

SECTION L: SIGNAL & LIGHTING PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L1	L40

Plotting Date: 12/18/2024

INDEX OF SHEETS

L1	General Layout with Index
L2-L3	Estimate with General Notes
L4-L6	Conduit Tables
L7-L34	Conduit Layouts
L35-L36	Wiring Diagrams
L37-L40	Standard Plates

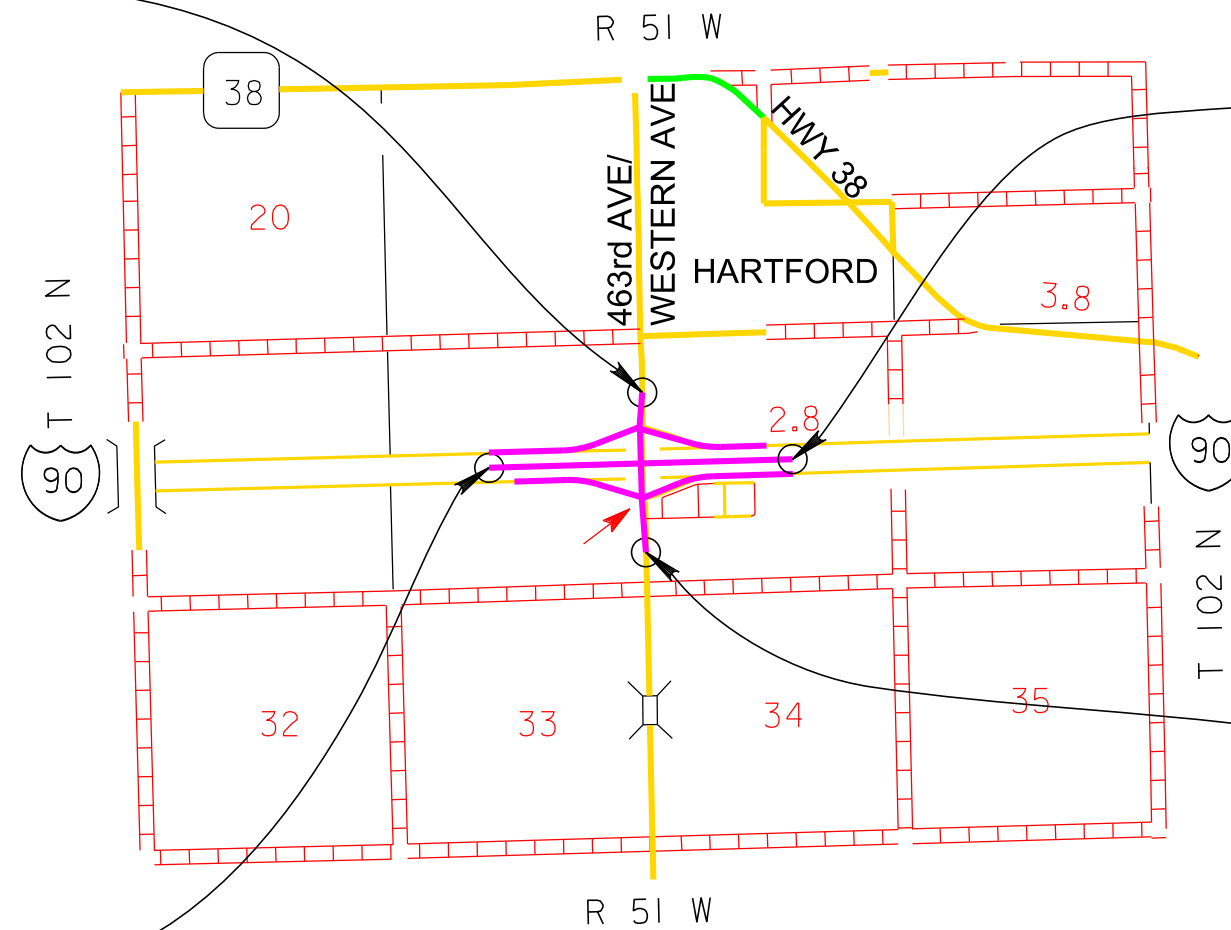


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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L2	L40

Revised 1/29/2025 - RR

SECTION L ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	40	Each
635E0150	Breakaway Base Luminaire Pole with Twin Arms, 50' Mounting Height	16	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	72	Each
635E5020	2' Diameter Footing	464.0	Ft
635E5301	Type 1 Electrical Junction Box	3	Each
635E5302	Type 2 Electrical Junction Box	1	Each
635E5303	Type 3 Electrical Junction Box	10	Each
635E5400	Electrical Service Cabinet	2	Each
635E8120	2" Rigid Conduit, Schedule 40	12,135	Ft
635E8130	3" Rigid Conduit, Schedule 40	30	Ft
635E8220	2" Rigid Conduit, Schedule 80	790	Ft
635E8310	1" Innerduct, Schedule 40	12,210	Ft
635E9011	1/C #1 AWG Copper Wire	11,330	Ft
635E9014	1/C #4 AWG Copper Wire	12,030	Ft
635E9018	1/C #8 AWG Copper Wire	27,340	Ft
635E9020	1/C #10 AWG Copper Wire	12,610	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	4,840	Ft

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

SUPPLYING AS BUILT PLANS

If the roadway lighting system is constructed differently than what is stated in the plans, the Contractor will supply as built plans to the Engineer and a copy will be sent to the Traffic Design Engineer. The as built plans may include conduit layouts, wiring diagrams, or other drawings depicting the changes from the original plans.

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

The Contractor will submit shop drawings and catalog cuts in accordance with Section 985 of the Specifications.

PDF submittals will be sent to the following email addresses:

Ryley.Rapp@state.sd.us
Stacy.Bartlett@state.sd.us

INNERDUCT

The two 1" innerduct shown on the plan sheets will be placed in the same trench. Innerduct will meet the following requirements:

- Compliant with NFPA70, National Electric Code
- UL listed
- Meets NEMA TC-7
- Have smooth interior & exterior walls

Schedule 80 innerduct will be used for areas subject to vehicular traffic. Schedule 40 or SDR13.5 innerduct may be used for areas not subject to vehicular traffic.

The innerduct will be adequately capped on each end to prevent dirt and water from entering the innerduct. All costs associated with installing the innerduct will be incidental to the contract unit price per foot for "1" Innerduct, SDR13.5"

LUMINAIRE POLES

Luminaire poles L1-L16 will have a mounting height of 50-feet with twin 12-foot arms.

Luminaire poles L17-L44 will have a mounting height of 50-feet with 3-foot arms.

Luminaire poles L45-L56 will have a mounting height of 50-feet with 6-foot arms.

The pole fabricator will be responsible for the determining the diameter, length, and number of anchor bolts.

LUMINAIRES

The lighting design for poles L1-L16 used the following parameters and provides 0.6 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 5:1 (maximum to minimum maintained foot candles):

Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 40 Ft.
Luminaire Cycle Length: 250 Ft.
Configuration: Median
Mounting Height: 50 Ft.
Arm Length: Twin-12 Ft.
Light Source: LED

The following LED luminaire will be used for this design:

- a.) GE Evolve ERL2-0-27-B5-40-A-GRAY

The lighting design for poles L17-L44 used the following parameters and provides 0.6 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 5:1 (maximum to minimum maintained foot candles):

Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 25 Ft.
Luminaire Cycle Length: 230 Ft.
Configuration: One Sided
Mounting Height: 50 Ft.
Arm Length: 3 Ft.
Light Source: LED

The following LED luminaire will be used for this design:

- a.) GE Evolve ERL2-0-27-B5-40-A-GRAY

The lighting design for poles L45-L56 used the following parameters and provides 1.0 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 5:1 (maximum to minimum maintained foot candles):

Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: Varies
Luminaire Cycle Length: 200 Ft.
Configuration: One Sided
Mounting Height: 50 Ft.
Arm Length: 6 Ft.
Light Source: LED

The following LED luminaire will be used for this design:

- a.) GE Evolve ERL2-0-27-B5-40-A-GRAY

TABLE OF FOOTING DATA

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
L17-L56	2' - 0"	8' - 0"	1' - 8"	54' - 9"	8-#7 x 7' - 6"
L1-L16	2' - 0"	9' - 0"	1' - 8"	60' - 0"	8-#7 x 8' - 6"

* Footing depth will be below ground level.
** The size of all spirals will be #3.

SUBSURFACE

Luminaire footings will be installed in soils varying from sandy clay to newly placed fill.

During construction of the cylindrical footings, concrete placement operations should closely follow excavation procedures. The longer the excavations are left open, the more likely caving may occur.

Concrete will not be dropped through standing water. If water is present in the excavation it will be removed prior to concrete placement or the concrete will be tremied.

WIRE SPLICING FOR LIGHTING

All wire splices for lighting will be made using TE Connectivity GTAP connectors, NSI Industries Polaris Blue connectors, or an approved equal.

EXISTING JUNCTION BOXES EJF181 AND EJF182

Existing junction boxes for fiber optic cable EJF181 and EJF182 were installed with project Minn05T2. 2 runs of 1" Innerduct with a #10 pull wire will be ran with this project completing the connection between EJF181 and EJF182. All cost associated with connecting the 1" Innerduct to the existing junction boxes will be incidental to the contract unit price "1" Innerduct, Sch40".

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT IM 0909(92)387	SHEET L3	TOTAL SHEETS L40
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Plotting Date: 12/18/2024

CONDUIT AND CABLE QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L4	L40

Plotting Date: 12/18/2024

Location to Location		Rigid Conduit		Innerduct		Copper Wire				Pole and Bracket Cable	
		Schedule 40		Schedule 80							
		2"	3"	2"	1"	1/C #1 AWG	1/C #4 AWG	1/C #6 AWG	1/C #10 AWG	2/C #10 AWG	
		Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	
LIGHTING											
Elec. Service	JL2		30			190		285			
JL2	L53	90						280			
L53	L54	210						650			
L54	L55	185		65				775			
L55	L56	185		65				775			
JL2	L44	80				250		250			
L44	L43	195				605		605			
L43	L42	255				790		790			
L42	L41	255				790		790			
L41	L40	255				790		790			
L40	L39	255				790		790			
L39	L38	255				790		790			
L38	JL1			85		265					
JL1	L3	220						680			
L3	L2	260						805			
L2	L1	260						805			
JL1	L4	295						915			
L4	L5	260						805			
L5	L6	260						805			
L6	L7	260						805			
L7	L8	260						805			
JL2	L52	145		70				665			
L52	L51	160						495			
JL2	L17			165		510		510			
L17	L18	160				495		495			
L18	L19	255				790		790			
L19	L20	255				790		790			
L20	L21	255				790		790			
L21	L22	255				790		790			
L22	L23	255				790		790			
L23	JL3			95		295					
JL3	L13	250						775			
L13	L12	260						805			
L12	L11	260						805			
L11	L10	260						805			
L10	L9	260						805			
JL3	L14	265				820					
L14	L15	260						805			
L15	L16	260						805			
Subtotal:		8,110	30	545		11,330	12,030	13,685			

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CONDUIT AND CABLE QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L5	L40

Plotting Date: 12/18/2024

Location to Location	Rigid Conduit		Innerduct		Copper Wire				Pole and Bracket Cable	
	Schedule 40		Schedule 80		1"	1/C	1/C	1/C	1/C	2/C #10 AWG
	2"	3"	2"			#1 AWG	#4 AWG	#6 AWG	#10 AWG	
	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft
Elec. Service JL4	40						375			
JL4 L37	55						340			
L37 L49	105		65				525			
L49 L50	175						545			
L37 L36	180						560			
L36 L35	255						790			
L35 L34	255						790			
L34 L33	255						790			
L33 L32	255						790			
L32 L31	255						790			
L37 L24			180				560			
L24 L25	215						665			
L25 L26	255						790			
L26 L27	255						790			
L27 L28	255						790			
L28 L29	255						790			
L29 L30	255						790			
JL4 L48	80						250			
L48 L47	210						650			
L47 L46	210						650			
L46 L45	205						635			
Luminaire Pole L1										140
Luminaire Pole L2										140
Luminaire Pole L3										140
Luminaire Pole L4										140
Luminaire Pole L5										140
Luminaire Pole L6										140
Luminaire Pole L7										140
Luminaire Pole L8										140
Luminaire Pole L9										140
Luminaire Pole L10										140
Luminaire Pole L11										140
Luminaire Pole L12										140
Luminaire Pole L13										140
Luminaire Pole L14										140
Luminaire Pole L15										140
Luminaire Pole L16										140
Luminaire Pole L17										65
Luminaire Pole L18										65
Luminaire Pole L19										65
Luminaire Pole L20										65
Luminaire Pole L21										65
Luminaire Pole L22										65
Luminaire Pole L23										65
Luminaire Pole L24										65
Luminaire Pole L25										65
Luminaire Pole L26										65
Luminaire Pole L27										65
Luminaire Pole L28										65
Luminaire Pole L29										65
Luminaire Pole L30										65
Luminaire Pole L31										65
Luminaire Pole L32										65
Subtotal:	4,025		245				13,655			3,280

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CONDUIT AND CABLE QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L6	L40

Plotting Date: 12/18/2024

Location to Location	Rigid Conduit		Innerduct				Copper Wire				Pole and Bracket Cable	
	Schedule 40		Schedule 80				1/C #1 AWG	1/C #4 AWG	1/C #6 AWG	1/C #10 AWG	2/C #10 AWG	
	2"	3"	1"									
	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	
Luminaire Pole L33												65
Luminaire Pole L34												65
Luminaire Pole L35												65
Luminaire Pole L36												65
Luminaire Pole L37												65
Luminaire Pole L38												65
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Luminaire Pole L51												65
Luminaire Pole L52												65
Luminaire Pole L53												65
Luminaire Pole L54												65
Luminaire Pole L55												65
Luminaire Pole L56												65
Innerduct												
EJF181	JF1			1,210					1,250			
JF1	JF2			1,210					1,250			
JF2	JF3			1,210					1,250			
JF3	JF4			1,210					1,250			
JF4	JF5			960					990			
JF5	JF6			1,210					1,250			
JF6	JF7			1,220					1,260			
JF7	JF8			1,210					1,250			
JF8	JF9			1,210					1,250			
JF9	JF10			820					845			
JF10	EJF182			740					765			
Subtotal:												
Total:												
	12,135	30	790	12,210			11,330	12,030	27,340	12,610		1,560
												4,840

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CONDUIT LAYOUT INTERSTATE 90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT IM 0909(92)387	SHEET L7	TOTAL SHEETS L40
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Plotting Date: 12/18/2024

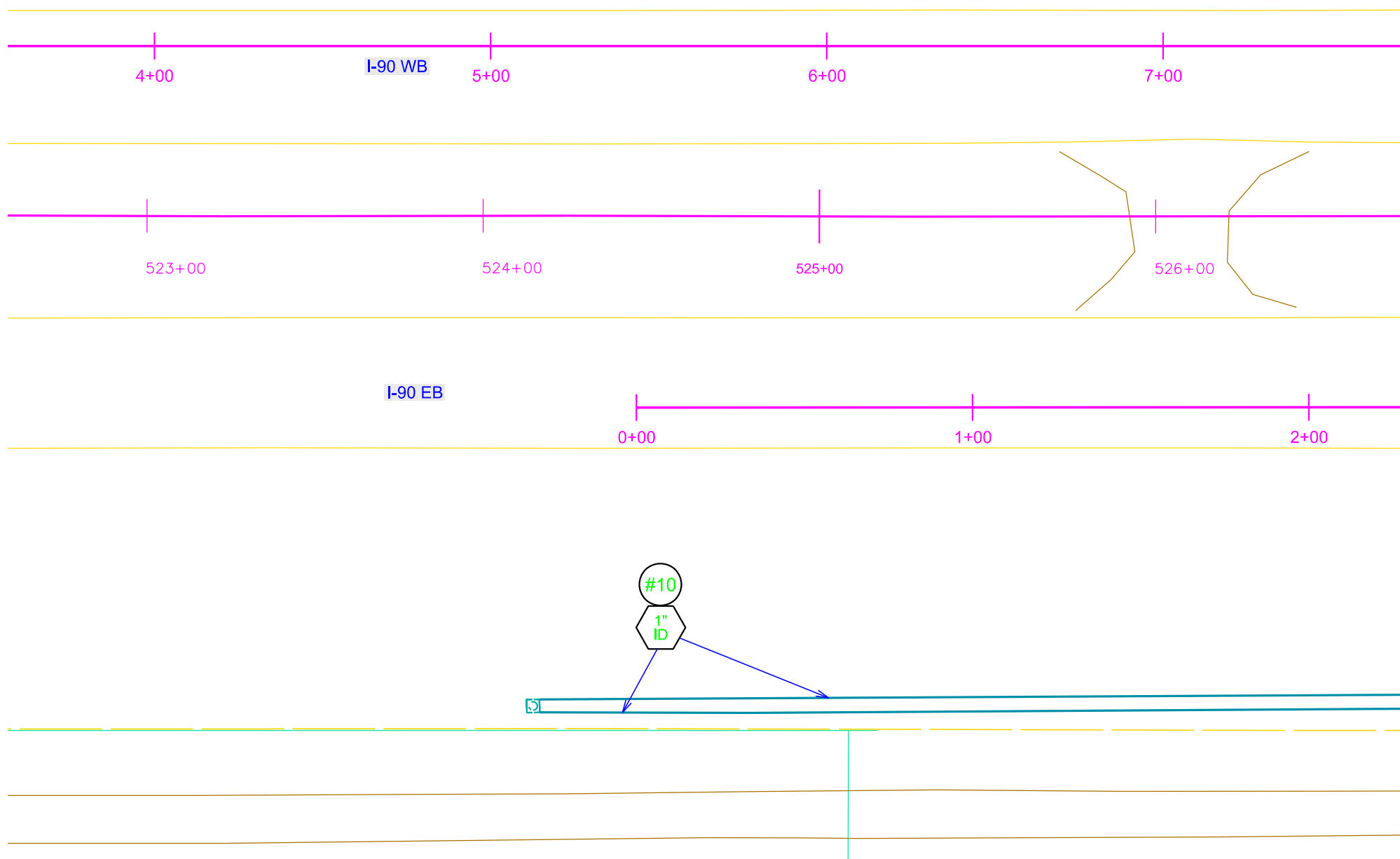


ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Breakaway Base Luminaire Pole w/6' Arm 50' Mounting Height (L17-L56)	40	EACH
	Breakaway Base Luminaire Pole w/12' Twin Arm 50' Mounting Height (L1-L16)	16	EACH
	Roadway Luminaire, LED with P.E. (L1-L56)	72	EACH
	2' Diameter Footing (L1-L56)	464	FT
	Type 1 Electrical Junction Box (JL1, JL3, JL4)	3	EACH
	Type 2 Electrical Junction Box (JL2)	1	EACH
	Type 3 Electrical Junction Box (JF1-JF10)	10	EACH
	Electrical Service Cabinet	2	EACH
	Galvanized Steel Utility Pole Not a Bid Item	2	EACH
	Meter Socket Not a Bid Item	2	EACH
	2" Rigid Conduit, Schedule 40	12135	FT
	3" Rigid Conduit, Schedule 40	30	FT
	2" Rigid Conduit, Schedule 80	790	FT
	1" Innerduct Conduit	12210	FT
	1/C #1 AWG Copper Wire	11330	FT
	1/C #4 AWG Copper Wire	12030	FT
	1/C #8 AWG Copper Wire	27340	FT
	1/C #10 AWG Copper Wire	12610	FT
	2/C #10 AWG Copper Pole & Bracket Cable	4840	FT

EXISTING ITEMS

KEY	ITEM
	Type 3 Electrical Junction Box (EJF181)



Plot Scale - 1"=40'

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CONDUIT LAYOUT INTERSTATE 90

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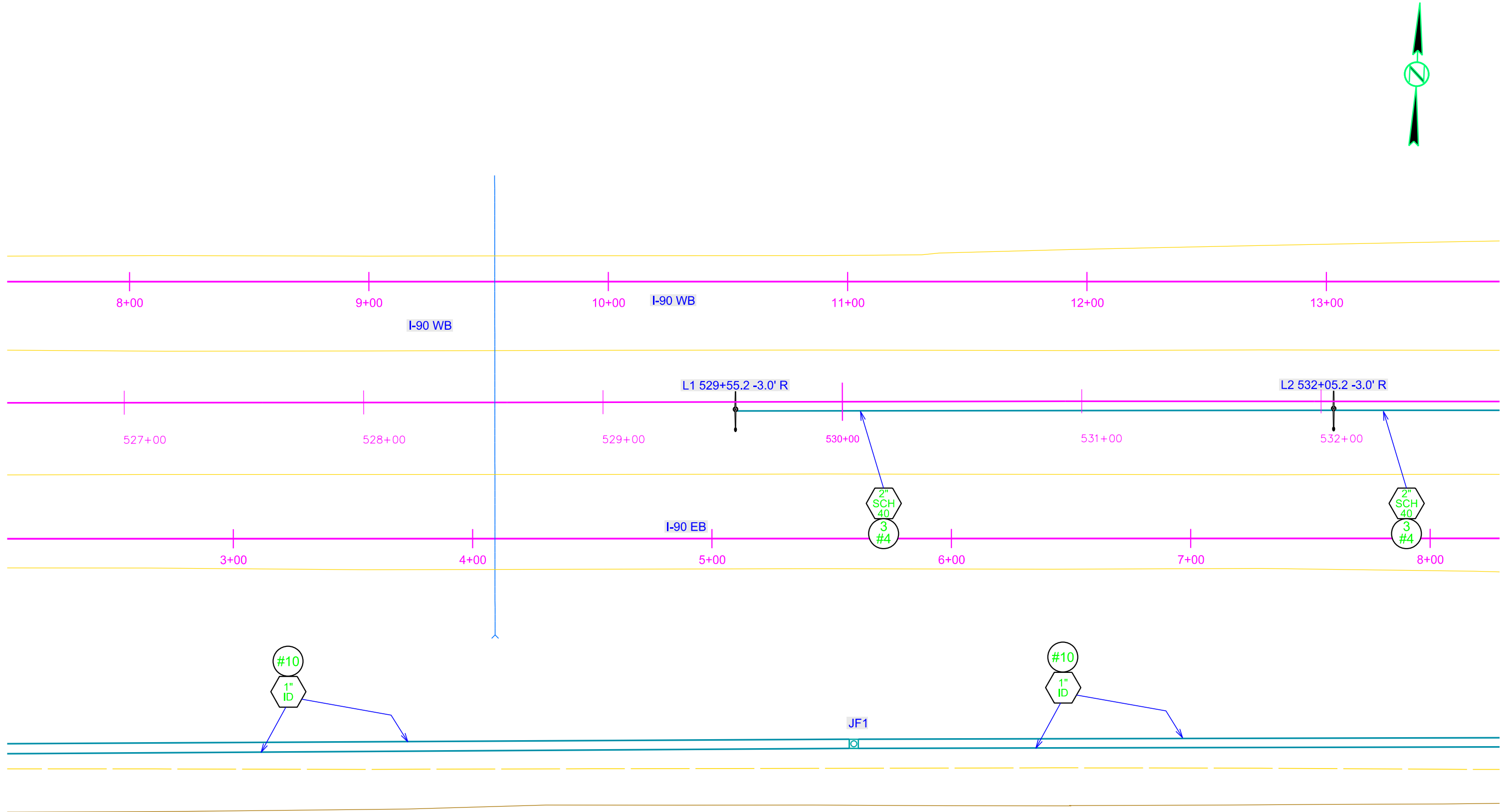
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Plotting Date: 12/18/2024

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CONDUIT LAYOUT INTERSTATE 90

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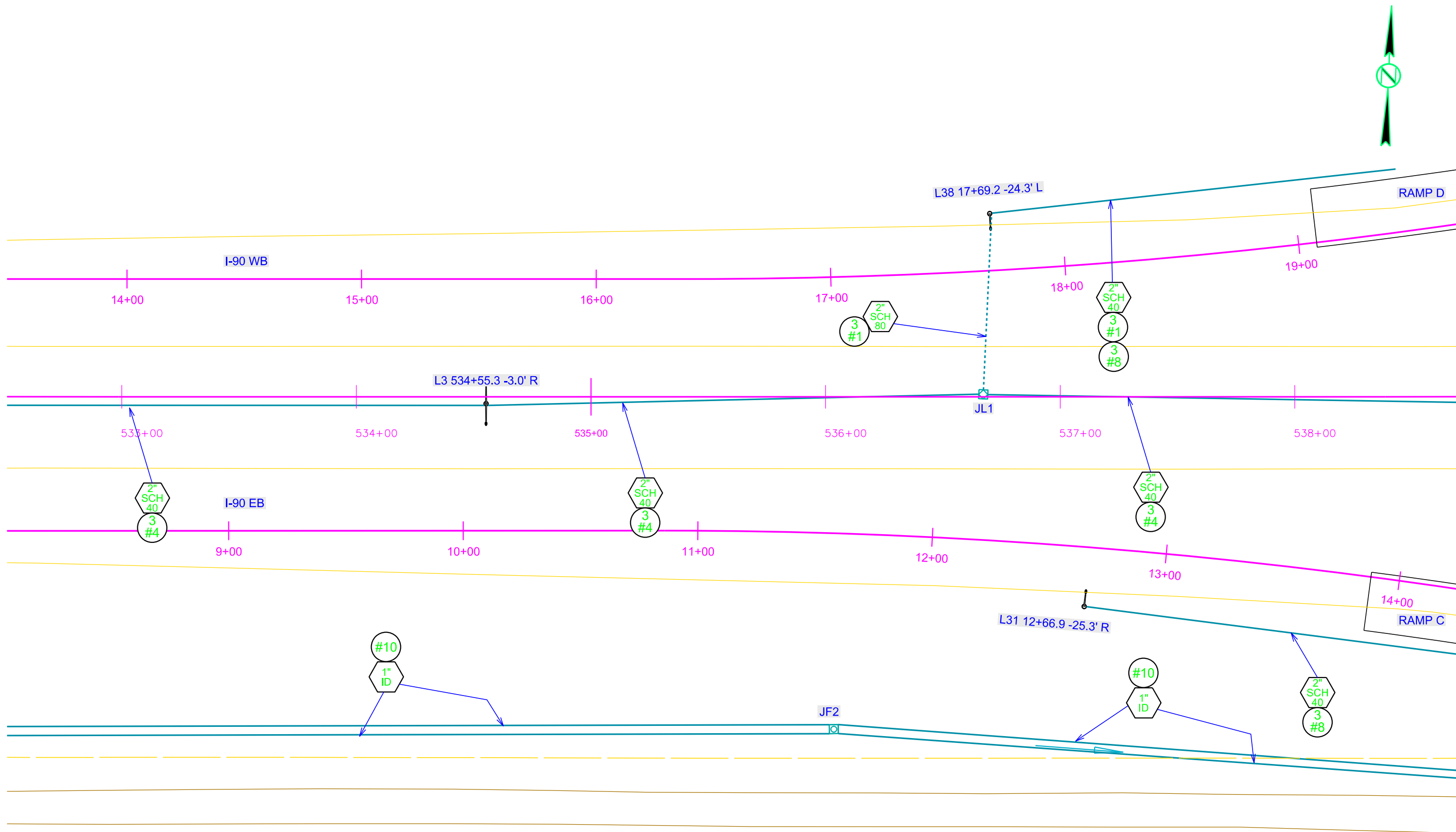
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Plotting Date: 12/18/2024

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CONDUIT LAYOUT INTERSTATE 90

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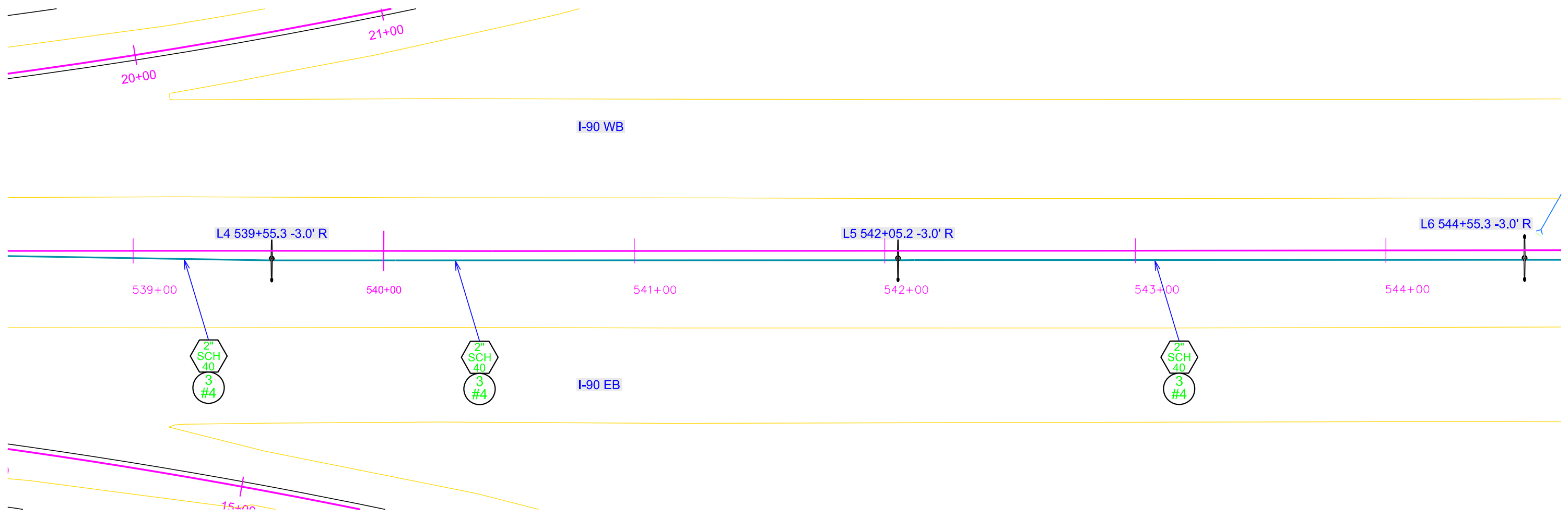
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Plotting Date: 12/18/2024

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CONDUIT LAYOUT INTERSTATE 90

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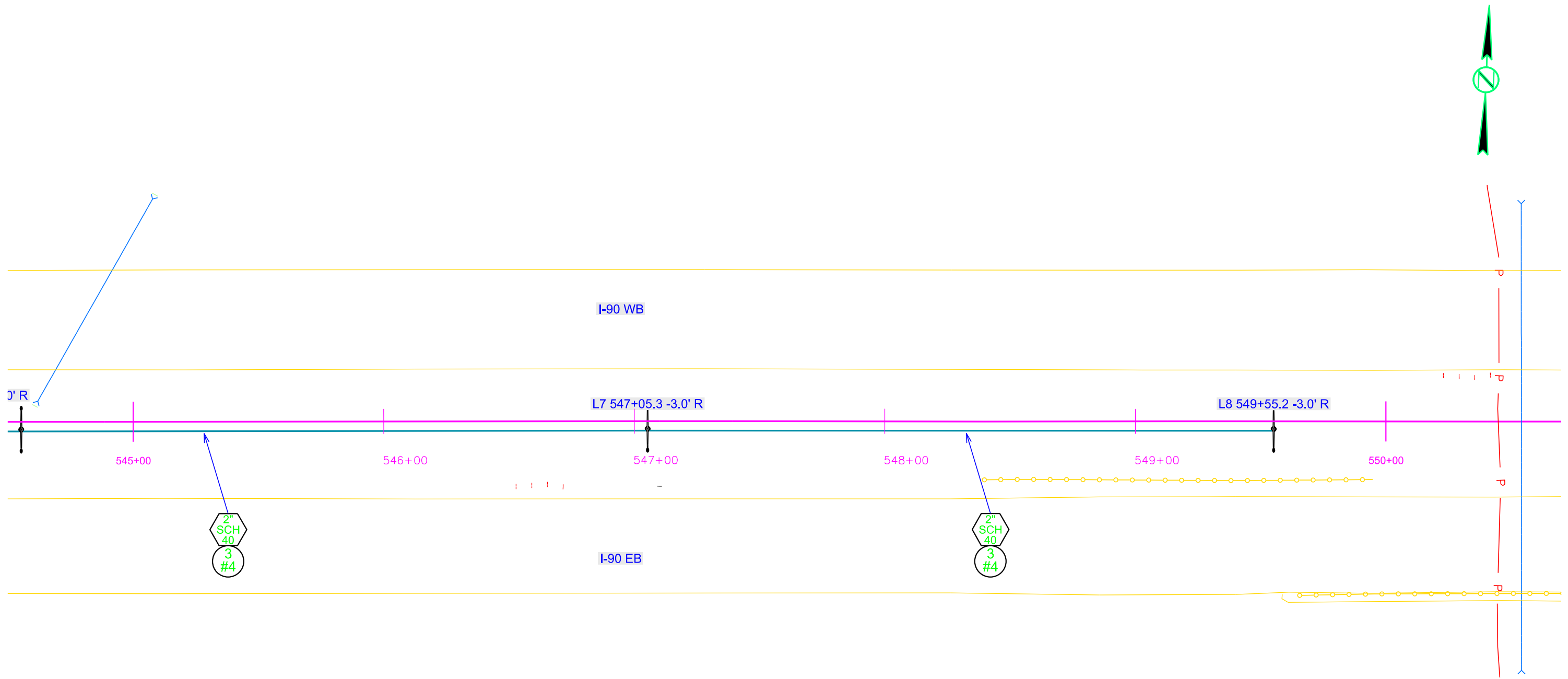
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	IM 0909(92)387	L11	L40

Plotting Date: 12/18/2024

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CONDUIT LAYOUT INTERSTATE 90

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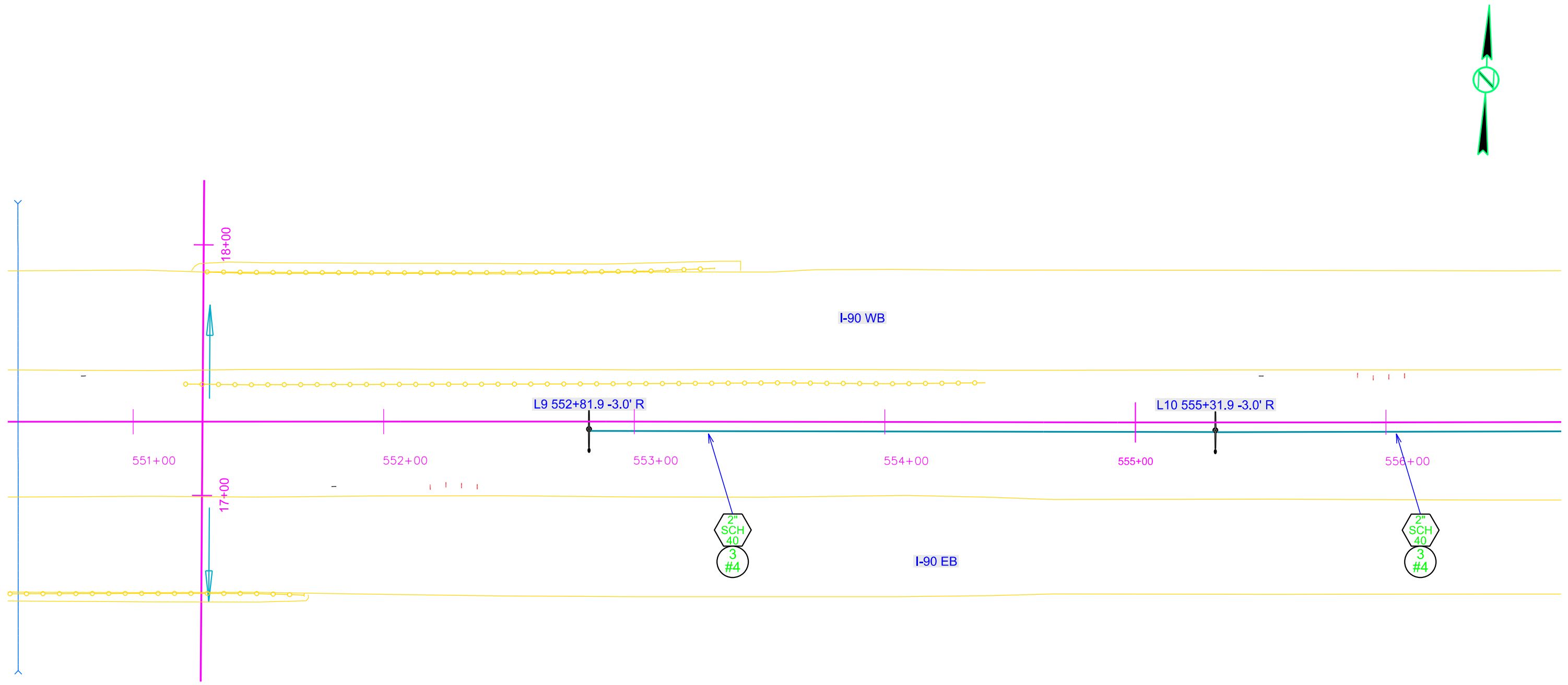
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Plotting Date: 12/18/2024

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CONDUIT LAYOUT INTERSTATE 90

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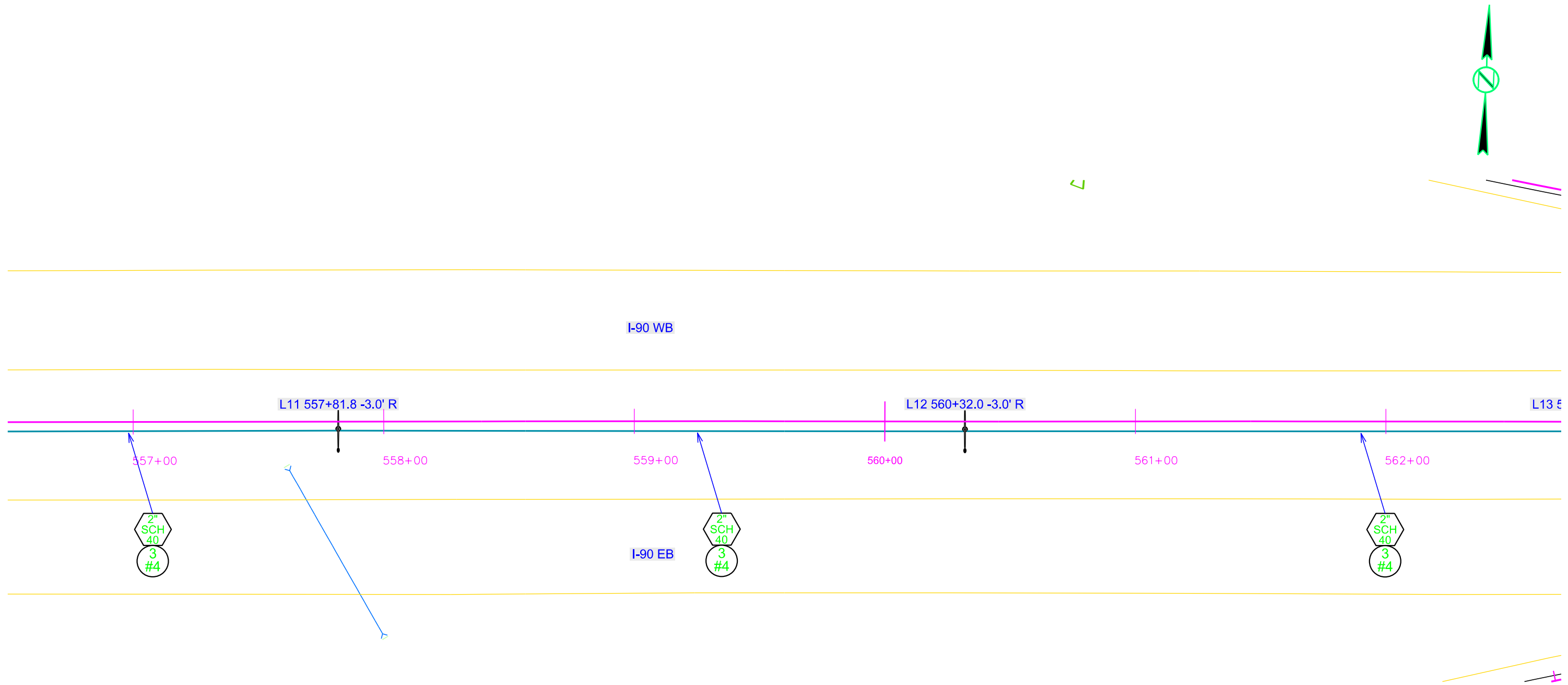
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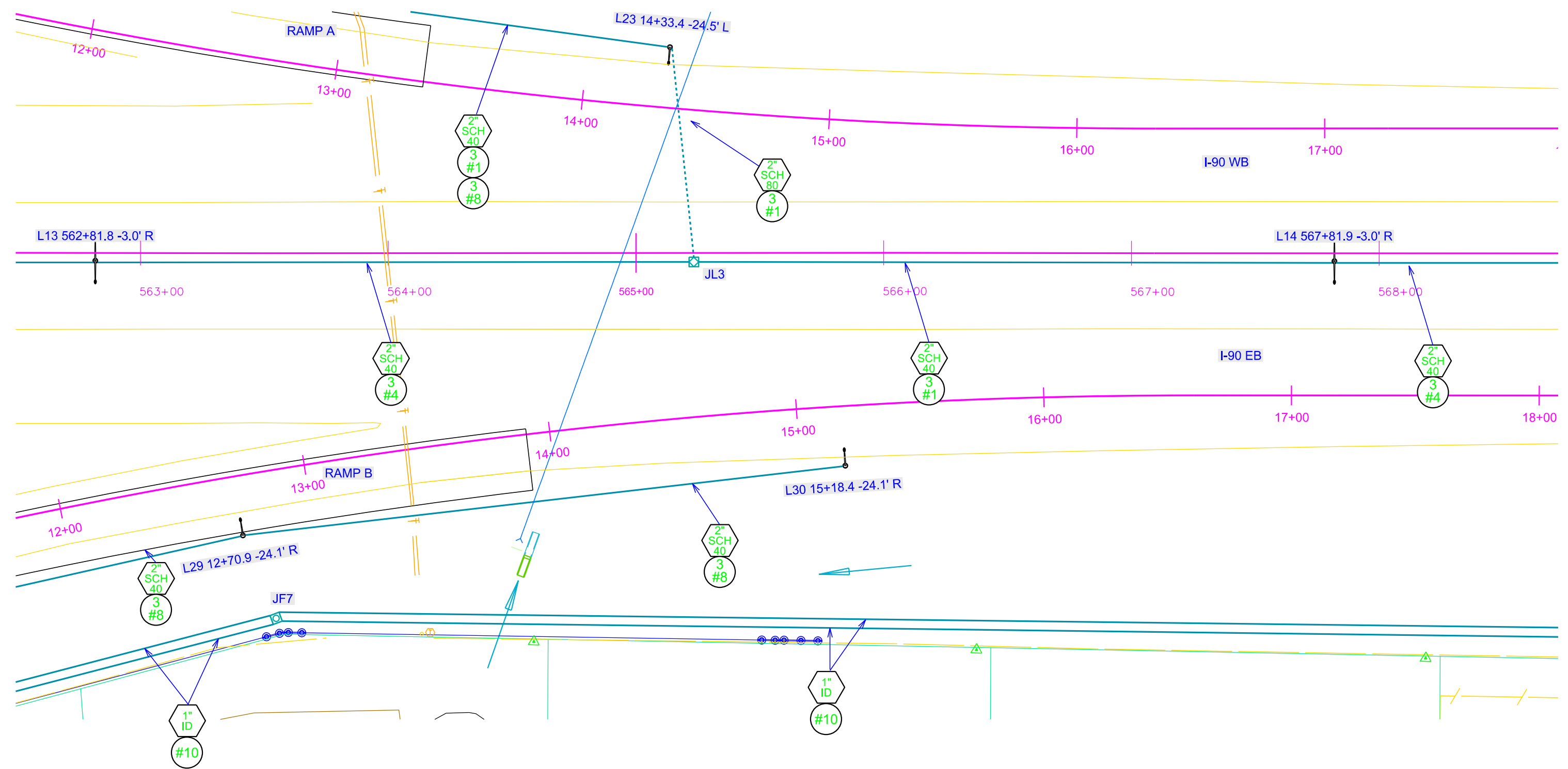
CONDUIT LAYOUT INTERSTATE 90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L14	L40
Plotting Date:		12/18/2024	



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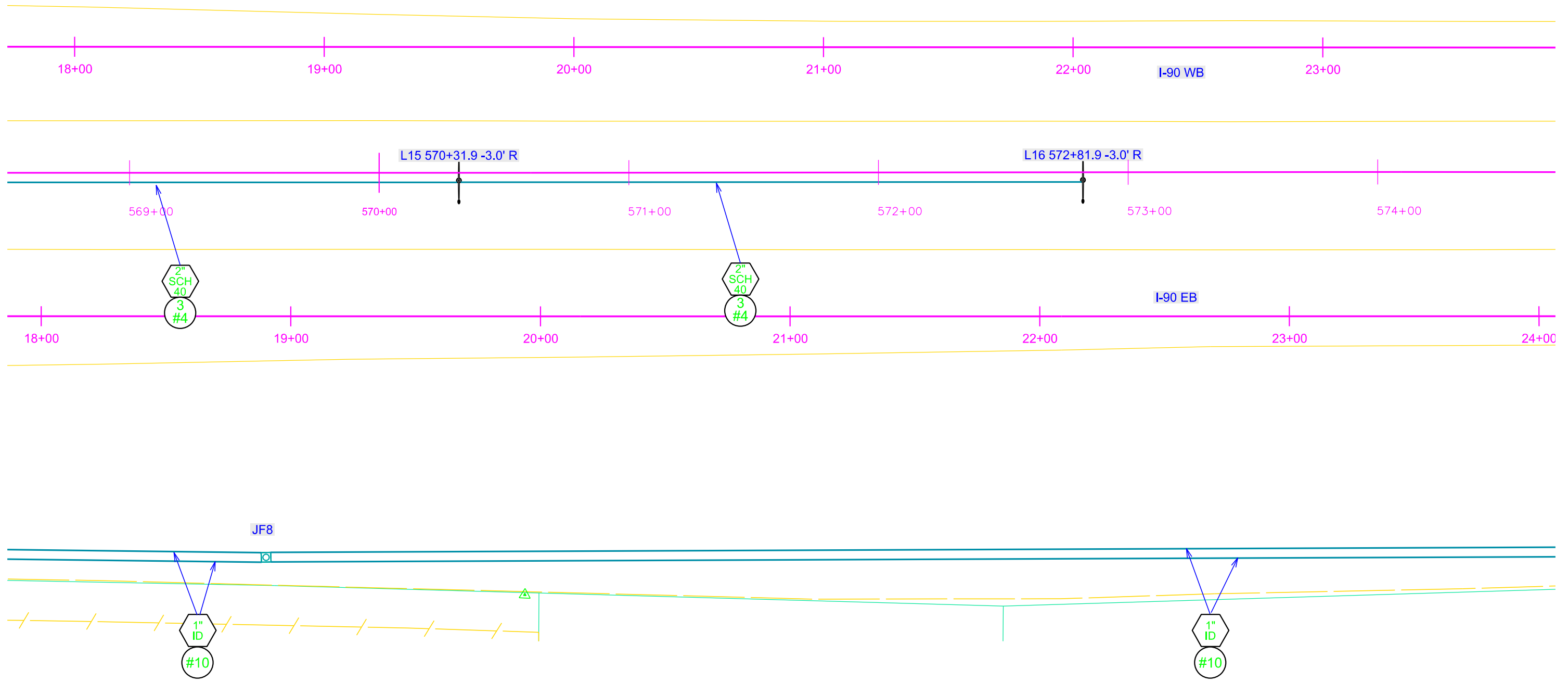
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CONDUIT LAYOUT INTERSTATE 90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L15	L40
Plotting Date: 12/18/2024			

Plot Scale - 1"=40'



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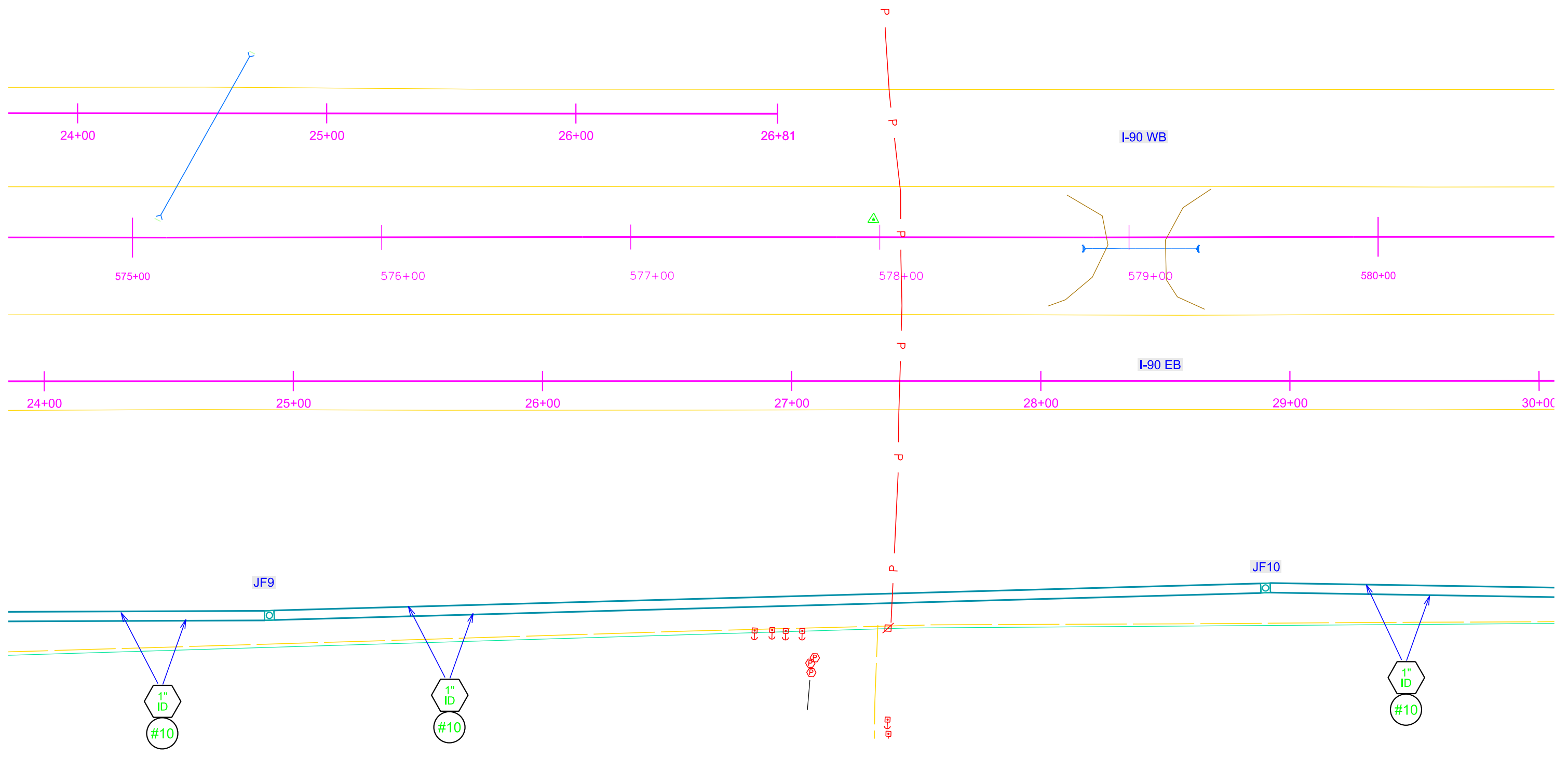
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CONDUIT LAYOUT INTERSTATE 90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L16	L40
Plotting Date: 12/18/2024			

Plot Scale - 1:40



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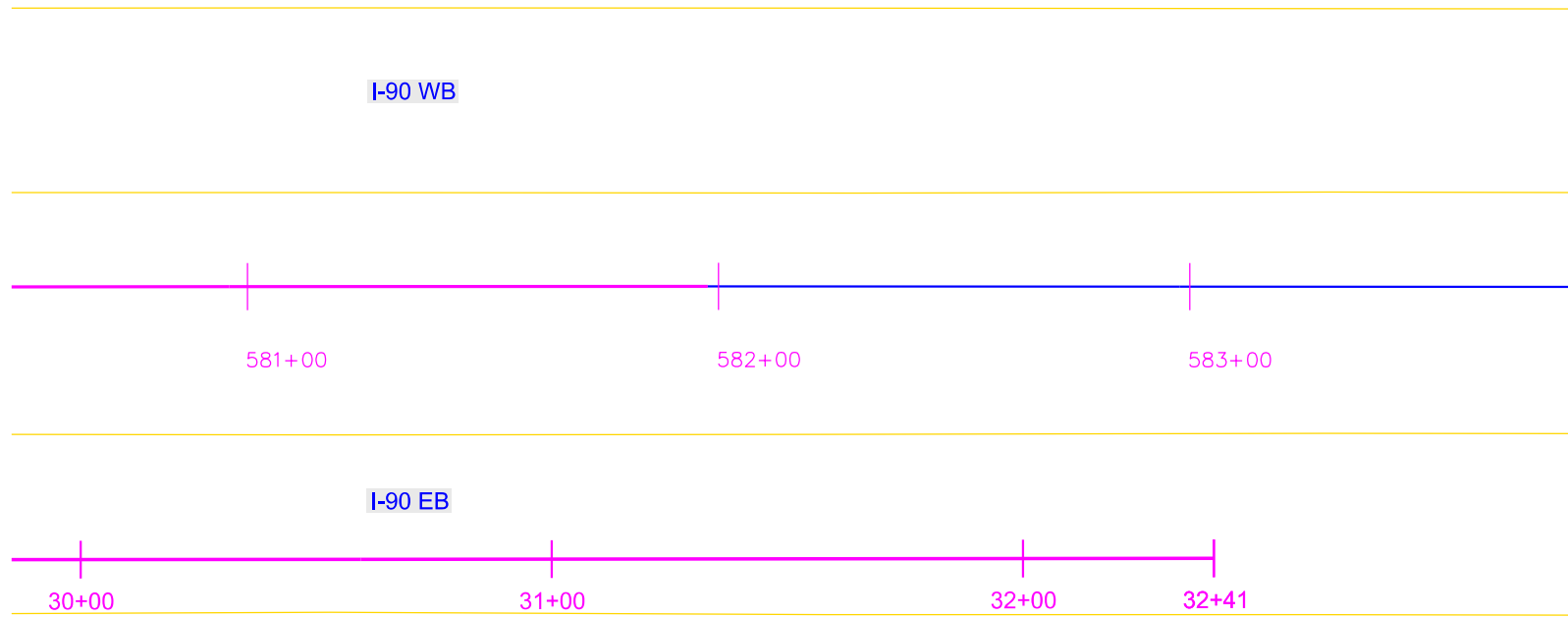
CONDUIT LAYOUT INTERSTATE 90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT IM 0909(92)387	SHEET L17	TOTAL SHEETS L40
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Plotting Date: 12/18/2024

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EXISTING ITEMS	
KEY	ITEM
	Type 3 Electrical Junction Box (EJF 182)



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CONDUIT LAYOUT RAMP A

FOR BIDDING PURPOSES ONLY

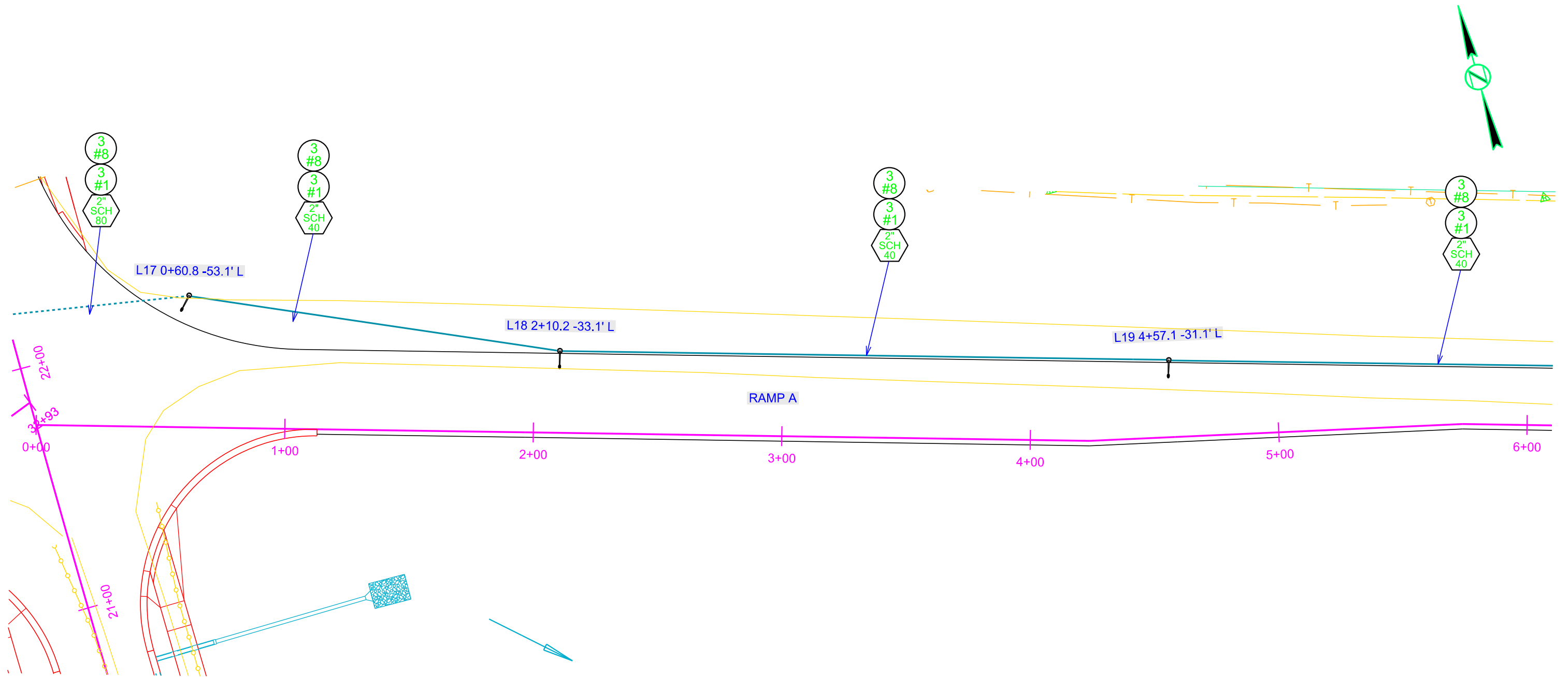
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	IM 0909(92)387	L18	L40

Plotting Date: 12/18/2024

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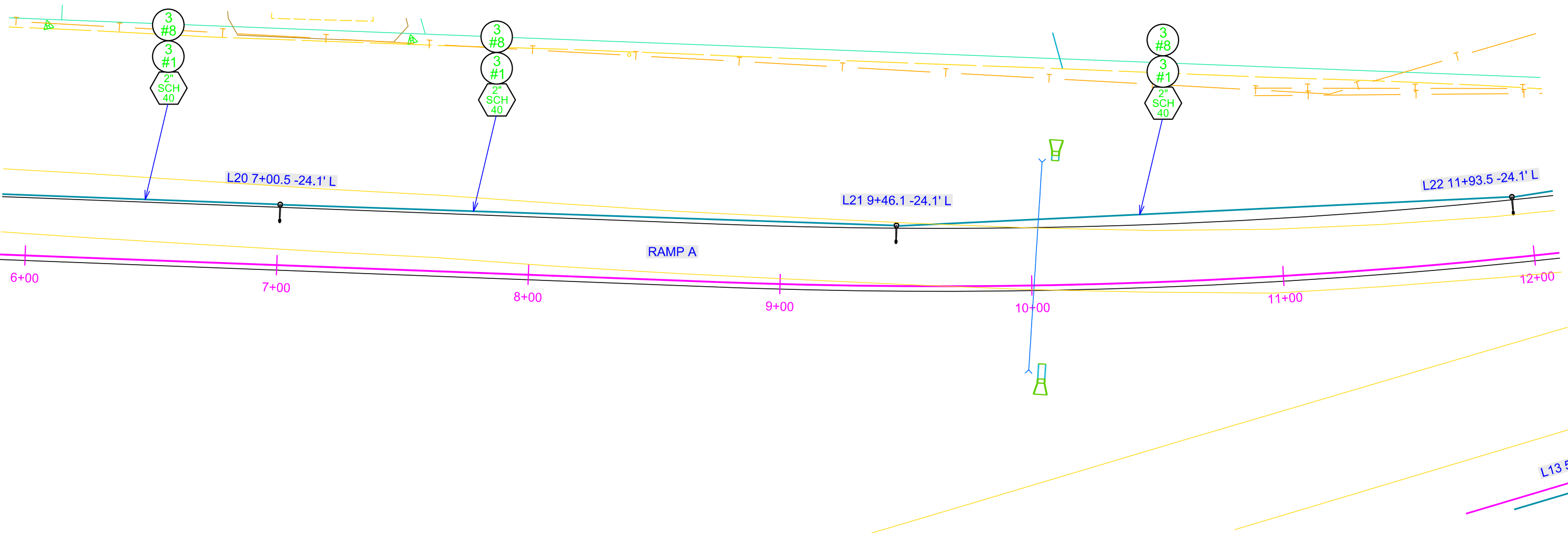
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CONDUIT LAYOUT RAMP A

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L19	L40
Plotting Date: 12/18/2024			



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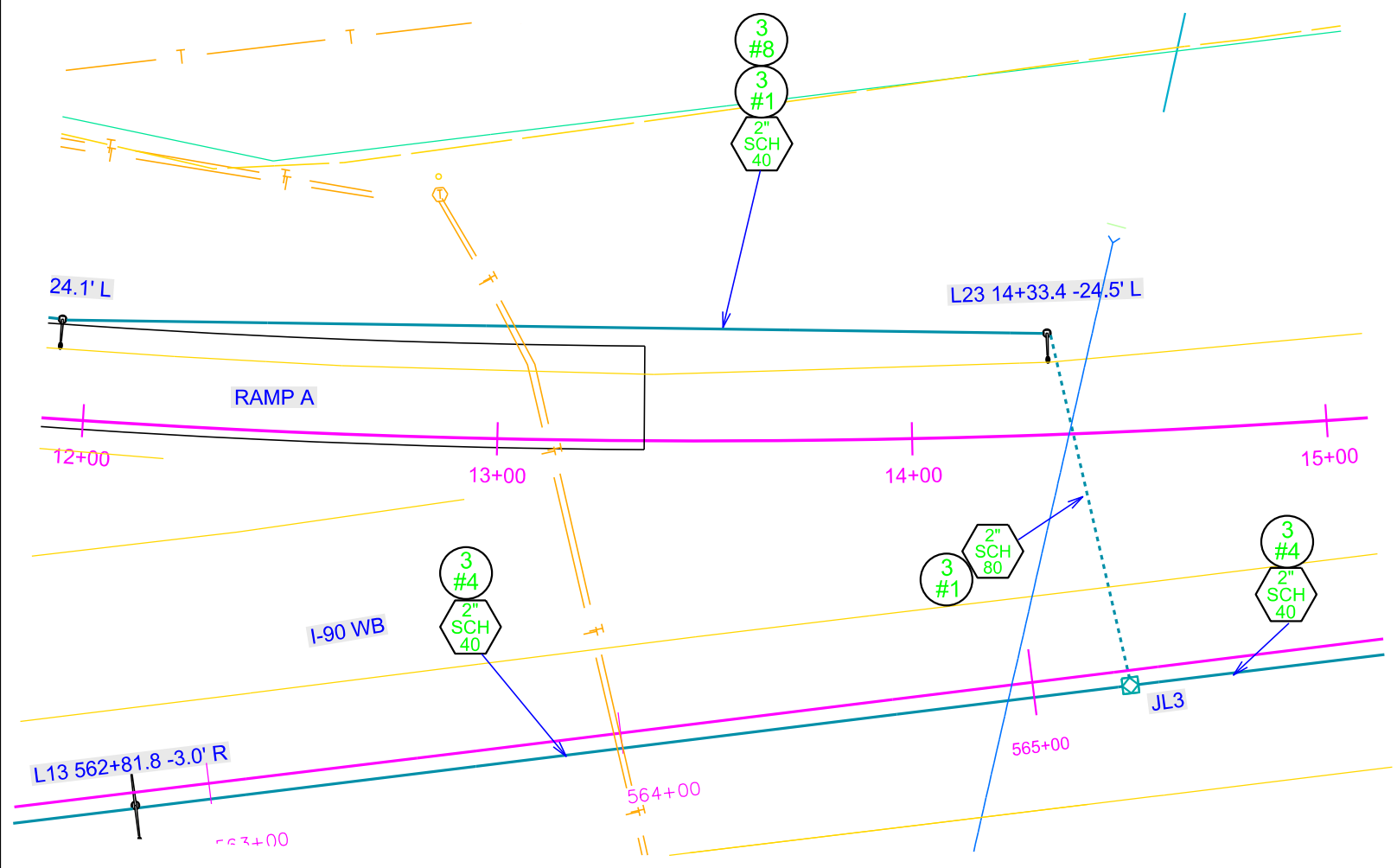
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CONDUIT LAYOUT RAMP A

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L20	L40
Plotting Date:		12/18/2024	

Plot Scale - 1:40



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CONDUIT LAYOUT RAMP B

FOR BIDDING PURPOSES ONLY

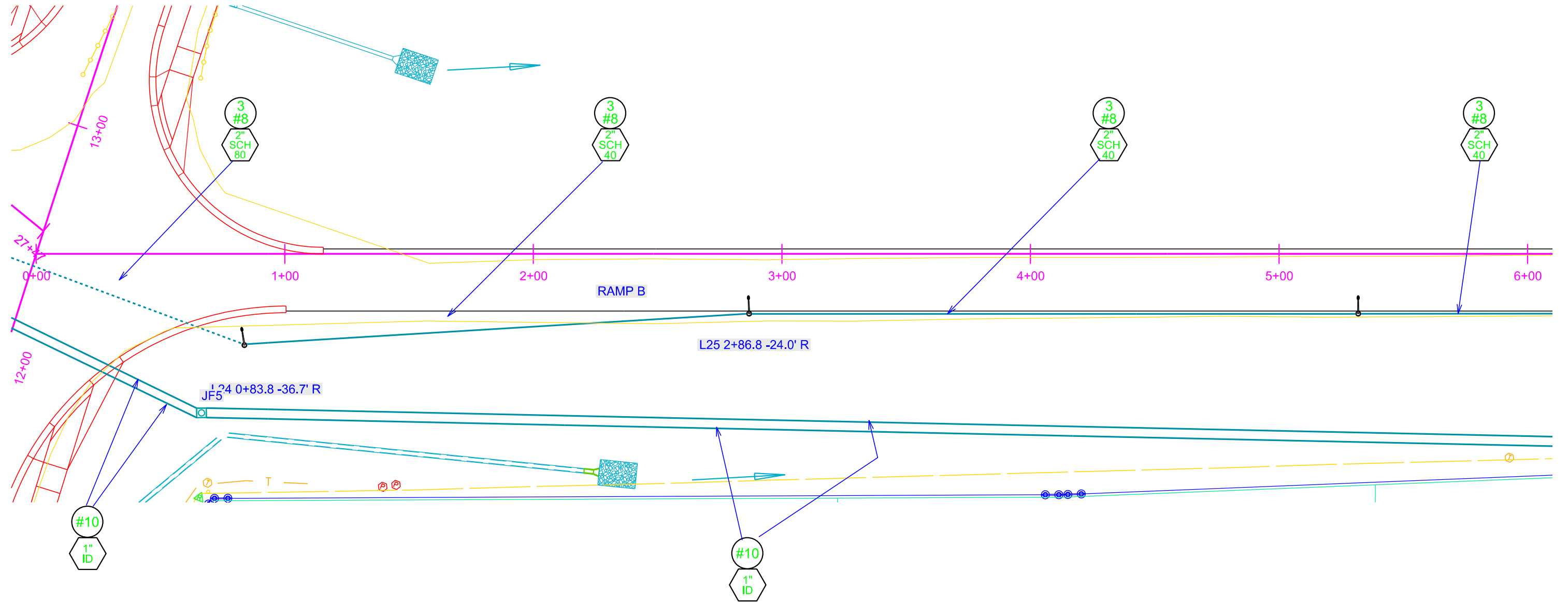
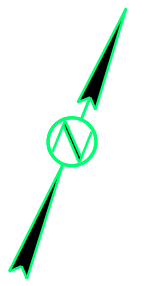
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L21	L40

Plotting Date: 12/18/2024

Plot Scale - 1:40

Plotted From - TRPR317199

File - U:\trproj\mimn06\G03\RampBc1.dgn



CONDUIT LAYOUT RAMP B

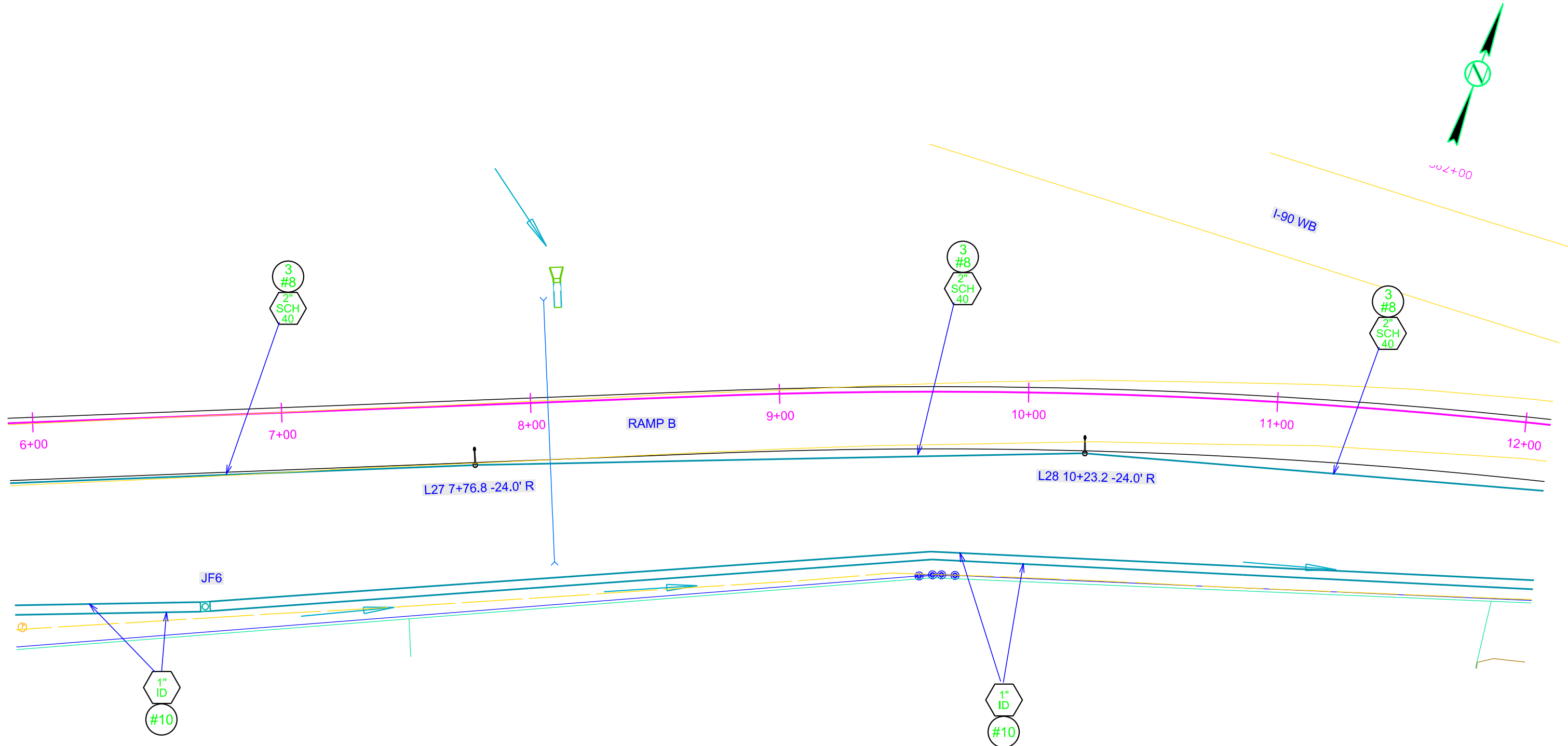
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT IM 0909(92)387	SHEET L22	TOTAL SHEETS L40
Plotting Date: 12/18/2024			

Plot Scale - 1:40

Plotted From - TRPR17199

File - U:\trproj\mim06\G01\RampB02.dgn



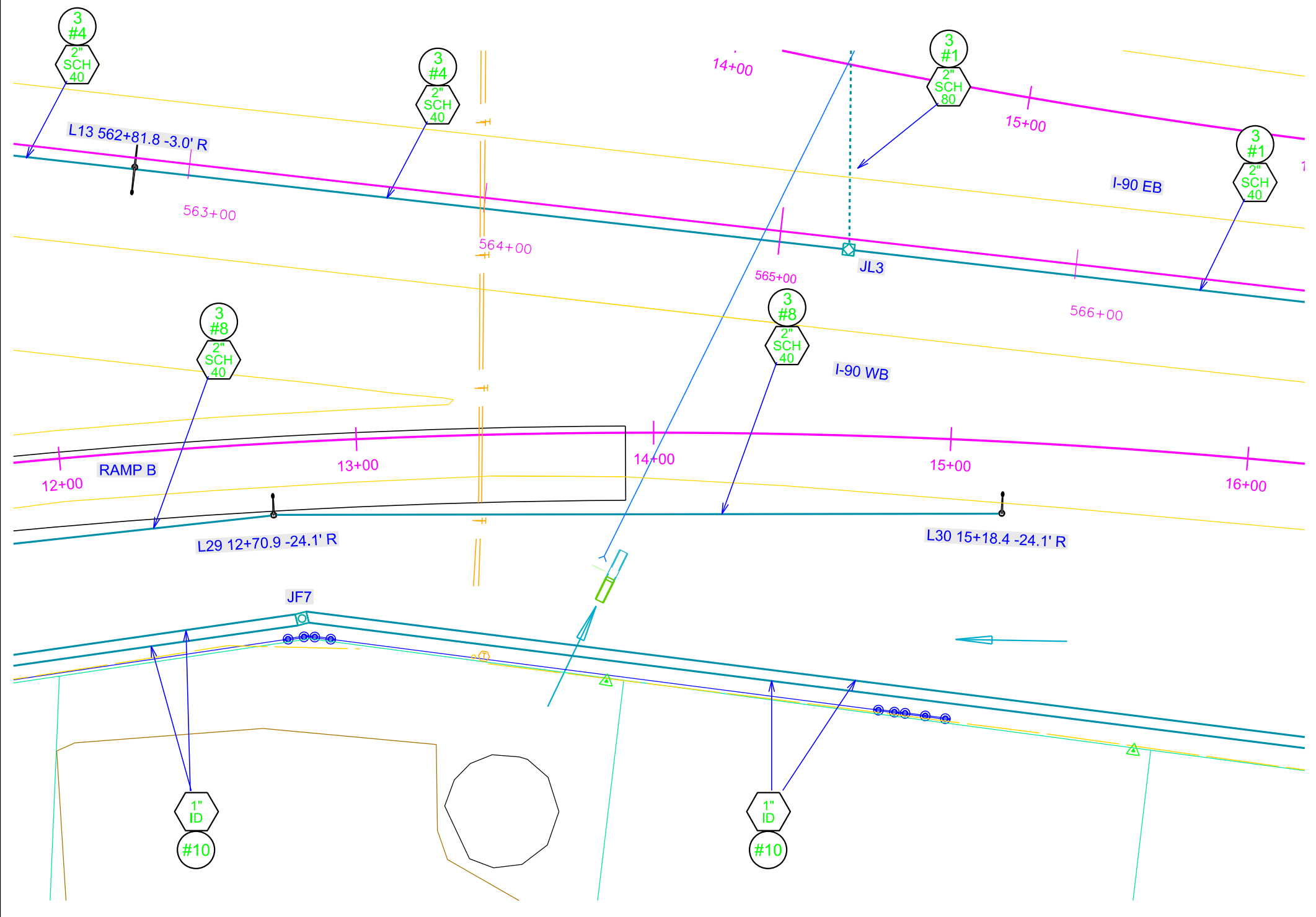
CONDUIT LAYOUT RAMP B

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L23	L40
Plotting Date: 12/18/2024			

Plot Scale - 1"=40'

Plotted From - TRPR317199



File - U:\trproj\mim06\G01\RampBoc3.dgn

CONDUIT LAYOUT RAMP C

FOR BIDDING PURPOSES ONLY

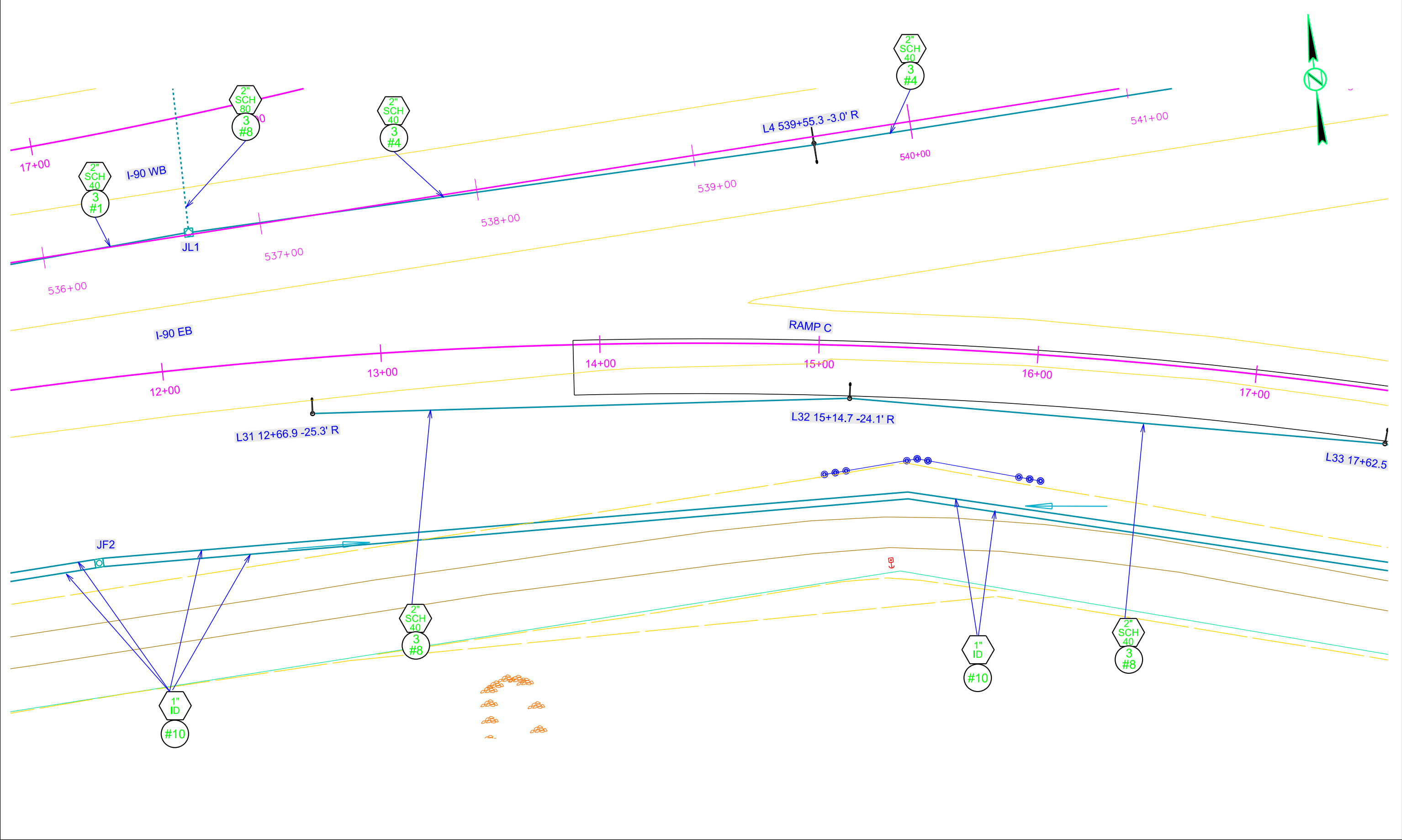
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L24	L40

Plotting Date: 12/18/2024

Plot Scale - 1:40

Plotted From - TRPR317199

File - U:\trproj\mim06\G03\RampC01.dgn

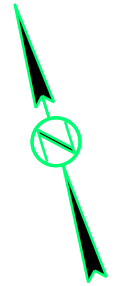


CONDUIT LAYOUT RAMP C

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT IM 0909(92)387	SHEET L25	TOTAL SHEETS L40
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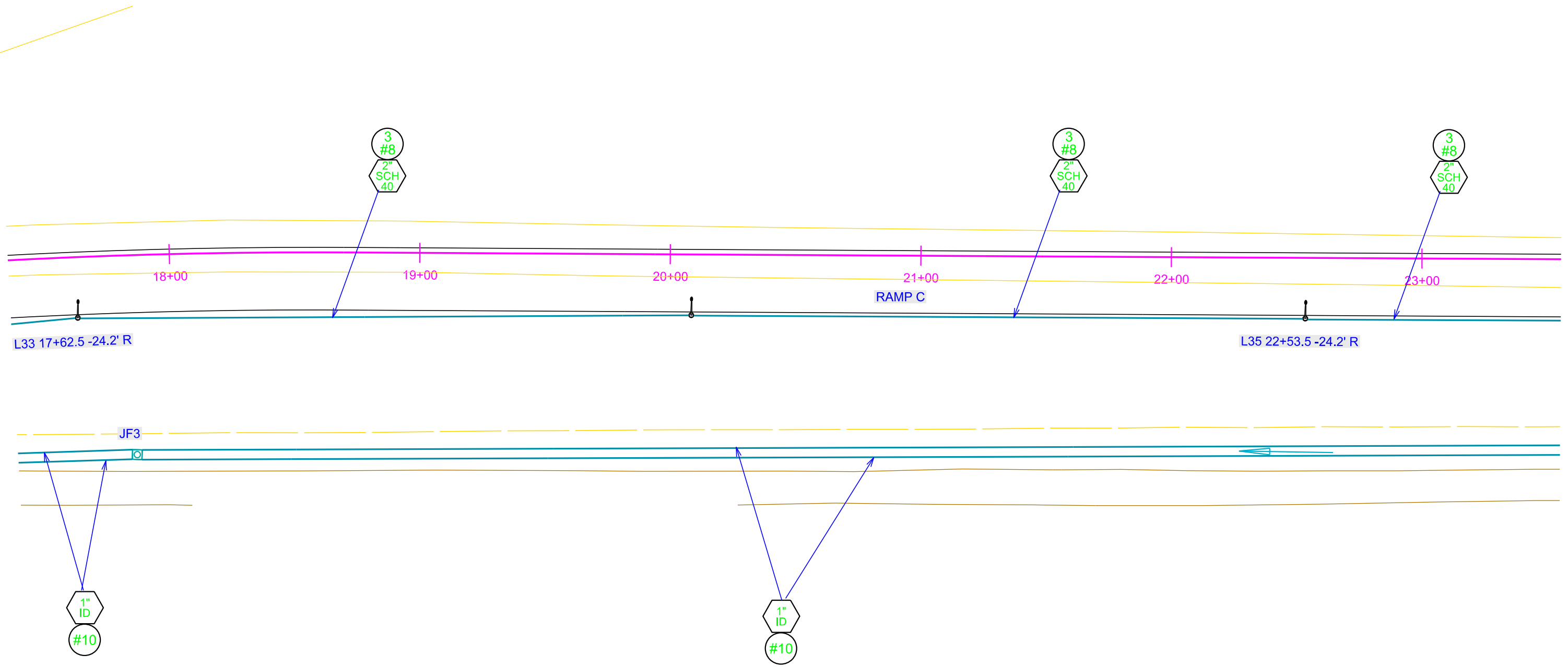
Plotting Date: 12/18/2024



Plot Scale - 1:40

Plotted From - TRPR17199

File - U:\trproj\mim06\G01\RampC2.dgn



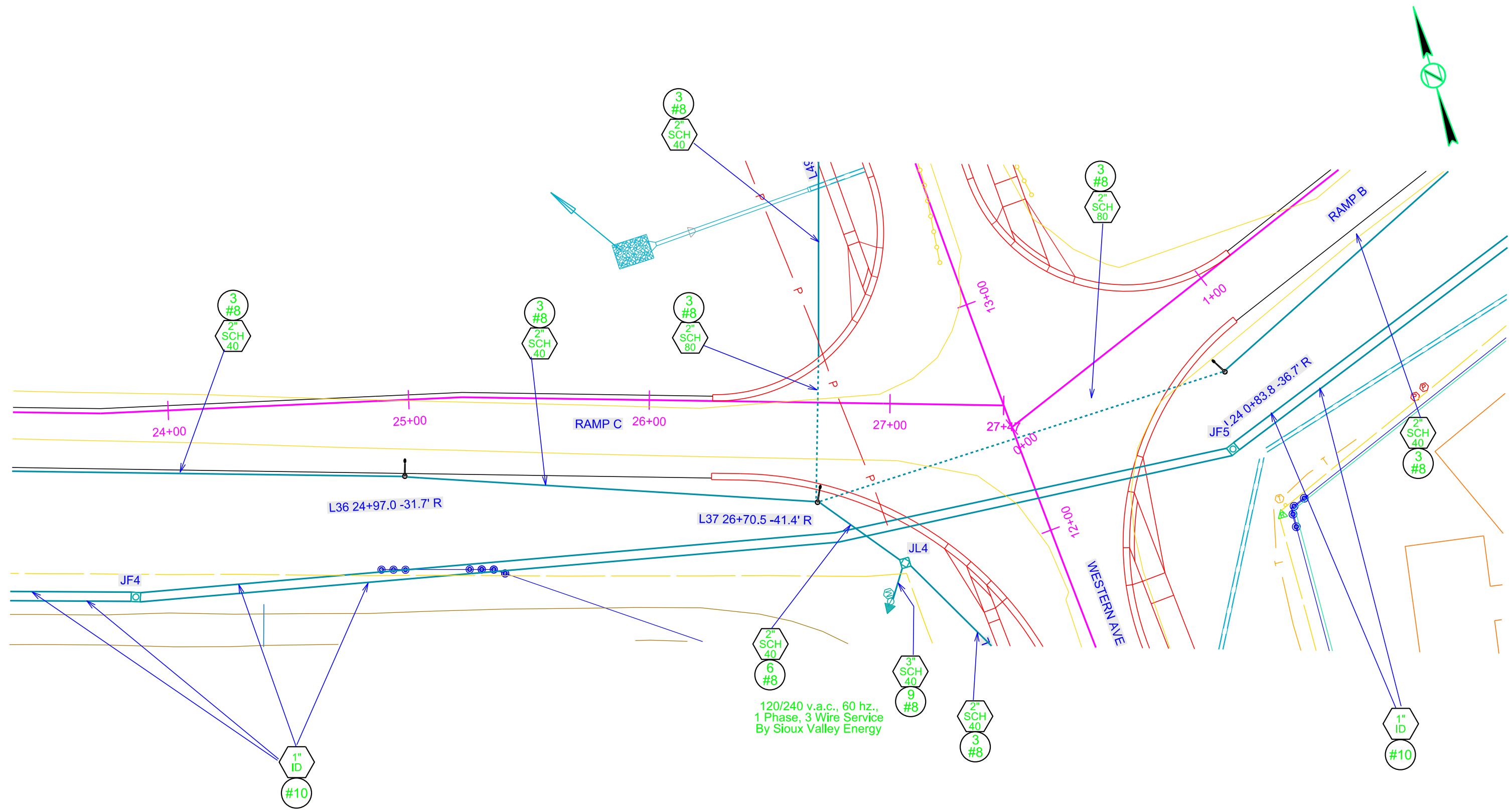
CONDUIT LAYOUT RAMP C

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT IM 0909(92)387	SHEET L26	TOTAL SHEETS L40
Plotting Date: 12/18/2024			

Plot Scale - 1"=40'

Plotted From - TRPR17199



File - U:\trproj\mim06\G01\RampC03.dgn

CONDUIT LAYOUT RAMP D

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L27	L40

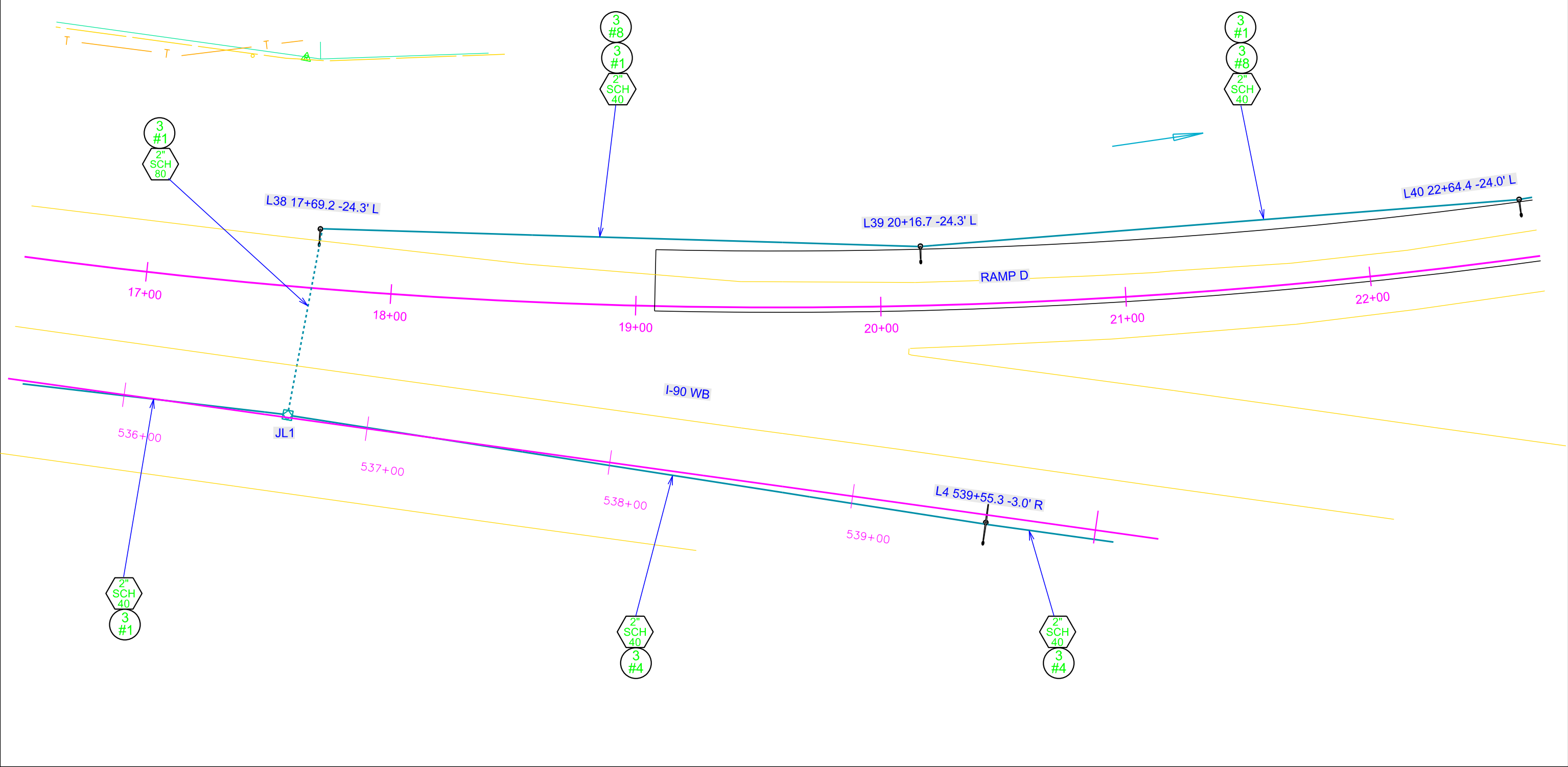
Plotting Date: 12/18/2024



Plot Scale - 1:40

Plotted From - TRPR17199

File - U:\proj\11mm\6\G08\RampDc1.dgn



CONDUIT LAYOUT RAMP D

FOR BIDDING PURPOSES ONLY

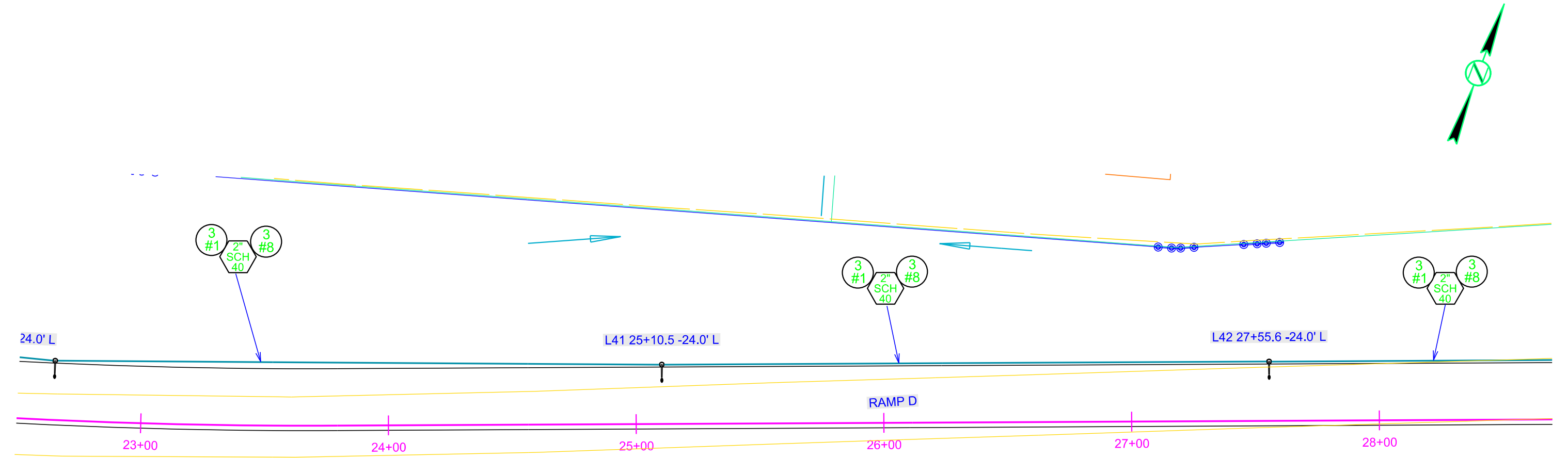
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L28	L40

Plotting Date: 12/18/2024

Plot Scale - 1:40

Plotted From - TRPR17199

File - U:\projects\11mm06\G8\RampDc2.dgn



CONDUIT LAYOUT RAMP D

FOR BIDDING PURPOSES ONLY

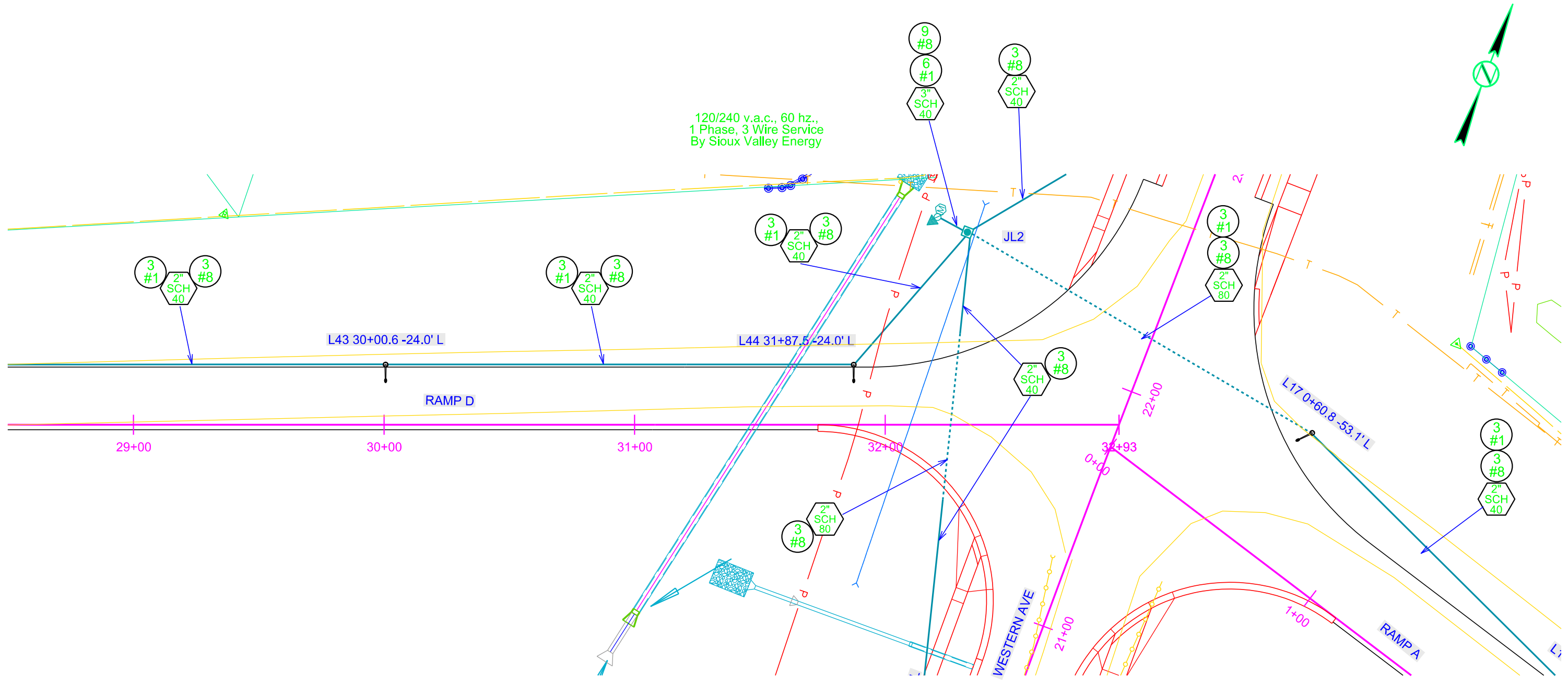
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L29	L40

Plotting Date: 12/18/2024

Plot Scale - 1:40

Plotted From - TRPR17199

File - U:\trproj\mim06\G08\RampDc3.dgn



CONDUIT LAYOUT WESTERN AVENUE

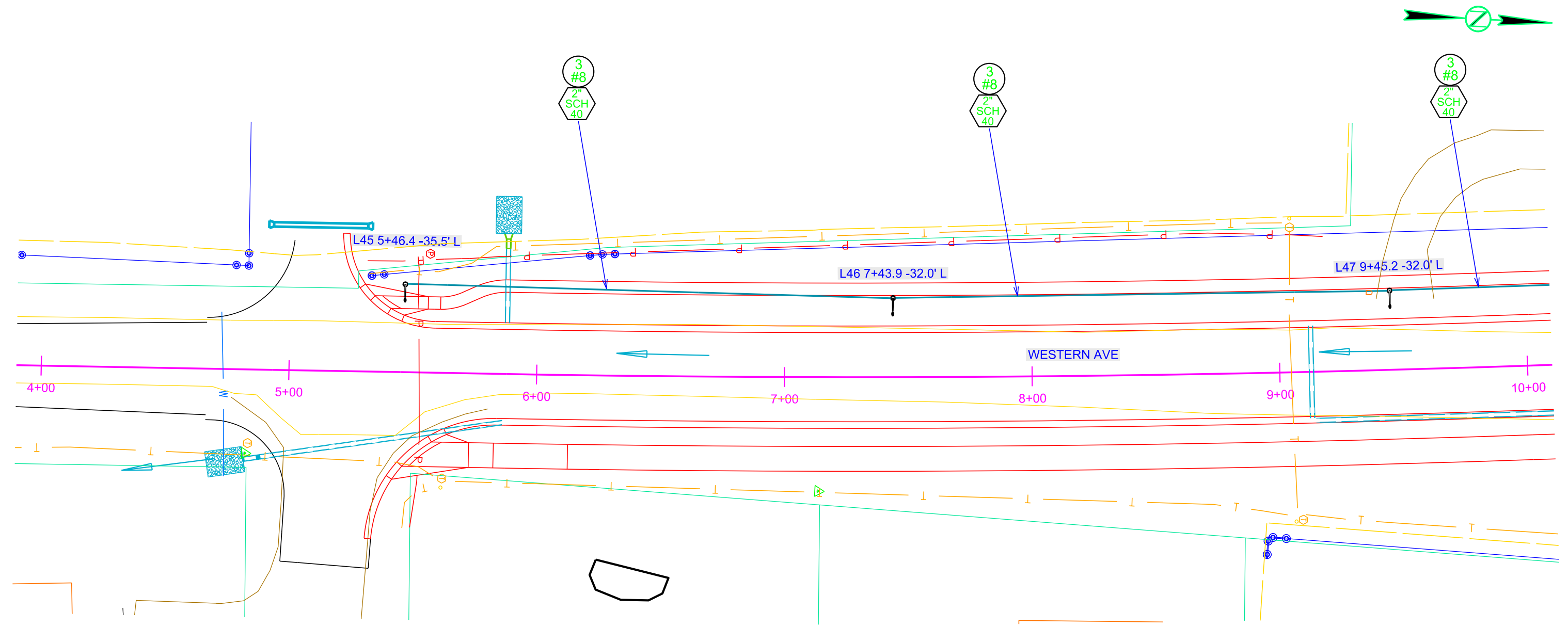
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L30	L40
Plotting Date: 12/18/2024			

Plot Scale - 1:40

Plotted From - TRPR17199

File - ...apj\mim0668\WesternAve.ctb.dgn



CONDUIT LAYOUT WESTERN AVENUE

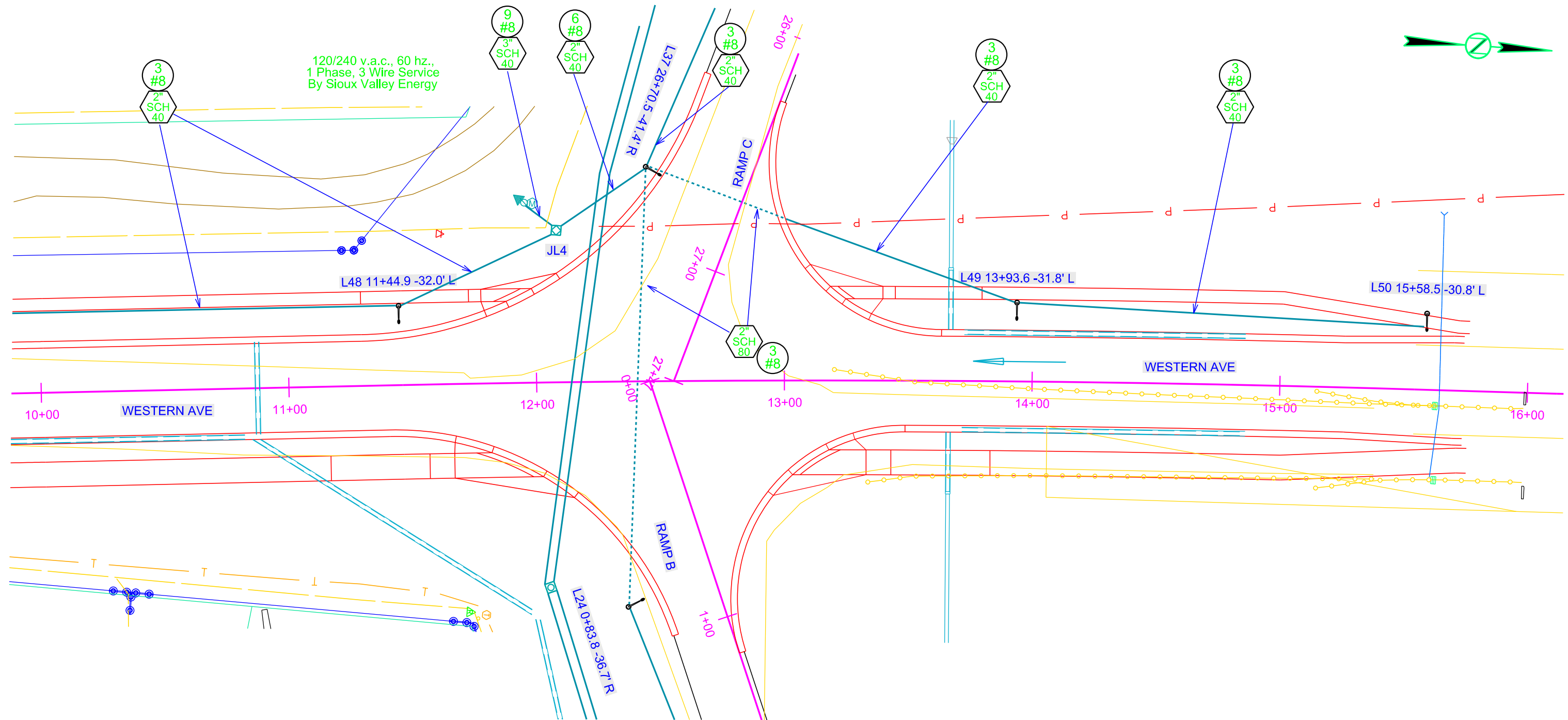
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L31	L40

Plotting Date: 12/18/2024

Plot Scale - 1:40

Plotted From - TRPR17199



File - ...apj\mim0668\WesternAve_c2.dgn

CONDUIT LAYOUT WESTERN AVENUE

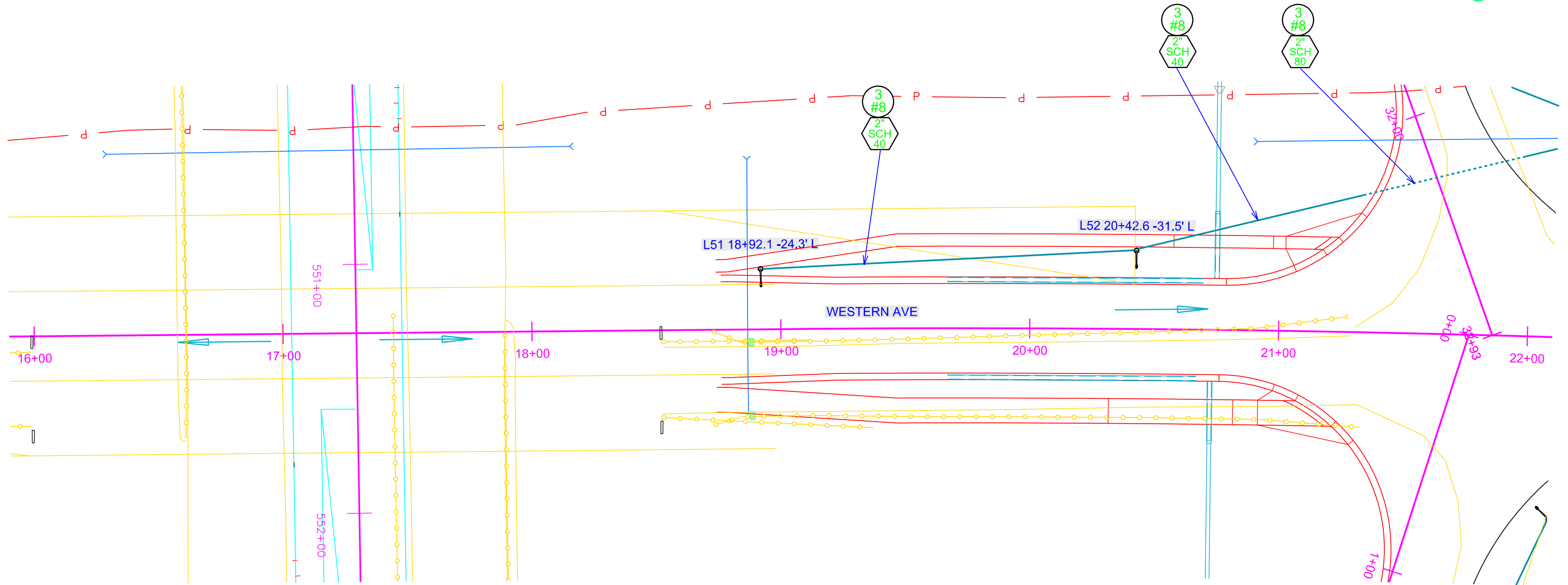
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L32	L40

Plotting Date: 12/18/2024

Plot Scale - 1:40

Plotted From - TRPR17199

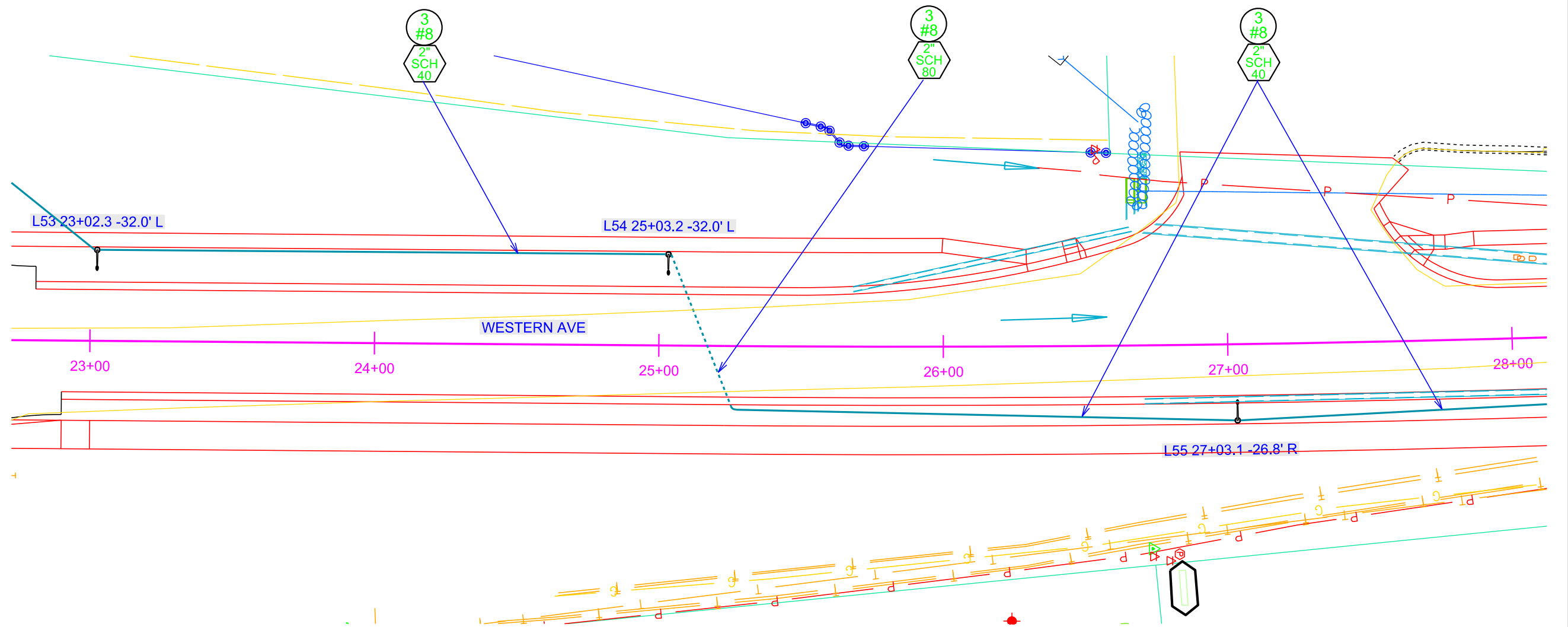
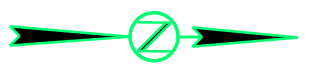


CONDUIT LAYOUT WESTERN AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L33	L40

Plotting Date: 12/18/2024



Plot Scale - 1"=40'

Plotted From - TRPR17199

File - ...apj\mim0668\WesternAve_c4.dgn

CONDUIT LAYOUT WESTERN AVENUE

FOR BIDDING PURPOSES ONLY

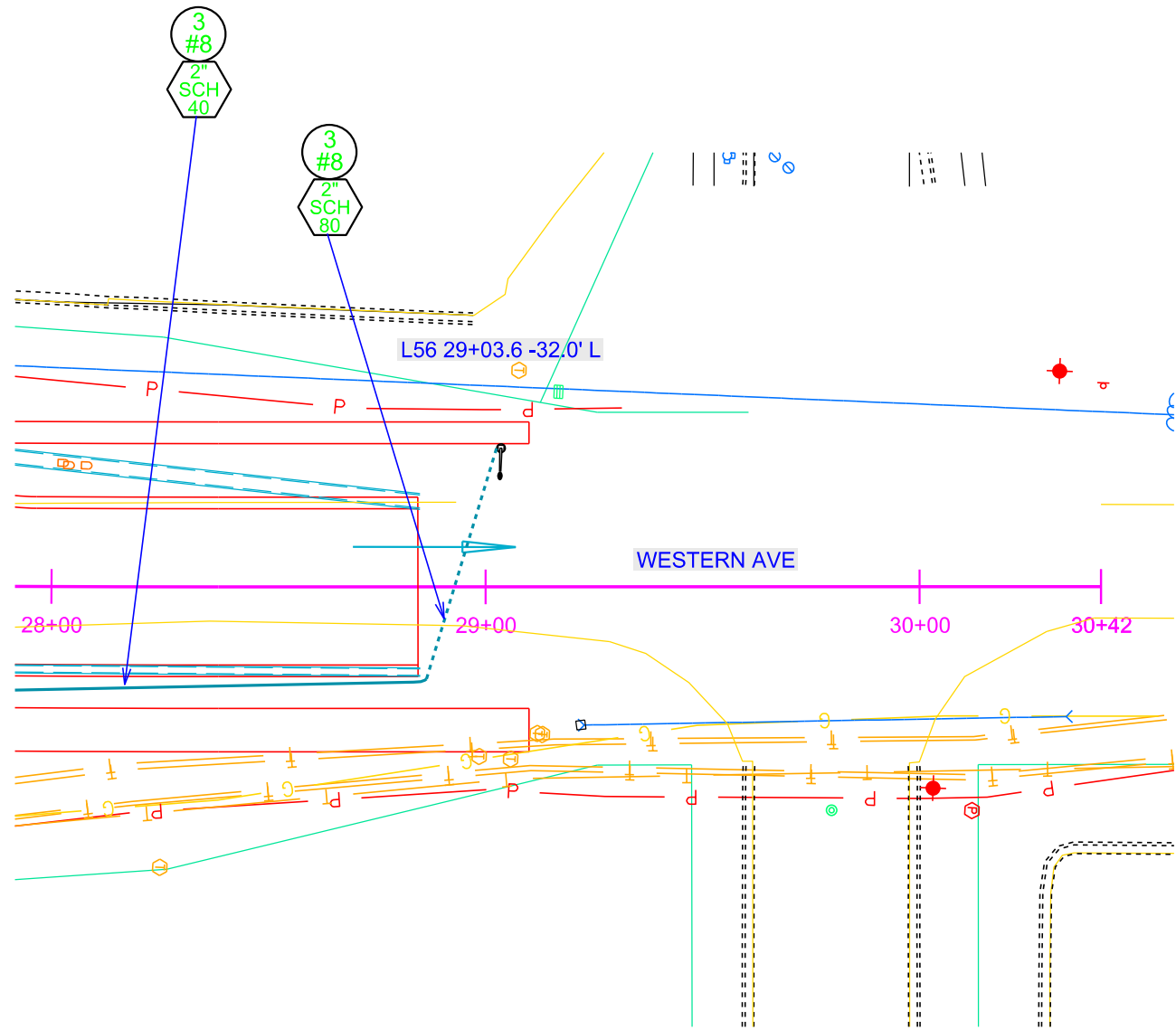
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L34	L40

Plotting Date: 12/18/2024



Plot Scale - 1"=40'

Plotted From - TRPR17199



File - ...:\p7\m0668\WesternAve_c5.dgn

WIRING DIAGRAM

FOR BIDDING PURPOSES ONLY


STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L35	L40

Plotting Date: 12/18/2024

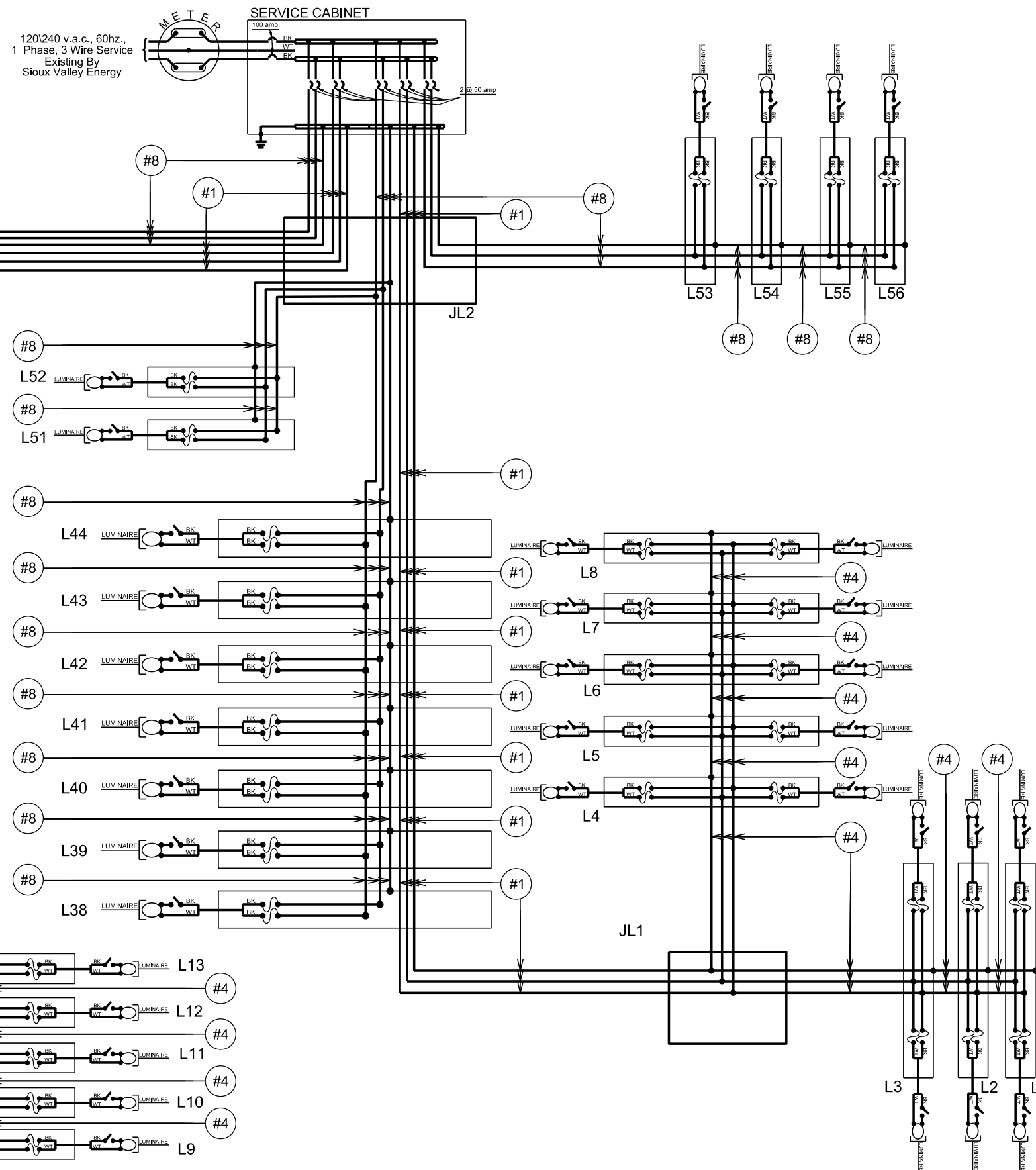
LEGEND:

 FUSE: 10 amp.

 LUMINAIRE: LED

 PHOTOCELL
(Typical of all)

NOTE:
All circuits shall be bonded in accordance with the NATIONAL ELECTRICAL CODE.
Quantities for bonding conductors are not included in these plans.



Plot Scale - 1:40

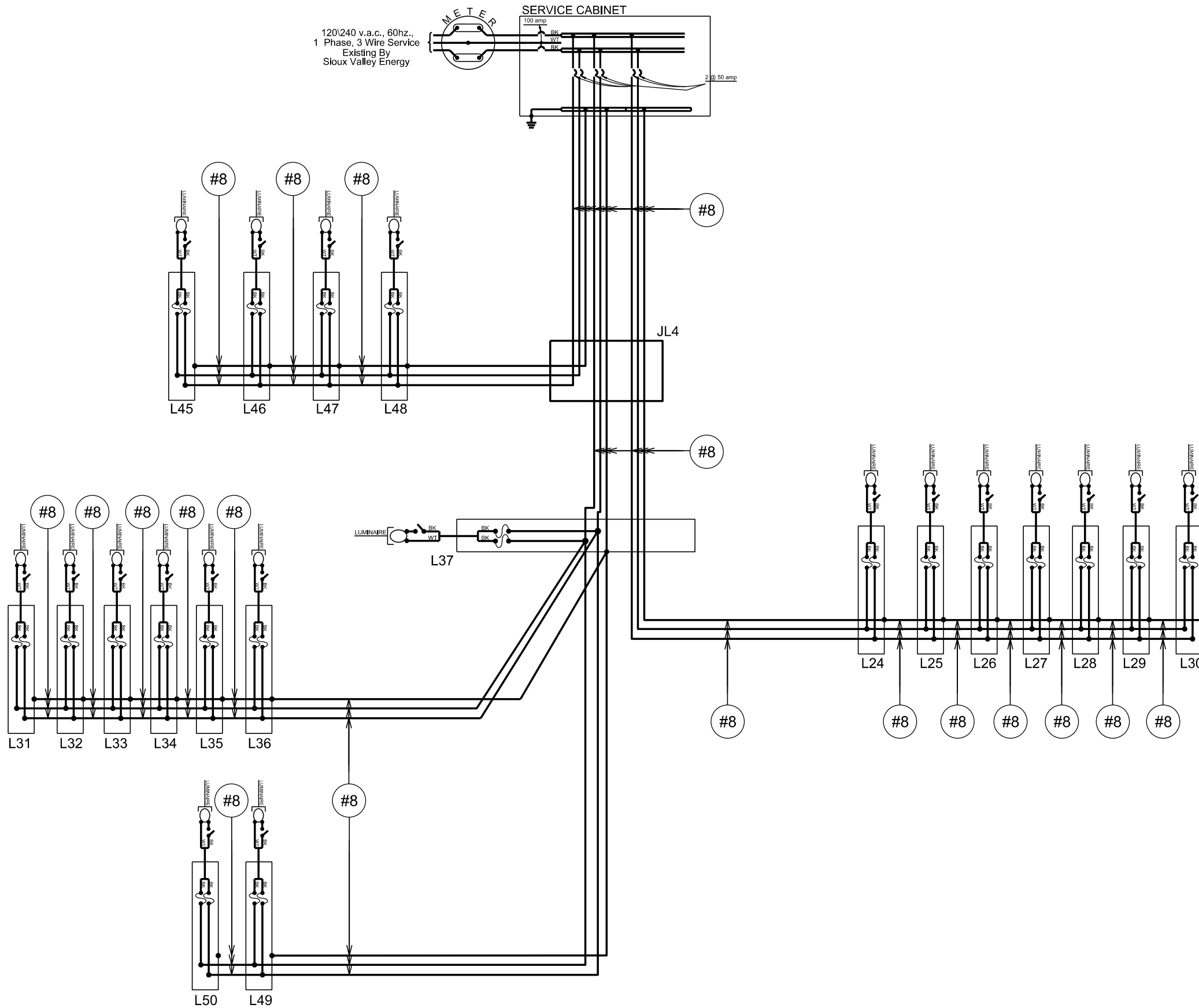
Plotted From - TRPR17199

WIRING DIAGRAM

FOR BIDDING PURPOSES ONLY

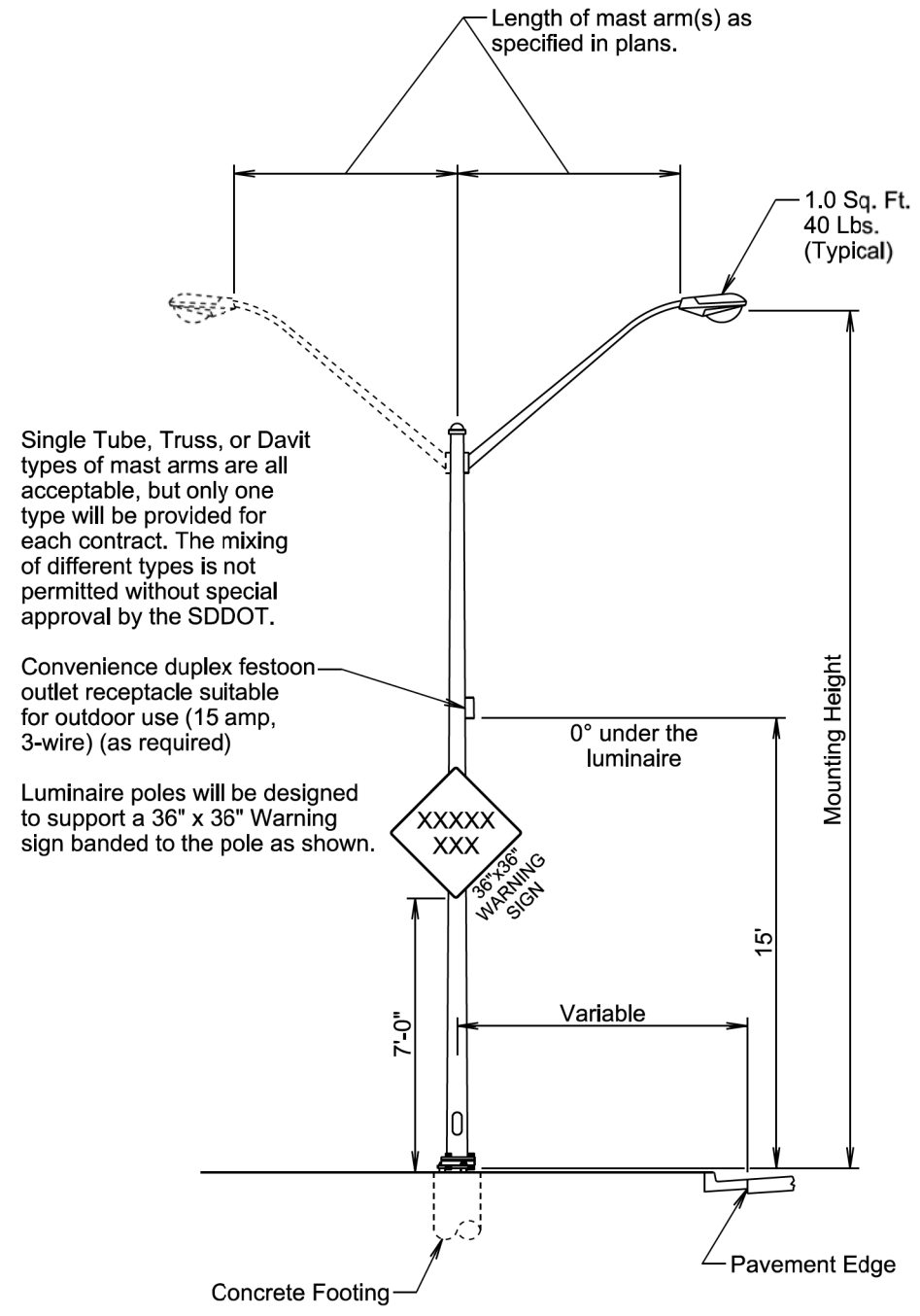
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0909(92)387	L36	L40

Plotting Date: 12/18/2024



Plot Scale - 1:40

Plotted From - TRPR17199



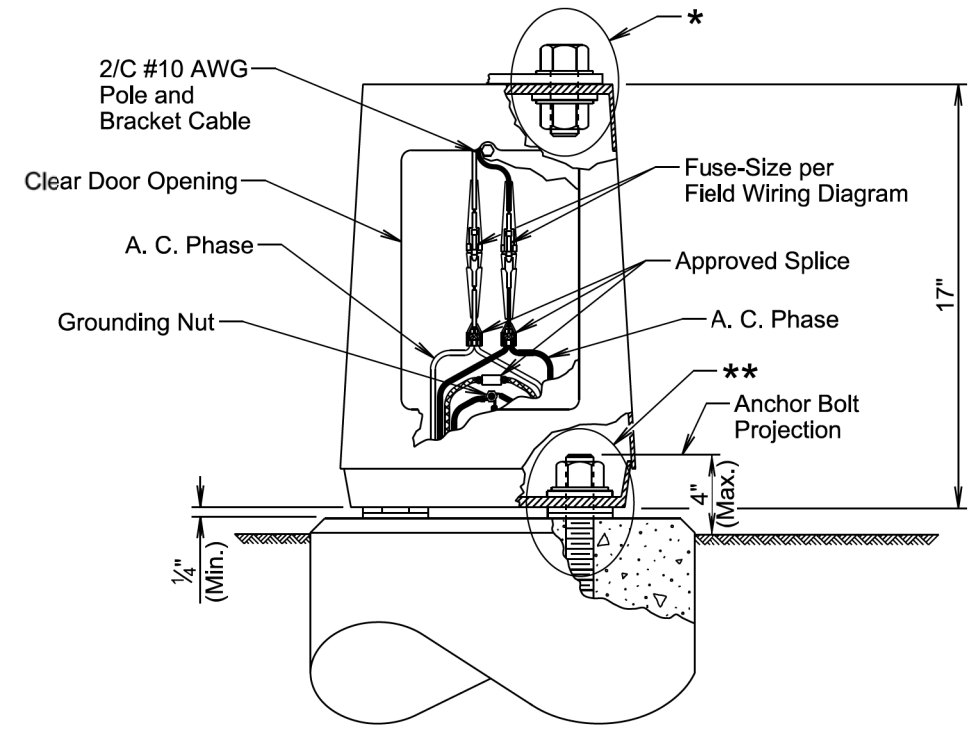
Single Tube, Truss, or Davit types of mast arms are all acceptable, but only one type will be provided for each contract. The mixing of different types is not permitted without special approval by the SDDOT.

Convenience duplex festoon outlet receptacle suitable for outdoor use (15 amp, 3-wire) (as required)

Luminaire poles will be designed to support a 36" x 36" Warning sign banded to the pole as shown.

November 19, 2022

Published Date: 2025	S D D O T	STEEL ROADWAY LUMINAIRE POLE WITH MAST ARM(S)	PLATE NUMBER 635.01
			Sheet 1 of 1



GENERAL NOTES:

Base details are provided for example only and are not intended to be a complete design.

Fused connectors will be breakaway type.

* Hardware connecting the pole to the base will be installed in accordance with the manufacturer's recommendation.

** Hardware connecting the base to the footing will be installed in accordance with the manufacturer's recommendation. The Contractor will install leveling devices in accordance with the manufacturer's recommendation if shimming is necessary to install the light poles plumb and level. The washers and shims will be installed around the anchor bolts.

November 19, 2022

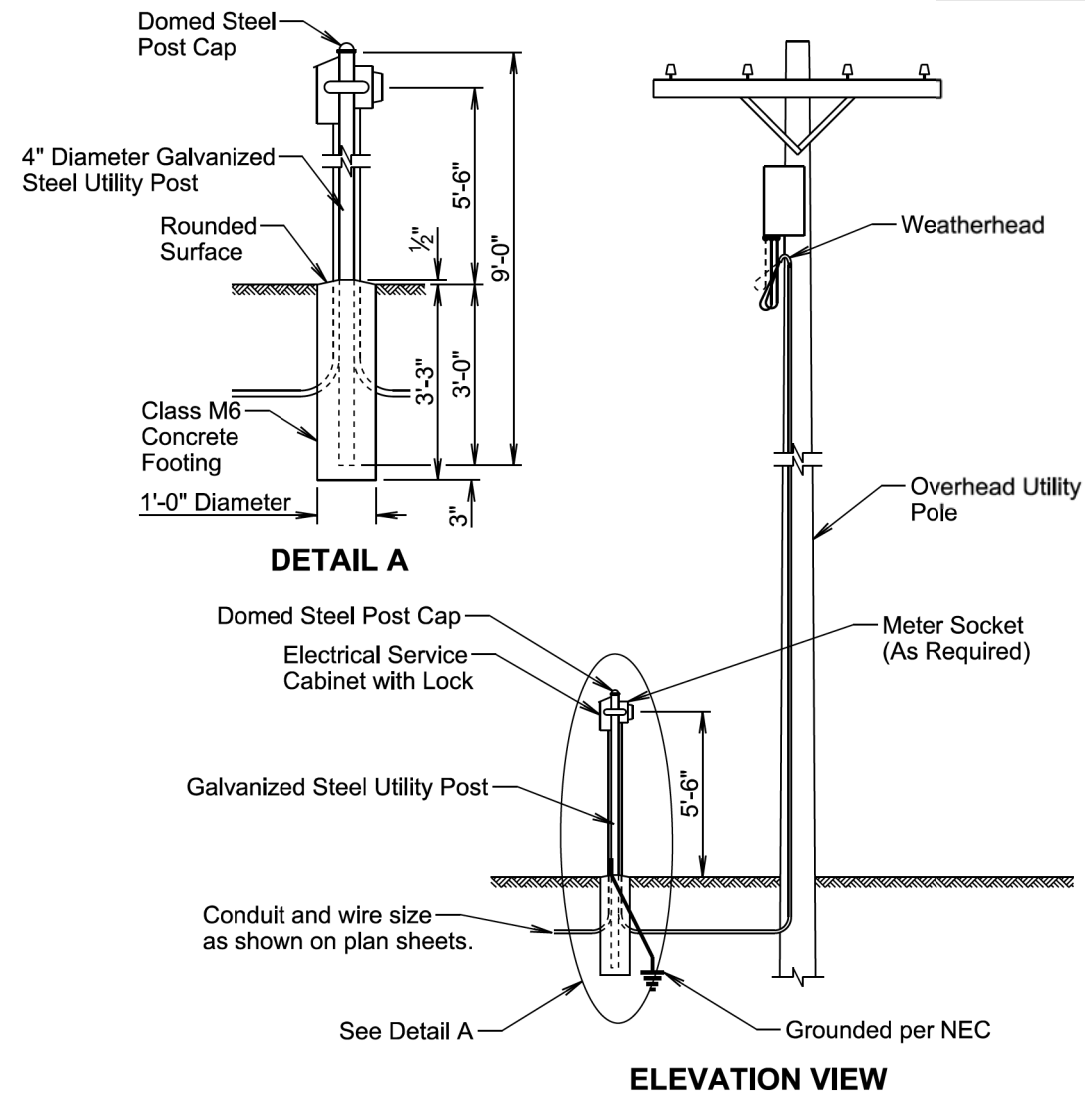
Published Date: 2025	S D D O T	ROADWAY LUMINAIRE POLE BREAKAWAY TRANSFORMER BASE	PLATE NUMBER 635.21
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRPR17199

Plotted From -

File - ...Mim0608\StdPlateSectionL.dgn



GENERAL NOTES:

The concrete for the post footing will be class M6 concrete.

The 4" diameter galvanized steel utility post will be 9' long and will be in conformance with AASHTO Standard Specifications M181. The post will be Type 1 and either Grade 1 or Grade 2. The domed steel post cap will be in conformance with AASHTO Standard Specifications M181 and will be Type 1.

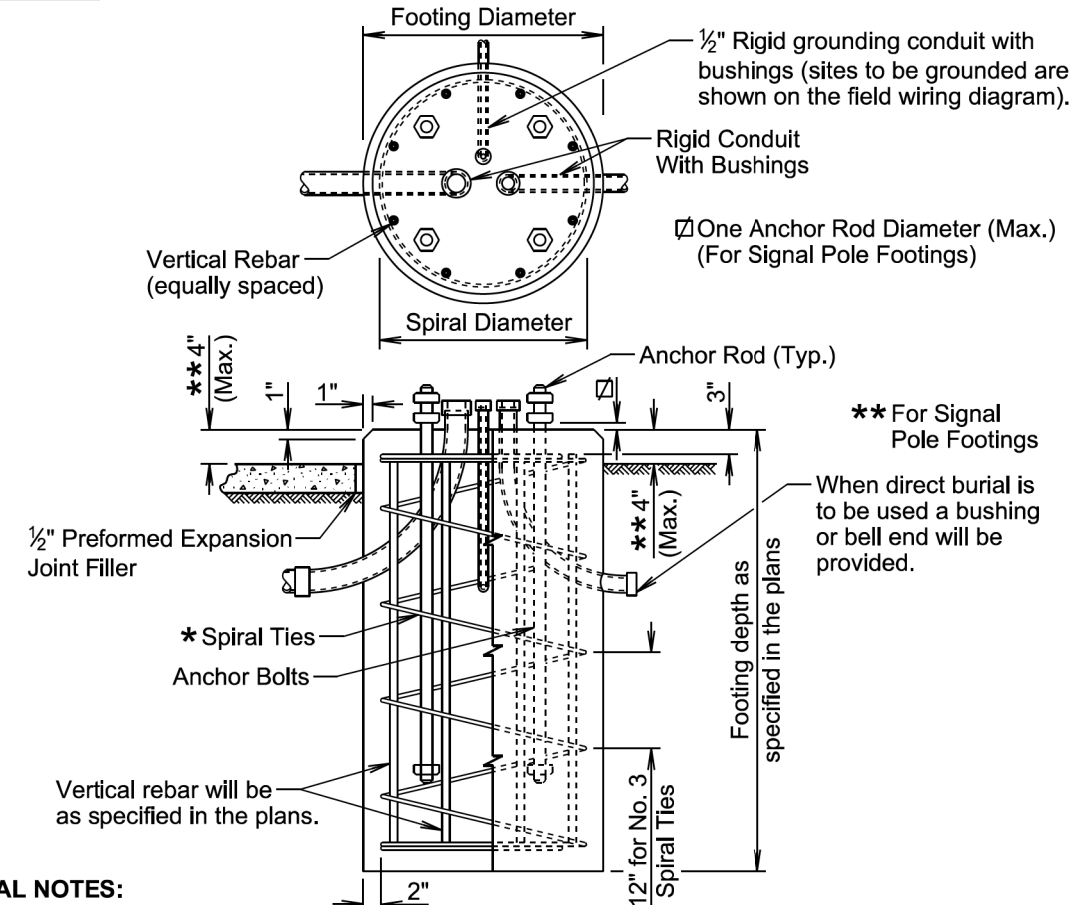
The Contractor will contact and coordinate his/her work with the Utility Companies regarding hookup requirements, fees, materials, and equipment necessary.

All costs for furnishing and installing all materials from the electrical service cabinet to the transformer including labor, equipment, hookup fees, all items within the cabinet, lockable enclosure with receptacle outlet, lock and keys, post, concrete footing, post cap, meter socket if required, conduit, and incidentals will be incidental to the contract unit price per each for "Electrical Service Cabinet".

March 31, 2024

S D D O T	GALVANIZED STEEL UTILITY POST WITH OVERHEAD UTILITY POLE	PLATE NUMBER 635.35
		Sheet 1 of 1

Published Date: 2025



GENERAL NOTES:

* Circular ties may be used in lieu of the spiral ties. The No. 3 ties will be spaced 12 inches apart except for the top two which will be spaced 6 inches apart. The ties will be lapped 18 inches and the laps will be staggered around the cage.

Spiral ties will have 1-1/2 extra turns at each end.

See Section 985 of the Specifications for footing materials.

Conduits and bushings may project 2 1/2 inches to 6 inches above footing for fixed base poles but will not project above the slip plane or fracture plane for breakaway poles.

Conduits will be sealed water-tight during all phases of construction until poles are in place.

The anchor rods will fit inside the reinforcing steel cage. If the anchor rods designed by the Pole Manufacturer do not fit, contact the Office of Bridge Design for footing redesign. No additional payment will be made for the redesigned footing.

Costs of conduit and conduit bushings shown on footing detail will be incidental to the footing bid item(s).

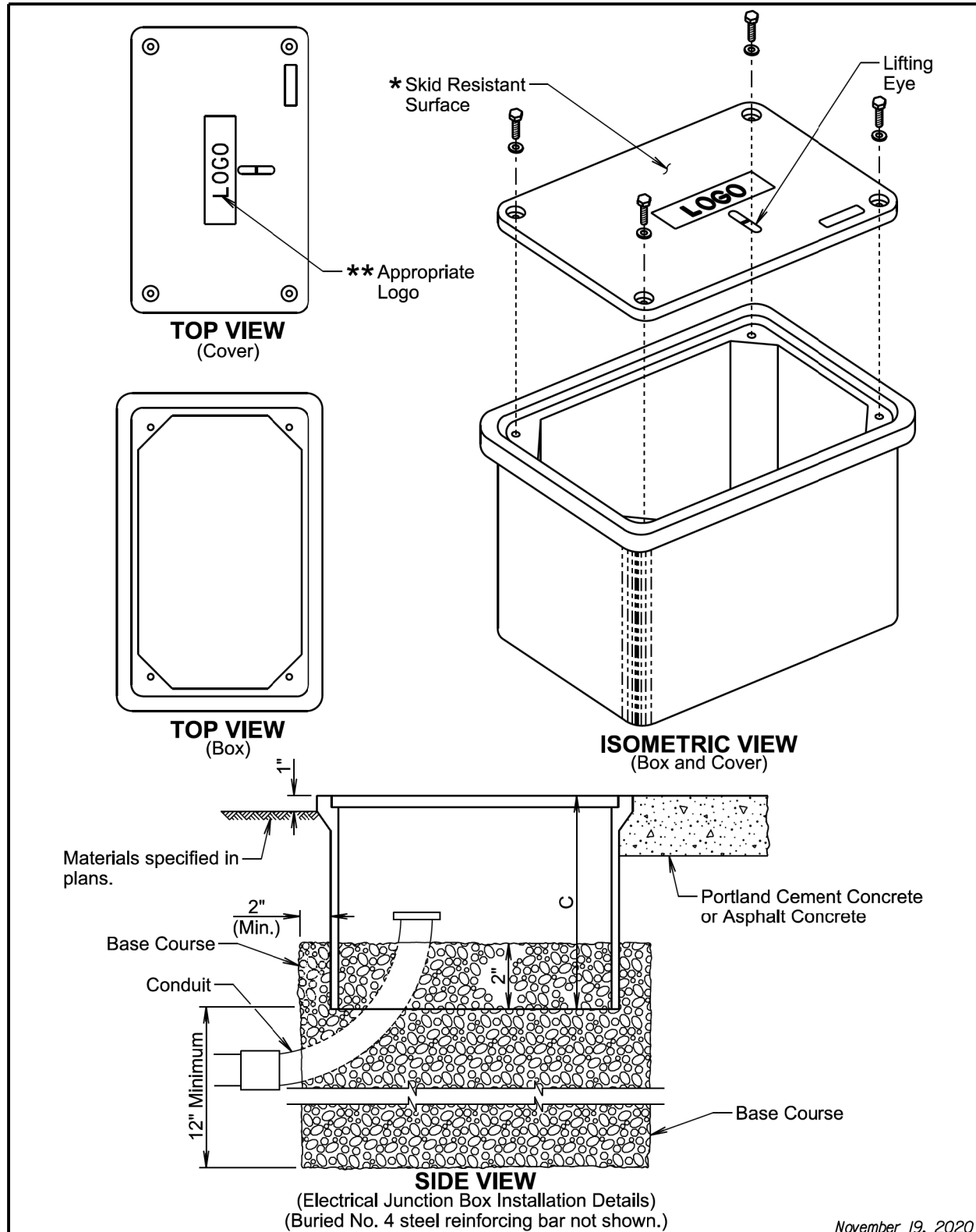
The pole will not be installed until the concrete has attained design strength (4000 psi).

The contour of the area surrounding the breakaway pole will be flat, though not necessarily level for a distance of 5 feet in all directions. The Contractor may be required to provide finish grading at some breakaway pole locations.

November 19, 2022

S D D O T	POLE FOOTING	PLATE NUMBER 635.55
		Sheet 1 of 1

Published Date: 2025



November 19, 2020

Published Date: 2025	S D D O T	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
			Sheet 1 of 2

ELECTRICAL JUNCTION BOX			
TYPE	DESCRIPTION	APPROXIMATE COVER SIZE	MINIMUM DEPTH (C)
1	Open Bottom with Gasket	11"x18"	18"
2	Open Bottom with Gasket	13"x24"	18"
3	Open Bottom with Gasket	17"x30"	18"
3A	Open Bottom with Gasket	24"x36"***	24"
4	Open Bottom with Gasket	30"x48"***	24"

GENERAL NOTES:

The cover will be gasketed with a minimum of two stainless steel bolts and washers.

The cover will have a lifting eye.

** The surface of the cover will have a minimum wet and dry coefficient of friction value of 0.5 as determined by ASTM F609.

*** The cover of the junction box will have the appropriate logo in one inch size letters and will be recessed. When the junction box contains cables or wires for a traffic signal then the logo will be "Signal". When the junction box contains lighting conductors then the logo will be "Lighting".

*** Two piece covers will be used for Type 3A and Type 4 junction boxes.

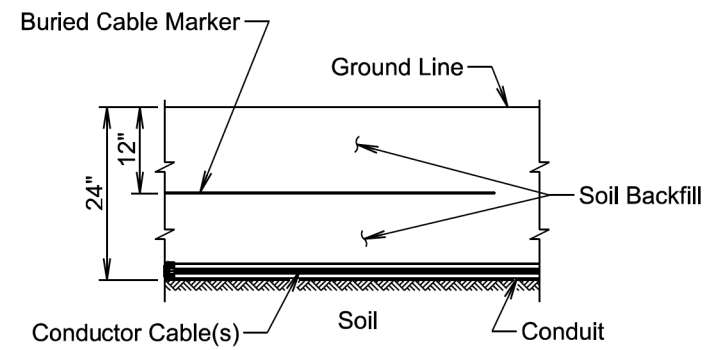
The electrical junction boxes will comply with the American National Standards Institute (ANSI)/Society of Cable Telecommunications Engineers (SCTE) 77 2007 Specification for Underground Enclosure Integrity. The loading requirement for all electrical junction boxes and covers will be Tier 22 of ANSI/SCTE 77 2007.

The electrical junction boxes will be UL listed.

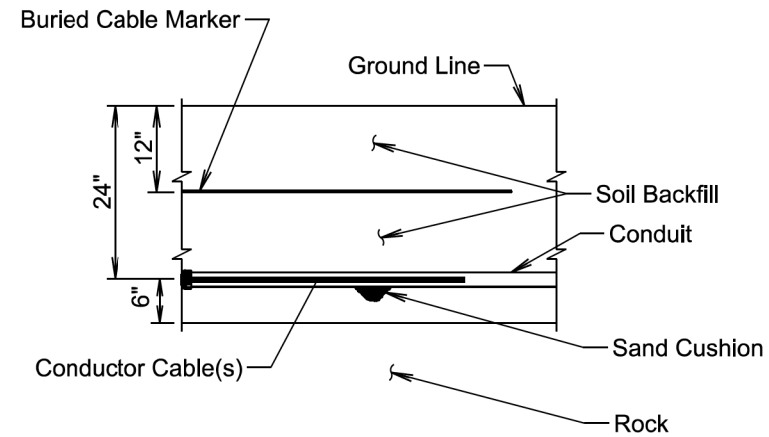
For junction boxes located outside of pavement, a No. 4 steel reinforcing bar with a minimum length of 18" will be buried adjacent to the long side of the junction box. All costs associated with furnishing and placing the steel reinforcing bar will be incidental to the contract unit price per each for "Type _ Electrical Junction Box".

November 19, 2020

Published Date: 2025	S D D O T	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
			Sheet 2 of 2



SECTION VIEW



SECTION VIEW

GENERAL NOTE:

The Buried Cable Marker will be plastic, approximately 6" wide, and will be capable of sustaining a minimum of a 350% tolerance of elongation without tearing. The Buried Cable Marker will have a life expectancy approximately equal to that of the conductor(s) beneath it. A phrase indicating the presence of a buried electric circuit below will be printed in a contrasting color on the cable marker. The Buried Cable Marker will be subject to approval by the Engineer. All costs associated with furnishing and installing the Buried Cable Marker will be incidental to the contract unit price per foot for the bid item used for the electrical conductor.

November 19, 2022

<i>Published Date: 2025</i>	S D D O T	CONDUIT INSTALLATION	PLATE NUMBER 635.76
			Sheet 1 of 1