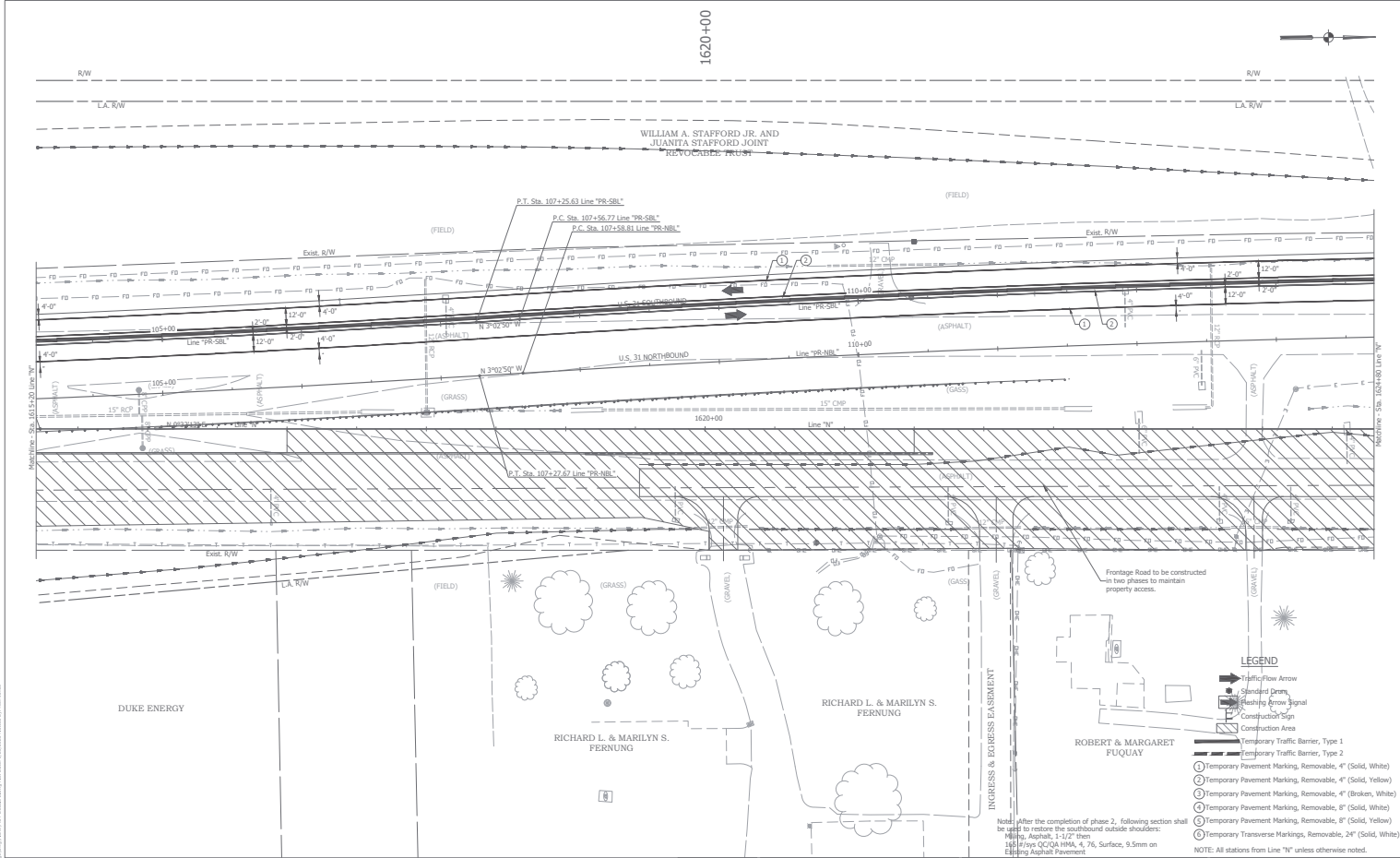
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
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INDIANA
DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC
PHASE 2

HORIZONTAL SCALE	BRIIDGE FILE
1" = 30'	03143-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (186) / 1501388 (58)
SURVEY BOOK	SHEETS
	71 of 155
CONTRACT	PROJECT
B-29852	1594261

1620+00



- LEGEND**
- ➔ Traffic Flow Arrow
 - ⬤ Standard Drain
 - ⬤ Flashing Arrow Signal
 - ⬤ Construction Sign
 - ▨ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⊕ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
 185 ft/lys OCQA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

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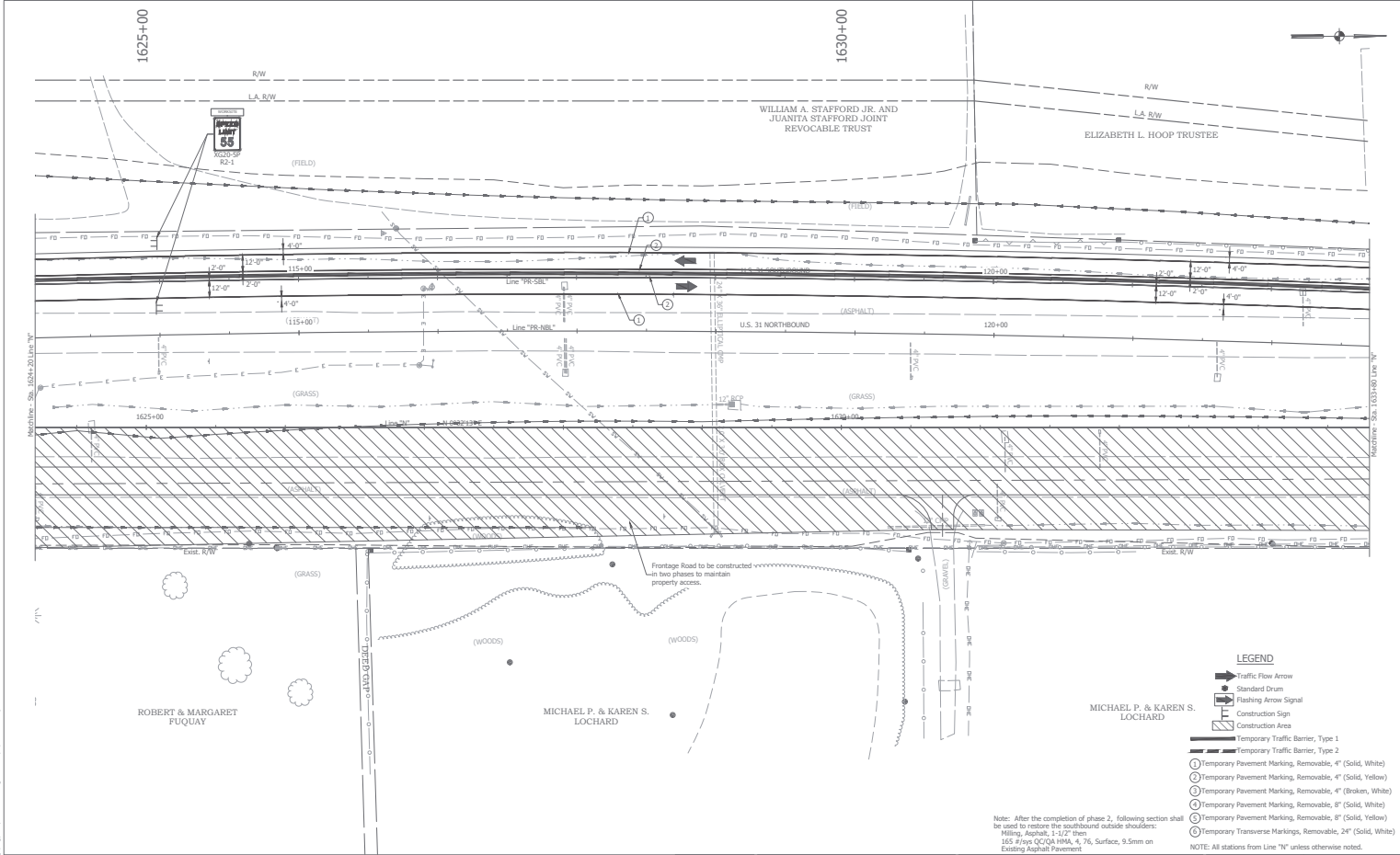
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-20807 TEL & SBL
VERTICAL SCALE	SECTION
1" = 10'	150241 (N8) / 1501388 (S8)
SURVEY BOOK	SHEETS
	72 of 155
CONTRACT	PROJECT
B-29852	1594261



Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
 Milling, Asphalt: 1-1/2" then
 165 # lbs OC/QA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - Ⓢ Flashing Arrow Signal
 - Ⓜ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

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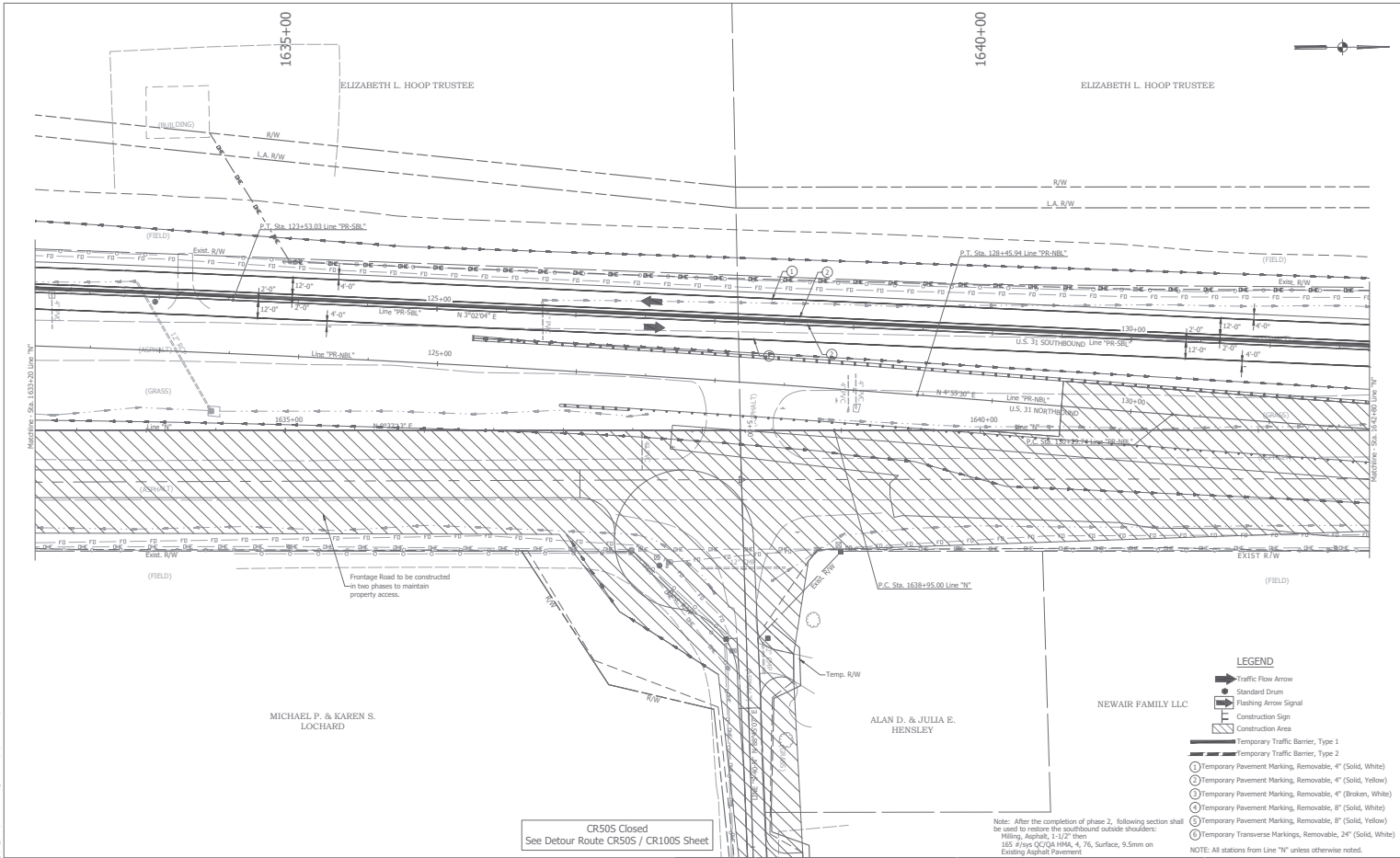
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
	73 of 155
CONTRACT	PROJECT
B-29852	159421



MICHAEL P. & KAREN S. LOCHARD

ALAN D. & JULIA E. HENSLEY

NEWAIR FAMILY LLC

CR505 Closed
See Detour Route CR505 / CR1005 Sheet

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
Millings Asphalt: 1-1/2" then
155 # frys OC/OA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

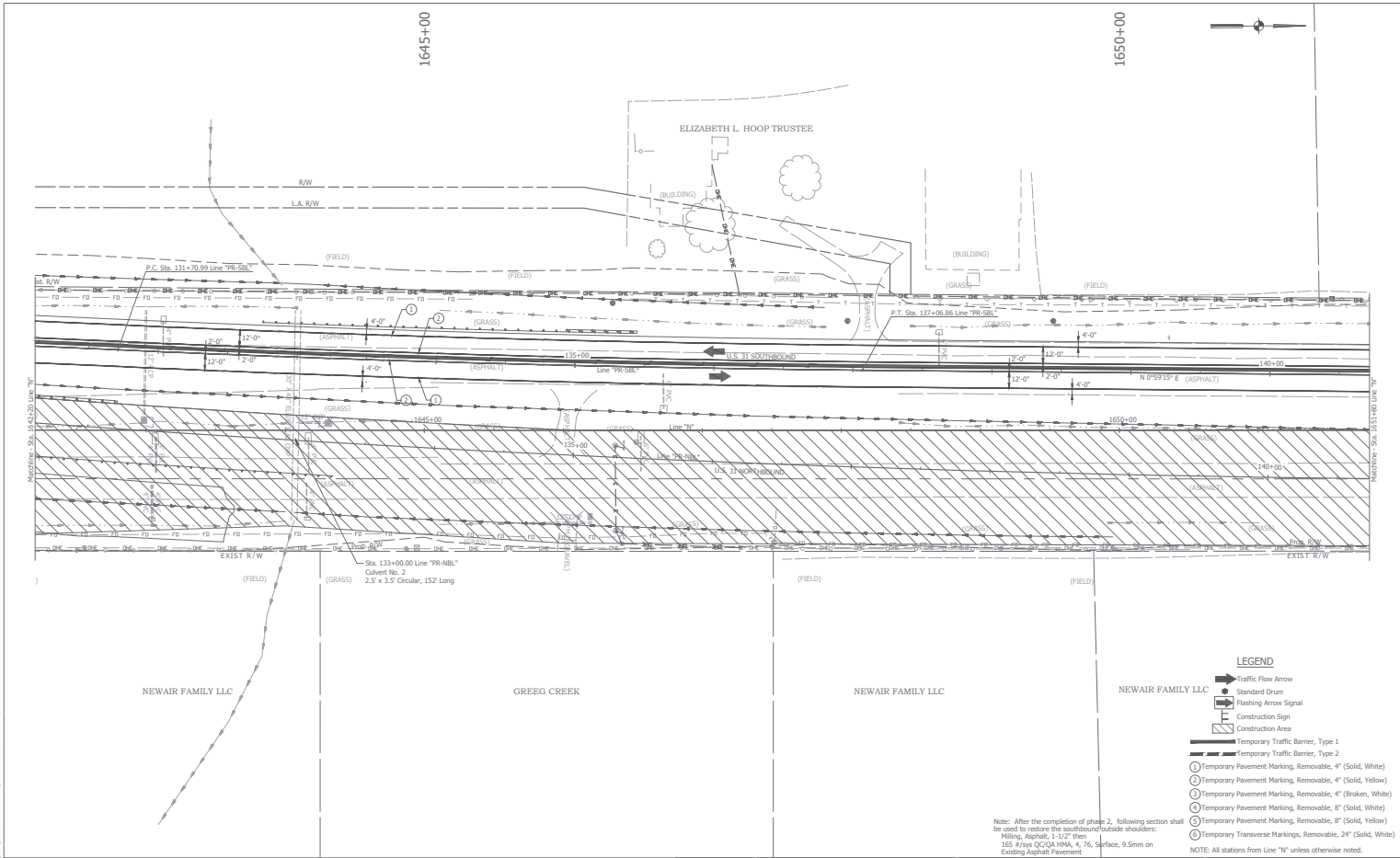
- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⊕ Flashing Arrow Signal
 - ▭ Construction Sign
 - ▭ Construction Area
 - ▬ Temporary Traffic Barrier, Type 1
 - ▬ Temporary Traffic Barrier, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "N" unless otherwise noted.

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RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	DATE:
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC
PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-40-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NB) / 150138 (SB)
SURVEY BOOK	SHEETS
	74 of 155
CONTRACT	PROJECT
B-2982	159461



- LEGEND**
- Traffic Flow Arrow
 - Standard Drum
 - Flashing Arrow Signal
 - Construction Sign
 - Construction Area
 - Temporary Traffic Barrier, Type 1
 - Temporary Traffic Barrier, Type 2
 -
 -
 -
 -
 -
 -

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
 Milling Asphalt 1-1/2" then
 165 #/yds OC/OA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

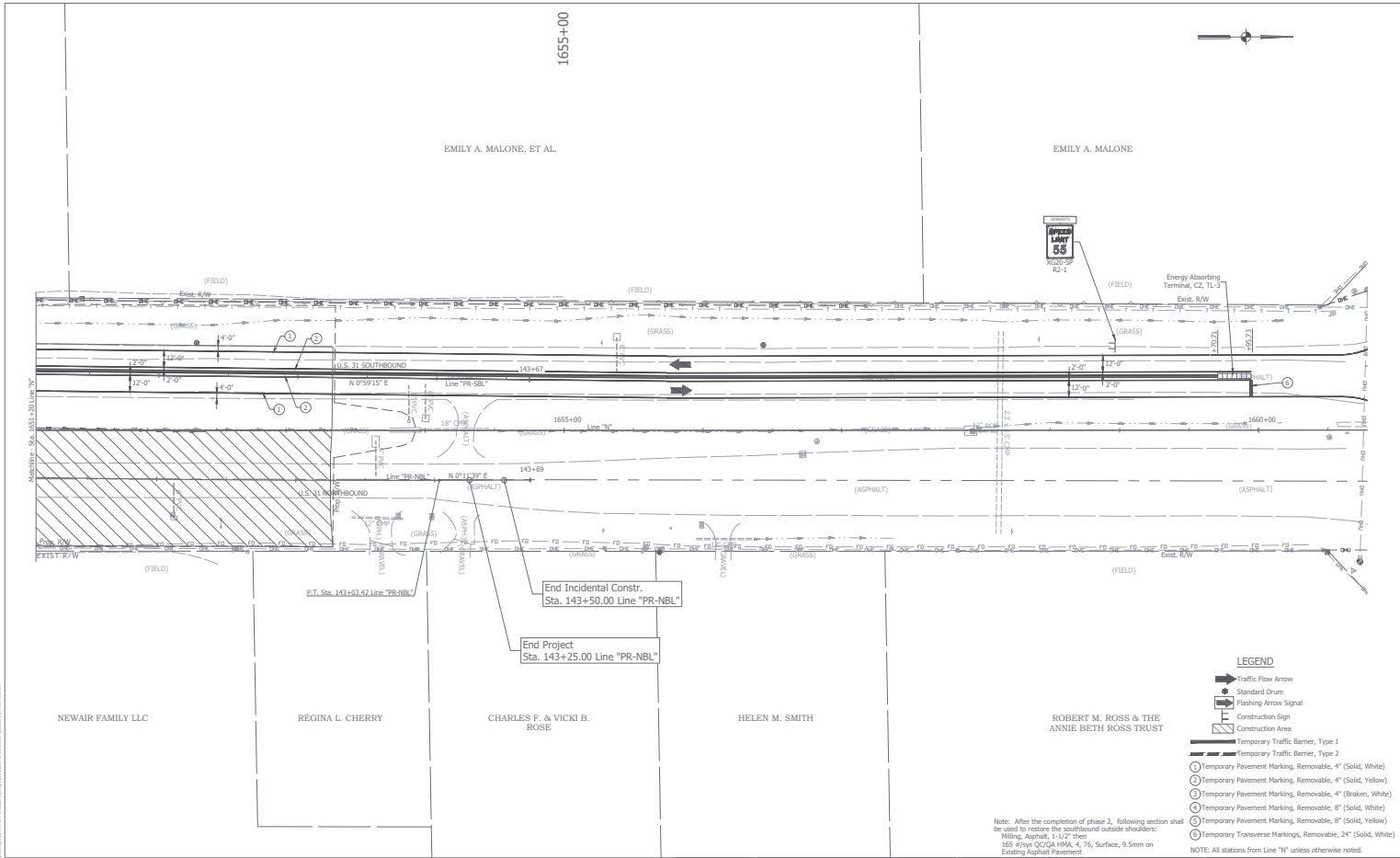
NOTE: All stations from Line "N" unless otherwise noted.

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	0340-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	159241 (NB) / 159138 (SB)
SURVEY BOOK	SHEETS
-	75 of 155
CONTRACT	PROJECT
B-2982	159241



Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulder:
 Milling Asphalt 1-1/2" then
 155 #/yds OC/QA HMA 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

- LEGEND**
- ➔ Traffic Flow Arrow
 - Standard Drum
 - ⬇ Flashing Arrow Signal
 - ⚠ Construction Sign
 - ▨ Construction Area
 - Temporary Traffic Barrier, Type 1
 - Temporary Traffic Barrier, Type 2
 - ① Temporary Pavement Marking, Removable, 4" (Solid, White)
 - ② Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - ③ Temporary Pavement Marking, Removable, 4" (Broken, White)
 - ④ Temporary Pavement Marking, Removable, 8" (Solid, White)
 - ⑤ Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - ⑥ Temporary Transverse Markings, Removable, 24" (Solid, White)
- NOTE: All stations from Line "TN" unless otherwise noted.

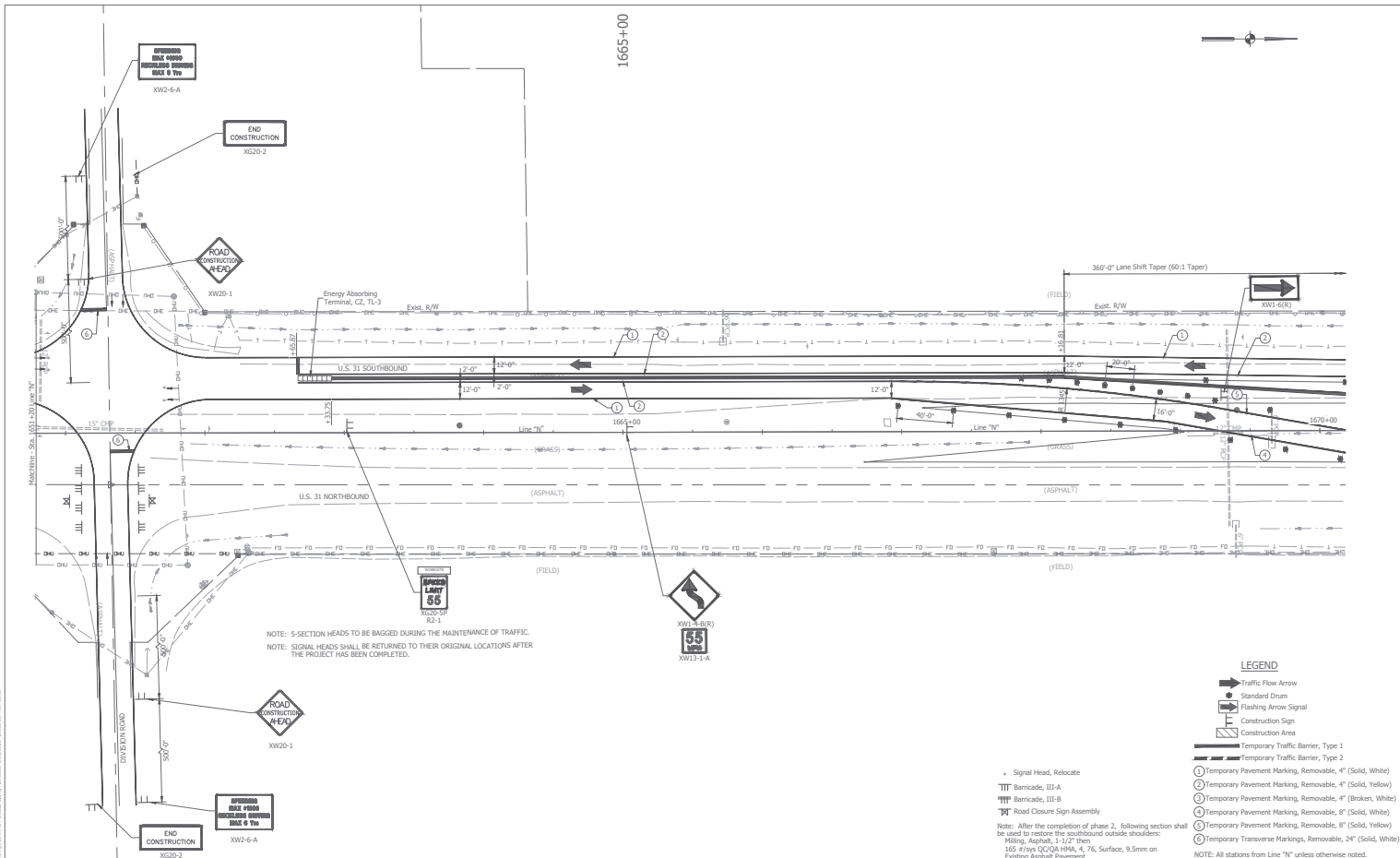


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BSH	DRAWN: HAC	
CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03-43-20807 TEL & SBL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (NB) / 1501388 (SB)
SURVEY BOOK	SHEETS
-	75 of 155
CONTRACT	PROJECT
B-29852	1594261



NOTE: 5-SECTION HEADS TO BE BAGGED DURING THE MAINTENANCE OF TRAFFIC.
NOTE: SIGNAL HEADS SHALL BE RETURNED TO THEIR ORIGINAL LOCATIONS AFTER THE PROJECT HAS BEEN COMPLETED.

LEGEND

	Traffic Flow Arrow
	Standard Drum
	Flashing Arrow Signal
	Construction Area
	Construction Sign
	Temporary Traffic Barrier, Type 1
	Temporary Traffic Barrier, Type 2
	Signal Head, Relocate
	Barricade, III-A
	Barricade, III-B
	Road Closure Sign Assembly

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulders:
 Milling Asphalt: 1-1/2" then
 155 #/ys OC/OA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

NOTE: All stations from Line "N" unless otherwise noted.

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RECOMMENDED FOR APPROVAL: _____ DATE: _____	
DESIGNED: BSH	DRAWN: HAC
CHECKED: BFP	CHECKED: BFP

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
PHASE 2

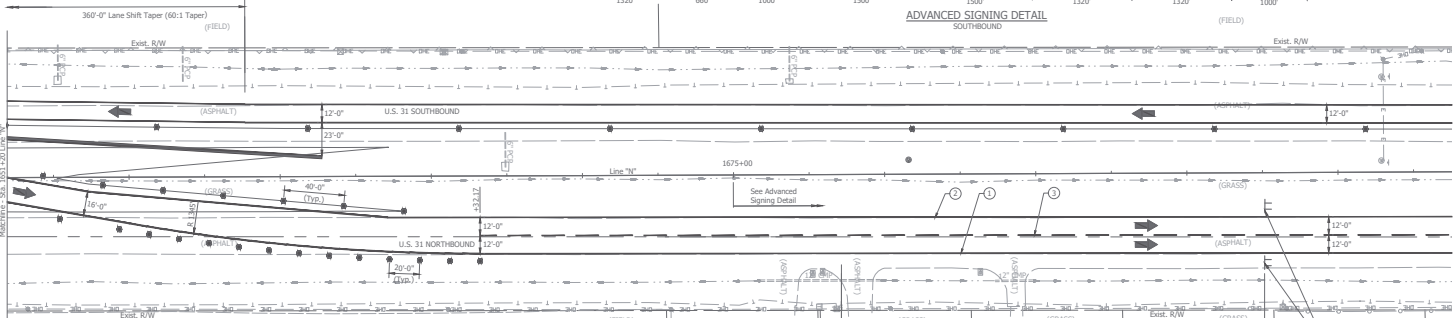
HORIZONTAL SCALE	BRIIDGE FILE
1" = 30'	031-03-20807 TEL & SBL
VERTICAL SCALE	SECTION
1" = 4'	159041 (158) / 1501388 (58)
SURVEY BOOK	SHEETS
77	4 of 155
CONTRACT	PROJECT
B-2982	159041

16: 8/15/11 10:30 AM D:\2011\20110805\PHASE2\159041 TEL & SBL.dwg Plot Date: 8/15/2011 10:30 AM Scale: 1/8"=1'-0"

1675+00



ADVANCED SIGNING DETAIL
SOUTHBOUND



- LEGEND**
- Traffic Flow Arrow
 - Standard Drum
 - Flashing Arrow Signal
 - Construction Sign
 - Construction Area
 - Temporary Traffic Barrier, Type 1
 - Temporary Traffic Barrier, Type 2
 - Temporary Pavement Marking, Removable, 4" (Solid, White)
 - Temporary Pavement Marking, Removable, 4" (Solid, Yellow)
 - Temporary Pavement Marking, Removable, 4" (Broken, White)
 - Temporary Pavement Marking, Removable, 8" (Solid, White)
 - Temporary Pavement Marking, Removable, 8" (Solid, Yellow)
 - Temporary Transverse Markings, Removable, 24" (Solid, White)

Note: After the completion of phase 2, following section shall be used to restore the southbound outside shoulder:
 155 # f/ys OC/CA HMA, 4, 76, Surface, 9.5mm on Existing Asphalt Pavement

NOTE: All stations from Line "N" unless otherwise noted.

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CHECKED: BFP	CHECKED: BFP	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC
 PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	03140-20807 TEL & SRL
VERTICAL SCALE	DESCRIPTION
1" = 10'	150241 (M) / 150138 (S)
SURVEY BOOK	SHEETS
-	78 of 155
CONTRACT	PROJECT
B-29852	150241

H:\Users\jshelton\Documents\2015\150241\150138\150138_Southbound_MAOT_Phase2.dwg, 12/15/2015 10:58:56 AM, 150138.dwg, 150138.dwg



ROAD CLOSED
R11-2

ROAD CLOSED TO THRU TRAFFIC
M4-10L

ROAD CLOSED TO THRU TRAFFIC
M4-10R

① **DETOUR EAST**
W16-8P, M3-2, CR 100 S, MS-1(L)

② **DETOUR WEST**
W16-8P, M3-4, CR 100 S, MS-1(L)

③ **DETOUR EAST**
W16-8P, M3-2, CR 100 S, MS-1(R)

④ **DETOUR WEST**
W16-8P, M3-4, CR 100 S, MS-1(R)

⑤ **DETOUR EAST**
W16-8P, M3-2, CR 100 S, M6-1(R)

⑥ **DETOUR WEST**
W16-8P, M3-4, CR 100 S, M6-1(R)

⑦ **END EAST**
M4-8b, M3-2

⑧ **END WEST**
M4-8b, M3-4

⑨ **DETOUR EAST**
W16-8P, M3-2, CR 100 S, M6-1(L)

⑩ **DETOUR WEST**
W16-8P, M3-4, CR 100 S, M6-1(L)

⑪ **DETOUR EAST**
W16-8P, M3-2, CR 100 S, M6-3

⑫ **DETOUR WEST**
W16-8P, M3-4, CR 100 S, M6-3

⑬ **ROAD CLOSED AHEAD**
XW20-3

⑭ **DETOUR AHEAD**
XW20-2

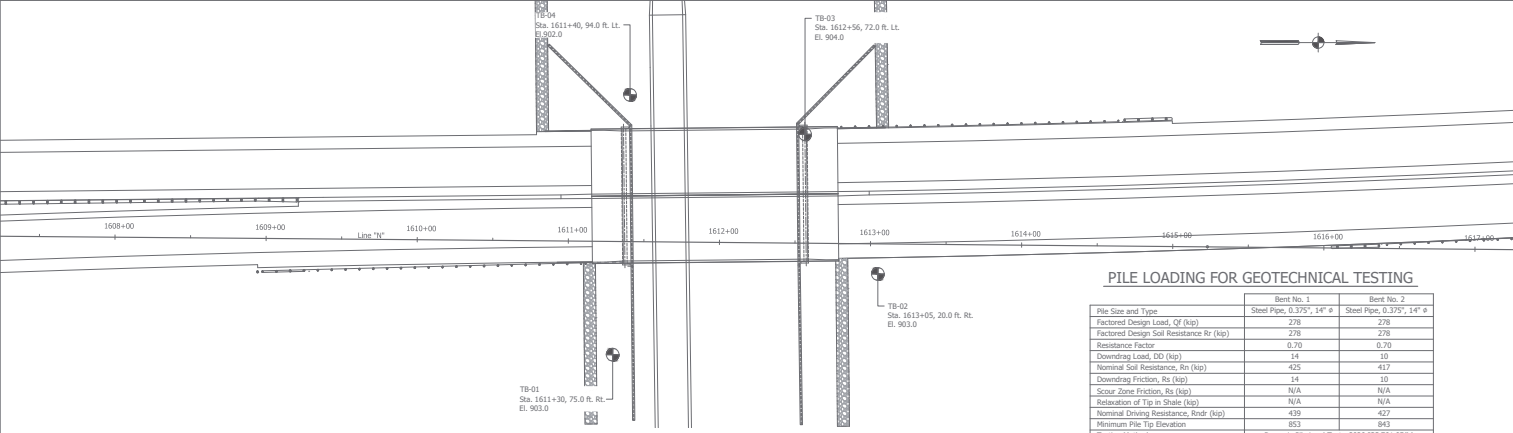
QUANTITIES FOR DETOUR ROUTE

TYPE	QUANTITY
CONSTRUCTION SIGN, A	12 Ea.
BARRICADE, III-A	72 LR.
BARRICADE, III-B	36 LR.
ROAD CLOSURE SIGN ASSEMBLY	6 Ea.
DETOUR ROUTE MARKER ASSEMBLY	27 Ea.

- LEGEND**
- ① Type III-A Barricade and Road Closure Sign Assembly (R11-2)
 - ② Type III-B Barricade and Road Closure Sign Assembly (R11-4) and Detour Left (M4-10L)
 - ③ Type III-B Barricade and Road Closure Sign Assembly (R11-4) and Detour Right (M4-10R)
 - ④ Detour Route Marker Assembly
 - ⑤ Detour Route Marker Assembly
 - ⑥ Detour Route Marker Assembly
 - ⑦ Detour Route Marker Assembly
 - ⑧ Detour Route Marker Assembly
 - ⑨ Detour Route Marker Assembly
 - ⑩ Detour Route Marker Assembly
 - ⑪ Detour Route Marker Assembly
 - ⑫ Detour Route Marker Assembly
 - ⑬ XW20-3 (Road Closed Ahead)
 - ⑭ XW20-2 (Detour Ahead)

<p>8440 Allison Pointe Boulevard, Suite 200 Indianapolis, IN 46250 Phone 317-895-2585 www.ucindy.com</p>	RECOMMENDED FOR APPROVAL	INDIANA DEPARTMENT OF TRANSPORTATION	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>HORIZONTAL SCALE</td> <td>AS NOTED</td> <td>BRIDGE FILE</td> </tr> <tr> <td>VERTICAL SCALE</td> <td>AS NOTED</td> <td>031-20-20807 TEL & SRL</td> </tr> <tr> <td>SURVEY BOOK</td> <td colspan="2">DESIGNATION 150421 (NB) / 1501388 (SB)</td> </tr> <tr> <td colspan="2">SHEETS</td> <td>79 of 155</td> </tr> <tr> <td colspan="2">CONTRACT</td> <td>B-20052</td> </tr> <tr> <td colspan="2">PROJECT</td> <td>1504201</td> </tr> </table>	HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	VERTICAL SCALE	AS NOTED	031-20-20807 TEL & SRL	SURVEY BOOK	DESIGNATION 150421 (NB) / 1501388 (SB)		SHEETS		79 of 155	CONTRACT		B-20052	PROJECT		1504201
	HORIZONTAL SCALE	AS NOTED	BRIDGE FILE																		
	VERTICAL SCALE	AS NOTED	031-20-20807 TEL & SRL																		
	SURVEY BOOK	DESIGNATION 150421 (NB) / 1501388 (SB)																			
	SHEETS		79 of 155																		
CONTRACT		B-20052																			
PROJECT		1504201																			
DESIGN ENGINEER	DATE	DETOUR ROUTE - C.R. 50 S / C.R. 100 S US 31 OVER NS RAILROAD & CR100S																			
DESIGNED: MTP	DRAWN: HAC																				
CHECKED: BPP	CHECKED: BPP																				
APPROVED: _____																					

18. 10/17/11 10:50:22 AM D:\projects\1504201\1504201.dwg [PLT] 0/0/200118 (Black) Plot Page 1



PILE LOADING FOR GEOTECHNICAL TESTING

Pile Size and Type	Bent No. 1	Bent No. 2
	Steel Pipe, 0.375", 14" ø	Steel Pipe, 0.375", 14" ø
Factored Design Load, Qf (kip)	278	278
Factored Design Soil Resistance Rr (kip)	278	278
Resistance Factor	0.70	0.70
Downing Load, Dd (kip)	14	10
Nominal Soil Resistance, Rn (kip)	425	417
Downing Friction, R _d (kip)	14	10
Scour Zone Friction, R _s (kip)	N/A	N/A
Relaxation of Tip in Shale (kip)	N/A	N/A
Nominal Driving Resistance, R _{ndr} (kip)	439	427
Minimum Pile Tip Elevation	853	843
Testing Method	Dynamic Pile Load Test - 2020 ISS 701.05(b)	

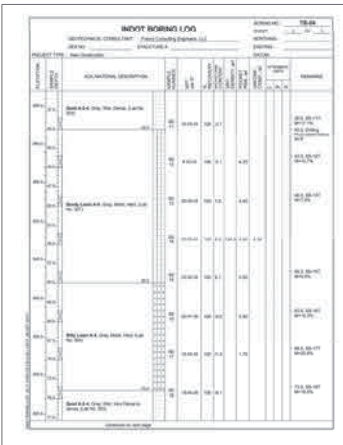
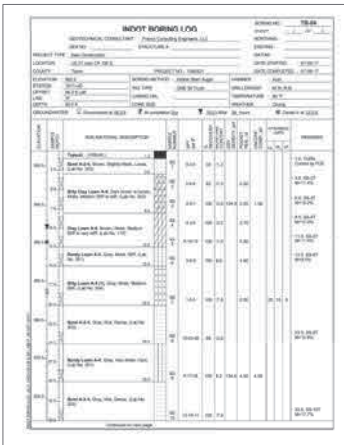
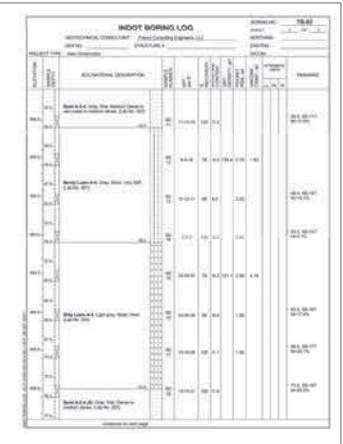
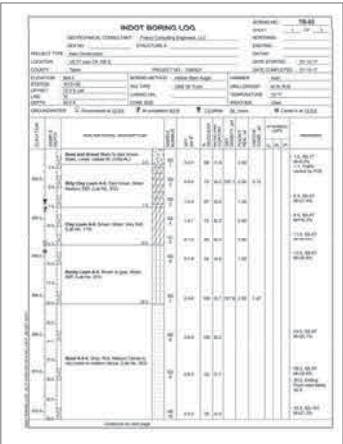
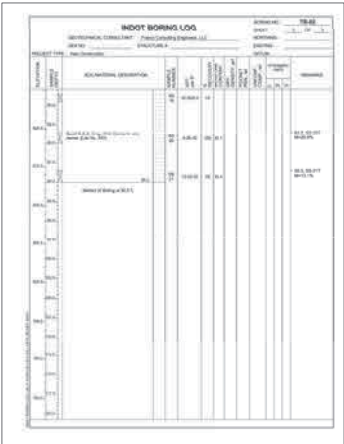
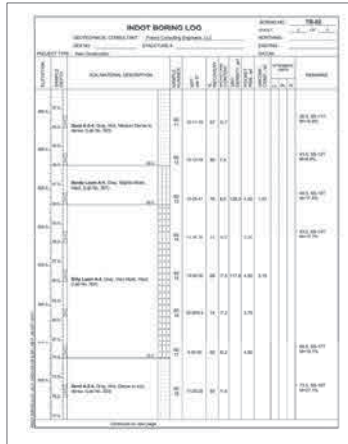
NOTES:
 One PDA Test is required at each bent of each bridge at opposing ends.
 The resistive test for piles spotted in soils shall be performed 72 hours after initial drive.

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 CHECKED: JES
 CHECKED: MAB

INDIANA DEPARTMENT OF TRANSPORTATION
SOIL BORINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
80	of 155
CONTRACT	PROJECT
B-39052	1592421

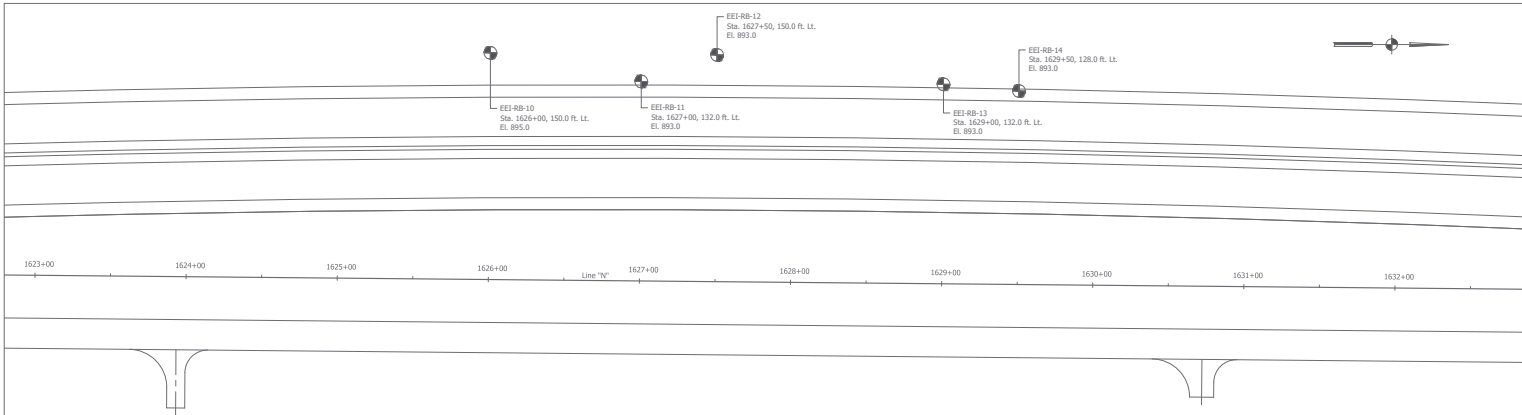


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INDIANA
 DEPARTMENT OF TRANSPORTATION
 SOIL BORINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	OCCASIONALLY
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
-	81 of 155
CONTRACT	PROJECT
B-39052	1592421



LOG OF TEST BORING									
Boring No.		Station		Elevation		Date		Operator	
<p>Soil description: [Detailed log of soil layers with depth, color, and texture notes]</p>									

LOG OF TEST BORING									
Boring No.		Station		Elevation		Date		Operator	
<p>Soil description: [Detailed log of soil layers with depth, color, and texture notes]</p>									

LOG OF TEST BORING									
Boring No.		Station		Elevation		Date		Operator	
<p>Soil description: [Detailed log of soil layers with depth, color, and texture notes]</p>									

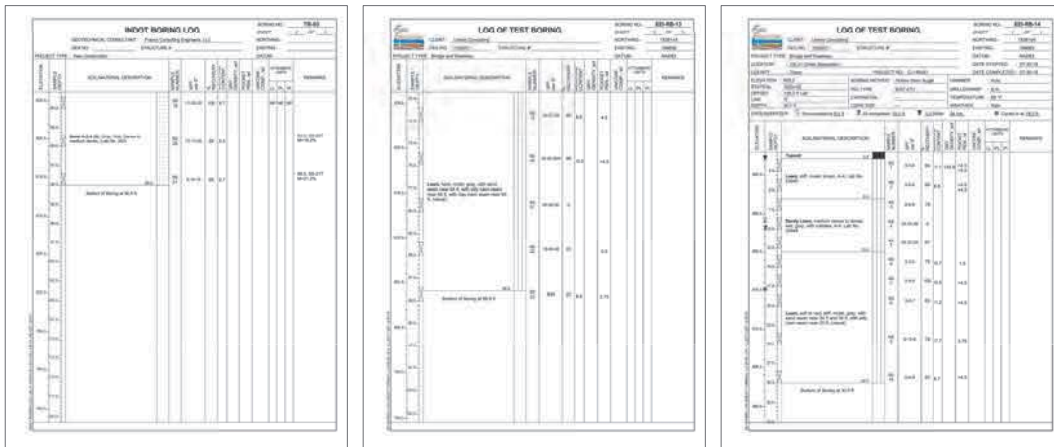
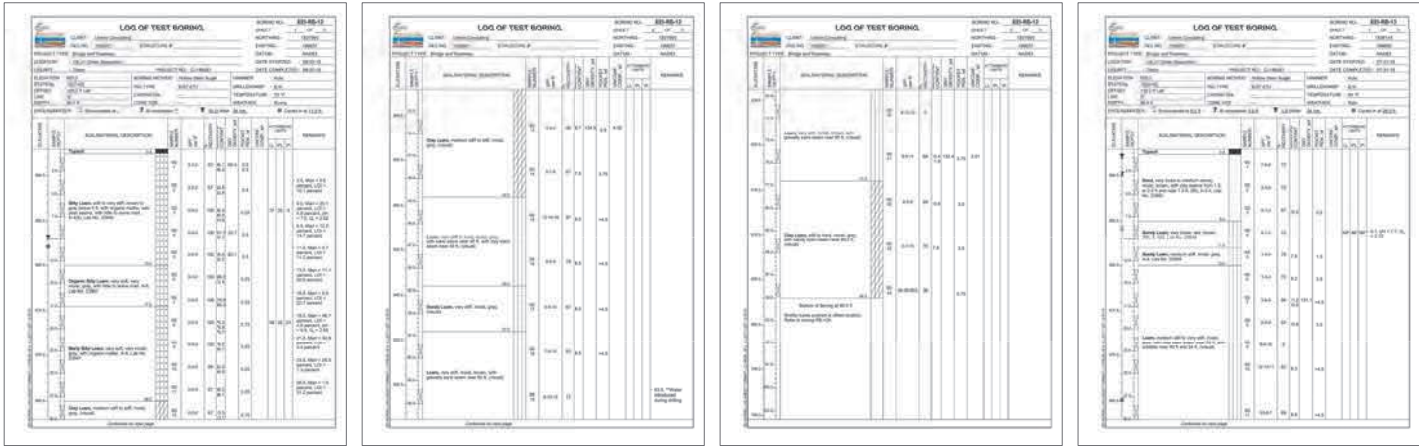
LOG OF TEST BORING									
Boring No.		Station		Elevation		Date		Operator	
<p>Soil description: [Detailed log of soil layers with depth, color, and texture notes]</p>									

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CHECKED: JES	CHECKED: NAR	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SOIL BORINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	OCCUPATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	82 of 155
CONTRACT	PROJECT
B-39052	1592421

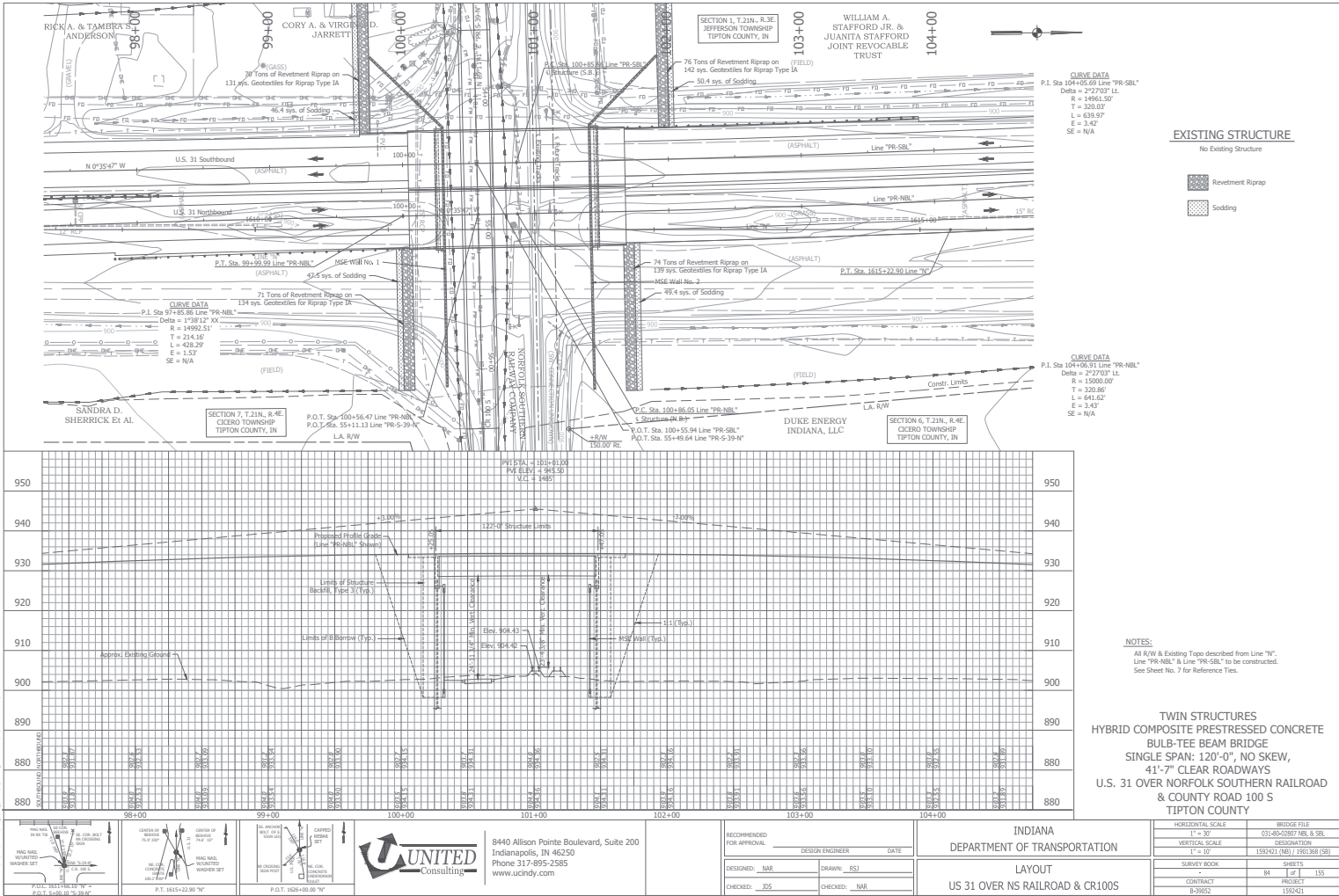


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 DESIGN ENGINEER DATE _____
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 CHECKED: JES CHECKED: NAR

INDIANA
 DEPARTMENT OF TRANSPORTATION
 SOIL BORINGS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	OCCASIONTOP
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
83	of 155
CONTRACT	PROJECT
B-39052	1592421



EXISTING STRUCTURE

- No Existing Structure
- Revetment Riprap
- Sodding

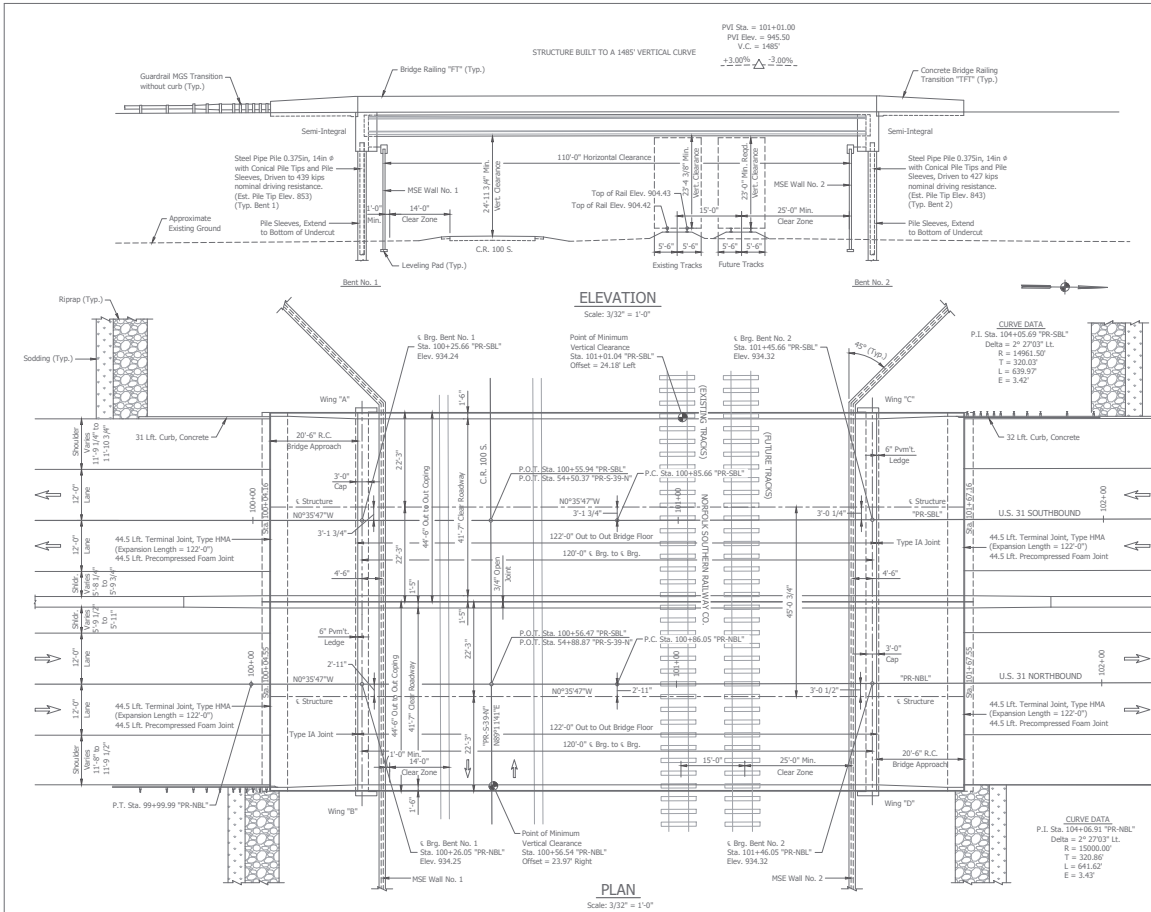
CURVE DATA
 P.I. Sta. 101+05.59 Line "PR-SBL"
 Delta = 272.70° LL
 R = 14961.50'
 T = 303.03'
 L = 639.97'
 E = 2.42'
 SE = N/A

CURVE DATA
 P.I. Sta. 101+06.31 Line "PR-NBL"
 Delta = 272.70° LL
 R = 15000.00'
 T = 303.89'
 L = 641.62'
 E = 2.43'
 SE = N/A

NOTES:
 All R/W & Existing Topo described from Line "N".
 Line "PR-NBL" & Line "PR-SBL" to be constructed.
 See Sheet No. 7 for Reference Ties.

**TWIN STRUCTURES
 HYBRID COMPOSITE PRESTRESSED CONCRETE
 BULB-TEE BEAM BRIDGE
 SINGLE SPAN: 120'-0", NO SKEW,
 41'-7" CLEAR ROADWAYS
 U.S. 31 OVER NORFOLK SOUTHERN RAILROAD
 & COUNTY ROAD 100 S
 TIPTON COUNTY**

<p>DESIGNED: MAR CHECKED: JBS</p>	<p>DRAWN: ISI CHECKED: MAR</p>	<p>DESIGN ENGINEER: DATE DESIGNER: DATE</p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p>	<p>HORIZONTAL SCALE 1" = 30' VERTICAL SCALE 1" = 10'</p>	<p>BRIDGE FILE 031-03-021807 REL & SBL DESIGNATION 150421 (NB) / 1501388 (SB)</p>
<p>UNITED Consulting 8440 Allison Pointe Boulevard, Suite 200 Indianapolis, IN 46250 Phone 317-895-2585 www.unity.com</p>			<p>LAYOUT US 31 OVER NS RAILROAD & CR100S</p>		<p>SURVEY BOOK B-29052</p>



GENERAL NOTES

Reinforcing steel covering shall be 2-1/2" in top and 1" min. in bottom of floor slabs, and 2" in all other parts, unless noted.

Surface and top of bridge deck, all surfaces of concrete railing, railing transitions, face of deck coping and underside of deck from outside edge to flange of exterior beams, approach slabs and all exposed surfaces of end bents. (Estimated Qty. = 8,740 sq. ft.)

DESIGN DATA

Live Load: Superstructure and Substructure designed for HL-93 Loading, in accordance with the ASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017, and its Subsequent Interims.

Dead Load: Actual loads plus 35 psf allowance for future wearing surfaces and additional 15 psf for permanent metal items.

Floor slab designed with a 7.5 inch structural depth and a 0.5 in integral wearing surface.

CONSTRUCTION LOADING

The exterior girder has been checked for strength, deflection, and overturning under the construction loads shown below. Cantilever overhang brackets were assumed for support of the deck overhang past the edge of the exterior girder. The finishing machine was assumed to be supported 6 in. past the outside of the vertical coping form. The top overhang brackets were assumed to be located 6 in. past the edge of the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the girder bottom flange and web.

Deck Formwork Loads: Designed for 15 lb/ft² for permanent metal stay-in-place deck forms, removable deck forms, and 2-ft exterior walkway

Construction Live Load: Designed for 20 lb/ft² extending 2-ft past the edge of coping and 75 lb/ft vertical force applied at a distance of 6 in. outside the face of coping over a 20-ft length of the deck centered with the finishing machine

Finishing-Machine Load: 4500 lb distributed over 10 ft along the coping

Wind Load: Designed for 70 mph horizontal wind loading in accordance with LRFD 3.8.1

SEISMIC DESIGN DATA

Seismic Performance Zone 1
 Acceleration Coefficient = 0.059
 Seismic Soil Profile Type Site Class D

UNIT STRESSES

Class "A" Concrete $f_c = 3,500$ p.s.i.
 Class "B" Concrete $f_c = 3,000$ p.s.i.
 Class "C" Concrete $f_c = 4,000$ p.s.i.
 Reinforcing Steel (Grade 60) $f_y = 60,000$ p.s.i.

TWIN STRUCTURES
 HYBRID COMPOSITE PRESTRESSED CONCRETE
 BULB-TEE BEAM BRIDGE
 SINGLE SPAN: 120'-0", NO SKEW,
 41'-7" CLEAR ROADWAYS
 U.S. 31 OVER NORFOLK SOUTHERN RAILROAD
 & COUNTY ROAD 100 S
 TIPTON COUNTY

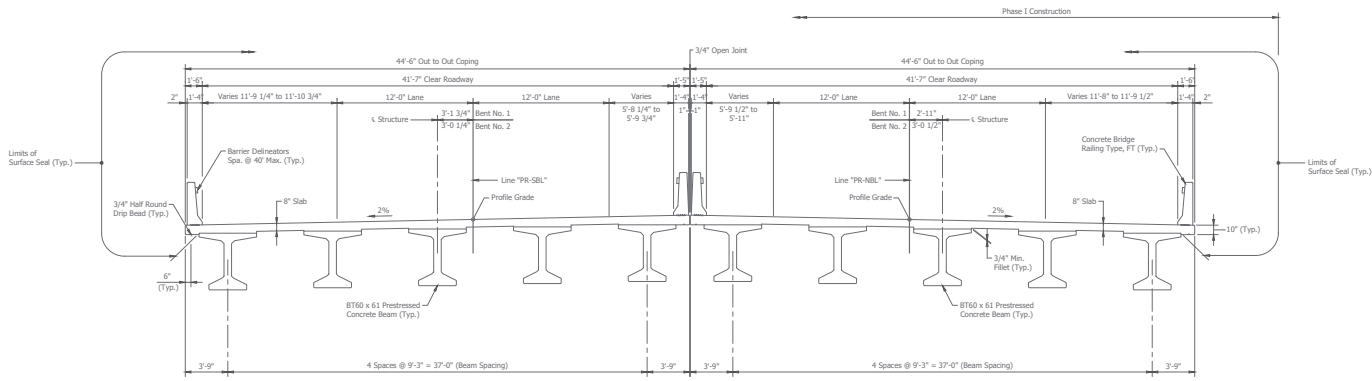


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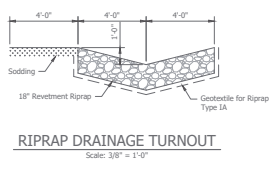
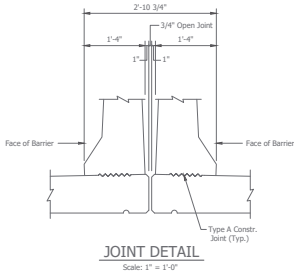
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DESIGNED: NAR	DRAWN: DJZ	
CHECKED: JES	CHECKED: NAR	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 GENERAL PLAN
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NBL) / 1901368 (SBL)
SURVEY BOOK	SHEETS
	85 of 155
CONTRACT	PROJECT
B-39052	1592421



TYPICAL SECTION
Scale: 1/4" = 1'-0"



TWIN STRUCTURES
HYBRID COMPOSITE PRESTRESSED CONCRETE
BULB-TEE BEAM BRIDGE
SINGLE SPAN: 120'-0", NO SKEW,
41'-7" CLEAR ROADWAYS
U.S. 31 OVER NORFOLK SOUTHERN RAILROAD
& COUNTY ROAD 100 S
TIPTON COUNTY

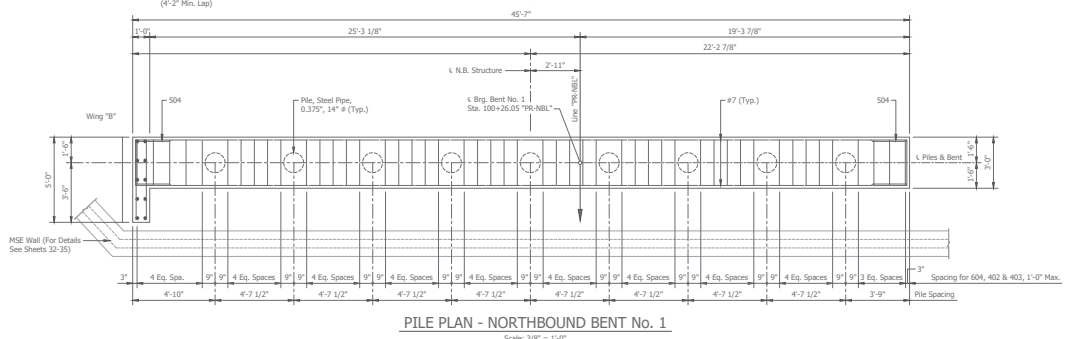
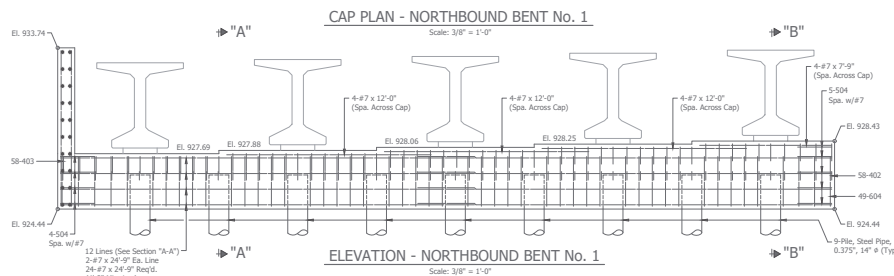
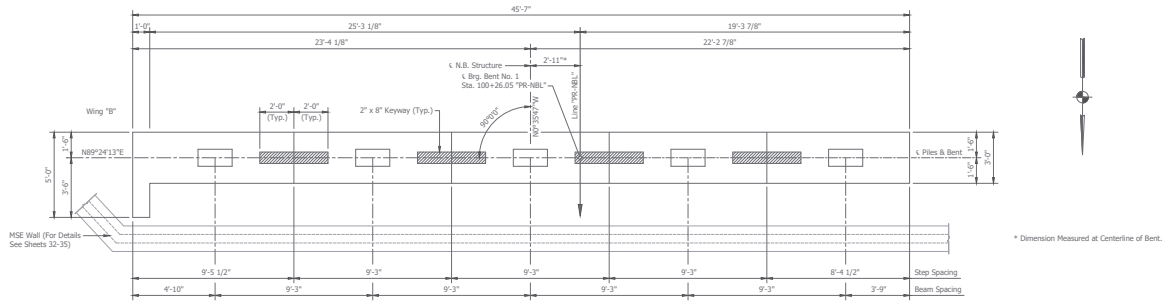
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CHECKED: <u>JES</u>	CHECKED: <u>NAR</u>	

INDIANA
DEPARTMENT OF TRANSPORTATION
GENERAL PLAN
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	86 of 155
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\BR\CD\15-217\Bridges\Drawings\Plan\Drawings\15-217-0101.dwg Plot Date: 6/26/2010 10:00 AM Plotted By: Rich Jones



NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 85.
For Additional End Bent Details, see sheets 88-91.



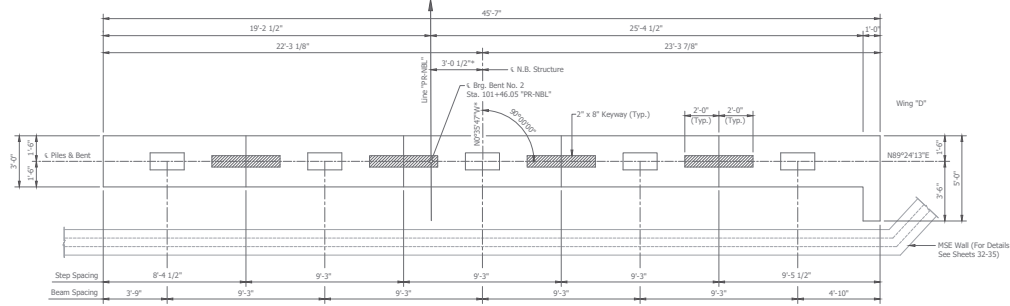
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	GATE
DESIGNED: NAR	DRAWN: RSD	
CHECKED: BOS	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
END BENT DETAILS
US 31 OVER NS RAILROAD & CR100S

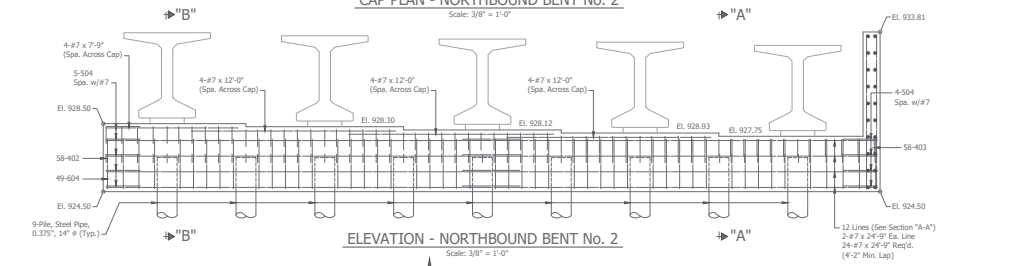
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VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1301368 (58)
SURVEY BOOK	87	SHEETS	155
CONTRACT	B-38652	PROJECT	1592421

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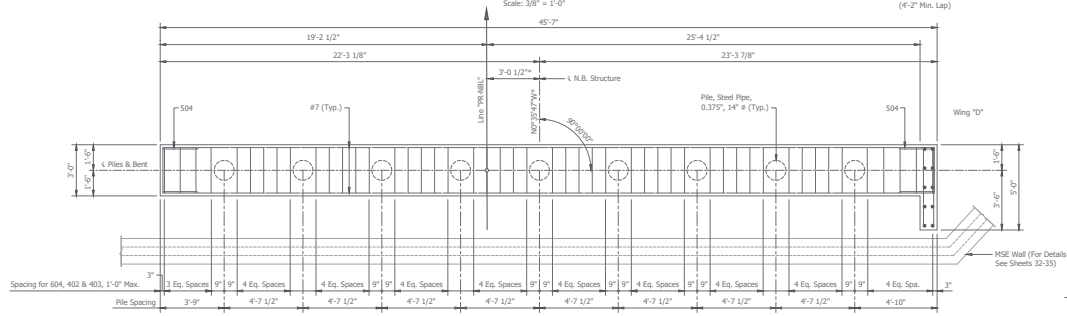
CAP PLAN - NORTHBOUND BENT No. 2

Scale: 3/8" = 1'-0"



ELEVATION - NORTHBOUND BENT No. 2

Scale: 3/8" = 1'-0"



PILE PLAN - NORTHBOUND BENT No. 2

Scale: 3/8" = 1'-0"

NOTES:
 ALL REINFORCING TO BE EPOXY COATED.
 For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
 For General Notes, see sheet 85.
 For Additional End Bent Details, see sheets 87 & 89-91.



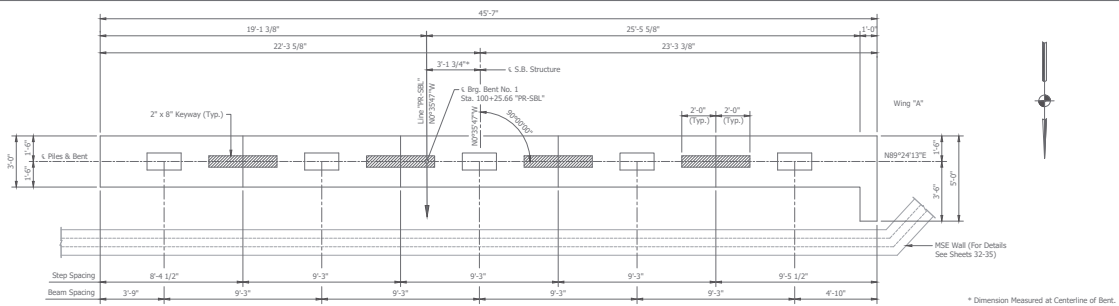
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 Phone 317-895-2585
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	GATE
DESIGNED: NAR	DRAWN: RSD	
CHECKED: JDS	CHECKED: NAR	

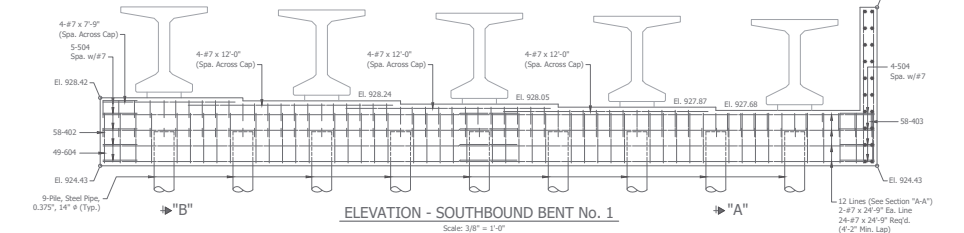
INDIANA
 DEPARTMENT OF TRANSPORTATION
 END BENT DETAILS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1301368 (58)
SURVEY BOOK		SHEETS	88 of 155
CONTRACT	B-38652	PROJECT	1592421

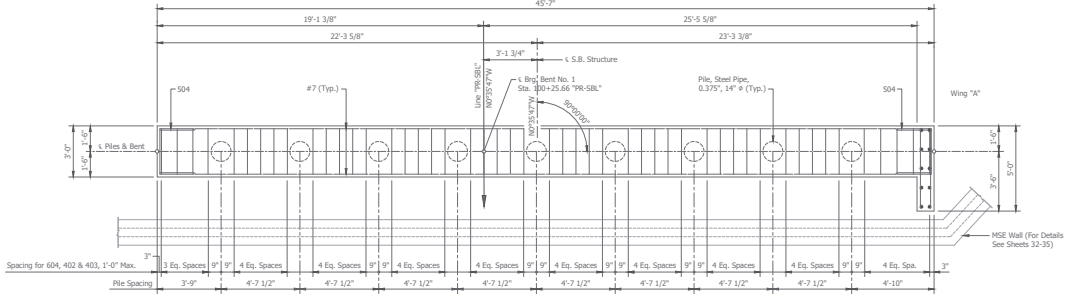
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CAP PLAN - SOUTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"



ELEVATION - SOUTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"



PILE PLAN - SOUTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"

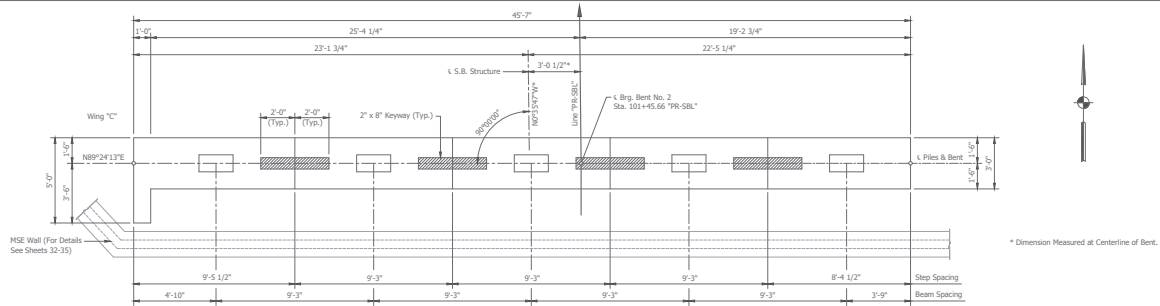
NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 85.
For Additional End Bent Details, see sheets 87-88 & 90-91.

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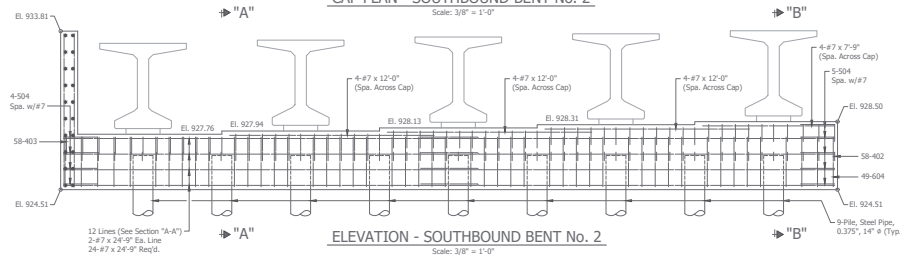
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DESIGNED: NAR	DRAWN: RSD	
CHECKED: BOS	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
END BENT DETAILS
US 31 OVER NS RAILROAD & CR100S

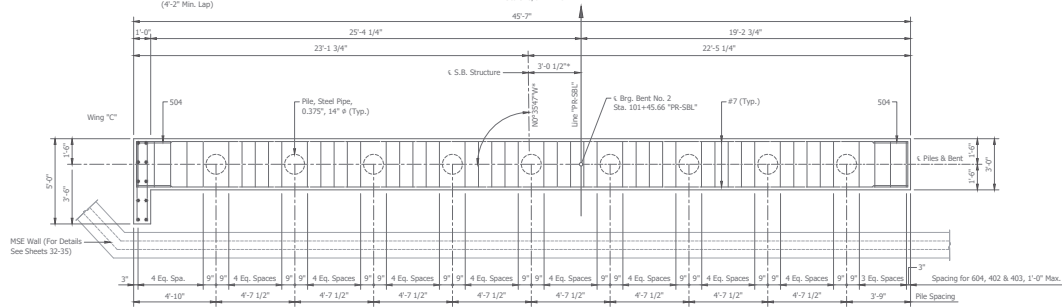
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VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (78) / 1591368 (58)
SURVEY BOOK	SHEETS
	89 of 155
CONTRACT	PROJECT
B-3862	1592421



CAP PLAN - SOUTHBOUND BENT No. 2
Scale: 3/8" = 1'-0"



ELEVATION - SOUTHBOUND BENT No. 2
Scale: 3/8" = 1'-0"



PILE PLAN - SOUTHBOUND BENT No. 2
Scale: 3/8" = 1'-0"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 85.
For Additional Bent Details, see sheets 87-89 & 91.

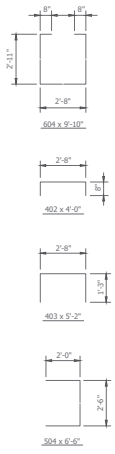
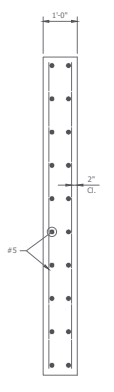
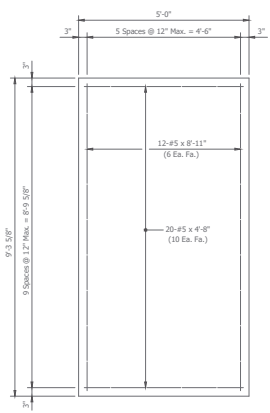
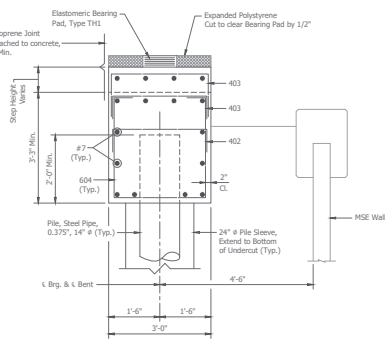
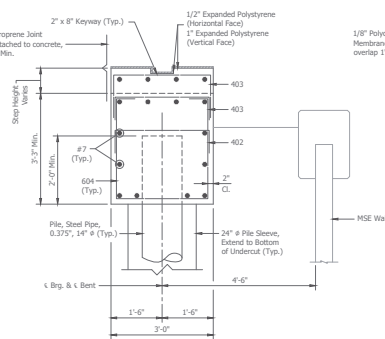
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DESIGN ENGINEER	DATE
DESIGNED: NAR	DRAWN: RSD
CHECKED: JMS	CHECKED: NAR

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DEPARTMENT OF TRANSPORTATION

END BENT DETAILS
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE AS NOTED	BRIDGE FILE 031-80-02807 N&L & S&L
VERTICAL SCALE AS NOTED	DESIGNATION 1592421 (785) / 1591368 (58)
SURVEY BOOK	SHEETS
90	of 155
CONTRACT B-38652	PROJECT 1592421



BILL OF MATERIALS
BENT No. 1 (NORTHBOUND)

EPOXY COATED REINFORCING BARS			
Size or Mark	No. of Bars	Length	Weight (lbs.)
#7	24	24'-9"	
#7	12	12'-0"	
#7	4	7'-9"	
Total #7			1,572
604	49	9'-10"	
Total #6			724
504	9	6'-8"	
#5	12	9'-0"	
#5	20	4'-8"	
Total #5			270
402	58	4'-0"	
403	58	5'-2"	
Total #4			355
Total Epoxy Coated Reinforcing			2,921
CONCRETE			
Concrete, C, Substructure	20.0 Cys.		
MISCELLANEOUS			
Pile, Steel Pipe, 0.375", 14" ø	592 LB.		
8 @ 74"			
Test Pile, Dynamic, Production	84 LB.		
Test Pile, Dynamic, Restrike	1 Ea.		
Dynamic, Pile Load Test	1 Ea.		
Conical Pile Tips, 14 in.	9 Ea.		

BILL OF MATERIALS
BENT No. 1 (SOUTHBOUND)

EPOXY COATED REINFORCING BARS			
Size or Mark	No. of Bars	Length	Weight (lbs.)
#7	24	24'-9"	
#7	12	12'-0"	
#7	4	7'-9"	
Total #7			1,572
604	49	9'-10"	
Total #6			724
504	9	6'-8"	
#5	12	9'-0"	
#5	20	4'-8"	
Total #5			270
402	58	4'-0"	
403	58	5'-2"	
Total #4			355
Total Epoxy Coated Reinforcing			2,921
CONCRETE			
Concrete, C, Substructure	20.0 Cys.		
MISCELLANEOUS			
Pile, Steel Pipe, 0.375", 14" ø	592 LB.		
8 @ 74"			
Test Pile, Dynamic, Production	84 LB.		
Test Pile, Dynamic, Restrike	1 Ea.		
Dynamic, Pile Load Test	1 Ea.		
Conical Pile Tips, 14 in.	9 Ea.		

BILL OF MATERIALS
BENT No. 2 (NORTHBOUND)

EPOXY COATED REINFORCING BARS			
Size or Mark	No. of Bars	Length	Weight (lbs.)
#7	24	24'-9"	
#7	12	12'-0"	
#7	4	7'-9"	
Total #7			1,572
604	49	9'-10"	
Total #6			724
504	9	0'-8"	
#5	12	9'-0"	
#5	20	4'-8"	
Total #5			270
402	58	4'-0"	
403	58	5'-2"	
Total #4			355
Total Epoxy Coated Reinforcing			2,921
CONCRETE			
Concrete, C, Substructure	20.0 Cys.		
MISCELLANEOUS			
Pile, Steel Pipe, 0.375", 14" ø	672 LB.		
8 @ 84"			
Test Pile, Dynamic, Production	94 LB.		
Dynamic Pile Load Test	1 Ea.		
Test Pile, Dynamic, Restrike	1 Ea.		
Conical Pile Tips, 14 in.	9 Ea.		

BILL OF MATERIALS
BENT No. 2 (SOUTHBOUND)

EPOXY COATED REINFORCING BARS			
Size or Mark	No. of Bars	Length	Weight (lbs.)
#7	24	24'-9"	
#7	12	12'-0"	
#7	4	7'-9"	
Total #7			1,572
604	49	9'-10"	
Total #6			724
504	9	0'-8"	
#5	12	9'-0"	
#5	20	4'-8"	
Total #5			270
402	58	4'-0"	
403	58	5'-2"	
Total #4			355
Total Epoxy Coated Reinforcing			2,921
CONCRETE			
Concrete, C, Substructure	20.0 Cys.		
MISCELLANEOUS			
Pile, Steel Pipe, 0.375", 14" ø	672 LB.		
8 @ 84"			
Test Pile, Dynamic, Production	94 LB.		
Dynamic Pile Load Test	1 Ea.		
Test Pile, Dynamic, Restrike	1 Ea.		
Conical Pile Tips, 14 in.	9 Ea.		

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet S5.
For Additional End Bent Details, see sheets 87-90.

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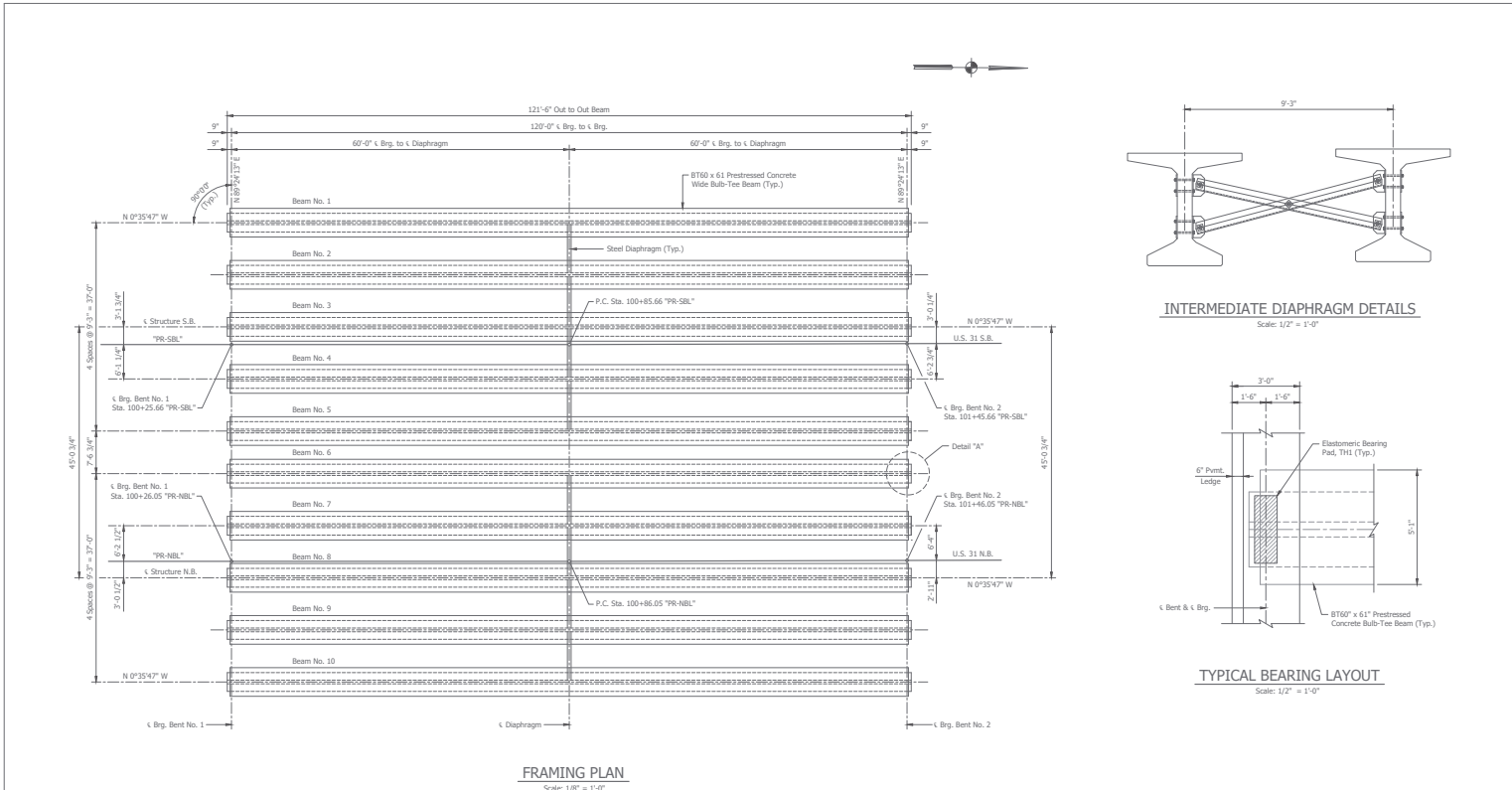
RECOMMENDED FOR APPROVAL

DESIGNED: NAR	DRAWN: RSD
CHECKED: JDS	CHECKED: NAR

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DEPARTMENT OF TRANSPORTATION

END BENT DETAILS
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BROCK FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1301368 (58)
SURVEY BOOK		SHEETS	91 of 155
CONTRACT	B-33652	PROJECT	1592421



FRAMING PLAN
Scale: 1/8" = 1'-0"

INTERMEDIATE DIAPHRAGM DETAILS
Scale: 1/2" = 1'-0"

TYPICAL BEARING LAYOUT
Scale: 1/2" = 1'-0"

NOTES:
 For General Notes, see sheet 85.
 For Additional Beam Details, see sheets 93-95.
 For Reinforcing Bar Notes, see Std. Dwg. E707-BASCT-01.
 For Steel Diaphragm Details, see Std. Dwg. E707-SOPC-05 & 06.
 For Fabrication Tolerances, see Std. Dwg. 707-BRFB-03 & 04.

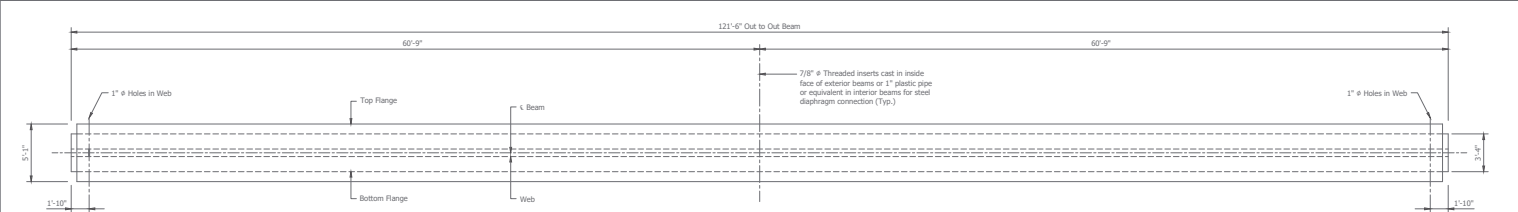


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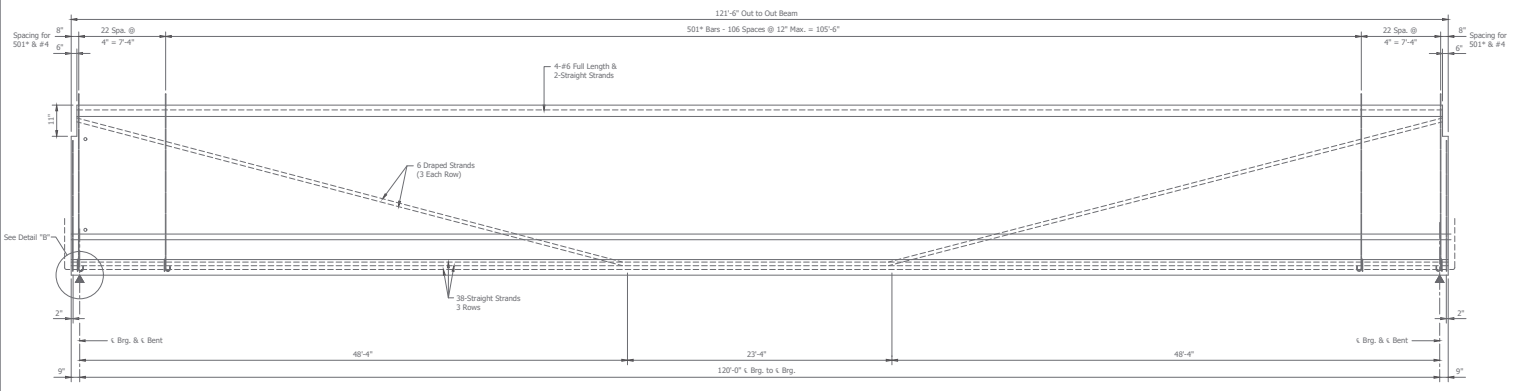
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MAR	DRAWN: JBK	
CHECKED: JES	CHECKED: MAR	

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 FRAMING PLAN
 US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	COORDINATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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TYPICAL BEAM - PLAN
NORTHBOUND & SOUTHBOUND
Scale: 1/4" = 1'-0"



TYPICAL BEAM - ELEVATION
NORTHBOUND & SOUTHBOUND
Scale: 1/4" = 1'-0" Horiz.
Scale: 3/4" = 1'-0" Vert.

BEAM GENERAL NOTES

Top of beams to be scored transversely at about 3" on center with a pointed tool. (Maximum depth of scoring is 1/4").

The beam manufacturer shall furnish the engineer, through the contractor, shop drawings for approval prior to the casting of the beams.

Beams to be supported at bearing points while stored and while transporting to the job site. Adequate bracing must be provided at all times during storage, transporting, and lifting to resist lateral loads.

Several lifting devices are satisfactory. Type used must be guaranteed by the beam manufacturer and approved by the engineer on the shop drawings.

Beams shall be maintained vertically at all times. Suitable restraint shall be provided to prevent the rotation of the outside beams from construction loads such as finishing machine, forms, etc.

The beams shall be cast a minimum of 90 days before the deck is poured.

An allowance shall be made in beam length for elastic shortening and grade by the fabricator.

Surface seal on outside face of exterior beam shall be applied by fabricator in the shop.

All reinforcing steel extended in to the deck shall be Epoxy Coated.

Bridge seat elevations were calculated using design camber and dead load deflection of the slab (residual camber) with the top of the beam a minimum of 3/4" below the bottom of slab elevation.

BEAM CAMBER @ MIDSPAN

Anticipated Beam Camber	3.973"
Dead Load Deflection	-1.958"
Residual Camber	2.015"

NOTES:

The camber values as shown in the above table are expected values. If the actual camber as erected is different by 1" or more, the Contractor shall notify the Engineer immediately so that adjustments can be made.

Anticipated beam camber is the upward deflection from pre-stressing forces at the time of erection minus the downward deflection from the dead load of the beam.

BEAM DESIGN DATA

Prestressed Strands: 0.6" ϕ uncoated low-relaxation seven-wire strand (Area = 0.217 sq. in.) with an ultimate tensile strength of 270 ksi.

Reinforcing Steel: $f_y = 60$ ksi.
 $f_c = 6.5$ ksi (at release)
 $f_c = 8.0$ ksi (28 day strength)

Steel Plate: A36

Initial Pull Per Strand: 43,900 lbs./strand

Total Hold Down Force: 21.3 kips

NOTES:

For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.

For General Notes, see sheet 85.

For Framing Plan Details, see sheet 92.

For Additional Beam Details, see sheets 93-95.

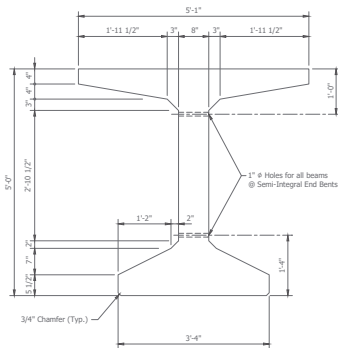


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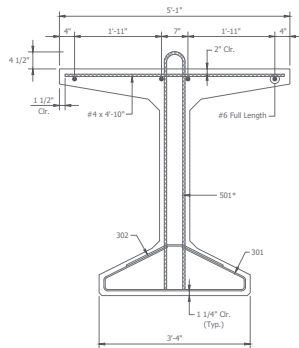
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DESIGNED: NAR	DRAWN: JRK	
CHECKED: JES	CHECKED: NAR	

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BEAM DETAILS
US 31 OVER NS RAILROAD & CR100S

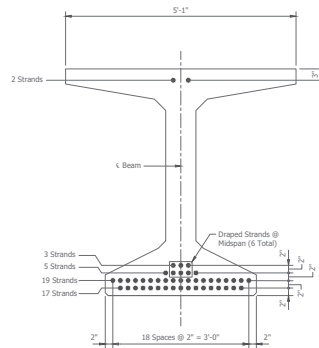
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AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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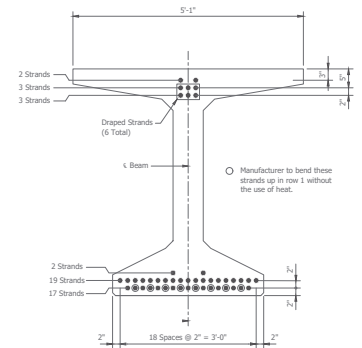
TYPICAL BEAM SECTION
Scale: 1" = 1'-0"



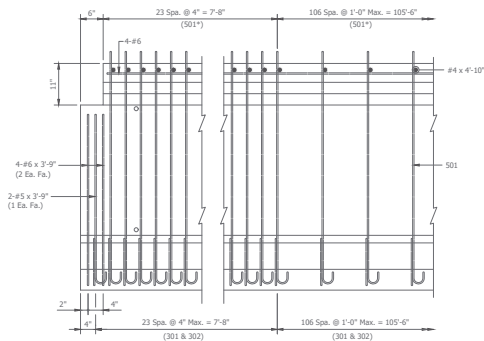
TYPICAL REINFORCEMENT
Scale: 1" = 1'-0"



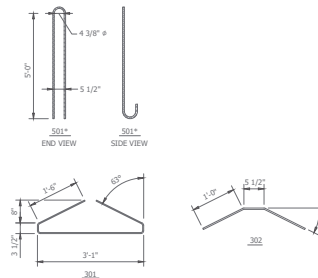
SECTION @ MIDSPAN
Scale: 1" = 1'-0"



SECTION @ BEAM END
Scale: 1" = 1'-0"



BEAM END DETAIL
Scale: 1" = 1'-0"



REINFORCING BAR DETAILS
No Scale:

NOTES:
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 85.
For Framing Plan Details, see Sheet 92.
For Additional Beam Details, see sheets 93 & 95.

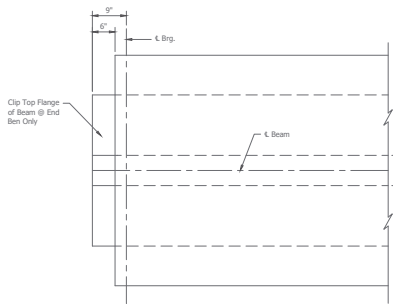


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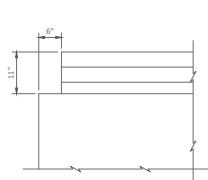
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DESIGNED: <u>NAR</u>	DRAWN: <u>JRK</u>	
CHECKED: <u>JES</u>	CHECKED: <u>NAR</u>	

INDIANA
DEPARTMENT OF TRANSPORTATION
BEAM DETAILS
US 31 OVER NS RAILROAD & CR100S

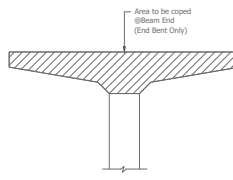
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AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	CONTRACT
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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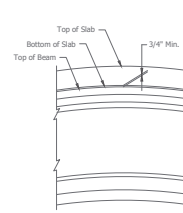
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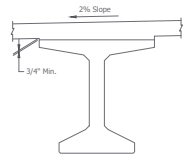
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END



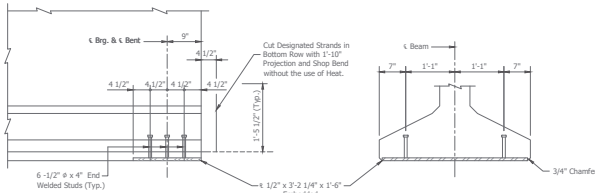
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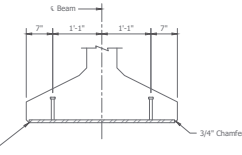
SECTION

DETAIL "A"
Scale: 1" = 1'-0"

FILLET DETAILS
Scale: 1/2" = 1'-0"

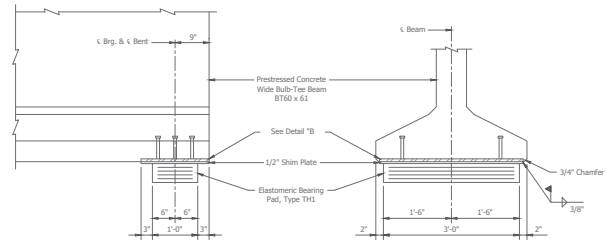


ELEVATION @ BENT



END @ BENT

DETAIL "B"
Scale: 1" = 1'-0"



SIDE VIEW

END VIEW

BEARING ASSEMBLY DETAILS
Scale: 1" = 1'-0"

NOTES:
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 92.
For Framing Plan Details, see Sheet 92.
For Additional Beam Details, see sheets 93-94.

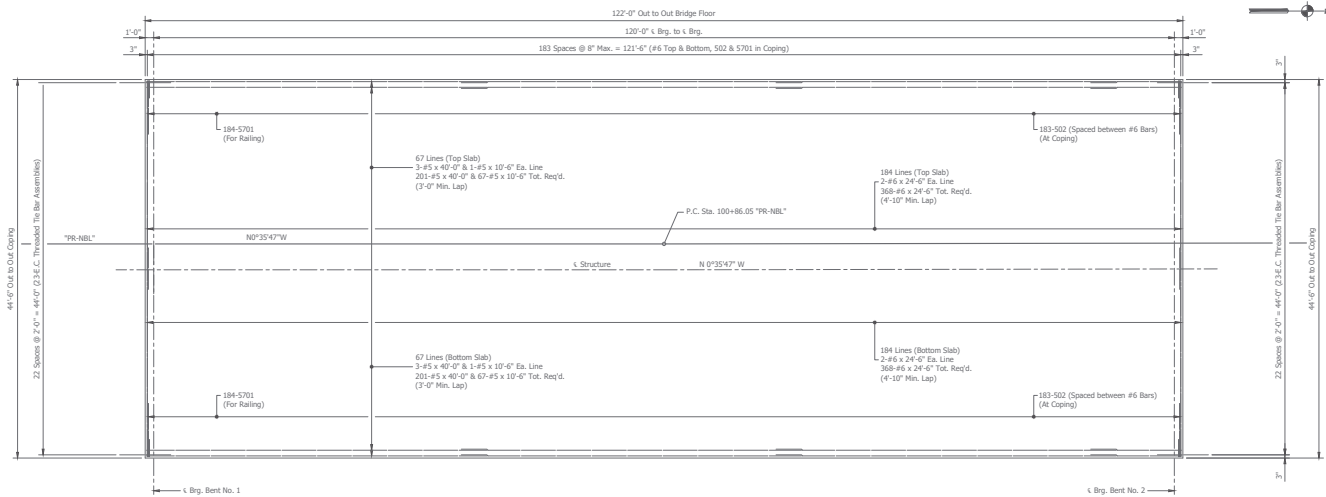


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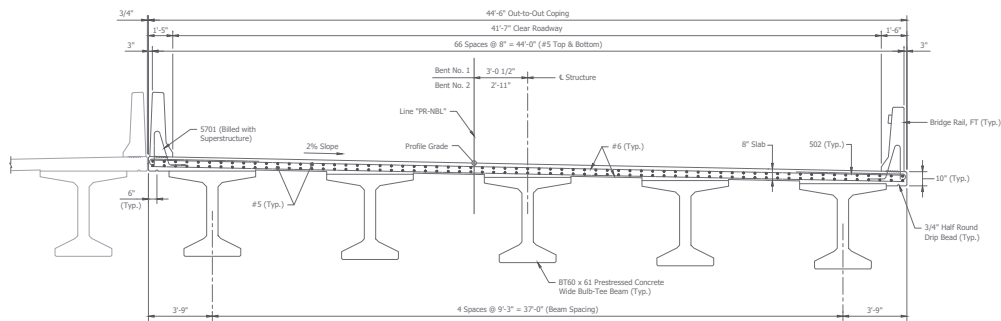
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NAR	DRAWN: JOK	
CHECKED: JES	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
BEAM DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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DECK PLAN - NORTHBOUND
Scale: 3/16" = 1'-0"



TYPICAL SECTION - NORTHBOUND
Scale: 3/8" = 1'-0"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet S5.
For Additional Superstructure Details, see sheets 97-102.

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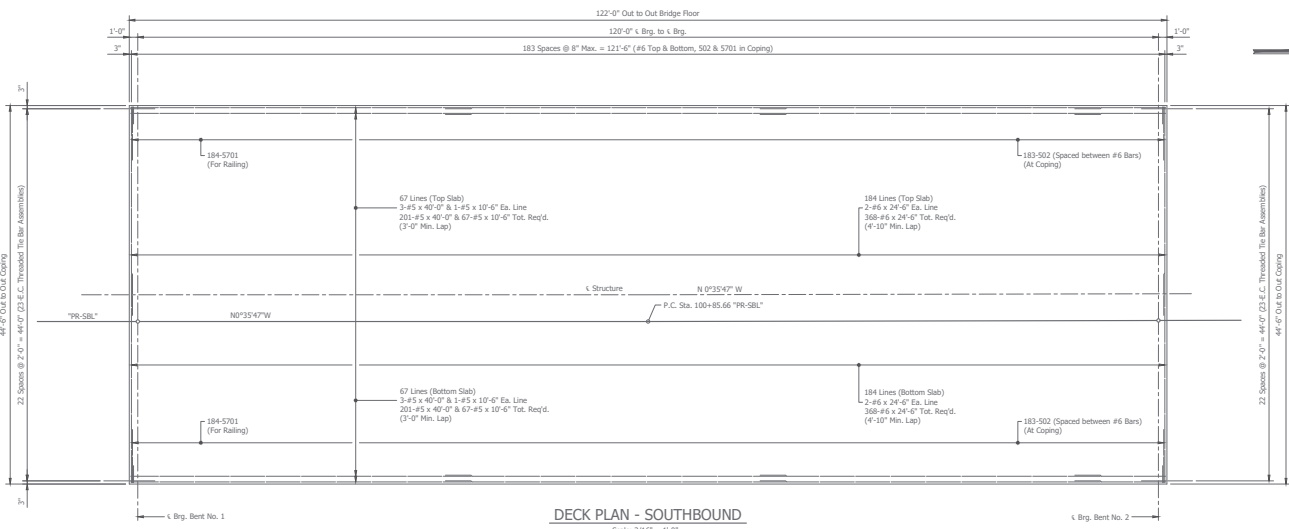


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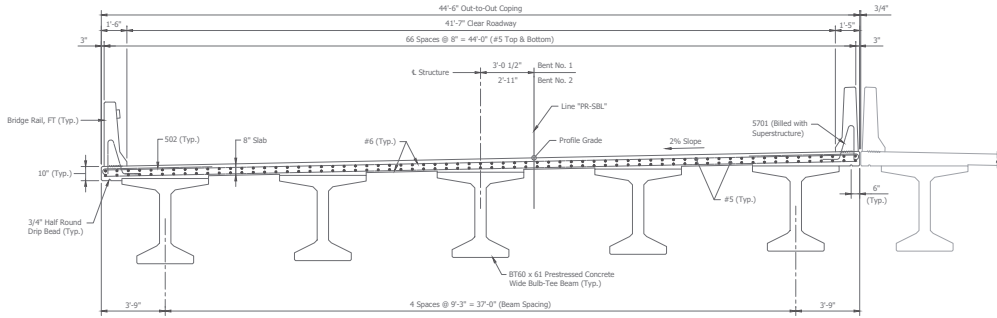
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	GATE
DESIGNED: NAR	DRAWN: RSD	
CHECKED: JDS	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1591368 (58)
SURVEY BOOK	96	SHEETS	155
CONTRACT	B-39652	PROJECT	1592421



DECK PLAN - SOUTHBOUND
Scale: 3/16" = 1'-0"



TYPICAL SECTION - SOUTHBOUND
Scale: 3/8" = 1'-0"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-8RST-01.
For General Notes, see sheet 92.
For Additional Superstructure Details, see sheets 96 & 99-102.

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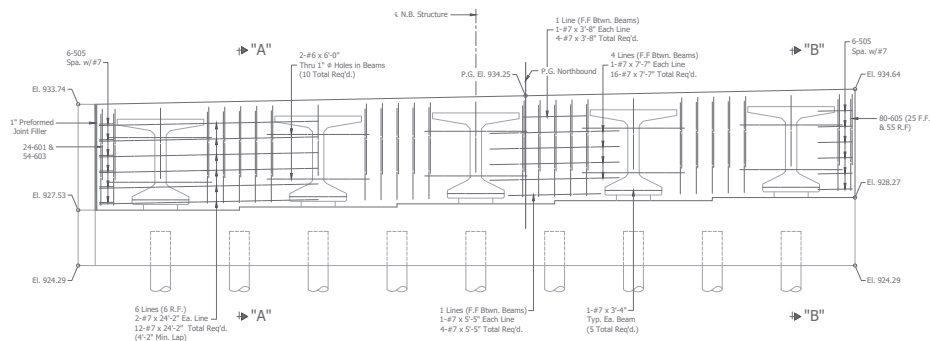
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CHECKED: BOS	CHECKED: NAR	

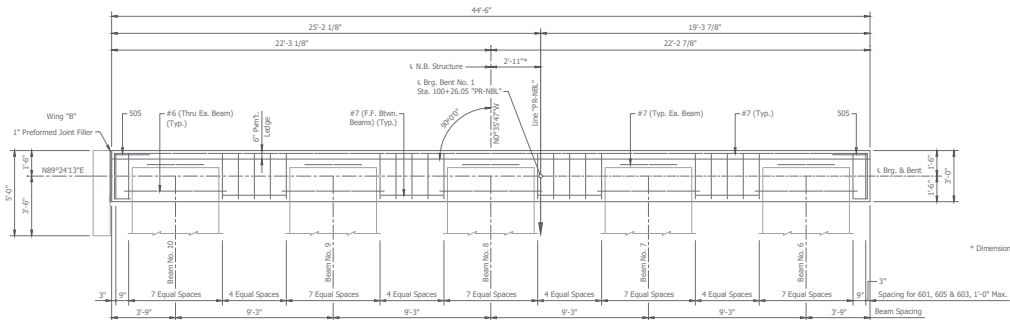
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SUPERSTRUCTURE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1501368 (58)
SURVEY BOOK	97	SHEETS	155
CONTRACT	B-39652	PROJECT	1592421

File Name: P:\BRG\CD\15-217\Bridg\Draw\Plan\Super.dwg Plot Date: 6/25/2010 Plotted By: Rich Jones



ELEVATION - NORTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"



CAP PLAN - NORTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 85.
For Additional Superstructure Details, see sheets 96-97 & 99-102.

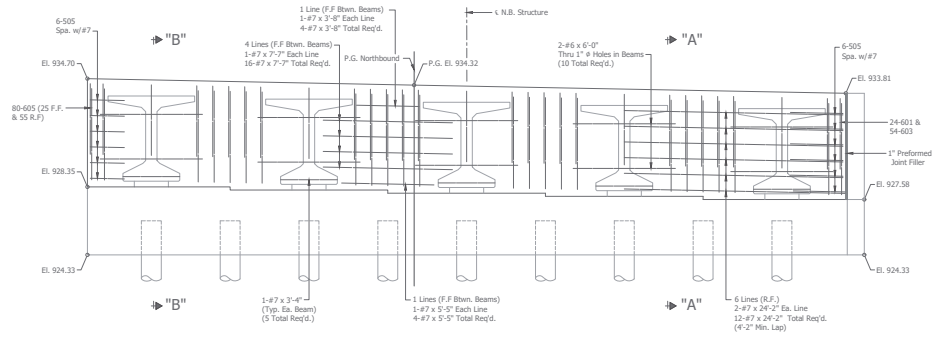


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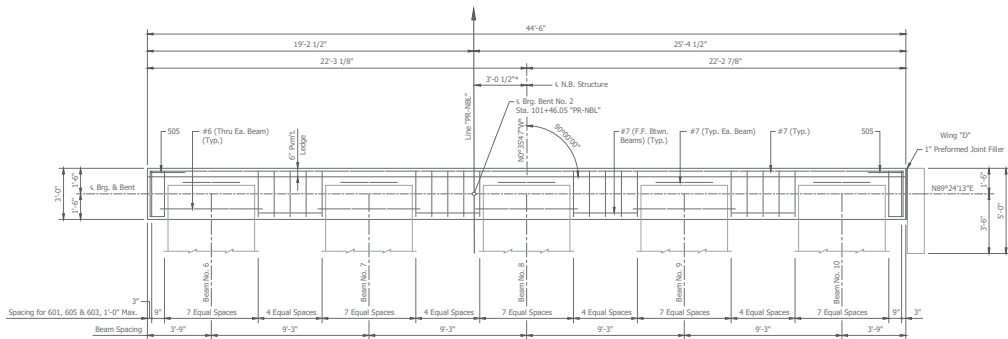
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DESIGNED: NAR	DRAWN: RSD	
CHECKED: JDS	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	98 of 155
CONTRACT	PROJECT
B-38652	1592421



ELEVATION - NORTH BENT No. 2
Scale: 3/8" = 1'-0"



CAP PLAN - NORTHBOUND BENT No. 2
Scale: 3/8" = 1'-0"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 85.
For Additional Superstructure Details, see sheets 96-98 & 100-102.

File Name: P:\BR\CD\15-217\Bridges\Drawings\Super\Drawings\15-217 Bridge\Drawings\Super\Drawings\15-217 Bridge.dwg (Printed Super) Plot Date: 4/28/2010 10:00 AM By: Rich Jones



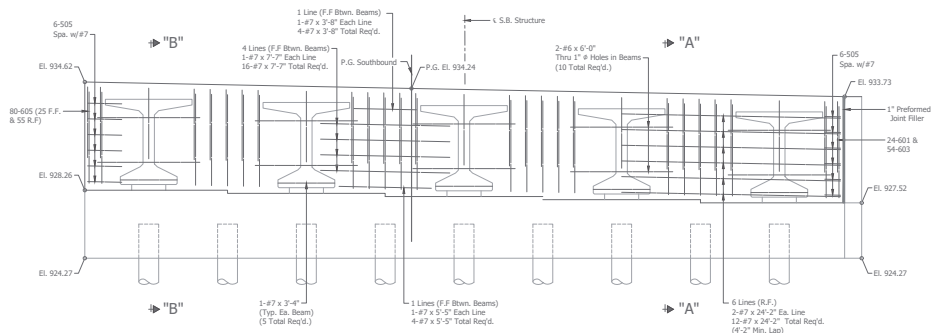
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DESIGNED: NAR	DRAWN: RSD	
CHECKED: JES	CHECKED: NAR	

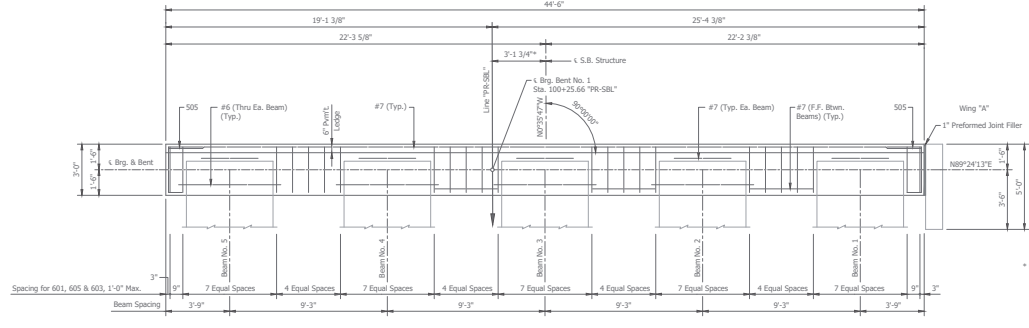
INDIANA
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (78) / 1591358 (58)
SURVEY BOOK	SHEETS
	99 of 155
CONTRACT	PROJECT
B-38652	1592421

File Name: P:\BRG\CDD\16-217\Bridg\Draw\Plan\Super.dwg Plot Date: 6/24/2010 Plotted By: Rich Jones



ELEVATION - SOUTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"



CAP PLAN - SOUTHBOUND BENT No. 1
Scale: 3/8" = 1'-0"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 05.
For Additional Superstructure Details, see sheets 96-99 & 101-102.

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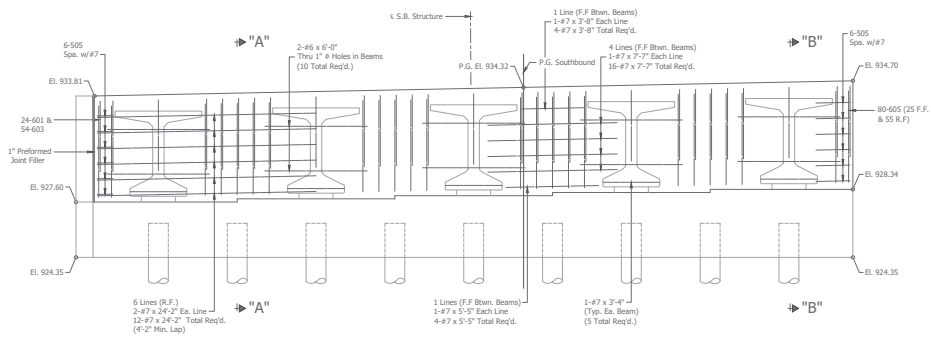
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	GATE
DESIGNED: NAR	DRAWN: RSD	
CHECKED: BOS	CHECKED: NAR	

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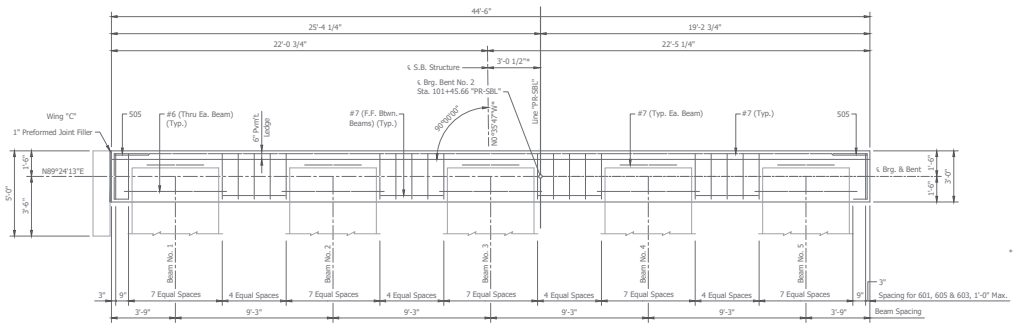
SUPERSTRUCTURE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-C2807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (78) / 1901368 (58)
SURVEY BOOK	SHEETS
100	1 of 1 155
CONTRACT	PROJECT
B-38652	1592421

File Name: P:\BRCC\2015\217\Bridges\Drawings\Super\Drawings\150217\150217_Super.dwg Plot Date: 4/26/2020 Plotted By: Rich Jones



ELEVATION - SOUTHBOUND BENT No. 2
Scale: 3/8" = 1'-0"



CAP PLAN - SOUTHBOUND BENT No. 2
Scale: 3/8" = 1'-0"

* Dimension Measured at Centerline of Bent.

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For General Notes, see sheet 05.
For Additional Superstructure Details, see sheets 96-100 & 102.

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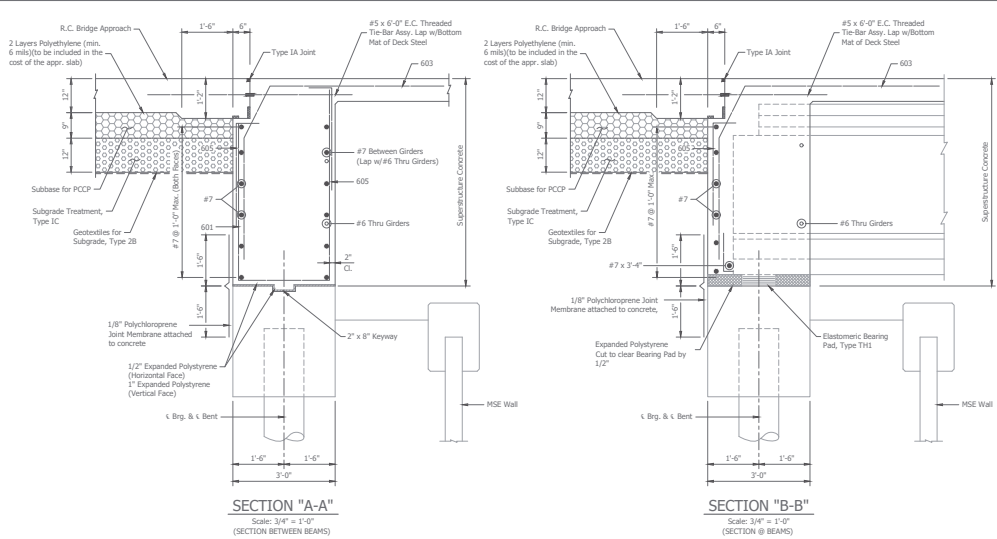
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CHECKED: JES	CHECKED: NAR	

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DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-C0807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (78) / 1901368 (58)
SURVEY BOOK	SHEETS
101	1 of 1 155
CONTRACT	PROJECT
B-39652	1592421



BILL OF MATERIALS

SUPERSTRUCTURE (NORTHBOUND)

Size or Mark	No. of Bars	Length	Weight (lbs)
#7	24	24'-2"	
#7	32	7'-7"	
#7	8	5'-5"	
#7	8	3'-8"	
#7	10	3'-4"	
Total #7			1,898
#603	48	13'-0"	
#603	108	11'-5"	
#605	160	3'-8"	
#6	736	24'-6"	
#6	20	6'-0"	
Total #6			30,935
#502	368	6'-10"	
#505	24	5'-6"	
#701	368	5'-8"	
#5	492	49'-0"	
#5	134	10'-6"	
Total #5			20,414
Total E.C. Reinforcing Bars			53,247

CONCRETE	
Concrete, C, Superstructure	212 Cys.
Structural Member, Concrete, Bulb-T Beam, 60 in. x 61 in.	607.50 Lft.

MISCELLANEOUS	
#5 E.C. Threaded Tie Bar Assy.	46 Ea.

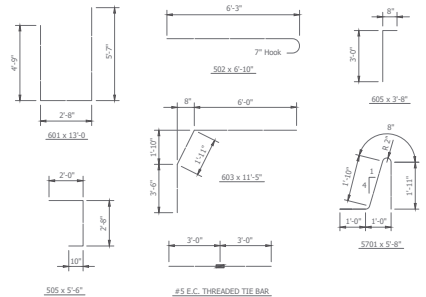
BILL OF MATERIALS

SUPERSTRUCTURE (SOUTHBOUND)

Size or Mark	No. of Bars	Length	Weight (lbs)
#7	24	24'-2"	
#7	32	7'-7"	
#7	8	5'-5"	
#7	8	3'-8"	
#7	10	3'-4"	
Total #7			1,898
#601	48	13'-0"	
#603	108	11'-5"	
#605	160	3'-8"	
#6	736	24'-6"	
#6	20	6'-0"	
Total #6			30,935
#502	368	6'-10"	
#505	24	5'-6"	
#701	368	5'-8"	
#5	492	49'-0"	
#5	134	10'-6"	
Total #5			20,414
Total E.C. Reinforcing Bars			53,247

CONCRETE	
Concrete, C, Superstructure	212 Cys.
Structural Member, Concrete, Bulb-T Beam, 60 in. x 61 in.	607.50 Lft.

MISCELLANEOUS	
#5 E.C. Threaded Tie Bar Assy.	46 Ea.



BAR BENDING DETAILS

No Scale

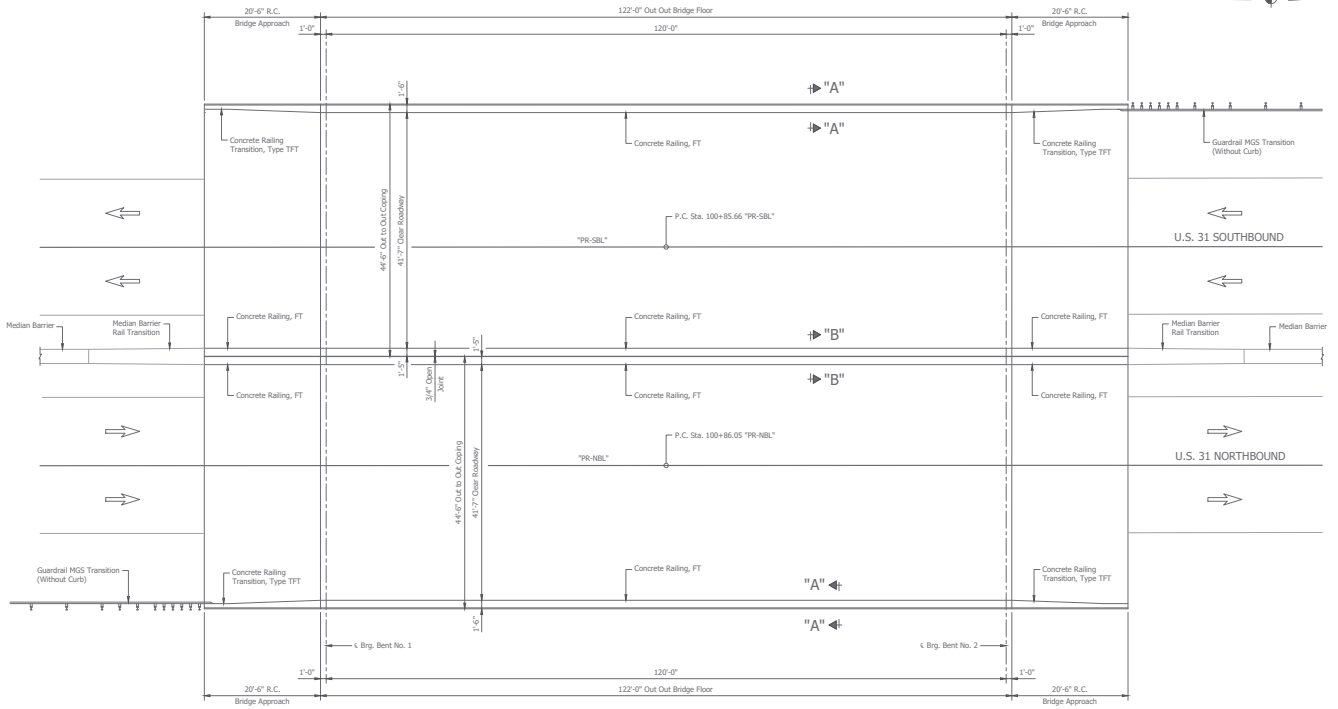
NOTES:
 ALL REINFORCING TO BE EPOXY COATED.
 For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
 For General Notes, see sheet 95.
 For Additional Superstructure Details, see sheets 96-101.

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CHECKED: JDS	CHECKED: NAR	

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 SUPERSTRUCTURE DETAILS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1301368 (58)
SURVEY BOOK		SHEETS	102 of 155
CONTRACT	B-39652	PROJECT	1592421



RAILING - PLAN
Scale: 3/8" = 1'-0"

NOTES:
 ALL REINFORCING TO BE EPOXY COATED.
 For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
 For Concrete Bridge Railing Transition TFT, see Std. Dwg. E706-TFTT-01 thru 03.
 For General Notes, see sheet 62.
 For Additional Railing Details, see sheets 101-102.

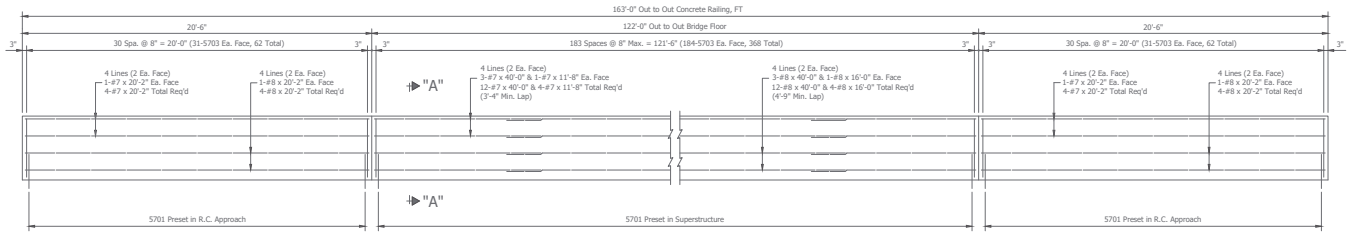


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CHECKED: <u>JES</u>	CHECKED: <u>MAR</u>	

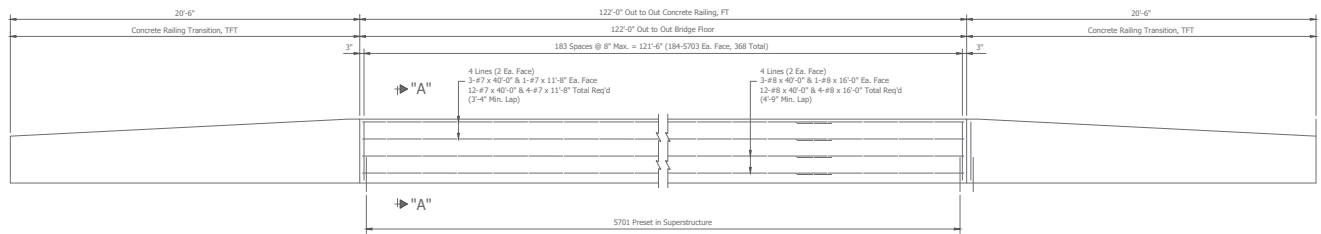
INDIANA
 DEPARTMENT OF TRANSPORTATION
 BRIDGE RAILING DETAILS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	COORDINATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	103 of 155
CONTRACT	PROJECT
B-39052	1592421



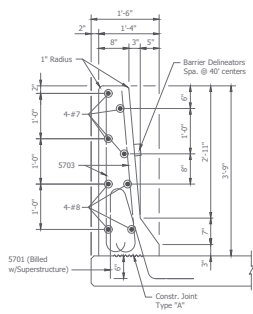
WEST RAILING ELEVATION - NORTHBOUND

Scale: 3/8" = 1'-0"



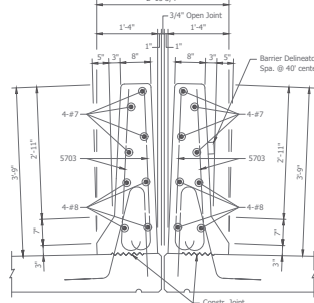
EAST RAILING ELEVATION - NORTHBOUND

Scale: 3/8" = 1'-0"



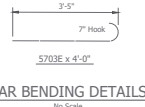
SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"



BAR BENDING DETAILS

No Scale

BILL OF MATERIALS

BRIDGE RAILING (NORTHBOUND)

EPOXY COATED REINFORCING BARS			
Size of Mark	No. of Bars	Length	Mass (lbs.)
#8	24	40'-0"	
#8	8	20'-2"	
#8	8	16'-0"	
Total #8			3,336
#7	24	40'-0"	
#7	8	20'-2"	
#7	8	15'-8"	
Total #7			2,483
5703E	860	4'-0"	
Total #5			3,588
Concrete Bridge Railing Transition, TFT			
2 @ 862 Lbs			1,724
Total Epoxy Coated Reinforcing			11,131
CONCRETE			
Railing, Concrete FT			285 LB.
Concrete Bridge Railing Transition, TFT			2 Ea.
MISCELLANEOUS			
Barrier Delineator			8 Ea.

NOTES:
 ALL REINFORCING TO BE EPOXY COATED.
 For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
 For Concrete Bridge Railing Transition TFT, see Std. Dwg. E706-TFTT-01 thru 03.
 For General Notes, see sheet 62.
 For Additional Railing Details, see sheets 100-101.

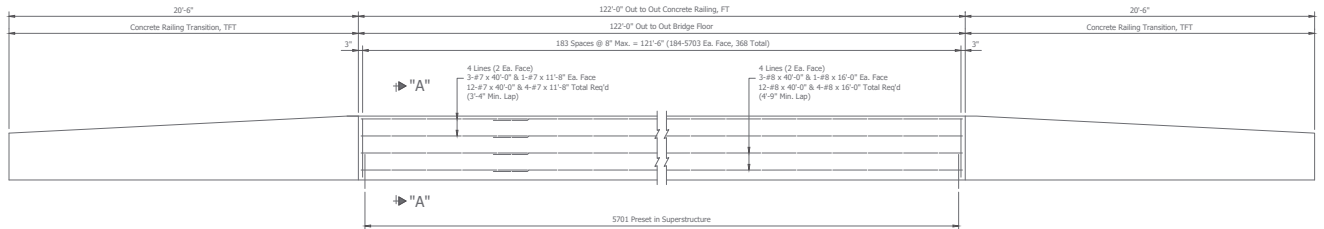


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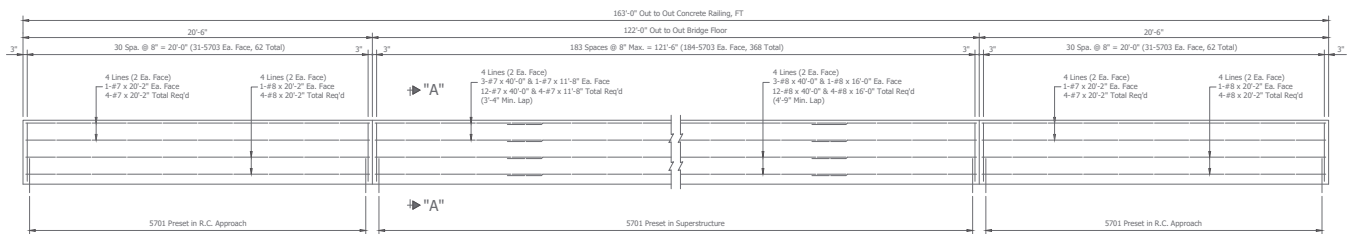
INDIANA
 DEPARTMENT OF TRANSPORTATION
 BRIDGE RAILING DETAILS
 US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	COORDINATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	104 of 155
CONTRACT	PROJECT
B-39052	1592421



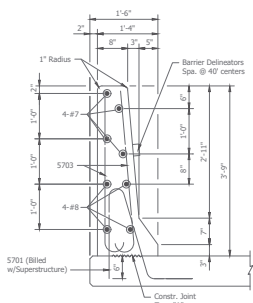
WEST RAILING ELEVATION - SOUTHBOUND

Scale: 3/8" = 1'-0"



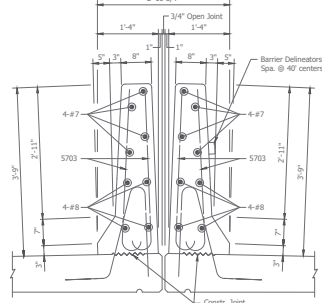
EAST RAILING ELEVATION - SOUTHBOUND

Scale: 3/8" = 1'-0"



SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"



BAR BENDING DETAILS

Scale: No Scale

BILL OF MATERIALS

BRIDGE RAILING (SOUTHBOUND)

Size of Mark	No. of Bars	Length	Mass (lbs.)
#8	24	40'-0"	
#8	8	20'-2"	
#8	8	16'-0"	
Total #8			3,336
#7	24	40'-0"	
#7	8	20'-2"	
#7	8	11'-8"	
Total #7			2,483
5703E	860	4'-0"	
Total #5			3,588
Concrete Bridge Railing Transition, TFT			
2 @ 862 Lbs			1,724
Total Epoxy Coated Reinforcing			11,131
CONCRETE			
Railing, Concrete FT			285 Lb.
Concrete Bridge Railing Transition, TFT			2 Ea.
MISCELLANEOUS			
Barrier Delineator			8 Ea.

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For Concrete Bridge Railing Transition TFT, see Std. Dwg. EP06-TFTT-01 thru 03.
For General Notes, see sheet 62.
For Additional Railing Details, see sheets 100 & 102.

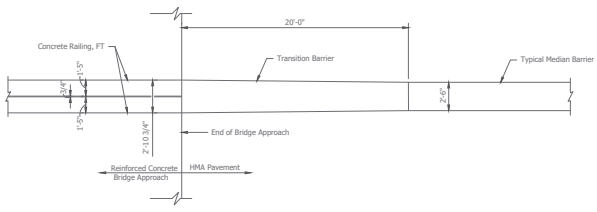


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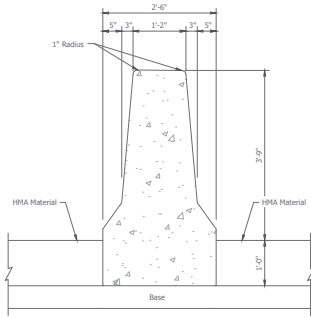
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MAR	DRAWN: RSI	
CHECKED: JES	CHECKED: MAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
BRIDGE RAILING DETAILS
US 31 OVER NS RAILROAD & CR100S

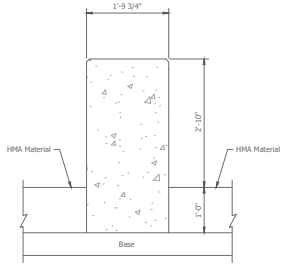
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESCRIPTION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	105 of 155
CONTRACT	PROJECT
B-39052	1592421



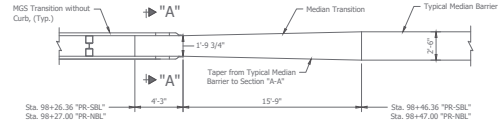
MEDIAN BRIDGE RAIL TRANSITION
 Scale: 1/4" = 1'-0"



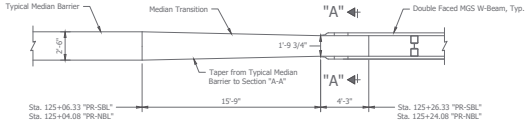
TYPICAL CONCRETE MEDIAN BARRIER
 Scale: 1" = 1'-0"



SECTION "A-A"
 Scale: 1" = 1'-0"



SOUTH MEDIAN BARRIER TRANSITION
 Scale: 1/4" = 1'-0"



NORTH MEDIAN BARRIER TRANSITION
 Scale: 1/4" = 1'-0"

NOTES:
 ALL REINFORCING TO BE EPOXY COATED.
 For Reinforcing Bar Notes, see Std. Dwg. 703-8RST-01.
 For MGS Assembly, see Std. Dwg. E601-MGSA-01 thru 05.
 For MGS Transition without Curbs, see Std. Dwg. E601-MGSA-12.
 For General Notes, see sheet 82.
 For Additional Railing Details, see sheets 100-102.

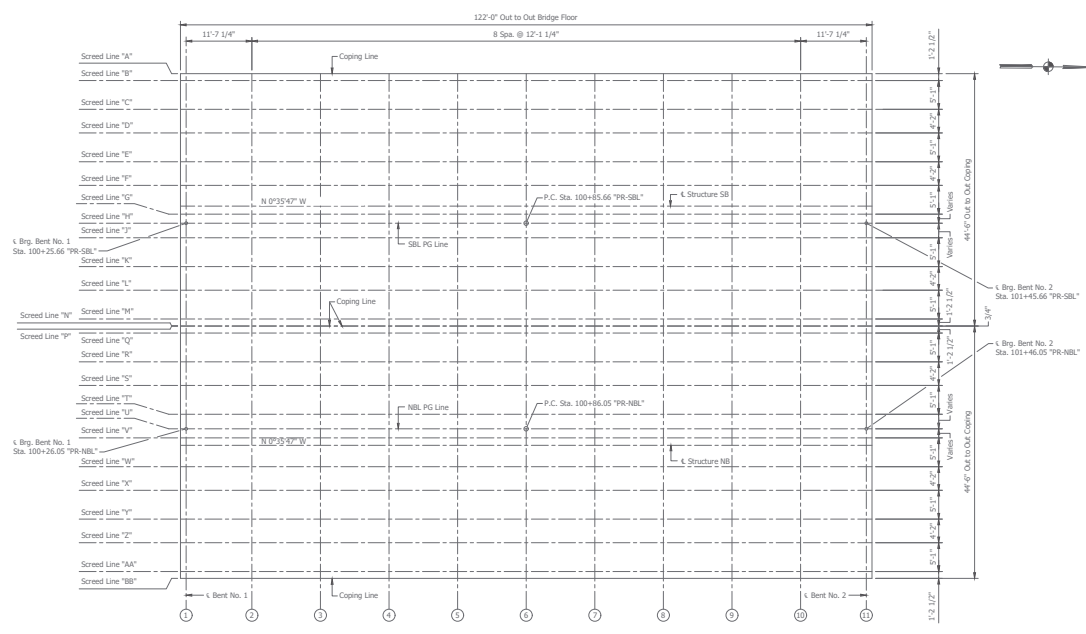


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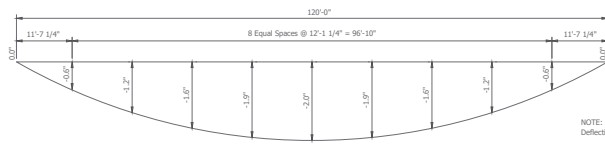
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NAR	DRAWN: RSI	
CHECKED: JES	CHECKED: NAR	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 MEDIAN RAILING DETAILS
 US 31 OVER NS RAILROAD & CR100S

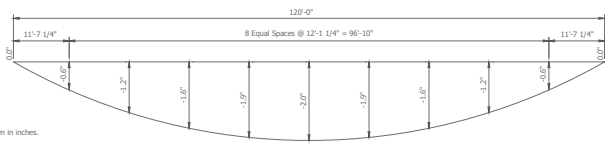
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	SECTION NUMBER
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	106 of 155
CONTRACT	PROJECT
B-39052	1592421



SCREED - PLAN
Scale: 1/8" = 1'-0"



SOUTHBOUND CONCRETE DEAD LOAD DEFLECTIONS
Scale: 3/16" = 1'-0"



NORTHBOUND CONCRETE DEAD LOAD DEFLECTIONS
Scale: 3/16" = 1'-0"

NOTE:
Deflections shown in inches.

NOTES:
For Additional Screed Details, see Sheets 105-106.
For General Notes, see Sheet 82.

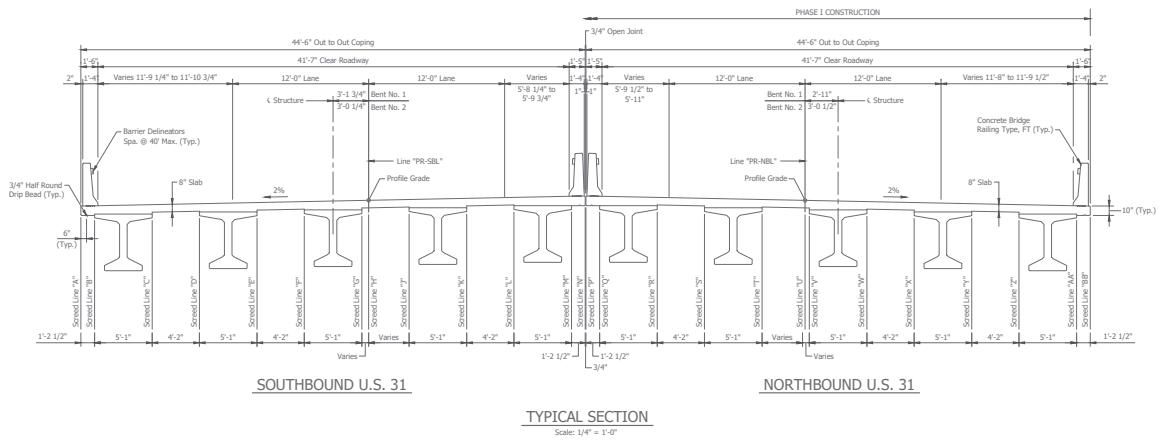
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INDIANA DEPARTMENT OF TRANSPORTATION

SCREED DETAILS
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	AS NOTED	BRIDGE FILE	031-80-02807 NBL & SBL
VERTICAL SCALE	AS NOTED	DESIGNATION	1592421 (78) / 1301368 (58)
SURVEY BOOK		SHEETS	107 of 155
CONTRACT	B-38652	PROJECT	1592421



TYPICAL SECTION
Scale: 1/4" = 1'-0"

PROCEDURE AND NOTES

1. After beams are set, take elevations at all screed points on top of beams. Enter these elevations in the table. Subtract these elevations from the tabulated elevations and use the resulting dimensions as the height for setting screed forms above these points. These dimensions remain constant regardless of how much or in what order the concrete is poured.
2. DO NOT SET SCREED FORMS BY LEVELING.
3. No concrete in the floor slab shall be poured until the above operations are completed.
4. Screed elevations as shown in the table include an allowance for concrete dead load deflections.

NOTES:
For Additional Screed Details, see Sheets 104 & 106.
For General Notes, see Sheet 62.

File Name: P:\BRCD\16-217\Bridges\Drawings\Plan\Screeds.dwg PNL Date: 6/26/2020 Plotted by: Rich Jones

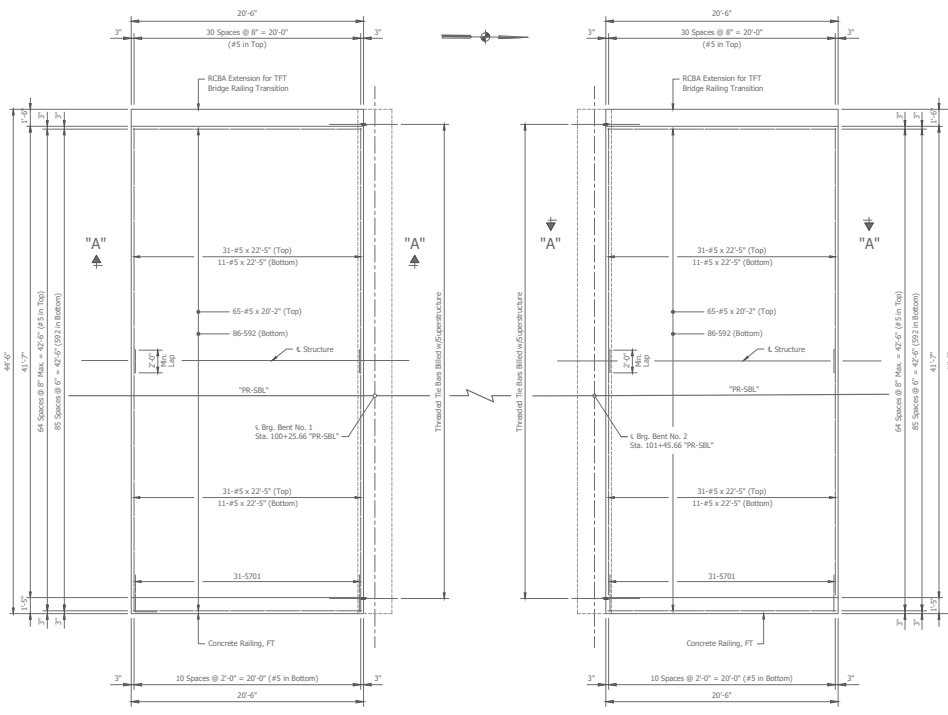


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INDIANA
DEPARTMENT OF TRANSPORTATION
SCREED DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (78) / 1591368 (58)
SURVEY BOOK	SHEETS
108	1 of 1 155
CONTRACT	PROJECT
B-3962	1592421



SB BENT No. 1 - APPROACH
Scale: 1/4" = 1'-0"

SB BENT No. 2 - APPROACH
Scale: 1/4" = 1'-0"

BILL OF MATERIALS

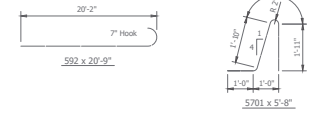
SOUTH APPROACH

EPOXY COATED REINFORCING BARS			
Size of Mark	No. of Bars	Length	Weight (lbs)
#5	86	20'-0"	
#5	31	5'-0"	
#5	84	2'-5"	
#5	65	20'-2"	
Total #5 5,383			
RCBA Extension Reinforcing Bars (333 lbs)			
Total E.C. Reinforcing Bars 5,716			
Reinforced Concrete Bridge Approach, 1/2"			
CONCRETE 101 Sys.			
Miscellaneous 25 Cyls.			
Substrate for PCP Treatment, Type IC 101 Sys.			
Geotextiles for Subgrade, Type 2B 101 Sys.			

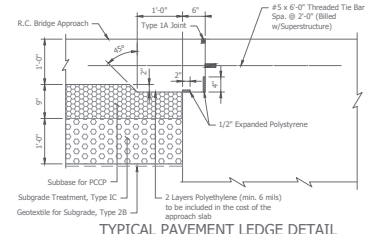
BILL OF MATERIALS

NORTH APPROACH

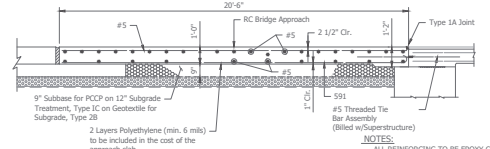
EPOXY COATED REINFORCING BARS			
Size of Mark	No. of Bars	Length	Weight (lbs)
#5	86	20'-0"	
#5	31	5'-0"	
#5	84	2'-5"	
#5	65	20'-2"	
Total #5 5,383			
RCBA Extension Reinforcing Bars (333 lbs)			
Total E.C. Reinforcing Bars 5,716			
Reinforced Concrete Bridge Approach, 1/2"			
CONCRETE 101 Sys.			
Miscellaneous 25 Cyls.			
Substrate for PCP Treatment, Type IC 101 Sys.			
Geotextiles for Subgrade, Type 2B 101 Sys.			



BAR BENDING DETAILS



TYPICAL PAVEMENT LEDGE DETAIL



SECTION "A-A"

NOTES:
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Draw. 703-BRST-01.
For Additional Information on the terminal joints, see Std. Draw. 503-BAT-03.
For General Notes, see sheet 85.
For Additional Approach Slab Details, see sheet 111.

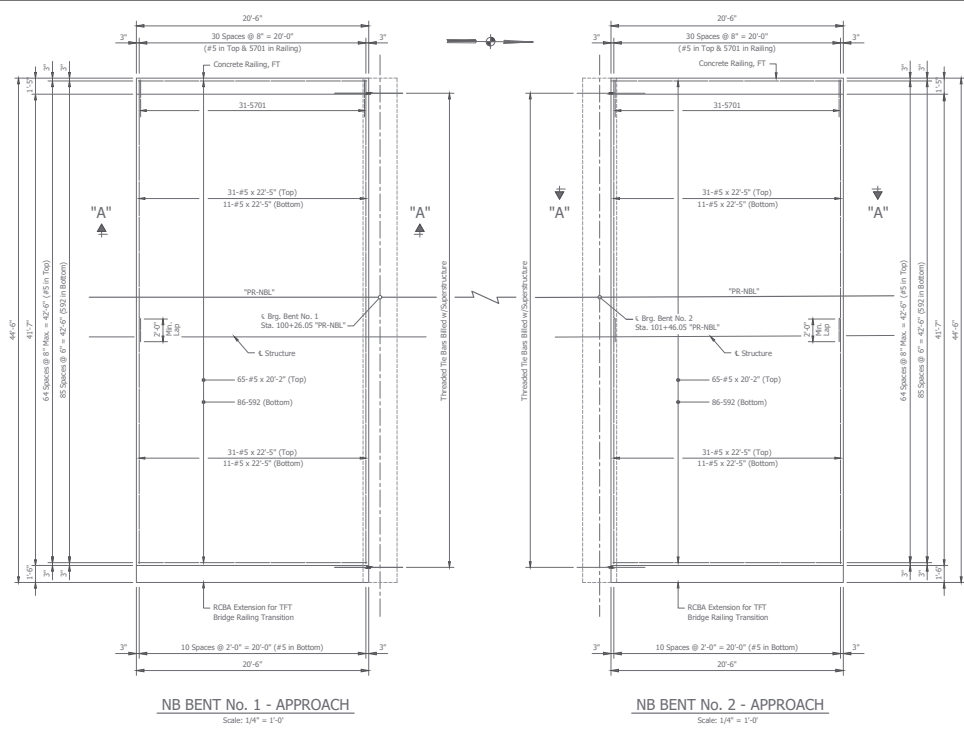


8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: NAR	DRAWN: RJS	
CHECKED: JES	CHECKED: NAR	

INDIANA
DEPARTMENT OF TRANSPORTATION
APPROACH SLAB DETAILS
US 31 OVER NS RAILROAD & CR1005

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	CONTRACT
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	130 of 155
CONTRACT	PROJECT
B-39052	1592421



NB BENT No. 1 - APPROACH
Scale: 1/4" = 1'-0"

NB BENT No. 2 - APPROACH
Scale: 1/4" = 1'-0"

- ① The joint opening width shall be 2.5" for expansion lengths of 150' or less, regardless of the joint setting temperature. The precompressed foam joint shall be able to accommodate both the minimum and maximum joint opening widths as shown below.
- ② Expansion length 250' or less
W(min.) = 3.3"
W(max.) = 3.7"
- ③ 185 #/sys. QC/QA - HMA, 3.70, Surface, 9.5 mm on 275 #/sys. QC/QA - HMA, 3.70, Intermediate, 18.0 mm on 1210 #/sys. QC/QA - HMA, 4, 64, Base, 25.0 mm
- ④ Tying or grooving of the concrete shall be terminated 6" in advance of the joint opening.

BILL OF MATERIALS

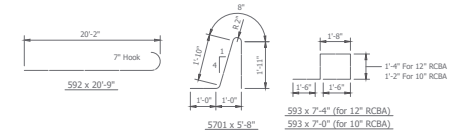
SOUTH APPROACH

EPOXY COATED REINFORCING BARS			
Size or Mark	No. of Bars	Length	Weight (lbs)
592	86	20'-0"	
5701	31	5'-8"	
#5	84	22'-5"	
#5	65	20'-2"	
Total #5			5,383
RCBA Extension Reinforcing Bars (333 lbs.)			333
Total E.C. Reinforcing Bars			5,716
CONCRETE			
Reinforced Concrete Bridge Approach, 12'			101 Sys.
MISCELLANEOUS			
Subbase for PC/P			20 Sys.
Subgrade Treatment, Type IC			101 Sys.
Geotextiles for Subgrade, Type 2B			101 Sys.

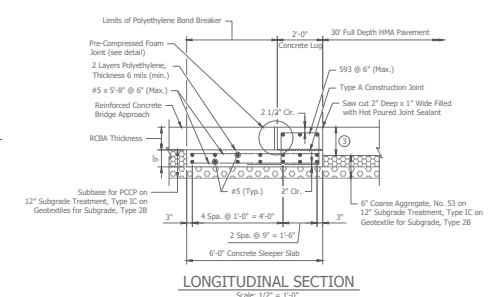
BILL OF MATERIALS

NORTH APPROACH

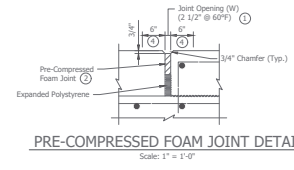
EPOXY COATED REINFORCING BARS			
Size or Mark	No. of Bars	Length	Weight (lbs)
592	86	20'-0"	
5701	31	5'-8"	
#5	84	22'-5"	
#5	65	20'-2"	
Total #5			5,383
RCBA Extension Reinforcing Bars (333 lbs.)			333
Total E.C. Reinforcing Bars			5,716
CONCRETE			
Reinforced Concrete Bridge Approach, 12'			101 Sys.
MISCELLANEOUS			
Subbase for PC/P			20 Sys.
Subgrade Treatment, Type IC			101 Sys.
Geotextiles for Subgrade, Type 2B			101 Sys.



BAR BENDING DETAILS
No Scale



LONGITUDINAL SECTION
Scale: 1/2" = 1'-0"



PRE-COMPRESSED FOAM JOINT DETAIL
Scale: 1" = 1'-0"

- NOTES:**
ALL REINFORCING TO BE EPOXY COATED.
For Reinforcing Bar Notes, see Std. Dwg. 703-BRST-01.
For Additional Information on the terminal joints, see Std. Dwg. 503-BAT-03.
For General Notes, see sheet B5.
For Additional Approach Slab Details, see sheet 110.

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____

DESIGNED: NAR DRAWN: RSI
CHECKED: JES

INDIANA
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1591368 (SB)
SURVEY BOOK	SHEETS
	111 of 155
CONTRACT	PROJECT
B-39052	1592421