PROJECT	DESIGNATION
1600808	1600808
CONTRACT	
B-36910	

KIN PROJECT INFORMATION		
DESIGNATION	PROJECT DESCRIPTION	LEAD DES
1600808	COMPLETE ROAD RECONSTRUCTION OF I-65/I-70 FROM WASHINGTON STREET TO I-65 OVER DELAWARE STREET AND I-70 OVER VALLEY AVENUE	
1901935	ITS FOR I-65/I-70 FROM WASHINGTON STREET TO I-65 OVER DELAWARE STREET AND I-70 OVER VALLEY AVENUE	
1901936	SIGNS, LIGHTING, SIGNALS AND MARKING FOR I-65/I-70 FROM WASHINGTON STREET TO I-65 OVER DELAWARE STREET AND I-70 OVER VALLEY AVENUE	
1901847	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER WASHINGTON STREET	
1901848	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER WASHINGTON STREET	
1901849	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER WASHINGTON STREET	
1901850	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER MARKET STREET	
1901851	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER MARKET STREET	
1901852	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER MARKET STREET	
1901853	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER CSX RAILROAD & OHIO STREET	
1901854	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER CSX RAILROAD & OHIO STREET	
1901855	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER CSX RAILROAD & OHIO STREET	
1901856	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER NEW YORK STREET	
1901857	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER NEW YORK STREET	
1901858	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER NEW YORK STREET	
1901861	BRIDGE REPLACEMENT ON I-65/I-70 NB, SB, & SB CD OVER VERMONT STREET	
1901862	BRIDGE REPLACEMENT ON I-65 NB & I-70 EB OVER MICHIGAN STREET	
1901863	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER MICHIGAN STREET	
1901864	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER MICHIGAN STREET	
1901865	BRIDGE REPLACEMENT ON I-65 NB OVER I-70 EB ENTRANCE RAMP	
1901881	BRIDGE REPLACEMENT ON I-65 NB OVER ST. CLAIR STREET	
1901889	NEW BRIDGE CONSTRUCTION ON I-70 EB OVER ST. CLAIR STREET	
1901892	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER ST. CLAIR STREET	
1901896	NEW BRIDGE CONSTRUCTION ON I-65/I-70 SB CD OVER ST. CLAIR STREET	
1901897	BRIDGE REPLACEMENT ON I-65 NB OVER EAST 10TH STREET	
1901899	NEW BRIDGE CONSTRUCTION ON I-70 EB OVER EAST 10TH STREET	
1901901	BRIDGE REPLACEMENT ON I-65 SB OVER EAST 10TH STREET	
1901903	BRIDGE REPLACEMENT ON I-70 WB OVER EAST 10TH STREET	
1901905	NEW BRIDGE CONSTRUCTION ON I-65/I-70 SB CD OVER EAST 10TH STREET	
1901906	NEW BRIDGE CONSTRUCTION ON I-65 NB CD EXIT RAMP OVER CENTRAL AVENUE	
1901907	BRIDGE REPLACEMENT ON I-65 NB OVER CENTRAL AVENUE	
1901908	BRIDGE REPLACEMENT ON I-65 SB OVER CENTRAL AVENUE	
1901909	NEW BRIDGE CONSTRUCTION ON I-65 SB CD ENTRANCE RAMP OVER CENTRAL AVE.	
1901914	BRIDGE REPLACEMENT ON I-70 WB TO I-65 NB OVER COLLEGE AVENUE	
1901915	BRIDGE REPLACEMENT ON I-65 NB CD EXIT RAMP OVER COLLEGE AVENUE	
1901917	BRIDGE REPLACEMENT ON I-65 SB & SB CD OVER COLLEGE AVENUE	
1901918	BRIDGE REPLACEMENT ON I-65 SB TO I-70 EB OVER COLLEGE AVENUE & 5 RAMPS	
1901919	BRIDGE REPLACEMENT ON I-65 NB OVER I-70 WB & SB CD RAMP	
1901920	BRIDGE REPLACEMENT ON I-70 WB TO I-65 NB OVER 3 RAMPS	
1901921	BRIDGE REPLACEMENT ON I-65 SB OVER I-70 WB & SB CD RAMP	
1901922	NEW BRIDGE CONSTRUCTION ON I-65 NB OVER I-70 EB	
1901923	BRIDGE REPLACEMENT ON I-70 WB & SB CD OVER LEWIS STREET & MONON TRAIL	
1901925	NEW BRIDGE CONSTRUCTION ON I-70 WB TO I-65 NB OVER LEWIS STREET & MONON TRAIL	
1901927	NEW BRIDGE CONSTRUCTION ON I-65 SB TO I-70 EB OVER LEWIS STREET & MONON TRAIL	
1901928	BRIDGE REPLACEMENT ON I-70 EB OVER LEWIS STREET & MONON TRAIL	
1901929	PREVENTATIVE MAINTENANCE ON I-70 WB OVER ROOSEVELT @ COMMERCE AVE.	
1901930	REHABILITATE AND WIDEN ON I-70 EB OVER ROOSEVELT @ COMMERCE AVE.	
1901931	PREVENTATIVE MAINTENANCE ON I-70 WB OVER VALLEY AVENUE	
1901932	PREVENTATIVE MAINTENANCE ON I-70 EB OVER VALLEY AVENUE	
1901933	REHABILITATE AND WIDEN PENNSYLVANIA ST. EXIT RAMP OVER DELAWARE STREET & ALABAMA STREET	
1901934	REHABILITATE AND WIDEN DELAWARE ST. ENTRANCE RAMP OVER ALABAMA ST.	

INDIANA DEPARTMENT OF TRANSPORTATION

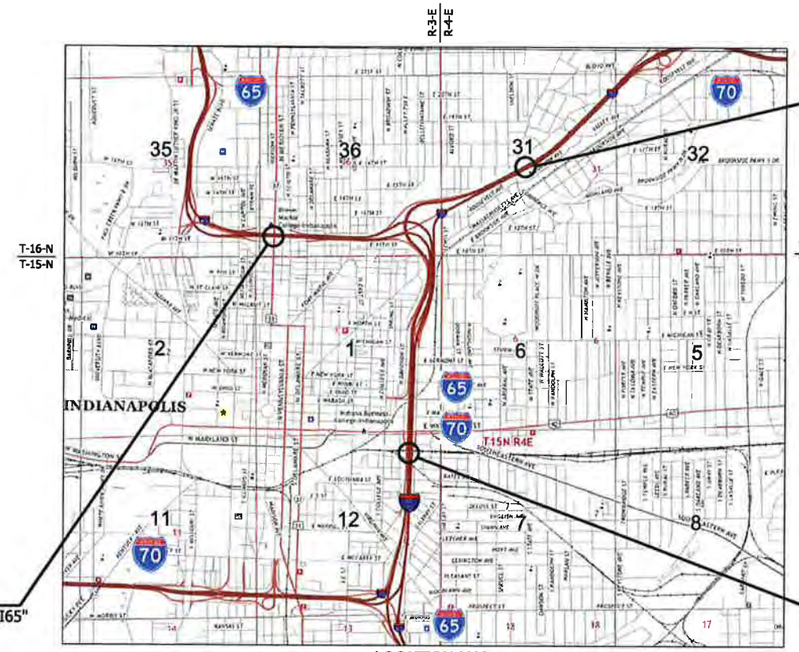
ROAD PLANS

ROUTE: I-65 FROM: RP 111+0.16 TO: RP 112+0.94
I-70 FROM: RP 81+0.72 TO: RP 83+0.67

PROJECT NO. 1600808 (P.E. & CONSTR.)

NO ADDITIONAL RIGHT-OF-WAY REQUIRED FOR THIS PROJECT

RECONSTRUCTION OF I-65/I-70 (NORTH SPLIT) INTERCHANGE
IN SECTIONS 35 & 36, T-16-N, R-3-E, SECTION 31, T-16-N, R-4-E, SECTIONS 1 & 12, T-15-N, R-3-E,
CENTER TOWNSHIP, MARION COUNTY, INDIANA



END CONSTRUCTION PROJECT NO. 1600808
STATION 22+00.83 LINE "P_ALG_I70"

SCALE: 1" = 2000'

END PROJECT NO. 1600808
STATION 25+75.00 LINE "P_ALG_I65"

BEGIN PROJECT NO. 1600808
STATION 113+00.00 LINE "P_ALG_I65/I70"

LOCATION MAP
(MARION COUNTY)

SEE INDEX SHEET FOR TRAFFIC AND DESIGN DATA



PROJECT LOCATION SHOWN BY
MARION COUNTY

LATITUDE: 39°46'01" N LONGITUDE: 86°08'35" W

GROSS LENGTH	10.8	MI.
NET LENGTH	9.1	MI.
MAX. GRADE:	3.5 %	%

HUC Code: 05/20201130020

NORTH SPLIT UPGRADES DRIVING PROGRESS

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

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

HNTB
HNTB CORPORATION
THE HNTB COMPANIES
ENGINEERS ARCHITECTS PLANNERS
111 MONUMENT CIRCLE
SUITE 1200
INDIANAPOLIS, IN 46204

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

DRAFT NOT FOR CONSTRUCTION

PLANS PREPARED BY: United Consulting (317) 895-2585
PHONE NUMBER

CERTIFIED BY: DATE

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

	DESIGNATION	
	1600808	
SURVEY BOOK	SHEETS	TI-00
ELECTRONIC	1 of	649
CONTRACT	PROJECT	
B-36910	1600808	

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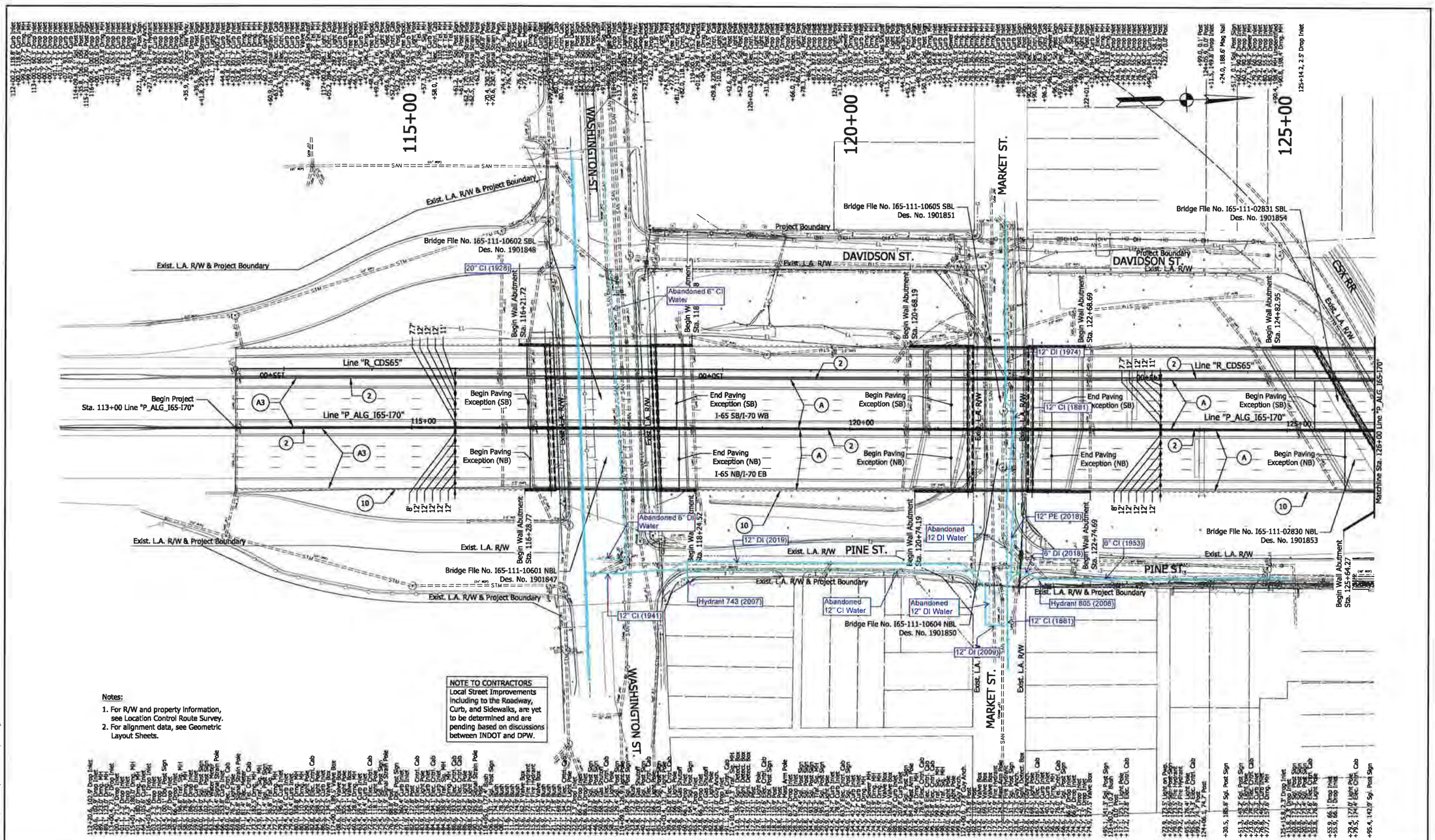

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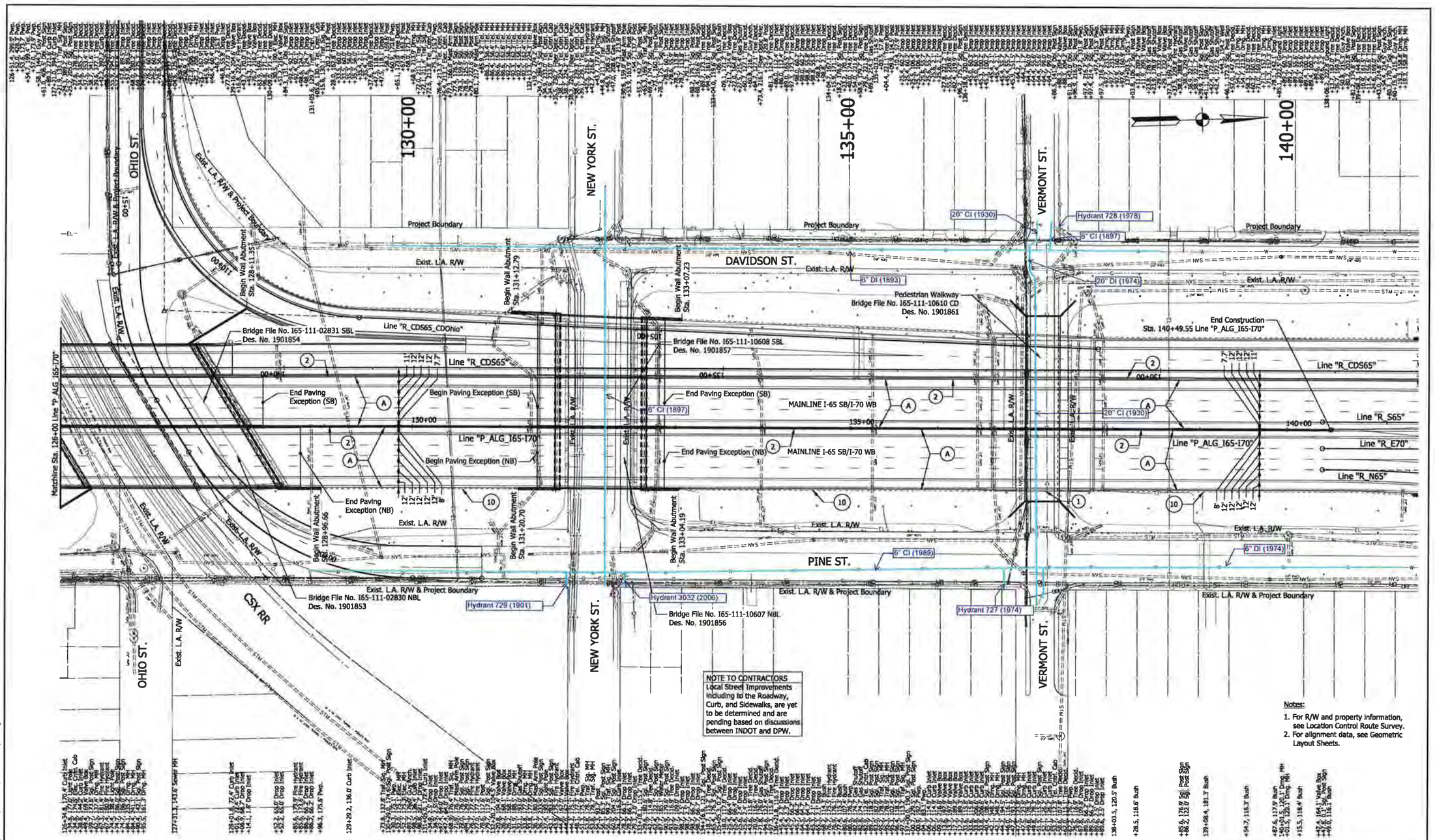

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_ALG_I65/I70"
I-65/I-70 SB/NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-02
ELECTRONIC	55 of 649
CONTRACT	PROJECT
B-36910	1600808

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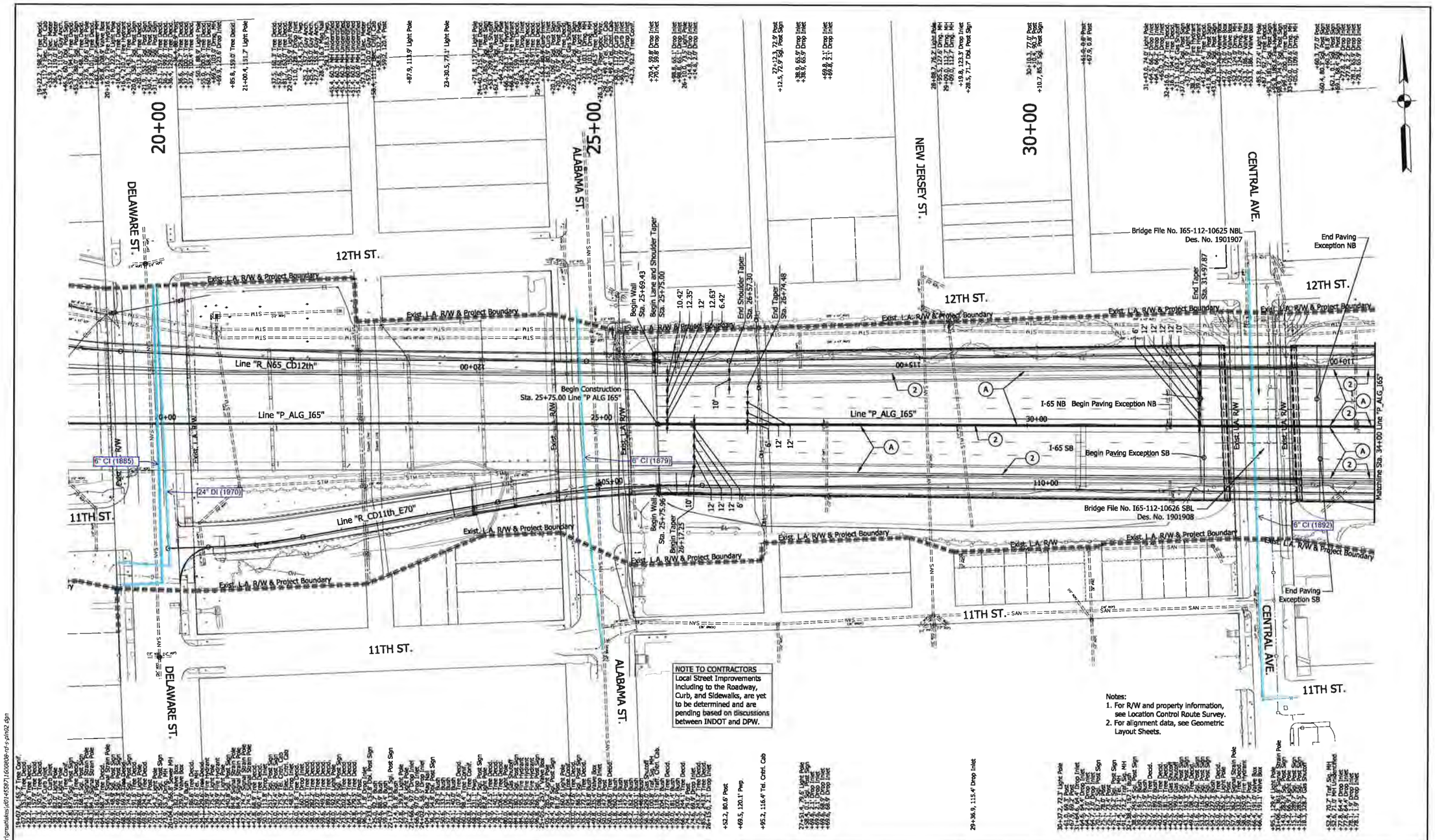

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (A3) PCCP Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH

CHECKED: CCR CHECKED: CCR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_ALG_I65"
I-65 SB/NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-03
ELECTRONIC	57 of 649
CONTRACT	PROJECT
B-36910	1600808

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10+00

15+00

20+00

16th Street

Exist. L.A. R/W & Project Boundary

Bridge File No. I70-083-05701 JEWB
Des. No. 1901929

Bridge File No. I70-083-05701 EEBL
Des. No. 1901930

12" CI (1898)

12" CI (1894)

12" DI (1974)

Line "R_W70"

Line "R_W70_N65"

Begin Construction
Sta. 10+00.00 Line "P ALG I70"

Line "R_S65_E70"

Line "R_E70"

Line "P_ALG_I70"

I-70 WB

I-70 EB

Begin Paving Exception WB

Begin Paving Exception EB

End Paving Exception WB

End Paving Exception EB

Begin Shldr Taper
+02.05

End Shldr Taper
+02.05

Begin Lane Drop
17+41.38

Begin Shldr Taper
+89.80

Begin Guardrail
End Barrier
End Shldr Taper
+89.80

End Lane Drop
24+30.65

Exist. L.A. R/W

Exist. L.A. R/W & Project Boundary

COMMERCE AVE.

NOTE TO CONTRACTORS

Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:

1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(A2) PCCP Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

(2) Concrete Median Barrier, 45"

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNII

CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_ALG_I70"
I-70 EB/WB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-05
ELECTRONIC	61 of 649
CONTRACT	PROJECT
B-36910	1600808

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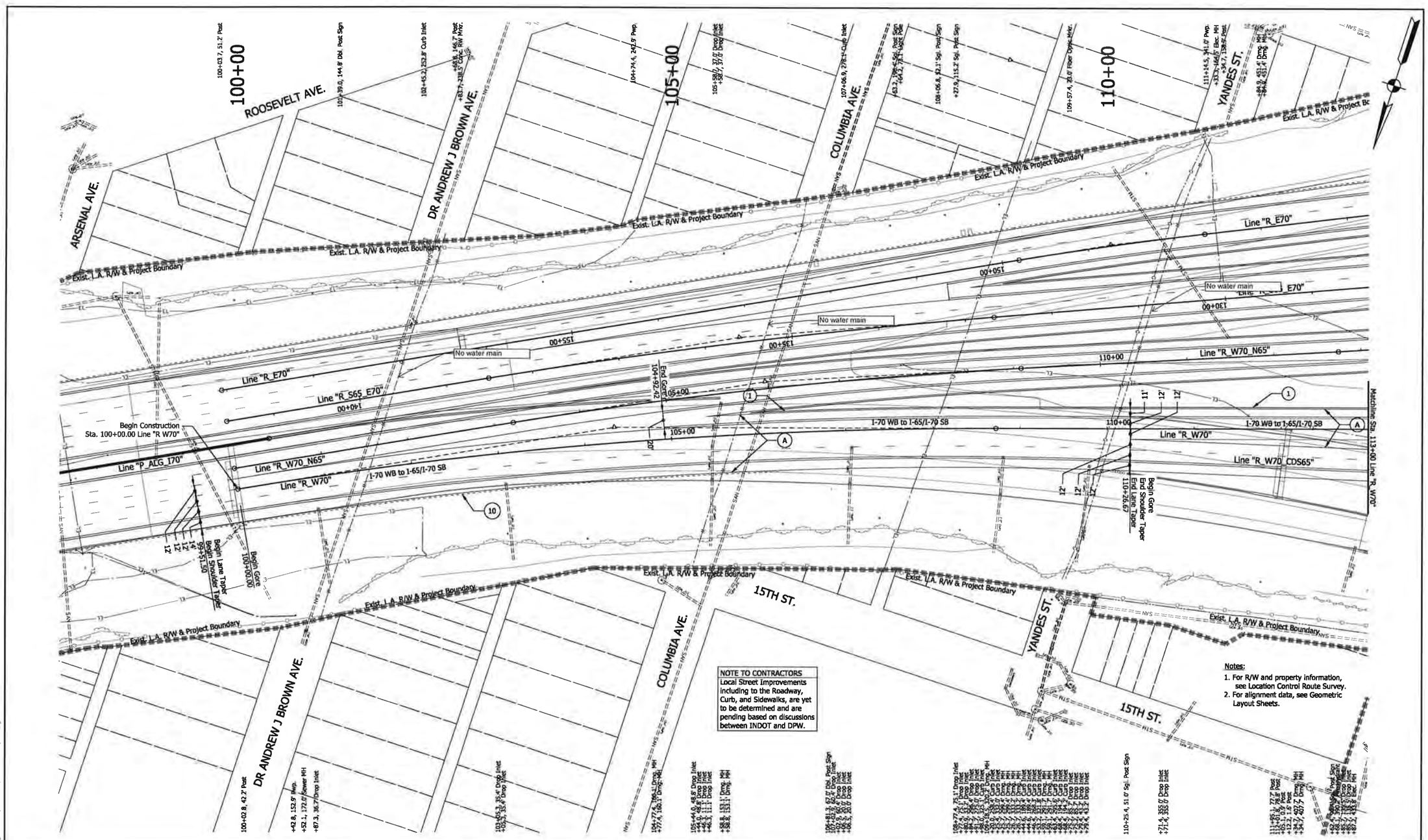

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_W70"
I-70 WB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-07
ELECTRONIC	65 of 649
CONTRACT	PROJECT
B-36910	1600808

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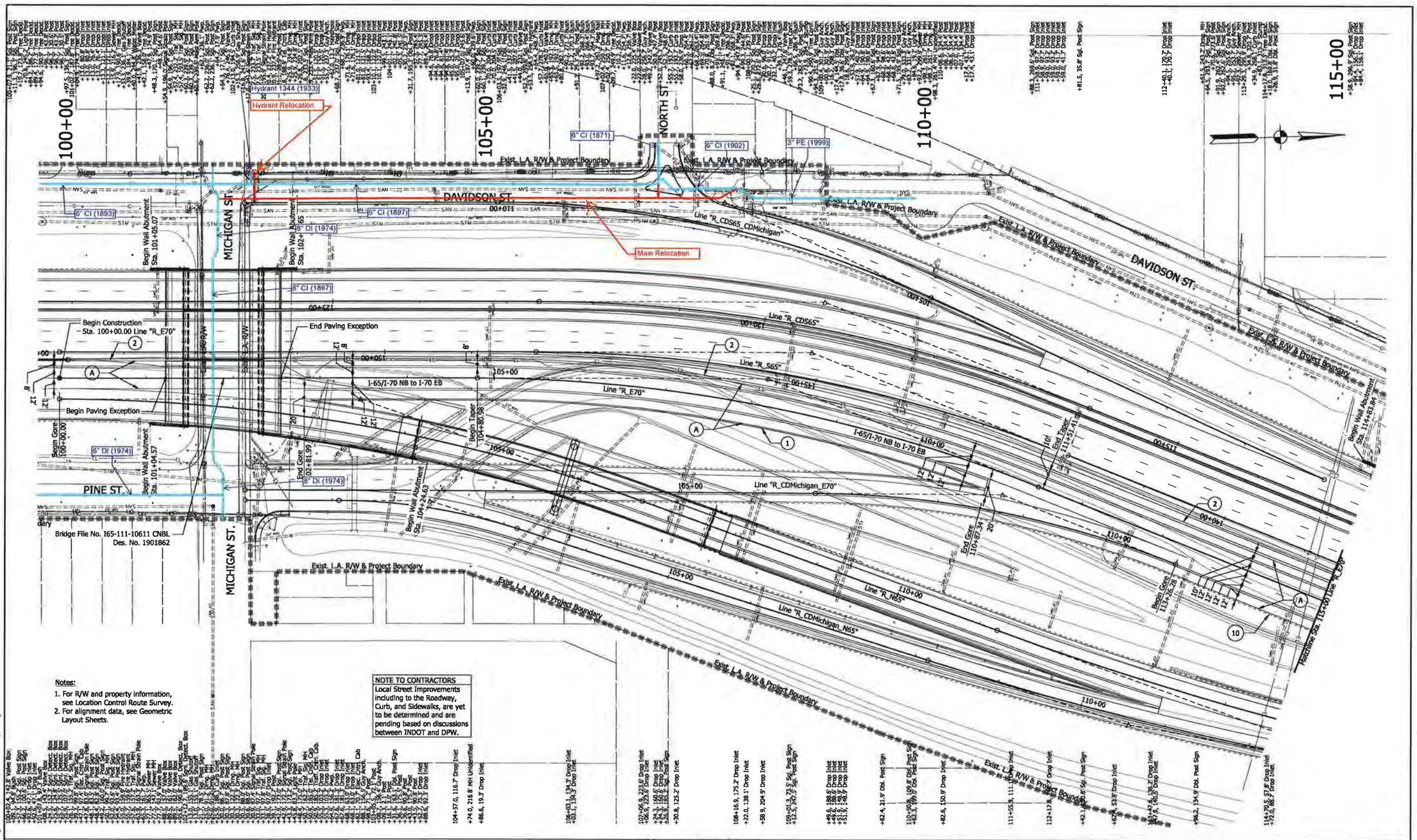

Notes:

1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

NOTE TO CONTRACTORS

Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP	DRAWN: JNH
CHECKED: CCR	CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_E70"
I-65/I-70 NB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-10
ELECTRONIC	71 of 649
CONTRACT	PROJECT
B-36910	1600808

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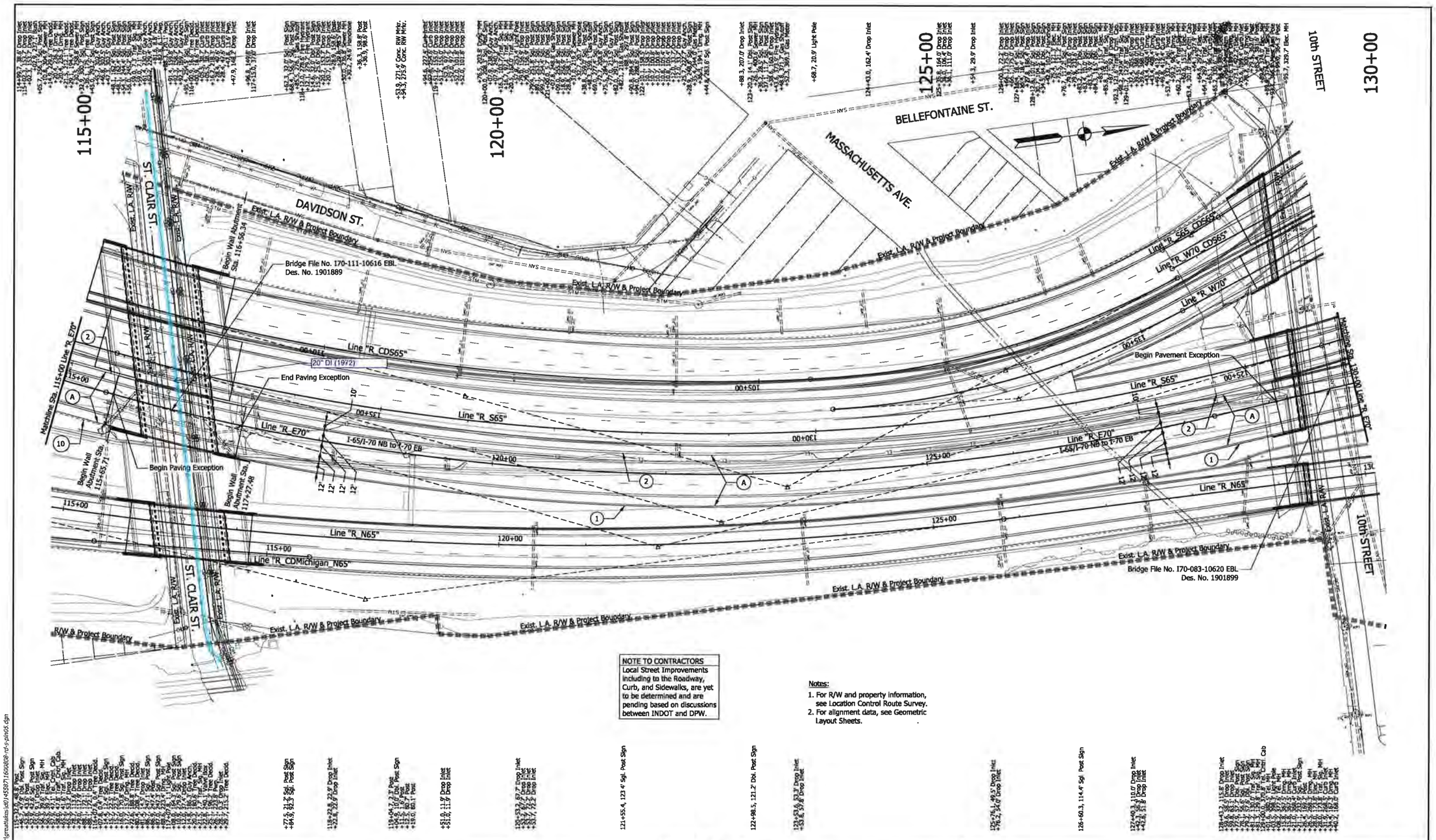

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(2) Concrete Median Barrier, 45"
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT
(4) Retaining Wall

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNH
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_E70"
I-65/I-70 NB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-11
ELECTRONIC	73 of 649
CONTRACT	PROJECT
B-36910	1600808

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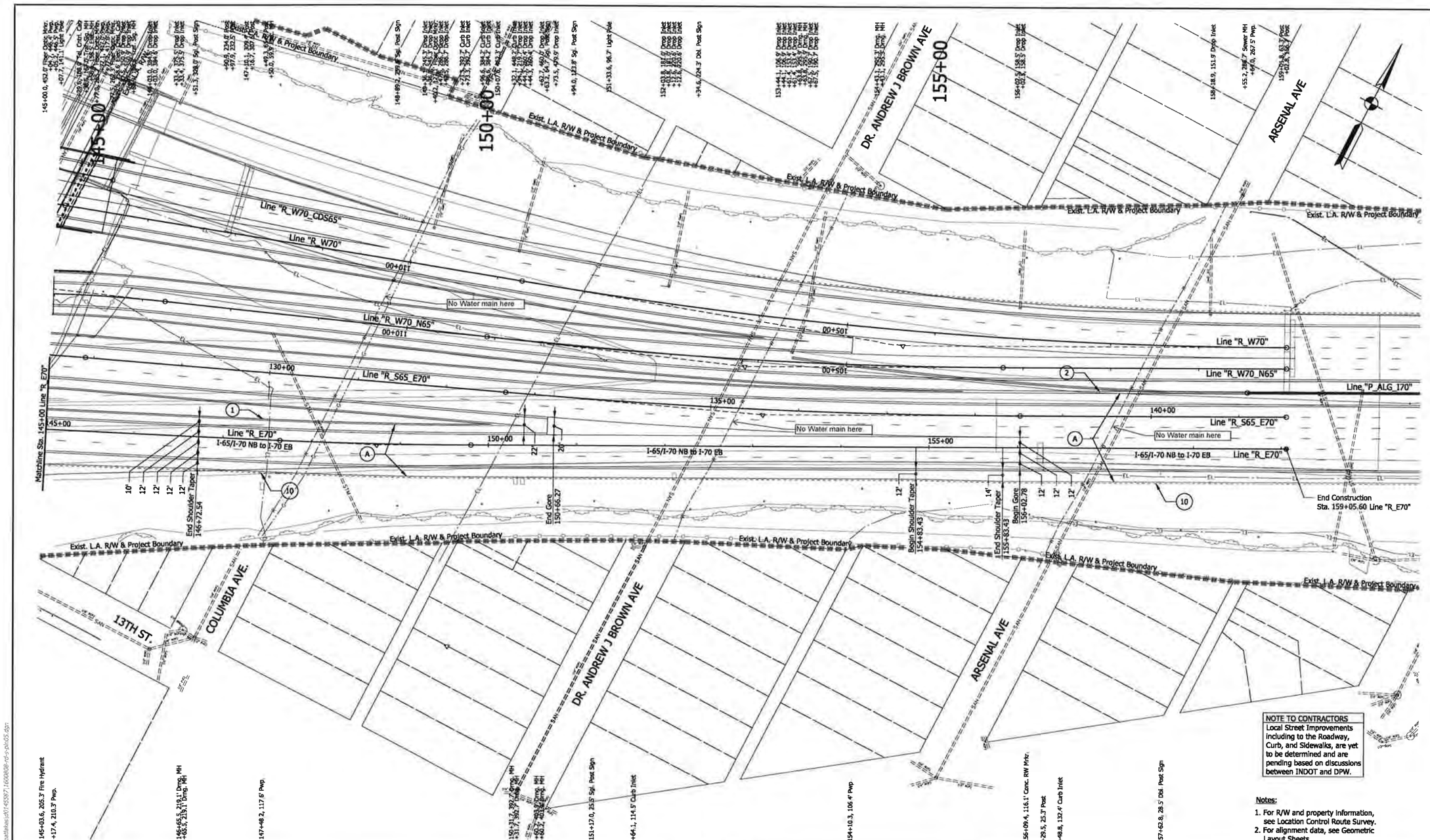

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_E70"
I-65/I-70 NB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-13
ELECTRONIC	77 of 649
CONTRACT	PROJECT
B-36910	1600808

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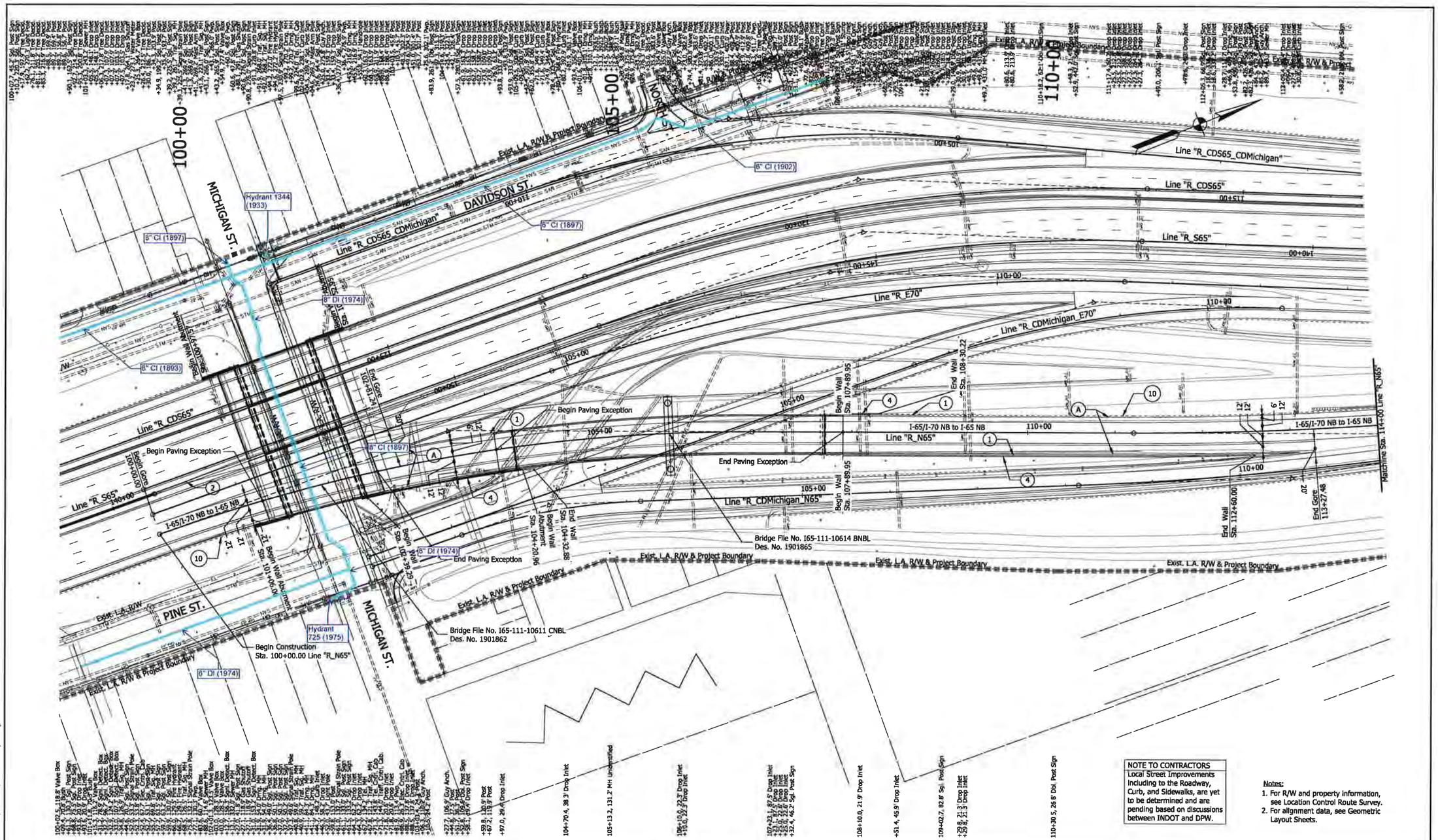

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(2) Concrete Median Barrier, 45"
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT
(4) Retaining Wall

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNH
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
I-65/I-70 NB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-14
ELECTRONIC	79 of 649
CONTRACT	PROJECT
B-36910	1600808

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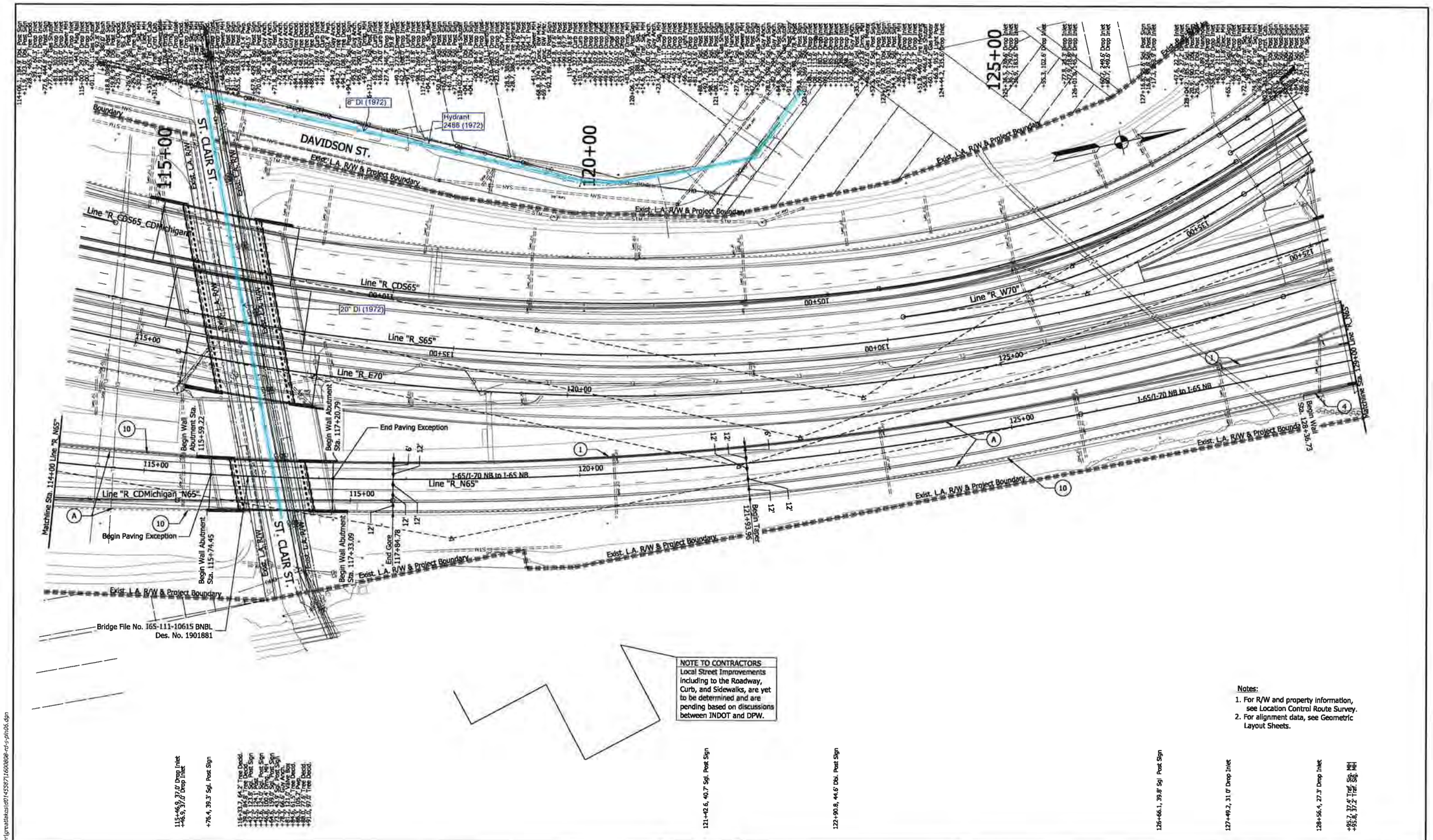

NOTE TO CONTRACTORS
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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
I-65/I-70 NB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-15
ELECTRONIC	81 of 649
CONTRACT	PROJECT
B-36910	1600808

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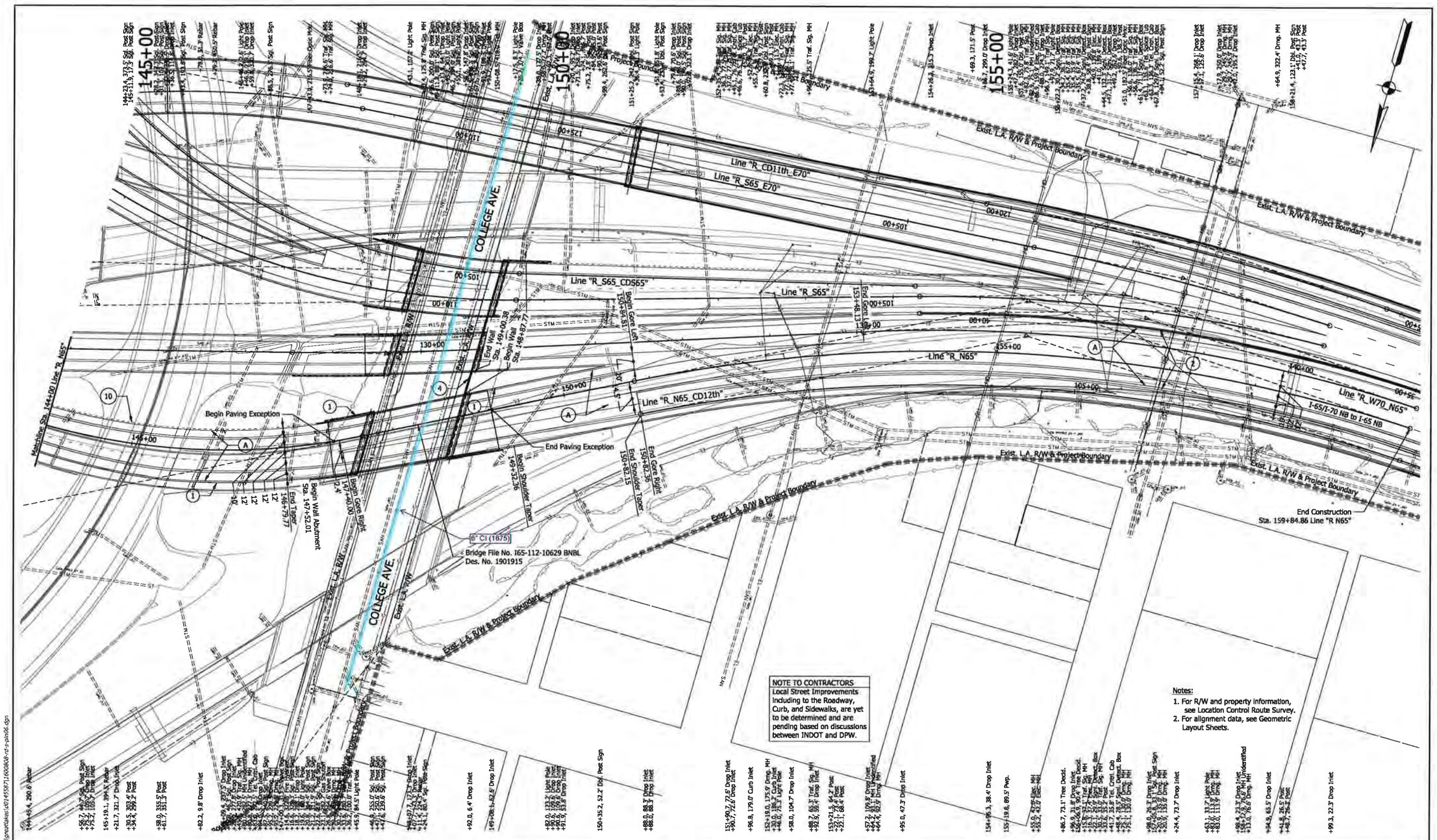

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
I-65/I-70 NB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-17
ELECTRONIC	85 of 649
CONTRACT	PROJECT
B-36910	1600808

jrfoster
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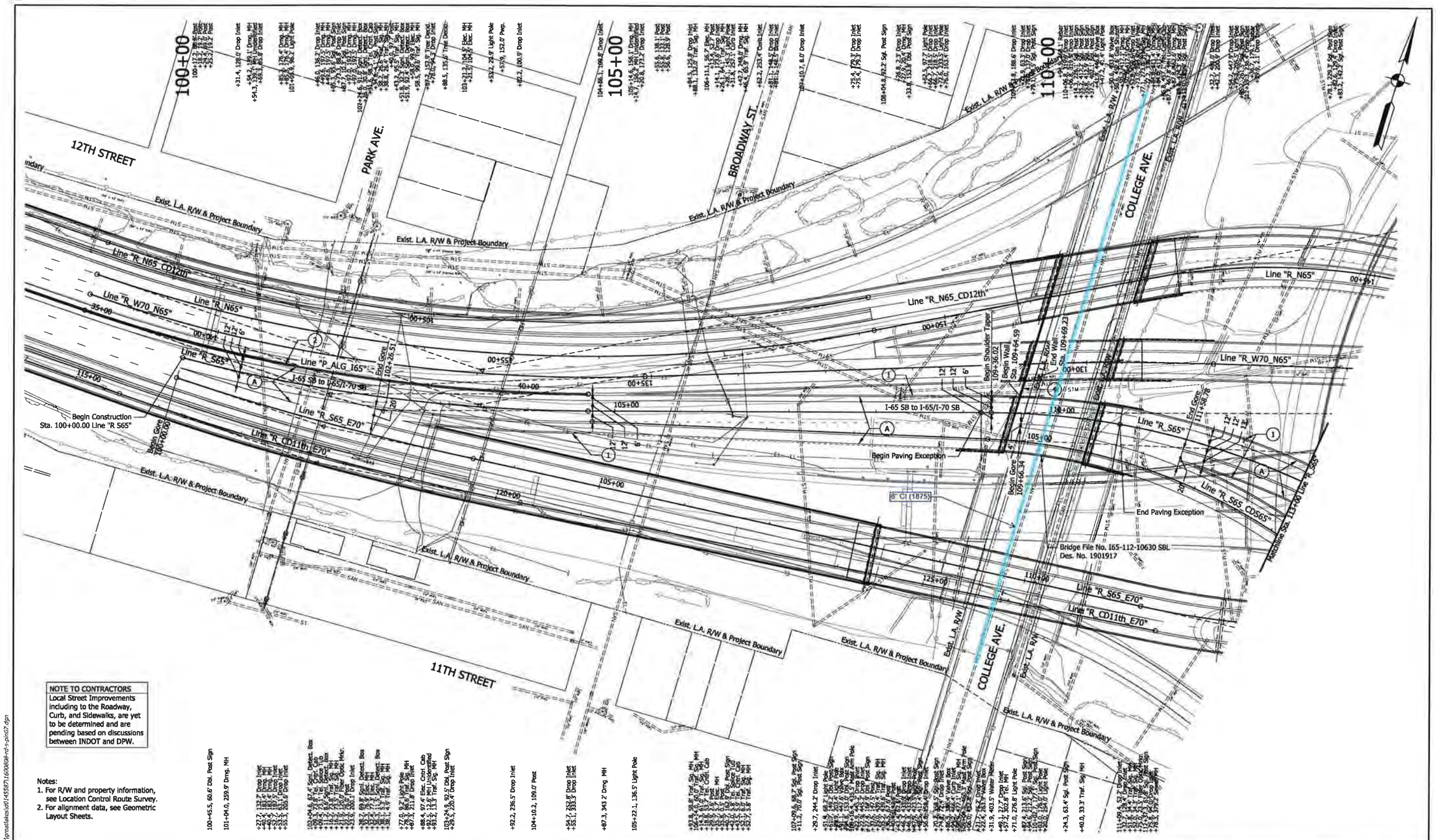

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45°
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65"
I-65 SB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-18
ELECTRONIC	87 of 649
CONTRACT	PROJECT
B-36910	1600808

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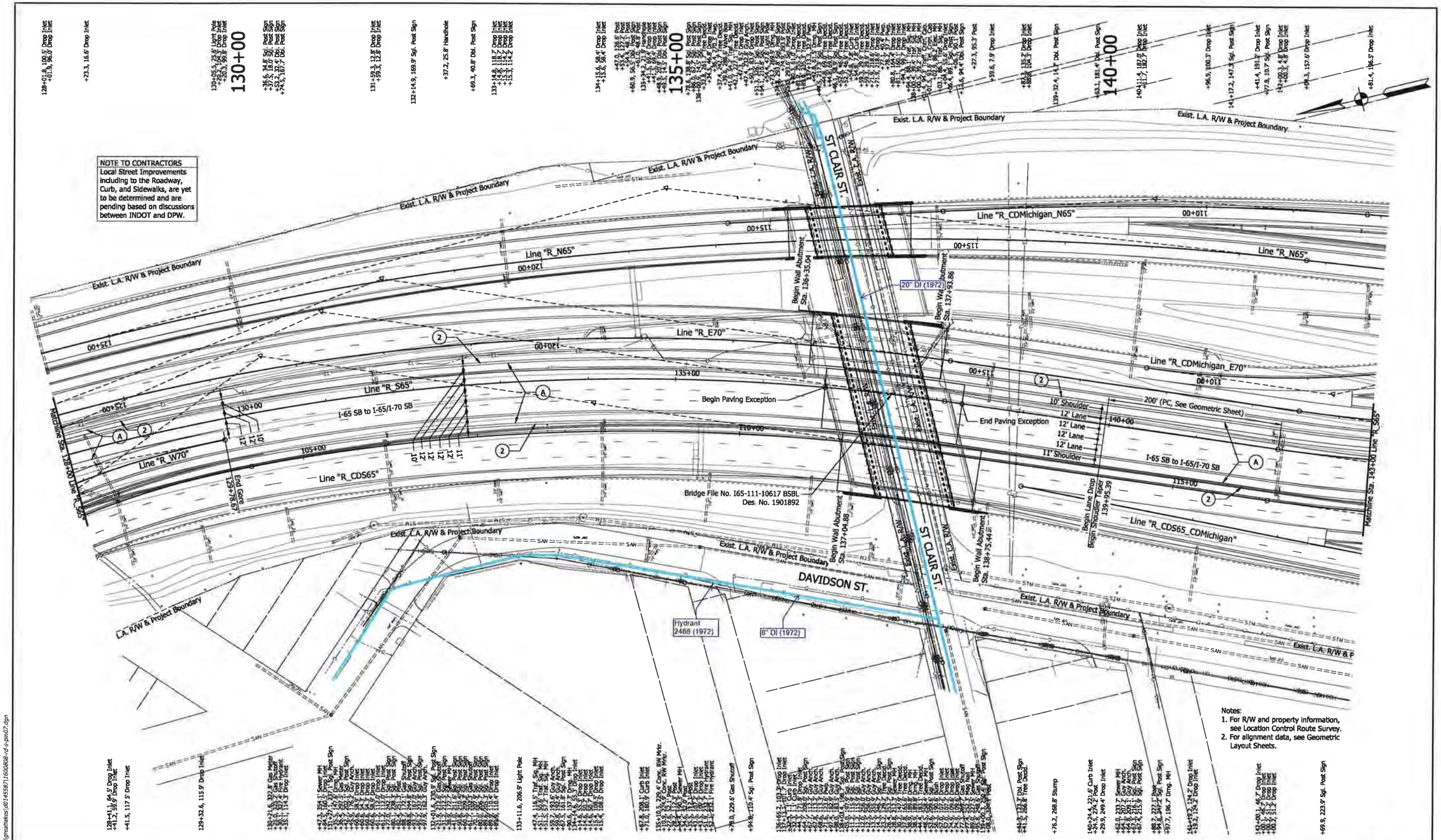

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

(2) Concrete Median Barrier, 45"

(4) Retaining Wall

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65"
I-65 SB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-20
ELECTRONIC	91 of 649
CONTRACT	PROJECT
B-36910	1600808

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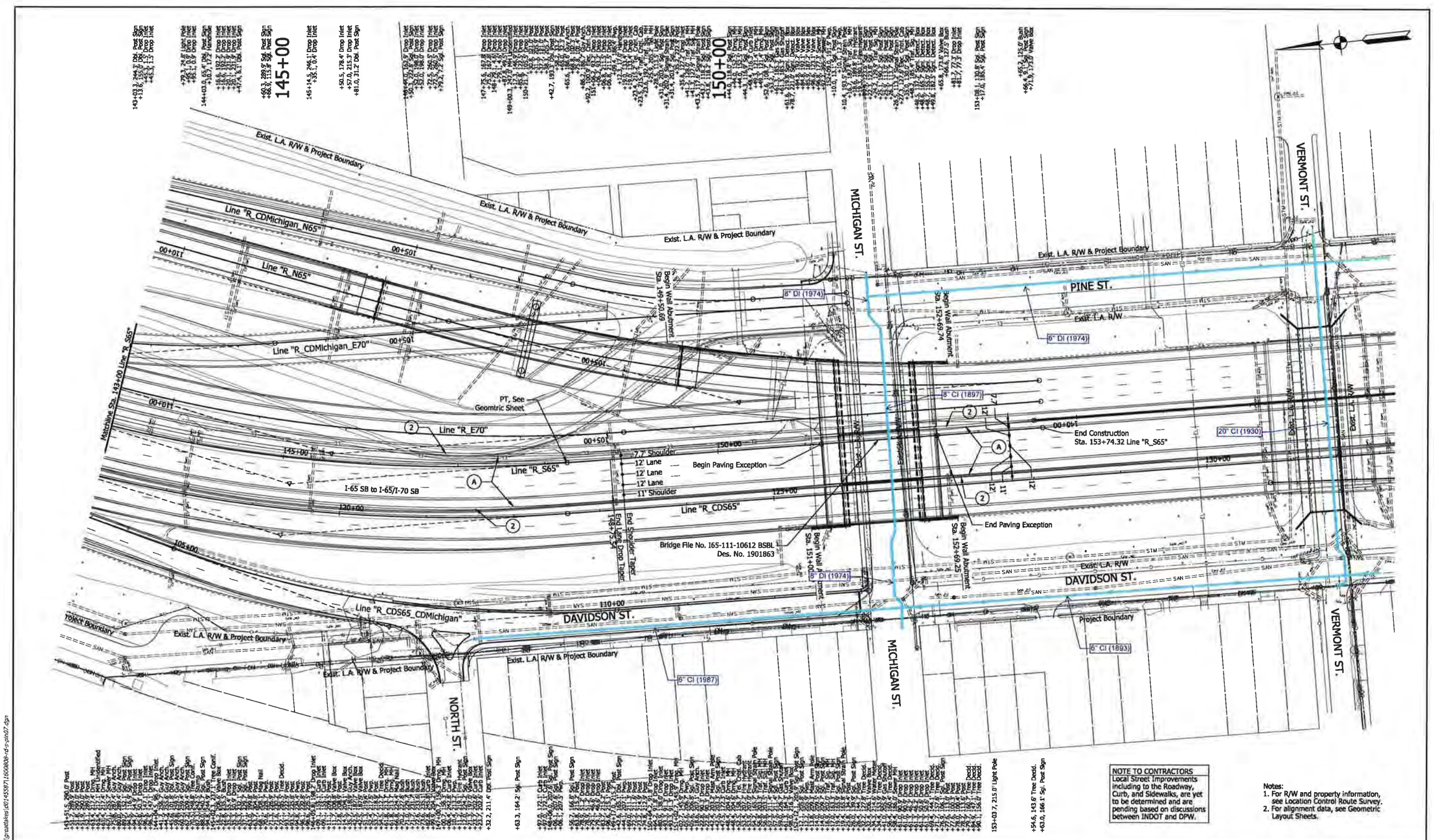

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH

CHECKED: COR CHECKED: COR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65"
I-65 SB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-21
ELECTRONIC	93 of 649
CONTRACT	PROJECT
B-36910	1600808

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NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

100+00
100+03.8, 27.2' Post
ROOSEVELT AVE.
101+42.8, 119.0' Dbl. Post Sign
102+56.8, 222.9' Curb Inlet
+76.1, 115.8' Post
+96.1, 206.6' Conc. RW Mntr.
DR ANDREW J BROWN AVE.
104+89.1, 199.5' Pwp.
105+00
107+25.4, 220.7' Curb Inlet
COLUMBIA AVE.
+71.8, 17.6' Light Pole
+74.8, 32.5' Post Sign
108+38.3, 50.8' Sgl. Post Sign
109+65.6, 1.3' Fiber Optic Mntr.
110+00
111+37.0, 260.4' Pwp.
+46.2, 83.1' TEE MH
+47.3, 77.2' Post
YANDES ST.
ARSENAL AVE.
Exist. L.A. R/W & Project Boundary
No Water Main
Begin Shoulder Taper
101+27.89
Begin Gore
100+00.00
Begin Construction
Sta. 100+00.00 Line "R W70 N65"
Line "R_E70"
Line "R_S65_E70"
Line "R_W70_N65"
Line "R_W70"
140+00
155+00
135+00
150+00
End Shoulder Taper
169+08.71
130+00
105+00
I-70 WB to I-65 NB
End Gore
105+94.48
110+00
Line "R_W70_CDS65"
Matchline Sta. 112+00 Line "R_W70_N65"
15TH ST.
Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.
100+02.8, 66.2' Post
+41.6, 177.0' Pwp.
+50.4, 196.2' Sewer MH
+86.7, 61.4' Drop Inlet
103+05.1, 68.0' Drop Inlet
+03.7, 68.6' Drop Inlet
104+68.7, 397.9' Drop MH
+68.0, 202.9' Drop MH
105+47.8, 85.8' Drop Inlet
+24.9, 98.1' Drop Inlet
+26.2, 200.0' Drop Inlet
+50.5, 200.0' Drop Inlet
+62.1, 111.1' Drop Inlet
105+79.3, 122.2' Dbl. Post Sign
106+01.1, 17.0' Drop Inlet
+07.8, 16.9' Drop Inlet
108+13.2, 11.0' Sgl. Post Sign
110+26.6, 126.2' Sgl. Post Sign
+58.2, 131.2' Drop Inlet
111+48.8, 162.1' Post
112+01.8, 163.3' Post

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
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(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNH
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_W70_N65"
I-70 WB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-22
ELECTRONIC	95 of 649
CONTRACT	PROJECT
B-36910	1600808

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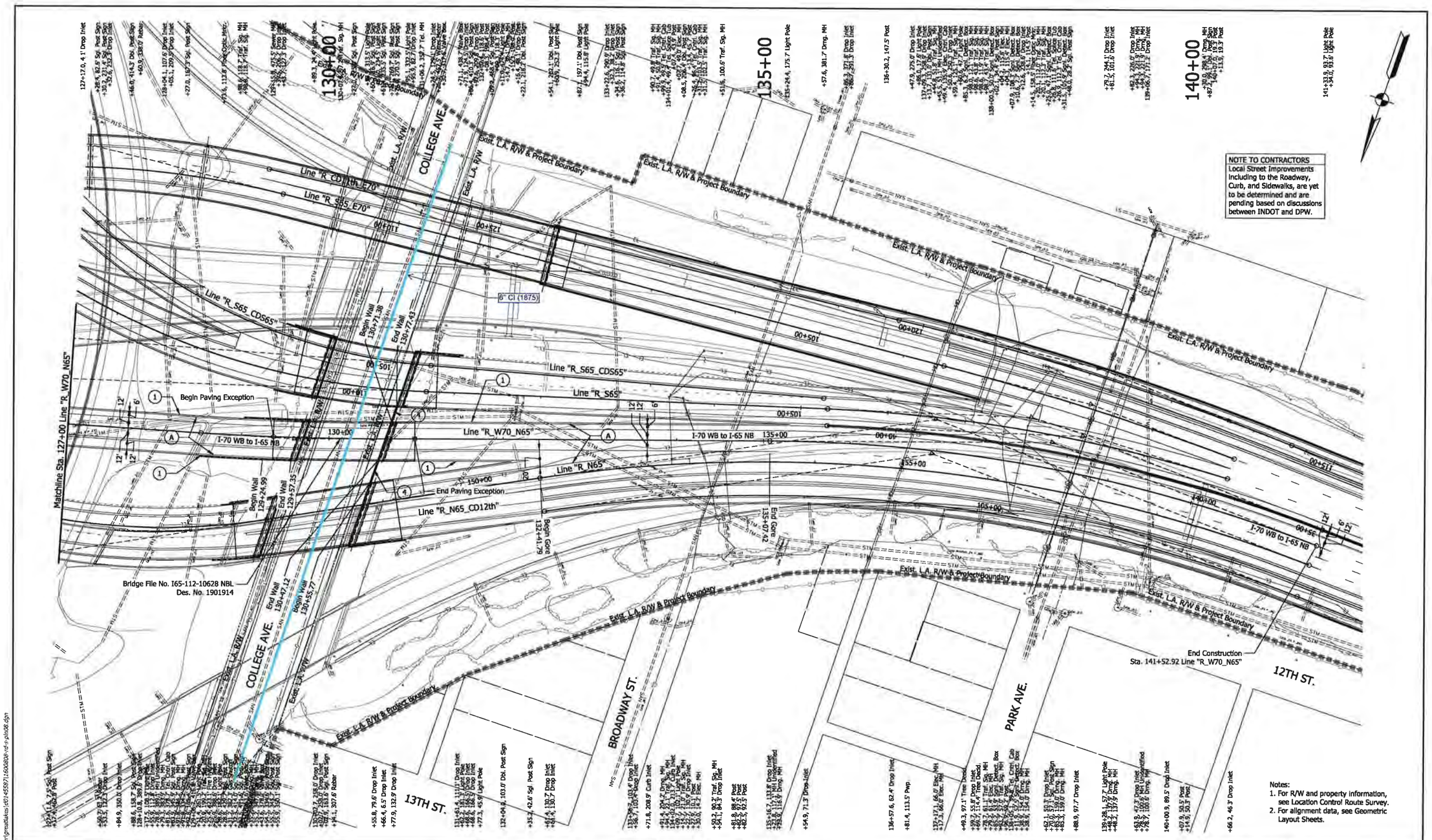

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DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_W70_N65"
I-70 WB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
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ELECTRONIC	99 of 649
CONTRACT	PROJECT
B-36910	1600808

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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

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DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65_E70"
I-65 SB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-25
ELECTRONIC	101 of 649
CONTRACT	PROJECT
B-36910	1600808

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P.V.I. Sta. = 100+95.00
Elev. = 747.48
V.C. = 175.00'

P.V.I. Sta. = 108+00.00
Elev. = 753.58
V.C. = 500.00'

Paving Exception

Sta. 107+99.47

Begin Profile
Sta. 100+00.04 Line "R S65 E70"
Elev. = 746.53

Profile Grade Along Ramp "R_S65_E70"

+2.00%

+0.87%

+3.50%

140.90 ft

Existing Ground Along Ramp "R_S65_E70"

Bridge File: 165-112-10631 SBL
Des. No. 1901918

Minimum Vertical Clearance = 32'-2"

College Avenue

Ex Ground at Test Hole 7

Ex Ground at Test Hole 8

Test Hole 7

Test Hole 8

2.07 ft

0.02 ft

100+00	101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00
740.5	740.6	740.6	740.6	739.8	739.6	739.5	739.4	739.2	739.0	738.6	738.6	739.1	738.3
746.53	747.02	747.50	748.39	749.25	749.69	750.12	750.55	750.98	751.42	751.92	752.55	753.31	754.20
740.0	720.0	719.9	727.2	735.2	730.1	723.8	718.5	729.6					
755.23	756.39	757.68	759.10	760.66	762.34	764.09	765.85	767.60	769.35	771.10			

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NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII

CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
LINE "R_S65_E70"
I-65 SB to I-70 EB

SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
1"=5'	1600808
SURVEY BOOK	SHEETS PRF-25
ELECTRONIC	102 of 649
CONTRACT	PROJECT
B-36910	1600808

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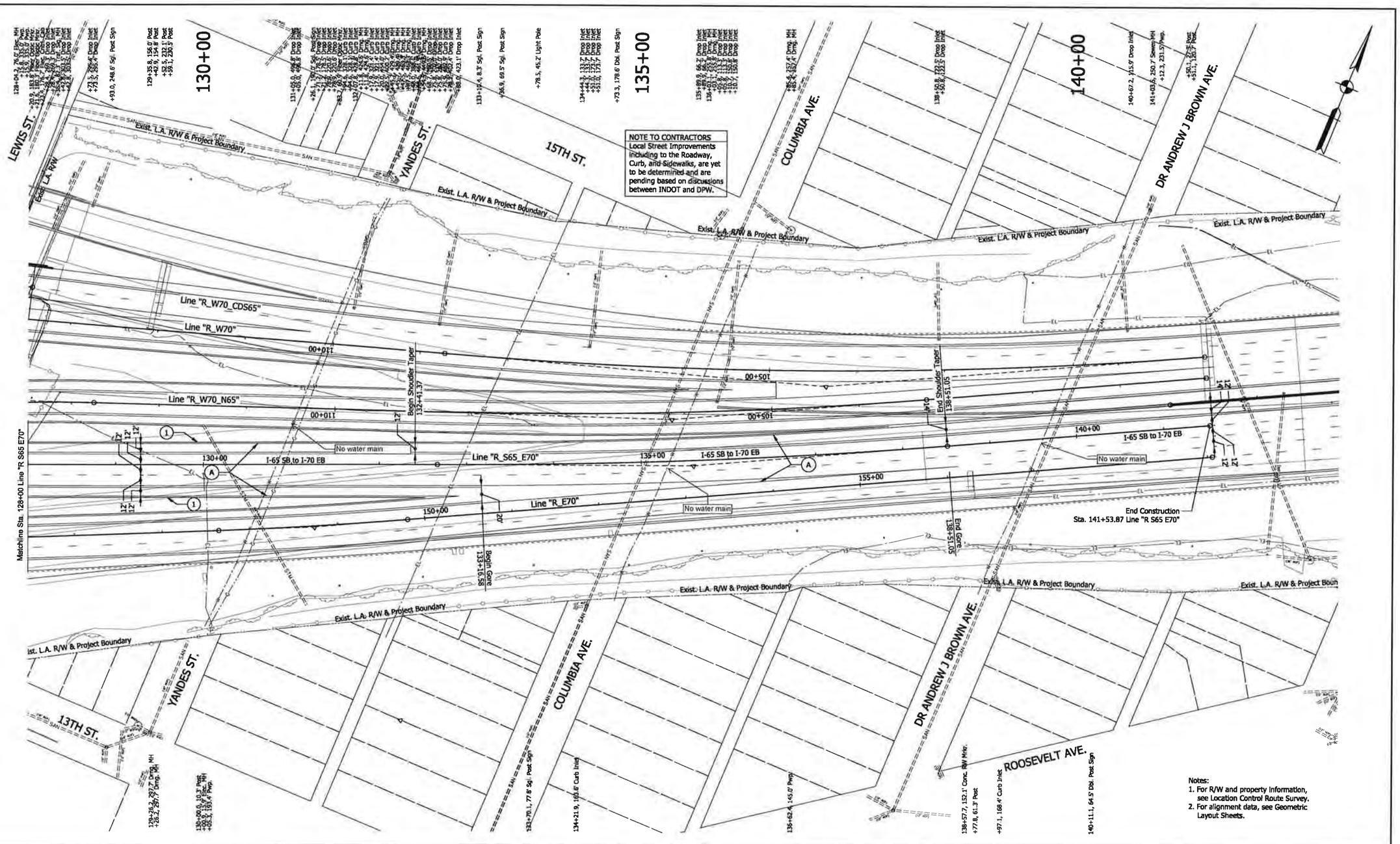

NOTE TO CONTRACTORS
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LEGEND

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- (1) Railing Concrete, FT
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- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNIT
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65_E70"
I-65 SB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS PLN-27
ELECTRONIC	105 of 649
CONTRACT	PROJECT
B-36910	1600808

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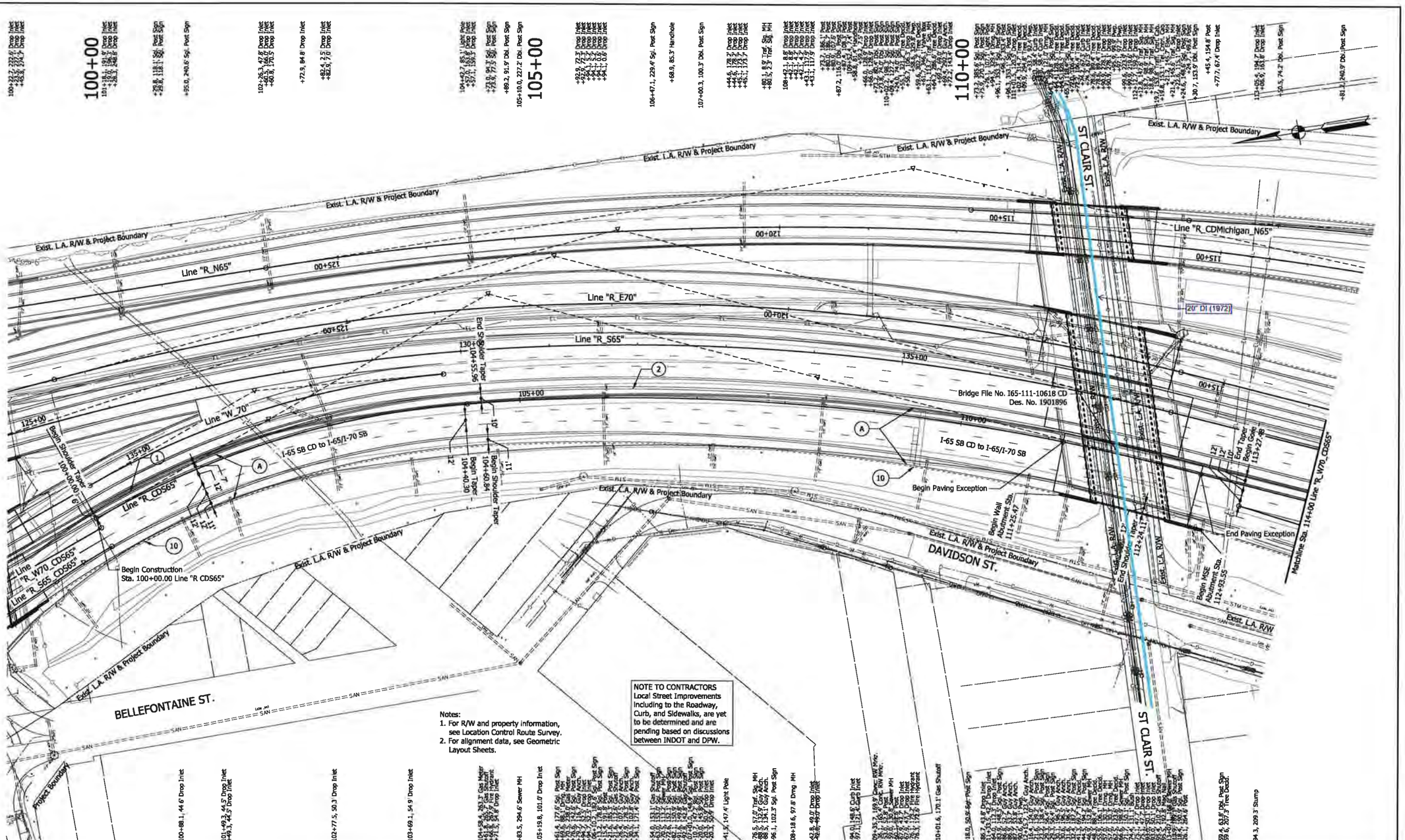

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

NOTE TO CONTRACTORS
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DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-28
ELECTRONIC	107 of 649
CONTRACT	PROJECT
B-36910	1600808

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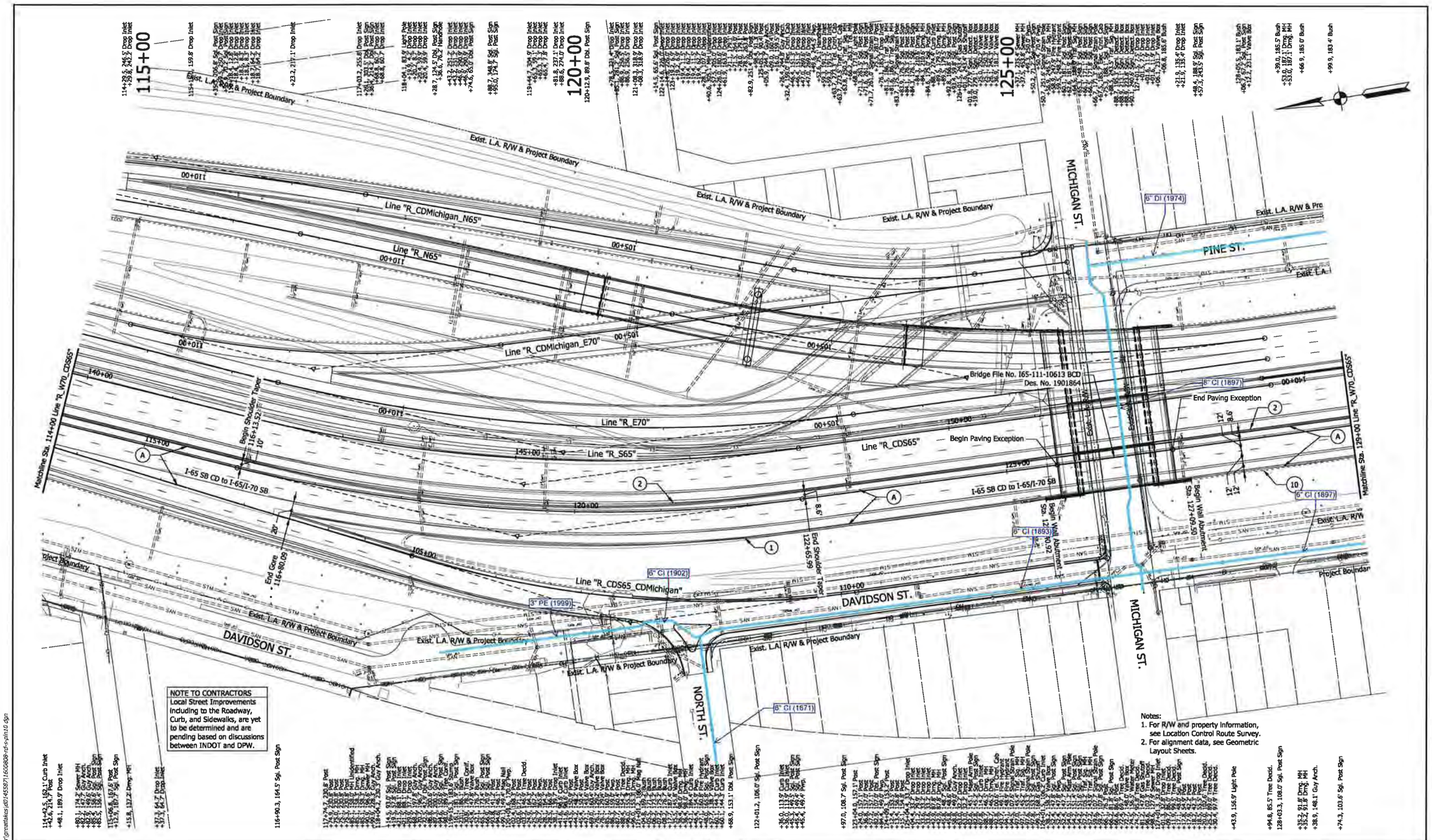

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(2) Concrete Median Barrier, 45"

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

(1) Railing Concrete, FT

(4) Retaining Wall

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-29
ELECTRONIC	109 of 649
CONTRACT	PROJECT
B-36910	1600808

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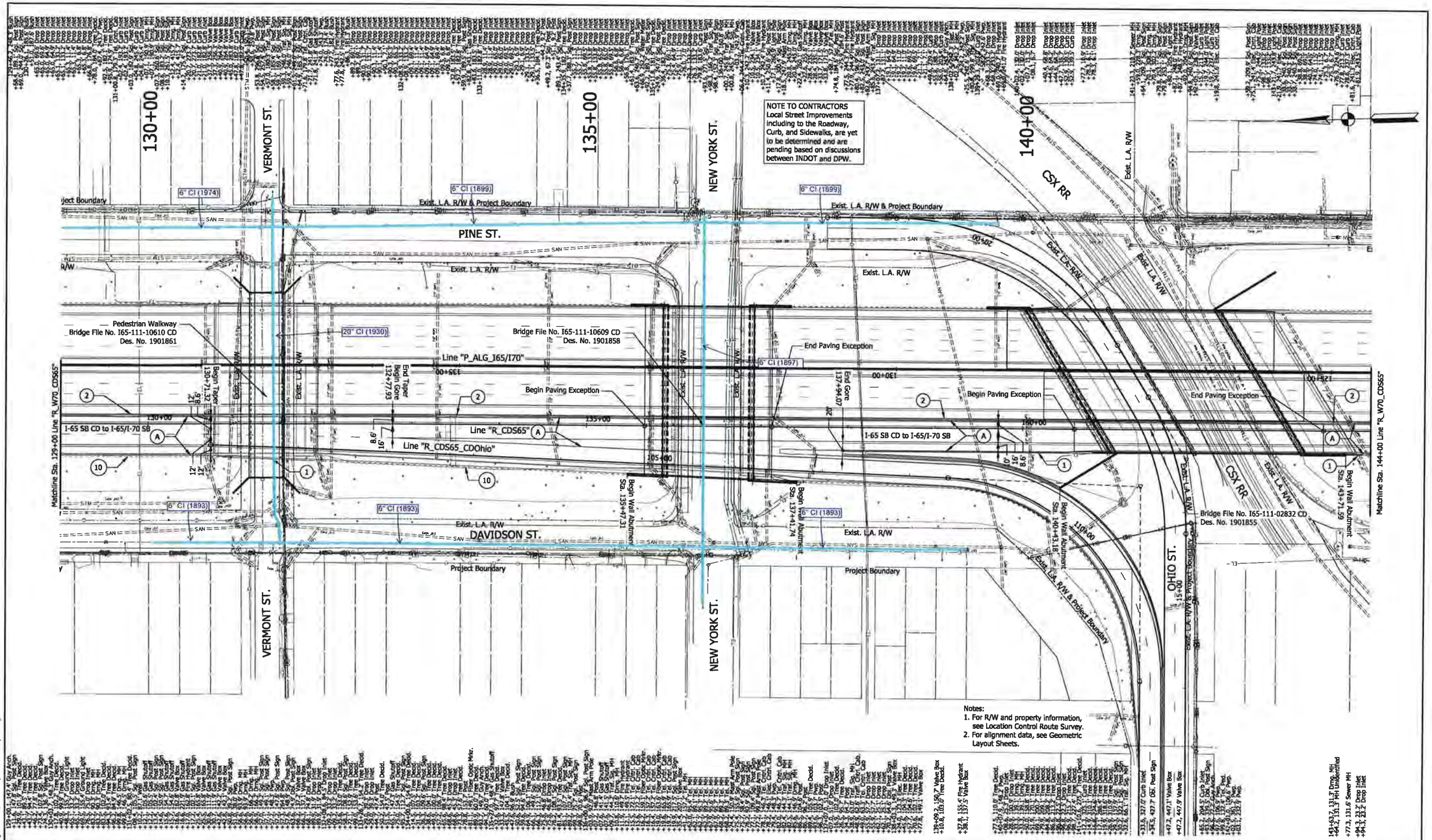

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

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DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNIT

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-30
ELECTRONIC	111 of 649
CONTRACT	PROJECT
B-36910	1600808

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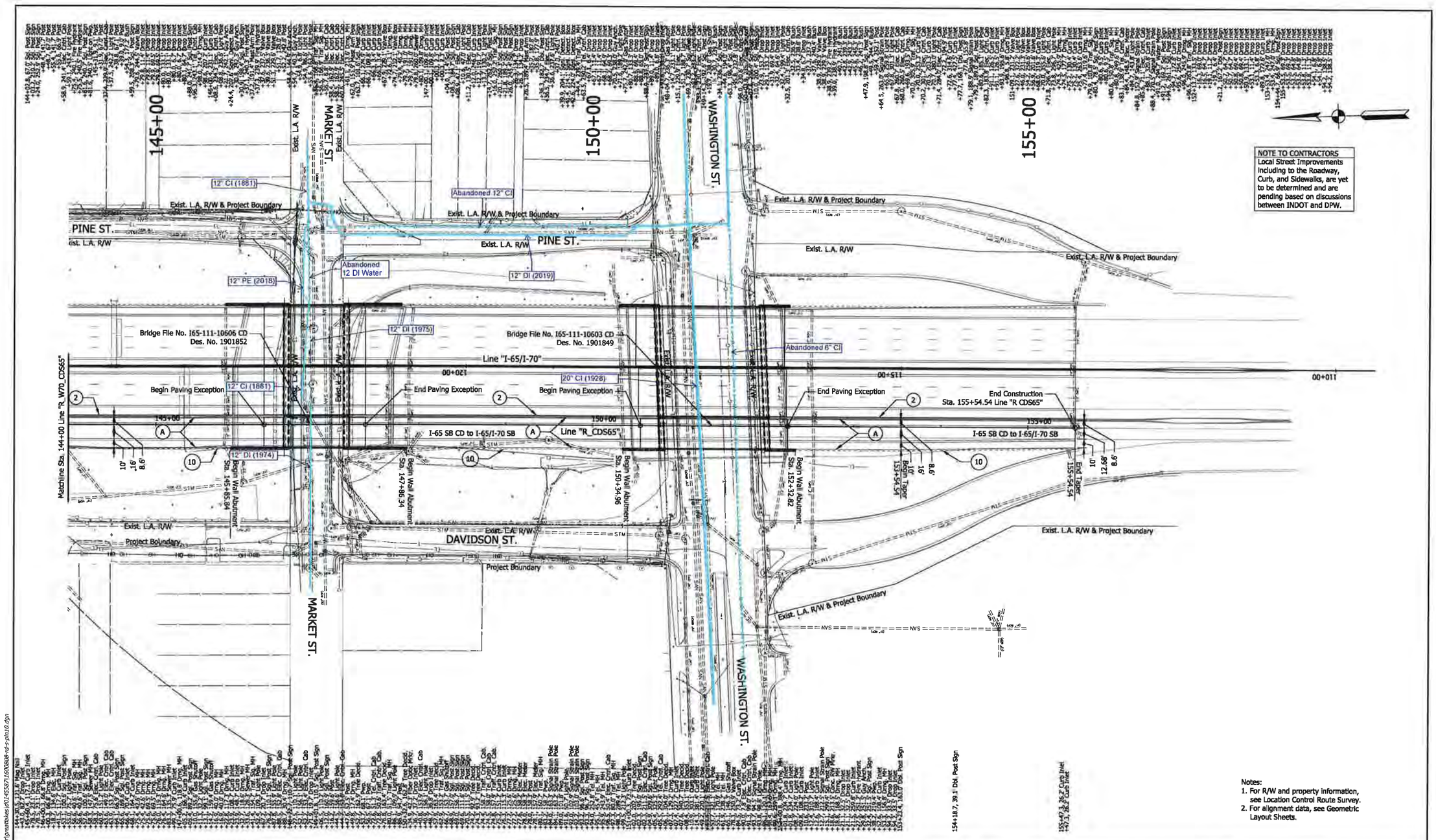

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(2) Concrete Median Barrier, 45"
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT
(4) Retaining Wall

DRAFT NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP	DRAWN: JNH
CHECKED: CCR	CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-31
ELECTRONIC	113 of 649
CONTRACT	PROJECT
B-36910	1600808

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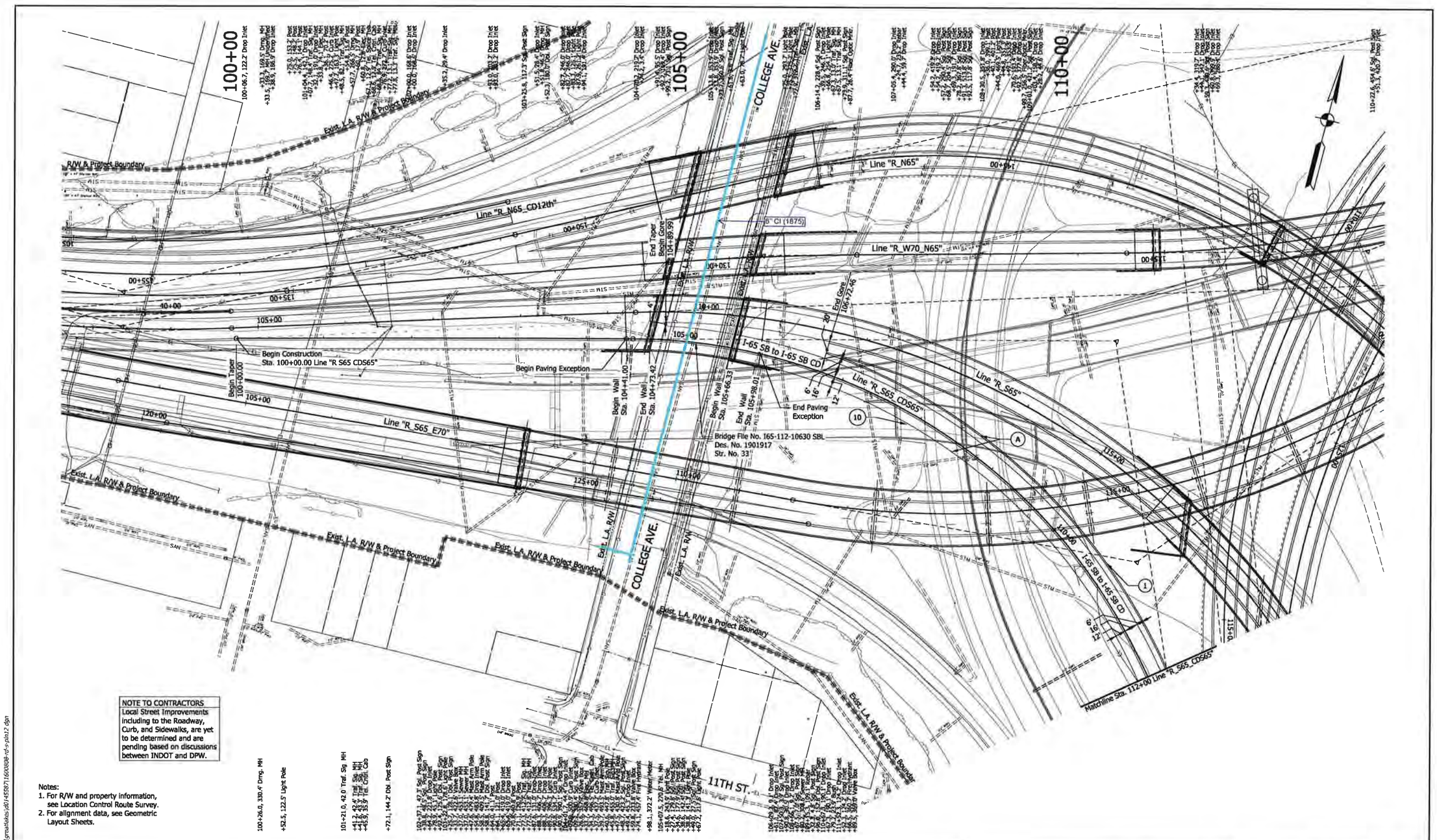

NOTE TO CONTRACTORS
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Notes:
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100+26.0, 330.4' Drng. MH
+52.5, 122.5' Light Pole
101+21.0, 42.0' Traf. Sig. MH
+41.2, 42.4' Traf. Sig. MH
+41.6, 43.3' Traf. Sig. MH
+45.9, 35.9' Tel. Cntrl. Cab
+72.1, 144.2' Dbl. Post Sign
+98.1, 372.2' Water Meter
105+07.5, 270.6' Tel. MH

LEGEND

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DRAFT
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65_CDS65"
I-65 SB to I-65 SB CD

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-34
ELECTRONIC	119 of 649
CONTRACT	PROJECT
B-36910	1600808

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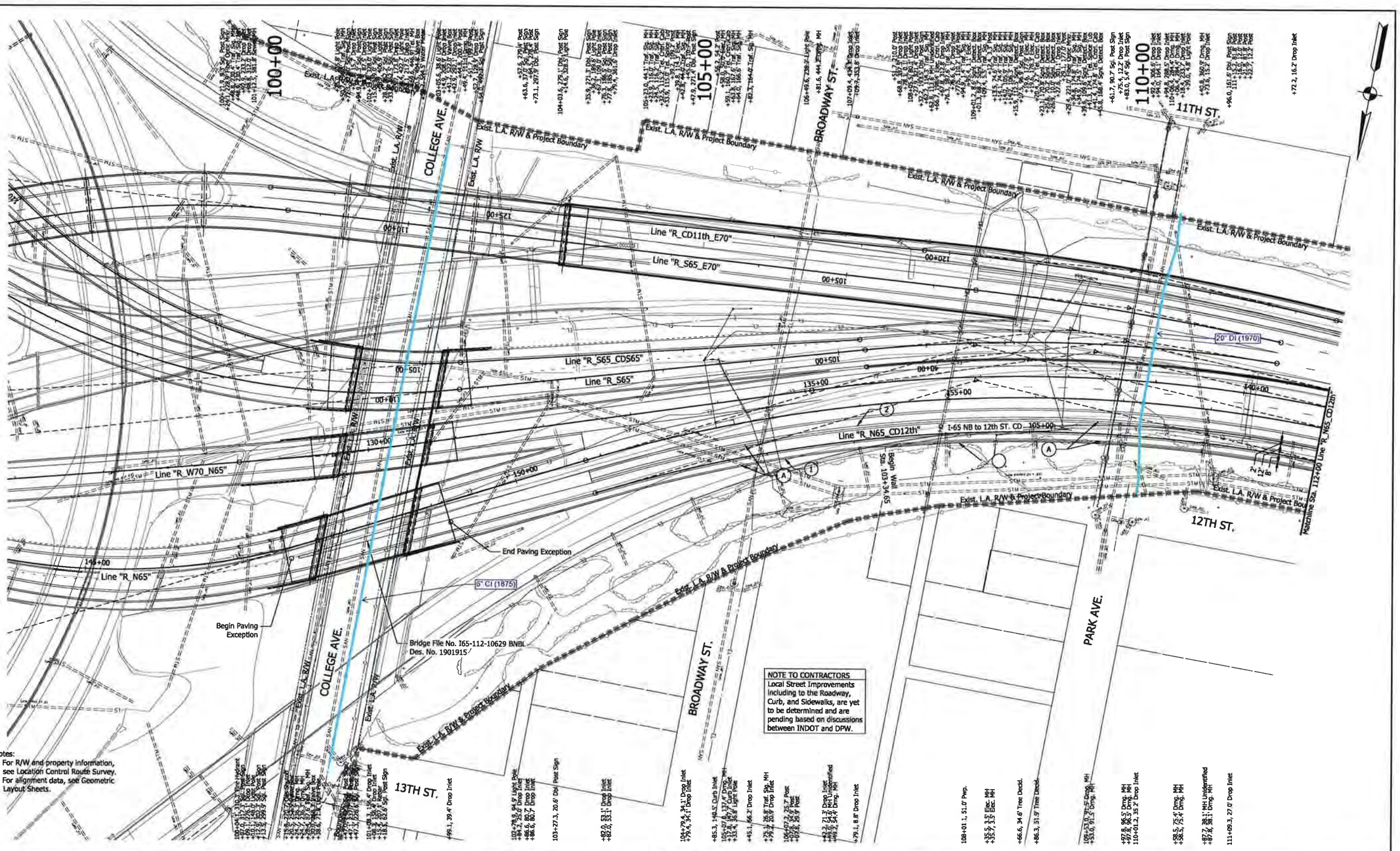

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DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65_CD12th"
I-65 NB to 12th St CD

HORIZONTAL SCALE	1"=50'
VERTICAL SCALE	N/A
SURVEY BOOK	
ELECTRONIC	
CONTRACT	B-36910
BRIDGE FILE	N/A
DESIGNATION	1600808
SHEETS	PLN-36
123 of 649	
PROJECT	1600808

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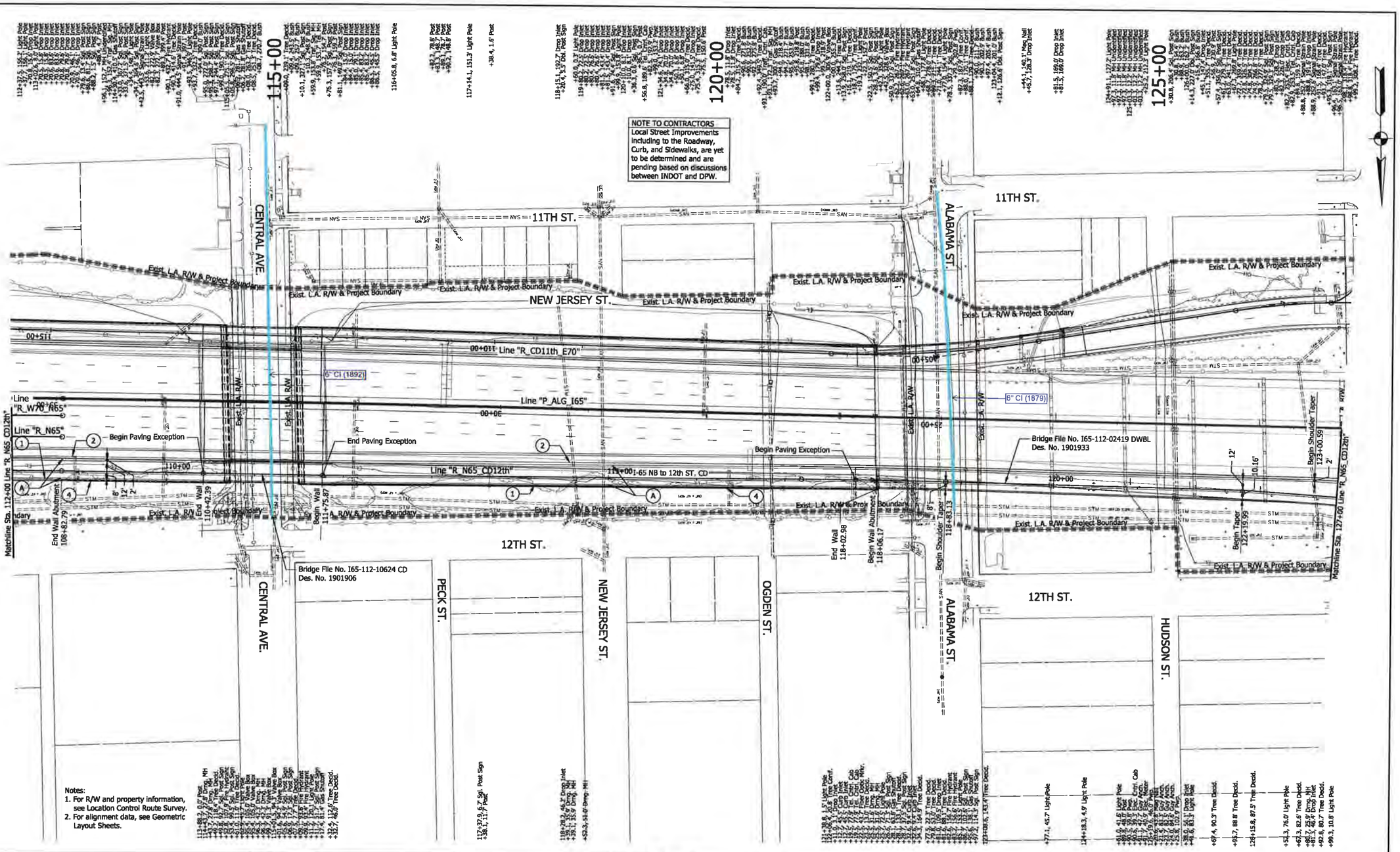

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNT
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65_CD12th"
I-65 NB to 12th St CD

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-37
ELECTRONIC	125 of 649
CONTRACT	PROJECT
B-36910	1600808

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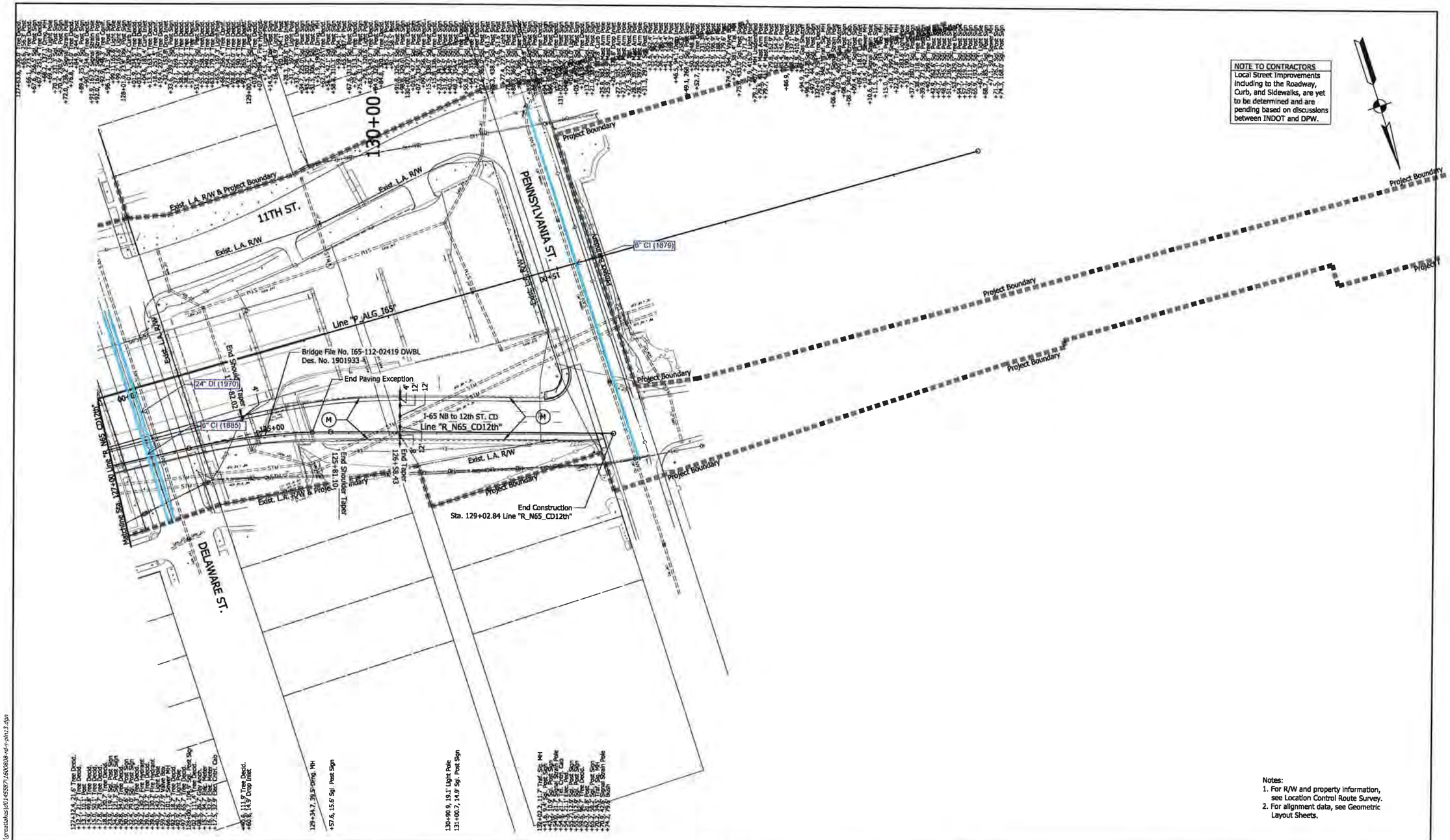

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(M) Mill and Overlay

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	
DESIGNED: CAP	DRAWN: JNII		
CHECKED: CCR	CHECKED: CCR		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65_CD12th"
I-65 NB to 12th St CD

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-38
ELECTRONIC	127 of 649
CONTRACT	PROJECT
B-36910	1600808

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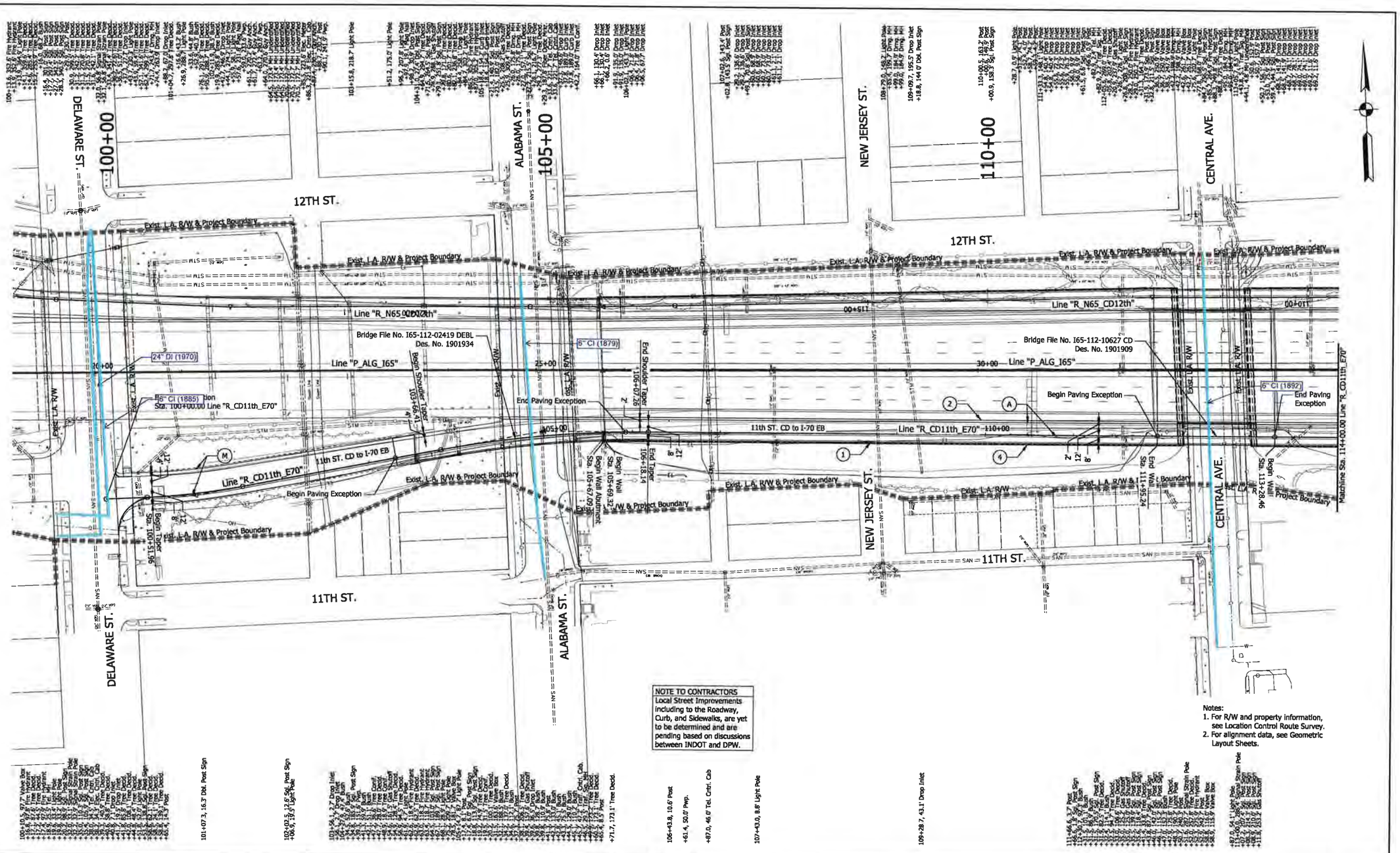

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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)	(1) Railing Concrete, FT	(4) Retaining Wall
(M) Mill and Overlay	(2) Concrete Median Barrier, 45"	(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CD11th_E70"
11th St CD to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-39
ELECTRONIC	129 of 649
CONTRACT	PROJECT
B-36910	1600808

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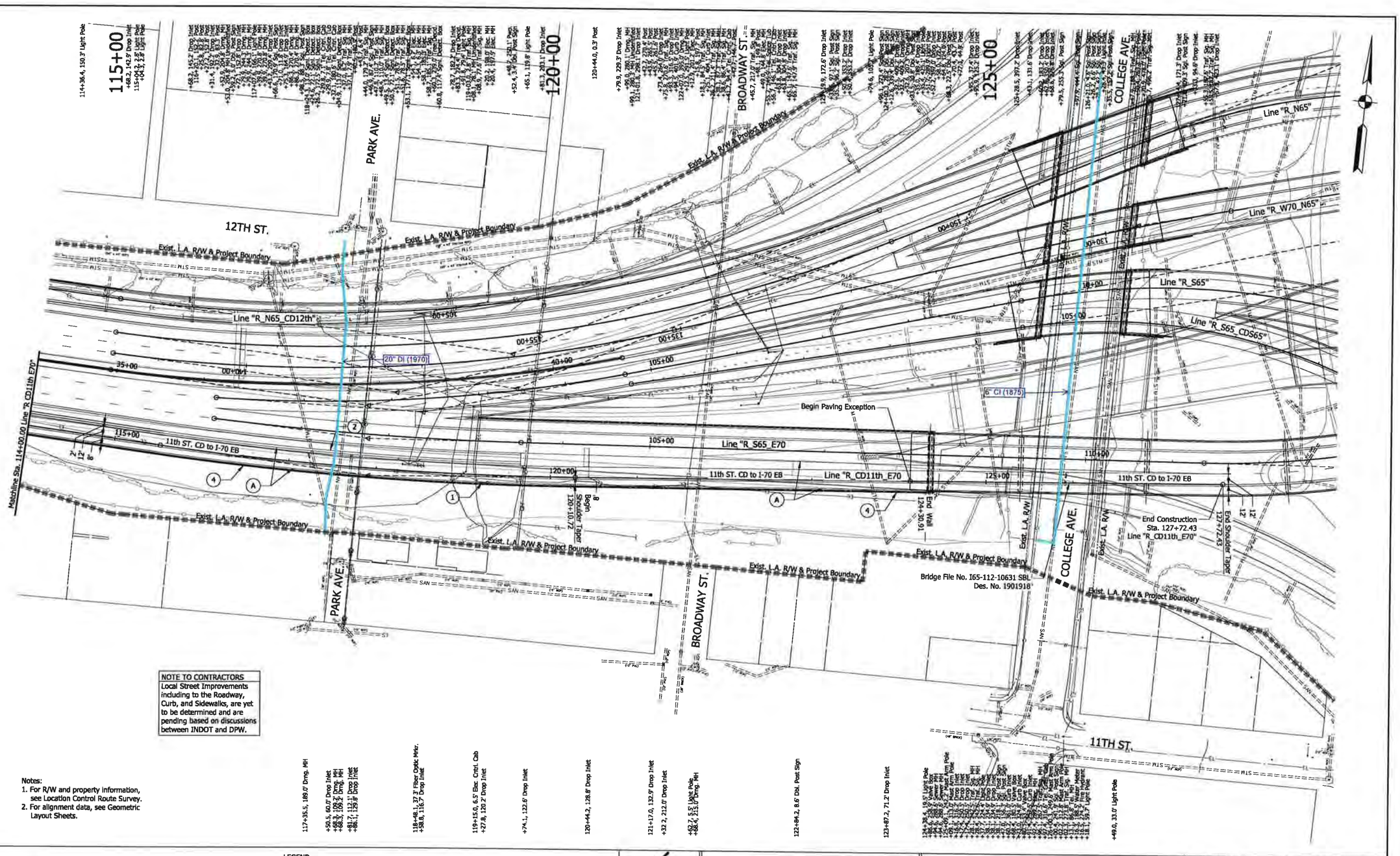

NOTE TO CONTRACTORS
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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP	DRAWN: JNI
CHECKED: CCR	CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CD11th_E70"
11th St CD to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE:	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-40
ELECTRONIC	131 of 649
CONTRACT	PROJECT
B-36910	1600808

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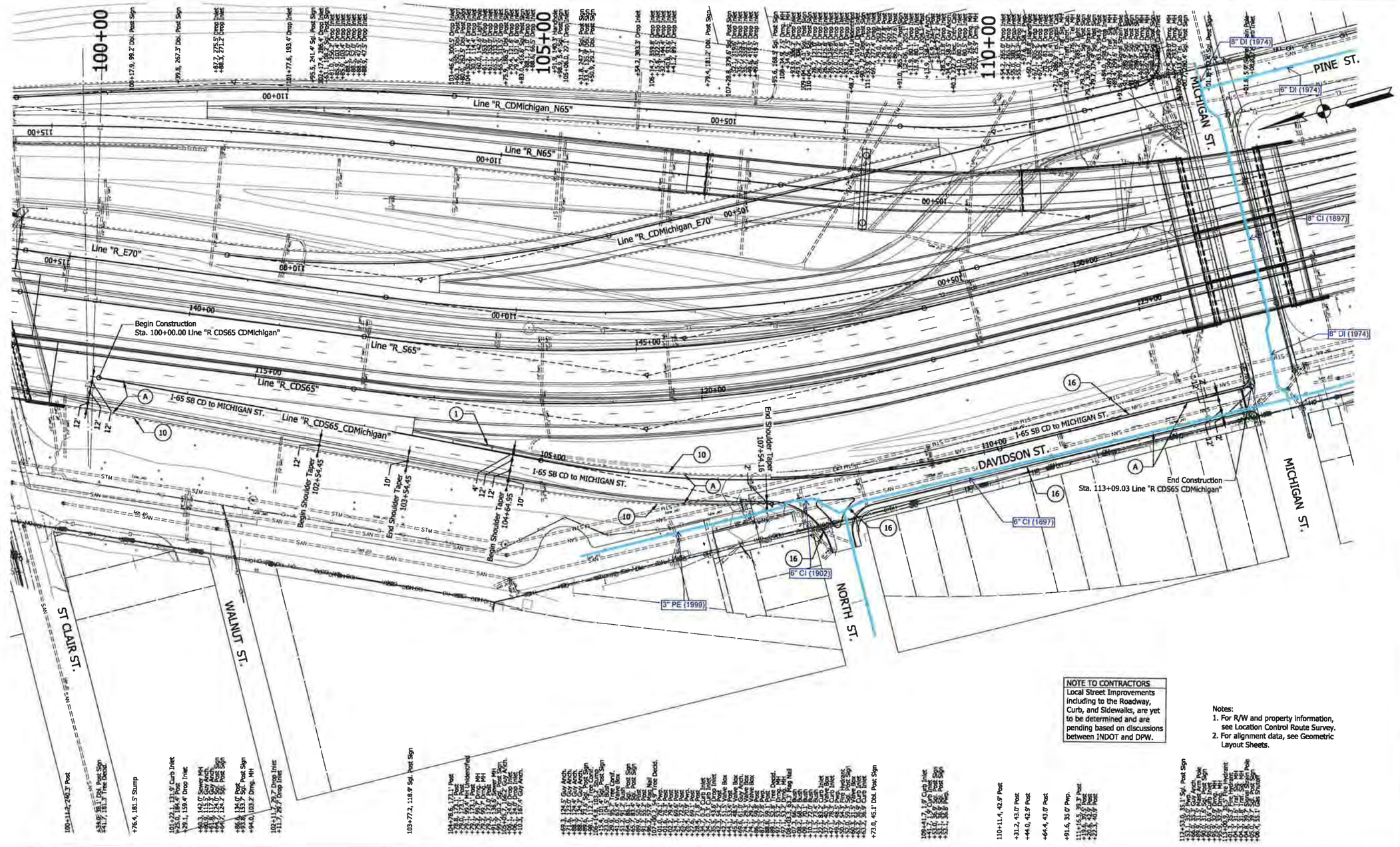

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2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45°
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNH

CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65_CDMichigan"
I-65 SB CD to Michigan St

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-41
ELECTRONIC	133 of 649
CONTRACT	PROJECT
B-36910	1600808

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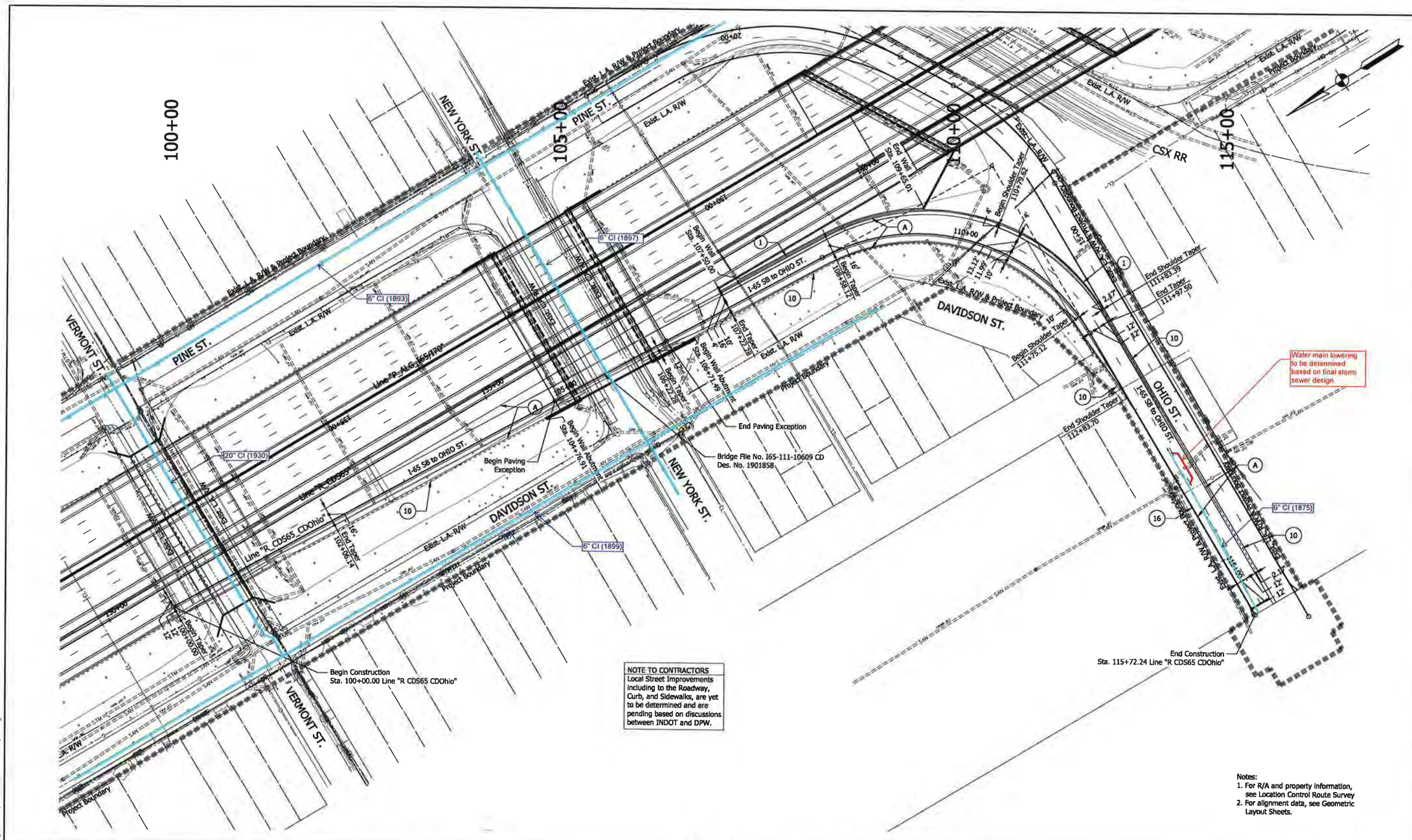

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Notes:
1. For R/A and property information, see Location Control Route Survey
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65_CDOhio"
I-65 SB CD to Ohio St

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-42
ELECTRONIC	135 of 649
CONTRACT	PROJECT
B-36910	1600808

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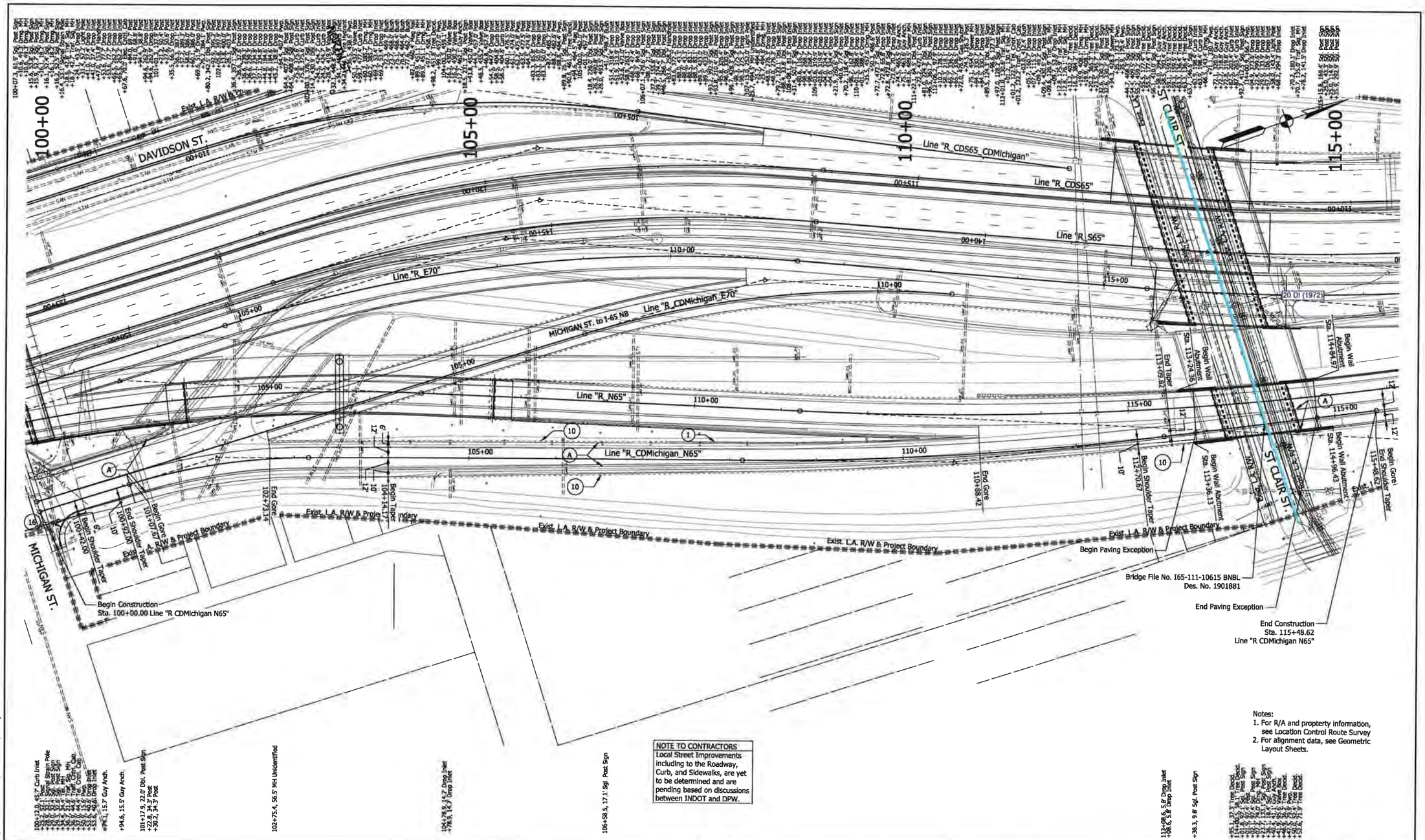

Notes:
1. For R/A and propterty information, see Location Control Route Survey
2. For alignment data, see Geometric Layout Sheets.

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDMichigan_N65"
Michigan St to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-43
ELECTRONIC	137 of 649
CONTRACT	PROJECT
B-36910	1600808

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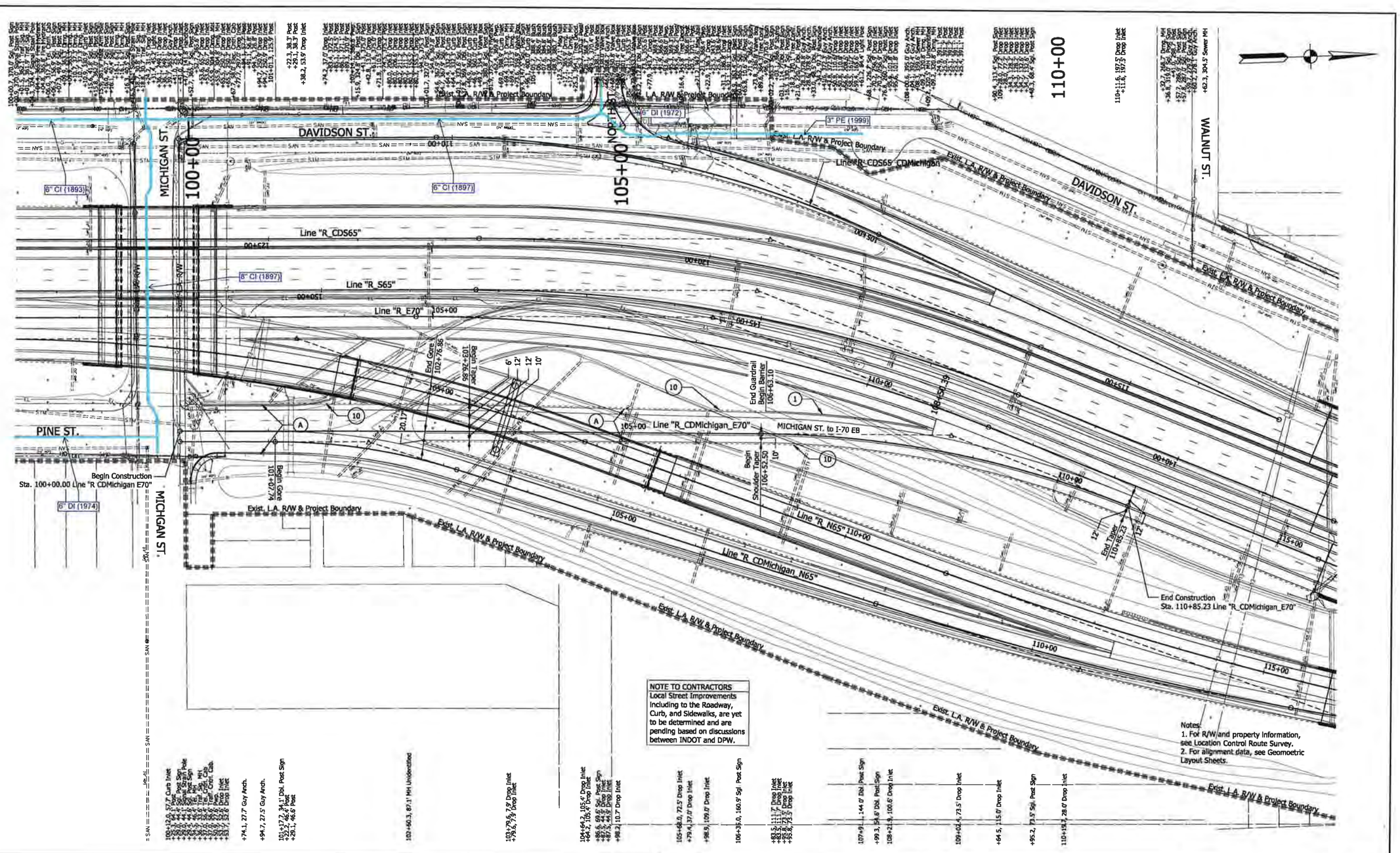

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Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDMichigan_E70"
Michigan St to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-44
ELECTRONIC	139 of 649
CONTRACT	PROJECT
B-36910	1600808

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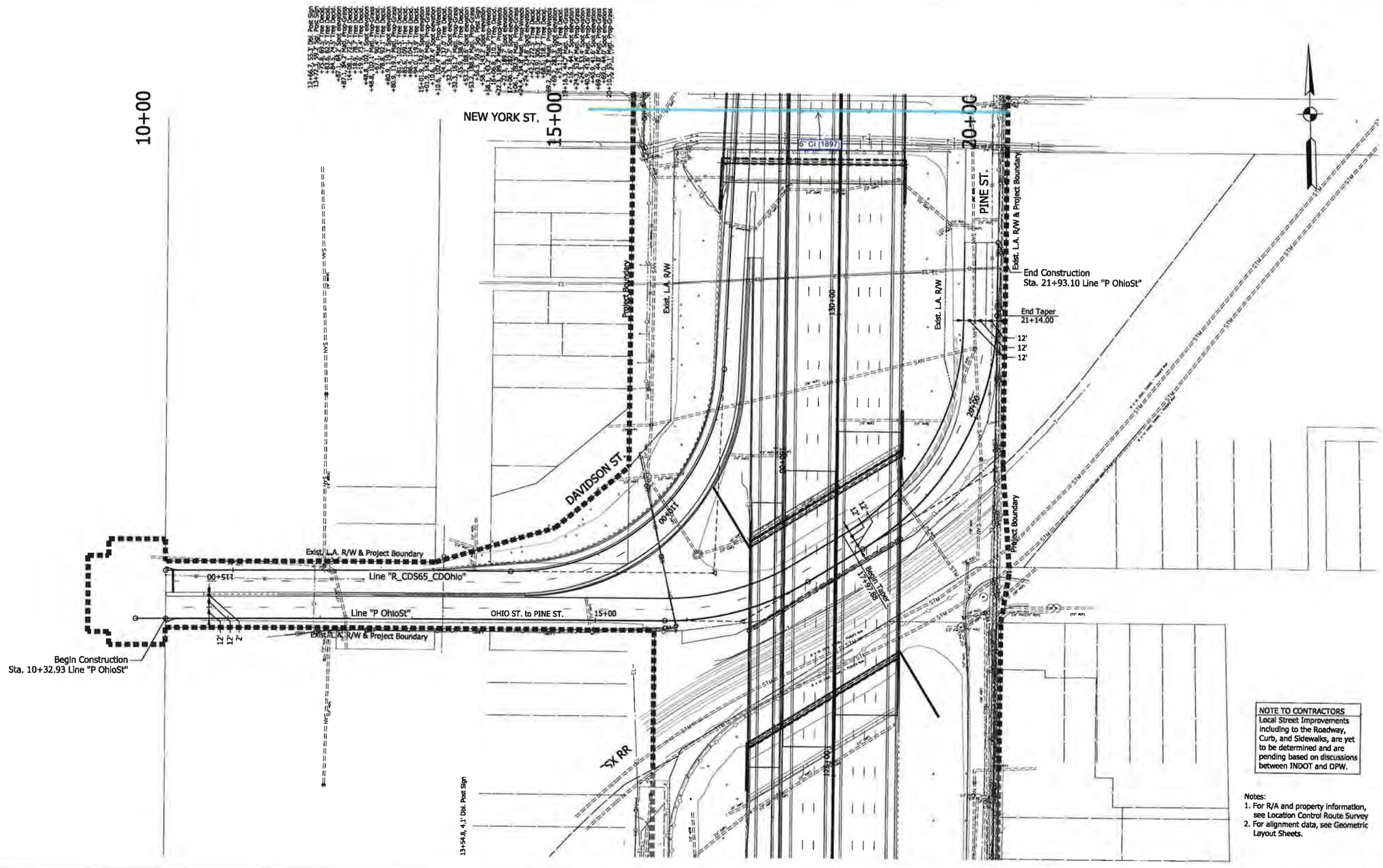

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/A and property information, see Location Control Route Survey
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (A4) PCCP Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_OhioSt"
Ohio St to Pine St

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-45
ELECTRONIC	141 of 649
CONTRACT	PROJECT
B-36910	1600808

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PROJECT	DESIGNATION
1600808	1600808
CONTRACT	
B-36910	

KIN PROJECT INFORMATION		
DESIGNATION	PROJECT DESCRIPTION	LEAD DES
1600808	COMPLETE ROAD RECONSTRUCTION OF I-65/I-70 FROM WASHINGTON STREET TO I-65 OVER DELAWARE STREET AND I-70 OVER VALLEY AVENUE	
1901935	ITS FOR I-65/I-70 FROM WASHINGTON STREET TO I-65 OVER DELAWARE STREET AND I-70 OVER VALLEY AVENUE	
1901936	SIGNS, LIGHTING, SIGNALS AND MARKING FOR I-65/I-70 FROM WASHINGTON STREET TO I-65 OVER DELAWARE STREET AND I-70 OVER VALLEY AVENUE	
1901847	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER WASHINGTON STREET	
1901848	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER WASHINGTON STREET	
1901849	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER WASHINGTON STREET	
1901850	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER MARKET STREET	
1901851	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER MARKET STREET	
1901852	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER MARKET STREET	
1901853	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER CSX RAILROAD & OHIO STREET	
1901854	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER CSX RAILROAD & OHIO STREET	
1901855	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER CSX RAILROAD & OHIO STREET	
1901856	BRIDGE REPLACEMENT ON I-65/I-70 NB OVER NEW YORK STREET	
1901857	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER NEW YORK STREET	
1901858	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER NEW YORK STREET	
1901861	BRIDGE REPLACEMENT ON I-65/I-70 NB, SB, & SB CD OVER VERMONT STREET	
1901862	BRIDGE REPLACEMENT ON I-65 NB & I-70 EB OVER MICHIGAN STREET	
1901863	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER MICHIGAN STREET	
1901864	BRIDGE REPLACEMENT ON I-65/I-70 SB CD OVER MICHIGAN STREET	
1901865	BRIDGE REPLACEMENT ON I-65 NB OVER I-70 EB ENTRANCE RAMP	
1901881	BRIDGE REPLACEMENT ON I-65 NB OVER ST. CLAIR STREET	
1901889	NEW BRIDGE CONSTRUCTION ON I-70 EB OVER ST. CLAIR STREET	
1901892	BRIDGE REPLACEMENT ON I-65/I-70 SB OVER ST. CLAIR STREET	
1901896	NEW BRIDGE CONSTRUCTION ON I-65/I-70 SB CD OVER ST. CLAIR STREET	
1901897	BRIDGE REPLACEMENT ON I-65 NB OVER EAST 10TH STREET	
1901899	NEW BRIDGE CONSTRUCTION ON I-70 EB OVER EAST 10TH STREET	
1901901	BRIDGE REPLACEMENT ON I-65 SB OVER EAST 10TH STREET	
1901903	BRIDGE REPLACEMENT ON I-70 WB OVER EAST 10TH STREET	
1901905	NEW BRIDGE CONSTRUCTION ON I-65/I-70 SB CD OVER EAST 10TH STREET	
1901906	NEW BRIDGE CONSTRUCTION ON I-65 NB CD EXIT RAMP OVER CENTRAL AVENUE	
1901907	BRIDGE REPLACEMENT ON I-65 NB OVER CENTRAL AVENUE	
1901908	BRIDGE REPLACEMENT ON I-65 SB OVER CENTRAL AVENUE	
1901909	NEW BRIDGE CONSTRUCTION ON I-65 SB CD ENTRANCE RAMP OVER CENTRAL AVE.	
1901914	BRIDGE REPLACEMENT ON I-70 WB TO I-65 NB OVER COLLEGE AVENUE	
1901915	BRIDGE REPLACEMENT ON I-65 NB CD EXIT RAMP OVER COLLEGE AVENUE	
1901917	BRIDGE REPLACEMENT ON I-65 SB & SB CD OVER COLLEGE AVENUE	
1901918	BRIDGE REPLACEMENT ON I-65 SB TO I-70 EB OVER COLLEGE AVENUE & 5 RAMPS	
1901919	BRIDGE REPLACEMENT ON I-65 NB OVER I-70 WB & SB CD RAMP	
1901920	BRIDGE REPLACEMENT ON I-70 WB TO I-65 NB OVER 3 RAMPS	
1901921	BRIDGE REPLACEMENT ON I-65 SB OVER I-70 WB & SB CD RAMP	
1901922	NEW BRIDGE CONSTRUCTION ON I-65 NB OVER I-70 EB	
1901923	BRIDGE REPLACEMENT ON I-70 WB & SB CD OVER LEWIS STREET & MONON TRAIL	
1901925	NEW BRIDGE CONSTRUCTION ON I-70 WB TO I-65 NB OVER LEWIS STREET & MONON TRAIL	
1901927	NEW BRIDGE CONSTRUCTION ON I-65 SB TO I-70 EB OVER LEWIS STREET & MONON TRAIL	
1901928	BRIDGE REPLACEMENT ON I-70 EB OVER LEWIS STREET & MONON TRAIL	
1901929	PREVENTATIVE MAINTENANCE ON I-70 WB OVER ROOSEVELT @ COMMERCE AVE.	
1901930	REHABILITATE AND WIDEN ON I-70 EB OVER ROOSEVELT @ COMMERCE AVE.	
1901931	PREVENTATIVE MAINTENANCE ON I-70 WB OVER VALLEY AVENUE	
1901932	PREVENTATIVE MAINTENANCE ON I-70 EB OVER VALLEY AVENUE	
1901933	REHABILITATE AND WIDEN PENNSYLVANIA ST. EXIT RAMP OVER DELAWARE STREET & ALABAMA STREET	
1901934	REHABILITATE AND WIDEN DELAWARE ST. ENTRANCE RAMP OVER ALABAMA ST.	

INDIANA DEPARTMENT OF TRANSPORTATION

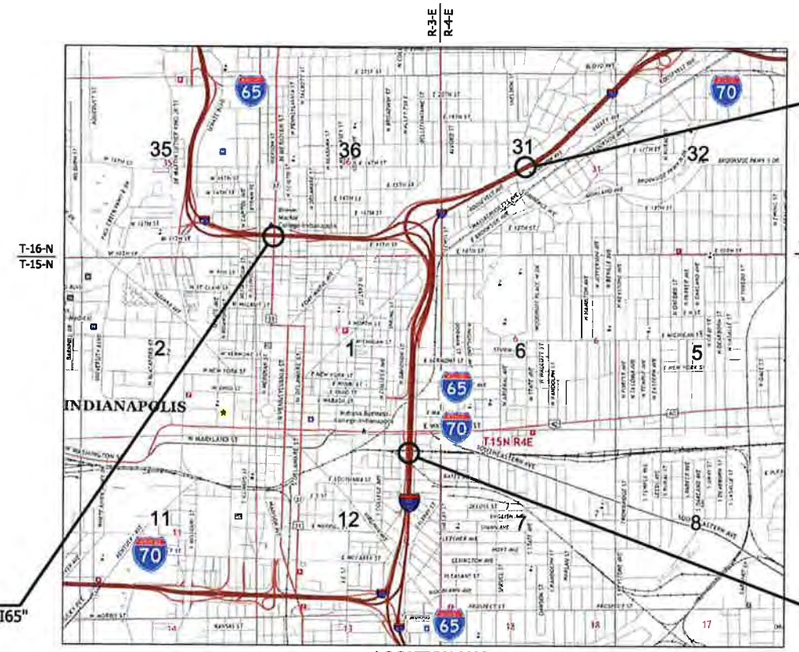
ROAD PLANS

ROUTE: I-65 FROM: RP 111+0.16 TO: RP 112+0.94
I-70 FROM: RP 81+0.72 TO: RP 83+0.67

PROJECT NO. 1600808 (P.E. & CONSTR.)

NO ADDITIONAL RIGHT-OF-WAY REQUIRED FOR THIS PROJECT

RECONSTRUCTION OF I-65/I-70 (NORTH SPLIT) INTERCHANGE
IN SECTIONS 35 & 36, T-16-N, R-3-E, SECTION 31, T-16-N, R-4-E, SECTIONS 1 & 12, T-15-N, R-3-E,
CENTER TOWNSHIP, MARION COUNTY, INDIANA



END CONSTRUCTION PROJECT NO. 1600808
STATION 22+00.83 LINE "P_ALG_I70"

SCALE: 1" = 2000'

END PROJECT NO. 1600808
STATION 25+75.00 LINE "P_ALG_I65"

BEGIN PROJECT NO. 1600808
STATION 113+00.00 LINE "P_ALG_I65/I70"

LOCATION MAP
(MARION COUNTY)

SEE INDEX SHEET FOR TRAFFIC AND DESIGN DATA



PROJECT LOCATION SHOWN BY
MARION COUNTY

LATITUDE: 39°46'01" N LONGITUDE: 86°08'35" W

GROSS LENGTH	10.8	MI.
NET LENGTH	9.1	MI.
MAX. GRADE:	3.5 %	%

HUC Code: 05/20201130020

NORTH SPLIT UPGRADES DRIVING PROGRESS

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

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

HNTB
HNTB CORPORATION
THE HNTB COMPANIES
ENGINEERS ARCHITECTS PLANNERS
111 MONUMENT CIRCLE
SUITE 1200
INDIANAPOLIS, IN 46204

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

DRAFT NOT FOR CONSTRUCTION

PLANS PREPARED BY: United Consulting (317) 895-2585
PHONE NUMBER

CERTIFIED BY: DATE

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

	DESIGNATION	
	1600808	
SURVEY BOOK	SHEETS	TI-00
ELECTRONIC	1 of	649
CONTRACT	PROJECT	
B-36910	1600808	

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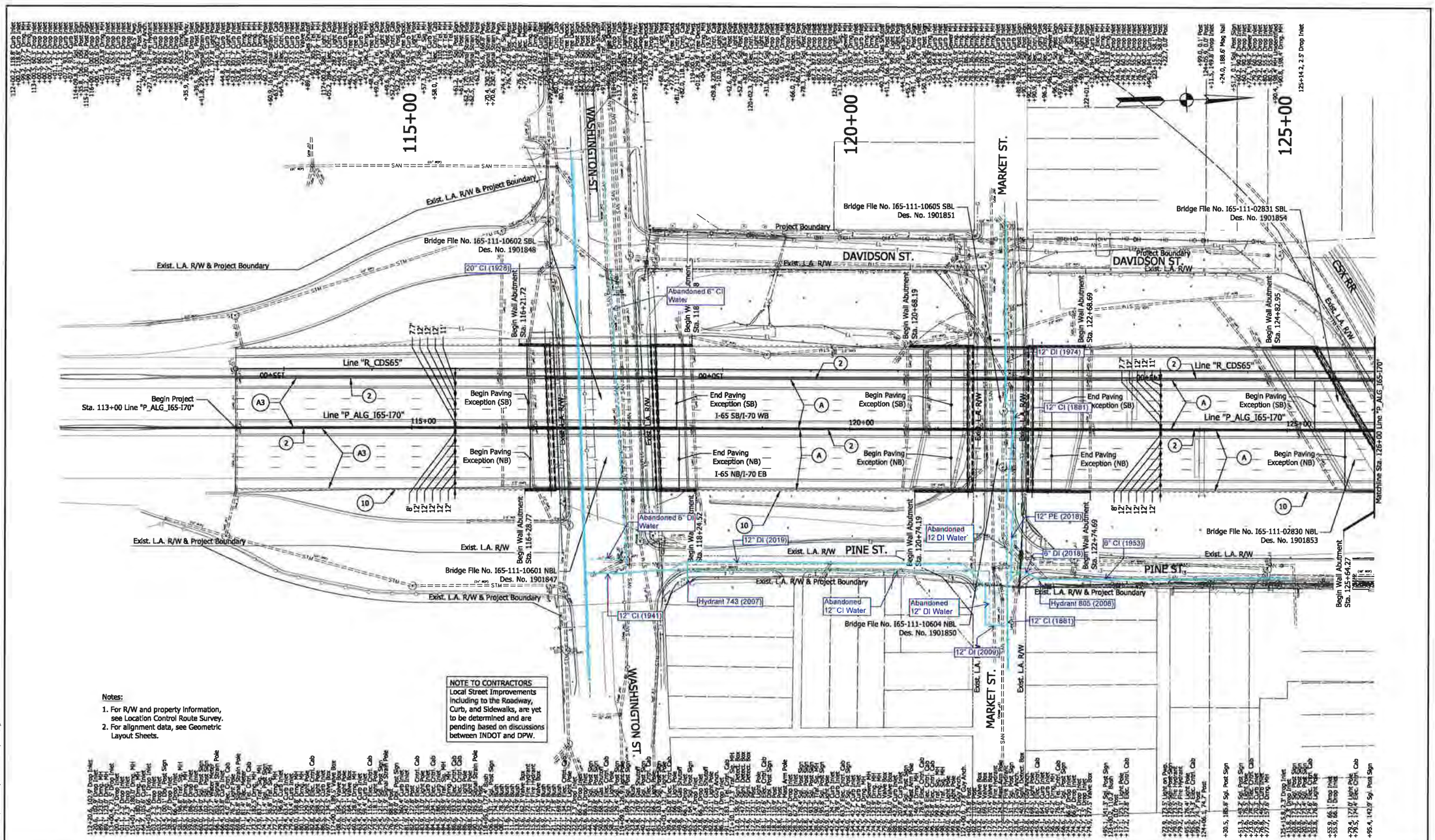

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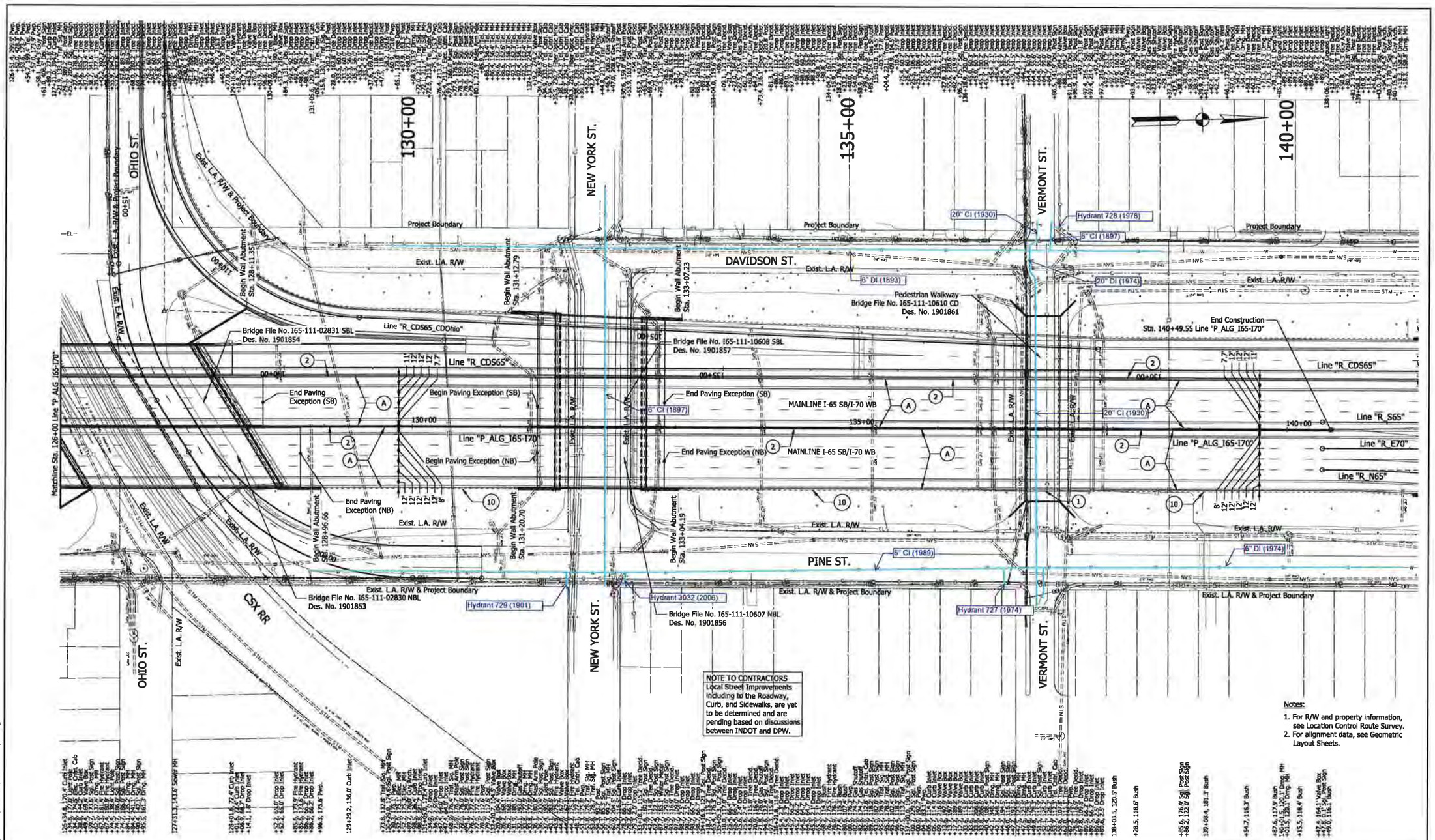

NOTE TO CONTRACTORS
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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_ALG_I65/I70"
I-65/I-70 SB/NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-02
ELECTRONIC	55 of 649
CONTRACT	PROJECT
B-36910	1600808

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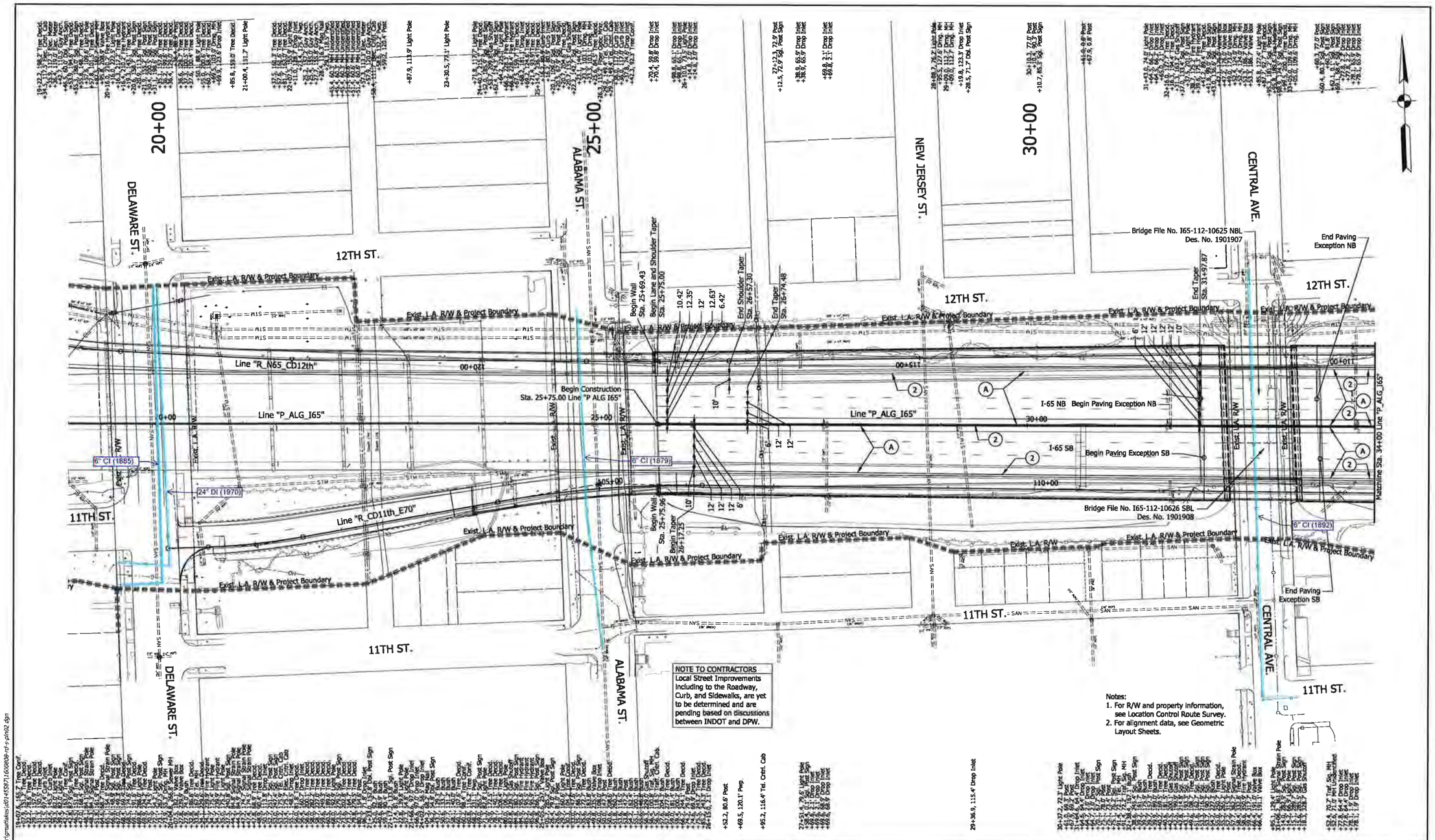

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (A3) PCCP Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH

CHECKED: CCR CHECKED: CCR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_ALG_I65"
I-65 SB/NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-03
ELECTRONIC	57 of 649
CONTRACT	PROJECT
B-36910	1600808

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10+00

15+00

20+00

16th Street

Exist. L.A. R/W & Project Boundary

Bridge File No. I70-083-05701 JEWB
Des. No. 1901929

Bridge File No. I70-083-05701 EEBL
Des. No. 1901930

12" CI (1898)

12" CI (1894)

12" DI (1974)

Line "R_W70"

Line "R_W70_N65"

Begin Construction
Sta. 10+00.00 Line "P ALG I70"

Line "R_S65_E70"

Line "R_E70"

Line "P_ALG_I70"

I-70 WB

I-70 EB

Begin Paving Exception WB

Begin Paving Exception EB

End Paving Exception WB

End Paving Exception EB

Begin Shldr Taper
+02.05

End Shldr Taper
+02.05

Begin Lane Drop
17+41.38

Begin Shldr Taper
+89.80

Begin Guardrail
End Barrier
End Shldr Taper
+89.80

End Lane Drop
24+30.65

Exist. L.A. R/W

Exist. L.A. R/W & Project Boundary

COMMERCE AVE.

NOTE TO CONTRACTORS

Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:

1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(A2) PCCP Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

(2) Concrete Median Barrier, 45"

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNII

CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_ALG_I70"
I-70 EB/WB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-05
ELECTRONIC	61 of 649
CONTRACT	PROJECT
B-36910	1600808

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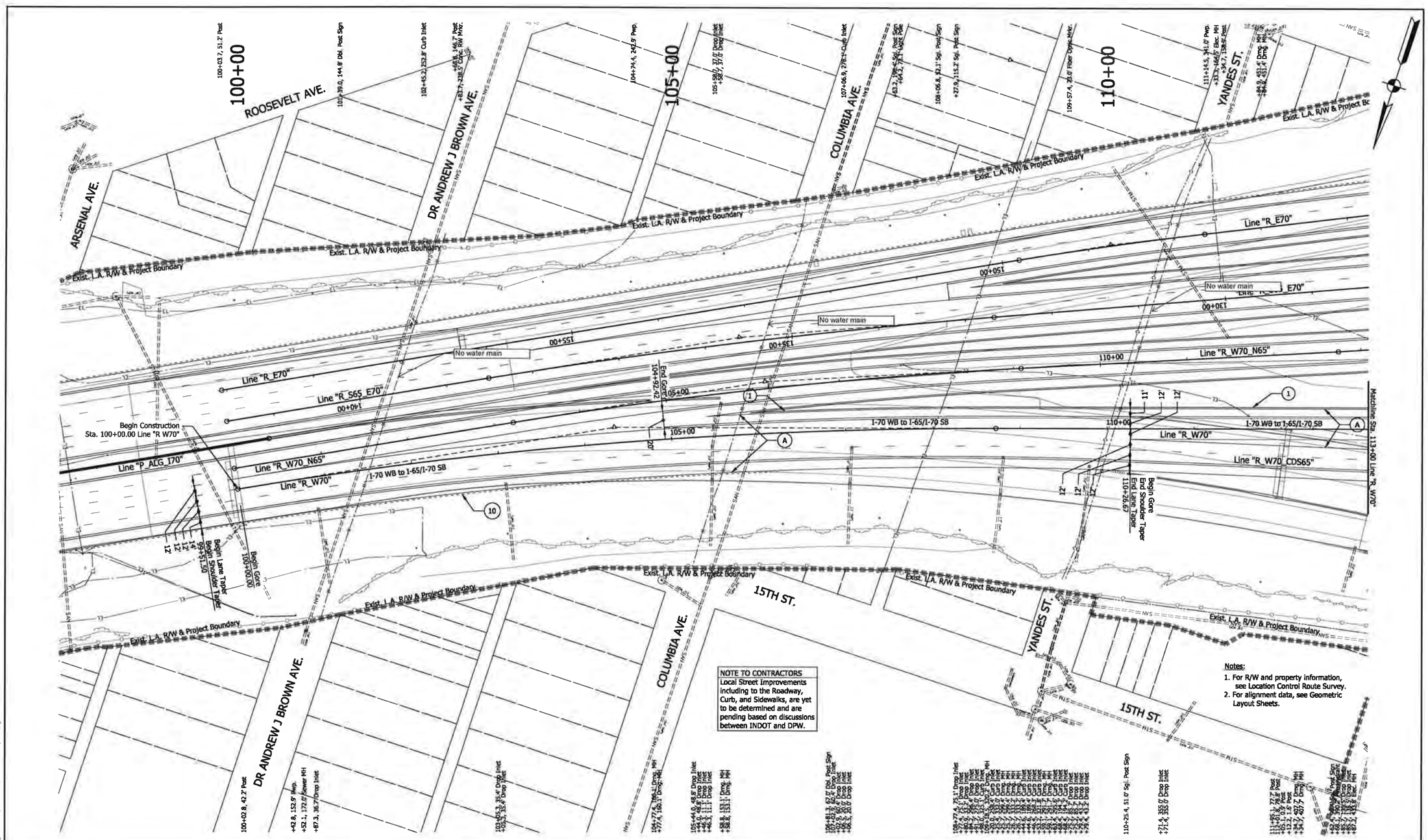

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_W70"
I-70 WB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-07
ELECTRONIC	65 of 649
CONTRACT	PROJECT
B-36910	1600808

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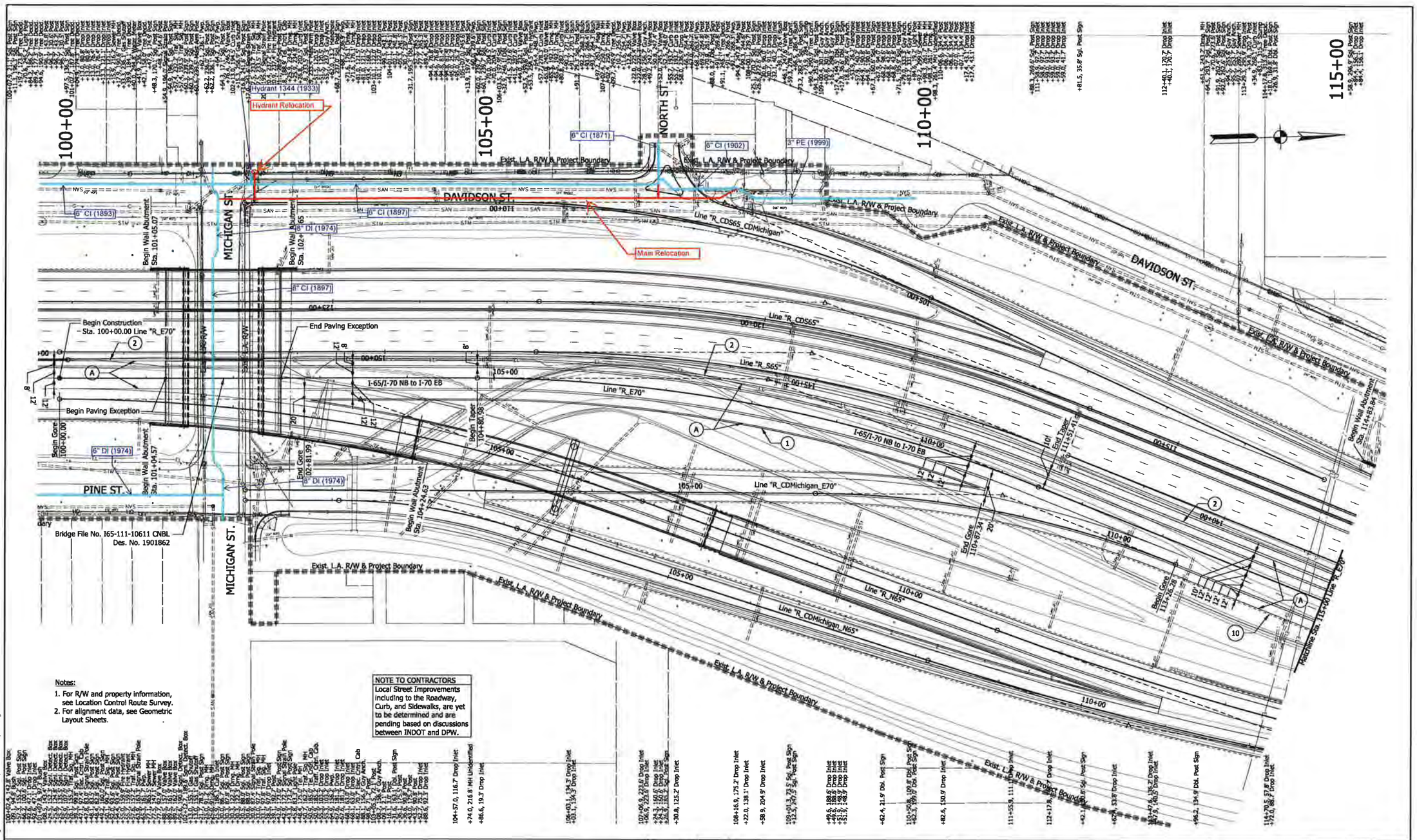

Notes:

1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

NOTE TO CONTRACTORS

Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP	DRAWN: JNH
CHECKED: CCR	CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_E70"
I-65/I-70 NB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-10
ELECTRONIC	71 of 649
CONTRACT	PROJECT
B-36910	1600808

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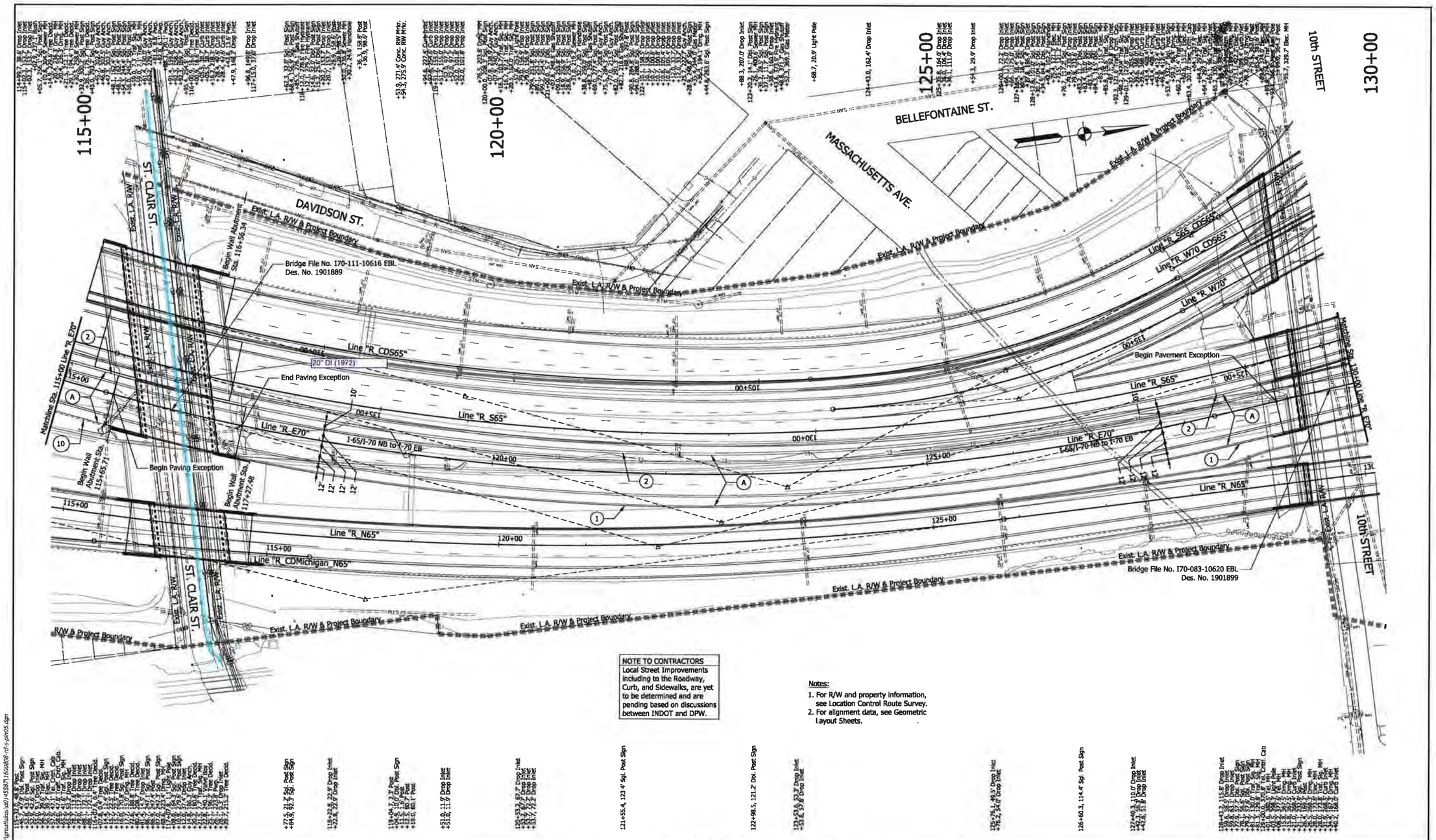

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(2) Concrete Median Barrier, 45"
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT
(4) Retaining Wall

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNH
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_E70"
I-65/I-70 NB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-11
ELECTRONIC	73 of 649
CONTRACT	PROJECT
B-36910	1600808

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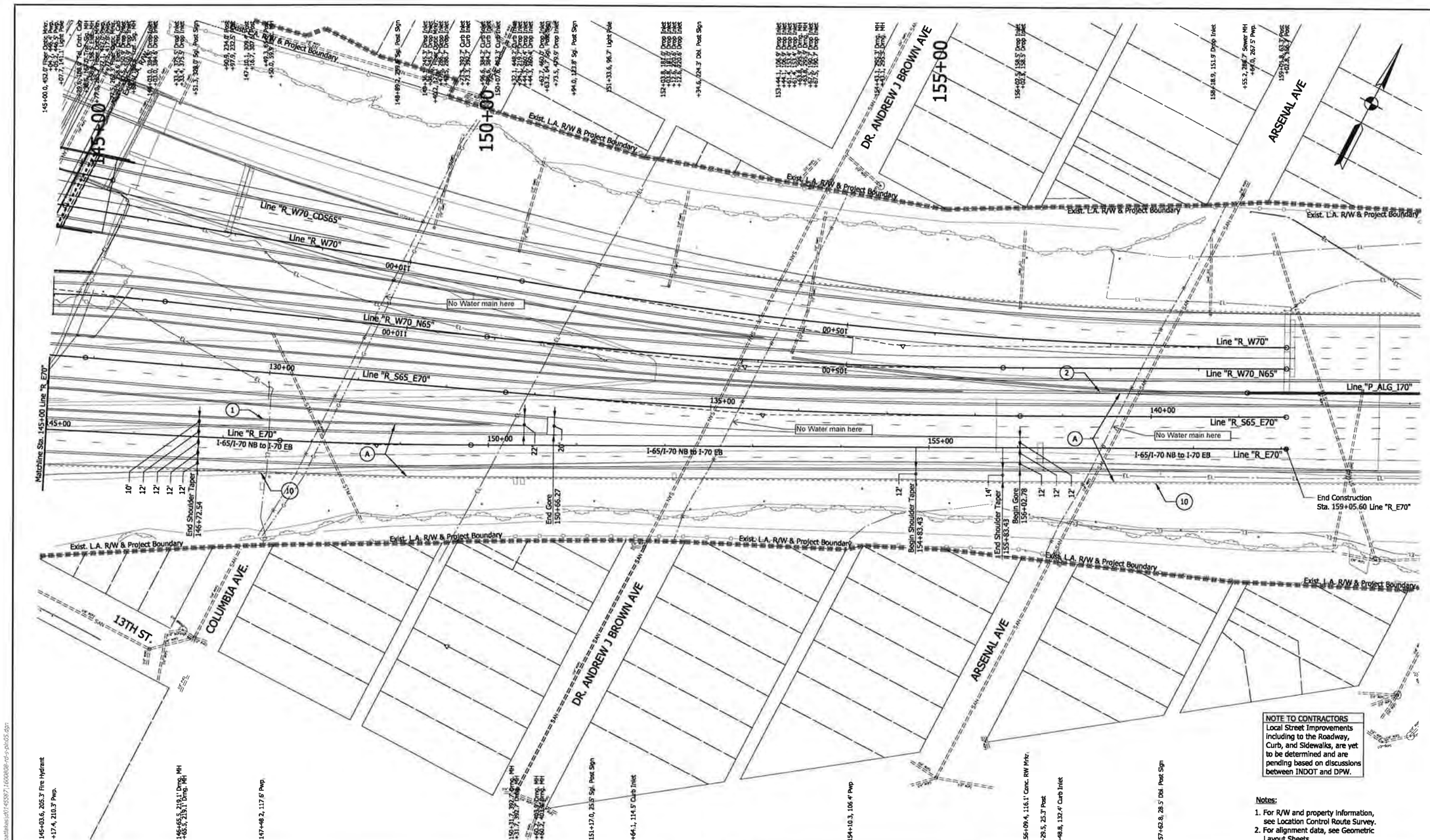

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_E70"
I-65/I-70 NB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-13
ELECTRONIC	77 of 649
CONTRACT	PROJECT
B-36910	1600808

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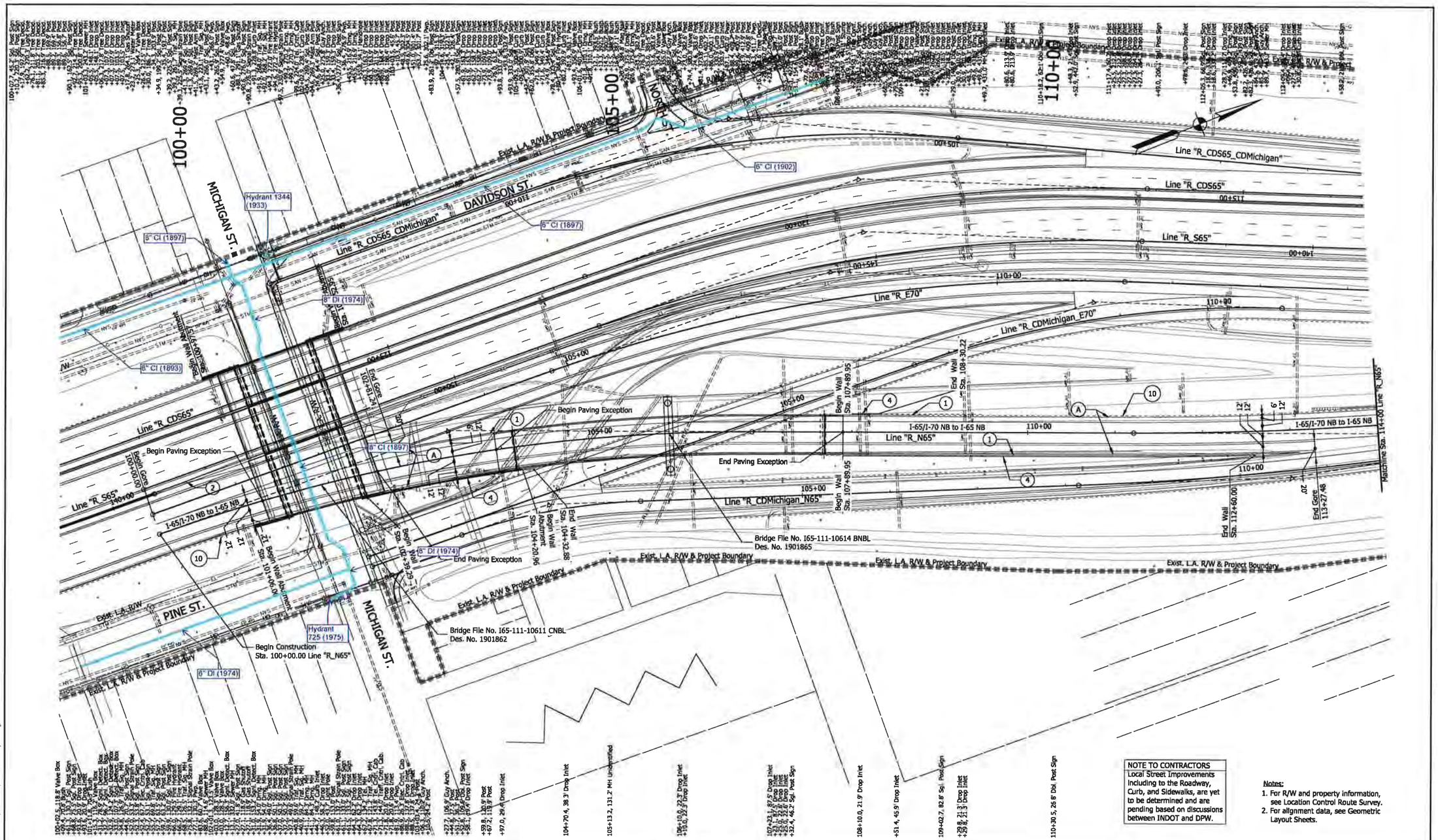

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(2) Concrete Median Barrier, 45"
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT
(4) Retaining Wall

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNH
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
I-65/I-70 NB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-14
ELECTRONIC	79 of 649
CONTRACT	PROJECT
B-36910	1600808

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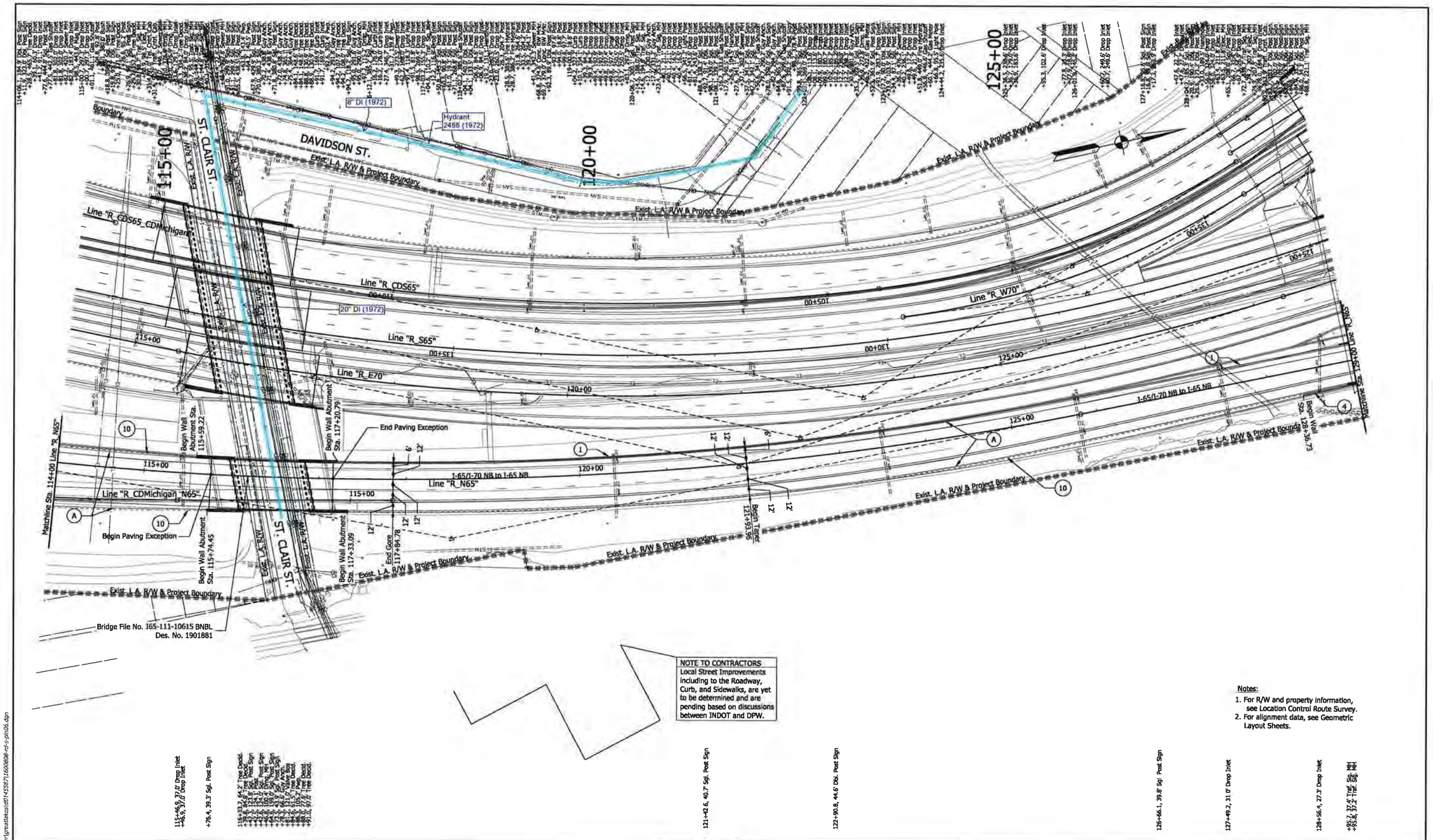

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
I-65/I-70 NB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-15
ELECTRONIC	81 of 649
CONTRACT	PROJECT
B-36910	1600808

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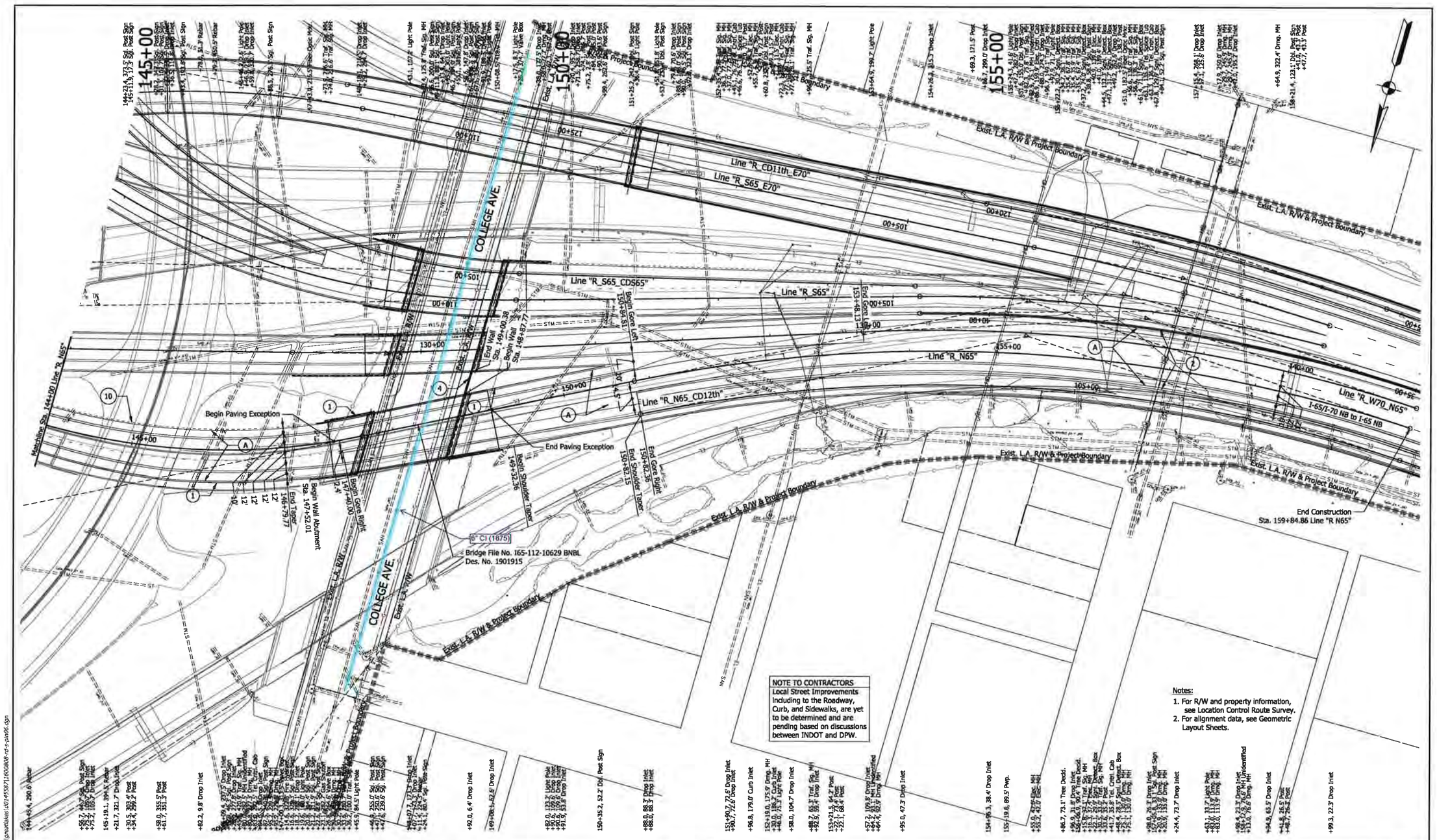

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
I-65/I-70 NB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-17
ELECTRONIC	85 of 649
CONTRACT	PROJECT
B-36910	1600808

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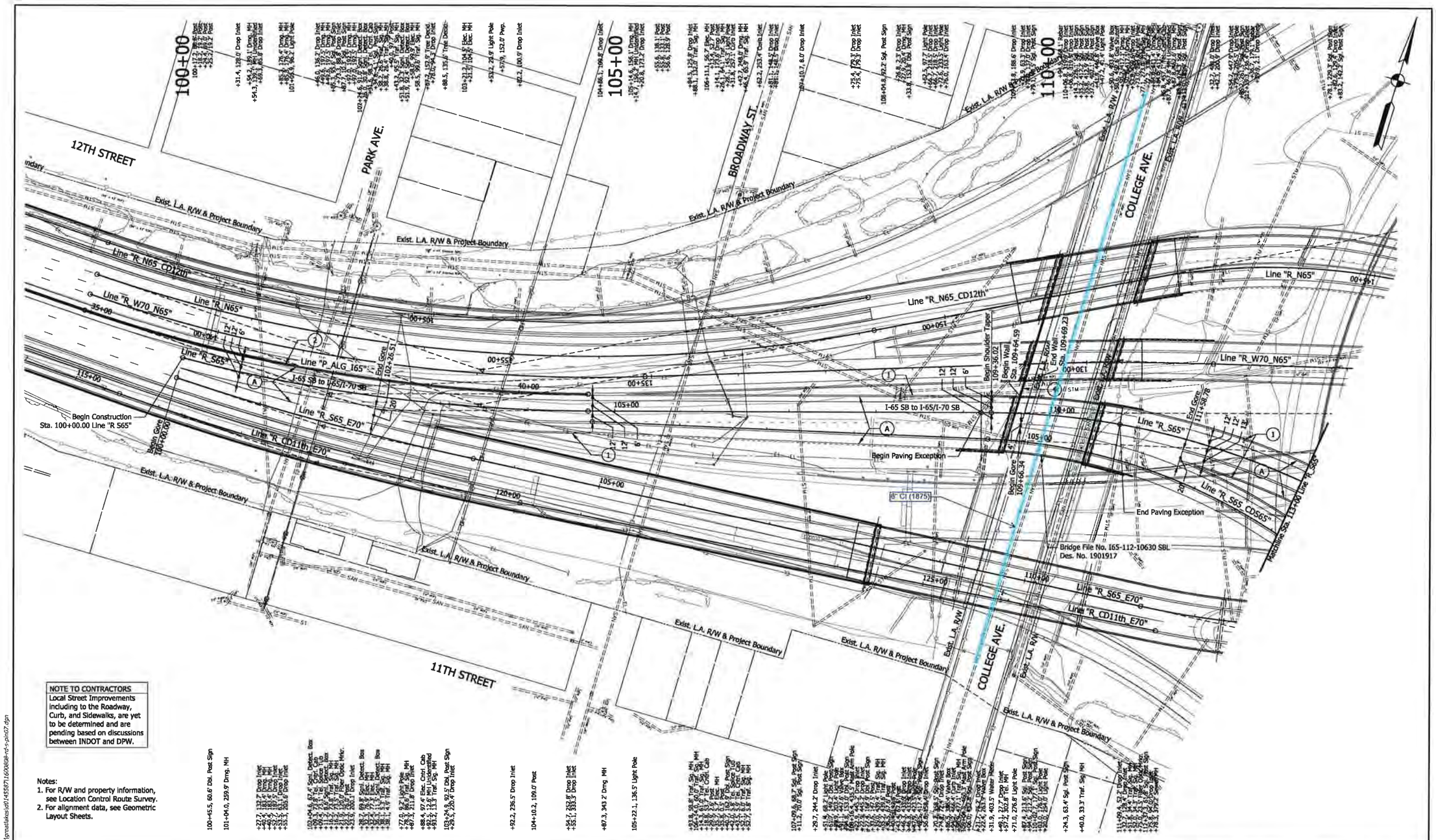

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45°
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65"
I-65 SB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-18
ELECTRONIC	87 of 649
CONTRACT	PROJECT
B-36910	1600808

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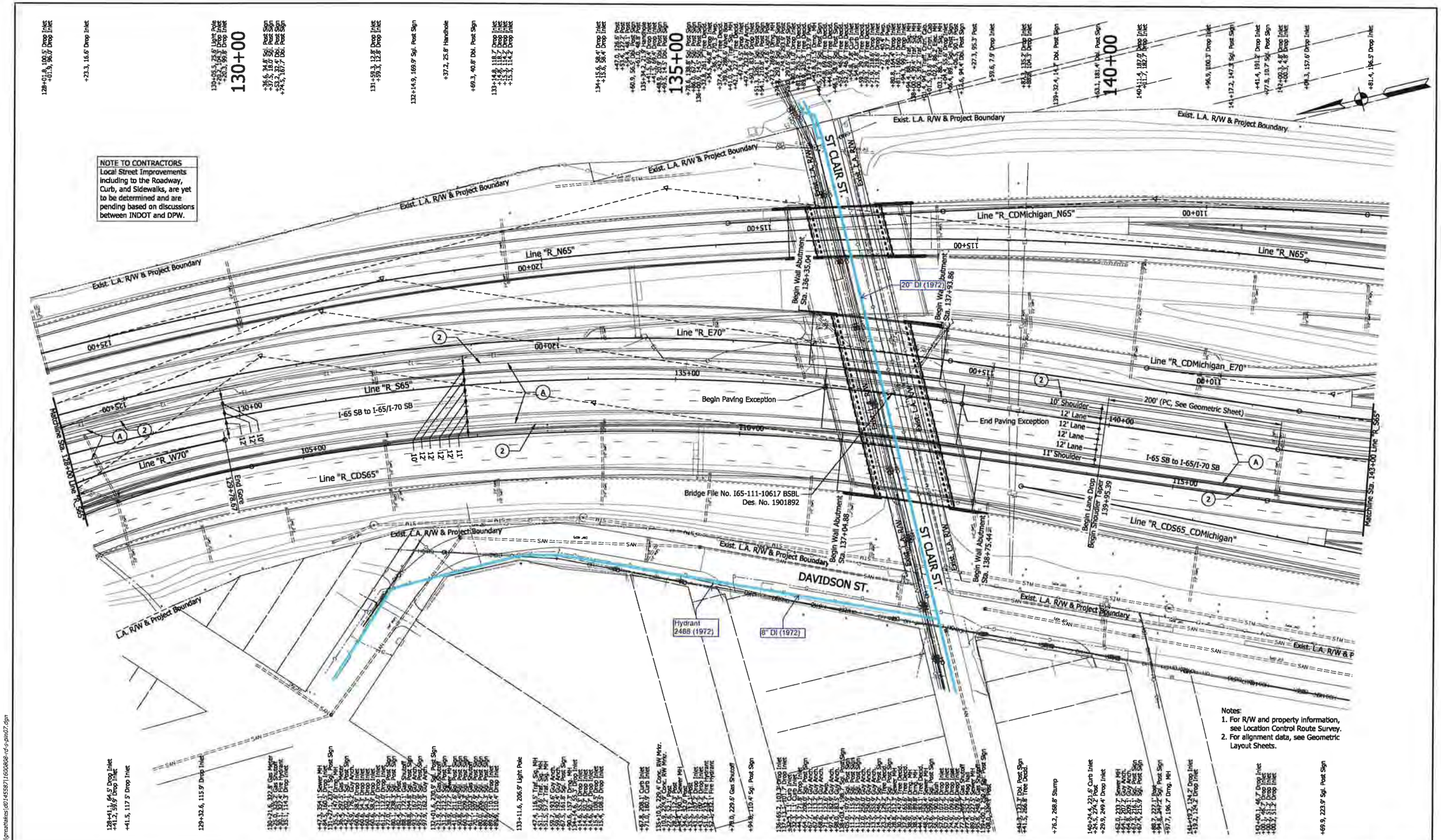

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

(2) Concrete Median Barrier, 45"

(4) Retaining Wall

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65"
I-65 SB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-20
ELECTRONIC	91 of 649
CONTRACT	PROJECT
B-36910	1600808

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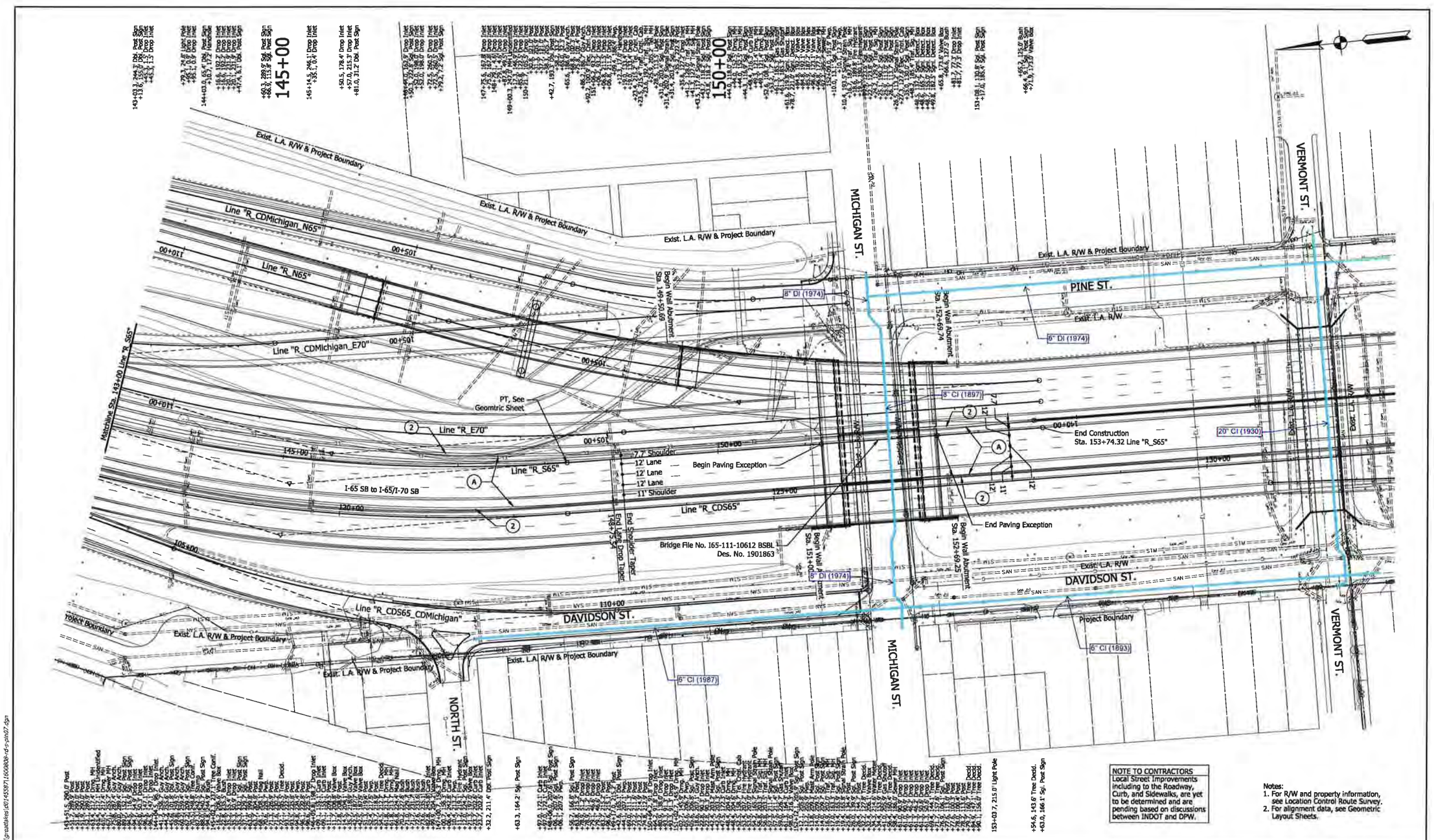

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH

CHECKED: COR CHECKED: COR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65"
I-65 SB to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-21
ELECTRONIC	93 of 649
CONTRACT	PROJECT
B-36910	1600808

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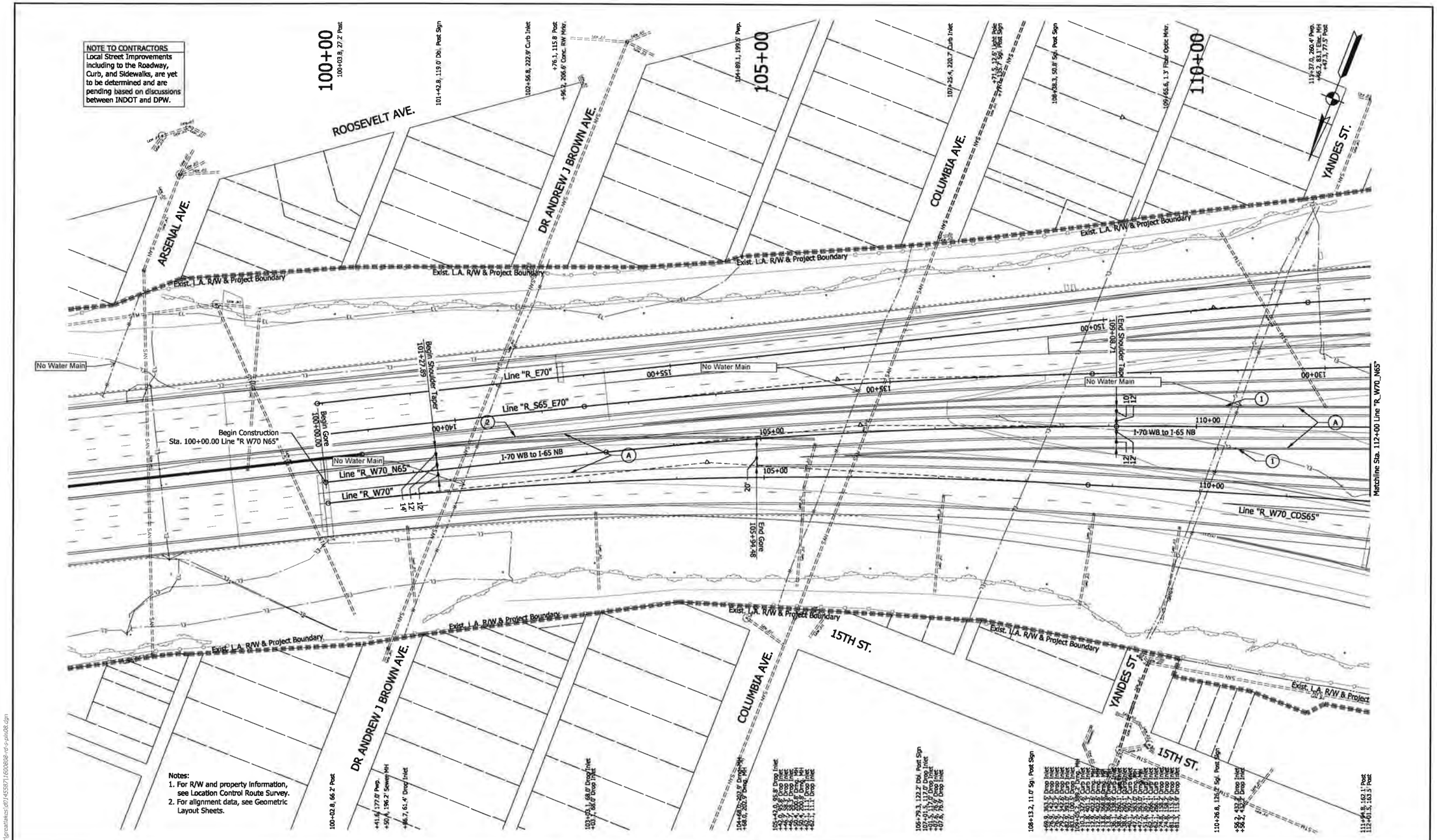

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

(2) Concrete Median Barrier, 45"

(4) Retaining Wall

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_W70_N65"
I-70 WB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-22
ELECTRONIC	95 of 649
CONTRACT	PROJECT
B-36910	1600808

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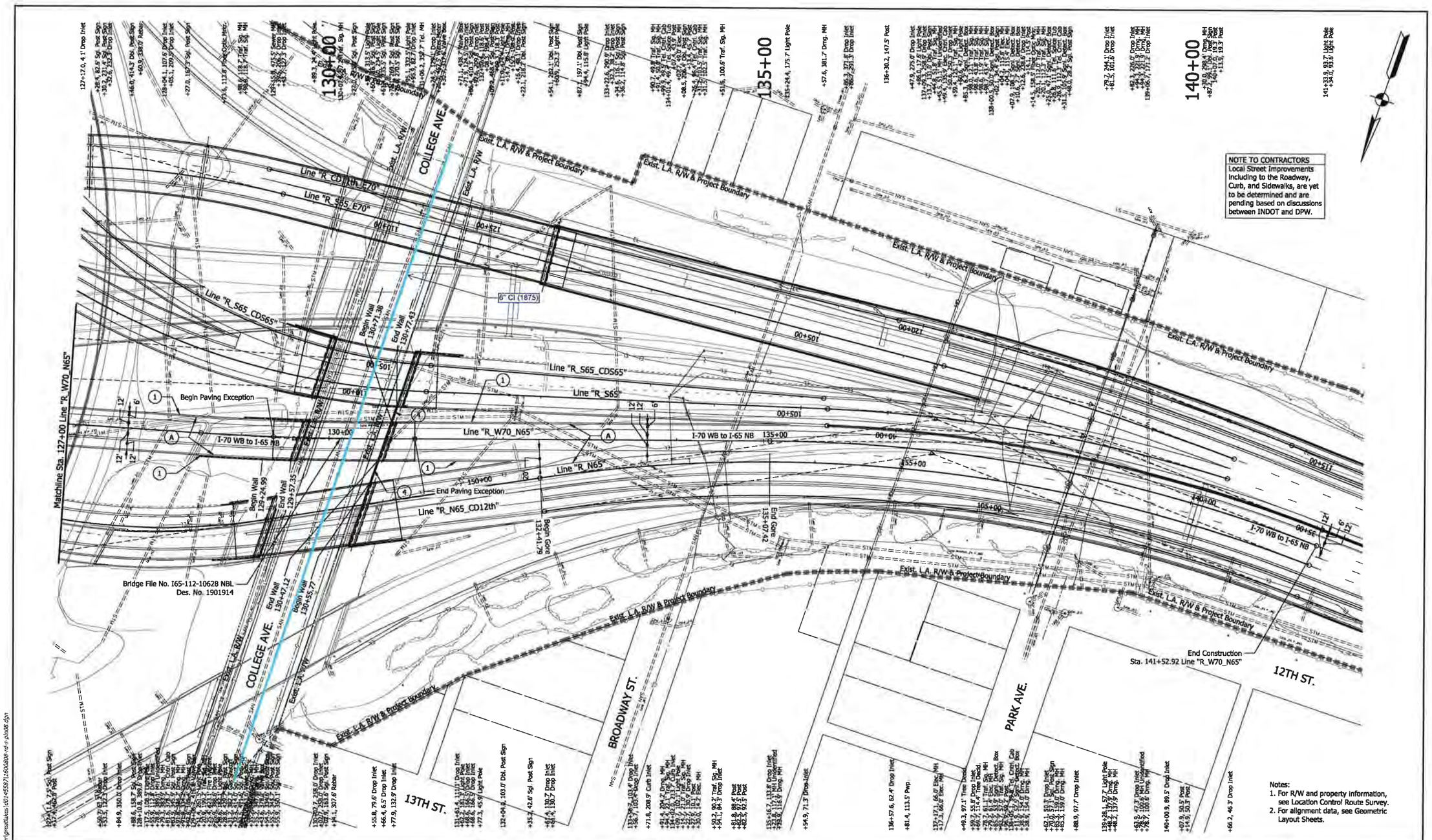

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_W70_N65"
I-70 WB to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-24
ELECTRONIC	99 of 649
CONTRACT	PROJECT
B-36910	1600808

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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65_E70"
I-65 SB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-25
ELECTRONIC	101 of 649
CONTRACT	PROJECT
B-36910	1600808

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P.V.I. Sta. = 100+95.00
Elev. = 747.48
V.C. = 175.00'

P.V.I. Sta. = 108+00.00
Elev. = 753.58
V.C. = 500.00'

Paving Exception

Sta. 107+99.47

Begin Profile
Sta. 100+00.04 Line "R S65 E70"
Elev. = 746.53

Profile Grade Along Ramp "R_S65_E70"

+2.00%

+0.87%

+3.50%

140.90 ft

Existing Ground Along Ramp "R_S65_E70"

Bridge File: 165-112-10631 SBL
Des. No. 1901918

Minimum Vertical Clearance = 32'-2"

College Avenue

Ex Ground at Test Hole 7

Ex Ground at Test Hole 8

Test Hole 7

Test Hole 8

2.07 ft

0.02 ft

100+00	101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00
740.5	740.6	740.6	740.6	739.8	739.6	739.5	739.4	739.2	739.0	738.6	738.6	739.1	738.3
746.53	747.02	747.50	748.39	749.25	749.69	750.12	750.55	750.98	751.42	751.92	752.55	753.31	754.20
740.0	720.0	719.9	727.2	735.2	730.1	723.8	718.5	729.6					
755.23	756.39	757.68	759.10	760.66	762.34	764.09	765.85	767.60	769.35	771.10			

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII

CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
LINE "R_S65_E70"
I-65 SB to I-70 EB

SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
1"=5'	1600808
SURVEY BOOK	SHEETS PRF-25
ELECTRONIC	102 of 649
CONTRACT	PROJECT
B-36910	1600808

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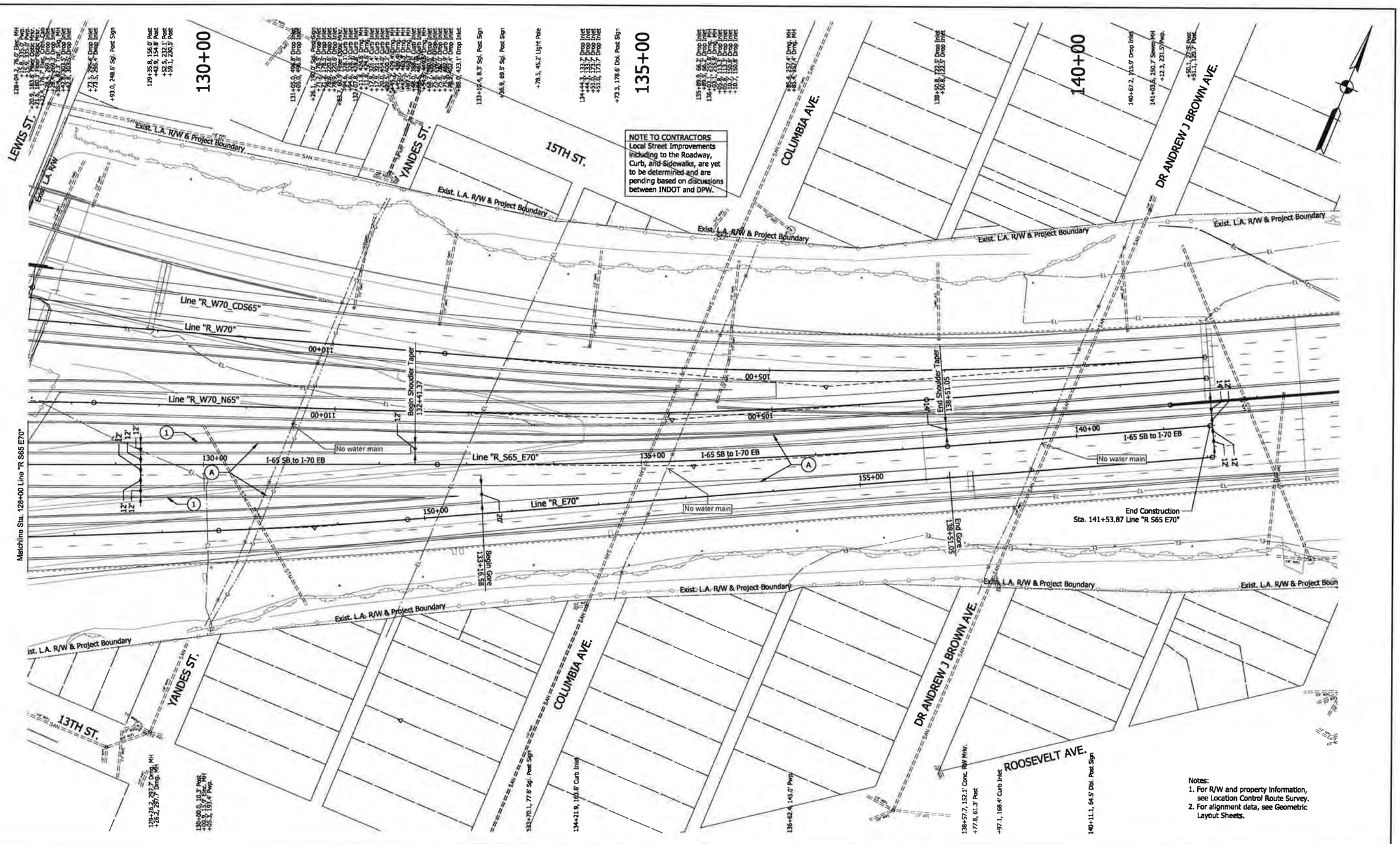

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNIT
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65_E70"
I-65 SB to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-27
ELECTRONIC	105 of 649
CONTRACT	PROJECT
B-36910	1600808

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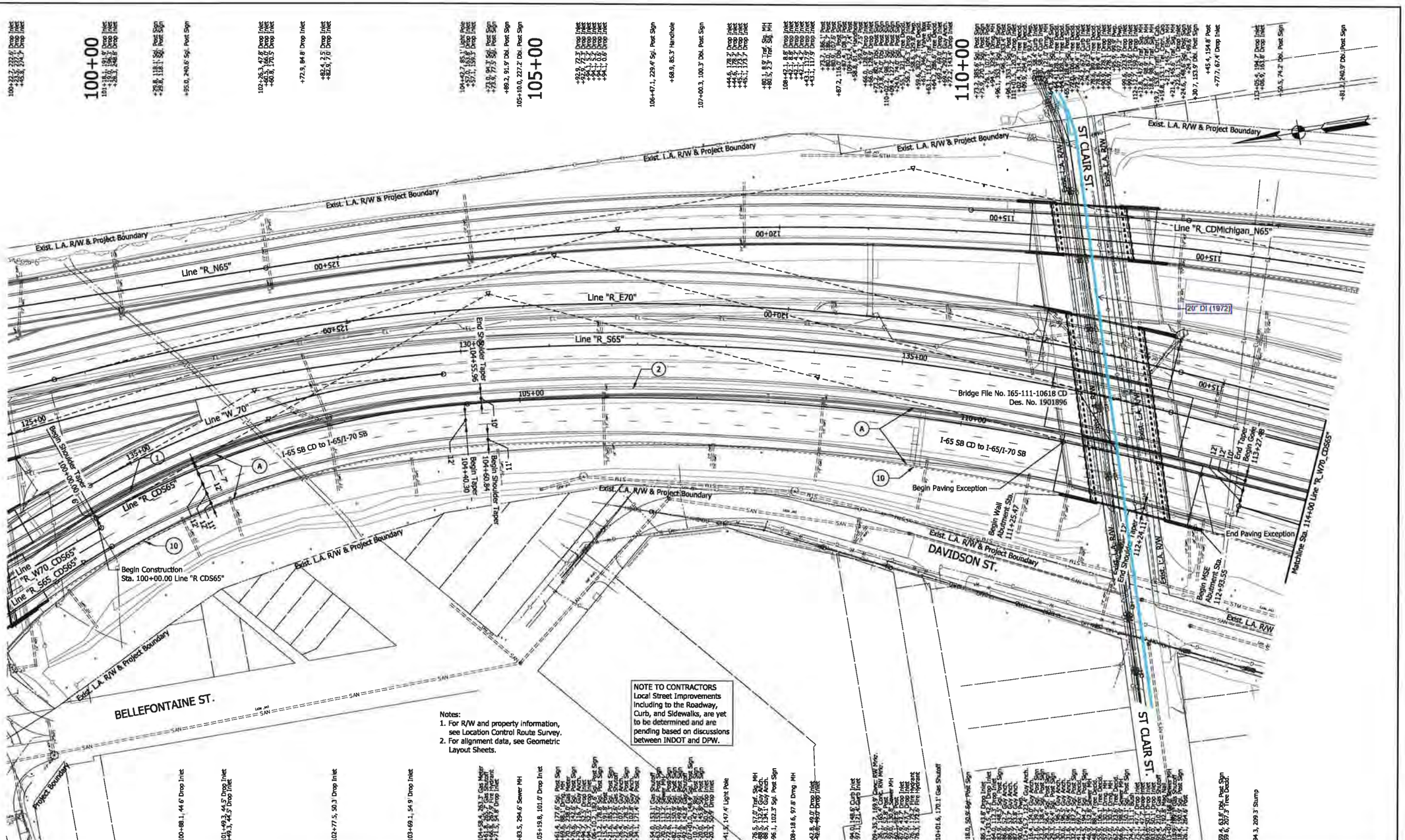

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

NOTE TO CONTRACTORS
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LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-28
ELECTRONIC	107 of 649
CONTRACT	PROJECT
B-36910	1600808

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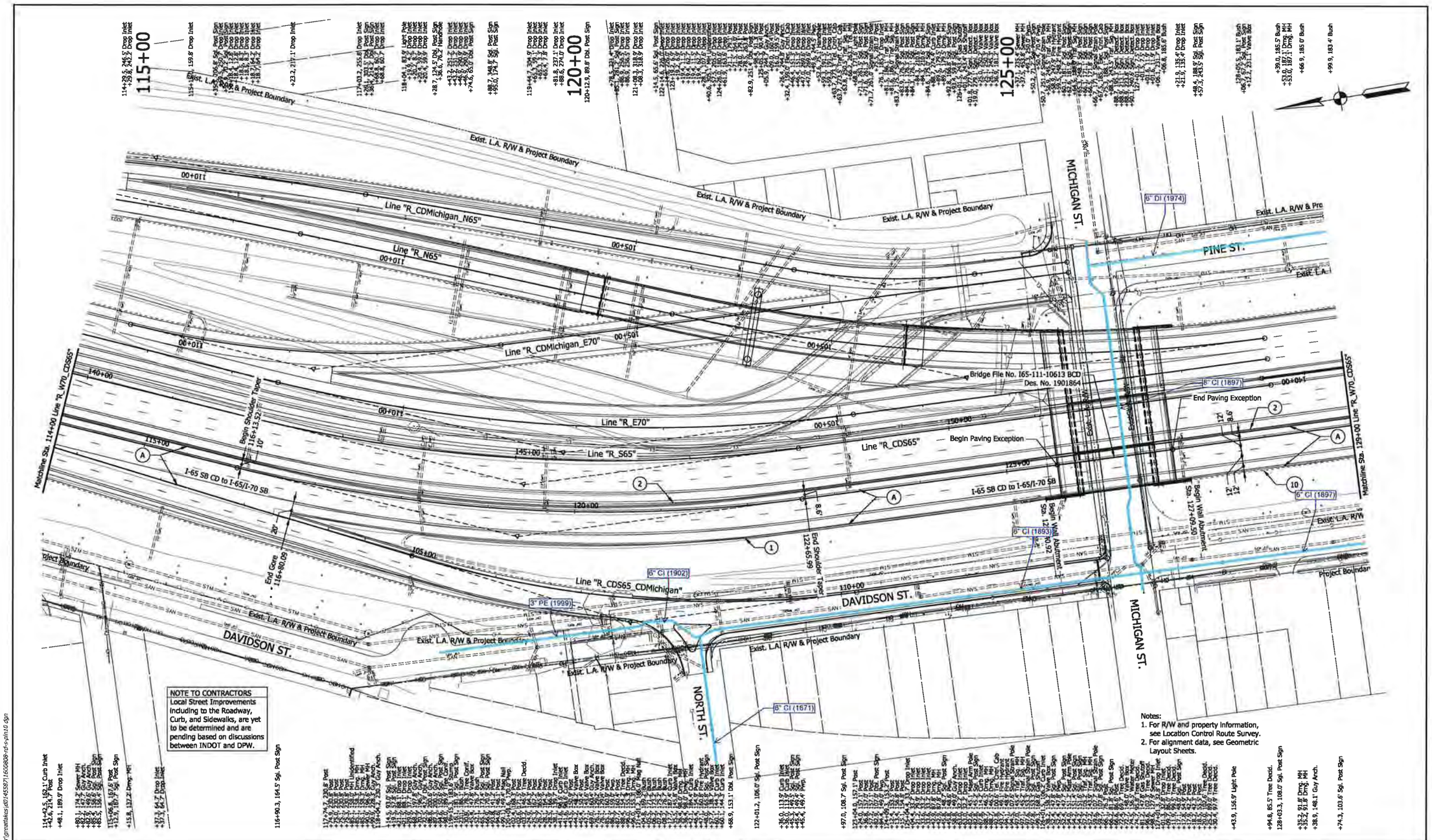

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(2) Concrete Median Barrier, 45"

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

(1) Railing Concrete, FT

(4) Retaining Wall

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-29
ELECTRONIC	109 of 649
CONTRACT	PROJECT
B-36910	1600808

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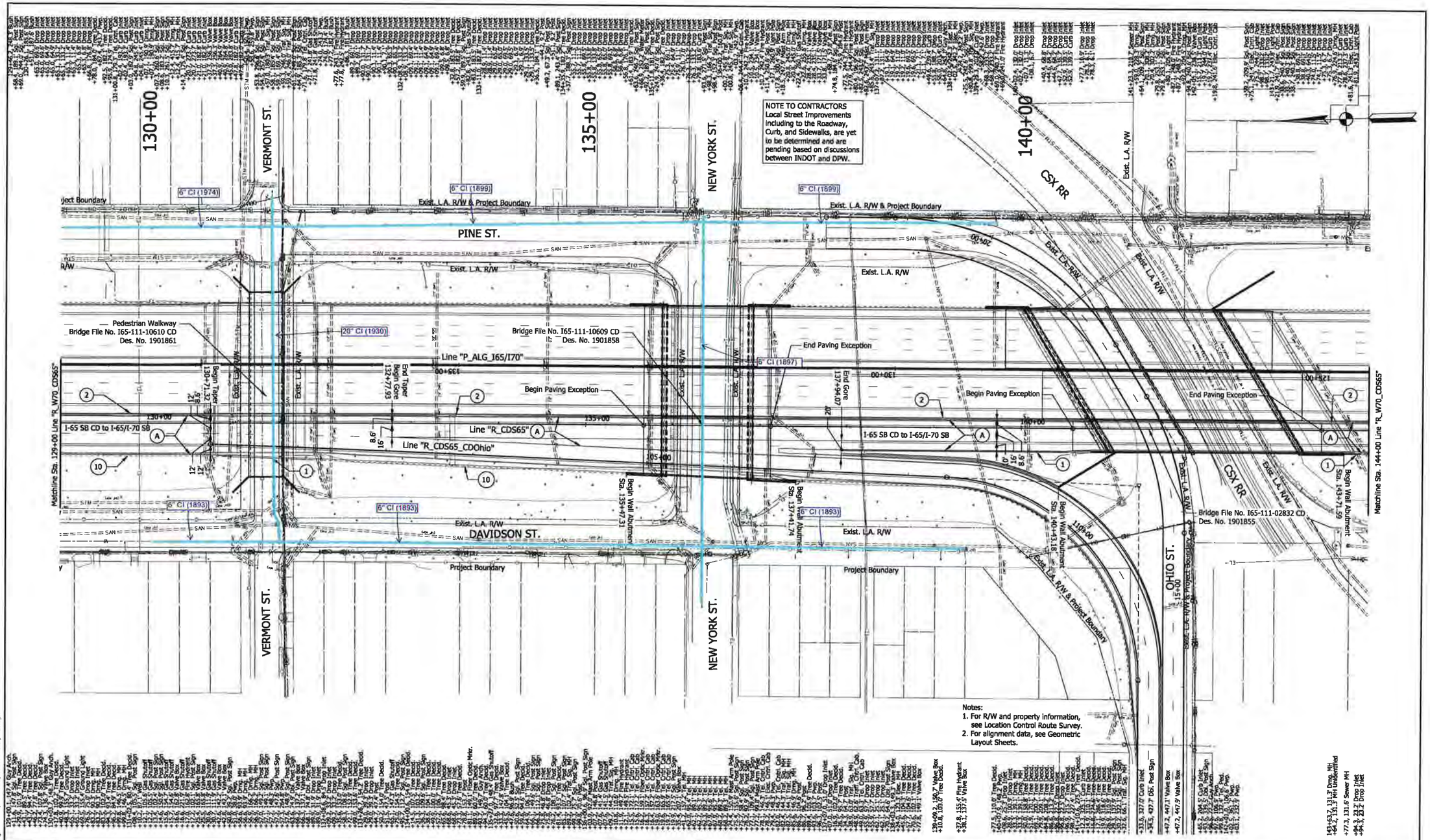

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)

(1) Railing Concrete, FT

(2) Concrete Median Barrier, 45"

(4) Retaining Wall

(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNIT

CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-30
ELECTRONIC	111 of 649
CONTRACT	PROJECT
B-36910	1600808

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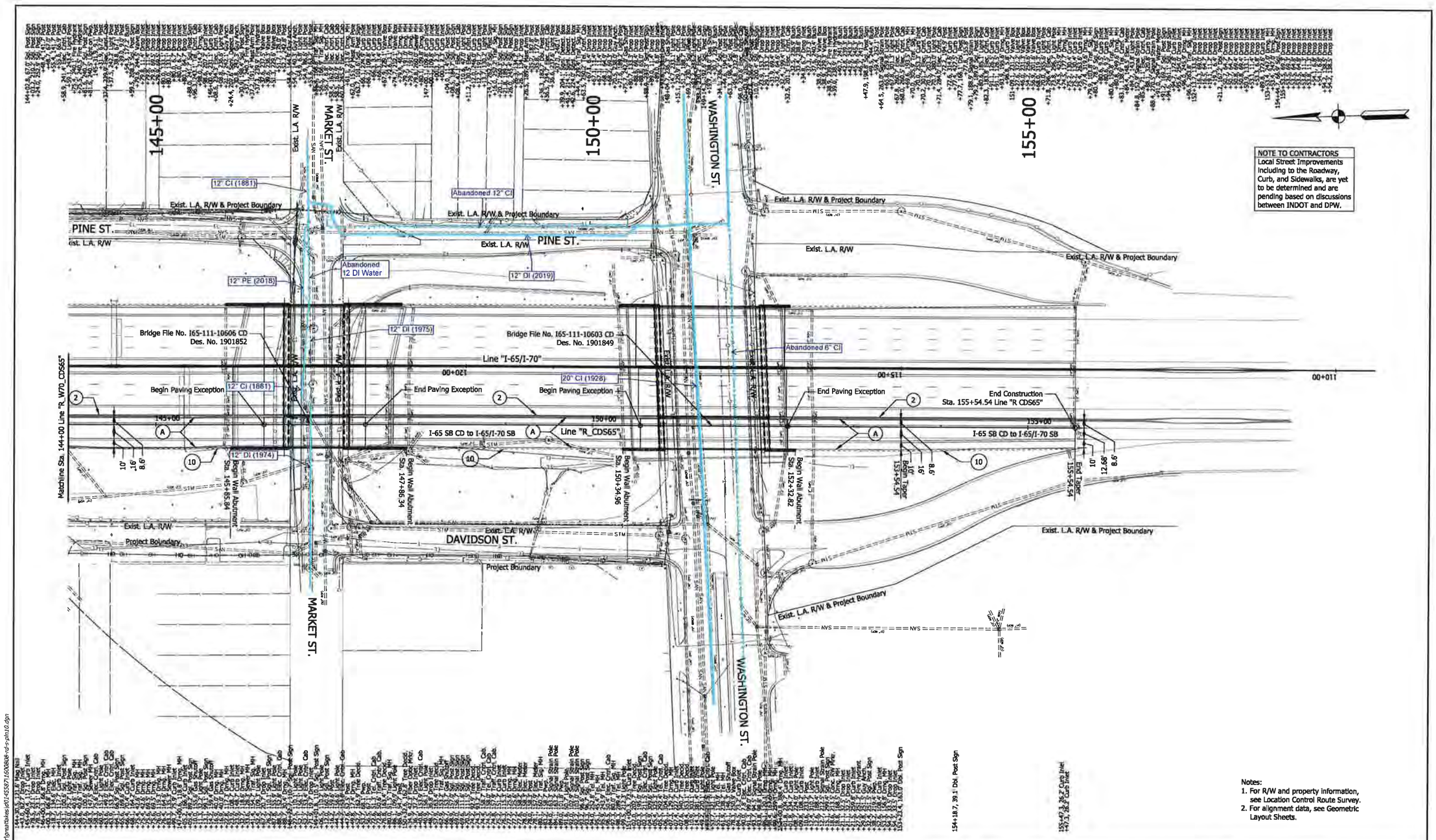

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(2) Concrete Median Barrier, 45"
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT
(4) Retaining Wall

DRAFT NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP	DRAWN: JNH
CHECKED: CCR	CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65"
I-65 SB CD to I-65/I-70 SB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-31
ELECTRONIC	113 of 649
CONTRACT	PROJECT
B-36910	1600808

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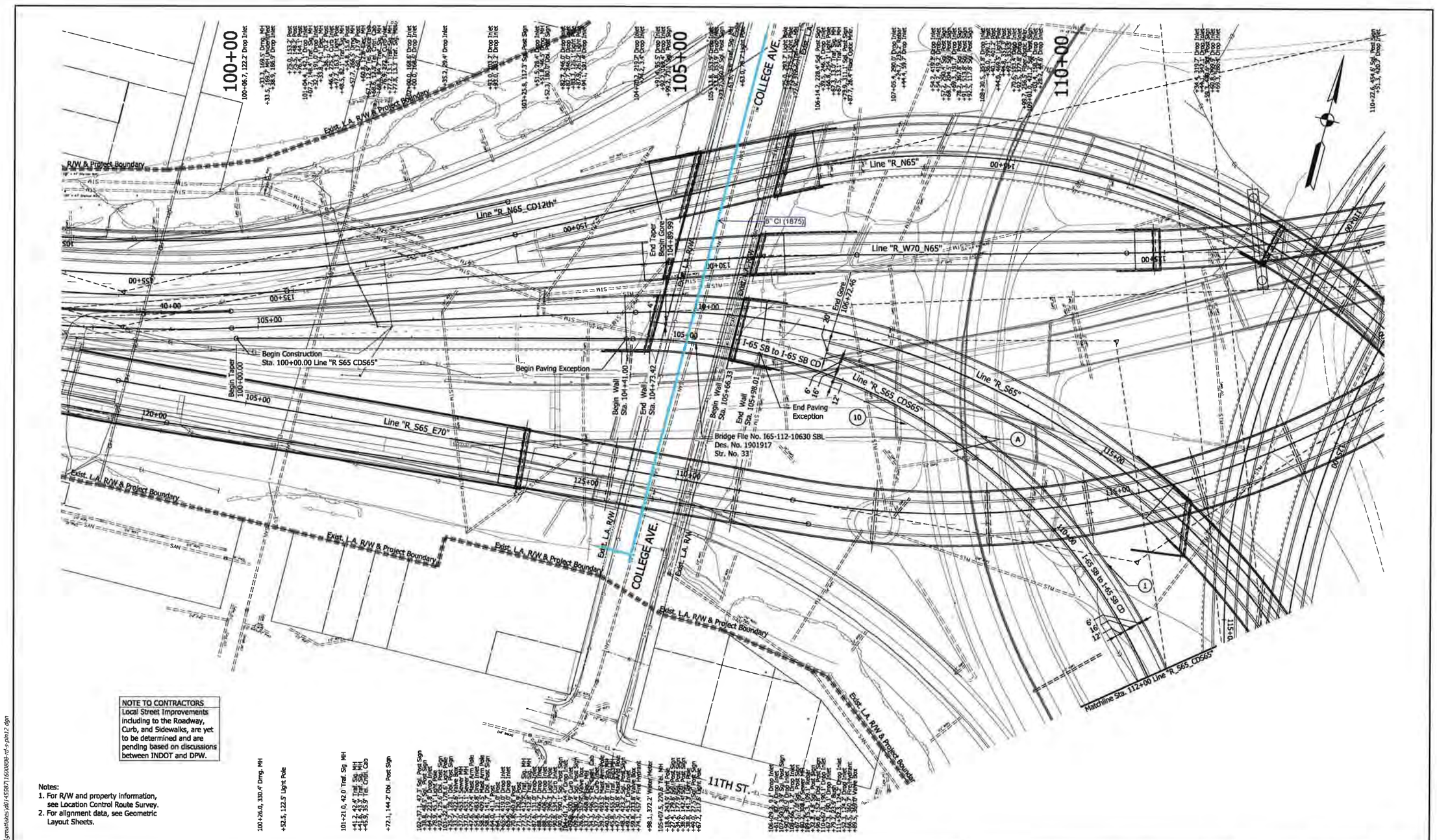

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

100+26.0, 330.4' Drng. MH
+52.5, 122.5' Light Pole
101+21.0, 42.0' Traf. Sig. MH
+41.2, 42.4' Traf. Sig. MH
+41.6, 43.3' Traf. Sig. MH
+45.9, 35.9' Tel. Cntrl. Cab
+72.1, 144.2' Dbl. Post Sign
+98.1, 372.2' Water Meter
105+07.5, 270.6' Tel. MH

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_S65_CDS65"
I-65 SB to I-65 SB CD

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-34
ELECTRONIC	119 of 649
CONTRACT	PROJECT
B-36910	1600808

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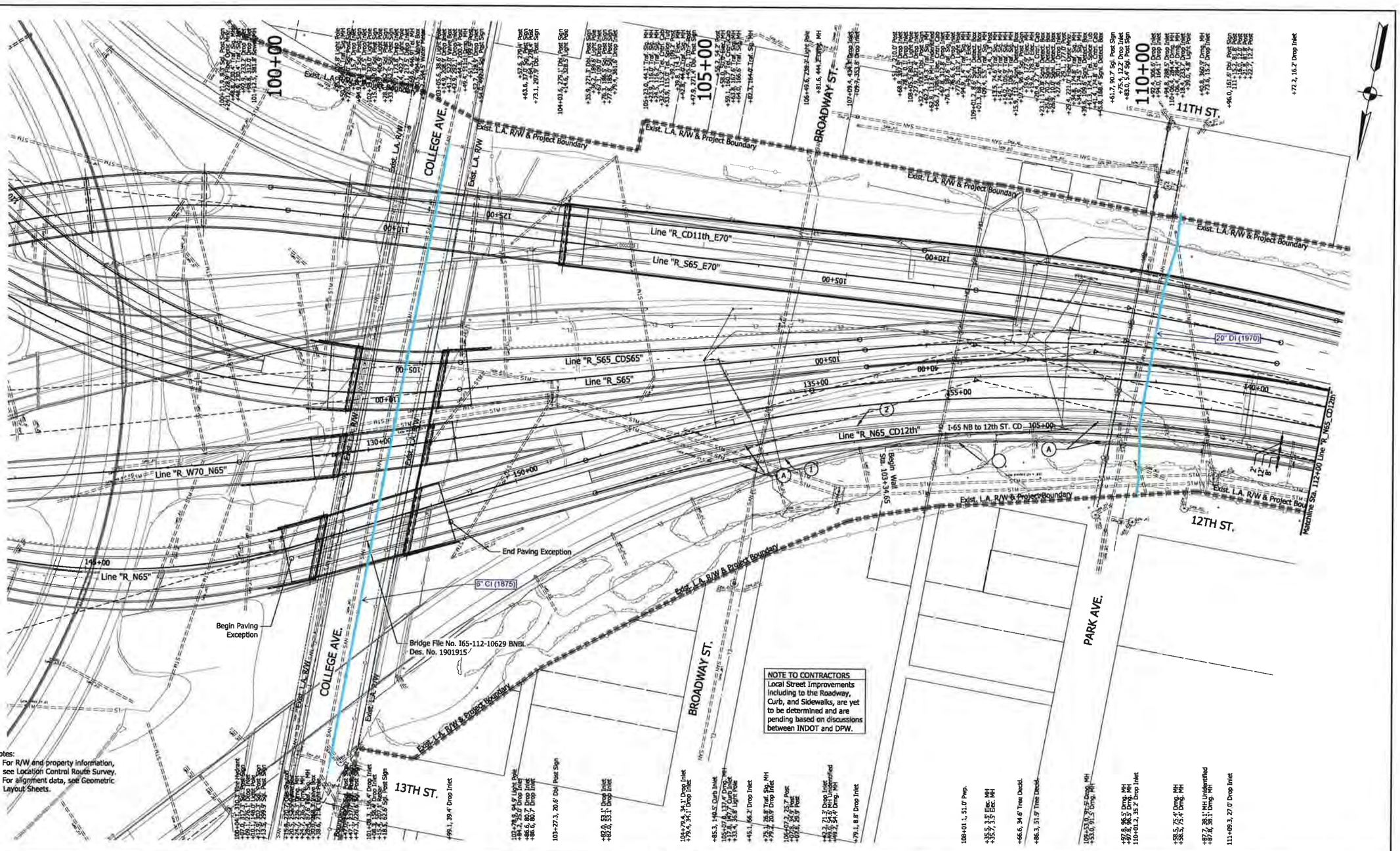

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65_CD12th"
I-65 NB to 12th St CD

HORIZONTAL SCALE	1"=50'
VERTICAL SCALE	N/A
SURVEY BOOK	
ELECTRONIC	
CONTRACT	B-36910
BRIDGE FILE	N/A
DESIGNATION	1600808
SHEETS	PLN-36
123 of 649	
PROJECT	1600808

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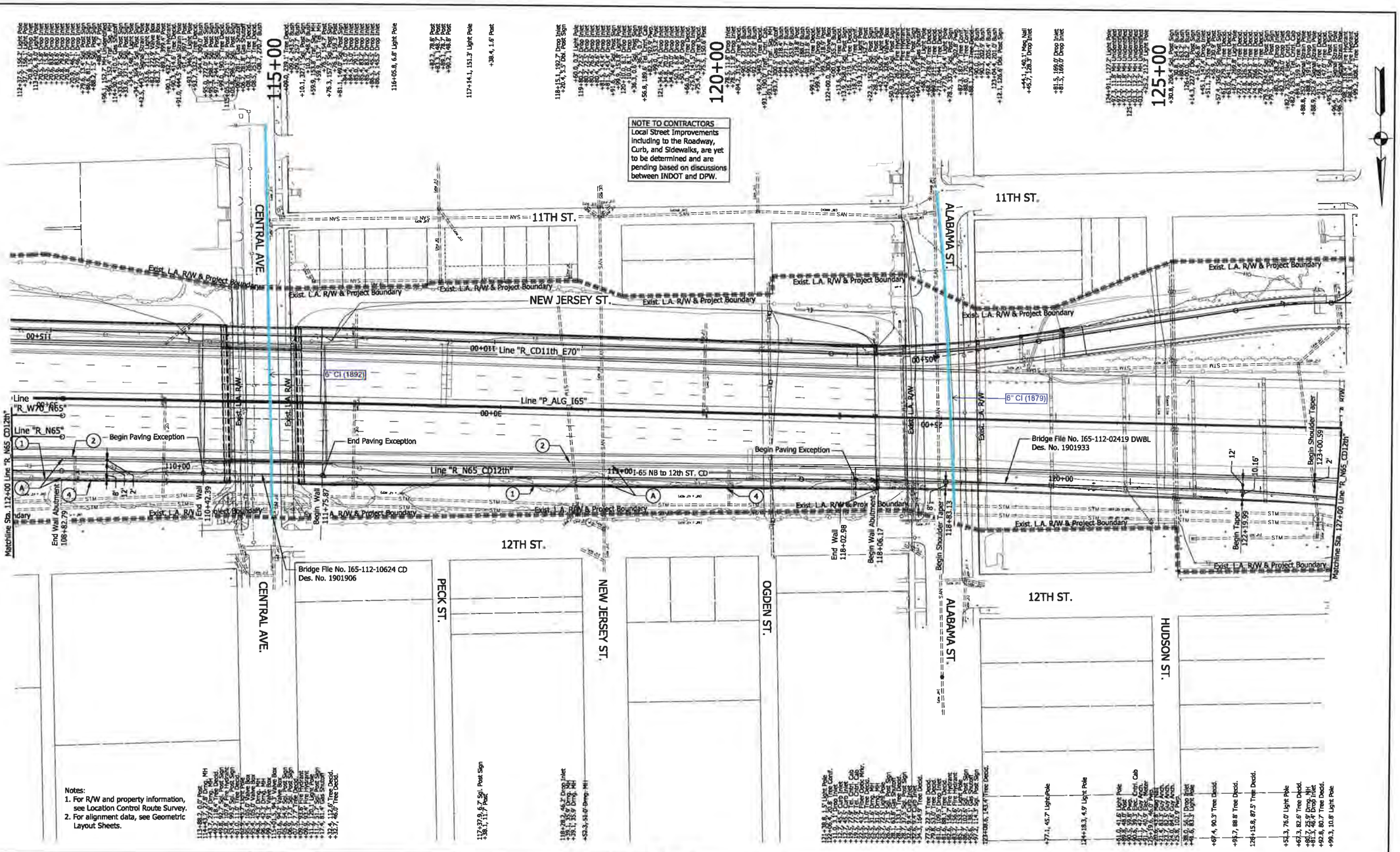

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNT
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65_CD12th"
I-65 NB to 12th St CD

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-37
ELECTRONIC	125 of 649
CONTRACT	PROJECT
B-36910	1600808

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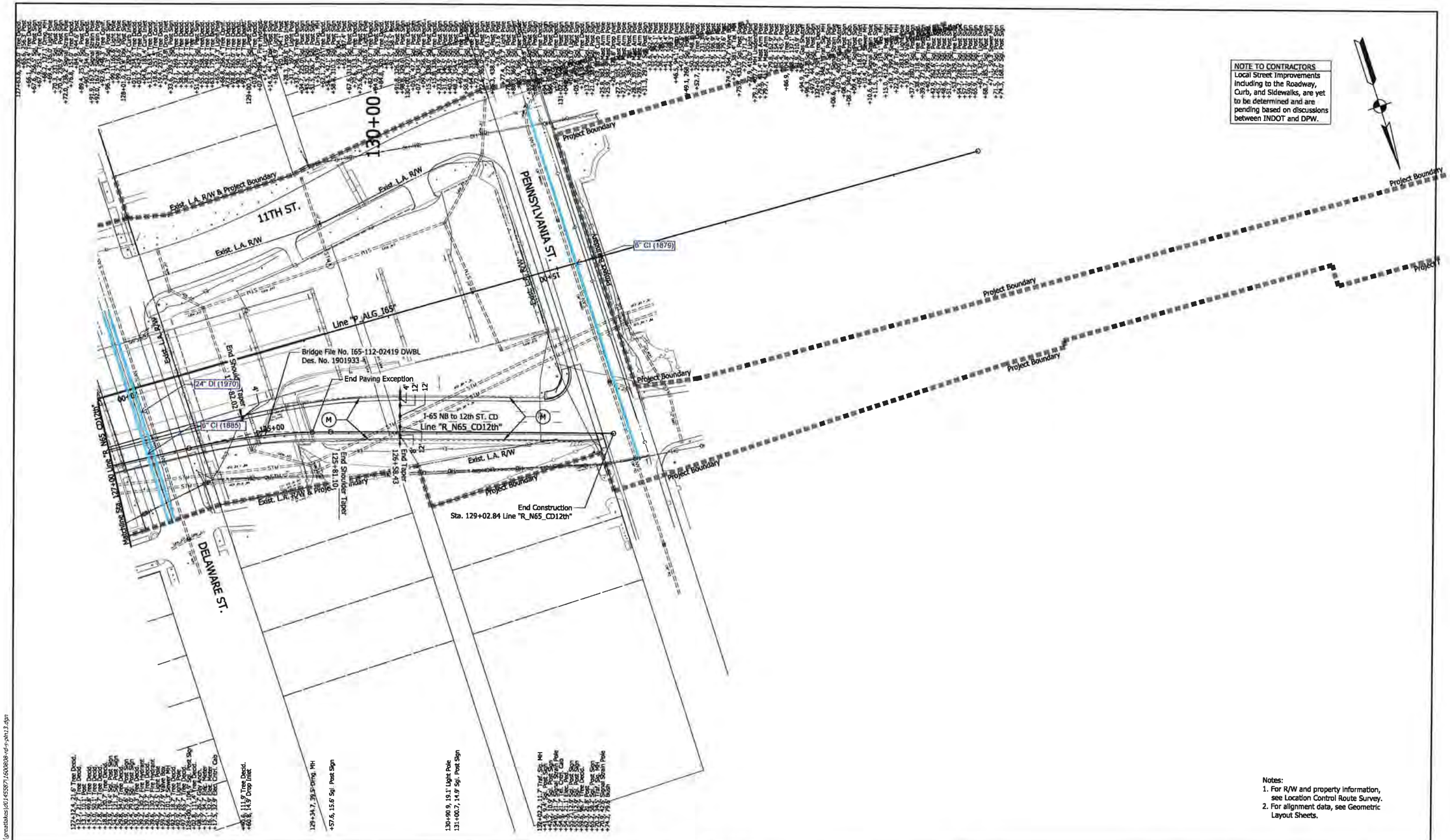

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(M) Mill and Overlay

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	
DESIGNED: CAP	DRAWN: JNII		
CHECKED: CCR	CHECKED: CCR		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65_CD12th"
I-65 NB to 12th St CD

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-38
ELECTRONIC	127 of 649
CONTRACT	PROJECT
B-36910	1600808

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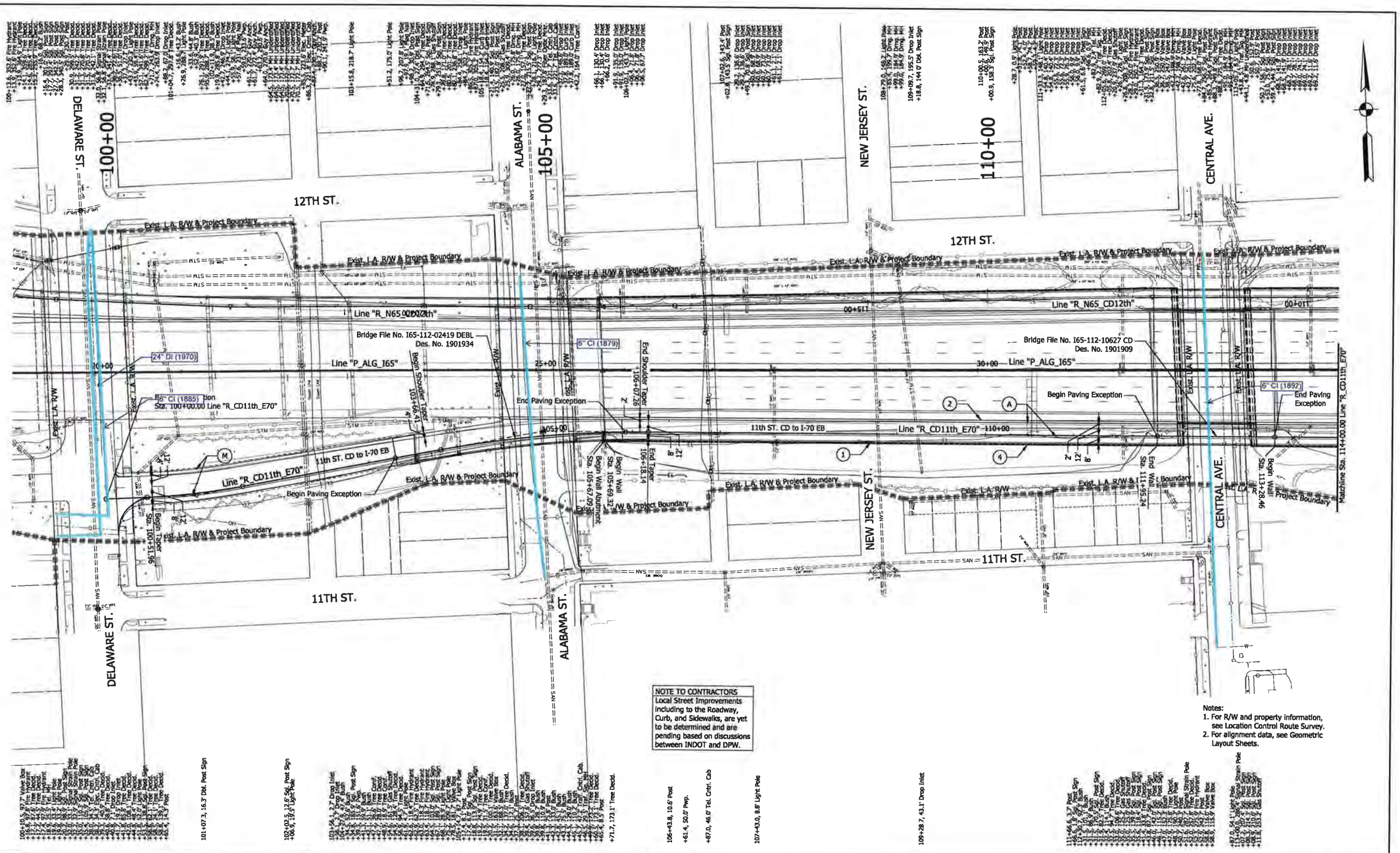

NOTE TO CONTRACTORS
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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)	(1) Railing Concrete, FT	(4) Retaining Wall
(M) Mill and Overlay	(2) Concrete Median Barrier, 45"	(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CD11th_E70"
11th St CD to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-39
ELECTRONIC	129 of 649
CONTRACT	PROJECT
B-36910	1600808

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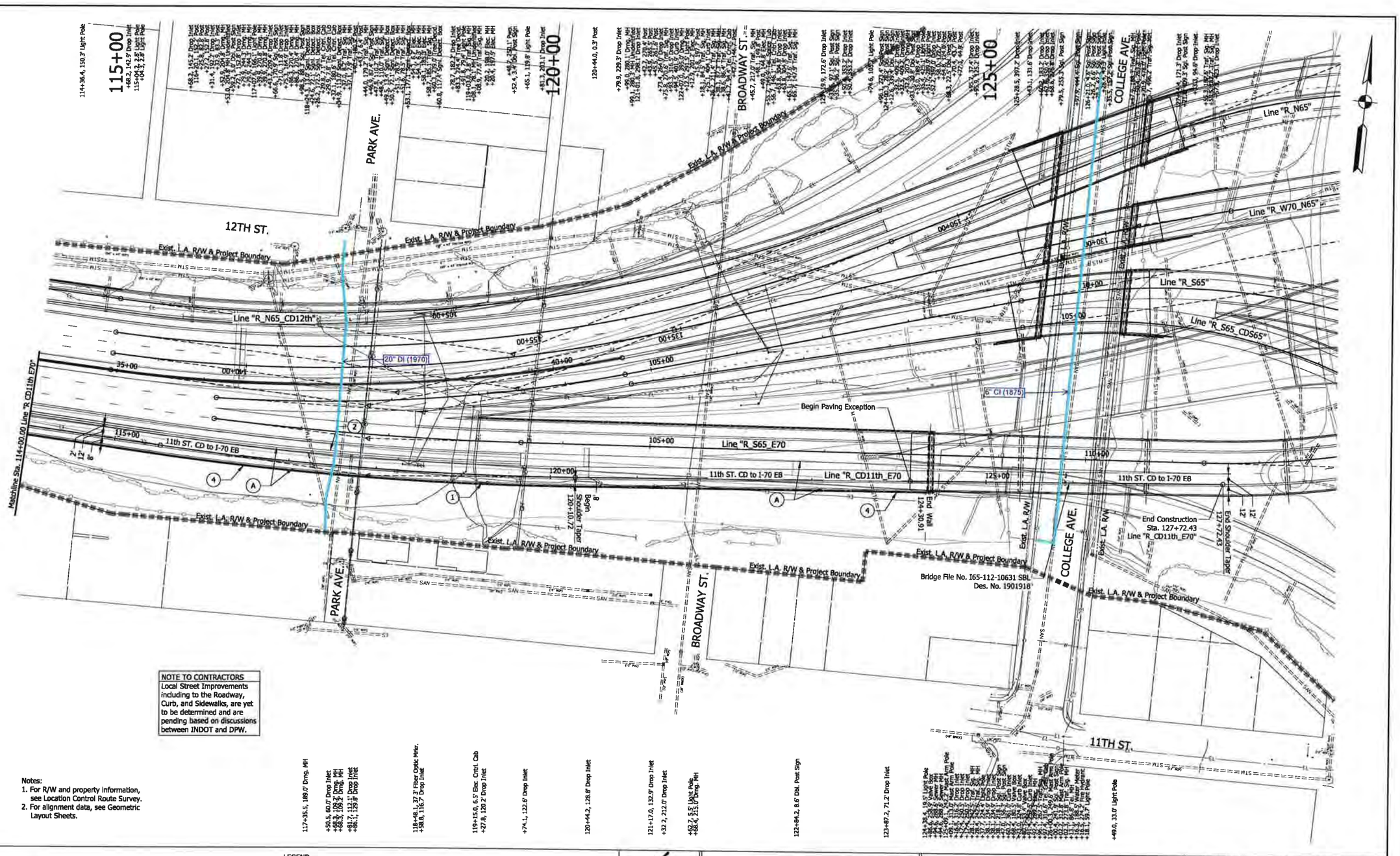

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1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
(1) Railing Concrete, FT
(2) Concrete Median Barrier, 45"
(4) Retaining Wall
(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP	DRAWN: JNI
CHECKED: CCR	CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CD11th_E70"
11th St CD to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE:	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-40
ELECTRONIC	131 of 649
CONTRACT	PROJECT
B-36910	1600808

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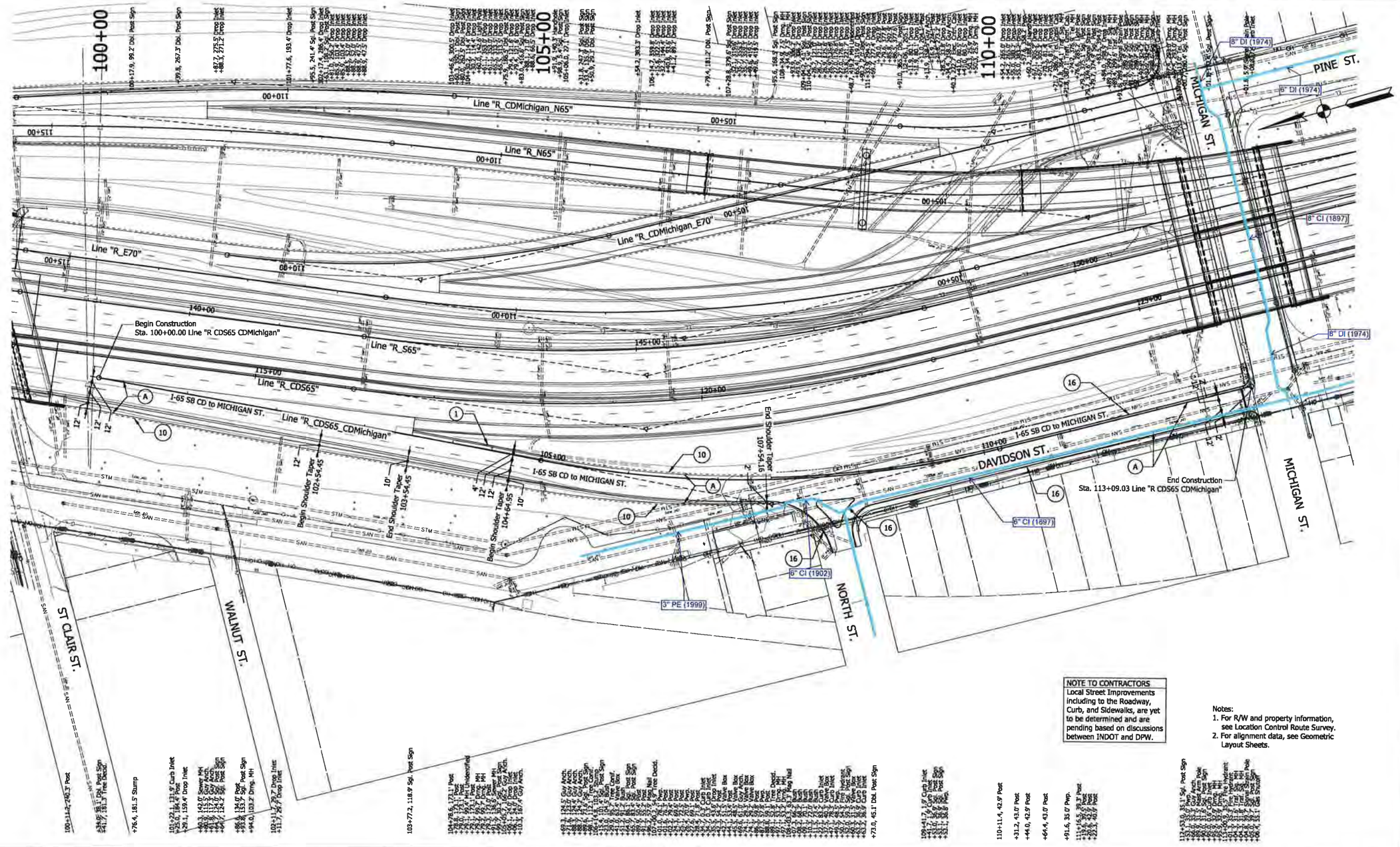

NOTE TO CONTRACTORS
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Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

(A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)	(2) Concrete Median Barrier, 45"	(10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
(1) Railing Concrete, FT	(4) Retaining Wall	(16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65_CDMichigan"
I-65 SB CD to Michigan St

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-41
ELECTRONIC	133 of 649
CONTRACT	PROJECT
B-36910	1600808

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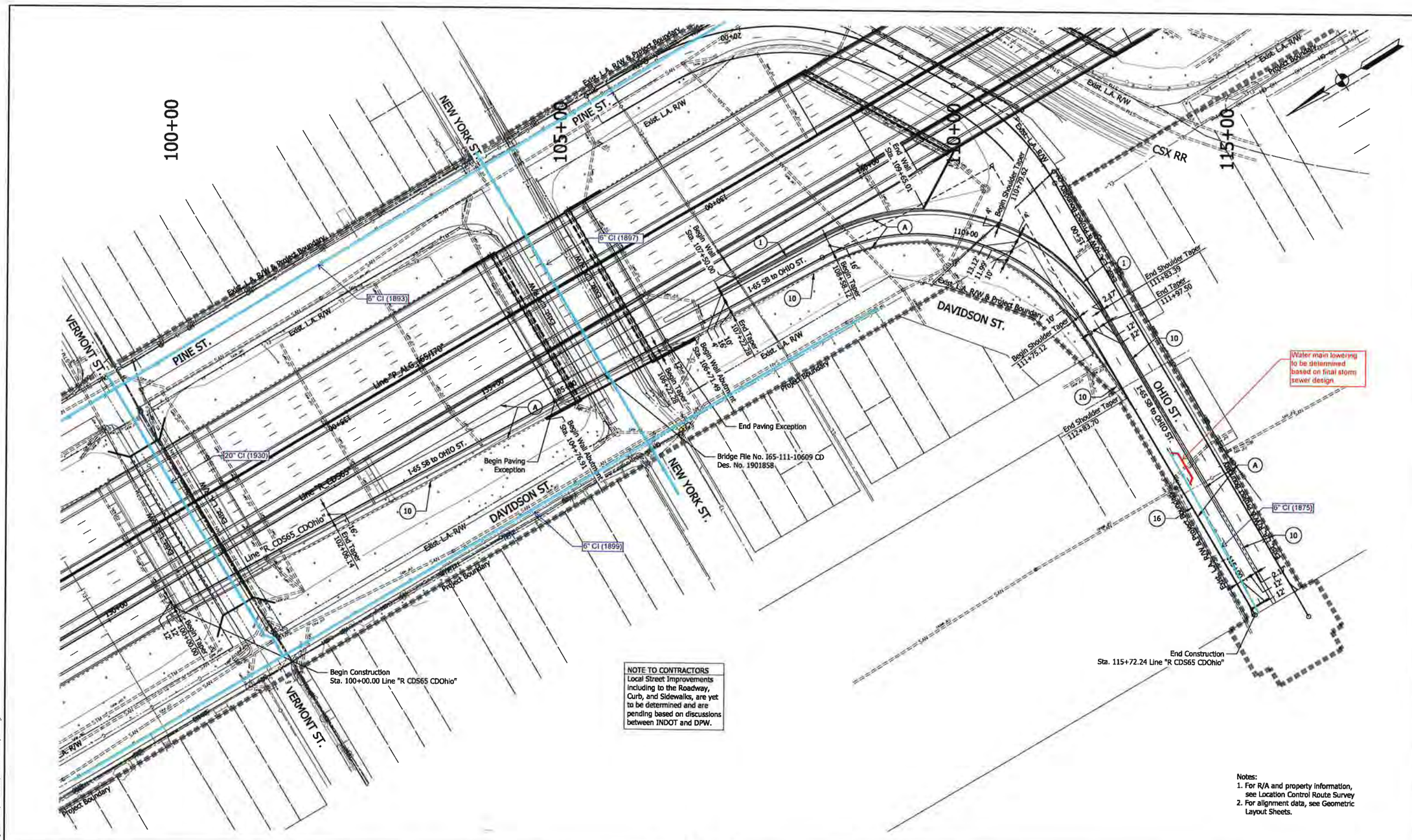

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/A and property information, see Location Control Route Survey
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNH
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDS65_CDOhio"
I-65 SB CD to Ohio St

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-42
ELECTRONIC	135 of 649
CONTRACT	PROJECT
B-36910	1600808

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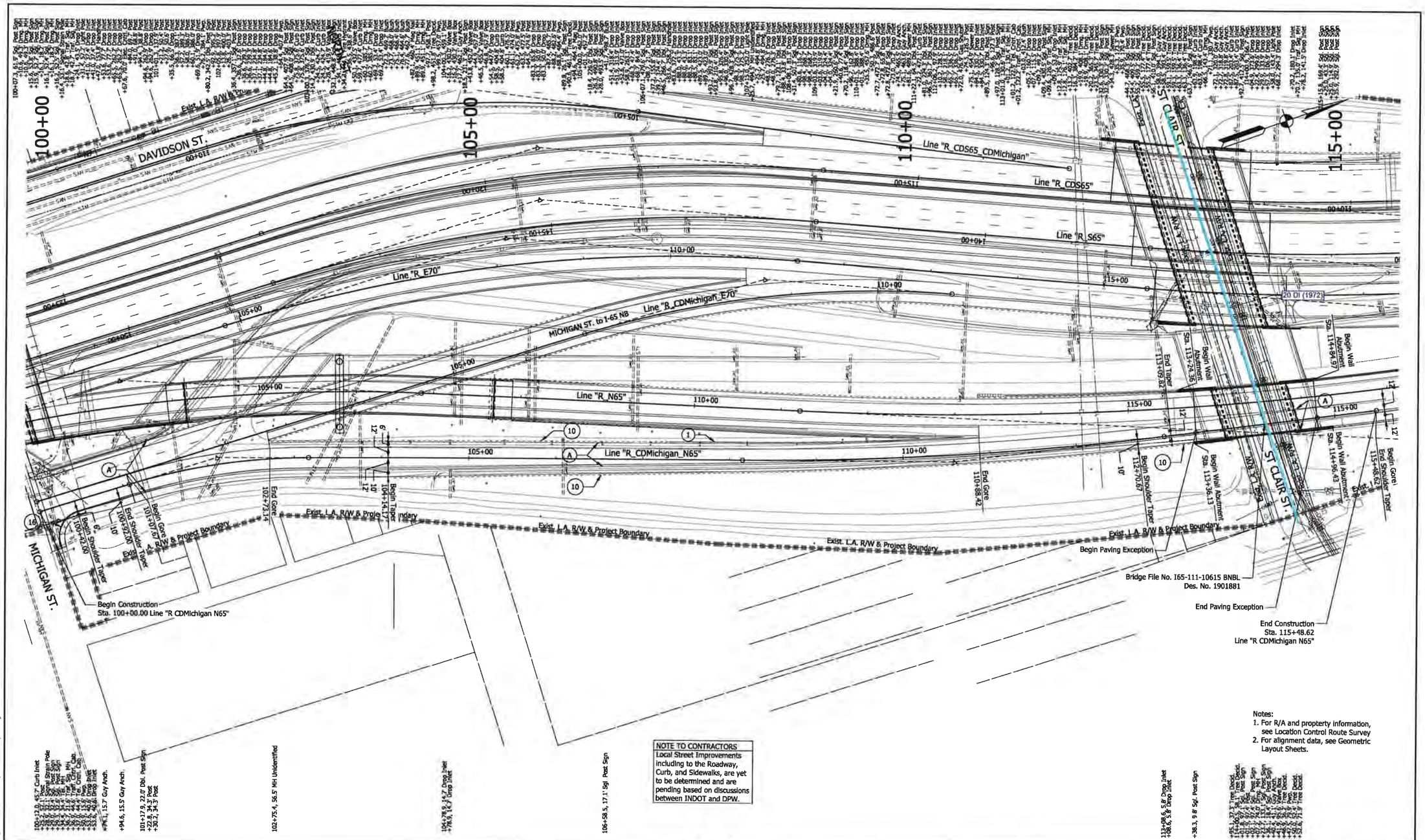

Notes:
1. For R/A and propterty information, see Location Control Route Survey
2. For alignment data, see Geometric Layout Sheets.

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDMichigan_N65"
Michigan St to I-65 NB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-43
ELECTRONIC	137 of 649
CONTRACT	PROJECT
B-36910	1600808

jrfoster
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model: Sheet1
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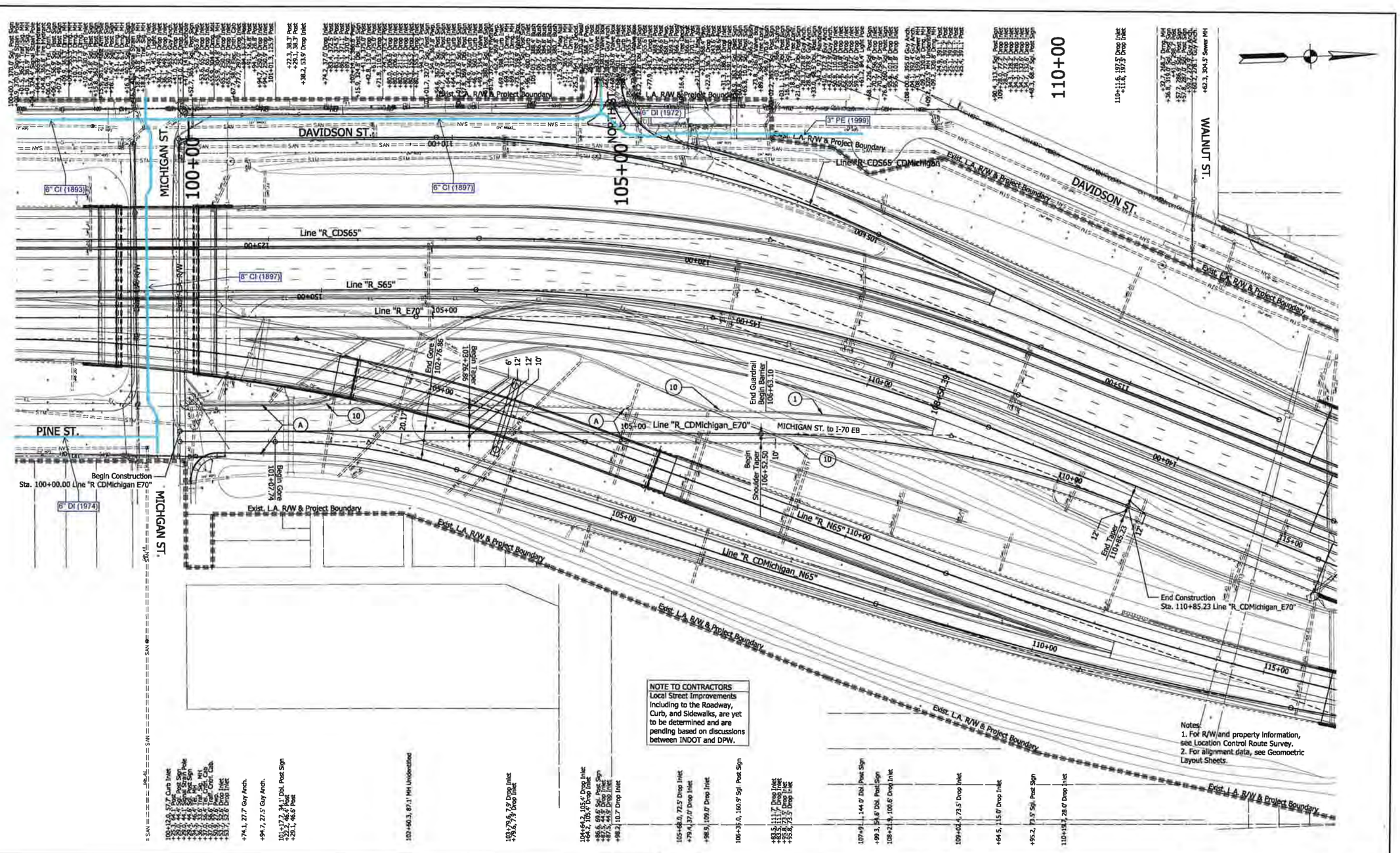

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/W and property information, see Location Control Route Survey.
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CAP | DRAWN: JNII
CHECKED: CCR | CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_CDMichigan_E70"
Michigan St to I-70 EB

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-44
ELECTRONIC	139 of 649
CONTRACT	PROJECT
B-36910	1600808

jrfoster
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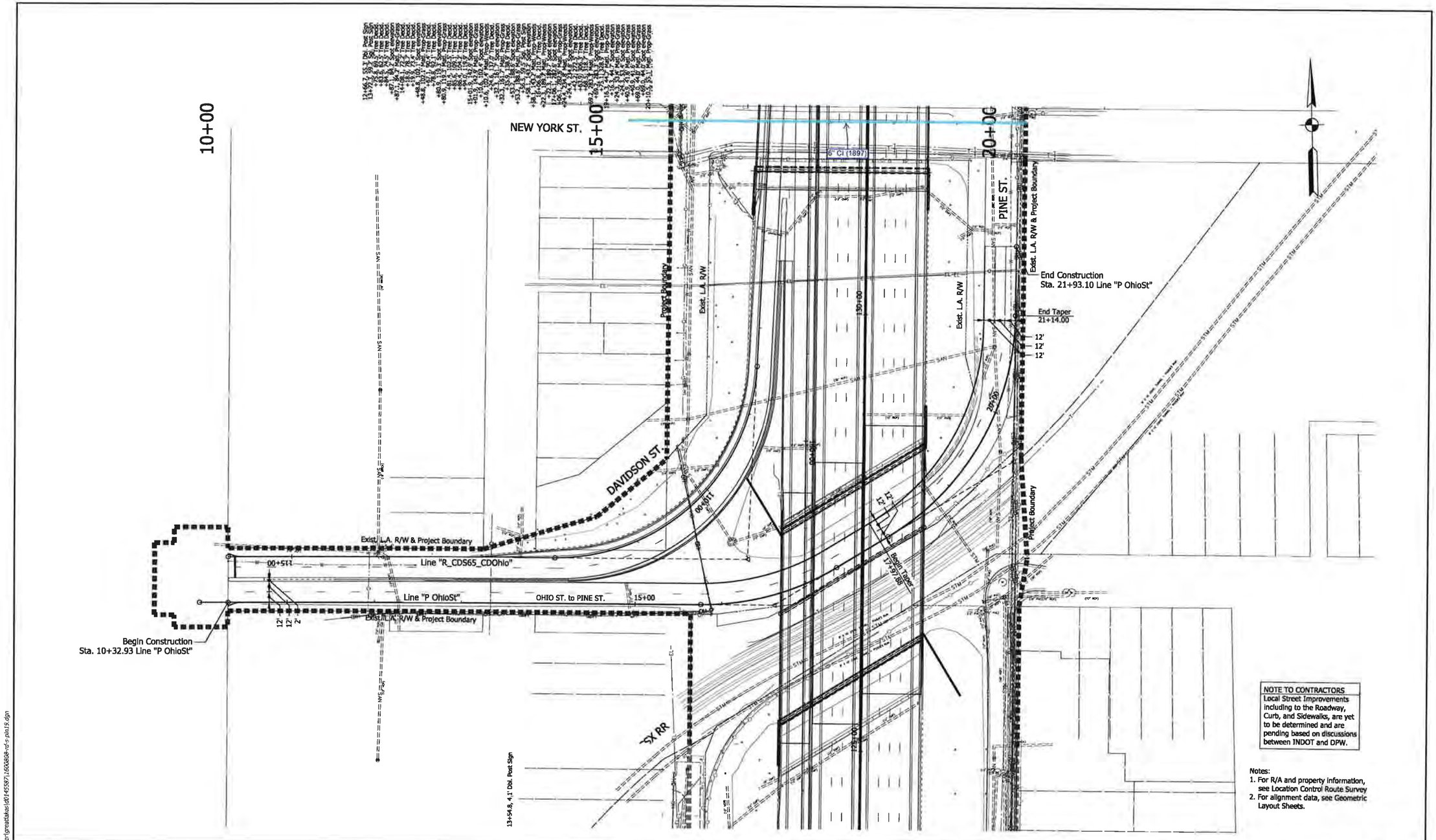

NOTE TO CONTRACTORS
Local Street Improvements including to the Roadway, Curb, and Sidewalks, are yet to be determined and are pending based on discussions between INDOT and DPW.

Notes:
1. For R/A and property information, see Location Control Route Survey
2. For alignment data, see Geometric Layout Sheets.

LEGEND

- (A) Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (A4) PCCP Mainline Pavement (For Pavement Section, See Technical Provisions Section 9)
- (1) Railing Concrete, FT
- (2) Concrete Median Barrier, 45"
- (4) Retaining Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing
- (16) Curb, Integral, B, Concrete

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: CAP DRAWN: JNII
CHECKED: CCR CHECKED: CCR

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "P_OhioSt"
Ohio St to Pine St

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1600808
SURVEY BOOK	SHEETS PLN-45
ELECTRONIC	141 of 649
CONTRACT	PROJECT
B-36910	1600808

jrfoster
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model:Sheet1
file: c:\caddlib\pw\hntb_jrfoster\greatlakes\d0145587\1600808-rd-s-pln19.dgn

Date: 2-18-19

Subject:

Utility Relocation Work Plan for:	AT&T-T (Transmission
Facility Type:	Fiber optic cables

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Luke Dillow
2.	Office telephone:	574-842-8830
3.	Mobile telephone:	317-361-0594
4.	Email address:	ldillow@jmceainc.com
5.	Agency name	JMC Engineers & Assoc INC
6.	Address:	110 N Main Street
7.	City, State, Zip Code:	Culver, IN 46511
8.	Construction Emergency Contact:	AT&T-T Local Technician
	Name:	Devin Vantwoud
	Number:	602-615-7589

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative

Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

1. **1 Fiber optic cable via easement along the Monon Trail.**
2. **1 Fiber optic cable along 10th street**
3. **1 Fiber optic cable along St. Clair Street**
4. **1 Fiber optic cable along New York Street, within leased AT&T-D ducts.**

B. Describe the location of existing active and inactive facilities.

1. Along the East side of the Monon Trail between the trail and the right of way fence.
2. Within the sidewalk on the north side of 10th street about 4' north of the curb.
3. St. Clair within the street traveling in the Northern East bound lane.
4. New York Street is in leased Ductwork with AT&T-D, and is in the center of the two west bound lanes along the separating line.

C. Describe what will be done with existing active and inactive facilities.

Nothing at this point in time.

D. Describe the details of the proposed new facilities.

E. Describe the proposed location of the new facilities.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on <**Enter Date Received Plans**>

Signature of Utility Representative

Luke Dillow 2-18-20

Print Name Date

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

_____ _____

Signature of Utility Representative Date

_____

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

METRONET.

Date:

Subject:

Utility Relocation Work Plan for:	Metro Fibernet, LLC dba Metronet
Facility Type:	Communications

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Korie Nellis
2.	Office telephone:	812-213-1378
3.	Mobile telephone:	812-430-2143
4.	Email address:	Korie.nellis@metronetinc.com
5.	Agency name	
6.	Address:	
7.	City, State, Zip Code:	
8.	Construction Emergency Contact:	
	Name:	Steve Hart
	Number:	317-800-3359

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Korie J Nellis — Signature of Utility Representative

Korie Nellis — Print Name

11-8-19 — Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

B. Describe the location of existing active and inactive facilities.

C. Describe what will be done with existing active and inactive facilities.

D. Describe the details of the proposed new facilities.

E. Describe the proposed location of the new facilities.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on **<Enter Date Received Plans>**

_____ _____

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

_____ _____

Signature of Utility Representative Date

_____

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

Date:

Subject:

Utility Relocation Work Plan for:	US Signal
Facility Type:	Fiber Optic Cable

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	John Lundell
2.	Office telephone:	616-988-7117
3.	Mobile telephone:	616-443-9027
4.	Email address:	jlundell@ussignal.com
5.	Agency name	US Signal
6.	Address:	201 Ionia SW
7.	City, State, Zip Code:	Grand Rapids, MI 49503
8.	Construction Emergency Contact:	
	Name:	Same
	Number:	Enter Phone Number

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.
Active aerial and underground fiber optic cable

B. Describe the location of existing active and inactive facilities.
There are two locations: E. New York Street & N. Davidson Street and S. Davidson Street south of E. Washington Street and north of the RR tracks (see attached pictures)

C. Describe what will be done with existing active and inactive facilities.
Nothing because we should be clear.

D. Describe the details of the proposed new facilities.
NA

E. Describe the proposed location of the new facilities.
NA

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on August 19, 2019.

John Lundell

John Lundell August 20, 2019

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

   1. Utility A, with a description of the required work.

   2. Utility B, with a description of the required work.

   3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

   1. Work item A

   2. Work item B

   3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

_____ _____

Signature of Utility Representative Date

_____

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed)

DES 1801695 – I-69 Section 6 – Segment 6.5 (Contract 5)

Date: 11-12-19

Subject:

Utility Relocation Work Plan for:	Indianapolis Power & Light Co.
Facility Type:	13KV OH Power Lines

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808 & 1592385
2.	Route Number:	I-65 North Split
3.	Location:	I-65 North of Washington Street & West to Myron ST. East to Lewis Ave.
4.	Work Type:	Highway Rehab Construction, Ramps, Bridges, Lanes
5.	Letting Date:	
6.	Date Work Plan Needed	Dec. 01, 2019
7.	Target Date for Utility to be out of conflict with INDOT Project	Varies – Depends on INDOT scheduling
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Jim Duvall
2.	Office telephone:	317-261-8694
3.	Mobile telephone:	Enter Phone Number
4.	Email address:	Jim.duvall@aes.com
5.	Agency name	Indianapolis Power & Light Co.
6.	Address:	1230 W. Morris Street
7.	City, State, Zip Code:	Indpls. IN. 46221
8.	Construction Emergency Contact:	
	Name:	IPL Trouble Dept.
	Number:	317-261-8111

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

N/A

Signature of Utility Representative

Print Name

Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	
4.	Email Address:	dgarvin@HNTB.com
5.	Agency Name:	HNTB
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of the facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

13 KV Overhead Power Main Lines

B. Describe the location of existing active and inactive facilities.

Vermont St- Overhead along south side of street; Michigan – Overhead along South side of street; St Claire-Overhead along north side of street; Myron – Overhead along east side of street; Lewis Ave – overhead along east side of street.

Additional facilities not expected to be in conflict include lines at Washington St, Market St, Ohio St, Davidson St, 10th / Mass Ave, Pennsylvania St, Delaware St, and Alabama are identified in (RID Section 15.05 Data from Utilities)

C. Describe what will be done with existing active and inactive facilities.

All circuits listed in "B" above will be relocated to UNDER the New Highway.

D. Describe the details of the proposed new facilities.

Please see attached prints.

E. Describe the proposed location of the new facilities.

Please see attached prints.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans dated

N/A

Signature of Utility Representative

Print Name

Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Not

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

IPL to perform our own work.

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	0
B.	The expected lead time in calendar days to obtain materials:	45
C.	The expected lead time in calendar days to schedule work crews:	45
D.	If the contractor is being selected by competitive bid what is the date of selection?	N/A
E.	The expected lead time in calendar days to obtain new property interests:	N/A
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	January 2nd, 2020
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	45

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

NOT

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

NOT

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: N/A

D. The number of calendar days to complete the relocation work: 180 days.

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Please see attached prints.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Please see attached estimates.

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

N/A

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Jim Duvall

Signature of Utility Representative

11-12-19

Date

Jim Duvall

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	No	Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or No to mark it with an "X")

Comments on any sections (1.a – 2.b) that were marked No:

_____ _____

Utility Coordinator Signature Date

_____

Utility Coordinator Name Printed

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and found it acceptable.

_____ _____

Project Manager Signature (LPA Project – ERC Signature) Date

_____

Project Manager Name Printed (LPA Project – ERC Name Printed)

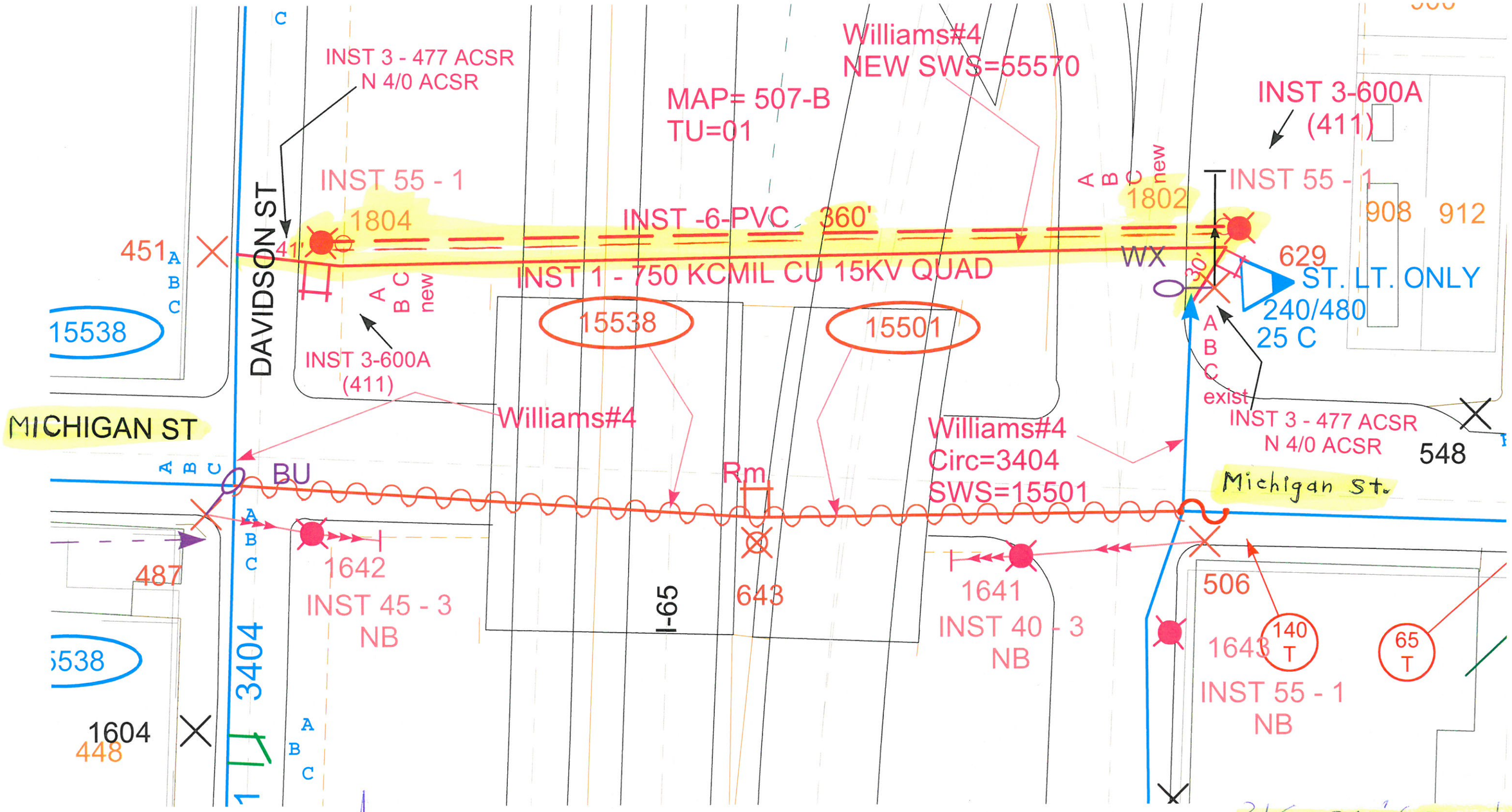
1164
750 ABC
277/480
576
CUSTOMER OWNED
CUSTOMER OWNED
1212
VE-1677
DAVIDSON ST
100 T
#1640 Inst 3-12mDnGuysOn1-14"TEPA@30'L,NB
#712 to #1640 Inst 2-12mSpanGuys(40')
184
E
1188
407
Williams#1
NewSWS=55579
Rm Fault Indicators
PINE ST
1640
Williams#4
15501
40'
ECONOMY ST
RPL
light
9(
TENSION
INST 55 - H1
1639
EZ
1125
mDnGuysOn1-14"TEPA@36'L,NB
3-12mDnGuys & 1-36mTEPA
Rm 3-12mSpan Guys (51')
INST 1 - 750 KCMIL CU 15KV QUAD
351' INST -6-PVC
INST 60 - 1
RM LM3033
INST OPEN
712
25 C
35'
1636
351' INST -6-PVC
#1125 to #1639 - Inst 1-Span(40')
of 3-#477ACSR & 1-#4/0ACSR Mainline
INST 3-600A
(411)
TAP500MCM
45'
#1061 to #712- Inst 3-Spans(150') of 3-397AlBr
& 1-2/0Al Br Mainline (Williams#4)
335
BF
1183
QE
Williams#1
15502
INST 3-600A
(411)
TAP500MCM
Williams#1
15537
15537
INST 3-600A
(411)
1637 INST 60 - 1
70'
WX
WX
336
Williams#4
Circ=3404
1061
15501
INST 3-600A
(411)
65
T
1187
00A
1186
1182
QE
Rm
166'
IDLE
78'
Rm
IDLE 34.5KV
220'
114'
IDLE
3401
Rm
SLACK
DZ
239'
VERMONT S
78'
703
Vermont St.
704
98'
Rm
SLACK
INST 60 - 1
1635
359
QX
358
Partial Slack
356
NX
15502
705
711
Exist Williams#4
Circ=3404
5699
337
Cut Off Top Of Poles To
Make Distribution Poles
DAVIDSON ST
140
T
MAP
537-A
TU=01
Exist Williams#1
Circ=3401
15537
PINE ST
3401
142'
Cut Off Top Of Pole To
Make Distribution Pole
CAB
to #332- Rm 5-Spans (817') of 3-397AL
#8ACSR Sub-Trans Idle34.5KV
705- Rm 3-Spans(412') of
N

I-65 "North Split" - Vermont

UG = 351' (2 conduits)
2-Riser Poles
3-Other Poles

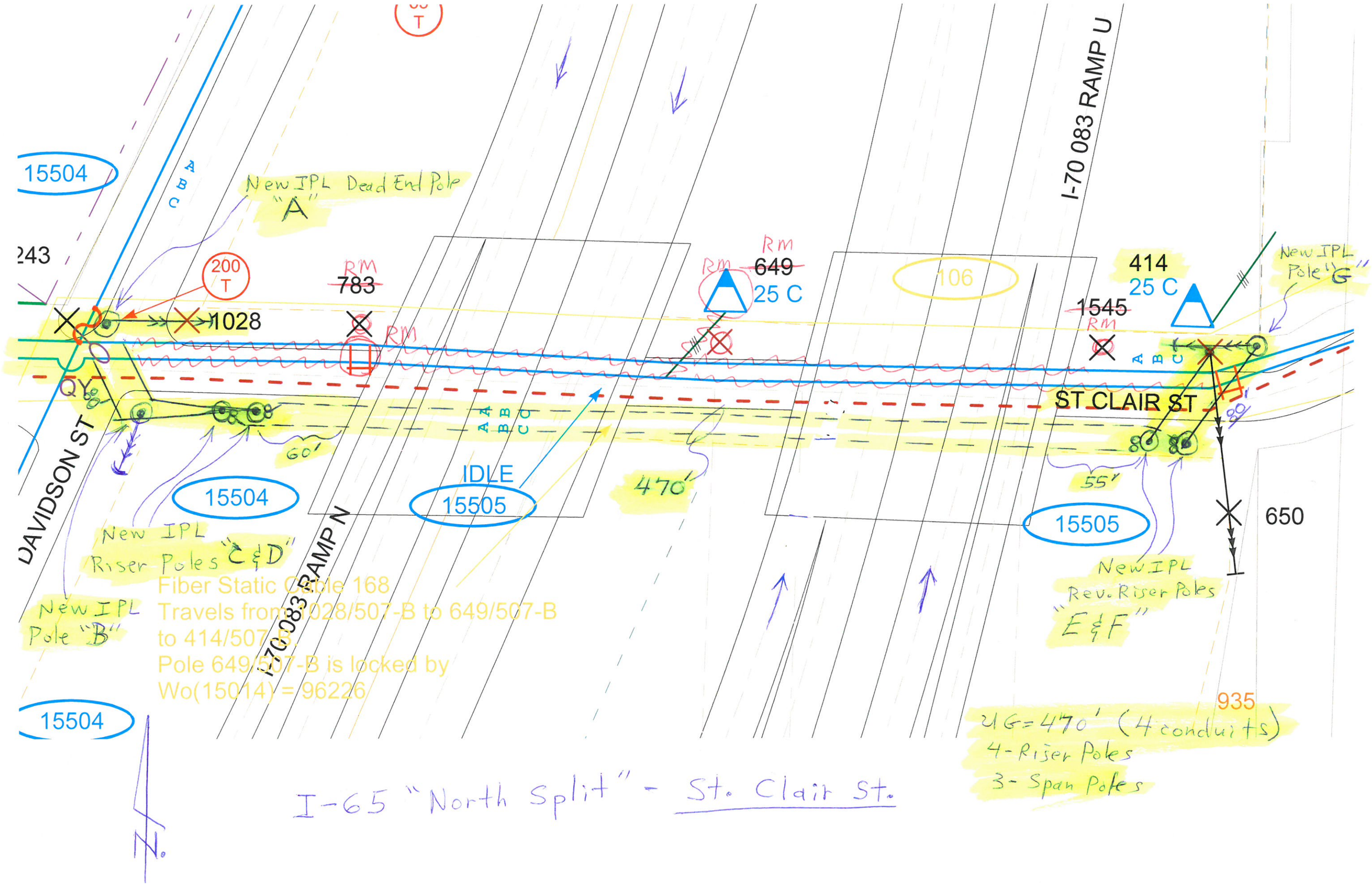
1

FARRELL
(537-A RADIAL)
MAP
537-A
TU=01
#1640 Inst 3-12mDnGuysOn1-14"TEPA@30'L,NB
#712 to #1640 Inst 2-12mSpanGuys(40')
INST 1 - 750 KCMIL CU 15KV QUAD
351' INST -6-PVC
INST 55 - H1
INST 60 - 1
INST 35 - 3
#1125 to #1639 - Inst 1-Span(40')
of 3-#477ACSR & 1-#4/0ACSR Mainline
#359 Inst 3-12mDnGuysOn1-14"TEPA@36'L,NB
#723 Rm 3-12mDnGuys & 1-36mTEPA
#359 to #723 Rm 3-12mSpan Guys (51')
#359 to #332- Rm 5-Spans (817') of 3-397AL
&1-3#8ACSR Sub-Trans Idle34.5KV
#356 to #705- Rm 3-Spans(412') of
3-397ALBR & 1-2/0ALBR Mainline
#704 to #711 - Rm 1-Span (98') of 3-397AlBr & 1-2/0AlBr Mainline
#1061 to #711 Inst 2-12m SpanGuys(90')
#711 to #1638 Inst 2-12m Span Guys(142')
#1638 Inst 3-12m DnGuys On 1-14" TEPA@30'L,NB
#332 Inst 3-12mDnGuysOn 1-14"TEPA @ 36'L,NB
#1061 to #712- Inst 3-Spans(150') of 3-397AlBr
& 1-2/0Al Br Mainline (Williams#4)
#1635 Inst 3-12mDnGuysOn1-14"TEPA@36'L,NB
#704 to #705 Rm 2-12m SpanGuys(115')
RPLC 30' 5 wood pole with 30' 5 wood pole- reattach
light and duplex - see sag chart - osmose pole
Cut Off Top Of Poles To
Make Distribution Poles
Cut Off Top Of Pole To
Make Distribution Pole
Rm Fault Indicators
Williams#1
NewSWS=55579
Williams#1
Williams#4
Circ=3404
Exist Williams#1
Circ=3401
Exist Williams#4
Circ=3404
IDLE 34.5KV
220'
IDLE
INST 3-600A
(411)
TAP500MCM
INST OPEN
RM LM3033
CUSTOMER
OWNED
VERMONT ST
COLLEGE AVE
SPRING ST
FULTON ST
DAVIDSON ST
PINE ST
ECONOMY ST
I-65
70 083 RAMP C
6-4-FIBER
1-4PVC
3-400 R.C.
UG = 351' (2 conduits)
I-65 "North Split" - Vermont
(2)



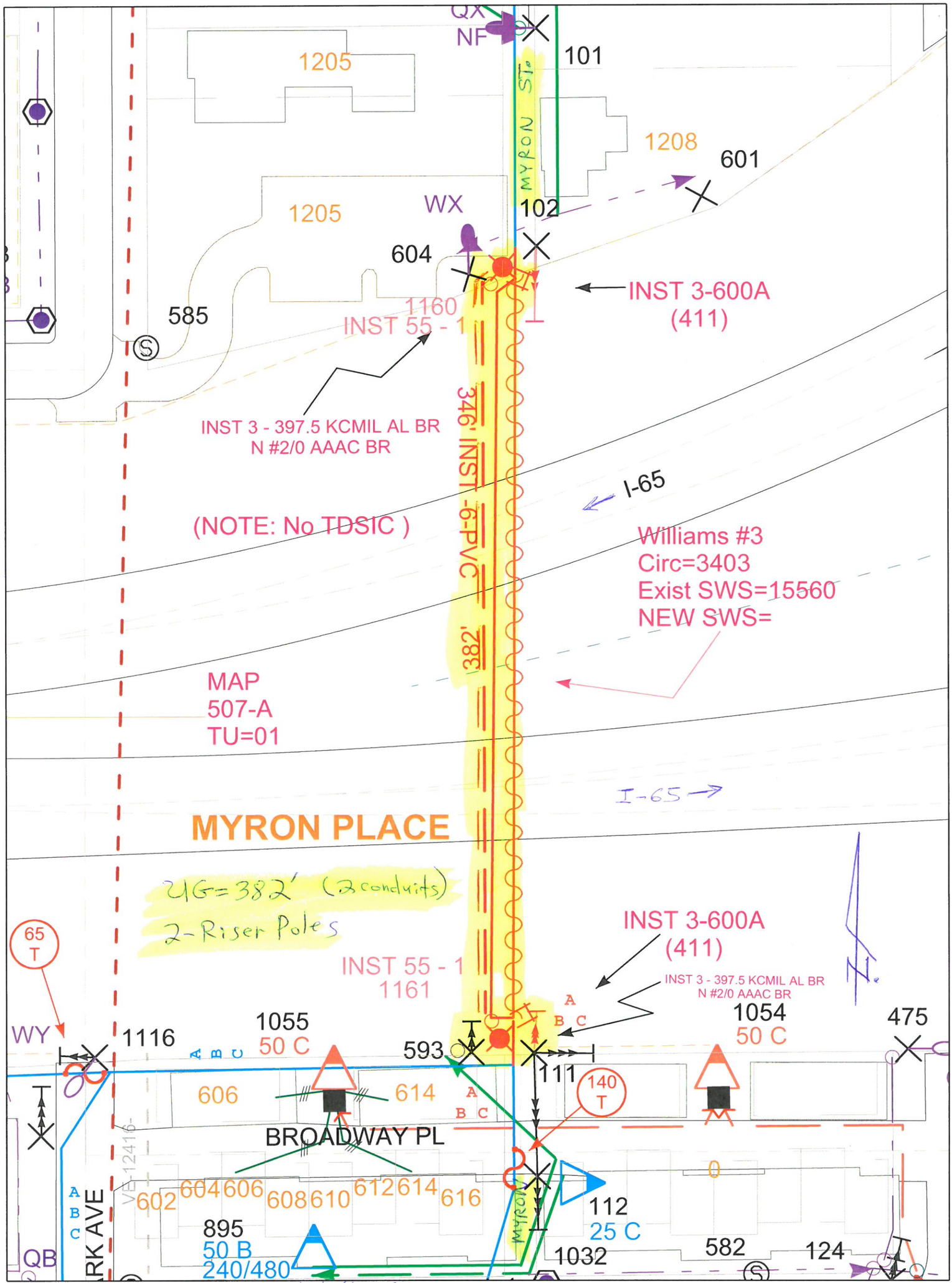
4G = 360' (2 conduits)
2 - Riser Poles
3 - Other Poles

I - 65 "North Split" - Michigan



Fiber Static Cable 168
Travels from 1028/507-B to 649/507-B
to 414/507-B
Pole 649/507-B is locked by
Wo(15014) = 96226

I-65 "North Split" - St. Clair St.



ipl an AES company	Job Name:		Customer:	Phone:	
	Location:		Scheduler:	Phone:	
	Circuit Data			Designed By:	
	Primary		Trans.	Phone	Cell
SPANS	Name	Circuit SWS			
AT&T#				Sect. No Tax Unit	Date
PA #					9/3/2019
WR #					Print No.
					OF

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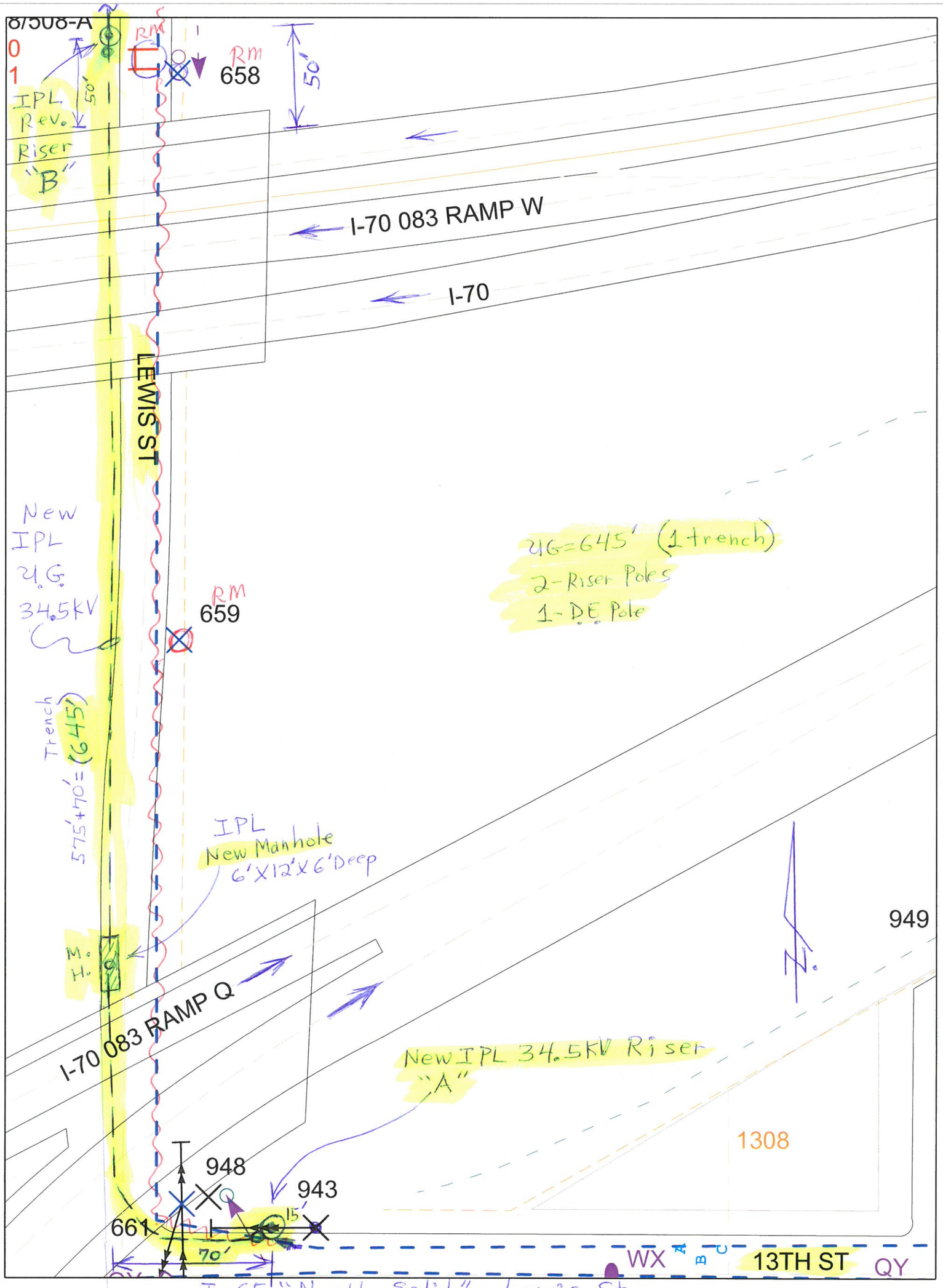

ipl an AES company	Job Name:		Customer:		Phone:		
	Location:		Scheduler:		Phone:		
	Circuit Data				Designed By:		
	Primary			Trans.	Phone		Cell
SPANS	Name	Circuit	SWS				
AT&T#					Sect. No	Tax Unit	Date
PA #							9/3/2019
WR #							Print No.
							OF

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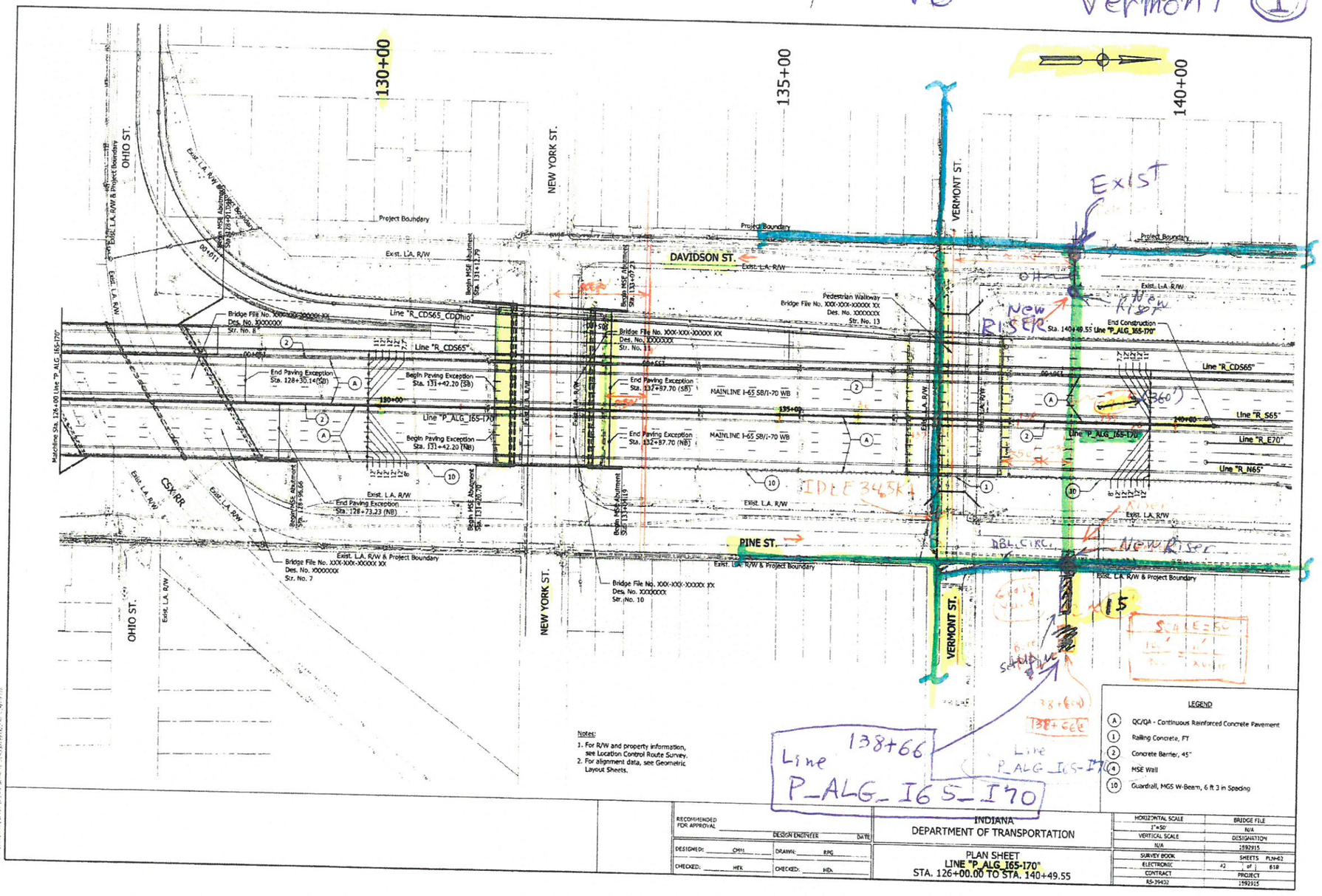
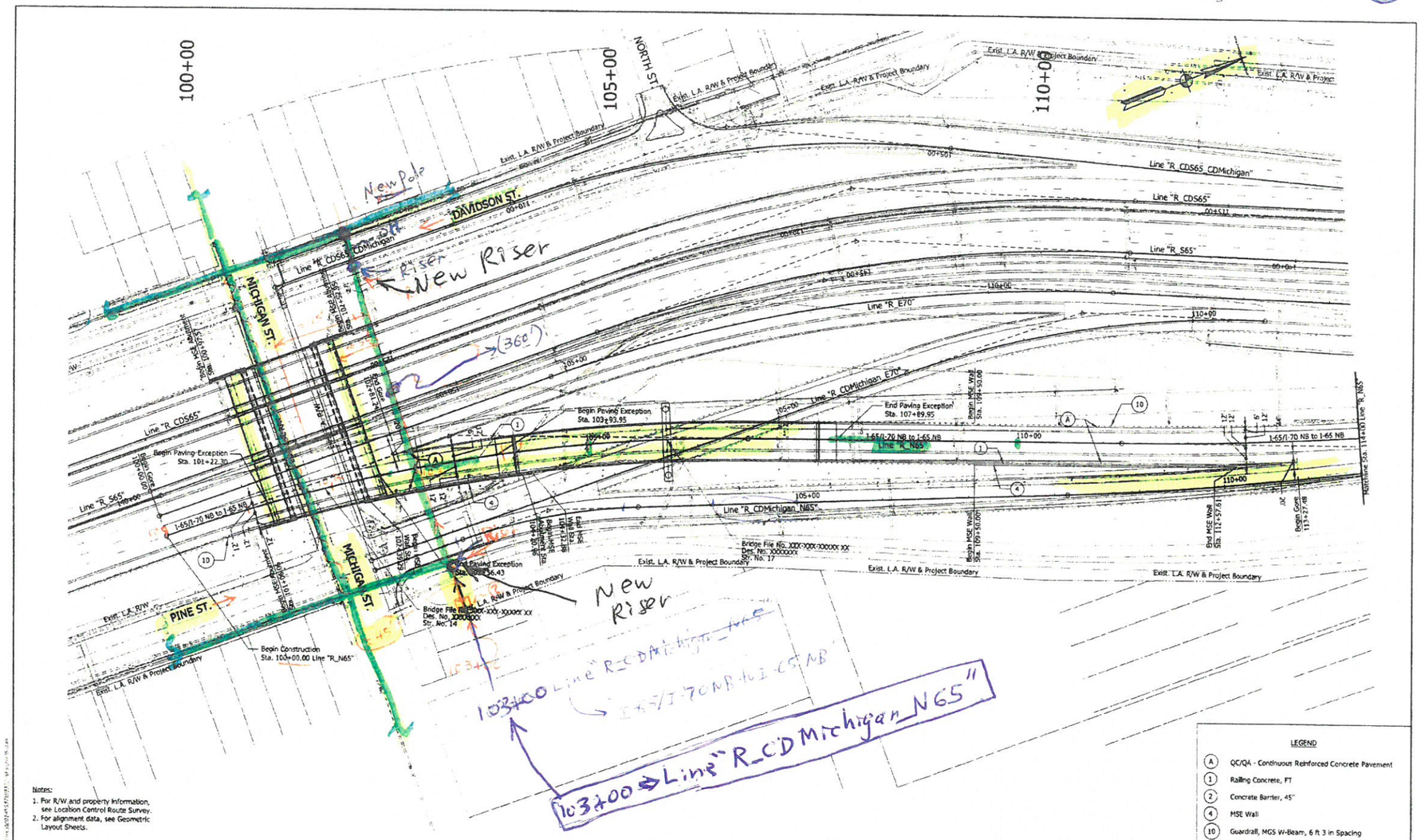
I-65 North Split V6 Vermont (1)



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1"=50' / BRIDGE FILE N/A
DESIGNED: CMH / DRAWN: RPG	PLAN SHEET LINE "P_ALG_165-170" STA. 126+00.00 TO STA. 140+49.55	VERTICAL SCALE N/A / DESIGNATION 1592915
CHECKED: HTK / CHECKED: HEA		SURVEY BOOK / SHEETS PLN-02
		ELECTRONIC 42 / 61
		CONTRACT / PROJECT RS-39432 / 1592915

Michigan (2)



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CMN DRAWN: RPG

CHECKED: HEK CHECKED: HEK

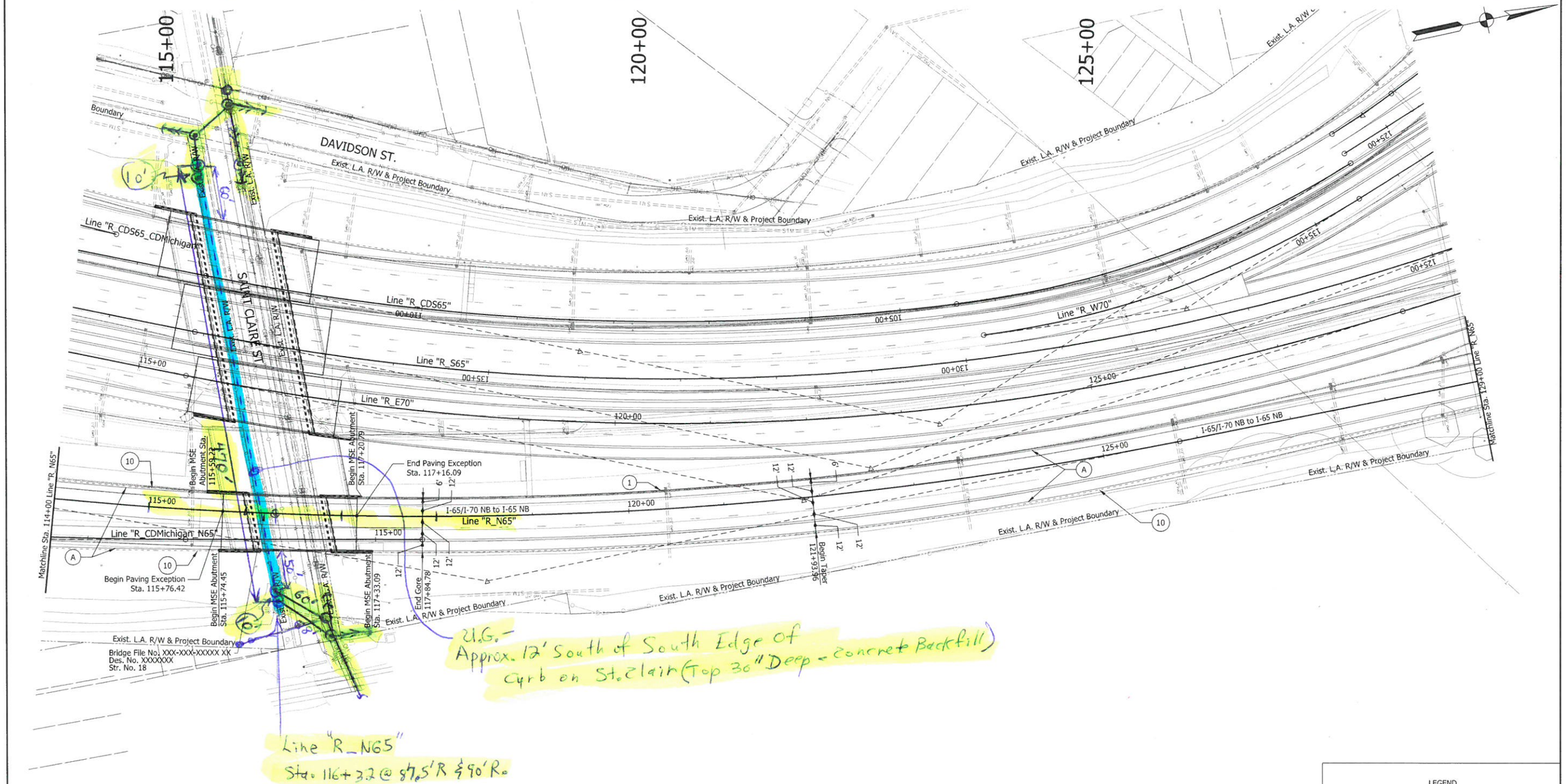
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
STA. 100+00.00 TO STA. 114+00.00

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1592915
SURVEY BOOK	SHEETS PLN-13
ELECTRONIC	64 of 618
CONTRACT	PROJECT
RS-39419	1592915

St. Clair St.

(3)



LEGEND

- (A) QC/QA - Continuous Reinforced Concrete Pavement
- (1) Railing Concrete, FT
- (2) Concrete Barrier, 45"
- (4) MSE Wall
- (10) Guardrail, MGS W-Beam, 6 ft 3 in Spacing

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CMM | DRAWN: RPG

CHECKED: HEK | CHECKED: HEK

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
LINE "R_N65"
STA. 114+00.00 TO STA. 129+00.00

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1592915
SURVEY BOOK	SHEETS PLN-14
ELECTRONIC	66 of 618
CONTRACT	PROJECT
RS-39421	1592915

chris.poland
4/3/2019 9:51:09 am
model: Sheet2
file: c:\cadd\projects\design\proj\0dwks\d0174550\1592322-d-s-pln06.dgn

Myron Place V6

(4)

LEGEND

- ALIGNMENT LINE
- STREET CENTERLINE
- RIGHT-OF-WAY LINE (INDOT)
- RIGHT-OF-WAY (CITY OF IND.)
- RIGHT-OF-WAY (VACATED)
- APPROXIMATE PARCEL LINE
- APPROXIMATE LOT LINE
- EASEMENT LINE
- EXISTING FENCE
- EXISTING FLOWLINE
- EXISTING TOPOGRAPHY

- LOT CORNER
- P/W DIRECTION CHANGE
- BEGIN L.A. RIGHT-OF-WAY
- END L.A. RIGHT-OF-WAY
- XX.XX' MEASURED LOT DIMENSION
- (123) CONTROL POINT
- (R) RECORD DIMENSION
- (M) MEASURED DIMENSION
- (P) PLAN DIMENSION
- FND., SET, OR CALC.

NOTE:
THERE MAY BE INSTANCES THROUGH CURVES, OR WHERE ADDING THE SEGMENT LENGTHS OF LINES VERSUS THE OVERALL LENGTH, THERE APPEAR TO BE MATHEMATICAL ERRORS (+/- 0'0.01" OR 0.01 FEET). THESE APPARENT ERRORS RESULT FROM NUMERIC ROUNDING, ARE CONSIDERED NEGLIGIBLE, AND, ARE NOT REVISED HEREIN.

APP APPARENT
EP EDGE OF PAVEMENT
R/W RIGHT-OF-WAY
EX. EXISTING
L.A. LIMITED ACCESS

UNLESS NOTED OTHERWISE ALL MONUMENTS, FOUND OR SET, ARE LOCATED FLUSH WITH THE SURFACE

50' 25' 0 50' 100'
SCALE 1"=50'

(63) HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. INSTR. No. 72-7289
(64) PETER A. & ELIZABETH C. PAPPAS INSTR. No. 910027208
(65) PATRICK INVESTMENTS, LLC INSTR. No. 2009-0105367
(66) HERBERT FORD INSTR. No. 1992-124064
(67) KYLE B. & MEGAN M. ROBINSON INSTR. No. A201500042943
(68) OAK INVESTMENTS, LLC INSTR. No. 2007-077292
(69) KERRY L. FERGUSON & BRADLEY D. LUTHER INSTR. No. 1994-0165551
(70) DAVID A. HOWMAN & JOHN T. IRISH INSTR. No. 2007-0027789
(71) MYRON PLACE HOMEOWNERS ASSOC., INC. INSTR. No. 2009-0144682
(72) G&M INVESTMENT PROPERTY, LLC INSTR. No. 201500110020
(73) ERIC WANG INSTR. No. 201300044572
(74) GAVIN RALING & MEGAN MEENTS INSTR. No. 201500097541
(75) ROBERT R. BARNES INSTR. No. 2007-0121115
(76) UBE ASSOCIATES PARCEL I INSTR. No. 1996-0003817
(77) UBE ASSOCIATES PARCEL I INSTR. No. 910047708
(78) UBE ASSOCIATES PARCEL II INSTR. No. 1996-0003817

(E-4) 30' DRAINAGE & UTILITY ESMT.

N 89°39'21" E 494.68'
N 89°39'21" E 411.38'
N 89°39'21" E 423.09'
13TH STREET
SEE DETAIL G SHEET 7
SEE SHEET 7
559+76.32
N 0°04'27" E 471.03'
PARK AVENUE
MYRON STREET
BROADWAY STREET
COLLEGE AVENUE
S 0°00'35" W 461.04'
460.20'
471.18'
HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. INSTR. No. 67-7574
HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. INSTR. No. 67-34521
HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. INSTR. No. 67-33615
HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. (NO DEED FND.)
HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. INSTR. No. 2010000011674
HISTORIC LANDMARKS FOUNDATION OF INDIANA, INC. INSTR. No. 65-1086
CLAYTON & LISA CAVELL INSTR. No. 201800054650
PETER A. & ELIZABETH C. PAPPAS INSTR. No. 910027208
HILARY A. & TRAVIS E. BARNES INSTR. No. A201300124033
M. SUSAN BATES INSTR. No. 9200018695
New Riser
LINE "65" NB"
LINE "3E-W"
N 89°36'57" E 494.60'
12TH STREET
N 89°40'36" E 412.11'
12TH STREET
S 0°00'53" E 942.40'
LINE "165 II" S 87°44'59" E
LINE "3W-E"
LINE "165 SB II"
LINE "3W-S"
SEE SHEET 9
SEE SHEET 6
PARK AVENUE
BROADWAY STREET
COLLEGE AVENUE
1101 N CENTRAL, LLC INSTR. No. 201500126955
R.T. BUCK, LLC INSTR. No. 2004-0015283
MYRON PLACE HOMEOWNERS ASSOC., INC. INSTR. No. 2009-0144682
UBE ASSOCIATES PARCEL II INSTR. No. 910047708
COLLEGE 1101 LLC INSTR. No. 2013001154O4
New Riser
Sta = 39+78
Line PALG 165
11TH STREET
S 89°27'00" W 907.38'
11TH STREET
N 89°27'00" E 422.83'
N 89°28'16" E 350.29'
480.68'
491.41'
S 0°00'23" E

SURVEY STARTED	
06/07/2017	
SURVEY COMPLETED	
12/06/2017	
ROUTE PLAT SHEETS	
10	of 22

PREPARED BY: MATTHEW R. HEALY, P.S.

VS ENGINEERING, INC.
4275 N. HIGH SCHOOL RD. INDIANAPOLIS, INDIANA 46254
TEL. (317) 293-3542 FAX. (317) 293-4737

FIELD SURVEYOR STATEMENT

THIS SURVEY, TO THE BEST OF MY KNOWLEDGE AND BELIEF, IS EXECUTED ACCORDING TO THE PROVISIONS OF IMS I.A.C. 1-12-20 THROUGH 1-12-26 REGARDING ROUTE SURVEYS, EXCEPT THAT ANY DATA SHOWN REGARDING THE LOCATION OR DESCRIPTION OF THE EXISTING PARCELS IS NOT A PART OF THIS SURVEY.

MATTHEW R. HEALY REGISTERED No. 21000201 STATE OF INDIANA PROFESSIONAL SURVEYOR

RECOMMENDED FOR APPROVAL
REGISTERED LAND SURVEYOR, FIELD

DRAWN: RJS CHECKED: MRH

INDIANA DEPARTMENT OF TRANSPORTATION

LOCATION CONTROL ROUTE SURVEY
I-65

HORIZONTAL SCALE	DESIGNATION
1" = 50'	1592385
VERTICAL SCALE	
N/A	
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT

Lewis St. Lewis St. V/6 [34.5 FT] (5)

LEGEND

ALIGNMENT LINE
STREET CENTERLINE
RIGHT-OF-WAY LINE (INDOT)
RIGHT-OF-WAY (CITY OF IND.)
RIGHT-OF-WAY (VACATED)
APPROXIMATE PARCEL LINE
APPROXIMATE LOT LINE
EASEMENT LINE
EXISTING FENCE
EXISTING FLOWLINE
EXISTING TOPOGRAPHY

▲ LOT CORNER
⊕ R/W DIRECTION CHANGE
⊞ BEGIN L.A. RIGHT-OF-WAY
⊡ END L.A. RIGHT-OF-WAY
XX.XX' MEASURED LOT DIMENSION

(R) RECORD DIMENSION
(M) MEASURED DIMENSION
(P) PLAN DIMENSION
(123) CONTROL POINT FND., SET, OR CALC.

APP APPARENT
EP EDGE OF PAVEMENT
R/W RIGHT-OF-WAY
EX EXISTING
L.A. LIMITED ACCESS

NOTE:
THERE MAY BE INSTANCES THROUGH CURVES, OR WHERE ADDING THE SEGMENT LENGTHS OF LINES VERSUS THE OVERALL LENGTH, THERE APPEAR TO BE MATHEMATICAL ERRORS (+/- 0'00'01" OR 0.01 FEET). THESE APPARENT ERRORS RESULT FROM NUMERIC ROUNDING, ARE CONSIDERED NEGLIGIBLE, AND, ARE NOT REVISED HEREIN.

UNLESS NOTED OTHERWISE ALL MONUMENTS, FOUND OR SET, ARE LOCATED FLUSH WITH THE SURFACE

R/W NORTH OF LEASE LINE SHOWN FOR REFERENCE ONLY

15TH STREET — N 89°37'35" E 341.10' — N 89°37'31" E 392.20' (385.06') — N 89°37'31" E 286.80' — S 89°50'57" E 391.53'

CARROLTON AVENUE — N 0°01'34" W 390.09' — S 0°01'31" W 390.36'

LEASE TO OLD NORTHSIDE FOUNDATION, INC. ASSIGNED TO INDIANAPOLIS PARKS & RECREATION NO DOCUMENTS RECORDED

N 0°00'27" E 75.00' — 7.14' — 155.12' — 224.52' — 81.10' — 141.23' — 174.26' — 30' 1/2 R/W

S 82°26'21" W 60.53' — S 80°50'42" W 157.01' LEASE LINE — S 78°55'49" W 15.29' — S 77°42'06" W 158.81' — S 77°40'32" W 108.58' — S 78°18'12" W 61.13' — S 66°11'22" W 45.77' — S 65°53'22" W 745.59' LEASE LINE — S 59°17'31" W 69.77'

S 80°51'02" W 41.62' — N 78°51'03" W 143.70'

EX. L.A. R/W — EX. R/W — 80' R/W — 60' R/W — 30' R/W — 7.58' — 20.15' — 41.29' — 41.98' — 48.13' — 75.13' — 132.23' — 132.25' — 132.31' — 89'

14TH STREET — S 89°40'05" W 349.62' — N 89°40'18" E 340.75'

LINE "3E-W-E" — LINE "170 WB" — LINE "3W-E" — LINE "170 EB"

COLLEGE AVENUE — N 0°00'08" E 436.08' — S 0°00'35" W 461.04' (460.20') — 423.09' N 89°39'21" E — 13TH ST. — 10.75' — 24' — 15' R/W — 132.38' — 40.05'

SEE SHEET 10 — SEE DETAIL G

SEE SHEET 11

LEWIS STREET — N 0°04'48" E 823.4' — S 0°00'37" W 433.51' — S 0°00'00" E 541.05' — N 0°06'37" E 1,136.08'

CITY OF INDIANAPOLIS PER GIS (MONON TRAIL)

13TH STREET — N 89°32'31" E 391.26' — N 89°30'40" E 292.95' — 82.03'

CITY OF INDIANAPOLIS PER GIS (MONON TRAIL)

ROOSEVELT LANDSITE, LLC INSTR. No. 201200142785

SEE SHEET 6

13TH STREET — COLLEGE AVENUE — S 0°00'35" W 0.84'

DETAIL G
NOT TO SCALE

50' 25' 0 50' 100'
SCALE 1"=50'

(34) GAYLE D. YOUNG, SR. INSTR. No. 910105396
(35) BEATRICE M. WHITE INSTR. No. 2009-0079050
(36) JUANITA MERRIWEATHER INSTR. No. 930018757
(37) CHARLES E. JACKSON INSTR. No. 1999-0074612
(38) CHARLES E. JACKSON INSTR. No. 83 55834
(39) CHARLES E. JACKSON INSTR. No. 1993-0135617
(40) EDWIN C. & JANICE B. NEWTON INSTR. No. 1966-0094963
(41) PETER A. & ELIZABETH C. PAPPAS INSTR. No. 1998-0015842
(42) BOARD OF SCHOOL COMM. INDIANAPOLIS PER GIS DEED NOT FOUND

New Riser — 50' — SLACK — 675' — 46 — 385' — Man Hole 6'X12'X6' Deep — New IPL Riser — 70' — 58'

SURVEY STARTED	06/07/2017
SURVEY COMPLETED	12/06/2017
ROUTE PLAT SHEETS	7 of 22

PREPARED BY: MATTHEW R. HEALY, P.S.

VS ENGINEERING, INC.
4275 N. HIGH SCHOOL RD. INDIANAPOLIS, INDIANA 46254
TEL (317) 293-3542 FAX: (317) 293-4737

FIELD SURVEYOR STATEMENT

THIS SURVEY, TO THE BEST OF MY KNOWLEDGE AND BELIEF, IS EXECUTED ACCORDING TO THE PROVISIONS OF 865 I.A.C. 1-12-20 THROUGH 1-12-26 REGARDING ROUTE SURVEYS, EXCEPT THAT ANY DATA SHOWN REGARDING THE LOCATION OR DESCRIPTION OF THE EXISTING PARCELS IS NOT A PART OF THIS SURVEY.

MATTHEW R. HEALY — REGISTERED — No. 21000201 — STATE OF INDIANA — PROFESSIONAL SURVEYOR

RECOMMENDED FOR APPROVAL _____ REGISTERED LAND SURVEYOR, FIELD

DRAWN: RJS CHECKED: MRH

INDIANA DEPARTMENT OF TRANSPORTATION

LOCATION CONTROL ROUTE SURVEY
I-65/I-70

HORIZONTAL SCALE	DESIGNATION
1" = 50'	1592385
VERTICAL SCALE	
N/A	
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT

Relocation: Myron St, Indianapolis IN
Project: DES 1600808 - I65 North Split



SITE LOCATION

Relocation Plans

Marion Cty / Center Twp
ROW Permit: Required
INDOT Permit: Required

811 Know what's below. Call before you dig.

CONTACTS

Name: Dewayne Hamilton
Phone: 317-916-2708

SITE INDEX

1 - COVER SHEET/SITE LOCATION
2 - LEGEND
3 - GENERAL NOTES
4-6 - PROPOSED PLAN / OSP
7 - RAKE OFF TABLE
8 - TYPICALS

SCOPE OF WORK:

Project description

OCM ENGINEERING
1728 CHURCHMAN AVE,
INDIANAPOLIS, INDIANA 46203
CELL: (317) 644-0949

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS–BUILT
2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

LEVEL 3 ENGINEER:	Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM:	OCM Engineering: 317-644-0949
PROJECT NUMBER:	70-326 R
LOCATION:	Myron St, Indpls In DES 1600808
DRAWING NAME:	Relo - Myron St - DES 16000808 - I65 North Split.dwg

LEGEND

LINETYPES

- UG FIBER – EXISTING
- UG FIBER – PROPOSED
- AERIAL FIBER – EXISTING
- AERIAL FIBER – PROPOSED
- STRAND – EXISTING
- STRAND – PROPOSED
- CONDUIT – EXISTING
- CONDUIT – PROPOSED
- INNERDUCT – EXISTING
- INNERDUCT – PROPOSED
- GAS
- WATER
- TELEPHONE
- ELECTRIC
- SANITARY SEWER (SEW)
- STORM DRAIN
- FENCE
- CABLE TV
- STEAM
- OIL
- UNKNOWN UTILITY
- RIGHT OF WAY
- EDGE OF PAVEMENT

SYMBOL	DESCRIPTION
ASW	ASPHALT SIDEWALK
BIP	BLACK IRON PIPE
BSP	BLACK STEEL PIPE
CSW	CONCRETE SIDEWALK
EOP	EDGE OF PAVEMENT
EOTW	EDGE OF TRAVEL WAY
FOC	FACE OF CURB
HDPE	HIGH DENSITY POLYETHYLENE
HH	HANDHOLE
JB	JUNCTION BOX
MH	MANHOLE
MP	MILE POST
O/S	OFFSET
PVC	POLY VINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL CONDUIT
ROW	RIGHT OF WAY
STA.	STATION

- RISER
- TELEPHONE
- POWER VAULT
- CATCH BASIN/INLET
- FIRE HYDRANT
- GROUND/BOND
- STREET LIGHT
- TREE
- CULVERT
- WING WALL
- BRIDGE
- MISC. UTILITY
- UTILITY POLE – EXISTING
- POLE – PROPOSED
- HANDHOLE – EXISTING
- HANDHOLE – PROPOSED
- MANHOLE – EXISTING
- MANHOLE – PROPOSED
- PULLBOX – EXISTING
- PULBOX – PROPOSED

- VAULT – EXISTING
- VAULT – PROPOSED
- AERIAL STORAGE – EXISTING
- AERIAL STORAGE – PROPOSED
- VAULT/BUILDING STORAGE – EXISTING
- VAULT/BUILDING STORAGE – PROPOSED
- POLE ANCHOR/DOWN GUY – EXISTING
- POLE ANCHOR/DOWN GUY – PROPOSED
- PROPOSED DOWN GUY ON EXISTING ANCHOR
- TERMINATION – EXISTING
- TERMINATION – PROPOSED
- BUILDING CALLOUT – PROPOSED
- SPLICE POINT – EXISTING
- SPLICE POINT – PROPOSED
- SEQUENTIAL CALLOUT
- SEQUENTIAL IN TAIL CALLOUT
- SEQUENTIAL TAIL OUT CALLOUT

- POLE ATTACHMENT CALLOUT – EXISTING
  USE DYNAMIC PULL DOWN TO SELECT
  FROM 1 TO 6 ATTACHMENTS
- POLE ATTACHMENT CALLOUT – PROPOSED
  USE DYNAMIC PULL DOWN TO SELECT
  FROM 1 TO 6 ATTACHMENTS
- CABLE SPAN CALLOUT – EXISTING
  FOR USE ON PAPER SPACE (SHOWN AT 50X)
- CABLE SPAN CALLOUT – PROPOSED
  FOR USE ON PAPER SPACE (SHOWN AT 50X)
- CONDUIT CALLOUT – EXISTING
  FOR USE ON PAPER SPACE (SHOWN AT 50X)
  WITH OR WITHOUT INNER DUCT INFO
- CONDUIT CALLOUT – PROPOSED
  FOR USE ON PAPER SPACE (SHOWN AT 50X)
  WITH OR WITHOUT INNER DUCT INFO
- STRAND CALLOUT – EXISTING
  FOR USE ON PAPER SPACE (SHOWN AT 50X)
- STRAND CALLOUT – PROPOSED
  FOR USE ON PAPER SPACE (SHOWN AT 50X)

SYMBOL CORRESPONDS TO PHOTO LOCATIONS AND ORIENTATION. SEE SHEET # FOR SITE PHOTOGRAPHS.

Know what's below. Call before you dig.

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS–BUILT
2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: Myron St, Indpls In
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY

GENERAL NOTES

1. Contractor must obtain locates prior to disturbing the ground.
2. Contractor must have a copy of the approved permit from the appropriate agency on the jobsite at all times.
3. All cable will be placed at standard minimum depth. (Level 3 standard is 36” deep unless otherwise directed by a Level 3 representative.)
4. Any landscaping will be replaced to equal or better than that which existed prior to work.
5. Project site will be properly secured prior to the end of each day.
6. All work is to be in accordance with all authorities having jurisdiction in the work zone.
7. Contractors are advised to contact Level 3 for any additional information or clarification concerning scope of work or the requirements necessary for project completion.
8. Contractor is responsible to field verify all dimensions, quantities and existing conditions prior to construction. If a significant change to the running line is needed, please contact your Level 3 representative before proceeding.
9. Before construction begins, contractor shall take appropriate precautions to avoid any potential obstructions prior to proceeding with work.
10. No construction on private property will commence until approval is given by the appropriate Level 3 employee.
11. Contractor shall not proceed with work until they have received a Purchase Order and have been directed to do so by an authorized Level 3 representative.
12. Contractor shall not exceed the Purchase Order value without authorization in writing from the appropriate Level 3 representative.
13. As-Builts will be required for each project including cable footage sequentials at every access point, slack loop, splice location, pole and termination point. Contractor should also provide notes of all changes in depths, running lines, mh/hh locations, and any other applicable notes to depict the work that took place. NOTE: All major changes need to be pre-approved by an authorized Level 3 employee prior to starting the work.
14.

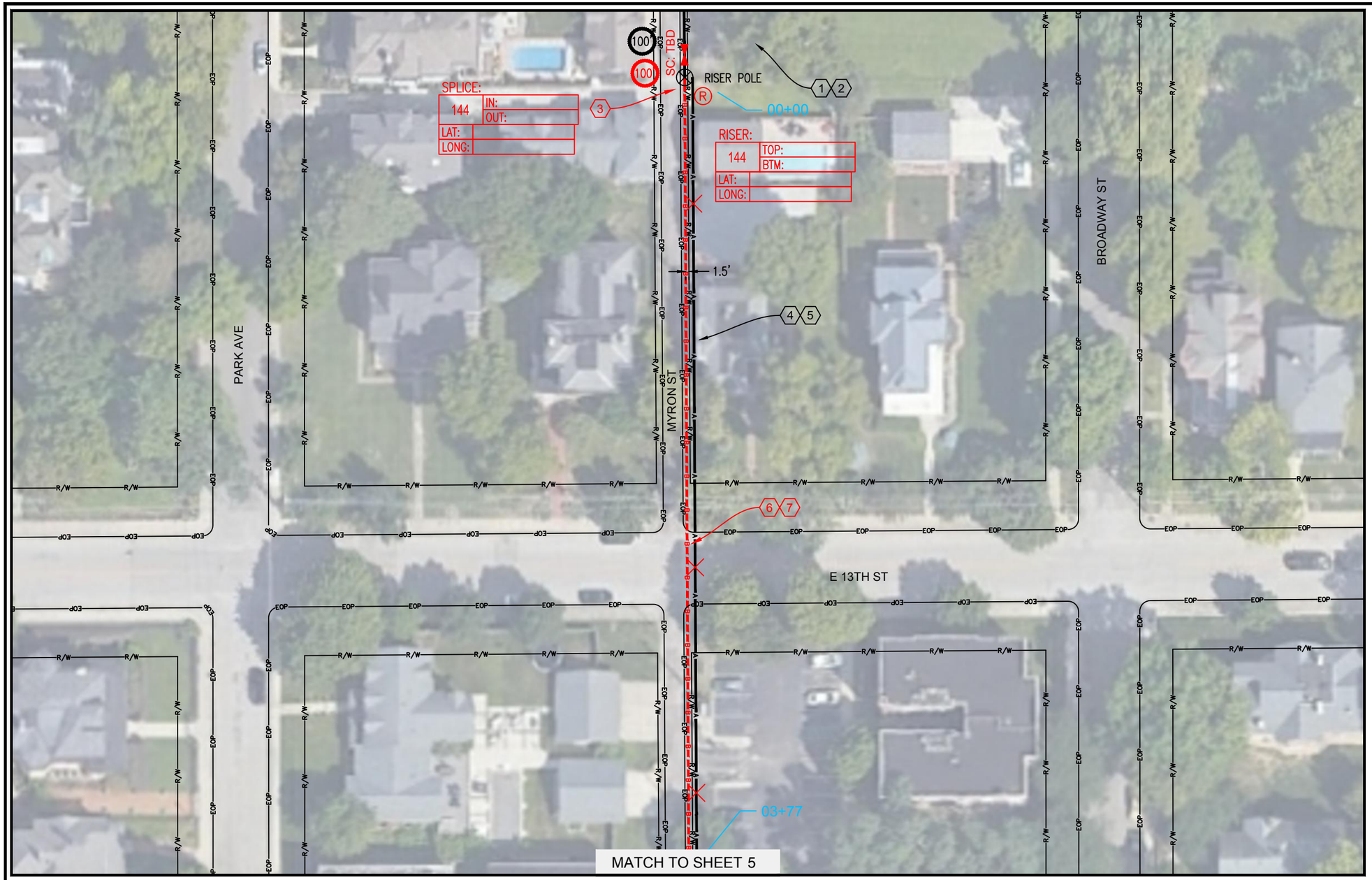
811 Know what's below. Call before you dig.

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS–BUILT
2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

Level (3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: Myron St, Indpls In
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY



CONSTRUCTION NOTES

1. STRAND TYPE: 6.6M
   STRAND LENGTH: CONT.
   NOTE: AREA TO REMAIN UNDISTURBED

2. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: CONT.
   NOTE: AREA TO REMAIN UNDISTURBED

3. INSTALL NEW SPLICE CASE;
   INSTALL NEW U GUARD
   RISER ON IPL POLE

4. STRAND TYPE: 6.6M
   STRAND LENGTH: 377'
   NOTE: IPL POLES BEING REMOVED,
   REMOVE EXISTING CL STRAND

5. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: 377'
   NOTE: CUT AND REMOVE FIBER SOUTH,
   CREATE 150' SLACK LOOP FOR NEW SPLICE

6. CONDUIT OWNER: LEVEL3
   CONDUIT LENGTH: 377'
   CONDUIT QTY: 3
   CONDUIT SIZE: 1 1/4"
   CONDUIT TYPE: HDPE

5. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: 497'

Relocation Plans

Page Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity

Marion Cty / Center Twp
ROW Permit: Required
INDOT Permit: Required

811 Know what's below. Call before you dig.

0 10' 20' 30' 40' 50'
SCALE: 1"=50'

SYMBOL CORRESPONDS TO PHOTO LOCATIONS AND ORIENTATION. SEE SHEET # FOR SITE PHOTOGRAPHS.

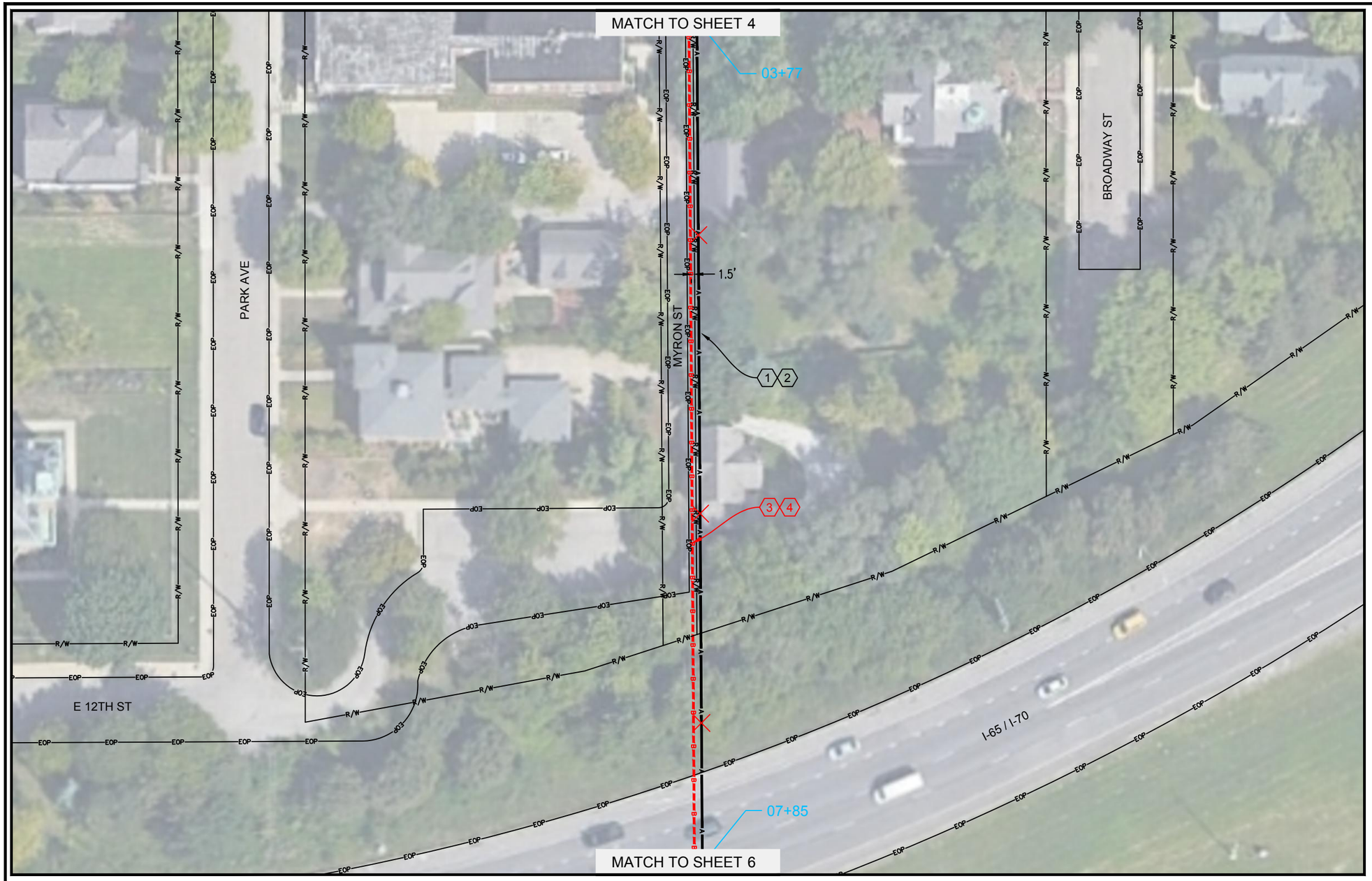
OCM GROUP
OCM ENGINEERING
1728 CHURCHMAN AVE,
INDIANAPOLIS, INDIANA 46203
CELL: (317) 644-0949

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS-BUILT
2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

Level(3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: Myron St, Indpls In
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY



CONSTRUCTION NOTES

1. STRAND TYPE: 6.6M
   STRAND LENGTH: 408'
   NOTE: IPL POLES BEING REMOVED, REMOVE EXISTING CL STRAND
2. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: 408'
   NOTE: CUT AND REMOVE
3. CONDUIT OWNER: LEVEL3
   CONDUIT LENGTH: 408'
   CONDUIT QTY: 3
   CONDUIT SIZE: 1 1/4"
   CONDUIT TYPE: HDPE
4. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: 408'

(#) SYMBOL CORRESPONDS TO PHOTO LOCATIONS AND ORIENTATION. SEE SHEET # FOR SITE PHOTOGRAPHS.

OCM ENGINEERING
1728 CHURCHMAN AVE,
INDIANAPOLIS, INDIANA 46203
CELL: (317) 644-0949

Page Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity

Relocation Plans

Marion Cty / Center Twp
ROW Permit: Required
INDOT Permit: Required

811 Know what's below. Call before you dig.

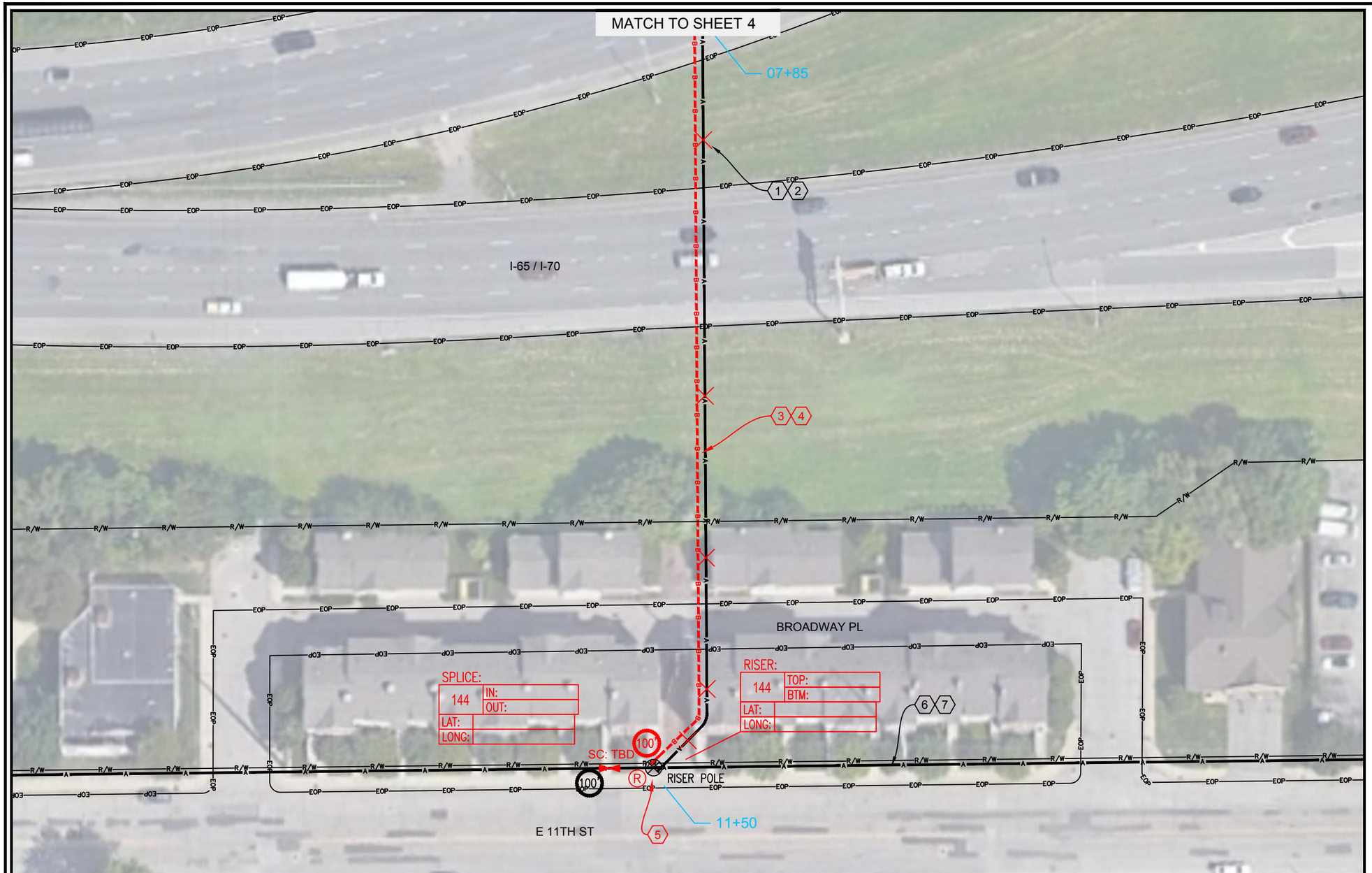
0 10' 20' 30' 40' 50'
SCALE: 1"=50'

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS-BUILT
2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

Level (3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: Myron St, Indpls In
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY



CONSTRUCTION NOTES

1. STRAND TYPE: 6.6M
   STRAND LENGTH: 365'
   NOTE: IPL POLES BEING REMOVED, REMOVE EXISTING CL STRAND
2. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: 365'
   NOTE: CUT AND REMOVE FIBER NORTH, CREATE 150' SLACK LOOP FOR NEW SPLICE
3. CONDUIT OWNER: LEVEL3
   CONDUIT LENGTH: 365'
   CONDUIT QTY: 3
   CONDUIT SIZE: 1 1/4"
   CONDUIT TYPE: HDPE
4. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: 485'
5. INSTALL NEW SPLICE CASE;
   INSTALL NEW U GUARD
   RISER ON IPL POLE
6. STRAND TYPE: 6.6M
   STRAND LENGTH: CONT.
   NOTE: AREA TO REMAIN UNDISTURBED
7. CABLE FIBERS: 144F
   CABLE OWNER: LEVEL 3
   CABLE LENGTH: CONT.
   NOTE: AREA TO REMAIN UNDISTURBED

(#) SYMBOL CORRESPONDS TO PHOTO LOCATIONS AND ORIENTATION. SEE SHEET # FOR SITE PHOTOGRAPHS.

OCM GROUP
OCM ENGINEERING
1728 CHURCHMAN AVE,
INDIANAPOLIS, INDIANA 46203
CELL: (317) 644-0949

Page Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity

Relocation Plans

Marion Cty / Center Twp
ROW Permit: Required
INDOT Permit: Required

811 Know what's below. Call before you dig.

0 10' 20' 30' 40' 50'
SCALE: 1"=50'

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS-BUILT
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1	11/21/19	ADP	BCW	ORIGINAL

Level(3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: Myron St, Indpls In
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY

OSP

Total Aerial Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity
AER-20040 – Pole Riser, 2" PVC U-Guard	EACH	2	
AER-20170 – Anchor, Screw	EACH	2	
AER-20390 – Remove and dispose of cable	FT	1150	

Total Underground Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity
UGB-30530 – Directional Bore up to 1500': 1 HDPE conduit up to 2"	FT	1150	
UGB-30830 – Place Locate Wire in Existing Conduit	FT	1150	
UGB-30870 – Place Three – 1 1/4" HDPE's in Existing Conduit	FT	1150	
UGB-30960 – Place up to 288 count FOC in conduit, up to 1500'	FT	1378	
UGB-31960 – Place 1/4" poly rope or mule tape in conduit	FT	1150	
UGB-31990 – Place Locate Marker Post	EACH	2	

Level 3 - Provided Material

Total Material Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity
MAT-91320 – Miscellaneous Fiber Optic Cable	FT	1500	

Contractor - Provided Material

Total Material Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity
MAT-90070 – Conduit: 1 1/4" HDPE SDR-11	FT	3450	
MAT-90870 – 2" PVC Stand Off Riser	EACH	2	
MAT-91980 – Locate wire #12 AWG – solid copper with insulated jacket	FT	1150	
MAT-92010 – Pull Rope 1/4" Poly	FT	1150	

ISP

Total Inside Plant (ISP) Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity

Total Material Rate Card			
Unit Code & Description	Units	Estimated Quantity	Actual Quantity

SPLICING

Note: Splicing units will be detailed under the Splicing Template.

OCM ENGINEERING
1728 CHURCHMAN AVE,
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CELL: (317) 644-0949

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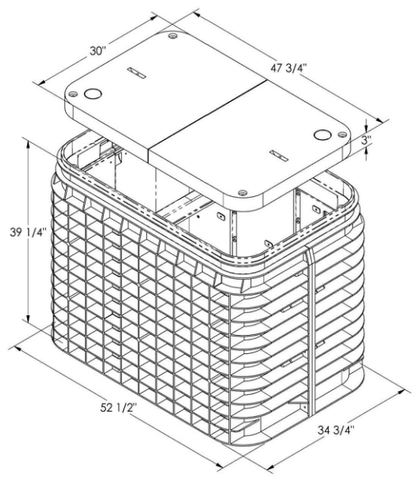
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY

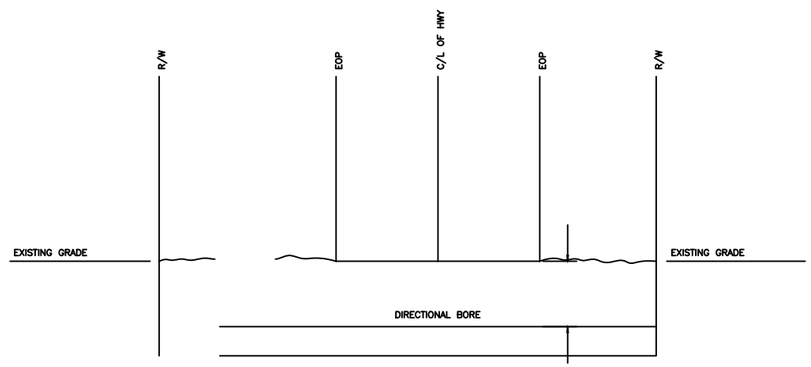
TYPICALS

TYPICAL DETAIL – HANDHOLE



TYPICAL DETAIL – # 1

DIRECTIONAL BORE
UNDER ROAD / HIGHWAY / INTERSTATE



Know what's **below.**
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Level (3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
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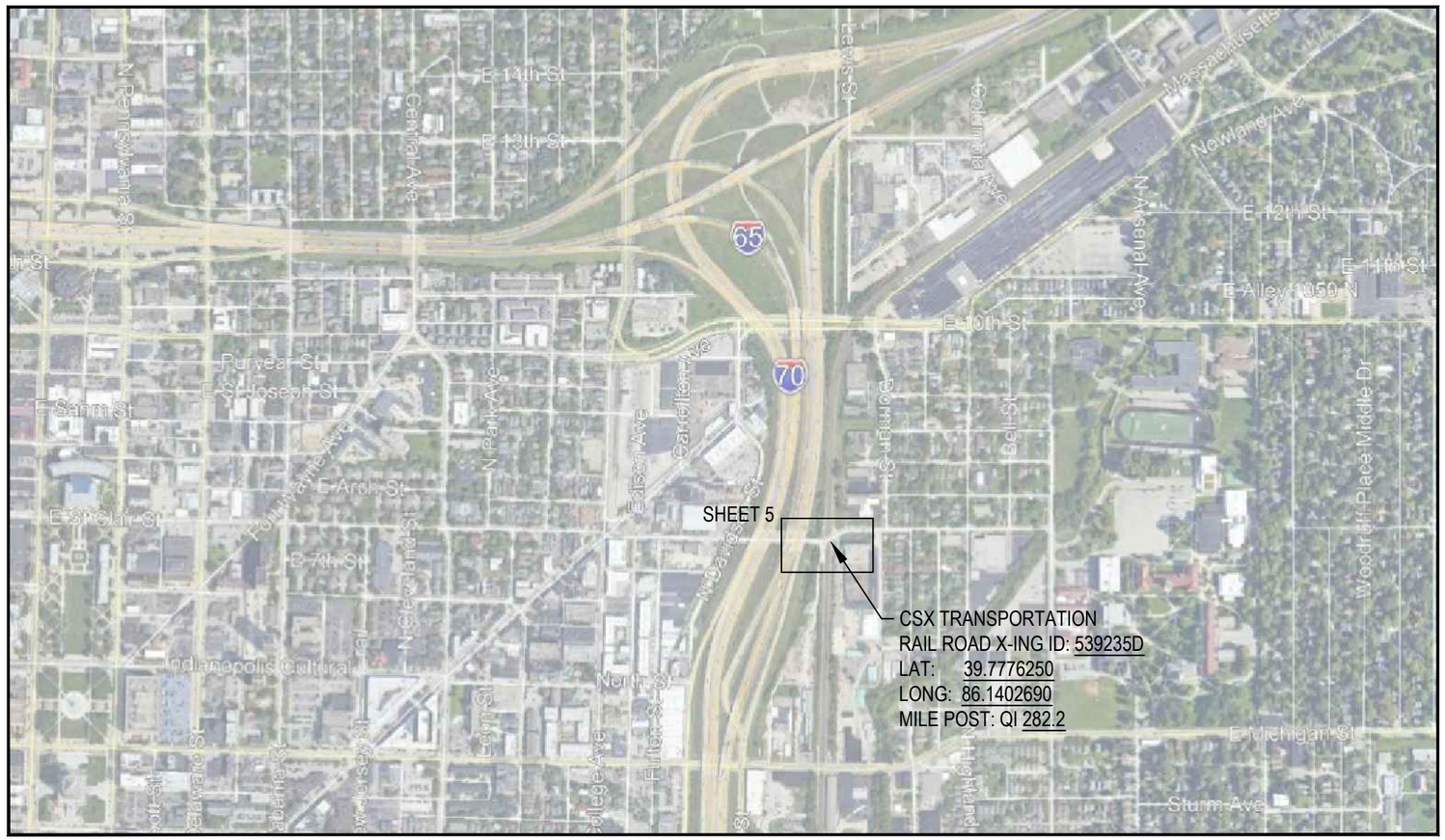
PROJECT NUMBER: 70-326 R
LOCATION: Myron St, Indpls In
DES 1600808
DRAWING NAME: Relo - Myron St - DES 16000808 - I65 North Split.dwg

CONFIDENTIAL/PROPRIETARY

Relocation: St Clair St, Indianapolis IN
Project: DES 1600808 - I65 North Split



SITE LOCATION

CSX Transportation
Rail Road Drawing

Marion Cty / Center Twp
ROW Permit: Required
INDOT Permit: Required

Know what's below. Call before you dig.

CONTACTS

Name: Dewayne Hamilton
Phone: 317-916-2708

SITE INDEX

1 - COVER SHEET/SITE LOCATION
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3-4 - GENERAL NOTES
5 - PROPOSED PLAN / OSP
6 - INVENTORY CROSSING SHEET
7 - PIPE DATA SHEET
8 - GIS CAPTURE
9 - TYPICALS

SCOPE OF WORK:

Project description

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2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

LEVEL 3 ENGINEER:	Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM:	OCM Engineering: 317-644-0949
PROJECT NUMBER:	70-326 R
LOCATION:	St Clair St, Indpls In DES 1600808
DRAWING NAME:	RR Dwg -CSX - 539235D - St Clair St(Indianapolis).dwg

LEGEND

LINETYPES

- UG FIBER – EXISTING
- UG FIBER – PROPOSED
- AERIAL FIBER – EXISTING
- AERIAL FIBER – PROPOSED
- STRAND – EXISTING
- STRAND – PROPOSED
- CONDUIT – EXISTING
- CONDUIT – PROPOSED
- INNERDUCT – EXISTING
- INNERDUCT – PROPOSED
- GAS
- WATER
- TELEPHONE
- ELECTRIC
- SANITARY SEWER (SEW)
- STORM DRAIN
- FENCE
- CABLE TV
- STEAM
- OIL
- UNKNOWN UTILITY
- RIGHT OF WAY
- EDGE OF PAVEMENT
- RAIL ROAD TRACK

SYMBOL / DESCRIPTION

SYMBOL	DESCRIPTION
ASW	ASPHALT SIDEWALK
BIP	BLACK IRON PIPE
BSP	BLACK STEEL PIPE
CSW	CONCRETE SIDEWALK
EOP	EDGE OF PAVEMENT
EOTW	EDGE OF TRAVEL WAY
FOC	FACE OF CURB
HDPE	HIGH DENSITY POLYETHYLENE
HH	HANDHOLE
JB	JUNCTION BOX
MH	MANHOLE
MP	MILE POST
O/S	OFFSET
PVC	POLY VINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL CONDUIT
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STA.	STATION

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- CATCH BASIN/INLET
- FIRE HYDRANT
- GROUND/BOND
- STREET LIGHT
- TREE
- CULVERT
- WING WALL
- BRIDGE
- MISC. UTILITY
- UTILITY POLE – EXISTING
- POLE – PROPOSED
- HANDHOLE – EXISTING
- HANDHOLE – PROPOSED
- MANHOLE – EXISTING
- MANHOLE – PROPOSED
- PULLBOX – EXISTING
- PULBOX – PROPOSED

VAULT – EXISTING

VAULT – PROPOSED

AERIAL STORAGE – EXISTING

AERIAL STORAGE – PROPOSED

VAULT/BUILDING STORAGE – EXISTING

VAULT/BUILDING STORAGE – PROPOSED

POLE ANCHOR/DOWN GUY – EXISTING

POLE ANCHOR/DOWN GUY – PROPOSED

PROPOSED DOWN GUY ON EXISTING ANCHOR

TERMINATION – EXISTING

TERMINATION – PROPOSED

BUILDING CALLOUT – PROPOSED

SPLICE POINT – EXISTING

SPLICE POINT – PROPOSED

SEQUENTIAL CALLOUT

SEQUENTIAL IN TAIL CALLOUT

SEQUENTIAL TAIL OUT CALLOUT

POLE ATTACHMENT CALLOUT – EXISTING
USE DYNAMIC PULL DOWN TO SELECT
FROM 1 TO 6 ATTACHMENTS

POLE ATTACHMENT CALLOUT – PROPOSED
USE DYNAMIC PULL DOWN TO SELECT
FROM 1 TO 6 ATTACHMENTS

CABLE SPAN CALLOUT – EXISTING
FOR USE ON PAPER SPACE (SHOWN AT 50X)

CABLE SPAN CALLOUT – PROPOSED
FOR USE ON PAPER SPACE (SHOWN AT 50X)

CONDUIT CALLOUT – EXISTING
FOR USE ON PAPER SPACE (SHOWN AT 50X)
WITH OR WITHOUT INNER DUCT INFO

CONDUIT CALLOUT – PROPOSED
FOR USE ON PAPER SPACE (SHOWN AT 50X)
WITH OR WITHOUT INNER DUCT INFO

STRAND CALLOUT – EXISTING
FOR USE ON PAPER SPACE (SHOWN AT 50X)

STRAND CALLOUT – PROPOSED
FOR USE ON PAPER SPACE (SHOWN AT 50X)

SYMBOL CORRESPONDS TO PHOTO LOCATIONS AND ORIENTATION. SEE SHEET # FOR SITE PHOTOGRAPHS.

Know what's below. Call before you dig.

NO.	DATE	ENG DESIGN	DRAFTING	COMMENT
3				AS–BUILT
2				REVISION # 1
1	11/21/19	ADP	BCW	ORIGINAL

Level(3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: St Clair St, Indpls In
DES 1600808
DRAWING NAME: RR Dwg -CSX - 539235D - St Clair St(Indianapolis).dwg

GENERAL NOTES

1. Contractor must obtain locates prior to disturbing the ground.
2. Contractor must have a copy of the approved permit from the appropriate agency on the jobsite at all times.
3. All cable shall be placed at standard minimum depth. (Level 3 standard is 36" deep unless otherwise directed by a Level 3 representative.)
4. Any landscaping shall be replaced to equal or better than that which existed prior to work.
5. Project site shall be properly secured prior to the end of each day.
6. All work is to be in accordance with all authorities having jurisdiction in the work zone.
7. Contractors are advised to contact Level 3 for any additional information or clarification concerning scope of work or the requirements necessary for project completion.
8. Contractor is responsible to field verify all dimensions, quantities and existing conditions prior to construction. If a significant change to the running line is needed, please contact your Level 3 representative before proceeding.
9. Before construction begins, contractor shall take appropriate precautions to avoid any potential obstructions prior to proceeding with work.
10. No construction on private property shall commence until approval is given by the appropriate Level 3 employee.
11. Contractor shall not proceed with work until they have received a Purchase Order and have been directed to do so by an authorized Level 3 representative.
12. Contractor shall not exceed the Purchase Order value without authorization in writing from the appropriate Level 3 representative.
13. As-Builts shall be required for each project including cable footage sequential's at every access point, slack loop, splice location, pole and termination point. Contractor should also provide notes of all changes in depths, running lines, mh/hh locations, and any other applicable notes to depict the work that took place. NOTE: All major changes need to be pre-approved by an authorized Level 3 employee prior to starting the work.

SITE CONDITIONS

The actual location of existing conduit and cables may vary from the location shown. Repair of any damaged conduit containing cable shall be made by use of PVC split duct. The contractor shall enclose the existing cables in PVC.

The locations of existing utilities shown in this plan are approximate. When work is to be conducted in the vicinity of known utilities, their actual location must be field verified to avoid conflicts or damage to those utilities. Variation in location between "recorded positions" and actual positions should be anticipated.
It shall be the contractor's responsibility to verify the location of all underground utilities. Buried utilities may exist in the area in addition to those shown on the plan. The contractor shall contact property owners when working within private easements for location of underground tanks, pipelines, drain tiles, or other buried improvements. The contractor shall also notify the utility notification center prior to commencing any construction activities.

The contractor must assume all buried utilities encountered are alive and active unless specifically instructed otherwise by the owners or operators of said utilities.

Damage to sub-surface structures is the sole responsibility of the contractor.

The contractor shall protect the existing traffic control loops. If existing traffic control loops are damaged during construction, the entire loopwire from terminal shall be replaced in accordance with governing agency standards and regulations at contractor's expense.

Removal of existing asphalt pavement, concrete curbs, and concrete sidewalks shall be "neat line" with saw or pavement cutter, per requirements and specifications of the agency or department responsible for each location. If concrete pavement is encountered while excavating conduit trenches, the concrete removal shall be "neat line" with a pavement saw.

If concrete curb returns and/or sidewalks are replaced due to conduit or manhole installation, the contractor shall place approved handicapped sidewalk and curb access ramps in conformance with State statutes.

All materials necessary for repair or streets, curbs, sidewalks, sanitary sewers, storm sewers, and public service utilities and the installation of such materials shall be in conformance with the requirements and specifications of the agency or department responsible for the operation and maintenance of the repaired facility.

All work shall conform to the specifications of the jurisdictional permit agency.

All open trench shall be clearly marked with barricades or cones. Steel plates or other types of bridging shall be provided to cover open trench in the travel portion of the streets. These plates or bridging shall be adequate to support the normal vehicle loads anticipated in this area and shall be in place during all non-working areas.,
All surfaces to be restored to original condition, and backfill to be compacted as specified.

Trench excavation in surfaces which include concrete treated base shall follow local area specifications.

HAZARDOUS MATERIAL

The contractor shall notify the jurisdictional permit agency immediately if any materials are encountered that are considered by the EPA, DEQ, or OSHA. If potentially hazardous materials are encountered the contractor shall secure the site and prevent the accidental exposure by the public or the contractor's personnel.

The contractor may excavate up to, but shall not disturb known hazardous materials such as asbestos, oils, acid, etc. The removal of all hazardous materials must be done by an approved or certified hazardous materials contractor licensed by the State of Indiana.

A copy of all correspondence pertinent to the removal of hazardous materials shall be transmitted to owner and a copy shall be available at the project office and the job site.

AERIAL NOTES

- Aerial construction to be performed to industry acceptable standards.
- All heights of cable placement shall be recorded at the time of construction. Document all points of attachment.
- 6.6M Strand shall be used with standard 5/8" hardware.
- All extension arms to be placed shall be epoxy arms unless otherwise noted or approved by the inspector.
- Bond strand to power MGN where applicable. Anchors to be used shall be 3/4" screw in type.
- All straps shall be placed 4" before and after every supporting clamp at minimum of 21" apart.
- P.O.A. = Point of Attachment
- Add missing grounds
- Repair/Replace existing lashing wire if damaged

CONSTRUCTION STAKES

In areas where the conduit alignment is not clearly defined by curb lines, fence lines, or other evidence of the right-of-way, the engineer shall provide centerline stakes or paint marks where required to make the proposed conduit alignment evident.

Closures identified in the plans shall be located by the contractor. Deviation from plan layout shall be approved by the engineer prior to conduit and/or closure installation.

Manhole centers shall be field staked by the engineer when requisted with offset stakes at right angles to the conduit alignment.

If additional field staking or location of conduits, manholes, property lines, etc. becomes necessary, the contractor is to notify the inspector or the engineer two working days prior to beginning the work.

PERMITS-FRANCHISES-EASEMENTS

Physical work shall not be started until the governing agency inspector and the contractor are in possession of and have carefully reviewed and fully understand all conditions and specifications set forth in the required permit, franchises, and/or easements.

Placing foreman to have a copy of the permits/easements on site all times.

Any conflict between work print specifications and specifications set forth under related permits, franchises, and/or easements must be cleared by proper company authority before progressing with work involved.

TRAFFIC CONTROL

This project shall involve working along a major arterial road and heavy traffic volume should be anticipated.

Uniform traffic flow shall be maintained at all times. Only equipment and materials necessary for immediately scheduled or in progress shall be maintained in the work area. All other equipment and material shall be "stored or stockpiled" in such a manner as to eliminate hazardous conditions for traffic or pedestrians during non-working or shut down period.

Traffic warning devices and signs shall conform to the manual on uniform traffic control devices for streets and highways (US Government Printing Office) and to the Indiana State highway division standard specifications for highway construction. High level warning type devices are to be used at times and special warning devices may be stipulated by the jurisdictional permit agency at any time the use shall add to the safety and protection of traffic or pedestrians in the construction area.

All conduit trenching in paved areas shall be backfilled with crushed gravel or completely covered at the completion of each working day. Any backfilled trench shall be capped with a minimum layer of asphaltic concrete cold patch at the end of each working day.

The contractor shall mark the conduit trench and define his construction area clearly with barricades, cones, and/or other visible methods that alert the public of the construction activity.

A traffic control plan shall be prepared by the contractor as required and submitted to each permitting agency requesting such plan for review and approval or revision prior to commencing any construction activity for this project. The approved plan shall be submitted to the agency and a copy of the plan shall be kept at the construction site and must be available for review by agency representatives.

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Level 3 COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708
ENGINEERING FIRM: OCM Engineering: 317-644-0949
PROJECT NUMBER: 70-326 R
LOCATION: St Clair St, Indpls In
DES 1600808
DRAWING NAME: RR Dwg -CSX - 539235D - St Clair St(Indianapolis).dwg

CONFIDENTIAL/PROPRIETARY

GENERAL NOTES

SPECIAL UTILITY CLEARANCES

All work conducted adjacent to water mains shall conform to following conditions.

A. Whenever possible conduit shall maintain a horizontal separation of 3', measured surface (outside edge to outside edge) from parallel water mains.
B. Whenever possible conduit shall pass under existing water mains and must maintain 12" vertical clear separation. Conduit passing over water mains must also maintain the 12" vertical separation.
C. The contractor shall be responsible for establishing and maintaining this required vertical separation by either exposing the water main every 100 feet in those areas where horizontal separation is less 3 feet or by utilizing the depths of adjacent water valves. If the contractor utilizes the adjacent water to determine water main depth, he shall contact the agency at each such location and the agency shall determine the necessary depth of the top of the conduit at that point.
D. The vertical and horizontal separation shall be maintained at all times unless specifically revised by agreement between the jurisdictional permit agency and the agency. Any specific deviation in vertical and horizontal separation from those described shall be reported to the owner by the contractor. The contractor shall be responsible for maintaining vertical and horizontal separation at all times and shall be responsible for any and all encroachments.
E. Clearances to storm sewers and sanitary sewers shall be exactly the same as those to water mains.

STRUCTURE PROTECTION

Manholes and conduit to be placed adjacent to existing structures such as bridge, bridge footing/piers foundations, walls, power and telephone poles, and other utilities shall maintain a minnimum clearance as shown. The contractor shall not undermine any adjacent structure without specific written permission from the owner/operator of such structure.

Shoring used as foundation support shall be designed specifically for both the live and dead loads of the structure or if only the dead is used for design. The contractor shall provide a detailed layout and plan of the method of establishing and maintaining the design load conditions (i.e. road detours, tiebacks, etc).

See utility clearance section notes for clearance criteria to parallel or cross utilities.
Existing utilities exposed during excavation shall be 100% supported by either trench bridging and suspension or by the use of longitudinal trays or platforms vertically supported by adjustable building jacks.

Existing splice cases and cables shall be supported by suspension from a crossing beam. Supports shall be placed at a maximum spacing of 4 feet and shall consist of a canvas sling with nylon belting or rope. All cable supports shall be placed in a manner that prevents kinks or other damage to the cable sheath. An acceptable alternative to cable slings would be the utilization of a wide flange "I" beam or channel as a "cable tray" with cables/cases banded in place.

SHORING

The contractor shall provide shoring for conduit trench excavation 42" or more in depth as measured from the high side of the trench and for all manhole excavation.

Manhole shoring shall be tight-sheeted.

All shoring shall conform to the standards and specifications of local county and the occupational safety health administration.

The contractor shall provide all shoring and design calculations to the permit issuing agency prior to commencing any construction activity.

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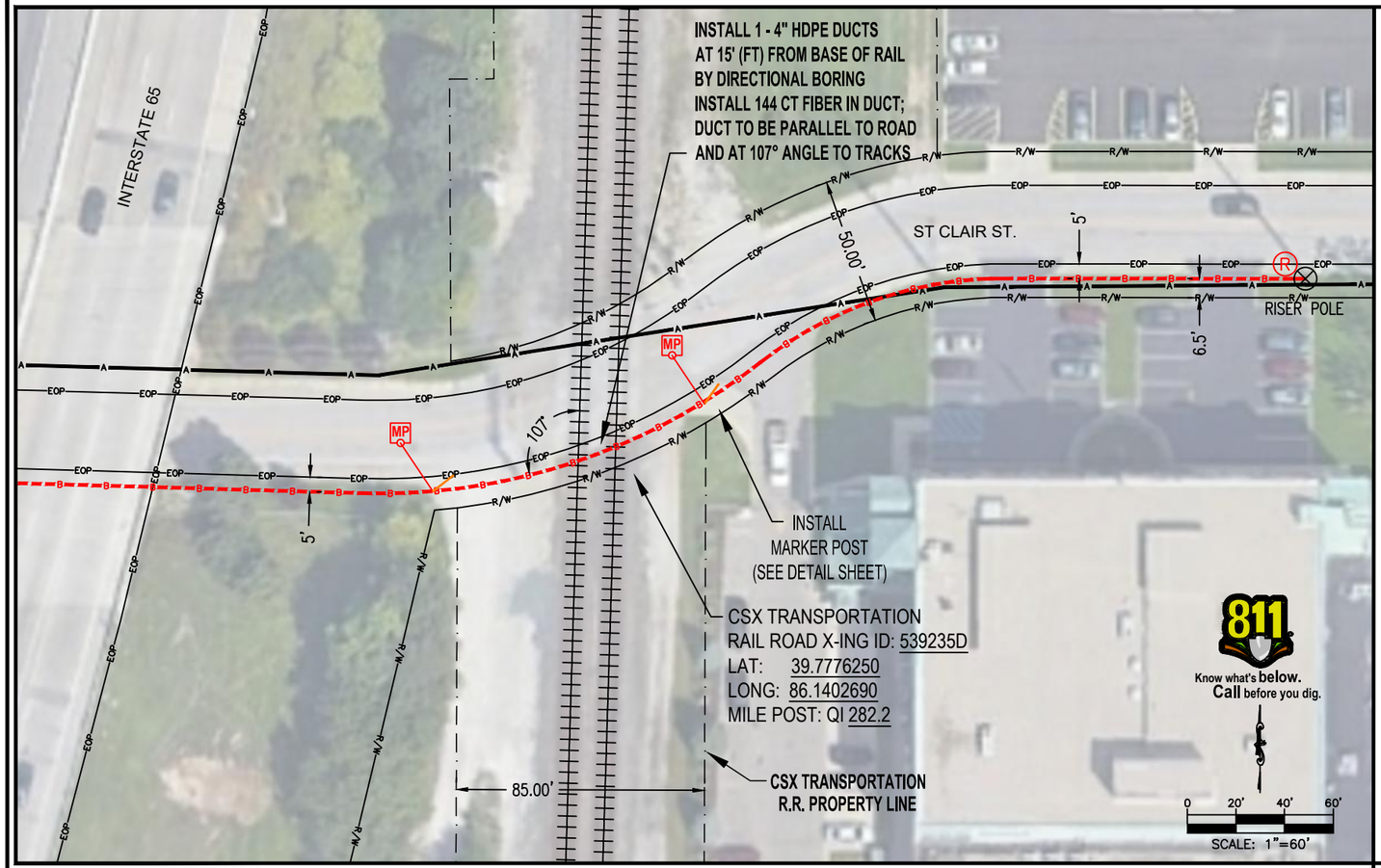


Project Location Information:

State:	Indiana
County:	Marion
City:	Indianapolis
Owner:	CSX Transportation
ID Num:	539235D
Located at:	St Clair St..
Latitude:	39.7776250
Longitude:	86.1402690

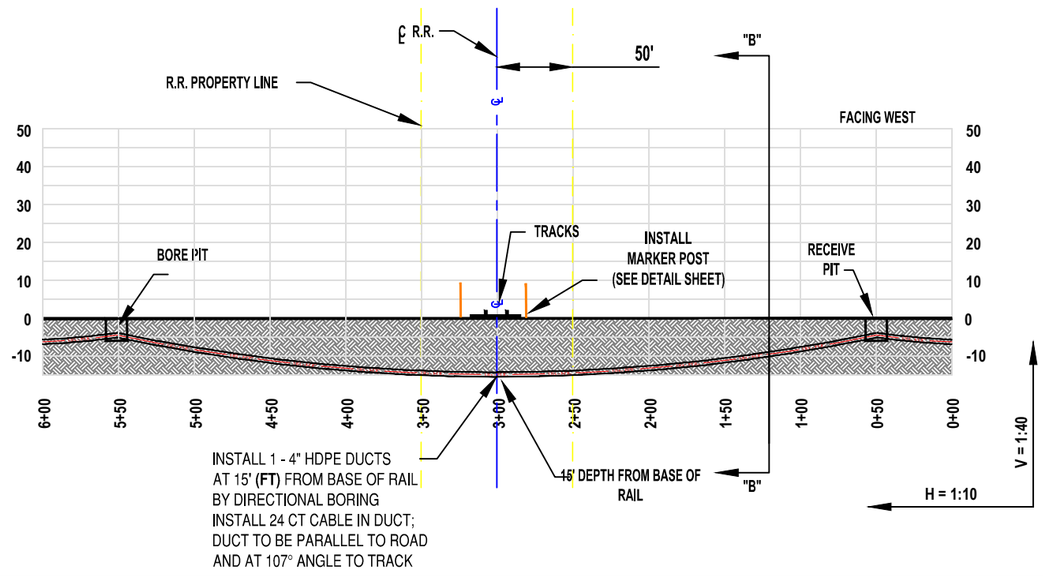
MP: QI 282.2

Construction Notes:

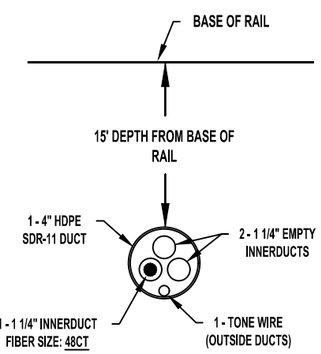
1. Utilities shown are for reference only. Actual utility locations must be determined by IUPPS prior to construction.
2. Placing contractor is responsible for all City, County, and State permits.
3. All areas are to be restored to original or better condition.
4. Place all buried facilities at a minimum 15' depth unless indicated otherwise.
5. Pull rope or tape must be placed in all new conduit.
6. Any changes or deviations in proposed work must be approved by the Construction Coordinator or OCM Engineering.

HDD Specific Notes:

1. Work will be continuous until pipe is pulled into place.
2. Bore tracked constantly with location and depth marked every 10' (ft)
3. All drill heads to be onsite for expected and unexpected soil conditions.



CROSS SECTION VIEW "B-B"



OCM ENGINEERING
1728 CHURCHMAN AVE,
INDIANAPOLIS, INDIANA 46203
CELL: (317) 644-0949

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CONFIDENTIAL/PROPRIETARY

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
02 / 16 / 2018	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	539235D

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
CSX Transportation [CSX]	INDIANA	MARION

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near INDIANAPOLIS	ST CLAIR ST (Street/Road Name) | (* Block Number)	CITY ST

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No	8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR	If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None GREAT LAKES	☐ None INDIANAPOLIS TERMIN	☒ None	QI | 0282.200 | (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
912899	INDIANAPOLIS	☒ N/A	☐ N/A CSX

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 39.7776250	(WGS84 std: -nnn.nnnnnnn) -86.1402690	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use * 1
30.B. Railroad Use *	31.B. State Use * 65
30.C. Railroad Use *	31.C. State Use * 1
30.D. Railroad Use *	31.D. State Use * 1
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) * NO COMMENT

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-232-0144	904-359-1650	317-232-1491

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
9	10	2	0	0

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2018	3.A. Maximum Timetable Speed (mph) 25 3.B. Typical Speed Range Over Crossing (mph) From 25 to 25

4. Type and Count of Tracks
Main 2 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No

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Level 3 COMMUNICATIONS

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CONFIDENTIAL/PROPRIETARY SHEET: 6 OF 9

CE-8 REV 3-97

Plate I

PIPE DATA SHEET

(For crossings and longitudinal occupancy)

	Pipe Data	
	Carrier Pipe	Casing Pipe
Contents To Be Handled		Fiber Optic Cable
Normal Operating Pressure		0
Nominal Size of Pipe		4"
O. S. Diameter		4.410
I. S. Diameter		4.00
Wall Thickness		0.410
Weight Per Foot		2.291
Material		HDPE
Process of Manufacture		Extruded
Specification		
Grade or Class		SDR-9
Test Pressure		N/A
Type of Joint		N/A
Type of Coating		N/A
Details of Cathodic Protection		N/A
Details of Seal or Protection At Ends of Casing		N/A
Method of Installation		Directional Bore
Character of Subsurface Material At The Crossing Location		N/A
Approximate Ground Water Level		N/A
Source of Information On Subsurface Conditions (Borings, Test Pits or Other)		N/A

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Level(3) COMMUNICATIONS

LEVEL 3 ENGINEER: Dewayne Hamilton: 317-916-2708

ENGINEERING FIRM: OCM Engineering: 317-644-0949

PROJECT NUMBER: 70-326 R

LOCATION: St Clair St, Indpls In
DES 1600808

DRAWING NAME: RR Dwg -CSX - 539235D - St Clair St(Indianapolis).dwg

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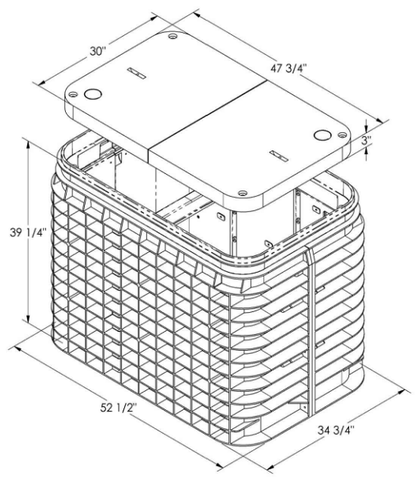
CONFIDENTIAL/PROPRIETARY

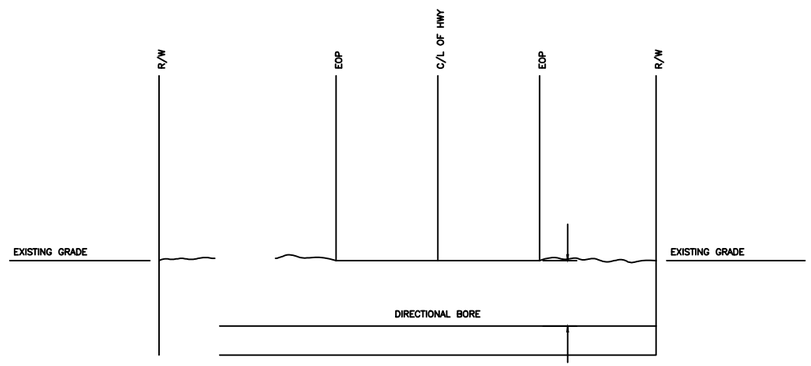
TYPICALS

TYPICAL DETAIL – HANDHOLE



TYPICAL DETAIL – # 1

DIRECTIONAL BORE
UNDER ROAD / HIGHWAY / INTERSTATE



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CONFIDENTIAL/PROPRIETARY

Charter Communications, Inc.

Date:

Subject:

Charter Communications, Inc.	
Facility Type: video, internet	

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Jeff Farmer
2.	Office telephone:	
3.	Mobile telephone:	317-710-2628
4.	Email address:	Jeffry.Farmer@Charter.com
5.	Agency name	Charter Communications, Inc.
6.	Address:	3030 Roosevelt Ave
7.	City, State, Zip Code:	Indianapolis, IN 46218
8.	Construction Emergency Contact:	dispatch
	Name:	Dispatcher
	Number:	844-369-4173

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative | Print Name | Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.
Coax cable, fiber optic cables

B. Describe the location of existing active and inactive facilities.
Going under St. Clair Street under I65 overpass,
Crossing I70 west of College ave

Spectrum is attached to IPL poles at Myron (to be relocated as type 1 relocation). Spectrum is underground along Davidson, reference (RID 15.05 - Spectrum BH1.jpg)

C. Describe what will be done with existing active and inactive facilities.
D. Underground plant along St clair street will be buried to new IPL poles. (see IPL plans)
E. Aerial fiber over I70 will be buried between new IPL poles. (see IPL plans

F. Describe the details of the proposed new facilities. New .875" coax cable, new 288 and 144 ct fibers

G. Describe the proposed location of the new facilities. North side of St clair street under I 65 overpass
H. Across I 70 around park st north of 11th st.

I. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on <**Enter Date Received Plans**>

Signature of Utility Representative | Print Name | Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)] Not dependant

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)] Not

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	14
B.	The expected lead time in calendar days to obtain materials:	14
C.	The expected lead time in calendar days to schedule work crews:	30
D.	If the contractor is being selected by competitive bid what is the date of selection?	N/A
E.	The expected lead time in calendar days to obtain new property interests:	N/A
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	14 days after IPL completes work
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	30

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work. Boring under I65 and I 70. Work will be done by Tele-com Placement

2. Utility B, with a description of the required work. Boring under I65 and I70 , placing new cables and splicing.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A Not

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: 25 days for plant replacement

D. The number of calendar days to complete the relocation work: 25 days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document. See maps

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)] 37000.00 est

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)] N/A

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Jeff Farmer

Signature of Utility Representative

12-12-19

Date

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature

Date

Utility Coordinator Name Printed

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature)

Date

_____

Project Manager Name Printed (LPA Project – ERC Name Printed)

citizens energy group-GAS

Date: 11/17/2019

Subject:

Utility Relocation Work Plan for:	Citizens Energy Group
Facility Type:	Gas

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Richard A. Miller Jr.
2.	Office telephone:	317-927-4684
3.	Mobile telephone:	317-696-4041
4.	Email address:	rmiller@citizensenergygroup.com
5.	Agency name	Citizens Gas
6.	Address:	2150 Dr. Martin Luther King Jr. Street, Bldg. 1B
7.	City, State, Zip Code:	Indianapolis, IN 46202
8.	Construction Emergency Contact:	
	Name:	Gas, Water and Sanitary Sewer Dispatch
	Number:	317-927-6000

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

citizens energy group-GAS

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.
4" PL & 24" wr gas mains in E. Washington St., 4" wr gas main in E. Vermont St., 4" wr gas main in E. Michigan St., 12" wr gas main in E. 09th St., 4" wr gas main in N. Pennsylvania St., 16" wr gas main in N. Alabama St., 2" P.I. gas main in N. Central Ave., 2" P.I. in N. College Ave. 12" wr gas main in Lewis St. 8" wr gas main in Roosevelt Ave/Commerce Dr.

B. Describe the location of existing active and inactive facilities.
4" PL is 19' south of centerline of Washington St. 24" wr gas main is 20' south of centerline of Washington St. 4" wr gas main is at the centerline of E. Vermont St. 4" wr gas main is 21' north of centerline of E. Michigan St. 12" wr gas main is 13' north of centerline of E. 09th St., 4" wr gas main is 18' west of centerline of N. Meridian St. 16" wr gas main is 26' west of centerline of N. Alabama St. 2" P.I. gas main in 16" pipe is 11' to 15' east of centerline of N. Central Ave. 2" P.I. gas main in an 8" pipe is 21' west of centerline of N. College Ave. 12" wr gas main is 46' west of east right-of-way line of Lewis St. 8" wr gas main is 19' west of the centerline of Roosevelt Ave/Commerce Dr.

Gas main crossing south of 10th Street

C. Describe what will be done with existing active and inactive facilities.
No gas main relocation required

D. Describe the details of the proposed new facilities.
N/A

E. Describe the proposed location of the new facilities.
N/A

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on **08/28/2019**

Richard A. Miller Jr. Richard A. Miller Jr. 11/17/2019

Signature of Utility Representative | Print Name | Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

citizens energy group-GAS

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

2. Work item B

3. Work item C

citizens energy group-GAS

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative _____ Date _____

Utility Representative Name Printed _____

citizens energy group-GAS

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

Date: 12/10/2019

Subject:

Utility Relocation Work Plan for:	CenturyLink
Facility Type:	Telecommunication

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Andy Purcell
2.	Office telephone:	317-644-0949
3.	Mobile telephone:	317-289-9588
4.	Email address:	Andy.purcell@ocmgroups.com
5.	Agency name	OCM Engineering, LLC
6.	Address:	1728 Churchman Ave
7.	City, State, Zip Code:	Indianapolis, IN 46203
8.	Construction Emergency Contact:	
	Name:	Enter Contact Name
	Number:	Enter Phone Number

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

Aerial and Underground facilities along St. Clair
Aerial facilities at Myron cross

B. Describe the location of existing active and inactive facilities.

St. Clair – aerial and underground facilities on the north side of St. Clair proceeding from east and west side of the interstate

Myron – aerial facilities are attached to IPL poles on the eastside of Myron proceeding north to south
Level 3 has facilities at Washing St., Davidson St., and Lewis St. (Reference RID 15.05 (Level3_1.jpg and Level3_2.jpg)

C. Describe what will be done with existing active and inactive facilities.

Upon completion of the relocation work, the existing aerial and underground fiber optic cable will be removed

D. Describe the details of the proposed new facilities.
St.Clair – install new underground conduits, Hand Hole structures and fiber optic cable with new splice enclosures

Myron - install new underground conduits, Hand Hole structures and fiber optic cable with new splice enclosures

E. Describe the proposed location of the new facilities.
St. Clair – facilities will located on the southside of St. Clair proceeding through the project

Myron – facilities will located on eastside of the existing IPL pole line

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on <**Enter Date Received Plans**>

Signature of Utility Representative | Print Name | Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

N/A

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

No

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	30
B.	The expected lead time in calendar days to obtain materials:	30
C.	The expected lead time in calendar days to schedule work crews:	30
D.	If the contractor is being selected by competitive bid what is the date of selection?	N/A
E.	The expected lead time in calendar days to obtain new property interests:	N/A
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	1/15/2019
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	20

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: N/A

D. The number of calendar days to complete the relocation work: 75

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

St. Clair – relocation prints attached.
Myron – relocation prints attached.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative | Date

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Andrew D Purcell | **12/10/2019**

Utility Coordinator Signature | Date

Andrew D Purcell

Utility Coordinator Name Printed

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature)

Date

Project Manager Name Printed (LPA Project – ERC Name Printed)

INDOT Des# 1600808 I-65 "North-Split" Project - UG Costs: 11-13-19

A) Vermont/Michigan/Myron = (Length UG Run) X ($30) + (# Poles) X ($20K) = Sub-Total for Location

Spare Conduit = (Length of UG Run) ($20) = Sub-Total for Spare

B) St. Clair St. /Lewis St. = (Length) X ($300) + (#Poles) X ($20K) = Sub Total
C) Guy Poles = $15K each.

1-Vermont	(351')	$ 117,550	UG Run, Poles and Spare Conduit
2-Michigan	(360')	$ 98,000	
3- St. Clair	(470' Trench)	$ 281,000	
4- Myron	(382')	$ 59,100	
6- Lewis ST- 34.5KV UG	(645' Trench)	$278,500	

TOTAL = $ 834,150

Date:

Subject:

Utility Relocation Work Plan for:	
Facility Type:	

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	
2.	Office telephone:	
3.	Mobile telephone:	
4.	Email address:	
5.	Agency name	
6.	Address:	
7.	City, State, Zip Code:	
8.	Construction Emergency Contact:	
	Name:	Enter Contact Name
	Number:	Enter Phone Number

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

S. Hughes 8/28/2019

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this

form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

B. Describe the location of existing active and inactive facilities.

C. Describe what will be done with existing active and inactive facilities.

D. Describe the details of the proposed new facilities.

E. Describe the proposed location of the new facilities.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on <**Enter Date Received Plans**>

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form

and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

   1. Utility A, with a description of the required work.

   2. Utility B, with a description of the required work.

   3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

   1. Work item A

   2. Work item B

   3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

_____ _____

Signature of Utility Representative Date

_____

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

AT&T Distribution

Date: 2/20/2020

Subject:

Utility Relocation Work Plan for:	AT&T Distribution
Facility Type:	Communications

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Zach Goodbar
2.	Office telephone:	317-610-5427
3.	Mobile telephone:	
4.	Email address:	Zg248f@att.com
5.	Agency name	AT&T Distribution
6.	Address:	240 N Meridian St
7.	City, State, Zip Code:	Indianapolis IN 46204
8.	Construction Emergency Contact:	
	Name:	Pete Wasson
	Number:	317-525-1481

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.
- Aerial fiber/copper
- Conduit runs/manholes/fiber/copper

B. Describe the location of existing active and inactive facilities.
- On poles to remain at Vermont and Michigan crossings
- See attachment which shows buried facilities and provides estimates to costs for facilities that could potentially need relocated.

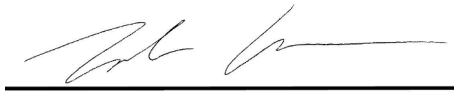
Buried line parallel with Monon Trail

C. Describe what will be done with existing active and inactive facilities.
- Nothing poles are not in conflict, it is the IPL crossings that are in conflict
- At this time it is unsure if buried facilities will need relocated.

D. Describe the details of the proposed new facilities.
- N/A

E. Describe the proposed location of the new facilities.
- N/A

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on 1/30/2020



Signature of Utility Representative	**Zach Goodbar** Print Name	**2/20/2020** Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

   1. Utility A, with a description of the required work.

   2. Utility B, with a description of the required work.

   3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

   1. Work item A

   2. Work item B

   3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative

Date

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature

Date

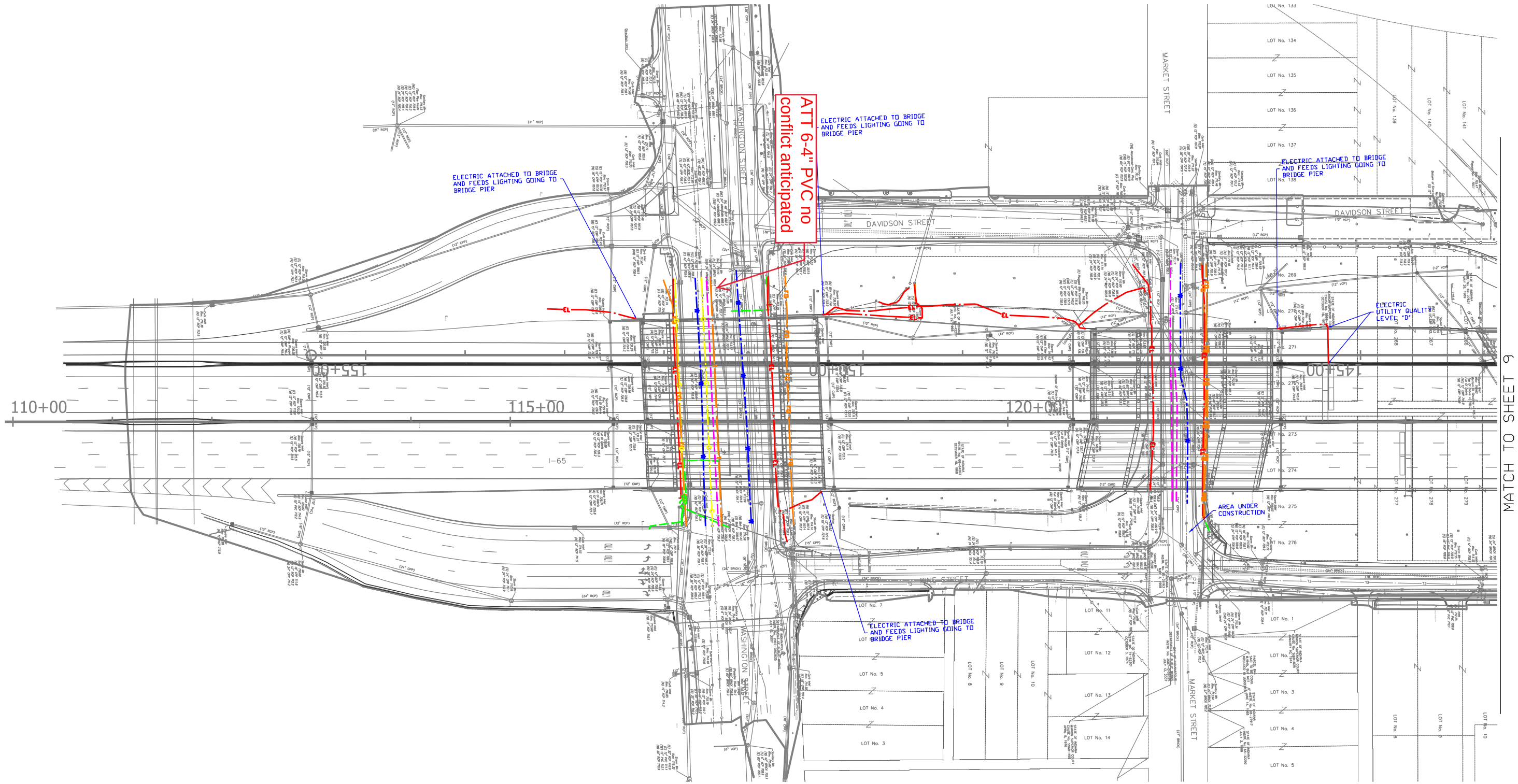
Utility Coordinator Name Printed

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) Date

Project Manager Name Printed (LPA Project – ERC Name Printed)



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- ELECTRIC (E)
- CABLE TV (CC)
- GAS (G)
- FIBER OPTIC (FO)
- TELEPHONE (T)
- (EOI) END OF INFORMATION

NOTES:

ALL UTILITIES SHOWN QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.

UNLESS OTHERWISE NOTED, UTILITY LINE LIMITS DEPICTED REPRESENT FIELD DESIGNATING LIMITS AND NOT ENDPOINTS OF UTILITIES.

Utility Quality Level "A" : Visually Verified Test Hole
Utility Quality Level "B" : Designating
Utility Quality Level "C" : Research with Survey
Utility Quality Level "D" : Records Research

All aspects of this Subsurface Utility Engineering (SUE) investigation were performed in accordance with ASCE Standard 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" and industry standards as of the date of this work. Underground Utilities shown on these plans as depicted in the legend have been investigated by Cardno in accordance with SUE Industry Standards. All other information shown has been provided to Cardno by others. Cardno's SUE field investigation was performed 4-22-19 through 5-10-19. Changes to utilities after 5-10-19 may have been made and therefore may result in variances from this plan. Consideration should be given to updating this plan if deemed advisable prior to final design and construction.

KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Kenneth F. Slaninka Jr. 6-04-19 (DESIGN ENGINEER / DATE)

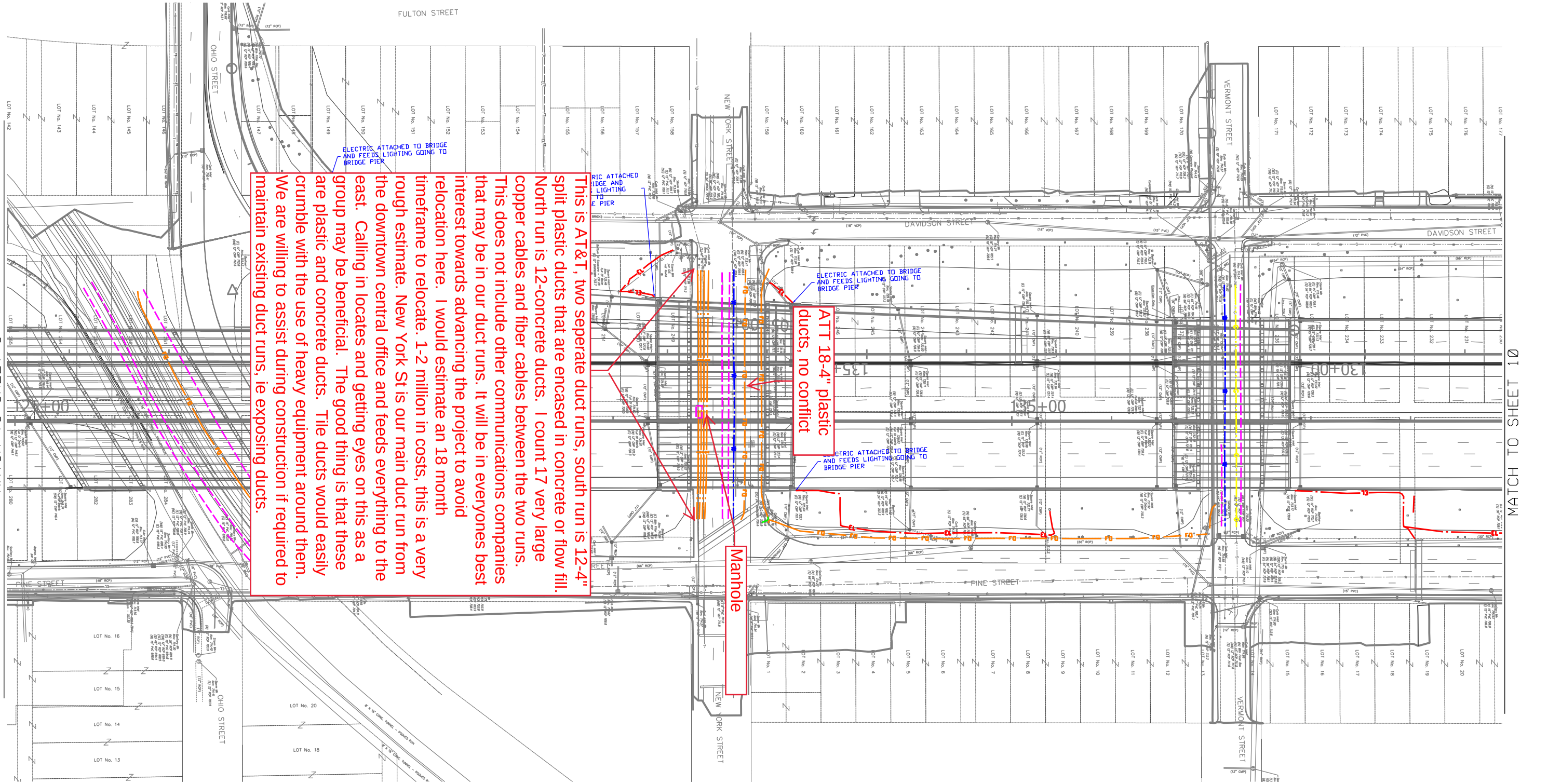
DESIGNED: KFS | DRAWN: KLC | CHECKED: CAA | CHECKED: KFS

Cardno

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	8 of 13



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- CL — ELECTRIC
- UC — CABLE TV
- G — GAS
- FO — FO — FIBER OPTIC
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DESIGN ENGINEER DATE

DESIGNED: KFS DRAWN: KLC
CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

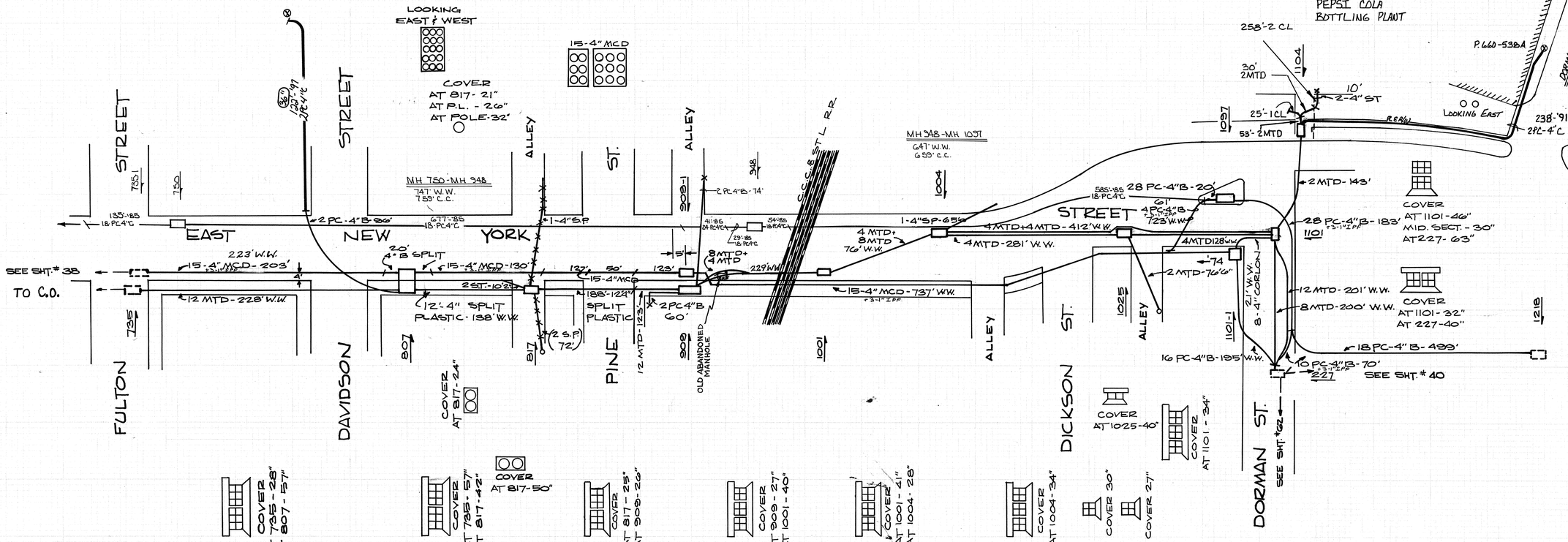
I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	9 of 13

BRUNING 40-5253 34200

REVISIONS

ORDER NUMBER	DATE POSTED	DATE VERIFIED
ISSUED	12-11-81	
REPROD.	PHOTO.	3-64
B-5-69	6-10-70	
B-44-71		11-11-71
RES.	12-31-71	
8227 #3		8-22-74
8227 #4	8-30-74	8-16-77
8227 #1/2	9-3-74	8-17-77
8227 #17	9-4-74	
6896 #2	4-15-78	
RESUMMARY		12-31-81
E 8150 #3	10-85 PS	10-85 PS
E. 8561	11-4-85 PT	11-4-85 PT
B-1518-90	1/91 PS	4-91 PS
7/20/17	5-98 PS	



MANHOLES:

M.H.	GRP.	CU.FT.	INSIDE DIMENS. L. W. H.R.	TYPE	TYPE F.&C.	WALLS	ROOF	FLOOR	COLLAR INCHES	ORIG. PAVE.	DATE	REMARKS
807		1008	12'x 12'x 7'	4 27"B		8"	9½"	8"		ASPH. CON.	'78	REBUILT ON E. 6896 #2
817		468	12'x 6'x 6'6"	A 27"		8" R	9.5"R	7" R		CNCRT. SDWK.	'77	REBUILT 8227 #12
909		230	8'6"x4'6"x 6'	27"B		6"	7½"	6"		SOD	'68	B-503-67 RAISE FRAME & COVER B-3-'68
909-1		350	13'x 6'x 7'	27"		8"	7"	7"		CON.	'67	EST. 7694
1001		116	6'x3'6"x5'6"	27"		6" CON.	6" RFD CON.	4" CON.		CON. SW	'33	REBUILT
1004		158	8'x3'6"x 5'	27"		8" BRICK	8" RFD CON.	4" CON.		ASPH.	'UN	
1025		99	6'x3'x 5'6"	24"		8" BRICK	6" RFD CON.	4" CON.		ASPH.	'UN	
1101		198	9'x4'x 5'6"	27"		8" BRICK	6" RFD CON.	4" CON.		ASPH.	'UN	
1104		66	5'6"x3'x4'	24"		8" BRICK	6" RFD CON.	4" CON		ASPH.	'58	B-214-58
1097		684	12'x6'x 9'6"			P R E C A S T				GRASS		
1101-1		350	10'x 8'x 7'	27"		8"	7"	7"		CONC.	'67	E. 7694
348		504	12'x 6'x 7'	A	27"H	—— PRE-CAST ——			18"	CONC. BOTH.	'86	E. 8561 #3
750	2	504	12'x6'x 7'	A	27"H	—— PRE-CAST ——			12"	CSW	'85	E. 8561 #6

PLACE & REMOVAL – CONDUIT:

CODE	FROM	TO	SIZE KIND	SURF.	BASE	SUB SURF.	TR.FT.	DATE

LEGEND

2 MTD – – – 2 MULTIPLE TILE CONDUIT
1-4" SP – – – 1-4" SEWER PIPE (INSIDE DIAMETER)
15-4" MCD – – – 15-4" MULTIPLE CONCRETE CONDUIT (4" INSIDE DIA.)
2 ST – – – 2 SEWER TILE
18 PC-4"B – – – 18 PLASTIC CONDUIT, TYPE "B" (THIN WALL) 4" INSIDE DIAMETER.

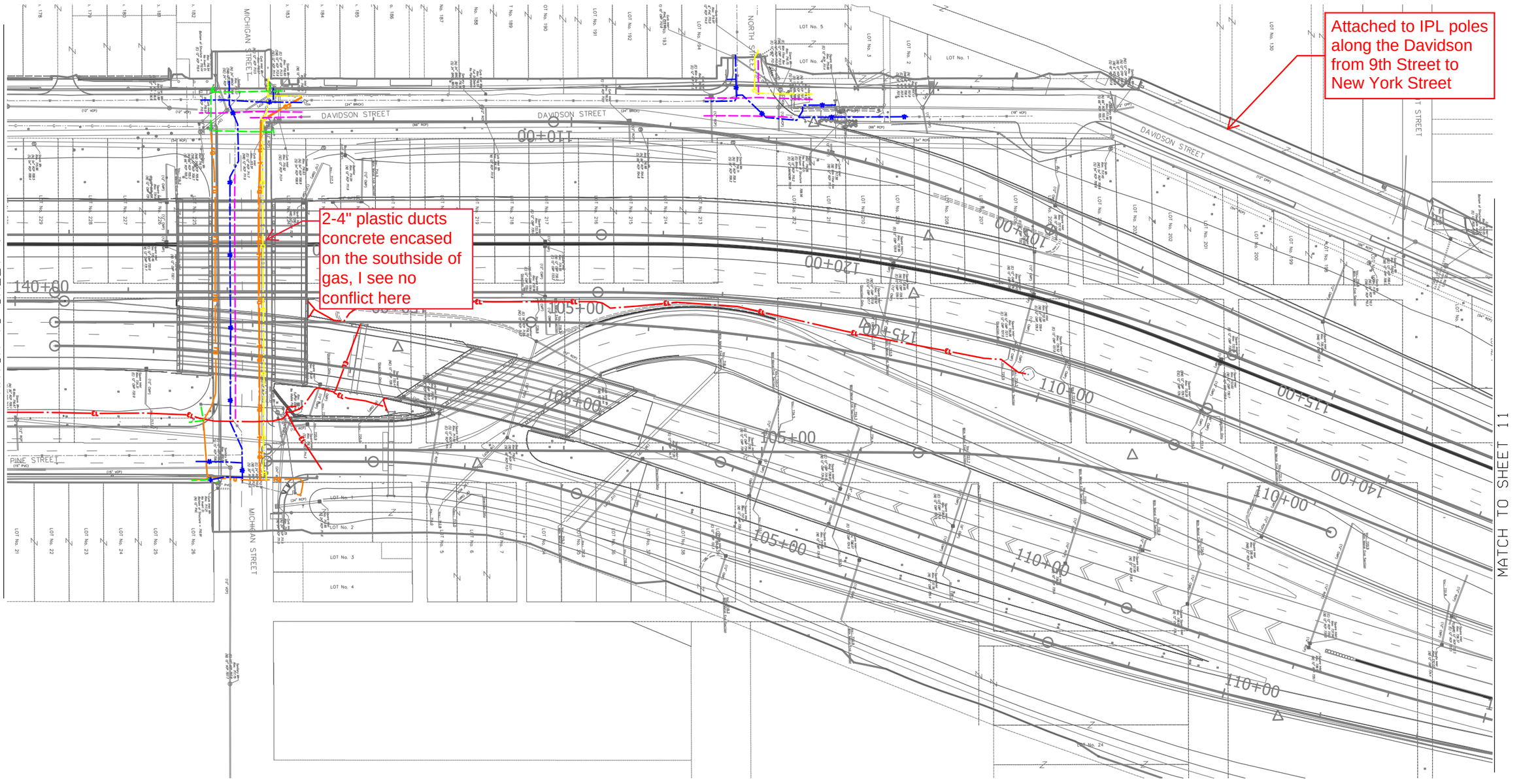
INDIANA BELL TELEPHONE
INDPLS - MELROSE 7634
ACC'TG. AREA H20013
TAX DIST. 5752
E. NEW YORK ST. FROM FULTON ST. TO DORMAN ST.

U.G. CONDUIT LOCATION RECORD

GRID REFERENCE

DRAWING NO. 39

FE-2032-1



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- EL — ELECTRIC
- UC — CABLE TV
- G — GAS
- FO — FIBER OPTIC
- T — TELEPHONE
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RECOMMENDED FOR APPROVAL *Kenneth F. Slaninka Jr.* 6-04-19
DESIGN ENGINEER DATE

DESIGNED: KFS DRAWN: KLC
CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
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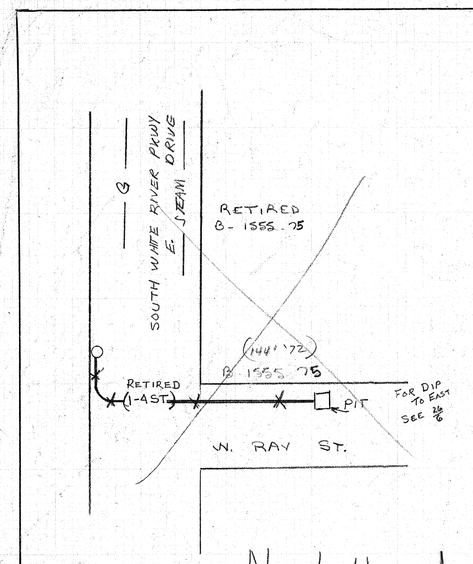
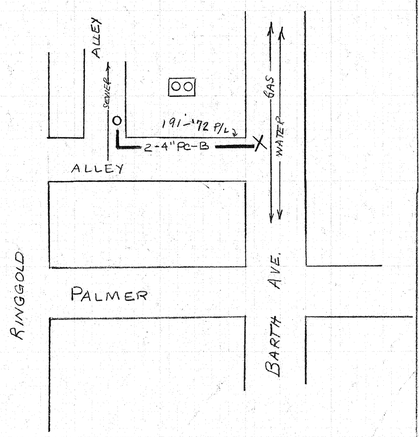
CONTRACT	SHEETS
O180303a	10 of 13



POLE SEC 564
T.D. 5752

1



POLE SEC 567
TAX DISTRICT 5752

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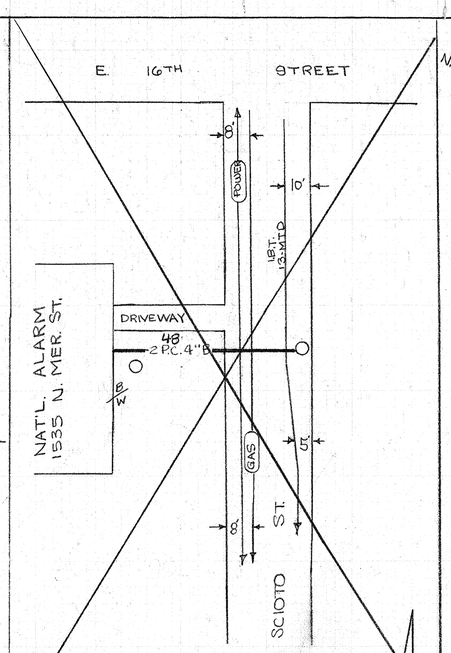

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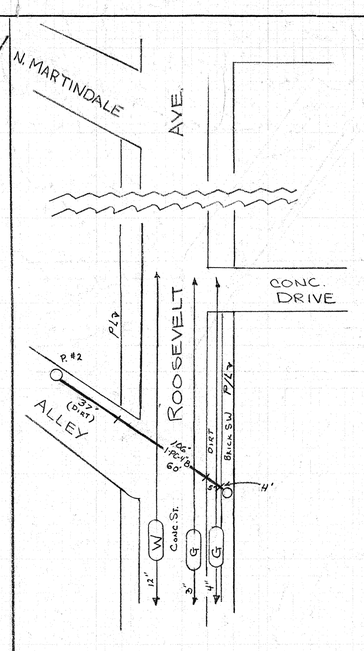

P.S. 508
T.D. 5752

Est. 7300 #15A

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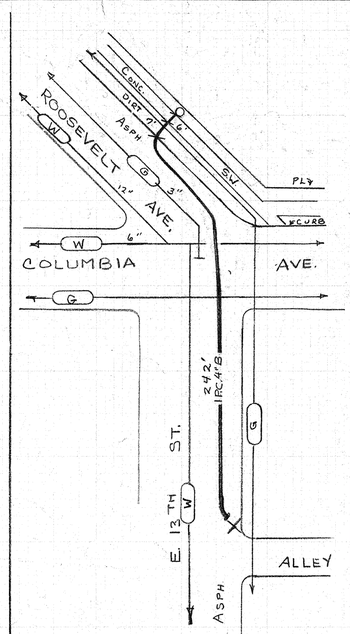

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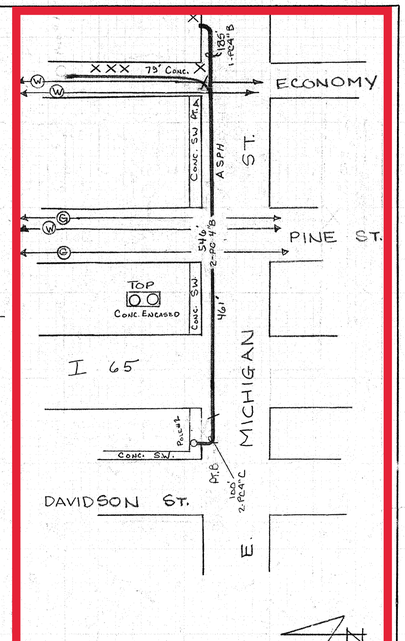

POLE SECT. 507
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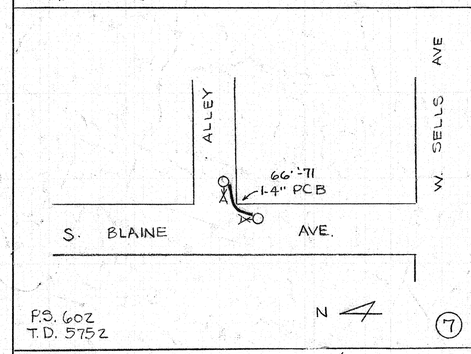

P.S. 602
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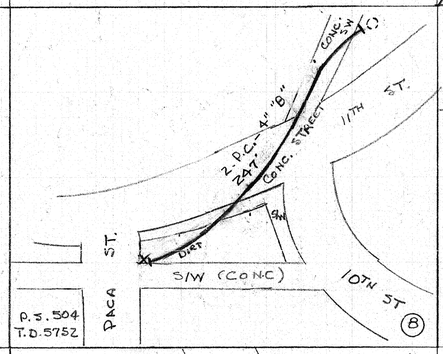

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T.D. 5752

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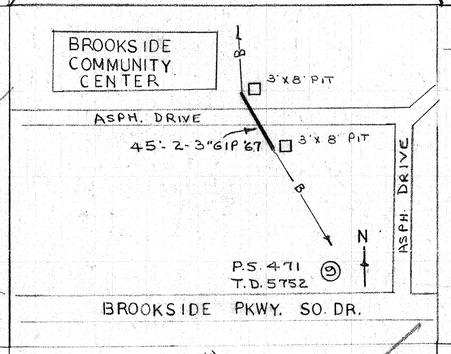

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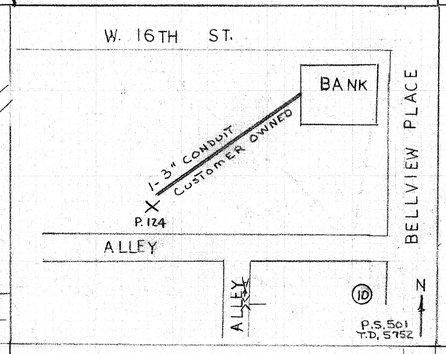

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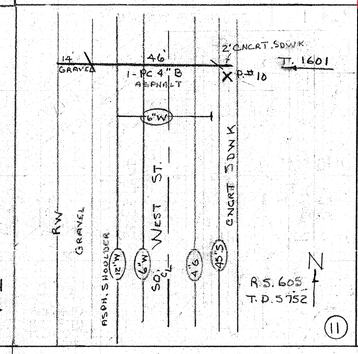

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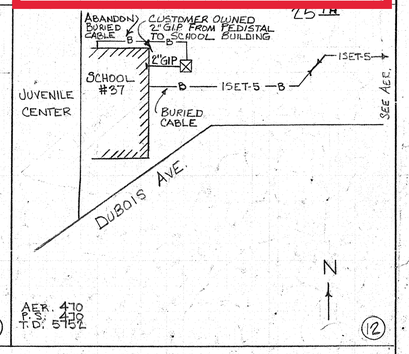

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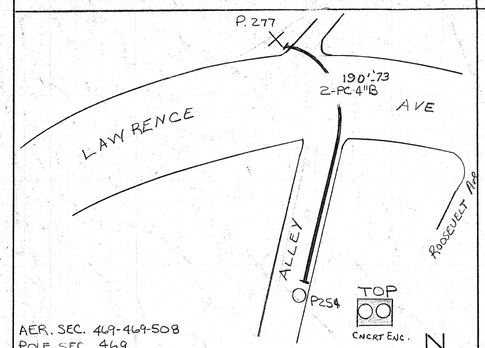

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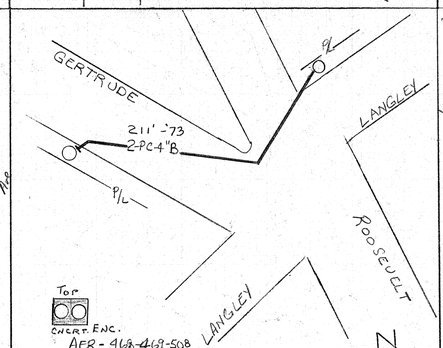
POLE SEC. 469
TAX DIST. 5752
7738 #9

13



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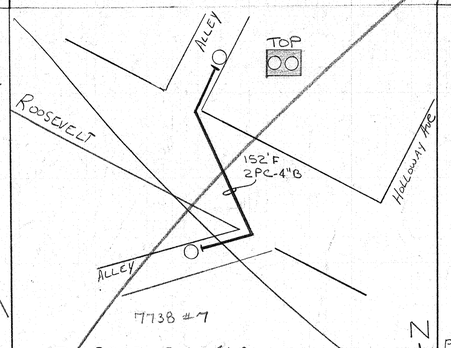
POLE 469
TAX DIST 5752
7738 #9

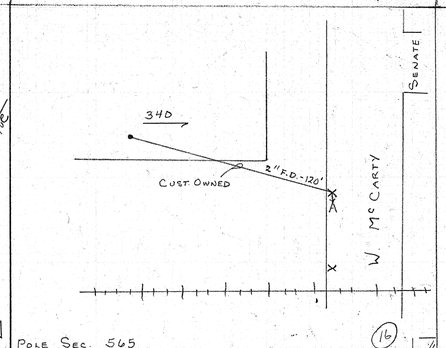
14



7738 #7

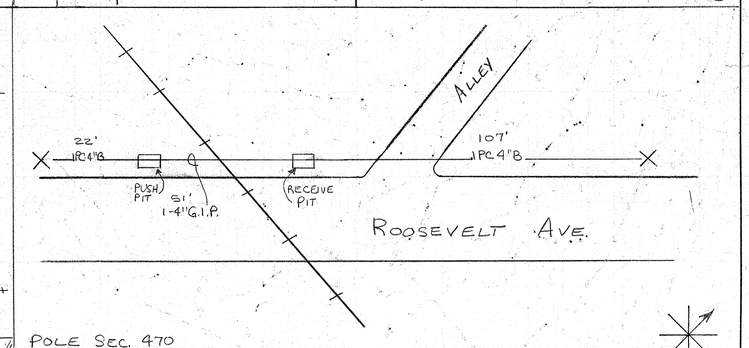
POLE SEC 469
AER. SEC 468-469-508
TAX DIST - 5752

15



POLE SEC. 565
AER SEC. 564 - - 605
TAX DIST. 5752

16



POLE SEC. 470
AER SEC. 470
TAX DIST. 5752

Est 7738 #29

ISSUED	ORDER NUMBER	DATE POSTED	DATE VERIFIED
POSTING DATA	4-470-71		6-22-72
JOB ORDER — DATE		JMF	12-31-71
CO'ORD. REF. TO CO'ORD. REF.	Res.		
	B-5572	4-3-74	3-20-72
	B-5572	4-10-74	4-18-74 A
	B-5572	4-10-74	4-12-73 A
	B-422-71	5-25-72	5-5-72
	B-422-71		5-5-72
	B-241-72	9-26-72	11-24-72
	B-5572		10-5-72
	B-506-66		4-25-73
	B-5132-73	4-26-73	9-5-73 A
	7738 #9	6-20-75	4-11-74 B
	B-1435-74	12-16-80	5-6-82
	B-1408-80	3-30-82	7-81 Pm
	RESUMMARY		12-31-81
	B-1076-85	TO ASSET	

FORM 2516C

TAX DISTRICT	ACCTG. AREA	SECTION NO.
	H 20013	
INDIANA BELL TELEPHONE CO.		
INDPLS. — 63X		DIP
U.G. CONDUIT DIP RECORD		27
MELROSE		
SCALE		

SEE SHEET 3

MATCH TO SHEET 11

SEE SHEET 4

SEE SHEET 4

48-4" Plastic ducts, no conflicts

10TH STREET

CLUEY ONTAINE STREET

MASSACHUSETTS AVE.

TRAFFIC SIGNAL UTILITY QUALITY LEVEL "B"

ELECTRIC UTILITY QUALITY LEVEL "D"

CUT ELECTRIC LINE AT ABANDONED TELEGLASS ELECTRIC MANHOLE

FIBER OPTIC IS ATTACHED TO SIDE OF BRIDGE

115+00 120+00 125+00 130+00 135+00 140+00

LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- EL — ELECTRIC
- UC — CABLE TV
- G — GAS
- FO — FIBER OPTIC
- T — TELEPHONE
- (EOI) END OF INFORMATION

NOTES:
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Utility Quality Level "D" : Records Research

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KENNETH F. SLANINKA JR. REGISTERED No PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

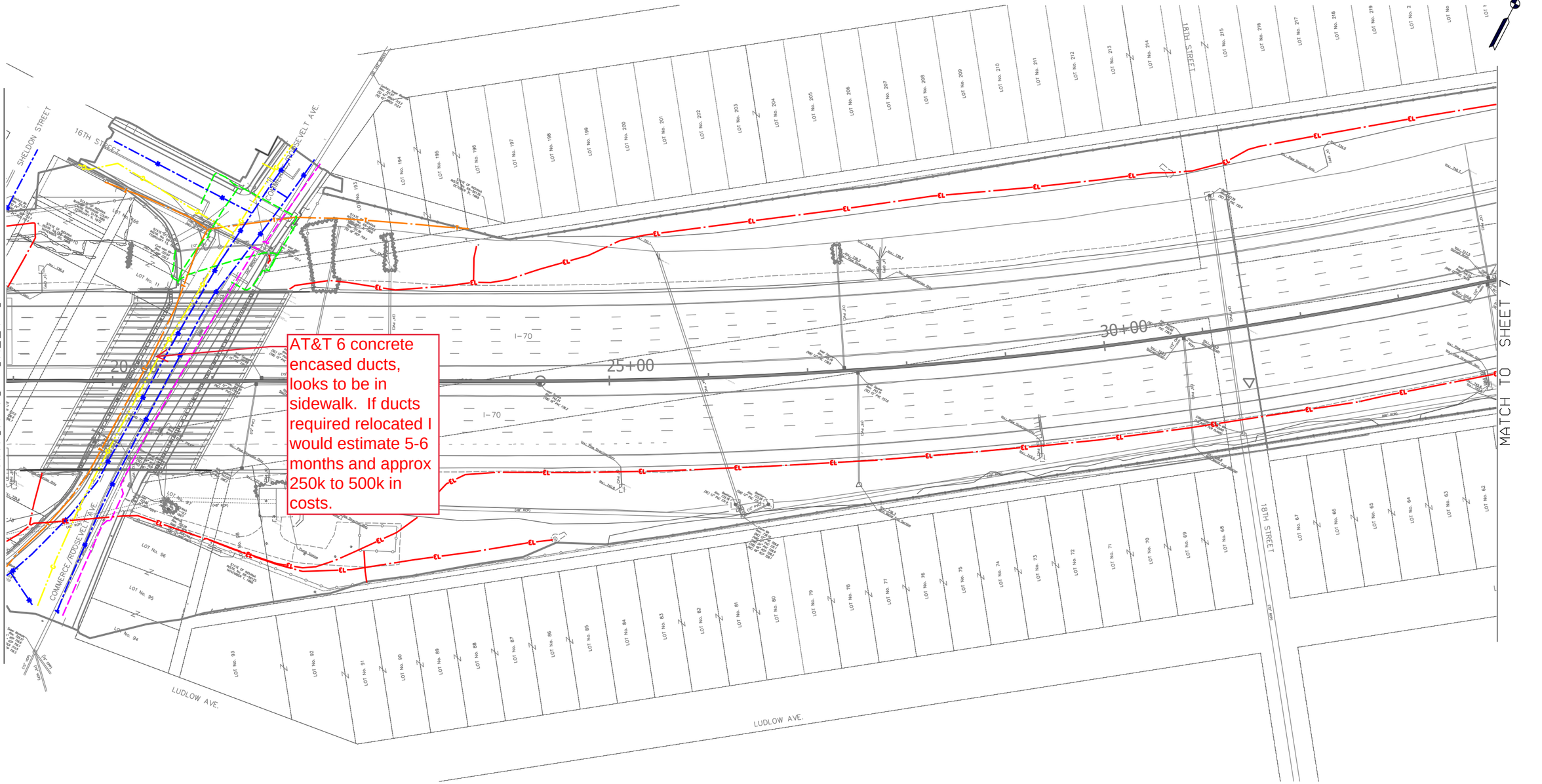
RECOMMENDED FOR APPROVAL Kenneth F. Slaninka Jr. 6-04-19
DESIGN ENGINEER DATE

DESIGNED: KFS DRAWN: KLC
CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	12 of 13



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- EL — ELECTRIC
- UC — CABLE TV
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KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Kenneth F. Slaninka Jr. 6-04-19
DESIGN ENGINEER — DATE

DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	6 of 13

BRUNING 40-5253 34200

DUCT ASSIGNMENTS
LOOKING TO C.O.

TOP



M.H. 1121

1- 9-73-1 + 1PP
2- VAC.
3- VAC.
4- VAC.
5- VAC.
6- VAC.
7- VAC.
8- FORT WAYNE & ANDERSON TOLL CA.
9- DAYTON "B-2" TOLL CA.
10- 11-72
11- FORT WAYNE TOLL CA.
12- DAYTON "B-1" TOLL CA.
13- 12-73
14- 9-73
15- DAYTON "A" TOLL CA.
16- VAC.
17- VAC.
18- VAC.
19- 9-73-2
20- VAC.
21- VAC.
22- 9-73-3
23- VAC.
24- 15-73

MANHOLES:

M.H.	GRP.	CU.FT.	INSIDE DIMENS. L. W. H.R.	TYPE	TYPE F&C.	WALLS	ROOF	FLOOR	COLLAR INCHES	ORIG. PAVE.	DATE	REMARKS
1121		648	12'x6'x9'		27"	10½" REIN.	9½" REIN.	7½" REIN.		BRK ON DIRT	1972	
1225		154	8'x3'6"x5'6"		27"	6" CON.	6" CON.	4" CON.		BRK ON CON.	'28	LOWERED 3" J.O. C-105-40
1413		115	6'x3'6"x5'6"		27"	6"	6"	4"			'50	EST. 5202
1345		759	12'x5'6"x11'6"		2 30"	7½" CON.	8" CON	4" CON		BRK ON CON.	'28	
1395		1944	18'x12'x9'		27"							EST. 7623
1445		396	12'x5'x6'6"			7½ R	8" R	6" R			1972	EST. 7300"8
1405		315	12'x3'6"x7'6"		27"	6" CON.	8" CON	4" CON		BRK ON CON.	'28	Hd. RM. INCR. 2' EST. 5090 M.H. LENGTHEN ON EST. 6837
1501		210	8'x3'6"x7'6"		27"	6" CON.	8" CON.	4" CON.		ASPH. ON CON.	'28	Hd. RM. INCR 2' EST. 5202
1525		325	10'x5'x6'6"	L	27"	7½ R	8" R	6" R			1972	EST. 7300"8
1551		224	8'x3'6"x8'		27"	6" CON.	8" CON.	4" CON.		BRK ON CON.	'28	Hd. RM. INCR 2' EST. 5202
1602		325	10'x5'x6'6"	J-3	27"						1972	EST. 7300

PLACE & REMOVAL – CONDUIT:

CODE	FROM	TO	SIZE KIND	SURF.	BASE	SUB SURF.	TR.FT.	DATE

LEGEND

2PC-4"B – – – 2 PLASTIC CONDUIT TYPE "B" (THIN WALL) 4" INSIDE DIAMETER
4M.T.D. – – – 4 MULTIPLE TILE CONDUIT
2-4"S.T. – – – 2-4" SEWER TILE

REVISIONS

ORDER NUMBER	DATE POSTED	DATE VERIFIED
ISSUED	1-14-82	
M.H. ADDRESS	8-31-60	
RES.	12-3	1-60
PHOTOG.	REPRO	11-24
6837	8-18-87	
B-341-67	5-2-68	
RES.	12-31	71
7623"23	3-2-72	
7300"8	5-15-72	
B-1408-75	1274-76	
7738"3		
5202		
B-335-60		
B-183-63		
E-5090		
E-7300	5-15-72	5-30-73
RESUMMARY		12-31-81
B-1507-81		9-82 CT
B-1402-85	1-31-85 CT	5-85 JW
E-8561	11-5-85 CT	11-5-85 CT
8/01567	10-96 9	
8/01567	10-9986	

NO SCALE

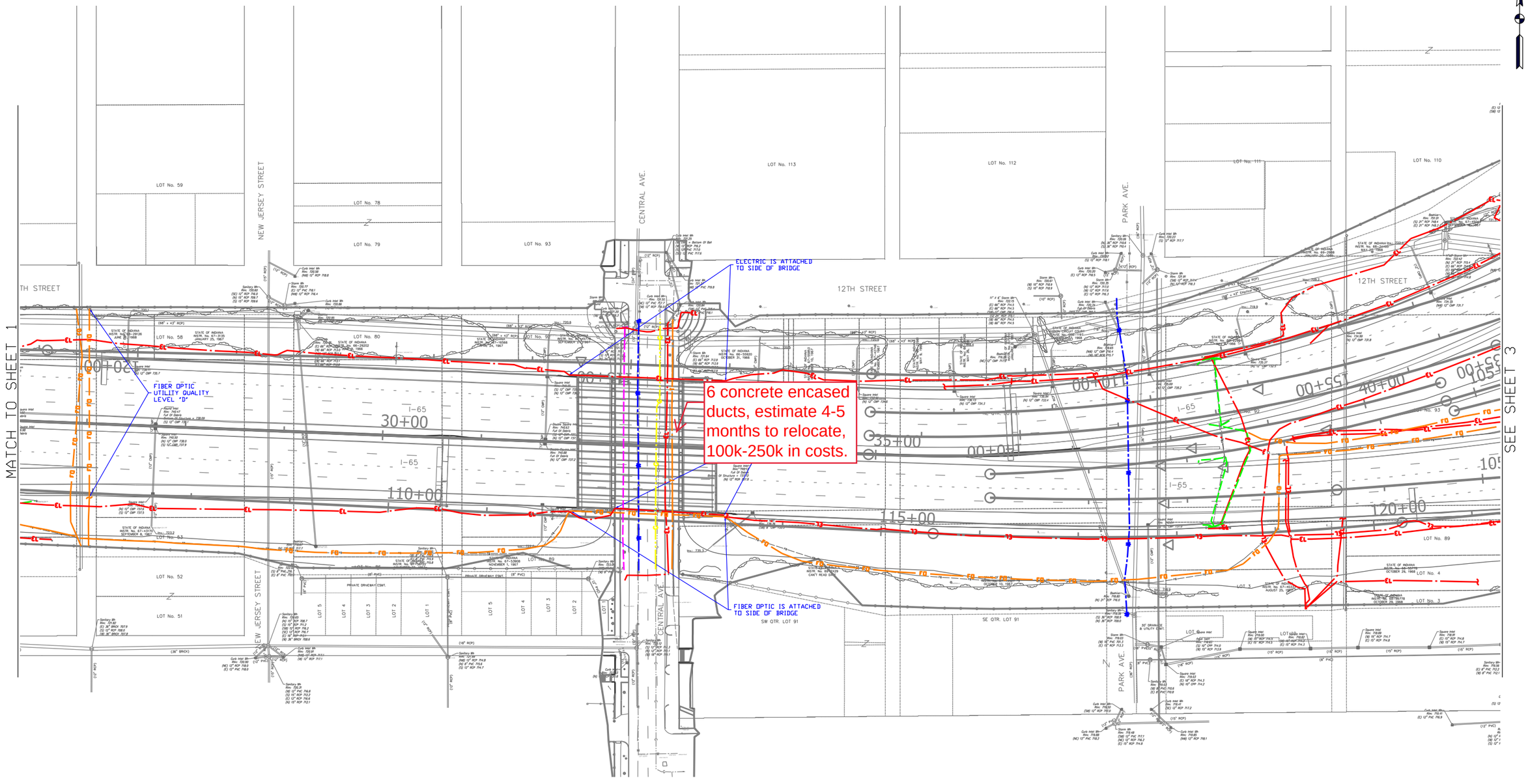
INDIANA BELL TELEPHONE
INDPLS-MELROSE 7634
ACC'TG. AREA H 20013
TAX DIST. 5752
MASS. & ROOSEVELT RUN INCLUDING NEWMAN ST.

U.G. CONDUIT LOCATION RECORD

GRID REFERENCE

DRAWING NO. 25

PE-20208-1



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- ELECTRIC
- CABLE TV
- GAS
- FIBER OPTIC
- TELEPHONE
- (EOI) END OF INFORMATION

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KENNETH F. SLANINKA JR. REGISTERED No PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: *Kenneth F. Slaninka Jr.* DESIGN ENGINEER — DATE: 6-04-19

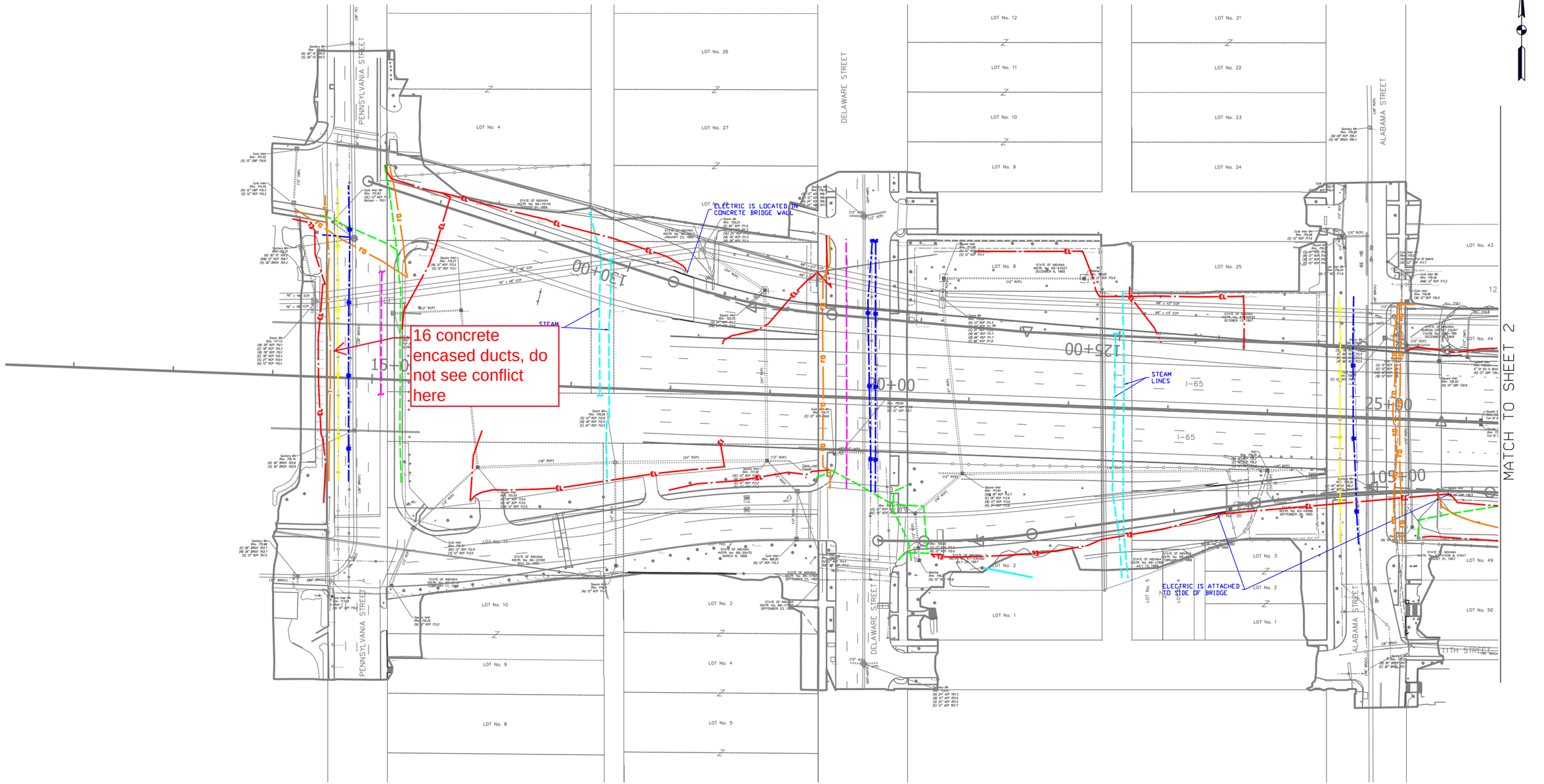
DESIGNED: KFS | DRAWN: KLC | CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	2 of 13


1143 Central Ave
Indianapolis, Indiana
Google
Street View
6 ducts att
concrete encased



LEGEND

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- UNKNOWN
- WATER
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- CATV — CABLE TV
- G — GAS
- FO — FO — FIBER OPTIC
- T — TELEPHONE
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KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: *Kenneth F. Slaninka Jr.* 6-04-19
DESIGN ENGINEER — DATE

DESIGNED: KFS — DRAWN: KLC
CHECKED: CAA — CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	1 of 13

Date: February 20, 2020

Subject:

Utility Relocation Work Plan for:	Intelligent Fiber Network
Facility Type:	Communications

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Shawn Wright
2.	Office telephone:	317-7777-119
3.	Mobile telephone:	317-605-2564
4.	Email address:	SWright@IntelligentFiber.com
5.	Agency name	Intelligent Fiber Network, LLC
6.	Address:	722 N. High School Rd.
7.	City, State, Zip Code:	Indianapolis, IN, 46124
8.	Construction Emergency Contact:	
	Name:	Same as above
	Number:	

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

B. Describe the location of existing active and inactive facilities.

IFN line from the South west Quadrant of the Washing St. interchange. (Not in conflict with the RID Design)

C. Describe what will be done with existing active and inactive facilities.

D. Describe the details of the proposed new facilities.

E. Describe the proposed location of the new facilities.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on August, 19, 2019.

Adam Lamb

Signature of Utility Representative

Adam Lamb, PE February 20, 2020

Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

   1. Utility A, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

   1. Work item A

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative _____ Date _____

Utility Representative Name Printed _____

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(Note: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

Date: 2/18/20

Subject:

Utility Relocation Work Plan for:	Windstream
Facility Type:	Fiber optic

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Scott Builta
2.	Office telephone:	217-876-7194
3.	Mobile telephone:	309-212-3870
4.	Email address:	Donald.builta@windstream.com
5.	Agency name	Windstream
6.	Address:	102 E Shafer St
7.	City, State, Zip Code:	Forsyth IL 62535
8.	Construction Emergency Contact:	Same as above
	Name:	Enter Contact Name
	Number:	Enter Phone Number

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

Sensitivity: Internal

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present. Fiber optic cable running north and south under I-70 at Ogden rd 1 block east of Alabama St. No Conflict expected

Windstream also has aerial lines attached to IPL poles running north and south along Davidson St. and Pine St. Lines extend west from the project along New York Street (Reference RID 15.05 Windstream.jpg)

B. Describe the location of existing active and inactive facilities.

C. Describe what will be done with existing active and inactive facilities.

D. Describe the details of the proposed new facilities.

E. Describe the proposed location of the new facilities.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on <**Enter Date Received Plans**>

Scott Builta **Scott Builta** **2/18/20**

Signature of Utility Representative | Print Name | Date

Sensitivity: Internal

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Sensitivity: Internal

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

   1. Utility A, with a description of the required work.

   2. Utility B, with a description of the required work.

   3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

   1. Work item A

   2. Work item B

   3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Sensitivity: Internal

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative _____ Date _____

Utility Representative Name Printed _____

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

Sensitivity: Internal

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

Sensitivity: Internal

Sensitivity: Internal

Date: February 20, 2020

Subject:

Utility Relocation Work Plan for:	MCI / Verizon Wireline Network
Facility Type:	Communications

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Rolland Craig
2.	Office telephone:	317-498-1242
3.	Mobile telephone:	317-498-1242
4.	Email address:	Dennis.Craig@Verizon.com
5.	Agency name	Verizon/MCI
6.	Address:	6835 Hillsdale Ct
7.	City, State, Zip Code:	Indianapolis, IN 46250
8.	Construction Emergency Contact:	
	Name:	Ron Kocienski
	Number:	518-524-3950

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.
Buried FO and plastic ducts and aerial FO

B. Describe the location of existing active and inactive facilities.
Buried along the east side of Alabama St. and turning east along the south side of 12th St. and 11th St.
Buried along the east side of College Ave.
Buried under the south and east legs of 12th & Pennsylvania St intersection.

Facilities underground on South side of Washington Street, attached to IPL poles on Ohio Street running north and south, and empty conduit along the Monon Trail.

C. Describe what will be done with existing active and inactive facilities.
Remain active in place – no apparent conflict.

D. Describe the details of the proposed new facilities.
No new facilities proposed.

E. Describe the proposed location of the new facilities.
No new facilities proposed.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on August, 19, 2019.

Adam Lamb

Signature of Utility Representative

Adam Lamb, PE — Print Name

February 20, 2020 — Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

   1. Utility A, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

   1. Work item A

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

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Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative

Date

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

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Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(Note: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

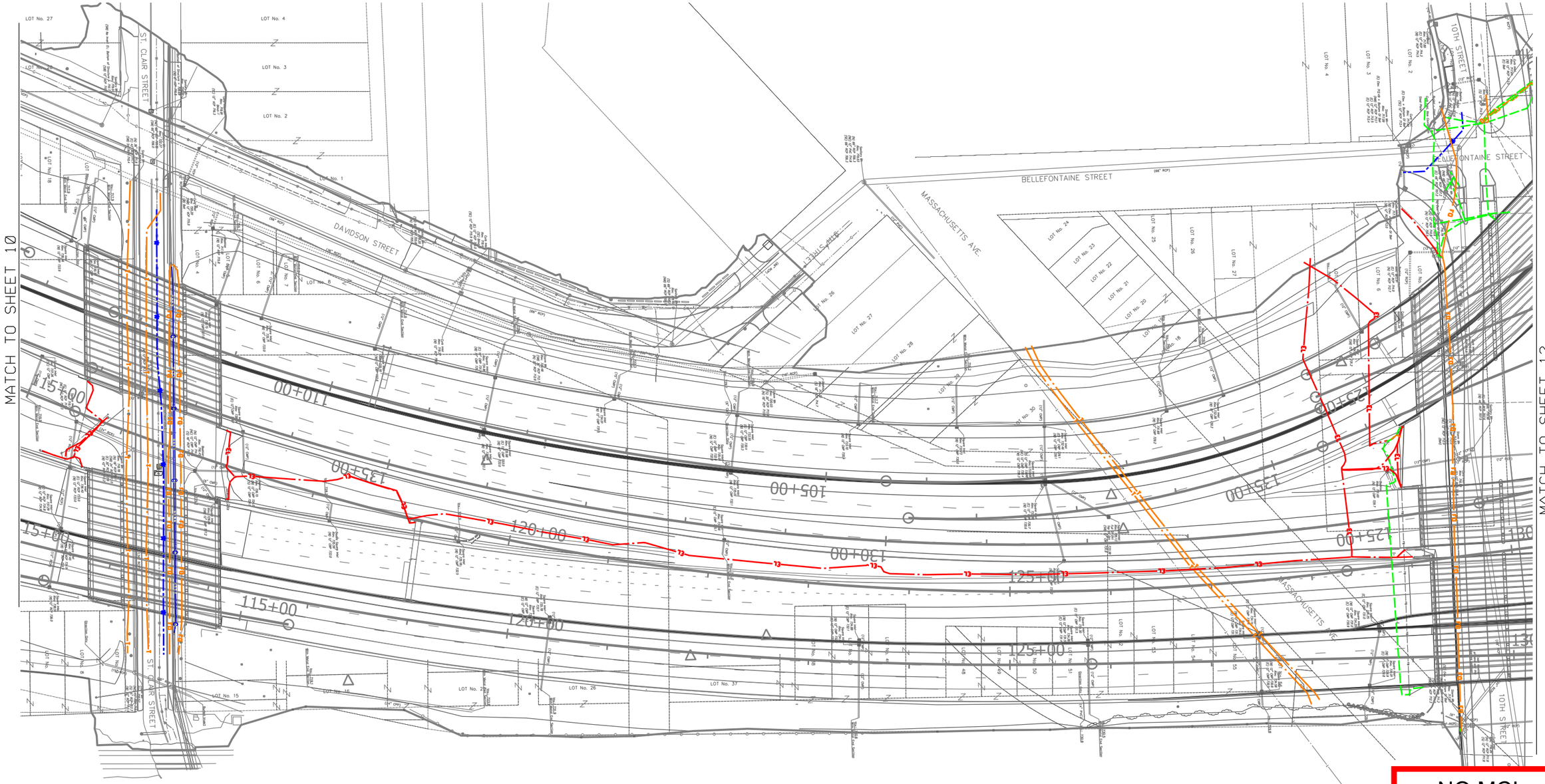
Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____



NO MCI
THIS SHEET

LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- CL — ELECTRIC
- UC — CABLE TV
- G — GAS
- FO — FO — FIBER OPTIC
- T — TELEPHONE
- (EOI) END OF INFORMATION

NOTES:
ALL UTILITIES SHOWN QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.

UNLESS OTHERWISE NOTED, UTILITY LINE LIMITS DEPICTED REPRESENT FIELD DESIGNATING LIMITS AND NOT ENDPOINTS OF UTILITIES.

Utility Quality Level "A" : Visually Verified Test Hole
Utility Quality Level "B" : Designating
Utility Quality Level "C" : Research with Survey
Utility Quality Level "D" : Records Research

All aspects of this Subsurface Utility Engineering (SUE) investigation were performed in accordance with ASCE Standard 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" and industry standards as of the date of this work. Underground Utilities shown on these plans as depicted in the legend have been investigated by Cardno in accordance with SUE Industry Standards. All other information shown has been provided to Cardno by others. Cardno's SUE field investigation was performed 4-22-19 through 5-10-19. Changes to utilities after 5-10-19 may have been made and therefore may result in variances from this plan. Consideration should be given to updating this plan if deemed advisable prior to final design and construction.

KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF IND IANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Kenneth F. Slaninka Jr. 6-04-19
DESIGN ENGINEER — DATE

DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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MCI / Verizon
ex. underground FO

MCI / Verizon
ex. underground FO

ELECTRIC IS LOCATED IN CONCRETE BRIDGE WALL

ELECTRIC IS ATTACHED TO SIDE OF BRIDGE

STEAM LINES

STEAM LINES

PENNSYLVANIA STREET

DELAWARE STREET

ALABAMA STREET

I-65

15+00

20+00

25+00

105+00

150+00

125+00

MATCH TO SHEET 2

LOT No. 12
LOT No. 11
LOT No. 10
LOT No. 9
LOT No. 8
LOT No. 27
LOT No. 3
LOT No. 4
LOT No. 5
LOT No. 21
LOT No. 22
LOT No. 23
LOT No. 24
LOT No. 25
LOT No. 43
LOT No. 44
LOT No. 50
LOT No. 49
LOT No. 3
LOT No. 2
LOT No. 1

LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- ELECTRIC (EL)
- CABLE TV (UC)
- GAS (G)
- FIBER OPTIC (FO)
- TELEPHONE (T)
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DESIGN ENGINEER DATE

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CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
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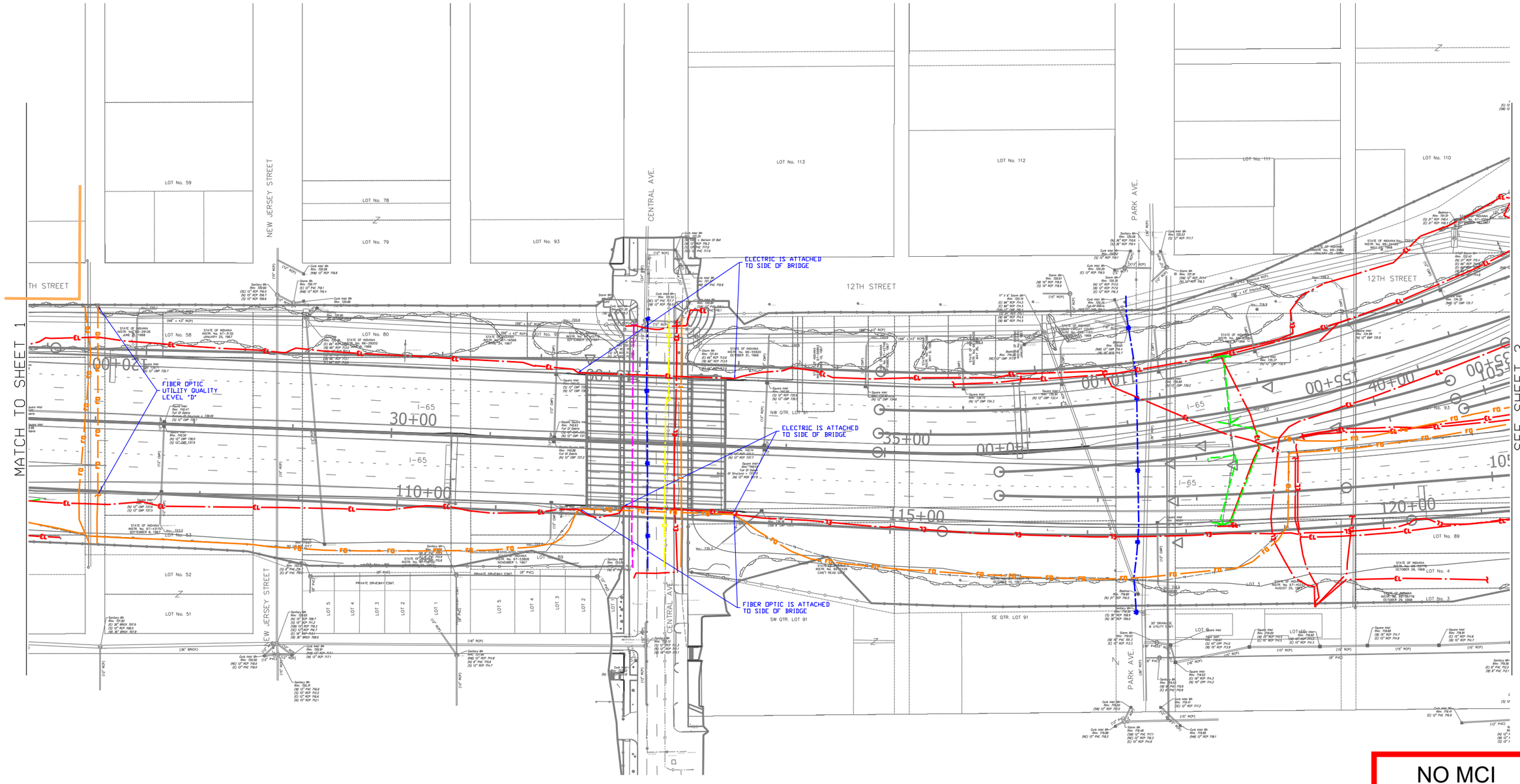
CONTRACT	SHEETS
O180303a	1 of 13



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- ELECTRIC
- CABLE TV
- GAS
- FIBER OPTIC
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DESIGN ENGINEER DATE

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CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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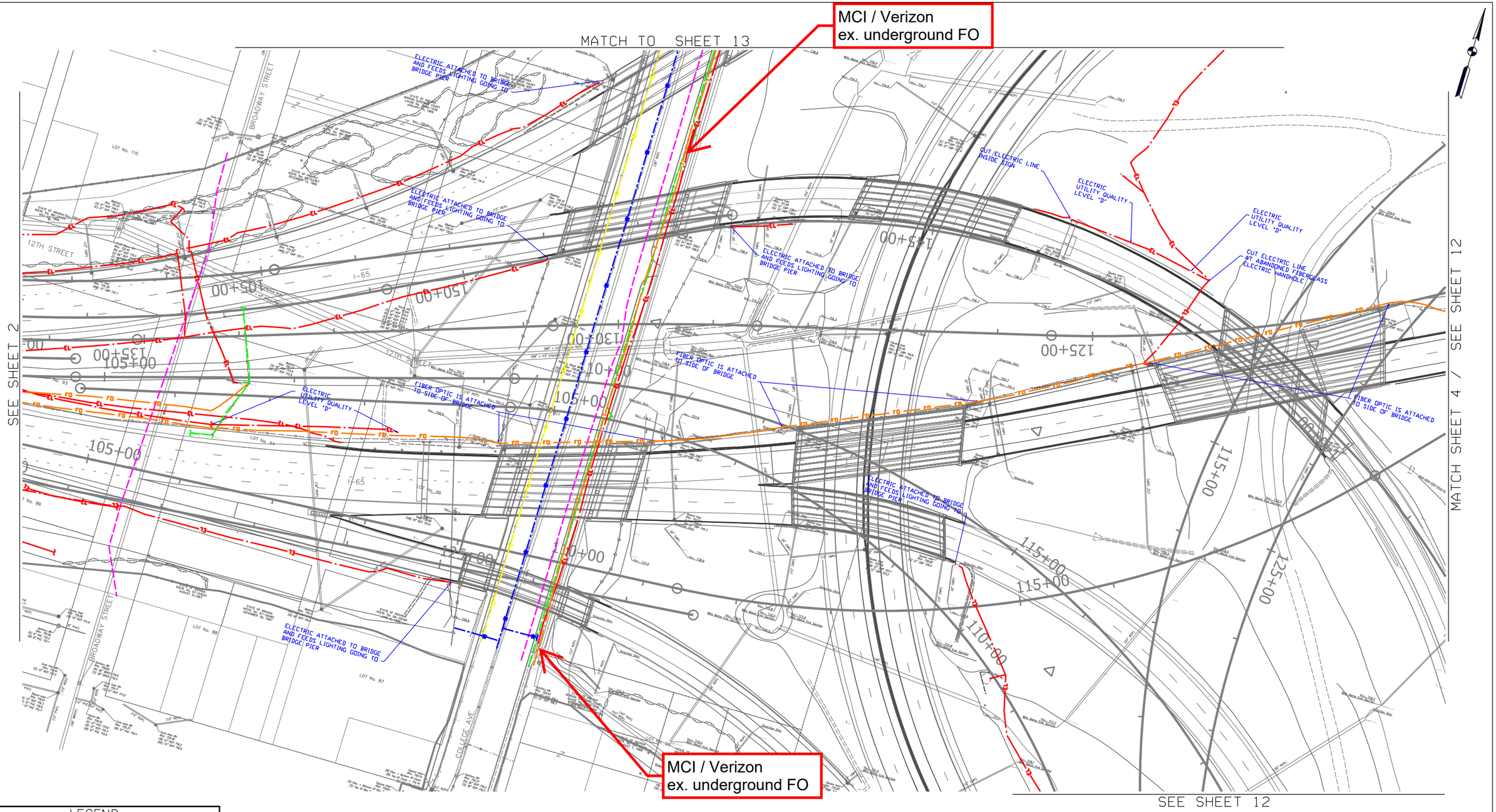

LEGEND

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	DESIGN ENGINEER	DATE	
DESIGNED:	KFS	DRAWN:	KLC
CHECKED:	CAA	CHECKED:	KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
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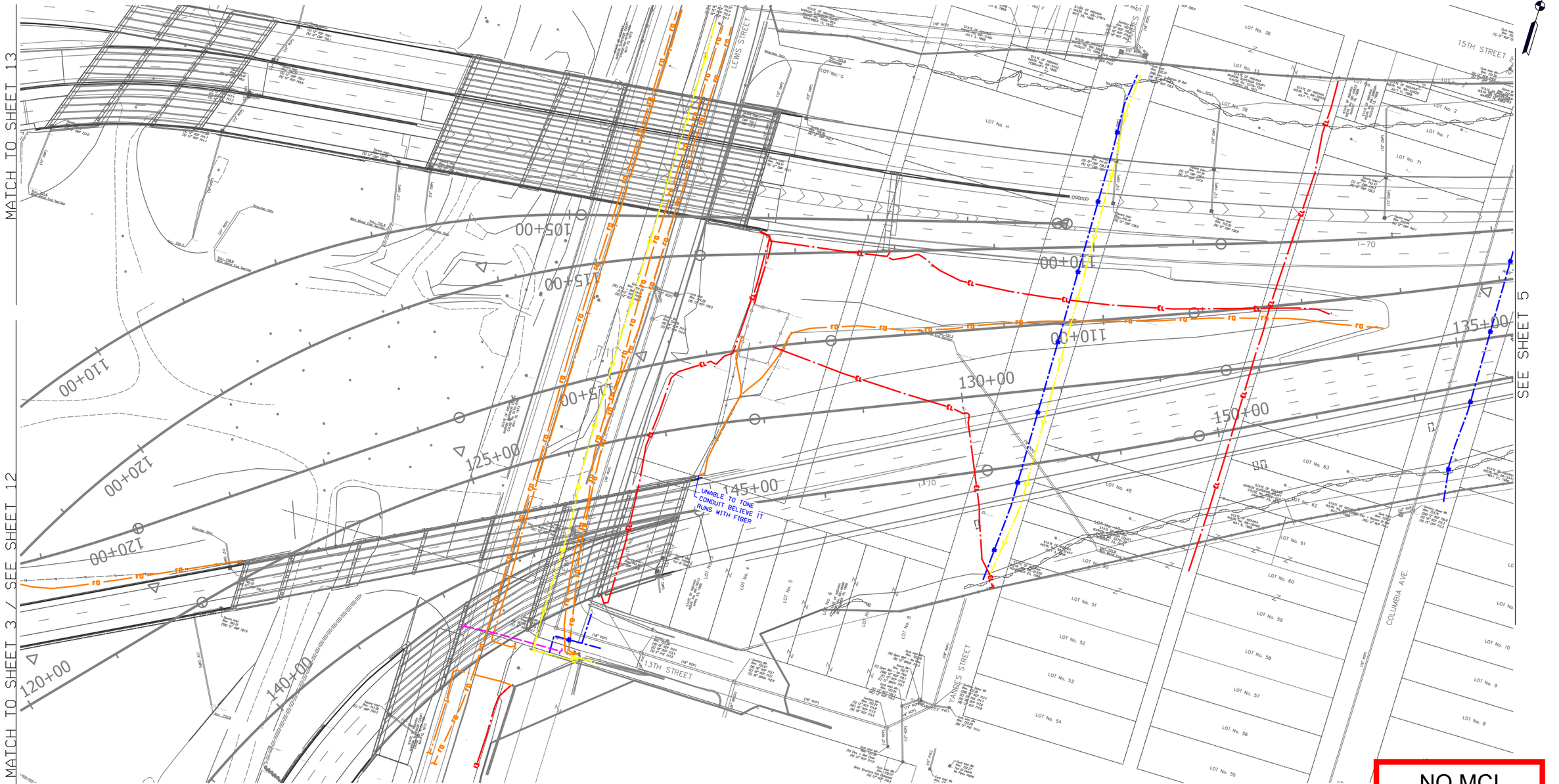
O180303a	3 of 13



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- ELECTRIC
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- GAS
- FIBER OPTIC
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DESIGN ENGINEER DATE

DESIGNED: KFS DRAWN: KLC
CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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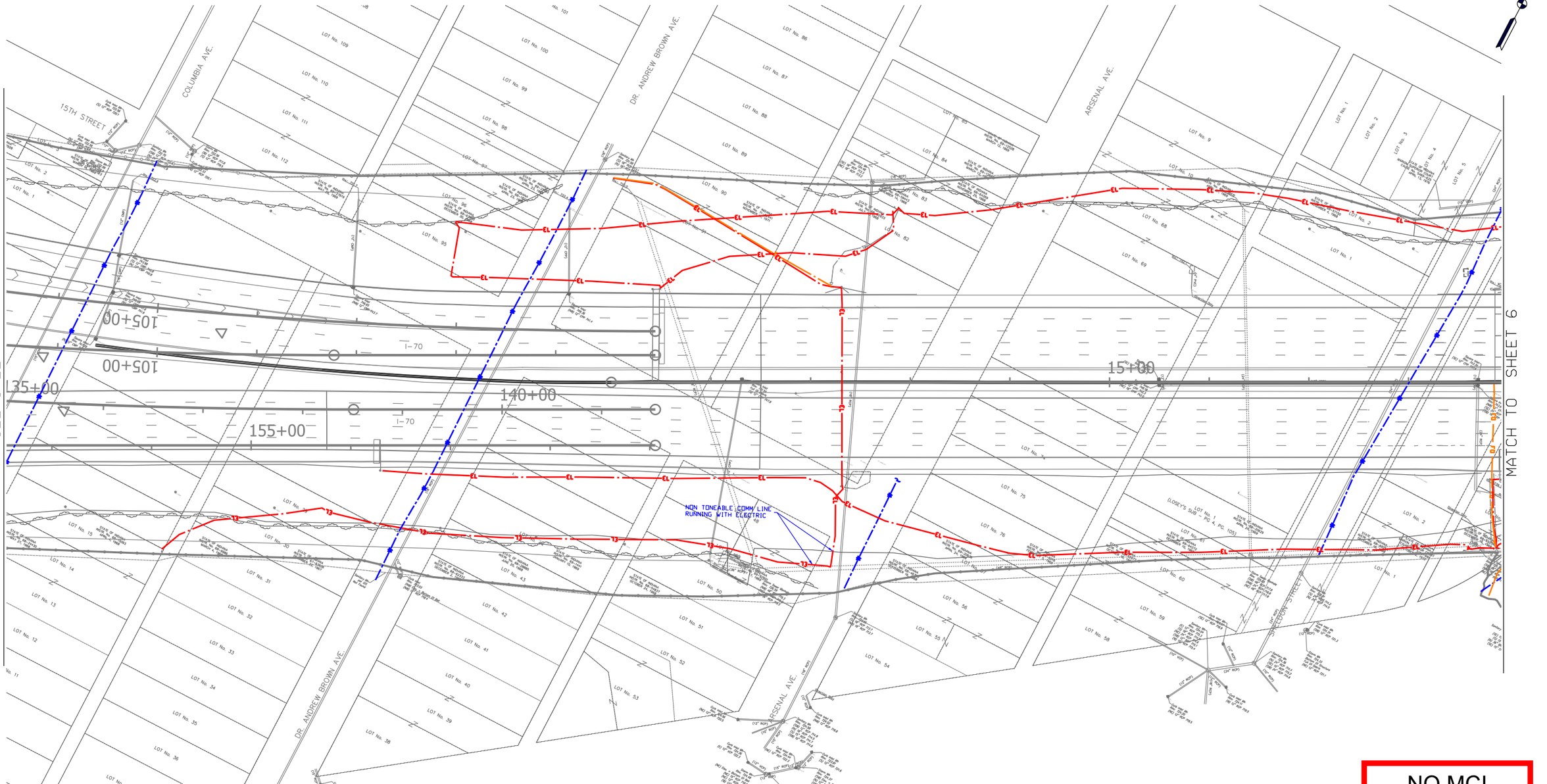

LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- EL — ELECTRIC
- UC — CABLE TV
- G — GAS
- FO — FIBER OPTIC
- T — TELEPHONE
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NO MCI
THIS SHEET

Cardno

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RECOMMENDED FOR APPROVAL: Kenneth F. Slaninka Jr. 6-04-19 (DESIGN ENGINEER / DATE)

DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
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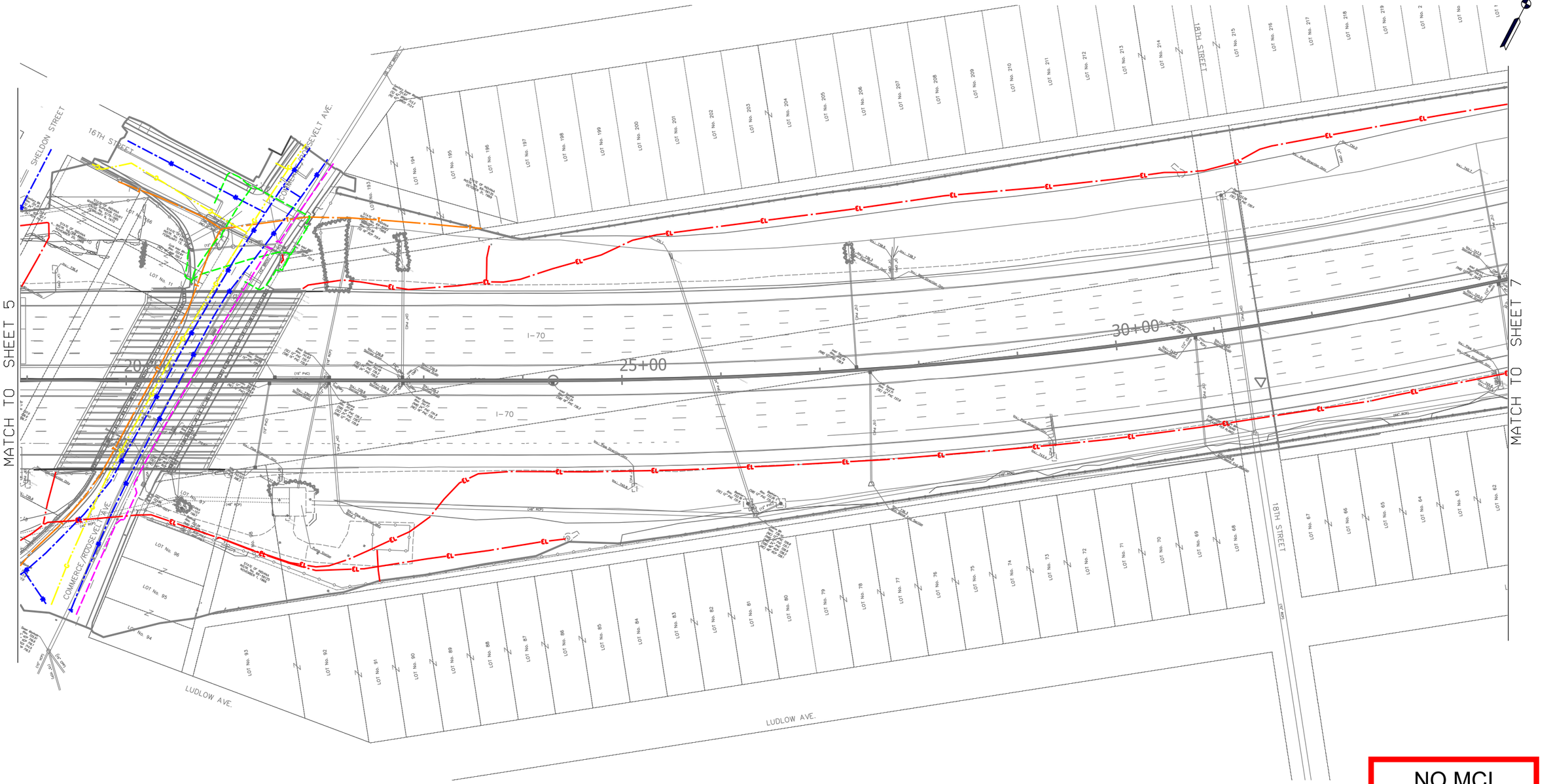

LEGEND

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- WATER
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- G — GAS
- FO — FO — FIBER OPTIC
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KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: *Kenneth F. Slaninka Jr.* 6-04-19
DESIGN ENGINEER — DATE

DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	6 of 13



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- ELECTRIC
- CABLE TV
- GAS
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NOTES:
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UNLESS OTHERWISE NOTED, UTILITY LINE LIMITS DEPICTED REPRESENT FIELD DESIGNATING LIMITS AND NOT ENDPOINTS OF UTILITIES.

NO MCI THIS SHEET

Cardno

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Utility Quality Level "B" : Designating
Utility Quality Level "C" : Research with Survey
Utility Quality Level "D" : Records Research

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KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

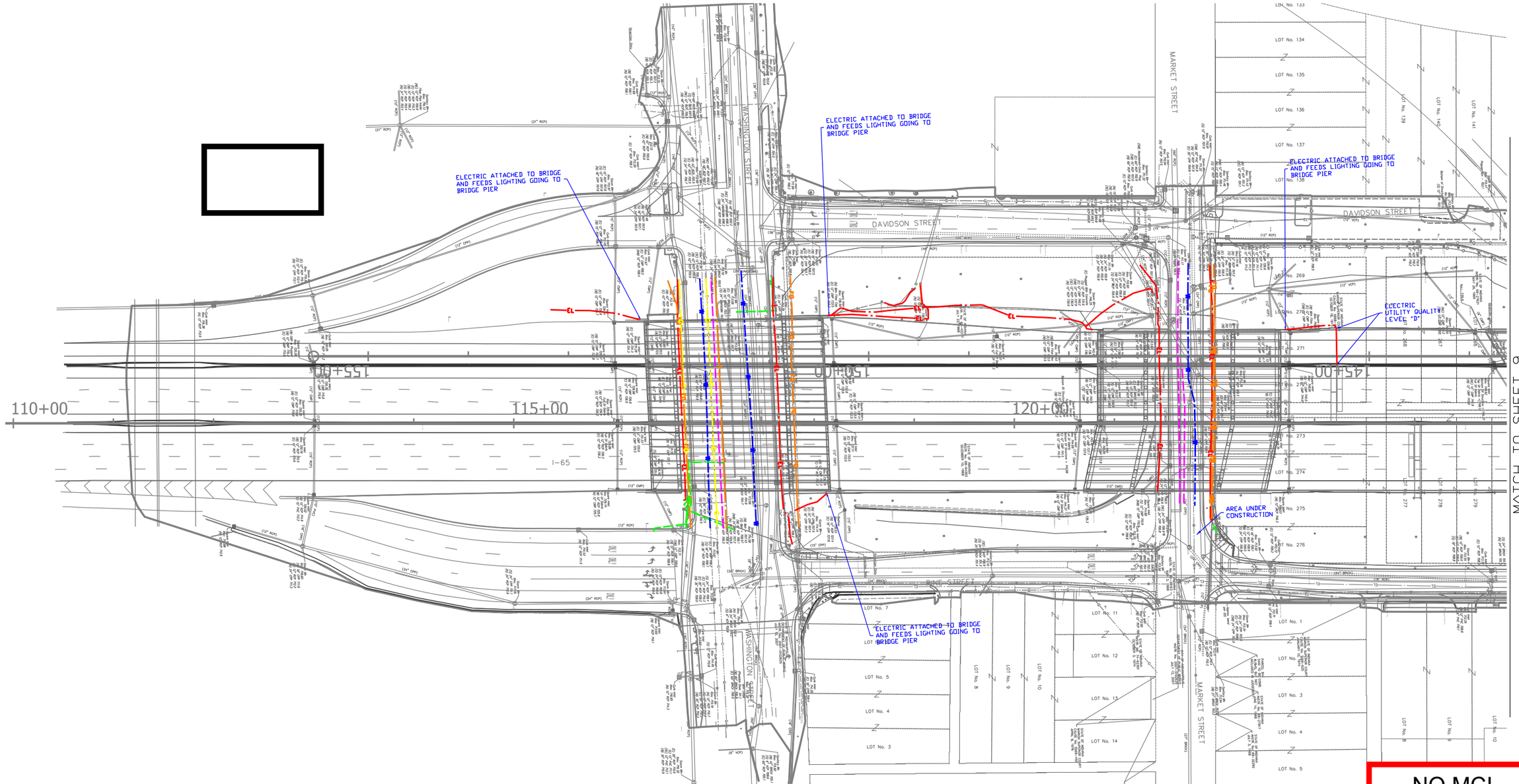
RECOMMENDED FOR APPROVAL: *Kenneth F. Slaninka Jr.* 6-04-19
DESIGN ENGINEER — DATE

DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	7 of 13



LEGEND

- TRAFFIC SIGNAL
- UNKNOWN
- WATER
- EL — ELECTRIC
- CATV — CABLE TV
- G — GAS
- FO — FO — FIBER OPTIC
- T — TELEPHONE
- (EOI) END OF INFORMATION

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DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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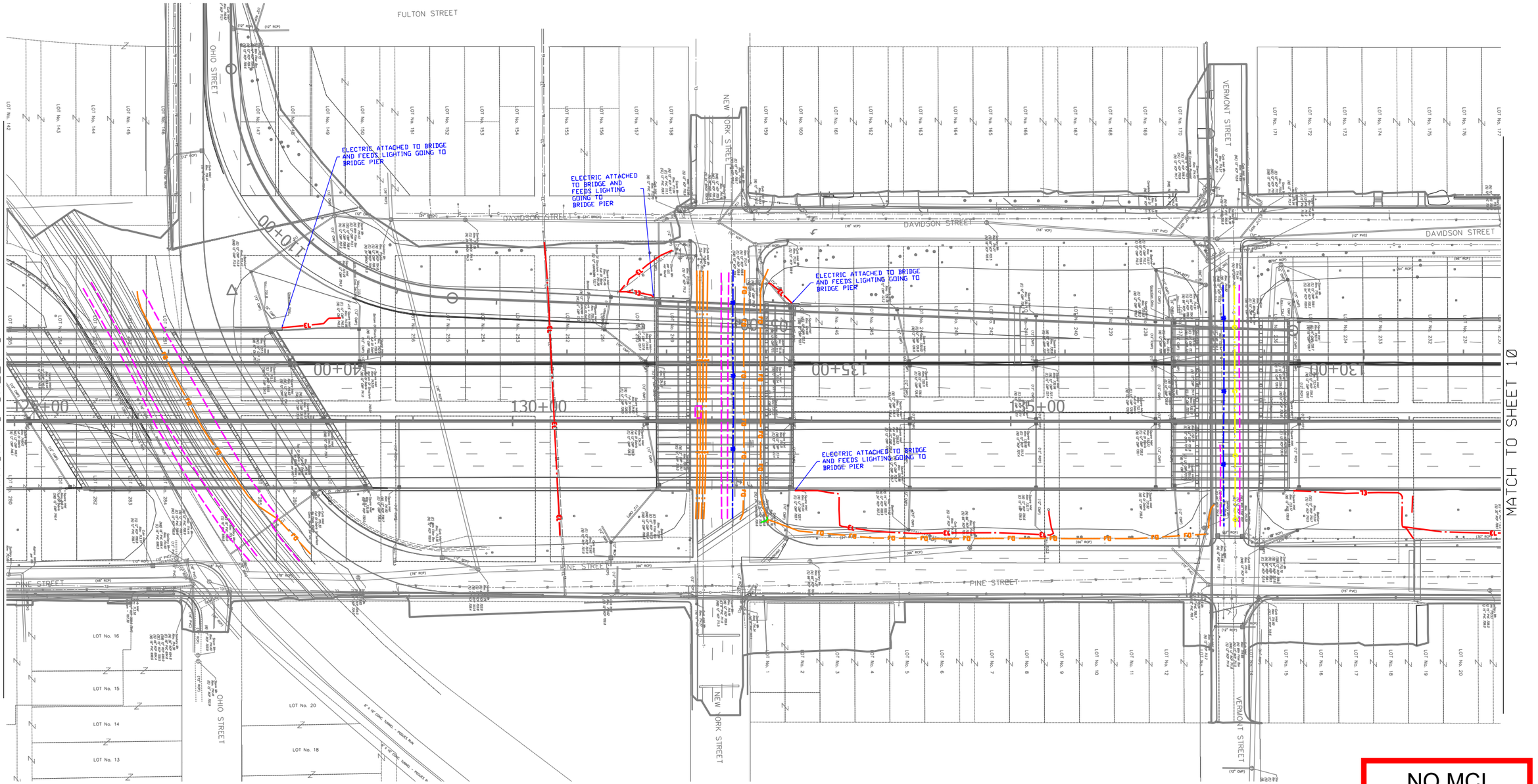

LEGEND

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KENNETH F. SLANINKA JR. REGISTERED No. PE19500370 STATE OF IND. IANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Kenneth F. Slaninka Jr. 6-04-19
DESIGN ENGINEER — DATE

DESIGNED: KFS | DRAWN: KLC
CHECKED: CAA | CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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MATCH TO SHEET 9

MATCH TO SHEET 11

MICHIGAN STREET

NORTH STREET

WALNUT STREET

DAVIDSON STREET

PINE STREET

LOT No. 1

LOT No. 2

LOT No. 3

LOT No. 4

LOT No. 5

105+00

110+00

115+00

120+00

125+00

140+00

145+00

150+00

LEGEND

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KENNETH F. SLANINKA JR. REGISTERED No PE19500370 STATE OF INDIANA PROFESSIONAL ENGINEER

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DESIGN ENGINEER DATE

DESIGNED: KFS DRAWN: KLC
CHECKED: CAA CHECKED: KFS

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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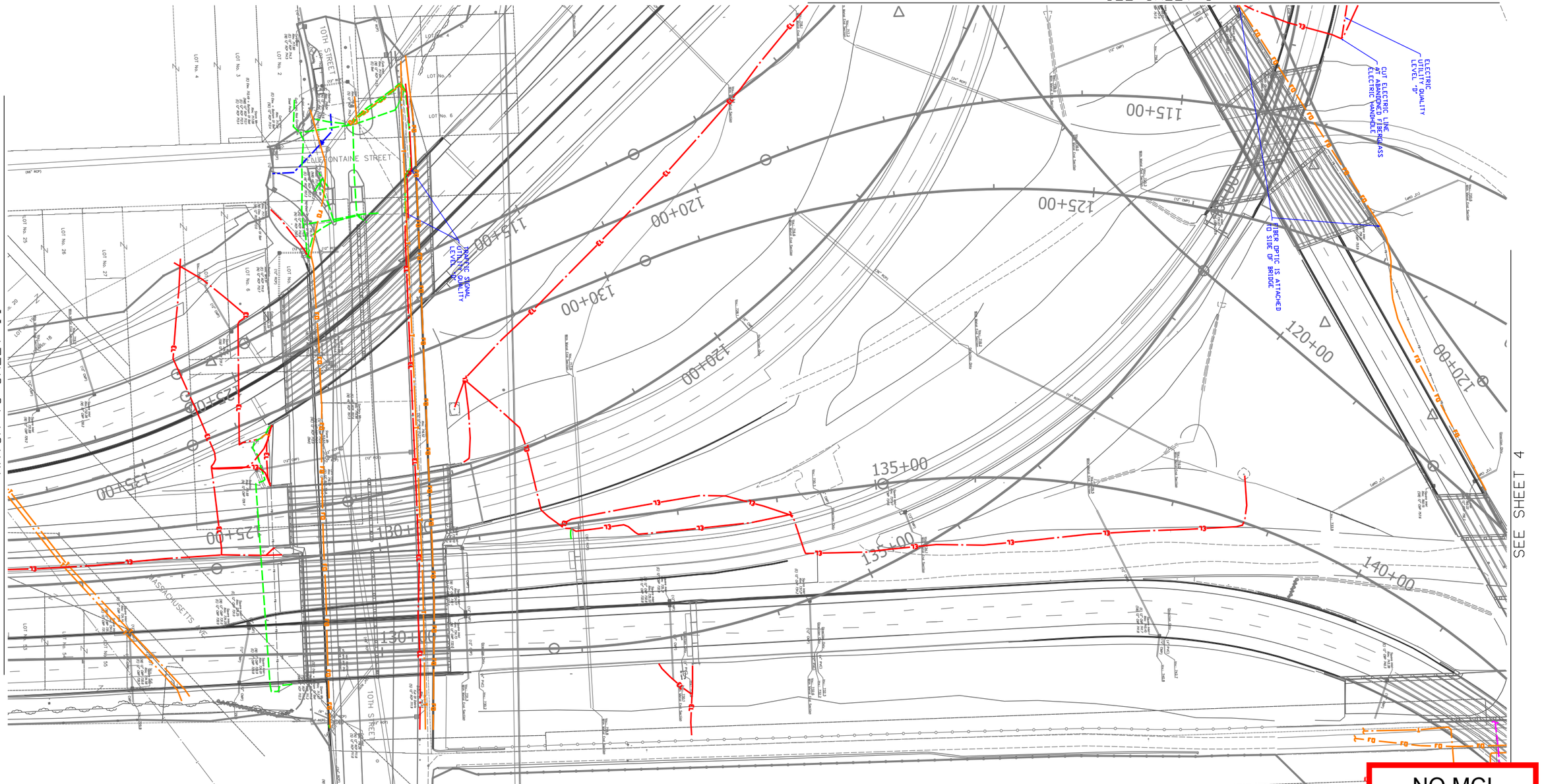

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RECOMMENDED FOR APPROVAL	Kenneth F. Slaninka Jr. DESIGN ENGINEER	6-04-19 DATE	
DESIGNED: KFS	DRAWN: KLC		
CHECKED: CAA	CHECKED: KFS		

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
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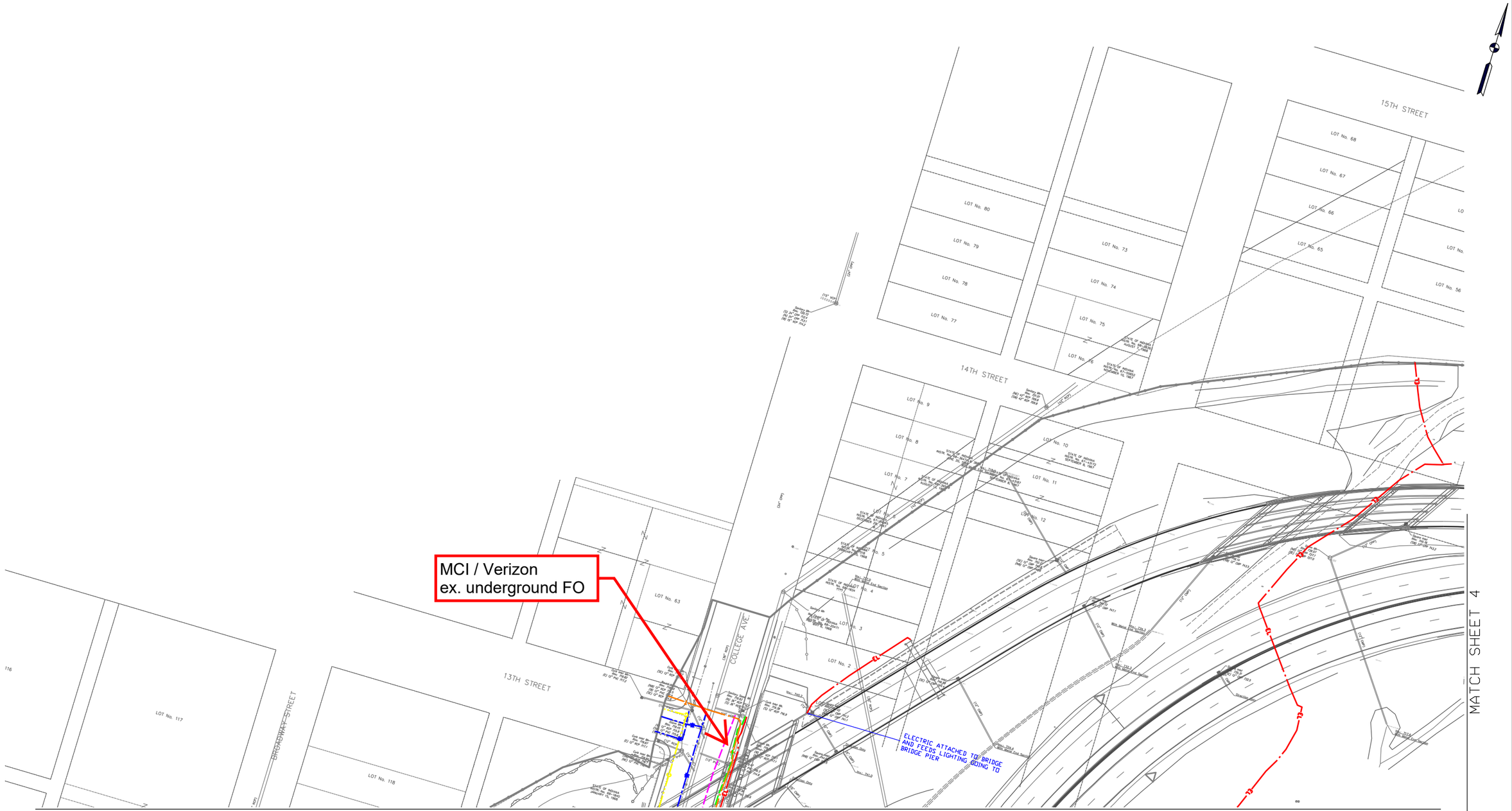

LEGEND

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RECOMMENDED FOR APPROVAL: Kenneth F. Slaninka Jr. 6-04-19 (DESIGN ENGINEER / DATE)

DESIGNED: KFS | DRAWN: KLC

CHECKED: CAA | CHECKED: KFS

Cardno

SUBSURFACE UTILITY INVESTIGATION

I-65 / I-70 NORTH SPLIT
INDIANAPOLIS, IN

HORIZONTAL SCALE	CARDNO PROJ # IN09501501
1" = 100'	DES NO: 1592385
CONTRACT	SHEETS
O180303a	13 of 13

Date: February 19, 2020

Subject:

Utility Relocation Work Plan for:	Crown Castle
Facility Type:	Telecommunications/Fiber Optic cable

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Craig Brown
2.	Office telephone:	317-819-8648
3.	Mobile telephone:	585-402-8342
4.	Email address:	Craig.Brown@CrownCastle.com
5.	Agency name	Crown Castle
6.	Address:	800 Oliver avenue, suite 1
7.	City, State, Zip Code:	Indianapolis IN 46225
8.	Construction Emergency Contact:	
	Name:	Crown Castle Fiber NOC
	Number:	1-855-93-FIBER(3-4237)

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative

Print Name

Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this

form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.
There is an active fiber optic line attached to IPL poles at St. Clair and Davidson. There are underground conduits and fiber optic cables at the multiple intersections

B. Describe the location of existing active and inactive facilities.
Aerial Cable and down guy at the intersection of Davidson and St. Clair.
Underground conduits and fiber cable at Washington street and I65/I70
Underground conduits and fiber cable at E Market and I65/I70
Underground conduits and fiber cable at N Alabama and I65

C. Describe what will be done with existing active and inactive facilities.
The existing down guy at IPL pole 102-507B (NE corner) will be disconnect and attached to the new pole on the SE corner of St. Clair and Davidson
All underground conduits and fiber cable are to stay in place with minor adjustments as needed.

D. Describe the details of the proposed new facilities.
NA

Crown Castle will relocated aerial facilities attached to IPL poles as a type 1 relocation for the St. Clair crossing and the Myron St. crossing. Any other relocation necessary for the project will be handled via a Type 2 utility relocation.

E. Describe the proposed location of the new facilities.
NA

Crown Castle will relocated aerial facilities underground on a similar alignment to existing aerial lines.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on **<Enter Date Received Plans>**

CROWN CASTLE | FIBER

Signature of Utility Representative

CRAIG BROWN 2/19/20
Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

Crown Castle will coordinate work with IPL to avoid conflicts with proposed relocations.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

No

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Signature of Utility Representative

Date

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature

Date

Utility Coordinator Name Printed

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature)

Date

Project Manager Name Printed (LPA Project – ERC Name Printed)


247-507B
244-507B
243507B
102-507B
437-507B
122'
145'
60'
258'
E St Clair St
E St Clair St
E St Clair St
E St Clair St
N Davidson St
N Davidson St
Spanid: 54076 | 192 ct | Lightower/Fibertech
IPL pole and Crown Castle strand to be removed
New IPL pole
Hogan Transfer & Storage Corporation
Mayflower
E Walnut St
E Walnut St
70
65
65
65
70


CHH
STUB POLE
65537A
588537A
587537A
FIBERTECH HANDHOLE
A
P
102'
79'
185'
79'
79'
354'
282'
532'
903'
379'
E Market St
E Washington St
N Davidson St
Pine St
Cruse St
Herman St
Aerospace Products
BSU CAP. INDY
Sanitary Diner
blueindy Charging Station
933 E Market St Parking
1023 E Market St Parking
Angie's list Carriage House
902 E Washington St Parking
922 E Washington St Parking
1002 E Washington St Parking
Elite Back and Body
730 E Washington St Parking
705 E Market St Parking
700-740 E Market St Parking
Marion County Jail II


207-506A
134'
E 12th St
N Hudson St
277 E 12th St Parking
240-506A
ADELPHIA
HANDHOLE
170'
78'
240-506A
N Oxford St
N New Jersey St
Peck St
Central Ave
Indiana Landmarks
N Alley 550 E
415'
65
113
1102 N New
Jersey St Parking
Apollo & Aurora
Apartments
Lew White Tours
cmcglobal
20506A
ADELPHIA
HANDHOLE
20506A
151'
NT
11th St
Esthenik Skin by Nicole
TruReflection Salon
Indy Hound
Webb Capital
Management
Litz Real Estate
110 E Central
Ave Parking
542 E 11th St Parking

INDIANA UNIVERSITY

DATE: 11/22/2019

SUBJECT: **Utility Relocation Work Plan for:** Indiana University Fiber
Facility Type: Underground Fiber Optic Cable

SECTION 1: **GENERAL INFORMATION**

A. INDOT/LPA Project Information

1. DES NO: 1600808
2. Project Number: I-65/I-70 (North Split) Interchange
3. Location: I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4. Work Type: Reconstruction
5. Letting Date: N/A
6. Date work plan needed: 10/18/2019
7. Target date for utility to be out of conflict with project:
   a. Intermediate Phase/segment and location: n/a
   b. Intermediate Phase/segment and location: n/a

B. Utility Designated Contact Information

1. Person name: Pankaj K. Patel, PE
2. Office phone: 812-855-7894
3. Mobile phone:
4. Email address: ppatel@indiana.edu
5. Agency name: Director of Engineering Services, Capital Planning and Facilities
   Indiana University
6. Address: 1800 N Range Road
7. City, State, Zip: Bloomington, IN 47405
8. Construction Emergency Contact:
   a. Name: Thomas "Ben" Cockrum, RCDD
   b. 24-hr number: 24 Hour NOC: 317-274-7788 mobile: 317-446-3764

C. By signing here, the Utility has determined to the best of their ability that they **DO NOT** have facilities within the project area:

Signature of Utility Representative | Print Name | Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

N/A

B. Describe the location of existing active and inactive facilities.

N/A

C. Describe what will be done with existing active and inactive facilities.

N/A

D. Describe the details of the proposed new facilities.

N/A

E. Describe the proposed location of the new facilities.

N/A

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on **<Enter Date Received Plans>**

N/A

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

N/A

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

N/A

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

N/A

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
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A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

   N/A

2. Utility B, with a description of the required work.

   N/A

3. Utility C, with a description of the required work.

   N/A

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

   N/A

2. Work item B

   N/A

3. Work item C

   N/A

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work:Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

P. K. Patel
Signature of Utility Representative

11.26.2019
Date

P. K. PATEL
Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

_____ _____

Utility Coordinator Signature Date

_____

Utility Coordinator Name Printed

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

_____ _____

Project Manager Signature (LPA Project – ERC Signature) Date

_____

Project Manager Name Printed (LPA Project – ERC Name Printed)

Date:

Subject:

Utility Relocation Work Plan for:	
Facility Type:	

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	
2.	Office telephone:	
3.	Mobile telephone:	
4.	Email address:	
5.	Agency name	
6.	Address:	
7.	City, State, Zip Code:	
8.	Construction Emergency Contact:	
	Name:	Bobby Akhter
	Number:	1 (630)390-0089

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

Signature of Utility Representative

Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present. AT&T/TCA has a buried fiber cable under the interstate on Washington St.

B. Describe the location of existing active and inactive facilities. Along Washington on the south side of E. Washington ST.

Aerial cable line attached to IPL poles just west of Davidson ST and running north and south.

C. Describe what will be done with existing active and inactive facilities. We will locate during construction and move if necessary. We have working fibers in the cable that must remain active.

D. Describe the details of the proposed new facilities. We will replace conduit of approx. 400' and cable of approx.. 700' if we must move to stay active. Cost if relocation is necessary would be approx.. $25,000.00.

E. Describe the proposed location of the new facilities. It will be in the same general area.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on **<Enter Date Received Plans>**

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)] No, it is important that AT&T does any work necessary to relocate cable

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	30
B.	The expected lead time in calendar days to obtain materials:	30
C.	The expected lead time in calendar days to schedule work crews:	30
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

Jim Everett
Signature of Utility Representative

02/21/2020
Date

JIM EVERETT 770-335-9815
Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed)

Date:

Subject:

Utility Relocation Work Plan for:	Purdue- Ilight
Facility Type:	Fiber Optic Communications cable

Section 1: General Information

A. INDOT/LPA Project Information

1.	DES NO.:	1600808
2.	Route Number:	I-65/I-70 (North Split) Interchange
3.	Location:	I-65 RP 111+0.16 to RP 112+0.94 I-70 RP 81+0.72 to RP 83+0.67
4.	Work Type:	Reconstruction
5.	Letting Date:	N/A
6.	Date Work Plan Needed	10/18/2019
7.	Target Date for Utility to be out of conflict with INDOT Project	
	Intermediate Phase	N/A
	Intermediate Phase	N/A

B. Utility Designated Contact – Information

1.	Designated Contact Name:	Chris Teague
2.	Office telephone:	765-496-7914
3.	Mobile telephone:	765-357-1471
4.	Email address:	cmteague@purdue.edu
5.	Agency name	Purdue University- ILight
6.	Address:	191 N. University St
7.	City, State, Zip Code:	West Lafayette, IN 47907
8.	Construction Emergency Contact:	
	Name:	
	Number:	

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:



Signature of Utility Representative

Christopher M Teague 2/26/2020

Print Name Date

Note: A signature by the utility representative at item "(C)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct

D. INDOT/LPA Utility Coordinator Contact Information

1.	Utility Coordinator Name:	Doug Garvin
2.	Office Telephone:	317-917-5263
3.	Mobile Telephone:	N/A
4.	Email Address:	dgarvin@hntb.com
5.	Agency Name:	HTNB Indiana, Inc.
6.	Address:	111 Monument Circle, Suite 1200
7.	City, State, Zip Code	Indianapolis, IN 46204

Section 2: A narrative description of existing facilities within the project limits and any facility relocation that will be required. [IAC 13-3-3(c)]

A. Describe what types of existing active and inactive facilities are present.

B. Describe the location of existing active and inactive facilities.

C. Describe what will be done with existing active and inactive facilities.

D. Describe the details of the proposed new facilities.

E. Describe the proposed location of the new facilities.

F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on <**Enter Date Received Plans**>

Signature of Utility Representative Print Name Date

Note: A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.

Section 3: A statement whether the facility relocation is or is not dependent on the acquisition of additional property interests with a description of that work. [IAC 13-3-3(c) (2) (B)]

Section 4: A statement whether the utility is or is not willing to allow the INDOT contractor to do the required work as part of the highway contract. [IAC 13-3-3(c) (3)]

Section 5: From the date the work plan is approved by both parties; please provide the Utility's pre-construction scheduling information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A.	The expected lead time in calendar days to obtain required permits:	Enter Total Days
B.	The expected lead time in calendar days to obtain materials:	Enter Total Days
C.	The expected lead time in calendar days to schedule work crews:	Enter Total Days
D.	If the contractor is being selected by competitive bid what is the date of selection?	Enter Bid Date
E.	The expected lead time in calendar days to obtain new property interests:	Enter Days
F.	The earliest date when the utility could begin to implement the pre-construction activities of the work plan:	Enter Date
G.	The total number of calendar days for pre-construction activities: (accounting for concurrent activities)	Enter Total Days

Section 6: The Utility Construction Scheduling Information. [IAC 13-3-3(c) (4), IAC 13-3-3(c) (5)]

A. A statement whether the facility relocation is or is not dependent on work to be done by another utility with a description of that work. [IAC 13-3-3(c)(2)(A)(i)]

1. Utility A, with a description of the required work.

2. Utility B, with a description of the required work.

3. Utility C, with a description of the required work.

B. A statement whether the facility relocation is or is not dependent on work to be done by the department or the department's contractor with a description of that work. [IAC 13-3- 3(c)(2)(A)(ii)]

1. Work item A

2. Work item B

3. Work item C

C. How many calendar days after the events identified in Sec 6 A and B are completed can the utility begin construction: Enter Total Days

D. The number of calendar days to complete the relocation work: Enter Total Relocation Days

Section 7: A drawing of sufficient detail with station, offset, elevations, and scale to show the proposed location of the facility relocation, which takes precedence over the narrative description of the work, needs to be on INDOT Construction drawings. [IAC 13-3-3(c) (6)]. Plans must be attached to this Work Plan Document.

Section 8: For each work plan the utility shall include a cost estimate for the facility relocation. For reimbursable work the estimate will identify betterment and salvage which is not reimbursable. [IAC 13-3-3(d)]

Section 9: For work the utility is entitled to be compensated by the Department, the work plan shall include documentation of property interests and compensable land rights. [IAC 13-3-3(d)]

Section 10: The implementation of this approved work plan is dependent upon the issuance of: (a notice to proceed will be provided when items in Section 6 are accomplished)

Items Completed	Yes	Not Applicable
An executed reimbursement agreement with INDOT/LPA:	☐	☐
A relocation permit from INDOT/LPA:	☐	☐

(Note: Double-click on box in Yes or NA to mark it with an "X")

_____ _____

Signature of Utility Representative Date

_____

Utility Representative Name Printed

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

INDOT/LPA use only below this point ---------- INDOT/LPA use only below this point

The following sections are to be used by INDOT personnel to review the utility relocation work plan.

Section 11: The Department shall review the work plan to ensure that it: [IAC 13-3-3(e)]

Description	Yes	N/A	Utility Coordinator Initials
(1.a) is compatible with department permit requirements	☐	☐	
(1.b) is compatible with the project plans	☐	☐	
(1.c) is compatible with the construction schedule	☐	☐	
(1.d) is compatible with other utility relocation work plans	☐	☐	
(2.a) has reasonable relocation scheme	☐	☐	
(2.b) has a reasonable cost for compensable work	☐	☐	

(**Note**: Double-click on box under Yes or N/A to mark it with an "X")

Utility Coordinator Signature _____ Date _____

Utility Coordinator Name Printed _____

Section 12: Approved Work Plan. [IAC 13-3-3(f)]

I have reviewed the work plan and have been made aware of the schedule and budget.

Project Manager Signature (LPA Project – ERC Signature) _____ Date _____

Project Manager Name Printed (LPA Project – ERC Name Printed) _____

RAILROAD INFORMATION

The State of Indiana Standard Specifications are revised as follows:

SECTION 103, LINE 553 DELETE AND INSERT AS FOLLOWS:

103.03 *Railroad Provision*

This project requires work to be done on or in the vicinity of railroad property. Railroad Protective Liability Insurance shall be required. Unique insurance requirements for this contract are included in Section 107.09 and shall be complied with in addition to the requirements of Section 103.04.

SECTION 107.09, AFTER LINE 388, INSERT AS FOLLOWS:

(c) Railroad Information

All work on or in the vicinity of the railroad(s)' right-of way shall be subject to and governed by the provisions titled "PROTECTION OF RAILWAY INTEREST". The railroad information contained therein pertaining to rate of pay and additional charges applied to payment for persons performing flagging services, number of trains, and speed of trains, was furnished by the Railroad Company(s). This information shall be verified in order to determine costs for the contract.

PROTECTION OF RAILROAD INTEREST

CSX Transportation

1. AUTHORITY OF RAILROAD ENGINEER AND STATE ENGINEER:

The authorized representative of the Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of this Company including the adequacy of the foundations and structures supporting the Railroad tracks.

The authorized representative of the State, hereinafter referred to as the Engineer, shall have authority over all other matters as prescribed herein and in the Project Specifications.

2. NOTICE OF STARTING WORK:

A. The Contractor shall obtain from the Railroad the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. This information will be provided by the Railroad representative attending the Preconstruction Conference. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

B. The Contractor shall not commence any work on Railroad rights of way until he has complied with the following conditions:

1. Given written notice to the General Engineering Consultant (GEC) who has been designated to be in charge of the work, with copy to the Railroad at the address below, at least fourteen (14) days in advance of the date contractor proposes to begin work on Railroad rights of way. If flagging service may be required such notice shall be submitted at least 30 days in advance of the date contractor proposes to begin work on Railroad rights of way.

Director of Construction Engineering
Design, Construction and Capacity
CSX Transportation, Inc.
3131A Spring Grove Avenue
Cincinnati, OH 45225
Telephone: (513)853-1223 (office)

2. Obtain written approval from the Railroad of Railroad Protective Insurance coverage as required by paragraph 13 herein.

3. Furnish a schedule for all work within the Railroad rights-of-way.

3. INTERFERENCE WITH RAILROAD OPERATIONS

The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad Company or to poles, wires, and other facilities of tenants on the rights-of-way of the Railroad Company.

Whenever work is liable to affect the operations or safety of trains the method of doing work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service shall be deferred by the Contractor until the flagging service or inspection service required by the Railroad is available at the job site.

A. Whenever work within Railroad rights-of-way is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

B. Should conditions arise from, or in connection with the work, require that immediate and unusual provisions be made to protect operation and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence the Engineer, such provisions are insufficient, either may require or provide such provisions as he deems necessary. In any event, such unusual provisions shall be at the Contractors expense and without cost to the Railroad or Department.

4. TRACK CLEARANCES:

A. The minimum track clearances to be maintained by the Contractor during construction, unless otherwise shown on the Project plans, shall be:

Vertical: Twenty-two (22'-0") feet from top of highest rail.

Lateral: Thirteen feet (13'-0") from centerline of nearest tangent track,
or fourteen feet (14’-0”) from centerline of nearest curved track.

However, before undertaking any work within Railroad right of way, or before placing any obstruction over any track, the Contractor shall:

1. Notify the Railroad's representative at least 72 hours in advance of the work.

2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as may be necessary.

3. Receive permission from the Railroad's representative to proceed with the work.

4. Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

B. The Contractor shall prepare and submit to the Railroad a drawing indicating actual clearances as constructed.

5. CONSTRUCTION PROCEDURES:

A. General:

Construction work on Railroad property shall be:

1. Subject to the inspection and approval of the Railroad.

2. In accord with the Railroad's written outline of specific conditions and the attached Appendix A and Appendix B.

3. In accord with the Railroad’s general rules, regulations and requirements including those related to safety, fall protection and protective equipment

4. In accord with these Special Provisions and the Indiana Department of Transportation Standard Specifications.

B. Excavation:

The subgrade of an operated track shall be maintained with edge of berm at least 10'0" from centerline of track and not more than 24 inches below top of rail. The Contractor will not be required to make existing section meet this specification if substandard, in which case existing section will be maintained.

C. Construction Submission Criteria

Information concerning Excavation for Structures, Protection from Falling Debris and Demolition, Erection, Hoisting is located on the CSX web site (csx.com).

Means and methods of performing work shall conform to CSXT CONSTRUCTION SUBMISSION CRITERIA, issued February 23, 2015 or after

All submittals for Shoring, Demolition of Existing Structures or Erection Procedure are to be prepared, signed and sealed by a Registered Professional Engineer and are to be submitted to *the* General Engineering Consultant (GEC) who has been designated to be in charge of the work. If no GEC has been assigned by the Railroad, all submittals shall be directed to:

Director of Construction Engineering
Design, Construction and Capacity
CSX Transportation, Inc.
3131A Spring Grove Avenue
Cincinnati, OH 45225
Telephone: (513)853-1223 (office)

D. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosive on or adjacent to Railroad property. If permission for use of explosives is granted, the Contractor will be required to comply with the following:

   (a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor.

   (b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

   (c) No blasting shall be done without the presence of an authorized representative of the Railroad. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2B above) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.

   (d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.

2. The Railroad representative will:

   (a) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean up.

   (b) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these special provisions.

E. Maintenance of Railroad Facilities:

The Contractor shall at all times maintain a system to allow proper drainage through the construction area.

The Contractor shall submit to the Railroad a proposed method of erosion control and must have written approval from the Railroad prior to beginning any excavation or grading on Railroad property or which affects Railroad property.

No material shall be permitted to fall on track roadbed. Ballast protection will be required in accordance to the CSX Criteria for Overhead Bridges, September 14, 2007 and Construction Submission Criteria, February 23, 2015. A detail for ballast protection can be provided as part of the Beam Erection Procedure submittal.

The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions, which may result from his operations; to promptly repair eroded areas within Railroad rights of way and to repair any other damage to the property of the Railroad or its tenants.

All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

F. Storage of Materials and Equipment:

Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights of way of the Railroad company without first having obtained permission from the Railroad engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all loss, costs, expenses, claim or liability for loss of or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

G. Cleanup:

Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights of way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

6. FLAGGING SERVICES:

A. When Required:

Under the terms of the agreement between the Department and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be whenever the Contractor's men or equipment are, or are likely to be, working on the Railroad's right-of-way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.

B. Scheduling and Notification:

A minimum of thirty (30} days before commencement of any work on Railroad right-of-way, or of any work not on railroad right-of-way that may have the potential to foul Railroad operating clearances, the contractor must contact the Railroad for ordering a flagger for the first time. Flaggers will not be dispatched until initiation and approval of a billing account. Reimbursement is required for a full 8-hour day for any flagman furnished. In the event that a flagman is required for more than an 8-hour day, reimbursement will be at one and one half times the hourly rate in excess of 8 hours, Monday through Friday. Actual costs for travel, meals, lodging and transportation will be billed at actual costs. Flagging requests should be arranged through the below listed person or, preferably, to avoid delays, through the contacts provided to the Contractor by the Railroad at the Preconstruction Conference.

Director of Construction Engineering
Design, Construction and Capacity
CSX Transportation, Inc.
3131A Spring Grove Avenue
Cincinnati, OH 45225
Telephone: (513)853-1223 (office)

C. Payment:

The Department will reimburse the Railroad Company directly for all cost of flagging which is required on account of construction of the project, within Railroad Company's right-of-way, which is shown in the project plans, or which is covered by an approved plan revision, supplemental agreement or change order. Any flagging cost deemed to be caused by acts of omission, carelessness, or negligence or unnecessary delays by the Contractor will also be borne by the Department but will be deducted from progress or final payment made to the Contractor. However, this deduction will be made only after written notification has been given the Contractor by the highway engineer that these flagging costs have been determined to be the Contractor’s responsibility. The Contractor will be required to reimburse the Railroad Company for any flagging required on account of work for the benefit of the Contractor, (See Paragraph 7). This includes the flagging required solely for protection of a temporary crossing constructed for the benefit of the Contractor. The Contractor shall be responsible for determining the costs for flagging protection.

D. Verification:

The Railroad flagman assigned to the project will be responsible for notifying the Project Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin, and on the last day that he performs such services for each separate period that services are provided. The Project Engineer will document such notification in the project records. When requested, the Project Engineer will also sign the flagman’s diary or report of flagging form showing daily time spent and activity at the project site. The project work and procedures must be discussed daily with the CSXT Flagman and be a part of the daily Job Briefing.

7. HAUL ACROSS RAILROAD

A. Where plans show or imply that materials of any nature must be hauled across a Railroad, unless the plans clearly show that the Department has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor will be required to make all costs incidental to such crossings whether services are performed by his own forces or by Railroad personnel.

B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad Company until a private crossing agreement, for the Contractors installation, maintenance, necessary watching and flagging thereof and removal, has been executed between the Contractor and the Railroad.

8. WORK FOR THE BENEFIT OF THE CONTRACTOR:

A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the State and the Railroad or will be covered by appropriate revisions to same which will initiated and approved by the State and/or the Railroad.

B. Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor’s expense.

9. COOPERATION AND DELAYS:

A. It shall be the Contractor’s responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

B. No charge or claims of the Contractor against either the Department or the Railroad Company will be allowed for hindrance or delay on account of railway traffic; any work done by the Railway Company or other delay incident to or necessary for safe maintenance of railway traffic or for any delays due to compliance with these special provisions.

10. TRAINMAN'S WALKWAYS:

Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 10' from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each work day. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed.

11. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHT-OF-WAY:

A. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Safety boots are strongly recommended.

B. No one is allowed within 25’ of the centerline of track without specific authorization from the flagman.

C. All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.

D. No one is allowed to cross tracks without specific authorization from the flagman.

E. All welders and cutting torches working within 25’ of track must stop when train is passing.

F. No steel tape or chain will be allowed to cross or touch rails without permission.

12. GUIDELINES FOR EQUIPMENT ON RAILROAD RIGHT-OF-WAY:

A. No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15’ of center line of track without specific permission from railroad official and flagman.

B. No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

C. All employees will stay with their machines when crane or boom equipment is pointed toward track.

D. All cranes and boom equipment under load will stop work while train is passing (including pile driving).

E. Swinging loads must be secured to prevent movement while train is passing.

F. No loads will be suspended above a moving train.

G. No equipment will be allowed within 25’ of centerline of track without specific authorization of the flagman.

H. Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman.

I. No equipment or load movement within 25’ or above a standing train or railroad equipment without specific authorization of the flagman.

J. All operating equipment within 25’ of track must halt operations if the flagman views the operation to be dangerous to the passing train.

K. All equipment, loads and cables are prohibited from touching rails.

L. While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.

M. No equipment or materials will be parked or stored on Railroad's property unless specific authorization is granted from the Railroad Engineer.

N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it can not be moved by unauthorized persons.

O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

13. INSURANCE:

A. The Contractor will be required to carry insurance in accordance with 103.04 of the Standard Specifications and the Railroad's requirements. In the event this project is awarded to a "joint venture" all insurance, except workman's compensation, shall be carried in the name of the joint venture.

Evidence of insurance as required above shall be furnished to the address shown. The original policies, or certificates, shall be sent to the railroad for its' review. Copies of the transmittal letter and the policies or certificates shall be forwarded to the Department.

Department:	Railroad:
Indiana Dept. of Transportation Construction Contracts Manager Government Center North 100 N. Senate Avenue N725 Indianapolis, IN 46204-2219	SEE ATTACHMENT "A"

Trains will be operated at a maximum speed of 60 mph through the improvement. The number of trains through the improvement will be freight and passenger trains daily.

The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

(a) Named Insured: SEE ATTACHMENT "A"

(b) Description and Designation:

Indiana Department of Transportation Contract:

B. If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the Prime Contractor shall be provided by or in behalf of the subcontractor to cover his operations. Endorsements to the Prime Contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

C. All insurance herein before specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the rights of way of the Railroad as evidenced by the formal acceptance by the Department. Insuring Companies may cancel insurance by permission of the Department and Railroad or on thirty (30) days written notice to the Railroad and copied to the Indiana Department of Transportation at the same addresses shown in Par. A above.

14. FAILURE TO COMPLY:

In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:

A. The Railroad Engineer may require that the Contractor vacate Railroad property.

B. The Engineer may withhold all monies due the Contractor on monthly statements.

Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

15. PAYMENT FOR COST OF COMPLIANCE:

No separate payment will be made for any extra cost incurred on account of compliance with these special provisions. All such cost shall be included in prices bid for other items of the work as specified in the payment items.

ATTACHMENT "A"

INSURANCE REQUIREMENTS

I. Insurance Policies:

Agency and Contractor, if and to the extent that either is performing work on or about CSXT's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than $5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured. The policy shall include endorsement ISO CG 24 17 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.

2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than $1,000,000, which insurance must contain a waiver of subrogation against CSXT and its affiliates (if permitted by state law).

3. Commercial automobile liability insurance with limits of not less than $1,000,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured. The policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.

4. Railroad protective liability insurance with limits of not less than $5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of $10,000,000, which insurance shall satisfy the following additional requirements:

   a. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.

   b. CSX Transportation must be the named insured on the Railroad Protective Insurance Policy.

   c. Name and Address of Contractor and Agency must appear on the Declarations page.

   d. Description of operations must appear on the Declarations page and must match the Project description.

   e. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.

   f. Authorized endorsements may include:

      (i). Broad Form Nuclear Exclusion - IL 00 21
      (ii) 30-day Advance Notice of Non-renewal or cancellation
      (iii) Required State Cancellation Endorsement
      (iv) Quick Reference or Index - CL/IL 240

   g. Authorized endorsements may not include:

(i) A Pollution Exclusion Endorsement except CG 28 31
(ii) A Punitive or Exemplary Damages Exclusion
(iii) A "Common Policy Conditions" Endorsement
(iv) Any endorsement that is not named in Section 4 (e) or (f) above.
(v) Policies that contain any type of deductible

5. All insurance companies must be A. M. Best rated A- and Class VII or better.

6. The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or certificates of insurance.

7. Such additional or different insurance as CSXT may require.

II. Additional Terms

1. Contractor must submit the original Railroad Protective Liability policy, Certificates of Insurance and all notices and correspondence regarding the insurance policies to:

Insurance Department
CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202

OR

insurancedocuments@csx.com

2. Neither Agency nor Contractor may begin work on the Project until it has received CSXT's written approval of the required insurance.

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Appendix A

CSX TRANSPORTATION

CONSTRUCTION SUBMISSION CRITERIA

CSXT Design and Construction
Public Projects Group
Jacksonville, FL
Date Issued: February 23, 2015

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INTRODUCTION

The intent of this document is to guide outside agencies and their Contractors when performing work on, over, or with potential to impact CSXT property (ROW). Work plans shall be submitted for review to the designated CSXT Engineering Representative for all work which presents the potential to affect CSXT property or operations; this document shall serve as a guide in preparing these work plans. All work shall be performed in a manner that does not adversely impact CSXT operations or safety; as such, the requirements of this document shall be strictly adhered to, in addition to all other applicable standards associated with the construction. Applicable standards include, but are not limited to, CSXT Standards and Special Provisions, CSXT Insurance Requirements, CSXT Pipeline Occupancy Criteria, as well as the governing local, county, state and federal requirements. It shall be noted that this document and all other CSXT standards are subject to change without notice, and future revisions will be made available at the CSXT website: www.csx.com.

I. DEFINITIONS

1. **Agency –** The project sponsor (i.e. State DOT, Local Agencies, Private Developer, etc.)
2. **AREMA –** American Railway Engineering and Maintenance-of-Way Association – the North American railroad industry standards group. The use of this term shall be in specific reference to the AREMA Manual for Railway Engineering.
3. **Construction Submission –** The Agency or its representative shall submit six (6) sets of plans, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All plans, specifications, and supporting calculations shall be signed/sealed by a Professional Engineer as defined below.
4. **Controlled Demolition –** Removal of an existing structure or subcomponents in a manner that positively prevents any debris or material from falling, impacting, or otherwise affecting CSXT employees, equipment or property. Provisions shall be made to ensure that there is no impairment of railroad operations or CSXT's ability to access its property at all times.
5. **Contractor –** The Agency's representative retained to perform the project work.
6. **Engineer –** CSXT Engineering Representative or a GEC authorized to act on the behalf of CSXT.
7. **Flagman –** A qualified CSXT employee with the sole responsibility to direct or restrict movement of trains, at or through a specific location, to provide protection for workers.
8. **GEC –** General Engineering Consultant who has been authorized to act on the behalf of CSXT.
9. **Horizontal Clearance –** Distance measured perpendicularly from centerline of any track to the nearest obstruction at any elevation between TOR and the maximum vertical clearance of the track.

10. **Professional Engineer –** An engineer who is licensed in State or Commonwealth in which the project is to occur. All plans, specifications, and supporting calculations shall be prepared by the Licensed Professional Engineer and shall bear his/her seal and signature.

11. **Potential to Foul –** Work having the possibility of impacting CSXT property or operations; defined as one or more of the following:

    a. Any activity where access onto CSXT property is required.

    b. Any activity where work is being performed on CSXT ROW.

    c. Any excavation work adjacent to CSXT tracks or facilities, within the Theoretical Railroad Live Load Influence Zone, or where the active earth pressure zone extends within the CSXT property limits.

    d. The use of any equipment where, if tipped and laid flat in any direction (360 degrees) about its center pin, can encroach within twenty five feet (25’-0”) of the nearest track centerline. This is based upon the proposed location of the equipment during use, and may be a function of the equipment boom length. Note that hoisting equipment with the potential to foul must satisfy the 150% factor of safety requirement for lifting capacities.

    e. Any work where the scatter of debris, or other materials has the potential to encroach within twenty five feet (25’-0”) of the nearest track centerline.

    f. Any work where significant vibration forces may be induced upon the track structure or existing structures located under, over, or adjacent to the track structure.

    g. Any other work which poses the potential to disrupt rail operations, threaten the safety of railroad employees, or otherwise negatively impact railroad property, as determined by CSXT.

12. **ROW –** Right of Way; Refers to CSXT Right-of-Way as well as all CSXT property and facilities. This includes all aerial space within the property limits, and any underground facilities.

13. **Submission Review Period -** a minimum of sixty (60) days in advance of start of work. Up to sixty (60) days will be required for the initial review response and resubmission of stage 3 plans. Up to ninety (90) days will be required for the initial review response of Railroad Agreement. Up to an additional thirty (30) days may be required to review any/all subsequent submissions or resubmission.

14. **Theoretical Railroad Live Load Influence Zone –** A 1½ horizontal to 1 vertical theoretical slope line starting 18 inches (1'-6") below top of tie elevation and twelve feet (12'-0") from the centerline of the nearest track.

15. **TOR –** Top of Rail. This is the base point for clearance measurements. It refers to the crown (top) of the steel rail; the point where train wheels bear on the steel rails.

16. **Track Structure –** All load bearing elements which support the train. This includes, but is not limited to, the rail, ties, appurtenances, ballast, sub-ballast, embankment, retaining walls, and bridge structures.

17. **Vertical Clearance –** Distance measured from TOR to the lowest obstruction within six feet (6’-0”) of the track centerline, in either direction.

II. GENERAL SUBMISSION REQUIREMENTS

A. A construction work plan is required to be submitted by the Agency or its Contractor, for review and acceptance, prior to accessing or performing any work with Potential to Foul.

B. The Agency or its representative shall submit six (6) sets of plans, specifications, supporting calculations, and detailed means and methods procedures for the specific proposed work activity.

C. Construction submissions shall include all information relevant to the work activity, and shall clearly and concisely explain the nature of the work, how it is being performed, and what measures are being taken to ensure that railroad property and operations are continuously maintained.

D. All construction plans shall include a map of the work site, depicting the CSXT tracks, the CSXT right of way, proposed means of access, proposed locations for equipment and material staging (dimensioned from nearest track centerline), as well as all other relevant project information. An elevation drawing may also be necessary in order to depict clearances or other components of the work.

E. Please note that CSXT will not provide pricing to individual contractors involved in bidding projects. Bidding contractors shall request information from the agency and not CSXT.

F. The Contractor shall install a geotextile fabric ballast protection system to prevent construction or demolition debris and fines from fouling ballast. The geotextile ballast protection system shall be installed and maintained by the Contractor to the satisfaction of the Engineer.

G. The Engineer shall be kept aware of the construction schedule. The Contractor shall provide timely communication to the Engineer when scheduling the work such that the Engineer may be present during the work. The Contractor’s schedule shall not dictate the work plan review schedule, and flagging shall not be scheduled prior to receipt of an accepted work plan.

H. At any time during construction activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer’s satisfaction.

CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

I. Blasting will not be permitted to demolish a structure over or within CSXT's right-of-way. When blasting off of CSXT property but with Potential to Foul, vibration monitoring, track settlement surveying, and/or other protective measures may be required as determined by the Engineer.

J. Blasting is not permitted adjacent to CSXT right-of-way without written approval from the Chief Engineer, CSXT.

K. Mechanical and chemical means of rock removal must be explored before blasting is considered. If written permission for the use of explosives is granted, the Agency or Contractor must submit a work plan satisfying the following requirements:

1. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Agency or Contractor.

2. Electronic detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

3. No blasting shall be done without the presence of an authorized representative of CSXT. Advance notice to the Engineer is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.

4. Agency or Contractor must have at the project site adequate equipment, labor and materials, and allow sufficient time, to clean up debris resulting from the blasting and correct any misalignment of tracks or other damage to CSXT property resulting from the blasting. Any corrective measures required must be performed as directed by the Engineer at the Agency's or Contractor's expense without any delay to trains. If Agency's or Contractor's actions result in the delay of any trains including passenger trains, the Agency or Contractor shall bear the entire cost thereof.

5. The Agency or Contractor may not store explosives on CSXT property.

6. At any time during blasting activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

III. HOISTING OPERATIONS

A. All proposed hoisting operations with Potential to Foul shall be submitted in accordance with the following:

1. A plan view drawing shall depict the work site, the CSXT track(s), the proposed location(s) of the lifting equipment, as well as the proposed locations for picking, any intermediate staging, and setting the load(s). All locations shall be dimensioned from centerline of the nearest track. Crane locations shall also be dimensioned from a stationary point at the work site for field confirmation.

2. Computations showing the anticipated weight of all picks. Computations shall be made based upon the field-verified plans of the existing structure. Pick weights shall account for the weight of concrete rubble or other materials attached to the component being removed; this includes the weight of subsequent rigging devices/components. Rigging components shall be sized for the subsequent pick weight.

3. All lifting equipment, rigging devices, and other load bearing elements shall have a rated (safe lifting) capacity that is greater than or equal to 150% of the load it is carrying, as a factor of safety. Supporting calculations shall be furnished to verify the minimum capacity requirement is maintained for the duration of the hoisting operation.

4. Dynamic hoisting operations are prohibited when carrying a load with the Potential to Foul. Cranes or other lifting equipment shall remain stationary during lifting. (i.e. no moving picks).

5. For lifting equipment, the manufacturer’s capacity charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted.

6. A schematic rigging diagram must be provided to clearly call out each rigging component from crane hook to the material being hoisted. Copies of catalog or information sheets shall be provided to verify rigging weights and capacities.

7. For built-up rigging devices, the contractor shall submit the following:

   i. Details of the device, calling out material types, sizes, connections and other properties.

   ii. Load test certification documents and/or design computations bearing the seal and signature of a Professional Engineer. Load test shall be performed in the configuration of its intended use as part of the subject demolition procedure.

   iii. Copies of the latest inspection reports of the rigging device. The device shall be inspected within one (1) calendar year of the proposed date for use.

8. A detail shall be provided showing the crane outrigger setup, including dimensions from adjacent slopes or facilities. The detail shall indicate requirements for bearing surface preparation, including material requirements and compaction efforts. As a minimum, outriggers and/or tracks shall bear on mats, positioned on level material with adequate bearing capacity.

9. A complete written narrative that describes the sequence of events, indicating the order of lifts and any repositioning or re-hitching of the crane(s).

IV. DEMOLITION PROCEDURE

A. The Agency or its Contractor shall submit a detailed procedure for a controlled demolition of any structure on, over, or adjacent to the ROW. The controlled demolition procedure must be approved by the Engineer prior to beginning work on the project.

B. Existing Condition of structure being demolished:

1. The Contractor shall submit as-built plans for the structure(s) being demolished.

2. If as-built plans are unavailable, the Contractor shall perform an investigation of the structure, including any foundations, substructures, etc. The field measurements are to be made under the supervision of the Professional Engineer submitting the demolition procedure. Findings shall be submitted as part of the demolition means and methods submittal for review by the Engineer.

3. Any proposed method for temporary stabilization of the structure during the demolition shall be based on the existing plans or investigative findings, and submitted as part of the demolition means and methods for review by the Engineer.

C. Demolition work plans shall include a schematic plan depicting the proposed locations of the following, at various stages of the demolition:

1. All cranes and equipment, calling out the operating radii.

2. All proposed access and staging locations with all dimensions referenced from the center line of the nearest track.

3. Proposed locations for stockpiling material or locations for truck loading.

4. The location, with relevant dimensions, of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions.

5. Note that no crane or equipment may be set on the CSXT rails or track structure and no material may be dropped on CSXT property.

D. Demolition submittal shall also include the following information:

1. All hoisting details, as dictated by Section III of this document.

2. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical subtasks (i.e., torch/saw cutting various portions of the superstructure or substructure, dismantling splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to CSXT operations may be assessed and eliminated or minimized.

3. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.

4. Design and supporting calculations shall be prepared, signed, and sealed by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track in the proximity of temporary bents or shoring towers, when located within twelve feet (12'-0") from the centerline of the track. The guardrail will be installed by CSXT forces, at the expense of the Agency or its contractor.

E. Girders or girder systems shall be stable at all times during demolition. Temporary bracing shall be provided at the piers, abutments, or other locations to resist overturning and/or buckling of the member(s). The agency shall submit a design and details of the proposed temporary bracing system, for review by the Engineer. Lateral wind forces for the temporary conditions shall be considered in accordance with AREMA, Chapter 8, Section 28.6.2. The minimum lateral wind pressure shall be fifteen pounds per square foot (15 psf).

F. Existing, obsolete, bridge piers shall be removed to a minimum of three feet (3'-0") below the finished grade, final ditch line invert, or as directed by the Engineer.

G. A minimum quantity of twenty five (25) tons of CSXT approved granite track ballast may be required to be furnished and stockpiled on site by the Contractor, or as directed by the Engineer.

H. The use of acetylene gas is prohibited for use on or over CSXT property. Torch cutting shall be performed utilizing other materials such as propane.

I. CSXT's tracks, signals, structures, and other facilities shall be protected from damage during demolition of existing structure or replacement of deck slab.

J. Demolition Debris Shield

1. On-track or ground-level debris shields (such as crane mats) are prohibited for use by CSXT.

2. Demolition Debris Shield shall be installed prior to the demolition of the bridge deck or other relevant portions of the structure. The demolition debris shield shall be erected from the underside of the bridge over the track area to catch all falling debris. The debris shield shall not be the primary means of debris containment.

   i. The demolition debris shield design and supporting calculations, all signed/sealed by a Professional Engineer, shall be submitted for review and acceptance.

   ii. The demolition debris shield shall have a minimum design load of 50 pounds per square foot (50 psf) plus the weight of the equipment, debris, personnel, and all other loads.

   iii. The Contractor shall verify the maximum particle size and quantity of the demolition debris generated during the procedure does not exceed the shield design loads. Shield design shall account for loads induced by particle impact; however the demolition procedure shall be such that impact forces are minimized. The debris shield shall not be the primary means of debris containment.

   iv. The Contractor shall include installation/removal means and methods for the demolition debris shield as part of the proposed Controlled Demolition procedure submission.

   v. The demolition debris shield shall provide twenty three feet (23'-0") minimum vertical clearance, or maintain the existing vertical clearance if the existing clearance is less than twenty three feet (23'-0").

   vi. Horizontal clearance to the centerline of the track should not be reduced unless approved by the Engineer.

   vii. The Contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Engineer.

K. Vertical Demolition Debris Shield

1. This type of shield may be required for substructure removals in close proximity to CSXT track and other facilities, as determined by the Engineer.

2. The Agency or its Contractor shall submit detailed plans with detailed calculations, prepared, signed, and sealed by a Professional Engineer, of the protection shield.

V. ERECTION PROCEDURE

A. The Agency or its Contractor shall submit a detailed procedure for erection of a structure with Potential to Foul. The erection procedure must be approved by the Engineer prior to beginning work on the project.

B. Erection work plans shall include a schematic plan depicting the following, at all stages of the construction:

1. All proposed locations of all cranes and equipment, calling out the operating radii.

2. All proposed access and staging locations with all dimensions referenced from the center line of the nearest track.

3. All proposed locations for stockpiling material or locations for truck loading.

4. The location, with relevant dimensions, of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions.

C. No crane or equipment may be set on the CSXT rails or track structure and no material may be dropped on CSXT property.

D. For erection of a structure over the tracks, the following information shall be submitted for review and acceptance by the Engineer, at least thirty (30) days prior to erection:

1. As-built beam seat elevations – field surveyed upon completion of pier/abutment construction.

2. Current Top of Rail (TOR) elevations – field measured at the time of as-built elevation collection.

3. Computations verifying the anticipated minimum vertical clearance in the final condition which accounts for all deflection and camber, based upon the current TOR and as-built beam seat elevations. The anticipated minimum vertical clearance shall be greater than or equal to that which is indicated by the approved plans.

4. Vertical clearance (see definitions) is measured from TOR to the lowest point on the overhead structure at any point within six feet (6’-0”) from centerline of the track. Calculations shall be signed and sealed by a Professional Engineer.

E. Girders or girder systems shall be stable at all times during erection. No crane may unhook prior to stabilizing the beam or girder.

1. Lateral wind forces for the temporary conditions shall be considered in accordance with AREMA, Chapter 8, Section 28.6.2. The minimum lateral wind pressure shall be fifteen pounds per square foot (15 psf).

2. Temporary bracing shall be provided at the piers, abutments, or other locations to resist overturning and/or buckling of the member(s). The agency shall submit a design and details of the proposed temporary bracing system, for review by the Engineer.

3. Temporary bracing shall not be removed until sufficient lateral bracing or diaphragm members have been installed to establish a stable condition. Supporting calculations, furnished by the Professional Engineer, shall confirm the stable condition.

F. Erection procedure submissions shall also include the following information:

1. All hoisting details, as dictated by Section III of this document.

2. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical subtasks (i.e. performing aerial splices, installing temporary bracing, installation of diaphragm members, etc.) shall be furnished so that the potential impact(s) to CSXT operations may be assessed and eliminated or minimized.

3. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor’s means and methods submission.

4. A guardrail will be required to be installed in a track in the proximity of temporary bents or shoring towers, when located within twelve feet (12’-0”) from the centerline of the track. The guardrail will be installed by CSXT forces, at the expense of the Agency or its Contractor.

5. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review.

VI. TEMPORARY EXCAVATION AND SHORING

A. The Agency or its Contractor shall submit a detailed design and procedure for the installation of a sheeting/shoring system adjacent to the tracks. Shoring protection shall be provided when excavating with Potential to Foul, or as otherwise determined by CSXT. Shoring shall be provided in accordance with the AREMA, except as noted below.

B. Shoring may not be required if all of the following conditions are satisfied:

1. The excavation does not encroach within the Theoretical Live Load Influence Zone. Please refer to Figure 1.

2. The track structure is situated on level ground, or in a cut section, and on stable soil.

3. The excavation does not adversely impact the stability of a CSXT facility (i.e. signal bungalow, drainage facility, under grade bridge, building, etc), or the stability of any structure on, over, or adjacent to CSXT property with potential to foul.

4. Shoring is not required by any governing federal, state, local or other construction code.

C. Shoring is required when excavating the toe of an embankment. Excavation of any embankment which supports an active CSXT track structure without shoring will not be permitted.

D. Trench boxes are not an acceptable means of shoring. Trench boxes are prohibited for use on CSXT property or within the Theoretical Railroad Live Load Influence Zone.

E. Shoring shall be a cofferdam-type, which completely encloses the excavation. However, where justified by site or work conditions, partial cofferdams with open sides away from the track may be permissible, as determined by the Engineer.

F. Cofferdams shall be constructed using interlocking steel sheet piles, or when approved by the Engineer, steel soldier piles with timber lagging. Wales and struts shall be included when dictated by the design.

G. The use of tiebacks can be permissible for temporary shoring systems, when conditions warrant. Tiebacks shall have a minimum clear cover of 6’-0”, measured from the bottom of the rail. Upon completion of the work, tiebacks shall be grouted, cut off, and remain in place.

H. All shoring systems on, or adjacent to CSXT right-of-way, shall be equipped with railings or other fall protection, compliant with the governing federal, state or local requirements. Area around pits shall be graded to eliminate all potential tripping hazards.

I. Interlocking steel sheet piles shall be used for shoring systems qualifying one or more of the following conditions:

1. Within 18'-0" of the nearest track centerline

2. Within the live load influence zone

3. Within slopes supporting the track structure

4. As otherwise deemed necessary by the Engineer.

J. Sheet piles qualifying for one or more of the requirements listed in Section V.H of this document shall not be removed. Sheet piles shall be left in place and cut off a minimum of 3'-0" below the finished grade, the ditch line invert, or as otherwise directed by the Engineer. The ground shall be backfilled and compacted immediately after sheet pile is cut off.

K. The following design considerations shall be considered when preparing the shoring design package:

1. Shoring shall be designed to resist a vertical live load surcharge of 1,880 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, eight feet six inches (8'-6") wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in AREMA *Manual for Railway Engineering*, Chapter 8, Part 20.

2. Allowable stresses in materials shall be in accordance with AREMA Chapter 7, 8, and 15.3.

3. A minimum horizontal clearance of ten feet (10'-0") from centerline of the track to face of nearest point of shoring shall be maintained, provided a twelve feet (12'-0") roadbed is maintained with a temporary walkway and handrail system.

4. For temporary shoring systems with Potential to Foul, piles shall be plumb under full dead load. Maximum deflection at the top of wall, under full live load, shall be as follows:

   i. ½ inch for walls within twelve feet (12’-0”) of track centerline (Measured from centerline of the nearest track to the nearest point of the supporting structure).

   ii. 1 inch for walls located greater than twelve feet (12’-0”) from track centerline

L. Shoring work plans shall be submitted in accordance with Section II of this document, as well as the following additional requirements:

1. The work plan shall include detailed drawings of the shoring systems calling out the sizes of all structural members, details of all connections. Both plan and elevation drawings shall be provided, calling out dimensions from the face of shoring relative to the nearest track centerline. The elevation drawing shall also show the height of shoring, and track elevation in relation to bottom of excavation.

2. Full design calculations for the shoring system shall be furnished.

3. A procedure for cutting off the sheet pile, backfilling and restoring the embankment.

VII. TRACK MONITORING

A. When work being performed has the potential to disrupt the track structure, a work plan must be submitted detailing a track monitoring program which will serve to monitor and detect both horizontal and vertical movement of the CSXT track and roadbed.

B. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. CSXT reserves to the right to modify the survey locations and monitoring frequency as necessary during the project.

C. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Engineer for analysis.

D. If any movement has occurred as determined by the Engineer, CSXT will be immediately notified. CSXT, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by CSXT or performed by CSXT including the monitoring of corrective action of the contractor will be at project expense.

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Appendix B

CSX TRANSPORTATION

SOIL AND WATER MANAGEMENT POLICY

CSXT Design and Construction
Public Projects Group
Jacksonville, FL
Date Issued: July, 2017

Public projects that generate soils from CSXT property must adhere to CSXT's soil management policies. CSXT requires soils generated from its property to either be properly disposed in a CSXT approved disposal facility or reused on CSXT property. The management of soils generated from CSXT property should be planned for and properly permitted (if applicable) prior to initiating any work on CSXT property.

Overview

- Soil Reuse: CSXT Environmental Department must review and approve reuse of soil on CSXT property.

- Soil Disposal: If the soil cannot be reused on CSXT property, it must be properly disposed at a CSXT approved disposal facility. CSXT prohibits any contractor from taking soils for off property reuse. CSXT Environmental Department will handle waste characterization and profiling into an approved disposal facility. CSXT prohibits any environmental sampling on its property unless granted through a written Environmental Right of Entry or approved in writing by the CSXT Environmental Department. If Agency has arrangements with a disposal facility not approved by CSXT, Agency can request CSXT to evaluate the disposal facility. Request to evaluate alternate disposal facilities should take place prior to work being initiated on CSXT property.

- If dewatering is planned for a public project, CSXT Environmental Department must review and approve the dewatering plan prior to work being initiated on CSXT property. CSXT prohibits the discharge of water onto its property without prior approval. CSXT prohibits environmental sampling of groundwater or surface water unless granted through a written Environmental Right of Entry or approved in writing by the CSXT Environmental Department.

- It is the policy of CSXT that all materials discarded by or on behalf of CSXT will be managed in accordance with local, state and federal regulations as well as CSXT's best management practices and sustainability goals. To ensure that these goals are achieved, CSXT has mechanisms in place to monitor waste management activities, capture the information necessary to ensure 100% compliance with local, state and federal requirements 100% of the time, and track progress in the CSXT sustainability program. These mechanisms also allow CSXT to complete reporting requirements to federal and state regulatory agencies and document CSXT's progress toward its sustainability goals.

- Containment system, clean up and disposal of all paint and other material removed from a bridge: The clean-up and disposal of material from the surface preparation for painting and actual painting must comply with all appropriate regulations. The materials removed during the surface preparation must not impact the surrounding area including ground, water, or air impacts. Materials must not be stored on CSXT property.

<Remainder of this page intentionally left blank>

AGREEMENT COVERING
RECONSTRUCTION OF AN OVERHEAD BRIDGE STRUCTURE

NBI: **I65-111-02431A**

INDOT Des#: **1600808** Draft of: **February ~~1~~2~~8~~, 2020**
INDOT Contract: **B-36910** DOT #: **539 229A**
RR File: **TBD (IN0892 for PE)** RR MP: **QI 0282.750**
Daily Train Count: **25** Max Train Speed: **25 mph**
Location: **I-65 North Split in the city of Indianapolis, Marion County, Indiana**

THIS AGREEMENT, made and entered into by and between the STATE OF INDIANA, acting by and through the Indiana Department of Transportation, hereinafter called "INDOT" and the CSX Transportation, hereinafter called the "Railroad" and INDOT's design contract awardee and any of their contractors, hereinafter called the "Design-Build Contractor".

W I T N E S S E T H

WHEREAS, I-65 is located over the tracks and operating Right-of-way of the Railroad in Marion County, Indiana (the "Premises"):

WHEREAS, in the interest of public safety and convenience INDOT desires to reconstruct, via a "Design Build Contract," an overhead highway bridge and approaches to carry highway traffic over and across the Railroad's track and right-of-way:

WHEREAS, under Indiana Code 8-23-2-6 and 8-23-3 INDOT is authorized "to cooperate with the United States Government under any Federal law in any manner necessary to secure for the State of Indiana the proportion of any Federal appropriation which may be made in the Future"; and

WHEREAS, INDOT desires to reconstruct said overhead highway bridge and the highway approaches thereto with the aid of Federal funds apportioned to the State as authorized by Title 23, United States Code, (Public Law 85-767, 85th Congress) or any other Acts supplemental thereto of amendatory thereof.

NOW THEREFORE, in consideration of the premises and the mutual dependent covenants herein contained, the parties hereto agree as follows:

Section 1. The Railroad, insofar as its title enables it to do so and subject to the rights of the Railroad to operate and maintain its railroad and railroad appurtenances along, in and over its right-of-way, grants INDOT and Design-Build Contractor, without any compensation other than the performance of this agreement, the right to enter upon the Railroad's property to reconstruct and maintain the overhead highway bridge, including the approaches thereto as well as the piers which are partially located on Railroad right-of-way, over and across its tracks and operating right-of-way in accordance with the general plans and specifications for **Project Des Number 1600808** which are incorporated and made a part hereof by reference, at the location shown in **Exhibit 1** attached hereto. It is understood that the actual conveyance of any lands or rights, if such are required by Indiana State Law, shall be by means of other instruments to be negotiated between INDOT and the Railroad.

Section 2. Detailed plans and specifications for the structure and approaches thereto, shall be prepared by INDOT and/or the Design-Build Contractor and approved by the Federal Highway Administration. All plans and specifications affecting the interests of the Railroad shall also be subject to approval by the Chief Engineer of the Railroad before work is started. No changes in the plans affecting the interests of either party hereto shall be made without the written consent of said party.

Section 3. The parties hereto shall construct or cause to be constructed in substantial accordance with the plans and specifications, the following items of work:

(a) Work by INDOT and/or the Design-Build Contractor:
INDOT and/or the Design-Build Contractor shall be responsible for obtaining all necessary consents from CSXT and shall reconstruct the overhead bridge structure, approach fills, highway surfacing, highway drainage, including other drainage made necessary by the construction of the highway facilities.

For the avoidance of doubt, the Design-Build Contractor shall comply with all terms of the Special Provisions in connection with its performance of any work on the property of Railroad.

(b) Work by the Railroad:
The Railroad shall perform, or cause to be performed such temporary and permanent alterations of communication lines, signal lines, signals, and other facilities on its operating right-of-way, and do such other work and furnish such services, as are required by the installation of the grade separation improvement, in accordance with the estimate of force account work marked **Exhibit 2**, attached hereto and made a part hereof. This work shall be performed by the Railroad with its own forces on a force account basis. If the Railroad is not equipped to perform any part of the work with its own forces, it may request the permission of INDOT to do the work by contract. After receiving written approval of the method of selection the Railroad may proceed, subject to written concurrence by INDOT, to award a contract for the work. The provisions of section 11 of this agreement shall apply to any portion of the work, including engineering services, which the Railroad may perform by the contract method. The Railroad shall keep complete records of the cost of the above work to be performed by it and shall submit to INDOT and/or the Design-Build Contractor on request such information as it may require concerning the cost and other details of the work. The Railroad's accounts shall be kept in such manner that they may be readily audited and actual costs readily determined, and such accounts shall be available for audit by representatives of INDOT and Federal Highway Administration for a period of three years from the date final payment has been received by the Railroad. Except as otherwise provided in this agreement, INDOT and/or the Design-Build Contractor shall reimburse the Railroad for the actual cost of the above work performed by it which is estimated to be **Three Hundred Ninety-Six Thousand Two Hundred Thirty Dollars and No Cents ($~~300~~396,~~000~~230.00)**. In the event there are increases in the extent of the work or changes in the methods of performing the work, this amount may be increased by mutual agreement. The eligibility for reimbursement of costs of changes to the Railroad~~'~~'s facilities and facilities jointly owned or used by the Railroad and utility companies shall be determined in accordance with the regulations as set forth in the Federal-Aid Policy Guide 23 CFR, Part 140, Subpart I, Subchapter B, and 23 CFR, Part 646, Subpart B issued December 9, 1991, and subsequent amendments or supplements thereto, which are incorporated herein by reference. It is agreed that progress payments will be made by INDOT and/or the Design-

Build Contractor to the Railroad for the total amount of work done as shown on monthly statements or when the amount due the Railroad equals $1,000.00 or more, said progress billing to be paid within thirty-five (35) days of receipt of the Railroad progress billing. Upon receipt of the final bill, the Railroad shall be reimbursed for such items of project work and project expense, in such amounts as are proper and eligible for payment and the project shall be submitted for final audit by INDOT. In the event final audit discloses that INDOT and/or the Design-Build Contractor has reimbursed the Railroad more than the amount due under the terms of this agreement, the Railroad shall promptly repay INDOT and/or the Design-Build Contractor the amount overpaid it. Billings to INDOT and/or the Design-Build Contractor shall clearly show whether they are partial or final claims. INDOT and/or the Design-Build Contractor will reimburse the Railroad for any items of work and expense performed by it at the written direction of INDOT and/or the Design-Build Contractor, which are not eligible for reimbursement from Federal funds. The Railroad shall not commence any of the work to be undertaken by it hereunder until notified in writing by INDOT to proceed and said work by the Railroad shall be commenced within thirty days after such notification to proceed. Buying and assembling of materials as well as scheduling required manpower shall be construed as compliance with the foregoing thirty-day provision.

Section 4. It is agreed that any necessary falsework, bracing, or forms may be erected to provide the following temporary minimum clearances:

Vertical: Twenty-three feet (23'-0") from top of highest rail.

Lateral: Thirteen feet (13'-0") from centerline of tangent track or
Fourteen feet (14'-0") from centerline of curved track.

Section 5. On all contract construction operations involving direct interference with the Railroad's tracks or traffic, the fouling of Railroad operating clearances, or reasonable probability of accidental hazard to Railroad traffic, INDOT shall require the Design-Build Contractor to arrange for the necessary Railroad personnel to protect such operations as required by the regular operating rules of the Railroad as determined by the Chief Engineer of the Railroad or his authorized representative, except in connection with the railroad force account work as provided in Section 3b hereof. The Railroad will be reimbursed for the actual cost of such protective services furnished by it, at project expense in accordance with the estimate of force account work, as set forth in **Exhibit 2**, attached hereto and made a part hereof. INDOT shall make final settlement with said Design-Build Contractor contingent on a showing that the Railroad has been reimbursed for any expenses which are for the sole benefit of the Design-Build Contractor or that satisfactory arrangements have been made for such reimbursement.

Section 6. All work herein provided to be done by INDOT and/or the Design-Build Contractor on the Railroad's operating right-of-way shall be done in a manner satisfactory to the Chief Engineer of the Railroad or his authorized representative, and shall be performed at such times and in such manner as not to interfere unnecessarily with the movement of trains or traffic upon the tracks of the Railroad. The Design-Build Contractor agrees to comply with the terms of the Special Provisions and to use all reasonable care and precaution in order to avoid accidents, damage, or unnecessary delay or interference with the Railroad's trains or other property.

Section 7. The Design-Build Contractor, upon completion of the work, shall remove from within the limits of the Railroad's operating right-of-way all machinery, equipment, surplus

materials, falsework, rubbish, or temporary buildings of such Design-Build Contractor, and to leave the operating right-of-way in a neat condition, satisfactory to the Chief Engineer of the Railroad or his authorized representative.

Section 8. The Design-Build Contractor shall take out, before work is commenced and to keep in effect until work is completed and accepted, which shall include a Railroad Protective Public Liability Policy of Insurance in the name of the Railroad, said policy to be in the form specified in the Federal-Aid Policy Guide 23 CFR, Part 646, Subpart B, issued December 9, 1991, and any subsequent amendments or supplements thereto. The policies of insurance specified in this section shall be with a company authorized to do business in the State of Indiana.

Section 9. Upon completion of the project, INDOT shall at its own cost and expense maintain or by agreement with others provide for the maintenance of the bridge structure, approach grades and all other highway facilities including the drainage thereof, except that in the event of railroad derailments, accidents, or collisions resulting in damage to the bridge structure INDOT shall make the repairs necessary to restore the structure substantially to its former condition, and the Railroad agrees to reimburse INDOT for the cost of such repairs, if said derailments, accidents, or collisions are caused solely by the negligence of the Railroad, its agents or servants. The Railroad, at the expense of INDOT, will repair or replace or cause to be repaired or replaced the Railroad's track, ties, ballast, communications and signal system, and roadbed which may be damaged or destroyed by accident or as a result of structure maintenance, or otherwise resulting from the sole negligence of INDOT, its agents or servants. The Railroad shall at its own cost and expense maintain its own roadway and tracks and the drainage thereof; provided Railroad shall not be responsible for any personal injury or property damage losses that are caused by or result from INDOT's breach of this Agreement, including but not limited to its failure to maintain the highway facilities, including the drainage thereof.

Section 10. In the event that delays or difficulties arise in securing necessary approvals, or in acquiring necessary right-of-way, or in settling damages or damage claims, or for other reasons, which in the opinion of INDOT render it impracticable to utilize funds from current appropriation for the construction of the project, then at any time before actual construction is started by INDOT and/or Design-Build Contractor pursuant to proper approval or authority, INDOT may serve formal notice of cancellation upon the Railroad and this agreement shall thereupon become null and void. INDOT and/or the Design-Build Contractor shall reimburse the Railroad for all costs incurred by it at the written request of INDOT and/or the Design-Build Contractor on account of the project prior to cancellation.

Section 11. Non-Discrimination

1. To the extent required by I.C. 22-9-1-10 and Title VI of the Civil Rights Act of 1964, the RAILROAD shall not discriminate against any employee or applicant for employment, to be employed in the performance of work under this Contract, with respect to hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of race, color, religion, sex, disability, national origin, ancestry or status as a veteran. Acceptance of this Contract also signifies compliance with applicable Federal laws, regulations, and executive orders prohibiting discrimination in the provision of services based on race, color, national origin, age, sex, disability or status as a veteran.

2. The RAILROAD understands that INDOT is a recipient of Federal Funds. Pursuant to that understanding, the RAILROAD agrees that if the RAILROAD employs fifty (50) or more employees and does at least $50,000 worth of business with the State and is not exempt, the RAILROAD will comply with the affirmative action reporting requirements of 41 CFR 60-1.7. The RAILROAD shall comply with Section 202 of executive order 11246, as amended, 41 CFR 60-250, and 41 CFR 60-741, as amended, which are incorporated herein by specific reference.

It is the policy of INDOT to assure full compliance with Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act and related statutes and regulations in all programs and activities. Title VI and related statutes require that no person in the United States shall on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. (INDOT's Title VI enforcement shall include the following additional grounds: sex, ancestry, age, income status, religion, disability, and status of a veteran.)

3. During the performance of this Contract, the RAILROAD, for itself, its assignees and successors in interest (hereinafter referred to as the "RAILROAD") agrees to the following assurances under Title VI of the Civil Rights Act of 1964:

a. Compliance with Regulations: In the performance of work under this agreement, the RAILROAD shall comply with the regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation, Title 49 CFR Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

b. Nondiscrimination: In the performance of work under this agreement, the RAILROAD, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, sex, national origin, religion, disability, ancestry, or status as a veteran in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The RAILROAD shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulation, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In the performance of work under this agreement, in all solicitations either by competitive bidding or negotiation made by the RAILROAD for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the RAILROAD of the RAILROAD's obligations under this Contract, and the Regulations relative to nondiscrimination on the grounds of race, color, sex, national origin, religion, disability, ancestry, or status as a veteran.

d. Information and Reports: In the performance of work under this agreement, the RAILROAD shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Indiana Department of Transportation and Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of the RAILROAD is in the exclusive possession of another who fails or refuses furnish this information, the RAILROAD shall so certify to the Indiana Department of Transportation or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the performance of work under this agreement, in the event of the RAILROAD's noncompliance with the nondiscrimination provisions of this Contract, the Indiana Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to: (a) withholding payments to the RAILROAD under the Contract until the RAILROAD complies, and/or (b) cancellation, termination or suspension of the Contract, in whole or in part.

f. Incorporation of Provisions: In the performance of work under this agreement, the RAILROAD shall include the provisions of paragraphs a through f in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

Section 12. This project does not eliminate an existing grade crossing with active warning devices; so in accordance with the Federal-Aid Policy Guide 23 CFR, Section 646.210, issued December 9, 1991, and subsequent amendments or supplements thereto, there shall be no required railroad share of the project cost.

Section 13. It is understood that the project herein contemplated is to be financed with the aid of funds appropriated by the Federal Government and expended under Federal regulations; that all plans, estimates of cost, specifications, awards of contracts, acceptance of work, and procedures in general are subject at all times to all Federal laws, rules, regulations, orders, and approvals applying to it, as a Federal project.

Section 14. Buy America Certification: The Railroad agrees that all steel and cast-iron materials and products to be used under this agreement will be produced and manufactured in the United States of America pursuant to the requirements of 23 CFR 635.410.

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This Agreement shall be binding upon the parties hereto, and their successors or assigns.

IN WITNESS WHEREOF, the parties have caused these presents to be executed by their proper officers thereunto duly authorized.

Design-Build Contractor

BY:_____ DATE: _____

Typed Name:

Title:

****

CSX Transportation, Inc.

BY_____ DATE: _____

Typed Name:

Title:

****

STATE OF INDIANA

BY_____ DATE: _____

Michael Jett, State Director of Utilities and
Railroads, Capital Program Management
For: Joseph McGuinness, Commissioner
Indiana Department of Transportation

****

Approved for form and legality by:

_____ (for) _____

Curtis T. Hill, Jr. (Date approved)
Indiana Attorney General

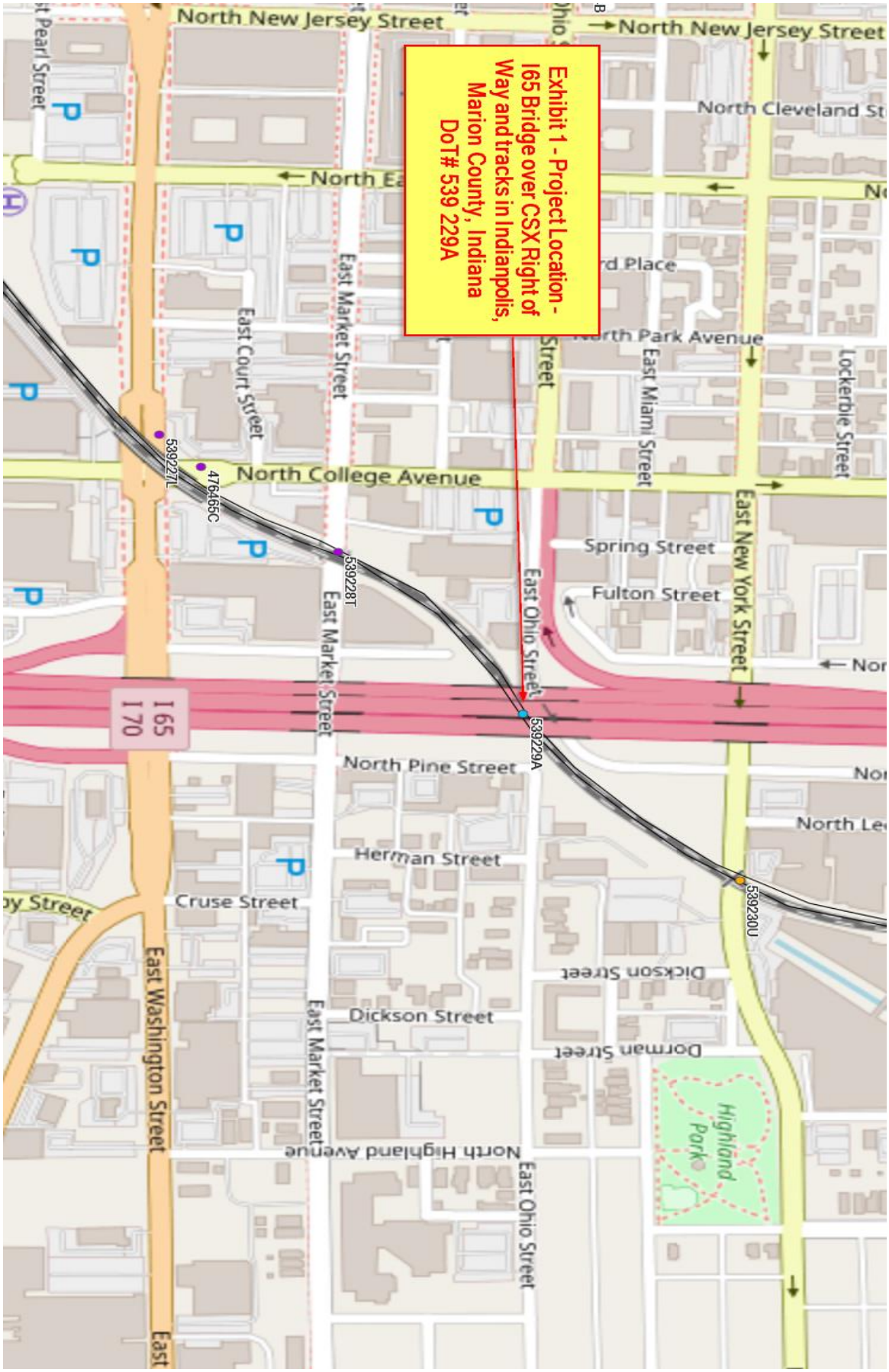
Exhibit 1 - Project Location - I65 Bridge over CSX Right of Way and tracks in Indianpolis, Marion County, Indiana
DoT# 539 229A
North New Jersey Street
North Cleveland St
North Park Avenue
East Market Street
East Court Street
East Miami Street
Lockerbie Street
North College Avenue
Spring Street
Fulton Street
East New York Street
East Ohio Street
539227L
476465C
539228T
539229A
539230U
I 65
I 70
North Pine Street
Herman Street
Cruse Street
Dickson Street
Dorman Street
East Washington Street
North Highland Avenue
Highland Park

EXHIBIT 2: Force Account Estimate
As estimated by INDOT

Estimated costs are:

- Flagging Service at $240,209 ~~$180,000~~ developed as 180 days at $~~1~~90,~~000~~720 total for labor plus $135,989 for engineering department plus $13,500 for engineering department expense~~each for flagging~~
- Construction Engineering and Inspection at $120,000
- Contingencies at $36,021.00 developed as 10% of the sum of the cost for Flagging Service and the cost of Construction Engineering and Inspection

~~$37,500.00 developed as 25 inspection events at $1500 per occurrence for inspection~~
~~$62,500.00 developed as estimate for engineering for CN submittals~~
~~$20,000.00 developed for contingencies~~

for a total estimated amount of $~~300~~396,~~000~~230.00 based upon the Reference Design. Design-Build Contractor will be responsible for the actual amount, which will vary based on Design-Build Contractor's final design, schedule and other needs.

CABLE DUCT MARKER

Description

This work shall consist of providing ATMS cable duct markers as shown on the Plans and as directed by INDOT.

Materials

Concrete Markers: Concrete cable duct markers shall be manufactured and installed according to the Standard Specifications 807.08 except as revised herein. Concrete cable duct markers shall be marked "ATMS" with field-cut arrows identifying the direction of the underground conduits.

Flexible Markers: Flexible cable duct markers shall be manufactured of an integrally-colored orange, single piece, two-sided, UV resistant, fiberglass reinforced composite, constructed of adequate strength and rigidity to enable installation into compacted soil. Markers shall be capable of returning to vertical and remaining functional after being subjected to a head-on vehicle impact. At a minimum, markers shall be 3.75 inches wide by 66 inches long with raised and reinforced ribs along each side to protect the decal.

Decals shall be provided on both sides of the markers. Decal shall consist of a standard fiber optic warning message, visible from a distance, such as "Warning Fiber Optic Cable". In addition, the decal shall include the message "Call INDOT Technology Deployment Technicians Supervisor before Digging 317899-8606" along with the Department symbol (digital image is available on the Department's website):

Figure A: Department's Logo

All markers and decals shall be from a single manufacturer. Decals shall be considered incidental to the cost of the flexible markers.

Markers shall be installed according to the manufacturer's recommendations, or to a depth suitable to resist the impact of wind or an errant vehicle without pulling free. Location of marker installations shall be as shown on plans or as determined by the Department.

Method of measurement

The completed work as described for cable duct marker will be measured by the unit of EACH and includes furnishing and installing of a cable duct marker with all accessories necessary for a complete installation.

Basis of Item

Quantity for the work included in this special provision shall be quantified per EACH.

Item No.	Item Description	Unit Symbol
807-86955	Cable-Duct Marker, Concrete	EACH
807-86955	Cable-Duct Marker, Flexible	EACH

The following shall be considered incidental to this item:

Materials, labor, equipment, transportation, placement, and all incidentals.

ATMS DOCUMENTATION AND SUBMITTALS

Description

The Design-Build Contractor shall provide four types of documentation and submittals for this contract: wiring diagrams and system schematics, submittal data, as-built documentation, and manuals and maintenance documentation. The Design-Build Contractor shall submit working drawings in accordance with 105.02 and the following additional requirements.

All documentation, except as approved by INDOT, shall be no smaller than 8½ in. by 11 in. or no larger than 24 in. by 36 in. Standard bound manuals shall be exempted from this requirement. The Department shall maintain the right to reproduce unlimited copies of any documentation for exclusive use on this contract.

All documentation shall also be provided in electronic format and delivered on CD-ROM as practical. All electronic files shall be readable using standard Microsoft Office products. Drawings shall be provided as CAD files in data exchange (.DXF) file format compatible with MicroStation and in Acrobat Reader (.PDF) file format.

All 8½ in. by 11 in. documentation, except standard bound manuals, shall be bound in logical groupings in three ring loose-leaf binders. Binders may also include 11 in. by 17 in. documentation, if Z-folded. Three copies of each bound grouping of documentation shall be provided labeled in a legible and permanent manner.

Three copies of all 24 in. by 36 in. documentation and a single reduced set no smaller than 11 in. by 17 in. shall be provided.

All documentation submitted shall be of reproducible quality as determined by INDOT. All unsatisfactory items will be returned to the Design-Build Contractor who shall make the submittal again in satisfactory reproducible form as determined by INDOT.

All literature from manufacturers shall be original documents provided by the manufacturers. Black and white copies of color originals are not acceptable. No facsimile reproductions of any type shall be accepted.

Wiring Diagrams

Wiring diagrams and system schematics shall be prepared and meet the following requirements:

1. Include wire designations by color or labels for every piece of field equipment in every cable segment between the equipment.
2. Include appropriate designations for every cable and conduit segment. All conduits carrying electrical cables shall be marked or labeled at all maintenance points and points of access. Designations shall include terminology such as, “Power Distribution - 480 VAC”, “Video Coax”, etc. All designations shall be submitted to INDOT for approval prior to submittal.

3. Show locations of all cable splices.
4. Show connections to all communications equipment at the remote sites, CDP sites, and at the Traffic Management Center.
5. All radio equipment documentation packages shall include system diagrams, interconnection drawings, parameter lists and optimization procedures.

Submittal Data

Submittal Data shall be prepared and meet the following requirements:

Prior to the purchase or fabrication of any equipment or material proposed for use on this project, the Design-Build Contractor shall submit for review by INDOT catalog cut sheets and specifications for all standard, off-the-shelf items; working drawings shall be submitted for all non-catalog or custom items. An electronic copy of all submittals and working drawings shall be provided in .pdf format. In lieu of electronic copies the Design-Build Contractor may choose to submit ten paper copies of submittals and working drawings. Every submittal shall be accompanied by transmittal letter providing following information:

1. Submittal number
2. Pay item number
3. Manufacturer and model number
4. Description

Submittals and working drawings will be approved or rejected in writing, and a memorandum stating the disposition will be returned to the Design-Build Contractor. Certain items will require verification of performance, which shall be provided with the catalog cut sheets, working drawings, and specifications. See individual equipment specifications for requirements.

The purpose of the submittal and working drawing data is to show specifically and in detail how the Design-Build Contractor intends to satisfy the requirements of these specification and the plans. If preprinted literature is utilized to satisfy some or all of these requirements, there shall be no statements on the literature which conflict with these specifications or plans. Any such statements will be crossed off and initialed by the Design-Build Contractor and an appropriate statement be attached indicating how the requirements of these specification or the plans will be fulfilled.

The Design-Build Contractor shall label each item of submittal and working drawing data with the bid item number or other description of the items to which it applies. Each submittal of catalog cut sheets, specifications, or working drawings, shall contain sufficient information and details to allow INDOT to evaluate the particular component.

Copies of the catalog cut sheets, specifications, and working drawings shall be submitted by the Design-Build Contractor to INDOT and the ITS Field Engineer, whom will be introduced at the preconstruction meeting. All catalog cut sheets and specification submittal data shall be submitted within 30 calendar days following issuance of the Notice to Proceed. All working drawings

shall be submitted within 90 calendar days following issuance of the Notice to Proceed. Failure to submit catalog cut sheets, specifications and working drawings within this time frame shall result in **liquidated damages of $1000 per day** to be withheld from Design-Build Contractor payment.

All submittals will be returned to the Design-Build Contractor within 30 days of submission. All submittals returned to the Design-Build Contractor as rejected shall be resubmitted for approval within 14 calendar days from the notice of rejection. Failure to resubmit documentation within the 14 calendar days from notice of rejection will result in **liquidated damages of $1000 per day** to be withheld from Design-Build Contractor payment.

The Design-Build Contractor may submit alternatives to the Plans and Special Provisions to the Department for consideration. Any alternative submitted shall be identified with benefits stated and documented.

The Design-Build Contractor shall submit the following items at a minimum. Any item included in this list that is not a deliverable of the contract may be removed from the requirements with approval by INDOT. This list does not preclude the submittal of other items as required in the specifications. The submittal requirement items are as follows;

1. Fiber optic cable
2. Fiber optic drop cable assemblies
3. Fiber optic patch panels
4. Fiber optic patch cables
5. Fiber optic break out kit and connectors
6. Fusion splice protection kit
7. Fusion splice enclosure
8. Small Form-Factor Pluggable Transceivers (SFPs)
9. Vaults
10. Handholes
11. Handhole and vault rings & lids
12. Cable duct markers, concrete
13. Cable duct markers, flexible (including decal design)
14. All conduits
15. All electrical and grounding cables
16. Cell Modems
17. Conduit splicing methods and materials
18. Dynamic Message Sign Structure
19. Dynamic Message Sign Structure Foundation
20. DMS Panels and Signs
21. ITS Cabinet
22. Wireless Vehicle Detection System
23. Monopole
24. Monopole Foundation
25. Camera Assemblies

26. Computers

As-Built Documentation

Documentation of the work, as-built, shall be provided by the Design-Build Contractor prior to acceptance of the work. The Design-Build Contractor will be provided with base files containing the proposed locations for conduit, cabinets, and devices. On a level containing no proposed information, the Design-Build Contractor shall draw in the final as-built locations for the cabinets, poles, conduits including burial depth, and device locations. These drawings shall be returned in both electronic and paper format.

As part of the final as-built documentation the Design-Build Contractor shall provide GPS coordinates accurate within 3 ft. of a CCTV, DMS, Cabinet, or Service point location. The coordinates shall be noted on the plans and in a single spreadsheet form provided to the Department on a compact disk, CD.

As part of the final as-built documentation the Design-Build Contractor shall provide GPS coordinates accurate within 3 ft. of all handhole and vault locations. The coordinates shall be noted on the plans and in a single comma separated value, CSV, file provided to the Department. The CSV file shall be supplied on a CD to the Department including the Latitude and Longitude of all handhole and vault locations in decimal degree format. Each record shall include the type of object, Latitude, Longitude, Road Name, direction of roadway travel, and Nearest Mile Marker to the nearest tenth of a mile. The following is an example of the record format;

Example record: Vault, 39.40247778, -86.44611111, I-69, NB, 136.7

This would be the location record for a vault placed along I-69, on the NB side of the road, at the 136.7 mile marker near the interchange with SR 39.

Component and wiring diagrams shall be provided for all custom manufactured equipment as well as a complete parts listing indicating the manufacturer and model of all electronic components.

In addition to the documentation specified elsewhere, prints of schematic diagrams applicable to the equipment contained in cabinets or the communication shelters shall be provided by the Design-Build Contractor. An 11 in. by 17 in. laminated wiring diagram, and an 11 in. by 17 in. laminated site drawing shall also be supplied in a weatherproof holder and mounted at each new cabinet and communication shelter.

Manuals and Maintenance Documentation

Two manuals shall be supplied for each individual component of the system. A reproducible form of the manual shall also be provided. The manuals supplied for the off-the-shelf items shall be those supplied by the equipment manufacturer.

Manuals shall include, at a minimum, the following material:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
2. Manufacturer's printed operating procedures to include start-up,

break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions.

3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
4. Servicing instructions and schedules.

The Design-Build Contractor shall provide a maintenance history for each piece of electronic equipment provided on this contract. This history shall include the equipment type, model and serial numbers, date of manufacture, date and location of installation, date of all associated tests required by these specifications and the performance of the equipment during these tests.

Any maintenance activity performed on the unit because of a failure shall be documented, and shall include: an explanation of all failures, date that the equipment was removed from a cabinet, the repairs that were made, the date and nature of any tests made to check the correct operation of the unit, and the date and the location where the unit was reinstalled in the field.

After each repair conducted, prior to acceptance, the warranty period shall be renewed. No more than one repair shall be allowed prior to acceptance. If a second repair is required, the equipment shall be replaced in kind with a new warranty period.

Method of Measurement

ATMS Documentation and Submittals will not be measured.

Basis of Item

System documentation shall be considered incidental to the cost of equipment being provided on this contract.

ATMS ELECTRICAL IDENTIFICATION

Description

The Design-Build Contractor shall provide labeling and signing to clearly identify all new electrical equipment and conduits installed for ATMS equipment on this project. This Section includes identification of electrical materials, equipment, and installations. It includes requirements for electrical identification components including but not limited to the following:

1. Buried electrical line warnings.
2. Identification labeling for conduits, cables, and conductors.
3. Operational instruction signs.
4. Warning and caution signs.
5. Equipment labels and signs.

Electrical Component Standard:

Components and installation shall comply with NFPA 70 of the NEC.

ANSI Compliance:

Comply with requirements of ANSI Standard A13.1, Scheme for the Identification of Piping Systems, with regard to type and size of lettering for raceway and cable labels.

Materials

Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include, or a manufacturer with equal products, the following:

1. American Labelmark Co.
2. Ideal Industries, Inc.
3. National Band and Tag Co.
4. Panduit Corp.
5. Seton Name Plate Co.
6. Standard Signs, Inc.
7. W.H.Brady, Co.

Adhesive Marking Labels for Raceway and Metal-clad Cable: *Pre-printed, flexible, self-adhesive labels with legend indicating voltage and service (Power, ATMS).*

Label Size for conduits larger than 1 in.: 1.10 in. high by 7.87 in. long.

Color: Black legend on orange background.

Colored Adhesive Marking Tape for Conduits, Wires, and Cables: Self-adhesive vinyl tape not less than 0.003 in. thick by 0.98 in. to 1.96 in. width.

Underground Line Marking Tape: Permanent, bright-colored, continuous-printed, plastic tape compounded for direct-burial service not less than 5.88

in. wide by 0.004 in. thick. Printed legend indicative of general type of underground line below.

Wire/Cable Designation Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound, cable/conductor markers with preprinted numbers and letter.

Engraved, Plastic-Laminated Labels, Signs, and Instruction Plates: Engraving stock melamine plastic laminate, 0.059 in. minimum thick for signs up to 20.0 sq. in, or 7.87 in. in length; 0.118 in. thick for larger sizes. Engraved legend in white letters on black face and punched for mechanical fasteners.

Cable Ties: Fungus-inert, self-extinguishing, one-piece, self-locking nylon cable ties, 0.177 in. minimum width, 48.5 lb. minimum tensile strength, and suitable for a temperature range from minus 50° F to 348.8° F. Provide ties in specified colors when used for color coding.

Construction Requirements

Lettering and Graphics: Coordinate names, abbreviations, colors, and other designations used in electrical identification work with corresponding designations specified or indicated. Install numbers, lettering, and colors as approved in submittals and as required by code. Install identification devices in accordance with manufacturer's written instructions and requirements of NEC.

Underground Electrical Line Identification:

During trench backfilling, for exterior underground power, signal, and communications lines, install continuous underground plastic line marker, located above line at 6 in. to 8 in. below finished grade.

Where multiple lines installed in a common trench or concrete envelope, do not exceed an overall width of 16 in.; install a single line marker.

Conductor Color Coding:

Provide color coding for secondary service, feeder, and branch circuit conductors throughout the project secondary electrical system as follows:

Table 1: Conductor Color Coding Convention

Phase	120/240 Volts	240/480 Volts
A	Black	Brown
B	Red	Orange
Neutral	White	White
Ground	Green	Green

For phase conductors:

1. At a weatherhead: Identify conductors with pressure sensitive plastic tape applied in half-lapped turns for a distance of 6 in. from the terminal points and in boxes where splices are made.
2. All other locations: Identify conductors with color factory applied the entire length of the conductors or pressure sensitive

plastic tape applied in half-lapped turns for a distance of 6 in. from the terminal points and in boxes where splices are made.

For Neutral and Ground conductors: Use conductors with color factory-applied the entire length of the conductors except as follows:

The following field-applied color-coding methods may be used for receptacle phase conductors on sizes larger than No. 6 AWG.

1. Pressure-sensitive plastic tape shall be applied in half-lapped turns for a distance of 6 in. from terminal points and in boxes where splices or taps are made. The last two laps of tape shall be applied with no tension to prevent possible unwinding. Use 1 in. wide tape in colors as specified. Do not obliterate cable identification markings by taping. Tape locations may be adjusted slightly to prevent such obliteration.

2. In lieu of pressure-sensitive tape, cable ties may be used for color identification. Three ties of specified color shall be applied to each wire at each terminal or splice point starting 3 in. from the terminal and spaced 3 in. apart. A special tool or pliers shall be used to, tighten for a snug fit, and cut off excess length.

Tag or label conductors as follows:

1. Where multiple branch circuits are present in the same conduit, box or enclosure, label each conductor or cable, including each neutral.
2. Provide legend indicating source, voltage, circuit number, and phase for branch circuit wiring in each panel.
3. Phase and voltage of branch circuit wiring may be indicated by means of coded color of conductor insulation.
4. Use consistent letter/number conductor designations throughout on wire/cable marking tapes.

Warning, caution, and instruction signs and stencils shall be applied as follows:

1. Install warning, caution, or instruction signs where required by NEC or OSHA, where indicated, or where required to assure safe operation and maintenance of electrical systems and of the items to which they connect.
2. Install engraved plastic- laminated instruction signs with approved legend where instructions or explanations are needed for system or equipment operation.
3. Install butyrate signs with metal backing for outdoor items.

Method of Measurement

Electrical Identification will not be measured.

Basis of Item

Electrical Identifications shall be considered incidental to the items for all electrical equipment furnishings and installations. The materials, equipment, and installation of identification, warning tags and labels shall be considered incidental.

ATMS GENERAL ELECTRICAL REQUIREMENTS

Description

This Section includes general administrative and procedural requirements for electrical installations. The following sections of the Standard Specifications relate specifically to electrical work 807, Highway Illumination; 805, Traffic Signals; 809, ITS; and 920.01(g), Working Drawings. Required material and product certifications shall be in accordance with 916.

Construction Requirements

Electrical Installation:

Sequence, coordinate, and integrate the various elements of electrical systems, materials, and equipment. Comply with the following requirements:

1. Coordinate electrical systems, equipment, and materials installation with other roadway components.
2. Verify all dimensions by field measurements.
3. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work.
4. Coordinate connection of electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies.
5. Install systems, materials, and equipment to conform with approved submittal data, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to INDOT.
6. Install systems, materials, and equipment level and plumb, unless otherwise specified.
7. All work and materials shall comply with the NEC, NFPA 70, as adopted by the State.

Install electrical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.

Method of Measurement

ATMS General Electrical Requirements will not be measured.

Basis of Item

ATMS General Electrical Requirements shall be considered incidental to the cost of equipment being provided on this contract and will not be paid for separately.

ATMS GENERAL REQUIREMENTS

Description

The work and methods described herein are general and applicable to all equipment, components, and software to be furnished and installed. Unless otherwise specified, all equipment, components, and software shall conform to these requirements.

Materials

All procurement shall be made on new materials and equipment. The procurement shall be in accordance with the current applicable standards of the following; National Electrical Manufacturers Association, NEMA; Electronics Industries Association, EIA; National Electrical Code, NEC; Underwriters Laboratory, UL. All equipment shall be obtained from qualified vendors approved by the Department.

All controls, indicators, and connectors shall be labeled in a clear and permanent manner approved by INDOT.

All electronic and electrical components assemblies or digital control devices that are connected to commercial power shall be UL (Underwriters Laboratories) or ETL (Electronics Testing Laboratories) listed or, if not listed, shall first be approved by INDOT. This includes, but is not limited to: power supplies, relays, video monitors, wiring, and wiring accessories. Copies of UL or ETL product cards shall be provided to INDOT to document the listings. All data and low power connections shall be accomplished via positive locking mechanisms.

Delivery

The Design-Build Contractor shall deliver products to a location as determined by the Department each identified with name, model number, type, grade, compliance labels, and other information needed for identification.

Rough-In

All final locations for rough-ins shall be verified with field measurements per the requirements of the actual equipment to be connected.

Installation

Connectors, terminals, bus joints, and mountings shall be checked for tightness by the Design-Build Contractor. Field-connected connectors and terminals, including screws and bolts, shall be tightened in accordance with equipment manufacturers' published torque tightening values. Where manufacturers’ torque requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL 486A. Scratches and mars of finish shall be touched up to match original finish. Remove paint splatters and other spots, dirt, and debris.

Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

Custom Equipment

Equipment that is not part of a manufacturer's or vendor's standard product line, or that is made or modified for this project, shall conform to the following:

1. Design specifications and drawings for custom equipment shall first be submitted to INDOT for review and approval. The Department reserves all rights to use any custom equipment throughout the State of Indiana at their convenience without restriction or license. Agreements of non-disclosure or product rights will be considered by the Department upon written request.
2. Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.
3. All components shall be available from multiple manufacturers as part of the manufacturers' standard product lines. All custom components will be labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.
4. Lamps used for indicator purposes shall be light-emitting diodes.
5. The printed circuit boards shall be composed of two-ounce copper on 0.063 in. thick fiberglass epoxy or equivalent type construction. Holes, which carry electrical connections from one side of the board to the other, shall be plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the Department shall be permanently affixed to each board. Alternatives may be submitted for approval of INDOT. Each circuit board shall be labeled with a unique serial number and part number that identifies the part to the manufacturer's revision and quality control documentation.
6. All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

All equipment requiring FCC type approval, acceptance or certification shall have such approval, acceptance and certification at time of shipment.

All electronic equipment shall be solid state and reflect the latest advances in state-of-the-art design. All equipment and materials shall be new and free of corrosion, scratches and other defects. All equipment shall meet or exceed the applicable standards of the EIA.

Lightning/surge protection will be provided for all installed hardware in accordance with Motorola R-56.

Environmental Conditions

ATMS equipment shall continue to operate as specified under the ranges of environmental conditions specified by NEMA TS-2, except as noted for individual pieces of equipment.

Vibration and Shock

The equipment, when packaged in its normal shipping container, shall not be damaged, nor shall the operational performance be degraded after exposure to vibrations of 1g, 15 Hz to 500 Hz, or shocks of 5g, 10 ±1 milliseconds in each of three mutually perpendicular planes.

Camera assemblies, vehicle detection assemblies, and communications radios and antennas, and any other equipment mounted atop poles or structures shall not be impaired by the continuous vibration caused by winds and traffic.

Duty Cycle

The duty cycle of all equipment shall be continuous.

Electromagnetic Radiation

The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. ATMS equipment supplied under this contract shall not conduct or radiate signals which will adversely affect other electrical or electronic equipment including, but not limited to, other control systems, data processing equipment, audio, radio, industrial, and medical equipment.

Electrical Power

The electrical power requirements shall be in accordance with the following:

1. Operating Power: The equipment shall operate on single phase, 3 wire 120/240 VAC, 60 Hz, unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies ±3 Hz.

2. High Frequency Interference: The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and ten microseconds duration.

3. Line Voltage Transients: The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-1 when connected to the surge protectors in the cabinets.

4. Protection: All equipment shall use readily accessible, manually resettable or replaceable circuit protection devices (such as circuit breakers or fuses) for equipment and power source protection.

5. Brownouts: The equipment shall not be damaged when the main power drops to 95 VAC for a period of eight hours. If the equipment does not operate normally at 95 Volts, the equipment shall automatically resume normal operation within five seconds after normal power returns.

Temperature and Humidity:

The temperature and humidity requirements shall be in accordance with the following:

1. Field Equipment: Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-1. Liquid crystal displays shall be undamaged by temperatures as high as 165° F, and shall produce a usable display at temperatures up to 122° F.

2. Central Equipment: Central equipment shall operate normally at any combination of temperatures between 50° F and 104° F, and humidity between five percent and 90 percent, non-condensing, and with a temperature gradient of 41° F, per hour.

Wiring

The wiring requirements shall be in accordance with the following:

Every conductor, except a conductor contained within a single piece of equipment, shall terminate either in a connector or on a terminal block. The Design-Build Contractor shall provide and install the connectors and terminal blocks where needed. Approved splice kits shall be used instead of connectors.

Connectors shall be labeled and keyed to preclude improper connection. The permanent labeling methods shall be approved by INDOT prior to use.

Appropriate designations shall be used for every conduit and cable segment. All conduits carrying electrical cables shall be marked or labeled at all maintenance points and points of access. Designations shall include terminology such as, “Power Distribution 480 VAC”, “RF Coax”, “Video Coax”, “Video Fiber”. All designations shall be approved by INDOT. Labels shall be done in accordance with these Special Provisions.

Terminal blocks shall be affixed to panels that identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Personnel shall be protected from accidental contact with all dangerous voltages.

Conductors carrying AC power shall not be installed in the same wiring harness as conductors carrying DC control or communication or video signals.

Wiring shall be arranged so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

All splices, excluding permissible fiber optic cable, shall be in equipment cabinets. Fiber optic splices shall be in ATMS vaults. All splices shall be watertight and capable of satisfactory operation under continuous submersion in water. Splicing materials, insulation, and techniques shall be approved by INDOT.

Electrical cables shall have at least 10 ft. of slack in all handholes and 6 ft. of slack in all cabinets, unless otherwise approved by INDOT.

Unless otherwise stated herein or shown on the Plans, hot dipped galvanized steel shall be used for all exposed metal surfaces. Corrosion protection shall be provided between dissimilar metals.

Software

Controller Software: The Design-Build Contractor shall deliver the most current versions of software working, tested, and complete with all necessary data files. For all software, except for commonly used, commercial software packages that are not supplied by an equipment manufacturer and that have not been modified for this project, the Design-Build Contractor shall furnish well documented protocol, interface documentation and technical support as required to integrate the intended application and hardware into the system. A non-disclosure affidavit will be signed by the Department or a Department-approved representative if required. Deliver the software shall be made in all of the following ways:

1. Installed on the hard disk or, for controller software on a PROM integrated circuit, executable code and data files only.
2. On two identical sets of portable storage media approved by INDOT.
3. As printouts, 2 copies of data files and source code.

In order for the software to be accepted, the Design-Build Contractor shall demonstrate that the source code and other items on the portable storage media are sufficient to create the working software provided by the Design-Build Contractor. The Design-Build Contractor shall demonstrate that the working executable program delivered on the hard disk or PROM is identical to the one produced in the demonstration.

Department’s Rights: The Design-Build Contractor shall provide licensed copies to the Department of any Commercial Off-the-Shelf Software (COTS) purchased from a third party. Adequate licensed copies of the software shall be provided as specified herein.

Serviceable Parts

The Design-Build Contractor shall certify that all serviceable parts are commercially available or readily available from the system vendors and suppliers. The system vendors and suppliers shall provide a letter to the Department stating that all current and future models of serviceable parts for all ATMS equipment components shall be backwards compatible. Components that shall be backwards compatible include, but are not limited to: vehicle detectors, closed circuit television cameras, pan-tilt-zoom mechanisms, all video control equipment, component software, and all communication equipment including fiber optic equipment, radios, antennas, and cables.

Parts shall be shipped within five business days of receiving an order from the Department. These parts, at a minimum, shall be easily serviceable by the Department maintenance personnel using standard tools or tools provided to the Department by the Design-Build Contractor. The Department will not agree

to any implied or written arrangement to purchase any part from an exclusive source.

The Department shall have unlimited rights to software licenses. All source code shall be held in escrow by the Design-Build Contractor.

Method of Measurement

ATMS General Requirements will not be measured.

Basis of Item

ATMS General Requirements shall be considered incidental to the cost of equipment being provided on this contract.

Tools provided by the Design-Build Contractor shall become the property of the Department and shall be considered incidental to the cost of other pay items.

ATMS GROUNDING

Description

This work includes solid grounding of electrical systems and equipment. It includes basic requirements for grounding for protection of life, equipment, circuits, and systems. Grounding requirements specified herein may be supplemented in other sections of these specifications. All ground wires shall be tinned copper.

The Design-Build Contractor shall design a ground system for each type of remote site and submit Plans in the form of a design drawing for approval by INDOT. The design shall be certified by a Professional Engineer in the State of Indiana.

The work shall be completed in accordance with 807 and 922.07. This work shall also comply with Motorola R-56, Motorola Standards and Guidelines for Communications Sites 2000, Chapter 6, External Grounding. Where conflicts exist between Motorola R-56 and specifications, the more stringent requirement shall prevail.

Materials

Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include, or manufacturers with equal products, the following:

1. O-Z/Gedney Co.
2. Alltec Corporation
3. American Electric/Blackburn
4. Thomas & Betts Corp.

Grounding and Bonding Products:

Products of types indicated and of sizes and ratings to comply with the NEC. Where types, sizes, ratings, and quantities indicated in these Specifications, Plans, Motorola R-56, or 807 are in excess of the NEC requirements, the more stringent requirements and the greater size, rating, and quantity indications govern. Conductor materials shall be copper.

Wire and Cable Conductors:

1. Aluminum wire and cable shall not be used.
2. In general, conform to NEC Table 8, except as otherwise indicated, for conductor properties, including stranding.
3. Equipment Grounding Conductor shall be green insulated.
4. Grounding Electrode Conductor shall be solid copper wire.
5. Bare Copper Conductors shall be solid copper wire: ASTM B-3.
6. Assembly of Stranded Conductors in accordance with ASTM B-8.
7. Tinned Conductors in accordance with ASTM B-33.

Miscellaneous Conductors:

1. Ground Bus shall be bare annealed copper bars of rectangular cross section.

Connector Products:

1. In general shall be listed and labeled as grounding connectors for the materials used.
2. Pressure Connectors shall be high-conductivity-plated units.
3. Bolted Clamps shall be heavy-duty units listed for the application.
4. Exothermic Welded Connections shall be provided in kit form and selected for the specific types, sizes, and combinations of conductors and other items to be connected.

Grounding Electrodes:
Ground Rods shall be copper-clad steel with high-strength steel core and electrolytic-grade copper outer sheath, molten welded to core. Electrolytic ground rods maybe used, if required by soil conditions, with the approval of INDOT. Ground rods shall be 5/8 in. by 10 ft.

Construction Requirements

Electrical systems and equipment shall be grounded in accordance with Motorola R-56 and NEC requirements except where exceed by the plans or the specifications.

Listing and Labeling:
Products provided shall be listed and labeled. The terms "listed" and "labeled" shall be in accordance with NEC, Article 100.

Electrical Component Standard:
Components and installation shall comply with NFPA 70 of the NEC.

UL Standard:
Grounding and bonding equipment shall comply with UL 467, Grounding and Bonding Equipment.

Equipment Grounding Conductor Application:
Equipment grounding conductors shall comply with NEC Article 250 for size and quantity, except where larger sizes or more conductors are indicated on the plans or by Motorola R-56.

Connections:
In general, make connections in such a manner as to minimize galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be compatible and prevent galvanic action. The following requirements shall also apply:

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and make contact points closer in order of galvanic series.
2. Make connections with clean bare metal at points of contact.
3. Aluminum to steel connections shall be with stainless steel separators and mechanical clamps.
4. Aluminum to galvanized steel connections shall be with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections involving dissimilar metals with inert material such as red lead paint to prevent future penetration of moisture to the contact surfaces.

Exothermic Welded Connections:

Use for connections to structural steel, for all underground connections, and for all connections to ground rods and plate electrodes. Comply with manufacturer's written recommendations. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.

Terminate insulated equipment grounding conductors for feeders and branch circuits with pressure-type grounding lugs. Where metallic conduits terminate at metallic housings without mechanical and electrical connection to the housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to the ground bus in the housing. Non-continuous, metallic conduits shall be bonded, in an electrical manner, at one end with grounding bushings and bare grounding conductors.

Tighten grounding and bonding connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque-tightening values for connectors and bolts. Where manufacturer's torqueing requirements are not indicated, tighten connections to comply with torque tightening values specified in UL 486A.

Ground Rod Installations:
Ground rounds shall be driven into the earth. The top of the ground rod shall be a minimum of 12 inches below finished grade. Conductor terminations to the ground rod shall be made by exothermic welds, rated for underground installation.

Compression-Type Connections:
Use hydraulic compression tools to provide the correct circumferential pressure for compression connectors. Use tools and dies recommended by the manufacturer of the connectors. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on the ground conductor.

Moisture Protection:
Where insulated ground conductors terminated underground insulate the entire area of the connection and seal against moisture penetration of the insulation and cable.

Field Quality Control:
The procedures for performing resistance testing of the site grounding electrode system shall comply with the following:

The resistance of a grounding electrode system shall be measured after its installation and before it is bonded to the power company neutral wire or any other utility, such as the telephone ground or metallic pipes.

Resistance testing shall be done using the Three-Point/Fall-of-Potential method. The Three-Point/Fall-of-Potential test is the most widely accepted and recommended test method. This procedure is documented in ANSI/IEEE STD 81 and shall be referred to for more details. The testing shall be done in accordance with Motorola R-56. An instrument designed specifically to measure the resistance of a point to each ground shall be used and the instructions provided with the instrument shall be followed for proper measurement method. All measurements shall be recorded along with the location of each ground rod and submitted to INDOT.

Upon completion of all grounding requirements outlined in these Special

Provisions and other applicable documents, the ground resistance for Configuration G sites shall be 4 Ohms or less, all Configuration J shall be 25 Ohms or less, and all other sites shall be 10 Ohms or less.

Deficiencies:
Where ground resistances exceed specified values, the Design-Build Contractor shall modify the grounding system to reduce resistance values. Additional costs for materials and labor used in these modifications will be considered incidental to the cost of the grounding system.

Reporting:
Prepare test reports of the ground resistance at each test location. Include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.

Cleaning and Adjusting:
Restore surface features at areas disturbed by excavation and reestablish original grades except as otherwise indicated.

Where sod has been removed, replace it as soon as possible after backfilling is completed. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work to their original condition. Include necessary topsoil, fertilizing, liming, seeding, sodding, sprigging, or mulching. Maintain disturbed surfaces, restore vegetation, and restore disturbed paving.

Inspection:
The grounding system will be inspected by INDOT using the checklist from Motorola R-56 Appendix F pages 601 through 643, as applicable.

Method of Measurement
Grounding will not be measured for payment.

Basis of Item
Grounding shall not be paid for separately and shall be considered incidental to the items, electrical equipment, cabinets, and ATMS equipment. No separate payment will be made for equipment grounding unless otherwise specifically stated herein.

ATMS POWER SERVICE DROP

Description

Work under this item shall include furnishing and installing all equipment necessary to provide a complete service point power entry for ATMS equipment. Electrical service, where required, shall be provided by power utility which services the location of the service point. Provide a 100 Amp, 120/240 VAC, 1-phase, 3-wire service or a 100 Amp and 480 VAC 1-phase, 2-wire service or as indicated on the plans.

Materials

The service drops shall be sized and equipped as shown on the Plans. Meter sockets shall be installed in accordance with the requirements of the utility. Grounding shall be in accordance with Standard Specification 807.12 and shall be part of the service installation.

The service drop or metered panel shall be a Service Entrance rated, NEMA 3R Load Center with integral meter base rated 120/240VAC similar to the GE TSM1610CSCU, Square D RC1624M100S, or Siemens MC2040B1150, or with a separate meter base when rated at 480VAC as indicated in the plans. The panel shall be equipped with a Main Circuit Breaker sized as indicated on the plans or sized for the service provided. Provide a minimum of sixteen, 1 inch, 1-pole circuit breaker spaces in the panel for branch circuits. The enclosure shall be padlockable.

Circuit breakers shall be single or two-pole as required by the branch circuit. Circuit breakers shall have a minimum 10,000 AIC for 240V circuit breakers, and 65,000 AIC for 480V circuit breakers. Panels shall be fully rated; series rated shall not be allowed.

Construction Requirements

The service point shall be installed at locations as indicated in the Plans and shall also be closely coordinated with the utility’s requirements. Work under this item includes overhead and underground service power drops. The Design-Build Contractor shall pay for all costs required by the utility for service installation.

After coordination with the electric utility’s representative, the Design-Build Contractor shall submit a “Connection Request” form to the Department. The Department will forward this form to the electric utility and the Department will be responsible for paying bills after service is connected and the Design-Build Contractor pays the utility bills for all construction costs. The Service drops shall be in accordance with these Special Provisions and with 807.15.

All electrical work associated with the service power drop installations shall be in accordance with the Plans, Standard Specifications, and the manufacturer’s written instructions and applicable requirements of NEC standards. As identified in the plans or per INDOT request, where the proposed service point is more than 500 ft. from the ATMS remote site, a separate, lockable, subpanel shall be provided at the ATMS site.

All subpanels shall have their own ground rod which is also connected to the site’s grounding system. The grounding conductors and ground rod shall be bonded to all non-current carrying metal on the subpanel.

Any location that incurs a new customer set-up charge from the power utility shall be considered as part of the installation. The installation is not complete until power is available at the service point site.

Method of Measurement

Service points will be measured for payment per unit each complete and in place. Circuit Breakers when identified as the method for power service connection to an existing ITS service point shall be measured for payment per unit each complete and in place.

Basis of Item

Service Points shall be quantified as follows:

The Items list shall include the following:

Item No.	Item Description	Unit Symbol
809-04652	Service Point, ATMS, Circuit Breaker	EACH
809-04652	Service Point, ATMS, 120/240V, Overhead	EACH
809-04652	Service Point, ATMS, 120/240V, Underground	EACH
809-04652	Service Point, ATMS, Subpanel	EACH
809-04652	Service Point, ATMS, Metered Panel	EACH

Terminations, connections, service conductors, circuit breakers when not identified as the power source to an existing ITS Service Point, ground rods, ground wires, fittings, switches, service cabinets, utility current transformer cabinets, PT cabinets, CT cabinets, weatherheads, meter sockets, cables, conduits down to first below grade bend, poles, aluminum channels, braces, and mounting surfaces, and other miscellaneous items shall be incidental to this work and no separate payment will be made. Utility charges that are a standard fee for new service installations are incidental to this work, except as provided below.

The cost of the ground rod for a subpanel location shall be considered incidental to the cost of the subpanel.

Padlocks are to be in accordance with the padlock specification and are incidental to the item.

ATMS TRACER WIRE

Description

Work under this item shall include furnishing and installing tracer wire in conduits as shown on the plans and as described in these specifications to assist with conduit locates.

Materials

Tracer wires shall be a single conductor, high strength copper clad steel, orange color jacket, high molecular weight and high density polyethylene (HMWPE) insulation, #12 AWG wire. The HMWPE jacket shall be a minimum of 30 millimeters in thickness. The wire shall have a minimum break load of 425 pounds and made of fully annealed, high carbon 1055 grade steel. Tracer wires shall be rated for use at 30 volts. Wire connectors shall be waterproof.

Construction Requirements

As determined by the Department, new continuous tracer wire shall be placed into each run of fiber optic cable, fiber optic trunk cable, fiber optic lateral cable and fiber optic extension cable from handhole to handhole or vault. A minimum of 3 ft. of tracer wire shall be securely tied off inside of a terminating handhole.

As determined by the Department, a new continuous tracer wire shall be provided in the same conduit with all fiber optic cables. Tracer wire is not required to be installed in above-ground conduits and empty conduits that are part of a duct bank that contains a non-dielectric (conductive) cable. When multiple cables are to be installed in a conduit, all cables shall be pulled simultaneously to prevent friction damage to the cable insulation. Spare and empty conduits shall not be utilized to install the tracer wire.

The tracer wire shall be securely fastened inside of the handhole or vault. A waterproof wire nut or direct burial connector shall be connected to each end of the tracer wire to prevent corrosion. At vaults with splice enclosures the tracer wire shall be connected to the enclosure and also connect to the wire lead for the Fiber Optic, Locator Post.

Method of Measurement

ITS, Tracer Wire will be measured for payment per linear ft. of materials provided complete and in place.

Basis of Item

ITS, Tracer Wire shall be quantified per linear ft., complete and in place.

The items list shall include the following:

Item No.	Item Description	Unit Symbol
807-04651	ITS, Tracer Wire	LFT

The following shall be considered incidental to this item:

Materials, labor, equipment, and necessary incidentals are included in the item. ITS, Tracer Wire shall include fasteners, waterproof wire nuts, waterproof direct burial rated connectors and all other incidentals necessary for installation.

Waterproof wire nuts or connectors shall be considered incidental to the cost of the tracer wire.

CCTV ASSEMBLY

Description

This work shall consist of furnishing and installing closed circuit television cameras and supporting equipment.

Materials

Camera shall, at a minimum, meet the following characteristics:

Camera Sensors:

- Sensor 1/2.8” CMOS
- Progressive Scanning
- Resolution 1,920 x 1080
  - 640 x 360 @ 3x digital zoom
- Digital formats:
  - 1080p
  - 1080i
  - 720p
- Frame rate 30 frames per second
- Day/Night format with IR cut filter
- Automatic Day/Night mode
- Color
  - 0.25 lux
- Black and white
  - 0.024 lux
- Signal/Noise ratio >50db
- Motion detection

Optics:

- Physical zoom 30x
  - 4.4 to 132 mm
  - Effective 264mm with 2x digital zoom
- Aperture f1.4 -> f4.6
- HAFOV 63.4 ° to 2.1 ° @ 1920x1080
  - 63.4° to 0.7 ° @ 640x360
- Focus auto/manual [Near,far]
- Focus searching:
  - Normal
  - Bright
  - Point Source
- Focus sensitivity:
  - Low
  - Normal
  - High

- Digital zoom 12x on/off
- Auto focus of iris on PTZ

System Processing:

- Defog mode
- Image stabilization
- Enhanced intensity
- Whiteout reduction
- Dynamic Range >90dB
- Black light composition
- Shutter auto/manual
- Slow shutter
- White balance adjustments
- Sharpness adjustments
- Noise reduction
- 3 video streams
- Codecs:
  - H.264
  - MJPEG
- Protocols:
  - RTP/RTSP
  - RTSP Interleave
  - HTTP tunneling
  - RTP Multicast
  - 802.3u 100Base-T
  - MIDI-X auto sensing
  - Full duplex
  - TCP
  - UDP
  - IPv4
  - ICMP
  - DNS
  - IGMPv2/3
  - DHCP
  - NTP
  - HTTP
  - SOAP
  - HTTPS
  - FTP
  - SMTP
  - SNMP/NTCIP
  - ONVIF Profile S
  - NTCIP 1205
  - 802.3bt (PoE++)

- Video data rate control minimum of 256Kbs
- Video rate control variable or constant
- Video transmittal 99.99% error free
- Support for VLC media player or any media player compliant with the following RFCs:
  - 2236
  - 3984

    - 3550
    - 2435
    - ISO/IEC 13818-1
- Configurations shall be stored on non-volatile memory
- Upload file over web interface or shell
- Security profile support
- Output triggers supporting:
    - FTP
    - Email
    - Tour
    - On-screen display message
- On Screen Display:
    - 7 elements for display
        - Text Preset
        - Date/Time
        - Sector
        - Maintenance
        - Action Event
        - 40 characters per text element
        - Size variant of 20-90 points, incrementing by 10
        - Color of text:
            - Blue
            - Red
            - Green
            - Black
            - White
        - Positioning of:
            - Upper Right/left
            - Lower Right/left
            - Center
            - Custom
        - Banner Display on/off
        - Logo display supporting:
            - BMP
            - PNG
            - GIF
            - X,Y position
            - Transparency
        - Privacy masks:
            - Rectangular shape
            - Colored Red, Green, Blue, Purple, or Gray
            - Opacity 25, 50, or 75%
            - Four levels of brightness adjustment
- Inverted mounting
- 256 Preset locations
- 256 tours containing 10 preset locations each
- Auto Park timer to return to preset or tour after timer expires
    - Time of off, 1 minute, 999 hours

Mechanical:

- IP68 rating
- Powered by one of the following:
  - PoE++
  - 24Vdc
  - 120Vac
- Voltage Range NEMA TS 2-2003 section 2.2.7 test C through H
- Transient/Surge Certified to CISPR 24 Levels
- Emissions Certified to CISPR 22 levels
- CE, FCC Part 15B RoHS
- Corrosion MIL-STD-810G, method 509.5 Paragraph 4.5.2, ANSI NCSL Z 540-1
- ISO 172025:2005
- Shock per NEMA TS2 paragraph 2.2.9 10g applied in each of 3 mutually perpendicular planes
- Humidity up to 100%
- Pan Range 360° of continuous rotation
- Tilt range 360°
- Preset Speed Peak of 120°/ second
- 180° movement in < 3 seconds
- Manual speed of 0.1° to 45° /second
- Operational temperature -40°F to 167°F Per NEMA TS2 2.2.7
- RJ45 Connection for data and power support
- Inverted mounting
- Set north calibration

Camera shall include required hardware for mounting and connecting device to structure and associated equipment. Camera shall be configured for remote access. Minimum configuration settings shall include:

- IPv4/6 address
- Subnet Mask
- Default IPv4/6 gateway
- NTP server
- DNS server
- DHCP settings
- Hostname
- Domain/workgroup
- Username
- Password

Department Network Engineer shall provide specific parameters per device for installation upon request.

Construction Requirements

All installation services shall comply with all manufacturer's instructions and warranty provisions and warranty contract maintenance services and Department electrical codes. All wiring entry to the camera dome shall use watertight fittings. All materials shall be installed in a neat and professional manner. All wiring entry and exits shall be made at the side or underneath components; no exposed top entry or exits are permitted. This requirement extends to all enclosures, junction boxes, support arms, or any other externally exposed devices.

Method of measurement

CCTV Assembly will be measured by the number of units installed.

Basis of Item

CCTV Assembly shall be quantified per EACH.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-06128	CCTV Assembly	EACH

The following shall be considered incidental to this item:

Labor, materials, design, vendor support, and items necessary to provide a complete and functioning CCTV assembly.

ITS, CELLULAR MODEM ASSEMBLY

Description

The modem shall provide communication between the ITS Controller and the TMC.

Materials

The ITS, Cellular Modem shall consist of the following components:

1. One cellular modem gateway
   - CRADLEPOINT COR SERIES ROUTER MODEL # IBR900-1200
   - Direct wire GPIO cable
   - COR Extensibility Dock
   - Power Cables
   - 5 Year Warranty & Licensing
2. One, Five-in-one antenna
   - AG60 SERIES W/CABLE (2 X CELLULAR 3G/4G/LTE/GPS/2 X WiFi 2.4GHZ FOR CRADLEPOINT IBR900)

The ITS, Cellular Modem shall provide all the needed features and components to provide data communications between the ITS field cabinet and the Department Traffic Management Centers.

Construction Requirements

The ITS, Cellular Modem shall be installed in accordance with the manufacturer's instructions. All materials shall be installed in a neat and professional manner. All installation services will comply with all warranty provisions and warranty contract maintenance services in accordance with these specifications. All installation services shall comply with all local and state electrical codes, and Motorola R-56 requirements. All wiring entry and exits shall be made at the side or underneath components; no exposed top entry or exits are permitted. This requirement extends to all enclosures, junction boxes, support arms, or any other externally exposed devices. Cable termination shall be in accordance with the manufacturer's recommendations. Connectors outside of cabinets shall be sealed in accordance with the manufacturer's recommendations. The Design-Build Contractor shall de-burr all holes made in metal poles or cabinets and install grommets for cable protection.

Method of Measurement

The ITS, Cellular Modem will be measured for payment per the number of units furnished and installed complete and in place and after passing component and subsystem testing.

Basis of Item

ITS, Cellular Modem shall be quantified per each.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
805-08244	ITS, Cellular Modem Assembly	EACH

The following shall be considered incidental to this item:

Cellular gateway modem, cellular gateway modem power supply, antenna, cables, environmental enclosure, housing, mount, all mounting hardware, support arms, connections, Ethernet cables, and incidentals necessary to complete the work.

FENCE AND SLIDING GATE FOR TOWER SITES

SECTION 603, BEGIN LINE 18, INSERT AS FOLLOWS:

Cantilever slide gates shall be manufactured to the minimum dimensions shown on the plans. The gate post and gate post foundations shall be sized per the manufacturer's recommendations, but no smaller than the posts and foundations shown in the plans. Gates shall be provided with a gate latch capable of being padlocked with the ITS, PADLOCK.

SECTION 603, BEGIN LINE 46, INSERT AS FOLLOWS:

The fence and gate shall be grounded in accordance with the plans and grounding specification.

The camera lowering device down guide cables shall be securely attached to the fence posts at the locations indicated in the plans, or as approved by INDOT.

Gate installation shall be in accordance with the manufacturer's instructions.

SECTION 603, BEGIN LINE 154, INSERT AS FOLLOWS:

FENCE CHAIN LINK 96 IN., MODIFIED
.....LFT

FENCE GATE CHAIN LINK, 96 IN x 15 FT, CANTILEVERED..... EACH

FIBER OPTIC BACKBONE CABLE

Description

The Design-Build Contractor shall provide outdoor-rated, single-mode, armored, fiber optic cable of the number of fibers specified as shown on the plans and as directed by INDOT. Other ancillary components required to complete the fiber optic cable plant, including but not limited to, moisture and water sealants, cable caps, fan-out kits, etc., shall be incidental to the fiber optic cable item and will not be paid for separately.

Materials

The single-mode, fiber optic cable shall incorporate a single tube, 12-fiber ribbon design or a loose, buffer tube design. The cable shall conform to the requirements of Rural Utility Service (RUS) 7 CFR 1755.900 (PE-90) for a single sheathed, armored cable, and shall be new, unused, and of current design and manufacture. The number of fibers in each cable shall be as specified on the plans.

Minimum Bending Radius:

The cable shall be capable of withstanding a minimum-bending radius of fifteen (15) times its outer diameter during operation and ten (10) times its outer diameter during installation without changing the characteristics of the optical fibers.

Environmental Requirements:

The cable shall meet all of the specified requirements under the following conditions:

1. Shipping/storage temperature: -40°F to +158°F (-50°C to +70°C)
2. Installation temperature: -30°F to +158°F (-30°C to +70°C)
3. Operating temperature: -40°F to +158°F (-40°C to +70°C)
4. Relative humidity from 0% to 95%, non-condensing

All backbone cables shall be suitable for installation in outdoor handholes, manholes, or vaults subject to immersion in water and ice.

Construction Requirements

Experience Requirements:

Personnel involved in the installation, splicing, and testing of the fiber optic cables shall meet the following requirements:

1. Shall have installed two systems where fiber optic cables are outdoors in conduit and where the systems have been in continuous satisfactory operation for at least two years. The Design-Build Contractor shall submit as proof, photographs or other supporting documents, and the names, addresses, and telephone numbers of the operating personnel who can be contacted regarding the installed fiber optic systems.
2. A minimum of three years of experience in the installation of fiber optic cables, including fusion splicing, terminating, and

testing single mode fibers.

3. Shall have installed one fiber optic cable system (which may be one of the two in the preceding paragraph), which the Design-Build Contractor can arrange for demonstration to the Department representatives and INDOT, if requested.
4. Installers shall be familiar with the cable manufacturer's recommended procedures for installing the cable. This shall include knowledge of splicing procedures for the fusion splicer being used on this project and knowledge of all hardware such as breakout (furcation) kits and splice closures. The Design-Build Contractor shall submit documented procedures to INDOT for approval and to be used by Construction inspectors.
5. Personnel involved in testing shall have been trained by the manufacturer of the fiber optic cable test equipment to be used in fiber optic cable testing procedures. Proof of this training shall be submitted to INDOT for approval. In addition, the Design-Build Contractor shall submit documentation of the testing procedures for approval by INDOT.

Installation in Conduit:

The Design-Build Contractor shall provide a cable-pulling plan, identifying where the cable will enter the underground system and the direction of pull. This plan shall address locations where the cable is pulled out of a handhole, coiled in a figure eight, and pulled back into the handhole. The plan shall address the physical protection of the cable during installation and during periods of downtime. The cable-pulling plan shall be provided to INDOT for approval a minimum of 10 working days prior to the start of installation. INDOT's approval shall be for the installation operation on the freeway and does not include an endorsement of the proposed procedures. The Design-Build Contractor is responsible for the technical adequacy of the proposed procedures.

During cable pulling operations, the Design-Build Contractor shall ensure that the minimum bending of the cable is maintained during the unreeling and pulling operations. Entry guide chutes shall be used and the ends of the conduit shall be fitted with bells to protect and guide the cable into the handhole conduit ports. Bells shall be removed after installation of the cable. Lubricating compound shall be used to minimize friction. Corner rollers (wheels), if used, shall not have radii less than the minimum installation-bending radius of the cable. A series array of smaller wheels can be used for accomplishing the bend if the cable manufacturers specifically approve the array.

The pulling tension shall be continuously measured and shall not be allowed to exceed the maximum tension specified by the manufacturer of the cable. Fuse links and breaks can be used to ensure that the cable tensile strength is not exceeded. The pulling system shall have an audible alarm that sounds whenever a pre-selected tension level is reached. Tension levels shall be recorded continuously and shall be given to INDOT upon request.

The number of handholes/manholes/vaults and their locations shall be as shown on the Plans, or as requested by INDOT.

The cable shall be pulled into the conduit as a single component, absorbing the pulling force in all tension elements.

The steel strength member(s) and Aramid yarn shall be attached directly to the pulling eye during cable pulling. "Basket grip" or "Chinese-finger type" attachments, which only attach to the cable's outer jacket, shall not be permitted. A breakaway swivel, rated at 95% of the cable manufacturer's approved maximum tensile loading, shall be used on all pulls. When simultaneously pulling fiber optic cable with other cables, separate grooved rollers shall be used for each cable.

Three hundred (300) feet of slack fiber shall be installed at all location where splices are being made, one hundred and fifty (150) feet on each side of the splice enclosure and tie-wrapped and coiled as indicated on the plans. Fifty (50) feet of slack fiber shall be included at all other handholes or vaults not containing splices. Slack cable shall be pulled from the adjacent cabinet or shelter after installation and secured inside of the vault.

Construction Documentation Requirements:

Installation Practices for Outdoor Fiber Optic Cable Systems: The Design-Build Contractor shall examine the proposed cable plant design. At least one month prior to starting installation of the fiber optic cable plant, the Design-Build Contractor shall prepare and submit to INDOT for review and approval, ten (10) copies of the Design-Build Contractor's "Installation Practices for Outdoor Fiber Optic Cable Systems" manual, or as required by INDOT. This manual shall address the Design-Build Contractor's proposed practices covering all aspects of the fiber optic cable plant. This submittal shall include all proposed procedures, list of installation equipment, and splicing and test equipment. Test and quality control procedures shall be detailed as well as procedures for corrective action.

Operation and Maintenance Documentation: After the fiber optic cable plant has been installed, ten (10) complete sets of Operation and Maintenance Documentation shall be provided, or as required by INDOT. The documentation shall, as a minimum, include the following:

1. Complete and accurate as-built diagrams showing the entire fiber optic cable plant including locations of all splices.
2. Final copies of all approved test procedures.
3. Complete performance data of the cable plant showing the losses at each splice location and each terminal connector.
4. Complete parts list including names of vendors.

Testing Requirements: The Design-Build Contractor shall submit detailed test procedures for approval by INDOT. All fibers shall be tested bi-directionally at both 1310 nm and 1550 nm with both an Optical Time Domain Reflectometer (OTDR) and a power meter and optical source. Any discrepancies between the measured results and these specifications shall be resolved to the satisfaction of INDOT.

A Certified Technician utilizing an Optical Time Domain Reflectometer (OTDR) and Optical Source/Power Meter shall conduct the installation test. The

Technician is directed to conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

The Design-Build Contractor shall provide the date, time, and location of any tests required by this specification to INDOT at least 5 days before performing the test. Upon completion of the cable installation, splicing, and termination, the Design-Build Contractor shall test all fibers for continuity, events above 0.1 dB, and total attenuation of the cable. The test procedure shall be as follows:

Optical Time Domain Reflectometer: The method of connectivity between the OTDR and the cable shall be a factory patch cord or launch cable of a length equal to the "dead zone" of the OTDR. Optionally, the Technician can use a factory "fiber box" of 328 ft (100 m) minimum with no splices within the box. The tests shall be conducted at 1310 nm and 1550 nm for all fibers.

At the completion of the test, the Design-Build Contractor shall provide two copies of documentation of the test results along with a Comma Separated File(CSV) to the Project Engineer. The test documentation shall be bound and shall include the following:

1. Cable & Fiber Identification:
   a. Cable ID
   b. Cable Location beginning point
   c. Cable Location end point
   d. Fiber ID
   e. Rube/Ribbon Color
   f. Fiber color
2. Operator Name
3. Date & Time
4. Setup Parameters
5. Wavelength
6. Pulse width (OTDR)
7. Refractory index (OTDR)
8. Range (OTDR)
9. Scale (OTDR)
10. Setup Option chosen to pass OTDR “dead zone”
11. Test Results:
    a. OTDR Test
    b. Total Fiber Trace
    c. Splice Loss/Gain
    d. Events > 0.10 dB
12. Physical Length (Cable Marking)
13. Fiber Length (OTDR)
14. Test results and traces shall also be provided on a CD or

flash drive

15. Optical Source/Power Meter
16. Total Attenuation

These results shall be provided in tabular form. The following shall be the criteria for the acceptance of the cable:

1. The test results shall show that the dB/km loss does not exceed +3% of the factory test or 1% of the cable's published production loss.
2. However, no event shall exceed 0.10 dB. If any event is detected above 0.10 dB, the Design-Build Contractor shall replace or repair the fiber including that event point.

The total dB loss of the cable, less events, shall not exceed the manufacturer's production specifications as follows:

1. 0.5 dB/km at 1310 nm
2. 0.4 dB/km at 1550 nm

If the total loss exceeds these specifications, the Design-Build Contractor shall replace or repair that cable run at the Design-Build Contractor's expense, both labor and materials. Elevated attenuation due to exceeding the pulling tension during installation shall require the replacement of the cable run at the Design-Build Contractor's expense, including labor and materials.

The aforementioned tests shall be completed on the reel before installation and completed after the complete installation.

Splicing Requirements: Splices shall be made at locations shown on the Plans. Any other splices shall be permitted only with the written approval of INDOT.

All optical fibers shall be spliced as indicated on the Plans. If no information is provided, mainline splices shall concatenate the fibers from the two cable segments, that is, the colors of the buffer tubes and fibers shall be the same across the splice. For splices that breakout the individual fibers, the fibers shall be spliced in accordance with the Plans.

Slack Storage of Fiber Optic Cables: As part of this item, slack fiber shall be supplied as necessary to allow splicing of the fiber optic cables to occur in a controlled environment, such as a splicing van or tent. After splicing has been completed, the slack fiber shall be stored underground in vaults.

Where identified on the plans or as directed by INDOT, additional lengths of fiber shall be stored as maintenance coils. The aggregate lengths of the maintenance coils and the slack fiber shall be used to repair and maintain the fiber optic cable.

Label the destination of each cable in each handhole, vault. Label the destination of each cable at a fiber distribution panel (FDP) located in

cabinets, DMSs, and shelters. As a minimum, FDP face plate shall indicate the destination (i.e. dms-465-022-0-nb).

Fiber optic cable shall be tagged inside handholes with a vinyl label containing the text: "CAUTION – FIBER OPTIC CABLE."

Identification of installed Fiber Optic Cables: The backbone fiber optic cable shall be labeled as "Destination (i.e. CDP-S2)" - "Route (i.e. 465)" – "Destination (i.e. CDP-S3" and "Count" – "Fiber Type (SM or MM)" depending on the location of the fiber and type of fiber. Labels shall be permanent wrap-around type, machine printed and shall be installed within 2 feet from each installed splice enclosure, termination shelf, or conduit penetration into a handhole, cabinet or other structure.

Method of measurement

Fiber optic cable will be measured per foot of cable provided in conduit, handhole, vault, cabinet, or shelter.

Basis of Item

Fiber optic cable shall be quantified per lineal foot.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-94971	Fiber Optic Cable, Armored, 24F Single Mode	LFT
809-94971	Fiber Optic Cable, Armored, 96F Single Mode	LFT

The following shall be considered incidental to this item.

Materials, labor, equipment, transportation, placement, all incidentals, preparation work, pulling equipment and materials, testing, labor, and incidentals necessary to complete the work.

FIBER OPTIC CABLE SPLICE

Description

The Design-Build Contractor shall splice optical fibers from different cable sheaths and protect them with a splice enclosure and splice trays at the locations shown on the Plans. Fiber splicing consists of in-line fusion splices for all fibers described in the cable plan at the particular location.

Materials

Splice Enclosures: Splice Enclosures shall be designed for use under the most severe conditions such as moisture, vibration, impact, cable stress, and flex temperature extremes as demonstrated by successfully passing the factory test procedures and minimum specifications listed below:

Physical Requirements: The enclosures shall provide ingress for up to four cables in a butt configuration. The closure shall prevent the intrusion of water without the use of encapsulates.

The enclosure shall be capable of accommodating splice organizer trays that accept mechanical or fusion splices. The splice enclosure shall have provisions for storing fiber splices in an orderly manner, mountings for splice organizer assemblies, and space for excess or un-spliced fiber. Splice organizers shall be re-enterable. The splice case shall be UL rated.

Enclosure re-entry and subsequent reassembly shall not require specialized tools or equipment. Further, these operations shall not require the use of additional parts.

The splice enclosure shall have provisions for controlling the bend radius of individual fibers to a minimum of 1.5 in (38 mm).

For splices in armored cables, the splice closure shall provide a method of bonding the armor from all sheaths entering the closure. It shall also provide a means of grounding the armor and closure at the splice location.

Factory Testing:
Factory Testing shall conform to the following testing;

Compression Test:
The closure shall not deform more than 10% in its largest cross-sectional dimension when subjected to a uniformly distributed load of 1335 N at a temperature of 0° F and 100°F (-18°C and 38°C). The test shall be performed after stabilizing at the required temperature for a minimum of two hours. It shall consist of placing an assembled closure between two flat parallel surfaces, with the longest closure dimension parallel to the surfaces. The weight shall be placed on the upper surface for a minimum of 15 minutes. The measurement shall then be taken with weight in place.

Impact Test:
The assembled closure shall be capable of withstanding an impact of 28 N-M at temperatures of 0° F and 100° F (-18° C and 38° C). The test shall be performed after stabilizing the closure at the required temperature for a

minimum of 2 hours. The test fixture shall consist of 20 lb (9 kg) cylindrical steel impacting head with a 2 in (5 cm) spherical radius at the point where it contacts the closure. It shall be dropped from a height of 12 in (30 cm). The closure shall not exhibit any cracks or fractures to the housing that would preclude it from passing the water immersion test. There shall be no permanent deformation to the original diameter or characteristic vertical dimension by more than 5%.

Cable Gripping and Sealing Testing:

The cable gripping and sealing hardware shall not cause an increase in fiber attenuation in excess of 0.05 dB/fiber @ 1550 nm when attached to the cables and the closure assembly. The test shall consist of measurements from six fibers, one from each buffer tube or channel, or randomly selected in the case of a single fiber bundle. The measurements shall be taken from the test fibers before and after assembly to determine the effects of the cable gripping and sealing hardware on the optical transmission of the fibers.

Vibration Test:

The splice organizers shall securely hold the fiber splices and store the excess fiber. The fiber splice organizers and splice retaining hardware shall be tested per EIA Standard FOTP-II, Test Condition I. The individual fibers shall not show an increase in attenuation in excess of 0.1 dB/fiber.

Water Immersion Test:

The closure shall be capable of preventing a 10 ft. water head from intruding into the splice compartment for a period of seven days. Testing of the splice closure will be accomplished by placing the closure into a pressure vessel and filling the vessel with tap water to cover the closure. Continuous pressure shall be applied to the vessel to maintain a hydrostatic head equivalent to 10 ft. on the closure and cable. This process shall be continued for 30 days. Remove the closure and open to check for the presence of water. Any intrusion of water in the compartment containing the splices constitutes a failure.

Certification:

It is the responsibility of the Design-Build Contractor to ensure that either the manufacturer, or an independent testing laboratory has performed all of the above tests, and the appropriate documentation has been submitted to the Department. Manufacturer certification is required for the model of closure supplied. It is not necessary to subject each supplied closure to the actual tests described herein.

Construction Requirements

Installation: Underground splice enclosures shall be installed in ATMS Vaults at locations shown on the plans. After all necessary splices are made and the enclosure is sealed, the Design-Build Contractor shall install the enclosure in the vault such that it is supported at least one ft. above the aggregate bottom of the vault. The Design-Build Contractor shall use appropriate hardware for mounting. The Design-Build Contractor shall seal the splice closure and pressure test it following the manufacturer’s instructions. Dry water-blocking compound shall be placed in the closure during this process.

The Design-Build Contractor shall secure the Splice Closure to the side of the splice facility using cable support brackets or similar methods. All cables shall be properly dressed and secured to rails or racks within the

vault. No cables or enclosures will be allowed to lie on the floor of the splice facility. Cables that are spliced inside a building shall be secured to the equipment racks or walls as appropriate and indicated on the Plans.

The enclosure shall be installed according to the manufacturer's recommended guidelines.

The Design-Build Contractor shall prepare the cables and fibers in accordance with the enclosure and cable manufacturers' installation practices. A copy of these practices shall be provided to INDOT 21 days prior to splicing operations.

Using a fusion splicer, the Design-Build Contractor shall optimize the alignment of the fibers and fuse them together. The Design-Build Contractor shall recoat the fused fibers and install mechanical protection over them.

Upon completing all splicing operations for a cable run, the Design-Build Contractor shall measure the mean bi-directional loss at each splice using an Optical Time Domain Reflectometer. This loss shall not exceed 0.1 dB.

The Design-Build Contractor shall measure the end-to-end attenuation of each fiber, from connector to connector, using an optical power meter and source. This loss shall be measured from both directions and shall not exceed 0.5 dB per installed kilometer of single mode cable, measured at 1310 nm.

The test results shall be supplied to the Department in hard copy and electronic versions.

The cable installation shall satisfy the requirements of both the National Electric Code (NFPA-70-2008) and the National Electric Safety Code (IEEE C2-2007). The standards require that the armor be bonded and grounded any time that the armor is interrupted or exposed by opening the sheath. These documents also provide minimum separations from foreign utilities.

For splices in armored cables, the Design-Build Contractor shall ground the splice closure using a #6 AWG conductor or equivalent.

As directed by INDOT, the Design-Build Contractor at no additional cost to the Department shall replace any cable splice not satisfying the required objectives.

Method of measurement

Fiber optic fusion splices will be measured for payment per each spliced fiber strand, furnished, installed and tested.

Splice enclosures will be measured for payment per each enclosure furnished, installed and secured to the wall of the splice facility.

No additional payment will be made for pulling slack fiber optic cable

from nearby vaults, as required to complete a fiber optic splice. The cost of pulling slack cable shall be included in the bid price of the fiber optic splice.

Basis of Item

Fiber optic fusion splices shall be quantified per each fiber optic strand spliced, complete and in place. Fiber optic splice enclosures shall be quantified per EACH.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-04970	Fiber Optic, Fusion Splice	EACH
809-04970	Fiber Optic, Splice Enclosure	EACH

The following shall be considered incidental to this item:

All testing and performance verification as described herein, and any incidentals necessary to complete the splice.

FIBER OPTIC DROP CABLE

DESCRIPTION. The fiber optic drop cable is used for installing fiber optic cable into Intelligent Transportation System (ITS) control cabinets and relay shelters. This ITS Drop Cable is used for connectivity between a primary fiber trunk, or feeder cable, and various field devices such as closed circuit television cameras at field locations as shown on the Plans.

MATERIAL REQUIREMENTS.

The Fiber Optic ITS Drop Cable shall include a pre-terminated, pre-tested connector module with pigtails that splice into the primary fiber trunk. This connector module mounts into the ITS field cabinet enclosure or on a standard 19-inch rack rail. The fiber optic ITS drop cable shall have the following specifications: 1. Single mode 2. Fiber count – 6 fiber 3. Connector #1 – SC (pre-terminated) 4. Connector #2 – Pigtail length of 150’ 5. mounting plate for cabinet rack 6. Insertion Loss — .2 dB typical 7. Return Loss — > -40 dB SPC 8. Tensile Strength - 50lbs. (220N) <.20 dB change 9. Temperature Cycling - -40˚C + 70˚C, 40 cycles <.20 dB change 10. Ferrule material— Ceramic 11. Housing material — Acrylic, UL94V0 INSTALLATION REQUIRMENTS. Coordinate layout and installation of fiber optic drop cable with other installations. Revise locations and elevations from those indicated as required to suit field conditions and as approved by INDOT. METHOD OF

MEASUREMENT AND BASIS OF ITEM.

All fiber optic drop cables shall be quantified per unit each delivered and after demonstration of performance. Fiber optic drop cables shall be quantified per each as follows: x “FIBER OPTIC ITS DROP CABLE ASSEMBLY, 6 FIBER”

FIBER OPTIC LOCATOR POST

Description

The Design-Build Contractor shall furnish Fiber Optic Locator Post for identifying locations of fiber optic cable as shown on the plans or as directed by INDOT.

Material

The Fiber Optic Locator Post shall be made of a non-conductive, high-density polymer, and shall be integrally white in color with an orange cap with black graphic and lettering on two sides. All colors shall be stabilized against ultraviolet light such that they will not fade under continuous exposure to direct sunlight. The marker shall retain dimensional stability in temperatures ranging between -40° F and 175° F. Each post shall be able to withstand a single vehicle impact at 45 MPH and return to within 10 degrees of vertical within 60 seconds.

Installation

A Locator Post shall be installed at fiber optic splice locations. At splice points, posts shall be connected to the fiber splice cases and the armored cable with a #12 ITS, Tracer Wire in innerduct as indicated on the Plans.

Locator Posts shall be installed in accordance with the manufacturer specifications and details.

Locator Posts shall be installed at the same time or immediately after the installation of underground conduits and vaults for identification of underground infrastructure.

Method of Measurement

This work will be measured in units of each for the number of markers that are placed and accepted.

Basis of Item

Fiber Optic locator post shall be quantified per each for Fiber Optic, Locator Post at locations as shown on the plans or as approved by INDOT.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-04970	Fiber Optic, Locator Post	EACH

The following shall be considered incidental to this item:

Materials, #12 tracer wire between the vault and post, labor, equipment, transportation, placement, and all incidentals.

FIBER OPTIC PATCH PANEL ASSEMBLY

Description

This work shall consist of furnishing and installing patch panels for terminations inside of the communications shelter or ITS Cabinet.

Materials

The patch panel shall have brackets and all other hardware required for rack mounting in an EIA standard 19-in. equipment rack, or wall mounted if required as shown on the plans. The enclosure shall take up no more than four rack units for 96 fiber panels and no more than one rack unit for 12 fiber panels. The patch panel shall be made of powder-coated aluminum.

The enclosure shall include routing guides for jumpers, strain relief for pigtails coming from a splice enclosure, and labels for every connector. The panel shall route fiber optic patch cables between any two connectors without reaching the patch cables' minimum bending radius.

Twelve Port Panels

The enclosure shall include a 12 port patch panel cassette module with a male connection MPO, Type A, IP 69k and 68 for connection to the trunk cable and SC connectors on the front panel. The patch panel cassette shall be pre-terminated from the factory between the SC connectors and the MPO connector. Each MPO connector shall not cause in excess of 0.65dB optical signal loss when tested at 1310nm with a typical loss of 0.35dB. Each SC connector on shall not cause in excess of 0.3dB optical signal loss when tested at 1310nm. The enclosure shall be designed to hold cassettes totaling at least 36 connectors or as shown on the plans. Provide enough cassettes for every fiber that terminates in the enclosure. Provide blank panels for panel positions that are not equipped with cassettes or patch panels.

Ninety-six Port Panels

The enclosure shall include patch panel modules with SC connectors. Each SC connector on the panel shall not cause in excess of 0.3dB optical signal loss when tested at 1310nm. The enclosure shall be designed to hold modules totaling at least 96 connectors in a vertical array mountable in a 19 inch rack. Provide enough modules for every fiber that terminates in the enclosure. Provide blank panels for panel positions that are not equipped with patch panels.

Construction Requirements

Design-Build Contractor shall provide all equipment for fusion splices, pig tails, trays for organizing equipment, break out kits, connectors, labels, and other accessories required to make a complete system. All fibers shall be terminated into the patch panel assembly in either a communications shelter or cabinet location. The cost of terminations shall be included in the patch panel assembly price.

Method of Measurement

Fiber optic patch panels shall be measured per each unit furnished and installed, which shall include the patch panel, appropriate mounting hardware, labor, and any other incidental materials necessary to complete the work.

Basis of Item

Fiber optic patch panels shall be quantified per each.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-04970	Fiber Optic, Patch Panel Assembly, 96 Port	EACH
809-04970	Fiber Optic, Patch Panel Assembly, 12 Port, 1U	EACH

The following shall be considered incidental to this item:

Materials, labor, equipment, transportation, placement, and all incidentals.

HANDHOLES

SECTION 805.03, BEGIN LINE 30, INSERT AS FOLLOWS:

ATMS Handholes shall be as shown on the plans. The handhole covers shall be bolted

into place with stainless steel bolts and washers. The cover frame shall be installed in the handhole with a butyl rubber sealant in tape/coil form for a proper seal between the handhole and frame and to prevent it from moving out of place. The sealant shall comply with ASTM C990 for butyl rubber sealants.

The cover for the ATMS handhole shall be marked with logo imprints of "Traffic

Management System" or "Traffic Management Power" horizontally across the cover. Covers

labeled "Traffic Management Power" shall be provided whenever the handhole is used for power distribution cables. Covers labeled "Traffic Management System" shall be provided in all other handholes.

Item No.	Item Description	Unit Symbol:
807-78590	Handhole, ATMS	EACH

ITS FIELD SWITCH

Description

The Design-Build Contractor shall provide and install the ITS field switch as described herein. The ITS field switch is used to connect communications equipment and the Aries Field Processor at ATMS sites and other sites as show on the plans. These switches must be compatible with the existing ATMS system architecture. Each switch shall be rack mountable. If the unit requires a rack mount kit or adapter which is not paid for elsewhere in these specifications, the kit shall be included with the ITS field switch at no additional cost to the department.

Materials

The Design-Build Contractor shall provide the ITS field switch and rack mount kit conforming to the following specifications:

1. Extreme Networks ERS 3626GTS-PWR+

Construction Requirements

The Design-Build Contractor shall provide and install the ITS Field switch in accordance with the manufactures instructions. Installation shall include all cables, mounting hardware, rack mount kit, power supplies with north American power cords and associated equipment required to mount and interface the communications subsystem. Installation activities are to be documented, including the output from show sys-info quantity, brand, model/part numbers, test results of all materials and devices used. Provide installer signed list of the materials installed with the required documentation. The Design-Build Contractor will follow assigned engineer’s direction for configuration information of IP addresses VLAN settings naming convention port security SNMP settings. All cabling is to be labeled and dressed using hook & loop style straps to secure cables in cable management.

Method of Measurement

The ITS Field switch and rack mount kits shall be measured per the number of units furnished and installed, complete and in place and after passing component and subsystem testing. This includes the mounting hardware, rack mount kit, all cabling, power supplies, and incidentals necessary to complete the work.

Basis of Item

The ITS Field switch shall be quantified per each installed complete and in place.

The Items List shall include the following:

Item No.	**Item Description**	**Unit Symbol**
809-09343	ITS, Field Switch, 3626GT-PWR+	EACH

The following shall be considered incidental to this item:

Materials, labor, equipment, transportation, placement, and all incidentals.

ITS POLE STRUCTURE

Description

This work shall consist of the design and installation of ITS pole structure in accordance with 105.03.

Materials

Materials shall be in accordance with 807.02 and as follows:

The ITS pole structure material shall be in accordance with ASTM A595 or A 572, Gr 55. The base plate materials shall be in accordance with ASTM A36. Anchor bolt material for ITS pole structure shall be in accordance with ASTM F1554, Gr 55. Each anchor bolt shall be provided with 2- hex nuts and 2- washers with minimum 15 in. threaded end galvanized in accordance with ASTM A153. Structure shall be galvanized after fabrication in accordance with ASTM A123 or AASHTO M111.All connection hardware for the two upper sections shall be in accordance with ASTM A325. All other ITS pole shaft hardware, including hardware for the handhole door and the latch mechanism, shall be stainless steel in accordance with ASTM F593 or A594, type 304 or 305, except where otherwise specified.

The Camera Lowering Device Raise/lower cable terminator material shall be hot dip galvanized or stainless steel. All safety cable attachment hardware shall be as listed below:

- Turnbuckles, Crosby HG-225 Hook & Eye, 3/8”, Part # 1030672, or Approved Equal
- Round Pin Shackles, 5/16”, Crosby G-213 / S-213 or G-215 / S-215, Part #’s 1018035 or 1018838, respectively, or Approved Equal
- Clevis Link Chain, Crosby Grade 80 Alloy, 5/16”, WLL-4500lbs, Part # 273536 or Approved Equal
- A316 Stainless Steel Quick Links, Peerless, 3/8”, Part # H8224-0640 or Approved Equal
- Wire Rope Thimble, Crosby HDG, 5/16”, Part # 1037318 or Approved Equal
- Wire Rope, Stainless Steel, 5/16”, Type 305/316, Loos or Approved Equal
- Wire Rope Clamps to Secure Safety Cable to Pole Only, Crosby G-40, 5/16”, Part #1010079 or Approve Equal. Use swage connectors to connect wire rope to turnbuckle
- Pad Eyes for Welding to inside of pole for attaching/securing safety chains, Crosby S-264, Size #2, Part # 1090786 or Approved Equal,

Design and Fabrication

ITS poles shall be either the preapproved Valmont ITS pole, Millerbernd ITS pole, Ameron ITS pole or an approved equal designed and fabricated in accordance with the following criteria.

ITS approved equal pole shall be designed by a professional engineer. The Design-Build Contractor shall submit 2 copies of signed and stamped plans and design calculations to INDOT for approval. Working drawings for approved designs shall be in accordance with 105.02.

ITS pole structure supports shall be analyzed and designed in accordance with the 2013 edition of the AASHTO Standard Specifications for Highway Signs, Luminaries, and Traffic Signals. The design recommendations in Article 2.6 of the AASHTO specification shall be followed.

ITS pole structures shall be design for 60 ft, 80 ft and 100 ft heights as follows.

1. Dead Loads:
   a. Self-Weight of ITS pole
   b. Camera and Camera lowering device – 95 lbs. each, total of 285 lbs. minimum.
   c. Equivalent Projected Area of 2.5 sq ft for each camera, total of 7.5 sq ft minimum.
   d. Lightning rod located at top of the pole top cover plate, located not to obstruct camera extension arm rotation.
2. Wind Loads:
   a. Basic speed – 90 mph
   b. Wind Importance Factor, Ir = 1
   c. Height and Exposure Factor, Kz = 1.265, for 60 ft, 80 ft & 100 ft height.
   d. Gust Effect Factor, G = 1.14
3. Ice Load:

a. Included in accordance with article 3.7 of the AASHTO specifications for full wind analysis.

b. Not included for deflection design criteria.

c. Assume ice forms on one side only. Use 3 lbs /sq ft.

4. Fatigue:

a. Applied to all components, mechanical fasteners and weld details of support structures in accordance with article 11.5 of the AASHTO specification.

b. Fatigue Category, IF – I.

5. Deflection Design Criteria:

a. 60 ft and 80 ft ITS poles shall be designed for 1 in. maximum pole top deflection at wind velocity of 30 mph with no gust.

b. 100 ft ITS poles shall be designed for 3 in. maximum pole top deflection at wind velocity of 30 mph with no gust.

ITS pole structure supports shall be an anchor base type pole structure and shall include a handhole and a pole top cover plate. The ITS pole shall be either multisided, round or combination of multisided and round tubular members. Handhole shall be located at 45 in. for pole up to 80 ft heights and at 48 ft. for 100 ft pole height, outside dimensions of the handhole shall be 28 in X 9 in. Opening for the handholes shall be reinforced to maintain the design strength of the pole. The handhole shall have a weatherproof gasket made of neoprene or silicone rubber. The gasket shall be formed for a fit around the handhole or be attached by mechanical means. The door and hinge shall be the same type steel as poles. The hinge pins and other securing hardware shall be stainless steel and tamperproof. The door shall be fabricated to allow for a padlock, which is not included in the hardware. The hasp used for padlocking shall be fabricated from stainless steel. Provisions shall be made to bolt the door securely shut. The door shall include a bug proof aperture with a minimum opening of 4 sq in. Two bonding plates shall be furnished which are accessible through the pole handhole for connecting the ground wires. A connection shall be furnished for an additional ground wire on the outside of the pole near the base plate.

The upper camera mounting extension section shall be designed and fabricated per listed below details:

- This section shall be 40 in. long, measured from top of the top mounting flange plate to the bottom of bottom

mounting flange plate.

- Design for one camera mounting with camera lowering device and shall have a lightning rod mounting.
- Bottom mounting plate shall have 12- 13/16 in. X 3 in. slotted holes centered radially at 30 degrees.
- Top mounting plate shall have 12 – 7/8 in. holes. Pole top cover plate shall have 12- 7/8 in. holes and provision for attaching 0.5 in. threaded lightning rod.
- One camera mounting plate shall be located at centered 30 in. up from the bottom of the bottom mounting flange plate.
- It shall have a handhole with cover, minimum inner diameter size of 4 in. X 6.5 in. located at 90 degrees from camera mounting plate and centered on camera mounting plate.
- Lightning rod can be mounted above camera arm and/or may be mounted on pole top cover plate.
- This section shall be provided with an integral wire support hook for all cables.

The lower camera mounting extension section shall be design for and fabricated per listed below details:

- This section shall be 40 in., measured from top of the top mounting flange plate to the bottom of bottom mounting flange plate.
- Design for mounting two cameras & camera lowering devices oriented at 180 degree apart positions.
- Bottom mounting plate shall have 12- 13/16 in. X 3 in. slotted holes centered radially at 30 degrees.
- Top mounting plate shall have 12 – 7/8 in. holes.
- Two camera mounting plates shall be located at centered 30 in. down from the top of the top mounting flange plate.
- Shall have a handhole with cover, minimum inner diameter size of 4 in. X 6.5 in. located at 90 degrees from camera mounting plates and centered on camera mounting plate.
- This section shall be provided with an integral wire support hook for all cables.

Pole sections which are slip fitted shall have slip joints with a minimum overlap of 1.5 times the diameter of the bottom of the upper section of the slip joint. ITS pole having slip joint construction shall be match marked at the factory and shall be shipped disassembled at the work site. Slip joint shall be marked to ensure that the 1.5 times diameter insertion is provided.

After fabrication, the pole shall be cleaned and galvanized. Galvanized steel pole, including the handhole, handhole door, base plate mounting plates, and all other elements welded to the shaft

shall be hot dip galvanized in accordance with ASTM A123 or AASHTO M 111.

Base Plate

A one-piece base plate shall be secured to the base of the pole and shall develop full strength of the pole. The base plate material shall be in accordance with ASTM A36.The outside diameter shall be 37 in... The bolt circle shall have a 33 in. diameter. It shall have 10 anchor bolt holes of size 1.75 in. diameter X 54 in. X 6in. (hook).

Camera Lowering Device Raise/Lower Cable Terminator

The individual camera raise/lower cables will terminate approximately 4 in. to 6 in. below the top of the handhole frame and be secured by a safety chain or cable when the camera is secured at the top of the pole and being lowered. The camera raise/lowering cable will terminate in a loop utilizing a thimble to prevent cable abrasions and a quick link that the safety chain hook of a ½ in. x 6 in. hook and eye turnbuckle can hook to the quick link of the camera raise/lower cable quick link. The anchor end of the safety chain will be secured to a plate, an oval eye, or forged steel pad eye welded to the pole face opposite the handhole opening and the two adjacent faces. They will be placed near the bottom of the handhole opening. The safety chain overall length shall be field adjustable by use of a Hook & Eye Turnbuckle, Round Pin Shackles or Chain Quick Links, and Chain sized to fit Shackles and Quick Links.

Anchor Bolts

Ten anchor bolts, each fitted with two hex nuts and two flat washers, shall be furnished with each pole. The top 12 in. of each anchor bolt, nut and washer shall be galvanized in accordance with the coating thickness, adherence, and quality requirements of ASTM A 153, class C. Anchor bolt shall have diameter of 1.75 in., straight length of 54” , and a hook length if 6 in.

Perforated Aluminum Skirt

A perforated aluminum skirt in accordance with 922.16 and Standard Drawing 807-LTHI-010 shall be provided.

Ground Rod and Connections

Ground rod and connections shall be provided in accordance with 922.16 and Standard Drawings 807-LTLR-01 & 02, and E 807-LTFD-07.

Construction Requirements

All work shall be in accordance with 807.

Method of Measurement

ITS pole structure will be measured by the number of units installed.

Basis of Item

ITS pole structure shall be quantified per each, complete and installed.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-09343	ITS Pole Structure, _____height	EACH

The following shall be considered incidental to this item:

Design, working drawings, fabrication, installation, and all incidentals.

FOUNDATION, ITS POLE STRUCTURE

Description

The work shall consist of the design and construction of foundations for ITS monopole structures in accordance with 105.03.

Materials

Materials shall be in accordance with the following:

Concrete, Class A.....702

Reinforcing Bars.....910.01

Reinforcing bars shall be epoxy coated.

Construction Requirements

The foundations for proposed ITS Pole Structures shall be designed to accommodate the loading as shown on the plans, and shall adhere to current AASHTO guidance. Specifically, the foundations shall be designed to accommodate both of the following design loads:

Design Loads at the base for pole heights up to 100’	
Axial Loads	5827.5 lbs
Bending Moment	163,281.8 ft-lbs
Torque	154.8 Ft-lbs
Shear	3157.1 lbs

Design Loads at the base for pole heights up to 100’	
Axial Loads	7934 lbs
Bending Moment	134,573 ft-lbs
Torque	517 Ft-lbs
Shear	2524 lbs

The foundation shall be designed by a professional engineer. The Design-Build Contractor shall submit two copies of signed and stamped plans and design calculations to INDOT for approval. Working drawings for approved designs shall be in accordance with 105.02.

Each foundation shall have a tooled line, imprinted arrow, or other type of permanent marking on the top of the foundation to indicate the direction of the conduits.

During excavation of the foundation, all material shall be removed to the full depth as shown on the foundation working drawings, except if class X material is encountered, the work shall be performed in accordance with 206.02(b).

If the sidewalls of the excavated areas remain firm and stable, concrete may be poured directly against the dirt below the level of the top 6 in. form. Otherwise, the concrete foundation shall be fully formed by means of a paper preformed liner or other approved means. However, the foundation shall be formed to the proper size for the top 6 in. before concrete is poured. If a paper liner is used, it may be withdrawn as the concrete is placed or it may be left in place permanently. If the liner is left in place, all voids between the excavation walls and the form shall be filled and compacted using coarse aggregate No. 53. If the liner is withdrawn, the top 12 in. of the foundation shall remain formed until the concrete has obtained initial set.

Method of measurement

Foundation, ITS pole structure will be measured by the number of units installed.

Basis of Item

Foundation, ITS pole structure shall be quantified per EACH.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-09343	Foundation, CCTV Monopole.....	EACH

The following shall be considered incidental to this item:

Design, working drawings, excavation, installation, and all incidentals.

CCTV ASSEMBLY

Description

This work shall consist of furnishing and installing closed circuit television cameras and camera lowering systems.

The CCTV assembly shall have the following components:

1. One camera with pan-tilt-zoom (PTZ)
2. One camera lowering system

Materials

Camera shall, at a minimum, meet the following characteristics:

CAMERA

• Sensor	1/2.8” CMOS
• Scanning	Progressive
• Resolution	1,920 x 1,080 640 x 360 @ 3x dig. Zoom
• Digital Formats BT.1120, 1080p,	YUV 4:2:2 SMPTE 274M, BT.709, 1080i, 720p
• Frame Rate	30 fps
• Camera Format	Day/Night (IR Cut Filter)
• Day/Night Modes	Auto, Color, B/W
• S/N Ratio	>50 db
• Motion Detection	Off/On [Area of Detection]

SENSITIVITY

• Standard	(f1.4, 1/30, 30 IRE)
o Color	0.25 lux (0.025 fc)
o B/W	0.024 lux (0.0024 fc)
• Digital Slow Shutter	(f1.4, 1/2, 30 IRE)
o Color	0.015 lux (0.0015 fc)
o B/W	0.0015 lux (0.00015 fc)

OPTICS

• Zoom Lens	30x, 4.4 to 132mm effective 264mm with 2x digital zoom
• Aperture	f1.4 -> f4.6
• HAFOV	63.4° to 2.1° @ 1920x1080 63.4° to 0.7° @ 640 x 360
• Focus	Auto/Manual [Near, Far]
• Focus Search	Normal, Bright, Point Source
• Focus Sensitivity	Low, Normal, High
• Iris	Auto/Manual [Open/Close]
• Lens Speed	Three [Slow, Medium, Fast]
• Digital Zoom	12x, Off/On [Depth]

IMAGE PROCESSING

• Defog Mode Strength and Color	Off/Auto/Manual [3 Levels, Adj.]
• Image Stabilization	Off/On
• Enhanced Intensity	Off, Enhanced, Whiteout Reduction
• Dynamic Range Combo, Contrast]	>90dB Off/On [3 Levels, Normal,
• Back Light Comp	Off/On [Level Setting]
• Shutter (AES)	Auto/Manual [1/2 -> 1/30,000]
• Slow Shutter Setting	Off/On [1/15->1/2] with Limit
• White Balance	Auto/Manual [Red/Blue Adjustment]
• (WB) Modes	Normal, Mercury, Sodium Vapor
• AGC	1 to 48db, Adjustable
• Sharpness	Soft, Normal, Sharp, Sharpest
• Noise Reduction	Normal, Medium, Strong, Fixed

IP STREAM

• Video Streams on available	5 or more video streams dependent processing budget
• Video Codec Profiles, MJPEG	H.264 Base, Main and High
• Video Protocols	RTSP/RTP RTSP Interleave HTTP Tunneling RTP Multicast
• Video Resolution	1080p, 720p, D1, VGA, CIF

• Video Frame Rate	1 to 30 fps, 30 fps default
• Video Data Rate	256Kbs to 8Mbs
• Video Rate Cntrl	Variable or Constant
• Video GOV	1 to 600, 30 default
• Video Latency	Four frames (0.133 sec.)
• Video Trans.	99.999% error free

NETWORK INTERFACE

• Network Format	802.3u 100Base-T, MDI-X auto-sensing, full duplex
• Network Protocol	TCP, UDP, IPv4, ICMP, DNS, IGMPv2/v3, DHCP, RTP, RTSP, RTCP, NTP, HTTP, SOAP, HTTPS ARP, FTP, SMTP, SNMP/NTCIP, Telnet. ONVIF Profile S
• Media Players	VLC, Quick Time or any media player compliant with RFC 2326, 3984, 3550, 2435, ISO/IEC 13818-1
• ONVIF	Profile S
• Camera Protocols	ONVIF, NTCIP 1205, CohuT, CohuHD legacy
• Security	4 Levels: Admin, Operator, User, Anonymous [User Name + Password], Digest Authentication
• Updates	File upload over network using camera web server Interface
• Configurations	Stored in Non-Volitiale Memory
• Browsers	IE11, Firefox, Chrome

DIGITAL I/O INTERFACE

• Digital Circuits	Four digital I/O circuits, user defined as either input or output

ANALOG INTERFACE

• Video Format	NTSC or PAL
• Serial PTZ	RS422, full/half duplex, 1,200 to 115k baud adjustment, data, stop and parity bit configuration.
• Protocols	CohuHD Legacy, PelcoD, Ultrak, NTCIP 1205, A/D, FAST, Javelin

COMMAND CORE ACTION ENGINE

- Input Triggers — Digital Input(s), Timer, Scheduler, Preset reached, PTZ move, Maintenance, User command
- Output Actions — Activate digital output(s), FTP image, Send Email, Send Text, Activate Preset or Tour, Display OSD Message
- Trigger Queuing — User selectable mode. Processes output actions by trigger priority, first in, or last in.
- Servers — Multiple FTP and EMAIL servers can be configured for use by camera system

ON SCREEN DISPLAY (OSD)

- OSD Capacity — Up to 7 OSD Elements can be selected for display on video
- OSD Elements — Text, Preset, Position, Compass, Date/Time, Sector, Maintenance, Action Event
- OSD Characters — Up to 40 characters per text element
- OSD Size — 20 to 90 point, Increment of 10
- OSD Color — White, Black, Green, Red, Blue
- OSD Background — Transparant, Black
- OSD Location — Upper Right/Left, Lower Right/Left, Center, Custom
- Banner Display — On/Off, Top/Bottom, 4 OSD elements
- Logo Display — BMP, PNG, GIF Format, [x,y] position, Transparancy

PRIVACY MASKS

- Capacity — Up to 8 Rectangular Masks.
- Color — Red, orange, green, blue, purple, grey
- Blur — Solid, fine, medium or coarse pixelated
- Opacity — 25, 50 or 75%
- Brightness — 4 levels of adjustment

POSITIONING DRIVE

- Pan Range — 360° continuous rotation
- Tilt Range — 360°
- Preset Speed — Peak speed of 120°/sec 180° movement < 3 seconds
- Manual Speed — 0.1° to 45°/second
- Speed Resolution — > 64 Variable speed levels

• Repeatability	+/- 0.05°
• Resolution	+/- 0.05°
• Presets	Up to 256, Includes pan, tilt, zoom, focus, preset ID, I/O output state
• Tours	Up to 256, Includes presets with dwell, speed, direction and recurrence properties
• Auto Park	Returns to a preset or tour after timer expires, Timer Value [Off, 1 Minute to 999 Hours]
• Features	Auto focus/iris on PTZ, Proportional PTZ, Video freeze on preset, High wind/vibration mode, Set north calibration, Inverted mounting mode

ELECTRICAL

• Input Voltage	PoE++, 24Vac or 120Vac, model dependent
• Power	30w, up to 60w with heaters ON
• Voltage Range	NEMA standard TS 2-2003 section 2.2.7 tests C to H
• Transient/Surge	Certified to CISPR 24 levels
• Emissions	Certified to CISPR 22 levels
• Pigtail Cable(s)	Approx. 24”

MECHANICAL

• Weight	21.5 pounds (9.75 kg maximum
• Dimensions	Refer to dim. diagram
• Construction	Powder Coated aluminum
• Faceplate	Optically Correct Glass
• Faceplate Wiper Time Out	Model Dependent, [On/Off, Dwell, Settings]
• Sunshield	Included as standard
• Inverted Mounting	Yes. Software selectable
• Connectors	RJ45, AMP, MS, Model dependent
• Color	Light Gray Cardinal Coating T241-GR142

ENVIRONMENTAL

• Protection Rating	Camera - IP68, Pressurized with Dry Nitrogen, 3.5 psi. Positioner Body - IP66
• Operating Temp	-40°F to 167°F (-40°C to 75°C) Per NEMA TS2 2.2.7

- Heaters for managing proper internal temperature of camera system. The faceplate heater is ITO coated glass designed to maintain outer faceplate surface temperture above 32° (0°C) down to - 4°(- 20C)
- Humidity Up to 100%
- Vibration Per NEMA TS2 para. 2.2.8. 5-30Hz sweep @ 0.5g applied in each of 3 mutually perpendicular planes.
- Shock Per NEMA TS2 para. 2.2.9. 10g applied in each of 3 mutually perpendicular planes
- Corrosion MIL-STD-810G, Method 509.5, Paragraph 4.5.2, ANSI NCSL Z540-1, ISO 17025:2005
- Impact Rating IK10

EMC CERTIFICATIONS

- CE, FCC Part 15B, RoHS
- AS/NZS CISPR 22:2009+A1:2010
- CAN/CSA-CISPR 22-10
- EN 55022:2010+AC: 2011
- EN 55024:2010
- EN 61000-3-2:2006+A1:2009+A2:2009
- EN 61000-3-3:2013
- EN 61000-4-2: 2009
- EN 61000-4-3: 2006 +A1:2008 +A2:2010
- EN 61000-4-4: 2004
- EN 61000-4-5: 2006
- EN 61000-4-6: 2009
- EN 61000-4-8: 2010
- EN 61000-4-11: 2004

Construction Requirements

All installation services shall comply with all manufacturer's instructions and warranty provisions and warranty contract maintenance services and Department electrical codes. All wiring entry to the camera dome shall use watertight fittings. All materials shall be installed in a neat and professional manner. All wiring entry and exits shall be made at the side or underneath components; no exposed top entry or exits are permitted. This requirement extends to all enclosures,

junction boxes, support arms, or any other externally exposed devices.

The camera lowering system shall be designed to support and lower a standard closed-circuit television camera, lens, housing, PTZ mechanism, cabling, connectors, and other supporting components without damage or causing degradation of camera operations. The camera lowering device and the tower are interdependent upon each other and thus, must be considered a single unit or system. The lowering system shall consist of a coax contact unit, self-aligning divided support arm, an adapter for attachment to a tower, and a camera connection box. The divided support arm and receiver brackets shall be designed to self-align the contact unit during installation and ensure the contact unit cannot twist under high wind conditions. The camera-lowering device shall withstand wind forces of 100 mph with a 30 percent gust factor using a 1.65 safety factor. The lowering device shall effectively operate within a temperature range of −40 to 191°F. The lowering device manufacturer shall furnish independent laboratory testing documents certifying adherence to the stated wind force criteria utilizing, as a minimum effective projected area (EPA), the actual EPA or an EPA greater than that of the camera system to be attached. If the camera-lowering device is not from the Department Approved Materials List, the camera-lowering device to be furnished shall be the product of manufacturers with a minimum of 2 years of experience in the successful manufacturing of such systems. The lowering device provider shall be able to identify a minimum of 3 previous projects where the purposed system has been installed successfully.

All pulleys for the camera lowering tool shall have sealed, self-lubricated bearings, oil tight bronze bearing, or sintered bronze bushings. The lowering cable shall be a minimum 1/8-inch-diameter stainless steel aircraft cable with a minimum breaking strength of 1,740 pounds with seven strands of 19 gauge wire each.

The camera lowering system shall be capable of lowering the camera to the ground without contacting the pole/tower structure or anything attached to the tower structure. A guide cable shall be provided to prevent interference with the tower structure. The guide cable shall be 5/32 inch diameter stainless steel and shall be a manufacturer provided component. The cable guide shall be installed per manufacturer’s recommendations. The guide cable shall be mounted to minimize the impact on the camera’s view of the roadway, and shall have the ability to be disconnected from the ground mounting point to maximize the camera’s view.

All electrical and video coaxial connections between the fixed and lowerable portion of the contact block shall be protected from exposure to the weather by a waterproof seal to prevent degradation of the electrical contacts. The electrical connections between the fixed and movable lowering device components shall be designed to conduct 56,000 bps RS422/485 or RS-232 data and one volt peak-to-peak video signals as well as the power requirements for operation of dome environmental controls.

The interface and locking components shall be made of stainless steel and/or aluminum. All external components of the lowering device shall be made of corrosion-resistant materials, powder coated, galvanized, or otherwise protected from the environment by industry-accepted coatings to withstand exposure to a corrosive environment. A weephole with screen shall be included on the underside of the weight box.

The lowering system shall include the following basic components:

- Coaxial contact unit
- Self-aligning divided support arm
- Adapter for attachment to tower
- CCTV control cable junction box at the top of the tower
- Permanent mount lowering tool

The suspension contact unit shall have a load capacity 200 pounds with a 4 to 1 safety factor. There shall be a locking mechanism between the fixed and movable components of the lowering device. The movable assembly shall have a minimum of two latches. This latching mechanism shall securely hold the device and its mounted equipment. The latching mechanism shall operate by alternately raising and lowering the assembly using the winch and lowering cable. When latched, all weight shall be removed from the lowering cable. The fixed unit shall have a heavy-duty cast tracking guide and means to allow latching in the same position each time. The contact unit housing shall be weatherproof, with a gasket provided to seal the interior from dust and moisture.

The prefabricated components of the lift unit support system shall be designed to preclude the lifting cable from contacting the power or video cabling. Design-Build Contractor shall supply a means of separating the power and video cabling from the lowering cable if required by the Design Documents or Engineer. The only cable permitted to move during lowering or raising shall be the stainless steel lowering cable. All other

cables shall remain stable and secure during lowering and raising operations.

The coax connector block consists of DIN Housing containing thermoplastic insulation bodies that hold the individual contacts. Guide pins and guide bushings shall prevent misconnections and provide accurate mating without relying on the contact pins to provide alignment. There shall be a minimum of 12 -.06-in. contacts and 1-75 Ohm contact. The max current rating for each pin shall be at least 13 amps. The signal and power wires shall be crimped using an industry standard 8-point crimp tool. The video cable shall be 75 ohm coax not to exceed a length of 1,000 feet. The cable loss with the connectors shall not exceed 0.8 decibels per 100 feet at 5 megahertz. The camera cable shall be made up with the coax connector block in the factory and sealed with electrical insulating. The entire coax connector block shall be sealed from external dust and moisture when in the mated condition by means of a gasket.

The divided support arm and receiver brackets shall be designed to self-align the contact unit during installation and ensure the contact unit cannot twist under high wind conditions.

The camera-lowering device shall be operated by use of a permanent mount lowering tool. The lowering tool shall be provided with an adapter for operating the lowering device by a portable drill using a clutch mechanism. The clutch mechanism, but not the portable drill, shall be provided for each site. The lowering tool shall be equipped with a positive locking mechanism to secure the cable reel during raising and lowering operations. The lowering tool shall be made of durable and corrosion-resistant materials, powder coated, galvanized, or otherwise protected from the environment by industry- accepted coating to withstand exposure to a corrosive environment. Lowering tool shall be installed in the stainless steel, or aluminum enclosure, rated 3R, mounted to the tower.

The Camera Lowering System shall be installed in accordance with the manufacturer’s instructions. All materials shall be installed in a neat and professional manner. All installation services shall comply with all warranty provisions and warranty contract maintenance services. All installation services shall comply with all local and state electrical codes, and Motorola R-56 requirements. Installation of the Camera Lowering System shall be coordinated with INDOT to determine actual mounting height and azimuth. Typically, the camera lowering system azimuth will be perpendicular to the mainline lanes.

Prior to the delivery of the camera lowering system, the manufacturer will test for the following:

- Electrical continuity
- Direct connectivity to ground for an open circuit of 120 volts

The results of these tests will be supplied to INDOT with each camera lowering system upon delivery.

Design-Build Contractor shall provide a 916.02(c) Type C certification from the vendor verifying the CCTV control cable was properly installed and tested before delivery to Design-Build Contractor.

Design-Build Contractor shall provide a manufacturer's warranty against defects in material and workmanship for a period of three years after Final Acceptance of each complete installation. Design-Build Contractor shall include labor for removal and reinstallation of a failed unit. Warranty shall include lifetime warranty on water ingress into camera head enclosure.

Method of measurement

CCTV Assembly will be measured by the number of units installed.

Basis of Item

CCTV Assembly shall be quantified per EACH.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-09343	CCTV Assembly	EACH

The following shall be considered incidental to this item.

Labor, materials, design, vendor support, and items necessary to provide a complete and functioning CCTV assembly shall be included.

PADLOCKS

Description This work shall consist of furnishing and installing padlocks for all cabinets, fence gates, and enclosures specified in these Special Provisions.

Materials The padlock shall be classified as a high security padlock with hardened shackle, laminated body, 4 pin cylinder (minimum) and come complete with a weather cover to protect the lock body and cylinder from sand, dirt, water and ice. A wafer cylinder shall not be used.

NO keys shall be provided to the Department with each padlock supplied. All padlocks shall be keyed alike and be identical to the keys currently in use by the Department. The main body width of the padlock shall not exceed 3” and have a shackle length of 2.25” to 3.75” and a shackle diameter of 5/16”.

For padlock information, contact, Brian Stoner, ITS Technology Deployment Division Maintenance Supervisor Indiana Department of Transportation (317) 690-5534 bstoner1@indot.in.gov

Method of measurement The Padlocks will be measured per item provided by the unit of EACH.

Basis of Item: The Padlocks shall be quantified per EACH.

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-09343	Symbol ITS, Padlock.....	EACH

REMOTE POWER SWITCH

Description

The remote network power switch unit provides continuous auto-fault detection. When IP connectivity failure is detected, it will automatically reboot some or all of the connected devices. In addition it provides web based troubleshoot and monitoring capabilities. This device shall be furnished and installed in a cabinet, shelter, or DMS.

Materials

The Remote power switch shall conform to the minimum following specifications:

- Operating temperature: 30° F to 170° F
- Power Outlets: Min.(8) NEMA 5-15R
- Protocols Supported, Minimum: HTTPS, TCP/IP, UDP, SNMP, Telnet, SSH, BOOTP, DHCP
- Connections: RJ-45 10/100 Mbps Ethernet
- Surface mount
- Optional 19” Rack Brackets Included
- Power Control & Management: Remote individual or group outlet switching, Plug naming, grouping & access control, Scheduled outlet On/Off/Reboot switching, Ping watchdog with auto reboot

Construction Requirements

A remote power switch shall be furnished and installed at each location per the manufacturer specifications. The switch and AFP shall be connected to the device.

Method of measurement

The remote power switches will be measured for payment by the unit EACH complete and in place. This work shall include test and performance verification, and incidentals necessary to complete the work.

Basis of Item

Remote power switches shall be quantified per EACH

The Items List shall include the following:

Item No.	Item Description	Unit Symbol
809-09343	ITS, Remote Power Switch	EACH

The following shall be considered incidental to this item:

Materials, labor, equipment, transportation, placement and all incidentals.

SURGE PROTECTION DEVICES FOR ATMS COMMUNICATIONS, VIDEO, AND 24V

Description

This Section includes Surge Protection Devices (SPDs) for data, communications, 24V power, and video equipment. Surge Protective Devices shall be used for the protection of all data, communications, video circuits, and low voltage power at 24V or less including POE cables from the effects of lightning induced currents and other transients.

Materials

Data and Communications Cables:

Plug-in jack or terminal connected SPDs shall protect all low-voltage signal pairs. The SPDs shall meet or exceed the following minimum requirements:

1. The SPDs shall be UL Listed 497B.
2. The protectors shall suppress a peak surge current of up to 10K amps.
3. The protectors shall have a response time less than 5 nanoseconds.
4. The protector shall clamp the voltage between the two wires at 8 volts and clamp the voltage between each wire and ground at 50 volts.
5. The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
6. It shall be possible to replace the protector using standard tools.
7. The SPD housing shall be metallic and be grounded.

Coaxial Video Cables:

Cables carrying video signals shall be equipped with surge protectors that shall meet or exceed the following minimum characteristics:

1. The clamping voltage shall be 11 volts between the shield and center conductor signal line.
2. The response time shall be five nanoseconds or less.
3. Bipolar silicon avalanche diode technology shall be used in a single stage device.
4. The module shall dissipate a minimum of 50 Joules.
5. The module shall have BNC connectors.
6. The housing shall be metallic and grounded.
7. The module shall pass signals from DC to 80 MHz with less than 0.5 dB insertion loss.

24V Power Cables:

Cables carrying 24V power shall be equipped with surge protectors that shall meet or exceed the following minimum characteristics:

1. The clamping voltage shall be 50V.
2. The response time shall be five nanoseconds or less.
3. Bipolar silicon avalanche diode technology shall be used in a single stage device.
4. The module shall dissipate a minimum of 50 Joules.
5. The module shall pass signals from DC to 80 MHz with less than 0.5 dB insertion loss.

Construction Requirements

Examine conditions for compliance with requirements for installation tolerances, characteristics, and other conditions affecting performance of transient voltage surge suppressors. Do not proceed with installation until unsatisfactory conditions have been corrected.

Conductors between the SPD and the point of attachment shall be kept as straight and short as possible.

The SPDs ground shall be bonded to the cabinet’s grounding bar. Ground each SPD’s enclosure.

Tighten electrical connectors and terminals according to manufacturer's published torque tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A.

Install an appropriate SPD at all data, communication, video, and low voltage connections or termination.

Method of Measurement

Transient voltage surge suppressors for data, communications, 24V and video will not be measured for payment.

Basis of Item

Transient Voltage Surge Suppressors for data, communications, 24V and video shall not be quantified separately, and will be considered incidental to the item of equipment being provided on this contract.

VAULT, ATMS

Description

This work consists of furnishing and installing ATMS vaults for communications cable access as shown on the plans.

Materials

Materials for the ATMS vault shall be as shown in the plans and in accordance with 807.03. All vault covers are required to be bolted into place to prevent accidental removal by mowing crews or other unintentional means. The cover frame shall be installed in the vault with a butyl rubber sealant in tape/coil form for a proper seal and to prevent the frame from moving out of place. The sealant shall comply with ASTM C990 for butyl rubber sealants.

The vault rings and covers shall be as shown on the plans and in accordance with 807.09 except the message displayed on the lid shall read "TRAFFIC MANAGEMENT SYSTEM". Fabrication of these vault covers shall not commence until working drawings that the Design-Build Contractor shall have submitted have been approved by INDOT.

Construction Requirements ATMS vaults shall be installed at all planned and potential future fiber optic cable splicing locations and at additional locations as shown on the plans.

Material surrounding the buried conduit splices and ATMS vaults shall be tamped and added in such a manner so that there are no voids or depressions formed. Conduit entrance and exit points in the new ATMS vaults shall be sealed watertight.

ATMS vaults shall be precast. The top of the vault shall be flat and level with the surrounding ground. The vault shall be placed such that final grading will provide a minimum of 4 inches of soil over the concrete box. Clean applicable surfaces before installing butyl sealant on the cover frame prior to installation in the vault. Adhesive primer shall be used when moisture is present on surfaces. Follow manufacturer's instructions for proper installation. When the installation is completed, all disturbed portions of the construction area shall be cleaned and any excess excavation or other materials shall be properly disposed of as soon as possible.

Method of Measurement

The completed work as described for ATMS vault will be measured by the unit of each and shall include furnishing and installation of a new vault, a bolt down cover, butyl sealant, excavation, and all other accessories, grading, and re-seeding necessary for a complete installation.

Basis of Item

Vault ATMS for the work included in this special provision shall be quantified per each.

Payment will be made under:

Item No.	Item Description	Unit Symbol

715-04985 Vault, ATMS .....EACH

The following shall be considered incidental to this item:

Materials, labor, equipment, transportation, placement, and all incidentals.

All earthwork preparation and grading necessary for installation of the vault shall be considered incidental to this work. All final clean-up and disposal of excess excavation shall be considered incidental to this work.

WIRELESS VEHICLE DETECTION SYSTEM

Description

This work shall consist of furnishing and installing wireless vehicle detection systems for vehicle detection at traffic signals.

Materials

The wireless vehicle detection system, WVDS, is comprised of wireless magnetometer detectors, contact closure cards, receiver processors, and wireless repeaters installed for a signalized intersection. The system shall be capable of monitoring vehicles on a roadway via detection of changes in inductance caused by the presence or passage of a vehicle and shall provide detector outputs to a traffic signal controller.

The WVDS shall include magnetometer detectors, a minimum of two receiver processors, the required mounting equipment, cables, rack mounted cards, set-up and operating software, all connectors, and miscellaneous equipment necessary for the installation and operation of the system. If required, the WVDS shall also include wireless repeaters.

Only models from the Department's approved materials list for traffic signal control equipment shall be used.

Ethernet cable for wireless vehicle detectors shall be outdoor rated and UV shielded.

Construction Requirements

Prior to the installation, the Design-Build Contractor shall test all wireless magnetometer detectors and demonstrate proper operation and communication between the wireless magnetometer detectors and the receiver processor and wireless repeater, if required.

Prior to the installation, the Design-Build Contractor shall demonstrate that each wireless magnetometer detector is within range of its corresponding receiver processor, using wireless repeaters as necessary. All wireless magnetometer detectors assigned to either a receiver processor or wireless repeater shall be located within a 120° arc measured from the receiver processor or wireless repeater.

The Design-Build Contractor shall install each wireless magnetometer detector in the roadway according to the manufacturer's recommendations with one wireless magnetometer detector programmed to count vehicles for each through travel lane. Holes cored in the pavement shall be cleaned and dried before installing wireless magnetometer detectors. The cored pavement shall be backfilled according to the manufacturer's recommendations.

Receiver processors and wireless repeaters shall be mounted on traffic signal steel strain, pedestal, cantilever poles, or square steel sign posts. If a square steel sign post is used, it shall have a length of no more than 24 ft and a Type 3 object marker shall be installed on the post, with a mounting height of 4 ft, measured from the edge of the traveled way to the bottom of the object marker. The mounting height of receiver processors above the pavement surface shall be between 20 ft and 35 ft. The mounting height of wireless repeaters above the pavement surface shall be between 13 ft and 35 ft.

The minimum distance between a receiver processor and wireless repeater

mounted on the same structure shall be 2 ft. This distance may be increased to enable better communication between the devices.

After installation, the Design-Build Contractor shall demonstrate successful communication between each wireless magnetometer detector, receiver processor, and wireless repeater to INDOT.

Method of Measurement

Wireless magnetometer detectors, contact closure cards, receiver processors and wireless repeaters will be measured by the number of units installed.

Basis of Item

Wireless magnetometer detectors, contact closure cards, receiver processors and wireless repeaters shall be quantified per each.

Item No.	Item Description	Unit Symbol
805-07842	Contact Closure Card	EACH
805-07842	Receiver Processor	EACH
805-07842	Wireless Magnetometer Detector	EACH
805-07842	Wireless Repeater	EACH

The following shall be considered incidental to this item:

Coring the pavement, sealant, and all work necessary for proper installation and operation of the wireless magnetometer detectors.

Cables, connectors, set-up and operating software, access boxes, rack mounted expansion cards, and all hardware necessary to complete the installation.

Mounting equipment, cables, connectors, and miscellaneous equipment necessary for proper installation and operation of the receiver processors.

Mounting equipment, connectors, and miscellaneous equipment necessary for proper installation and operation of the wireless repeaters.