

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 310 (US 67/L 100)
SECTION (86) L

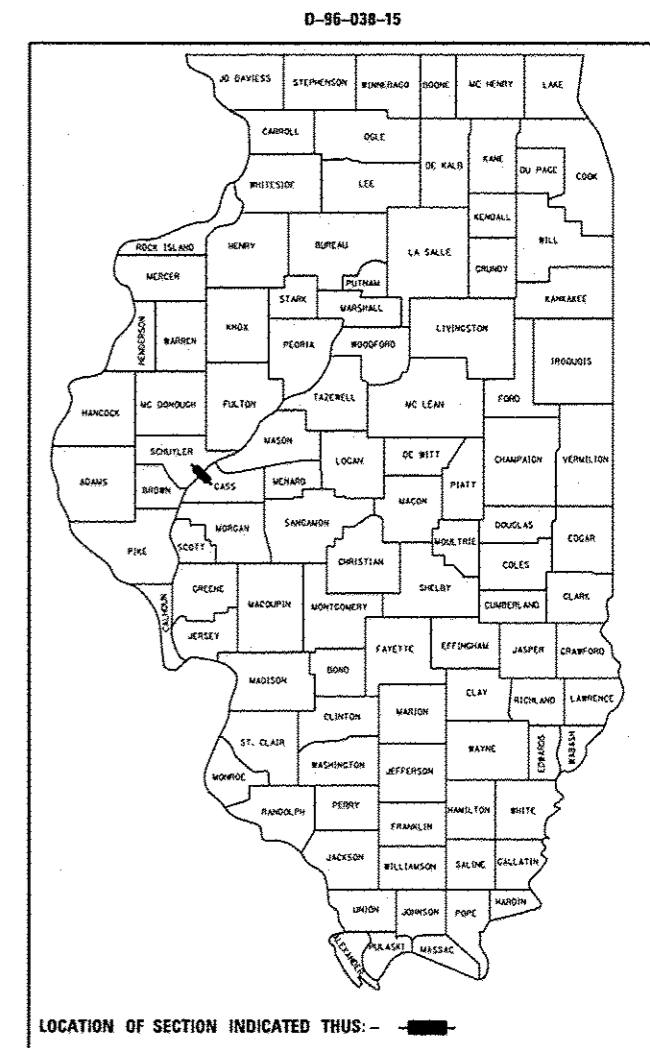
NAVIGATION LIGHTING
CASS COUNTY

C-96-038-15

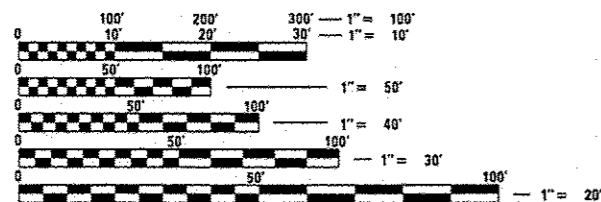
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86) BDR	CASS	8	1
		ILLINOIS	CONTRACT NO. 72H63	

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SCHEDULE OF QUANTITIES
- 4-8 BRIDGE & WIRING PLANS

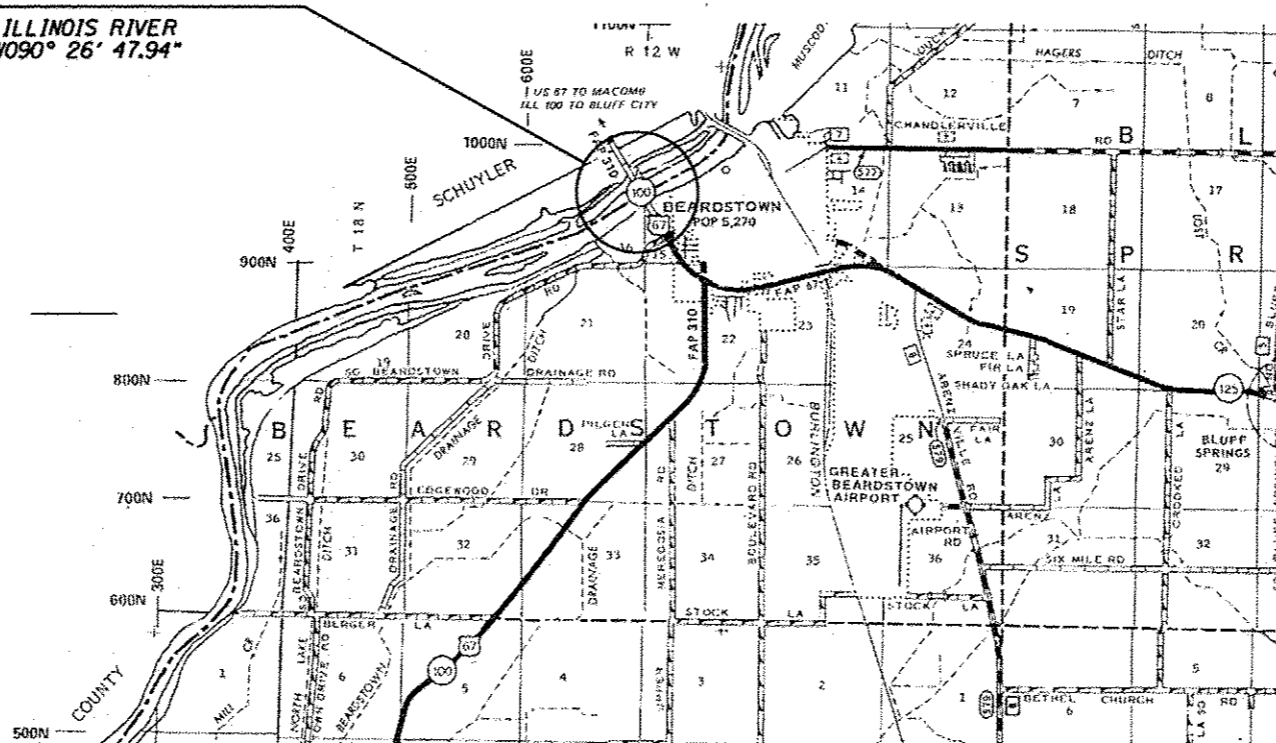


PROJECT LOCATION
SN 009-0001
US 67 OVER THE ILLINOIS RIVER
N40° 00' 53.67" W090° 26' 47.94"



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811



BRIDGE MAINTENANCE ENGINEER (ACTING): BRANDON DUDLEY - (217) 785-9290
BRIDGE INSPECTION ENGINEER: DAVE COPENBARGER - (217) 785-5306

CONTRACT NO. 72H63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 20 15
Lucy Zink
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8 20 15
Plus D. Baranzelli, PE
ENGINEER OF DESIGN AND ENVIRONMENT

May 8 20 15
Omer Osman, PE
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

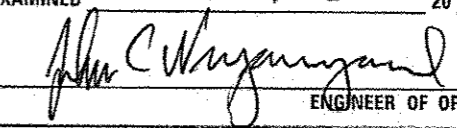


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OF THE STATE OF ILLINOIS

GENERAL NOTES:

1. EXISTING CONDUIT ATTACHED TO STRUCTURE AND ELECTRIC CABLE IN CONDUIT FEEDING THE EXISTING NAVIGATION OBSTRUCTION WARNING LIGHTS SHALL BE REMOVED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE DISPOSED OF ACCORDING TO ARTICLE 202.03. THE COST OF THE WORK SHALL BE INCLUDED IN THE "REMOVAL OF NAVIGATION OBSTRUCTION WARNING LIGHT SYSTEM" PAY ITEM.
2. THE CONTRACTOR SHALL DETERMINE THE APPROPRIATE LENGTH OF THE SERVICE CHAIN BASED ON FIELD CONDITIONS.
3. EXISTING CONDUIT HANGERS SHALL BE RE-USED. ANY HANGERS OR HARDWARE DEEMED BY THE ENGINEER TO BE UNUSABLE SHALL BE REPLACED IN KIND. THE COST OF THE WORK SHALL BE INCLUDED IN THE APPLICABLE CONDUIT ATTACHED TO STRUCTURE PAY ITEM.
4. ATTACH 3/4" DIA. GALVANIZED STEEL CONDUIT TO THE VERTICAL MEMBER OF THE BRIDGE TRUSS AND TO THE HORIZONTAL MEMBERS OVER THE ROADWAY. 3/4" MALLEABLE IRON TYPE LB CONDULETS MAY BE INSTALLED IN LIEU OF 90 DEGREE CONDUIT BENDS. EACH CONDUIT SHALL BE SECURED TO THE BRIDGE STEEL WITHIN 3 FT. OF THE CONDULET.
5. THE CONTRACTOR MAY OMIT THE STAINLESS STEEL HOOK, RING AND CONNECTION PLATES FOR THE NAVIGATION OBSTRUCTION WARNING LIGHT ASSEMBLY IF APPROVED BY THE ENGINEER. THE SERVICE CHAIN SHALL BE SECURED TO THE BRIDGE OR RAILING IN A MANNER APPROVED BY THE ENGINEER. SUBMITTAL INFORMATION SHALL INCLUDE THE PROPOSED ATTACHMENT METHOD AND HARDWARE TO BE USED.
6. THE RED CHANNEL MARGIN NAVIGATION OBSTRUCTION WARNING LIGHT SHALL BE INSTALLED 8 FEET NORTH OF THE CENTERLINE OF PIER 12.
7. EACH RED CHANNEL MARGIN NAVIGATION OBSTRUCTION WARNING LIGHT SHALL INCLUDE A 2FT X 2FT X 1/4IN. ALUMINUM PLATE WITH HIGH INTENSITY RED RETRO-REFLECTIVE SHEETING. THE PLATE SHALL BE SECURED TO THE FIXTURE STEM PIPE WITH STAINLESS STEEL U-BOLTS AND STAINLESS STEEL HARDWARE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE "WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED" PAY ITEM.
8. ALL NAVIGATION WARNING LIGHTS SHALL REMAIN FUNCTIONAL AND VISIBLE TO THE RIVER TRAFFIC EVERY NIGHT AND DURING PERIODS OF LOW VISIBILITY. IF THE CONTRACTOR IS UNABLE TO ACCOMPLISH THIS WITH THE EXISTING AND/OR PROPOSED LIGHT FIXTURES, HE SHALL PROVIDE TEMPORARY WARNING LIGHTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS WORK.
9. THE CONTRACTOR SHALL NOTIFY IDOT DISTRICT 6 OPERATIONS BRIDGE UNIT ONE WEEK PRIOR TO THE START OF WORK.

STANDARDS

701001-02
701006-05
701201-04
701901-04

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6	
EXAMINED	<u>JANUARY 22nd 20 15</u>  ENGINEER OF OPERATIONS
EXAMINED	<u>January 15 20 15</u>  ENGINEER OF PROJECT IMPLEMENTATION
EXAMINED	<u>January 16 20 15</u>  ENGINEER OF PROGRAM DEVELOPMENT

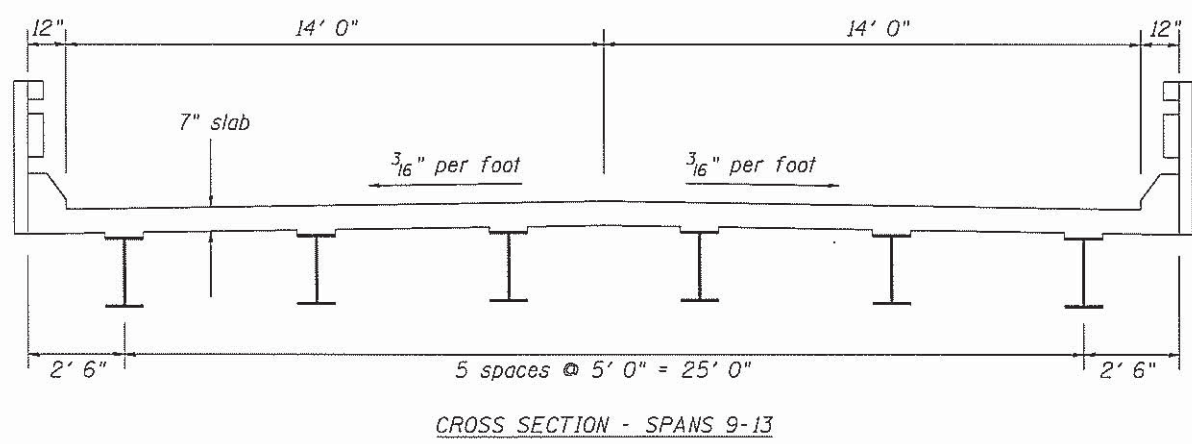
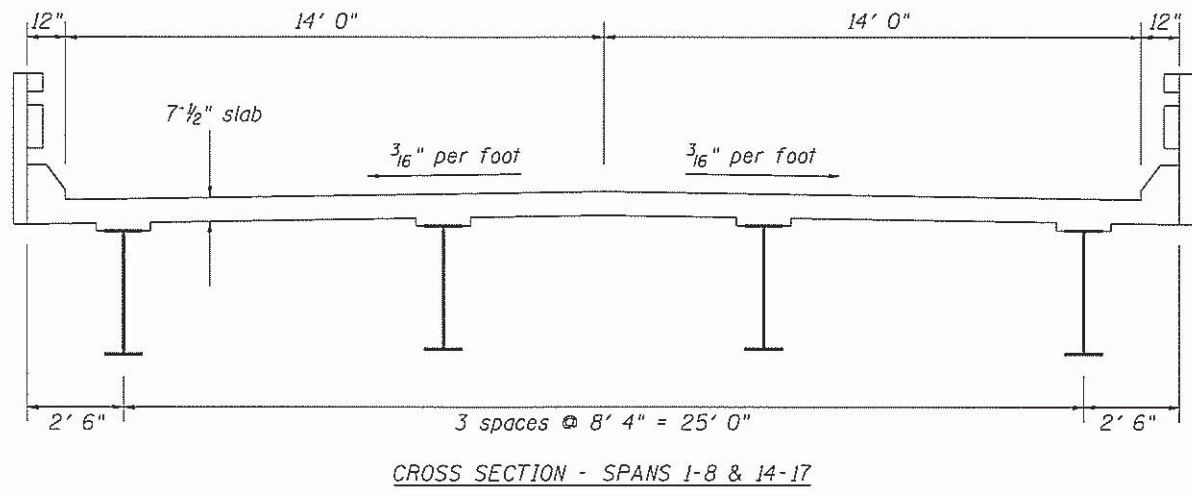
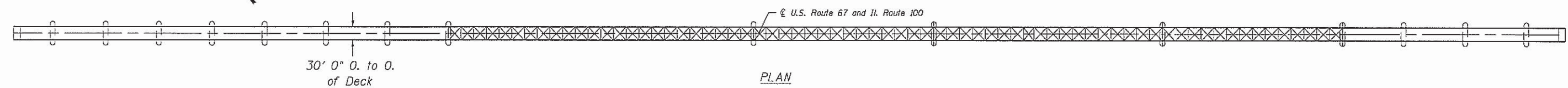
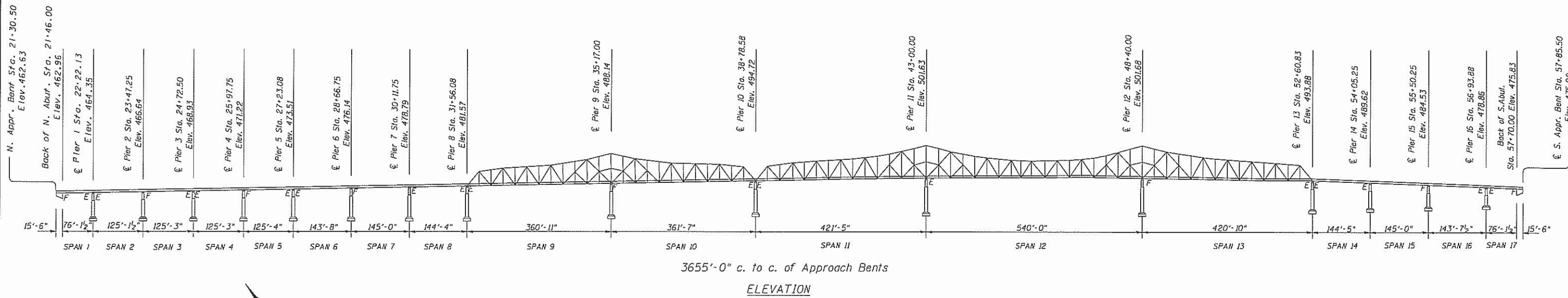
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0:\OPERATIONS\Bridges\Bridgesplans\CD017	MB3 - Beardstown nav light replacement\CD017	DRM\10-23-2014.dgn	REVISED -			310	(86) L	CASS	8	2
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	PLT DATE = Jan-29-2015 12:37:52PM	DATE -	REVISED -		SHEET	OF	SHEETS	STA.	TO	STA.
ILLINOIS FED. AID PROJECT										

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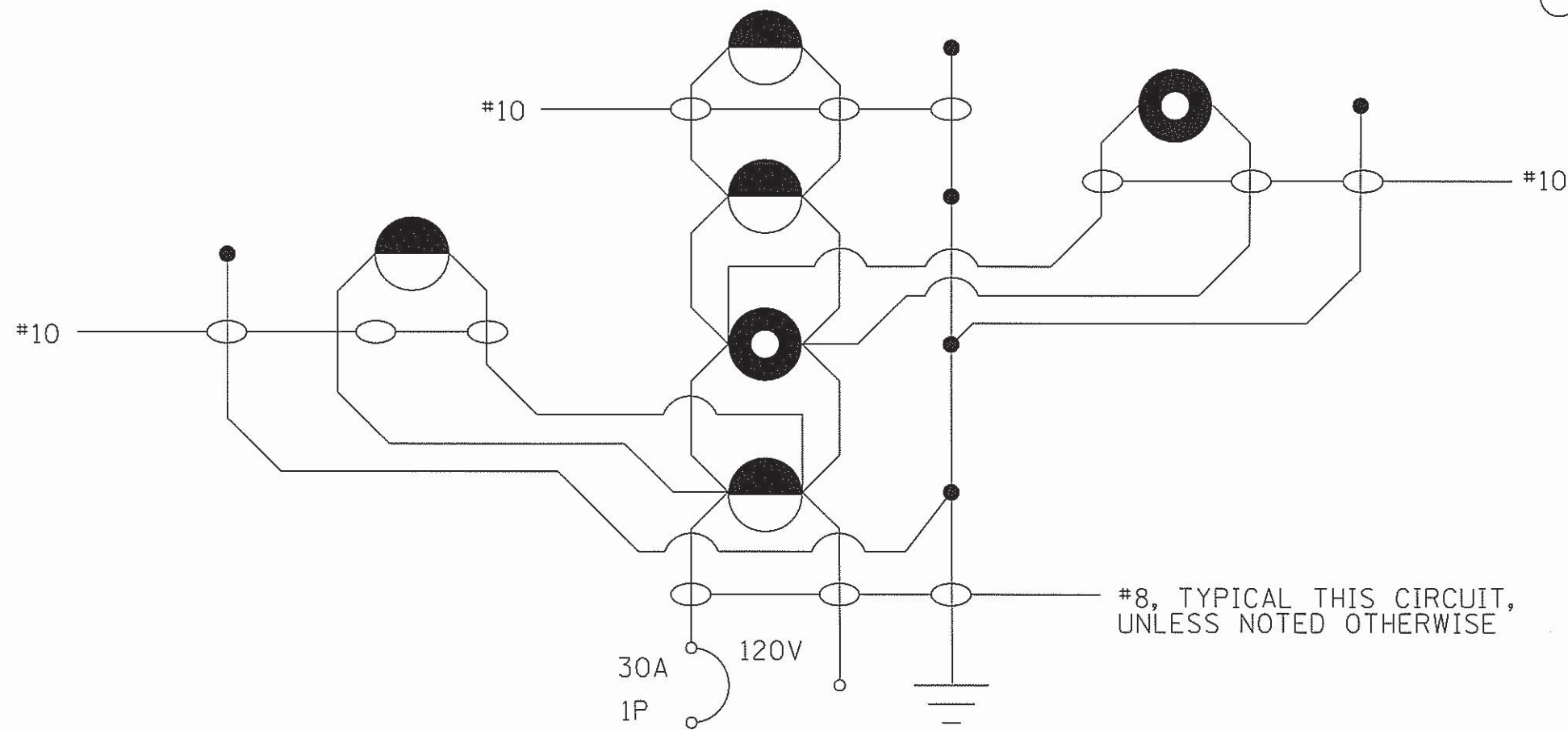
SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	100% State
			0014
			TOTAL QTY
81028170	UNDERGROUND CONDUIT, GALVANIZED STEEL, 1" DIA.	FOOT	20
81100200	CONDUIT ATTACHED TO STRUCTURE, 3/4" DIA., GALVANIZED STEEL	FOOT	276
81100300	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	1259
81300220	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" x 6" x 4"	EACH	4
81702110	ELECTRIC CABLE IN CONDUIT, 600v (XLP-TYPE USE) 1/C NO. 10	FOOT	882
81702120	ELECTRIC CABLE IN CONDUIT, 600v (XLP-TYPE USE) 1/C NO. 8	FOOT	3855
82200605	WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED	EACH	6
84301200	REMOVAL OF NAVIGATION OBSTRUCTION WARNING LIGHT SYSTEM	L SUM	1
67100100	MOBILIZATION	L SUM	1
70100450	TRAFFIC CONTROL & PROTECTION, STANDARD 701201	L SUM	1

10



FILE NAME =	USER NAME = stroughan	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE PLAN AND ELEVATION SN 009-0001			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S:\Bridges\Bridgplans\CA0172H63 - Beardtown new light replacement\Circuit Diagram.dgn	08/28/2015	CHECKED -	REVISED -					310	(86) L	CASS	8	4
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	PLOT DATE = Jan-29-2015 11:26:47AM				SCALE:	SHEET 1	OF 11 SHEETS	STA.	TO STA.			



LEGEND



PROPOSED NAVIGATION OBSTRUCTION
WARNING LUMINAIRE, GREEN CHANNEL
CENTER



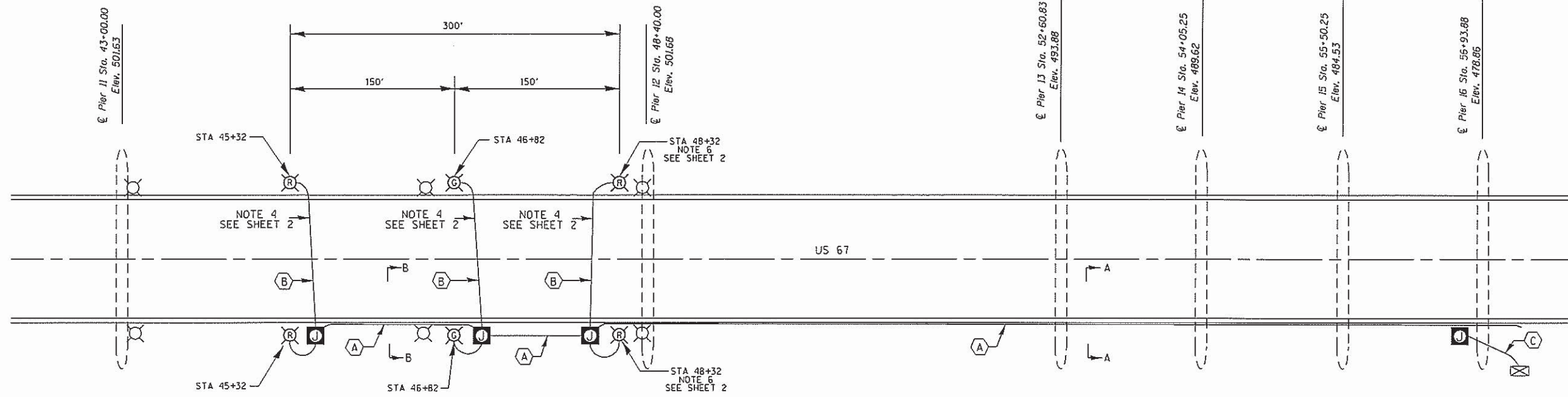
PROPOSED NAVIGATION OBSTRUCTION
WARNING LUMINAIRE, RED CHANNEL
MARGIN

NOTES:

1. ALL NECESSARY REVISIONS TO THE WIRING SHOWN ON THIS SHEET SHALL BE MADE AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
2. JUNCTION BOXES AND CONDUIT BODIES NOT SHOWN FOR CLARITY. SEE NAVIGATION LIGHTING PLANS.

NAVIGATION LIGHTING CIRCUIT
EXISTING LIGHTING CONTROLLER

FILE NAME *	USER NAME *	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CIRCUIT DIAGRAM				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S:\Bridges\BridgesPlans\CAD\72H63 - Beards	stowm nav light replacement\Circuit Diagram	8/26/2011	REVISED -						310	(86) L	CASS	8	5
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	PLOT DATE = Jan-29-2015 11:27:15AM	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.			



LEGEND

- ⊠ EXISTING LIGHTING CONTROLLER
- ⊙ EXISTING NAVIGATION OBSTRUCTION WARNING LUMINAIRE TO BE REMOVED, NO SALVAGE
- ⊙ PROPOSED NAVIGATION OBSTRUCTION WARNING LUMINAIRE 180 DEGREE RED CHANNEL MARGIN, LED
- ⊙ PROPOSED NAVIGATION OBSTRUCTION WARNING LUMINAIRE 360 DEGREE GREEN CENTER CHANNEL, LED
- ⊙ PROPOSED JUNCTION BOX, STAINLESS STEEL ATTACHED TO STRUCTURE, 6''x6''x4'' MINIMUM SIZE
- PROPOSED ELECTRIC CABLE IN CONDUIT, SIZE AND TYPE AS INDICATED

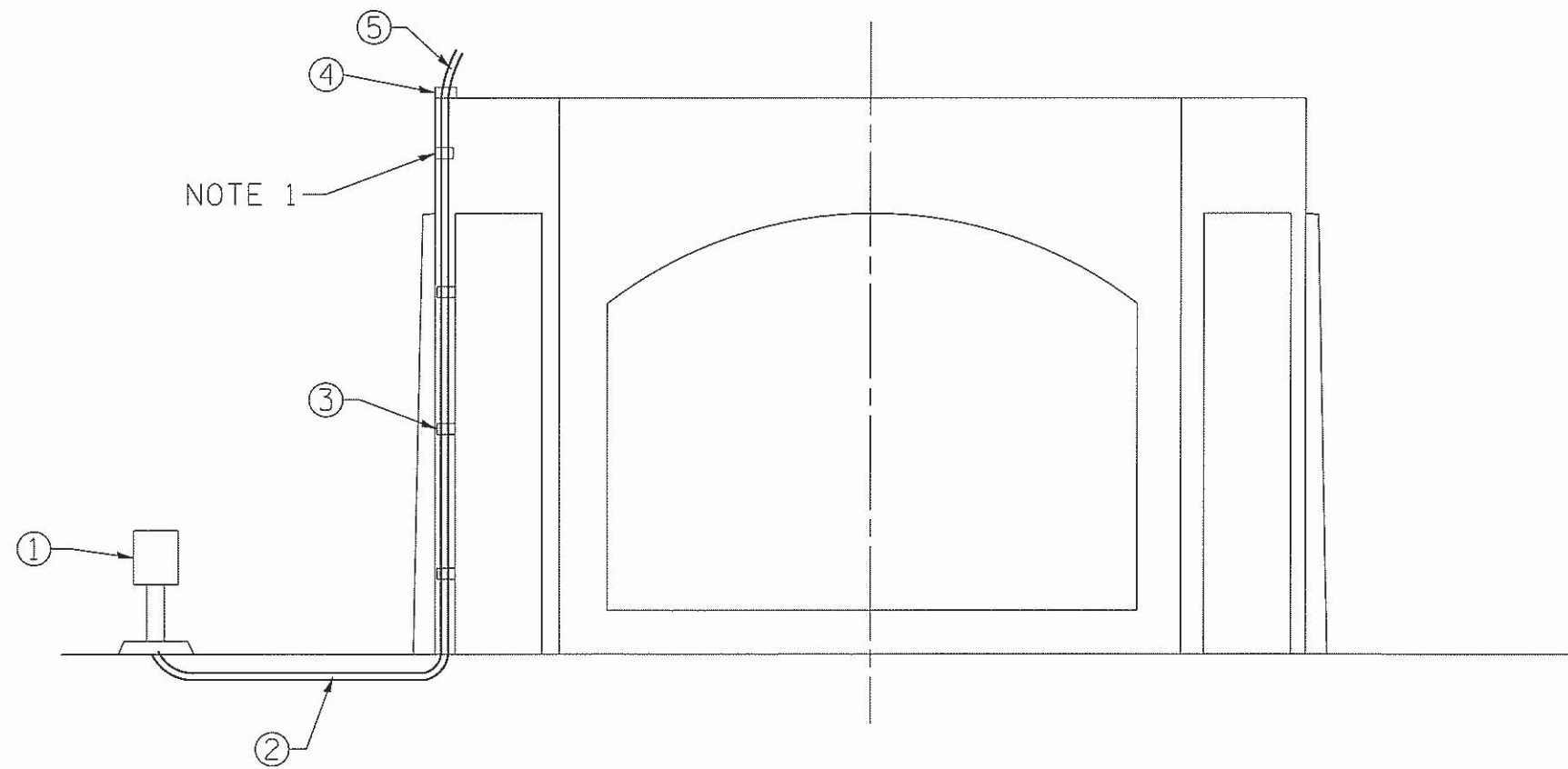
CABLE/CONDUIT SCHEDULE

- ⊙ A ELECTRIC CABLE, 600V, 2-1C NO 8, 1/C NO 8 GROUND, IN CONDUIT ATTACHED TO STRUCTURE, 1" DIA GALVANIZED STEEL
- ⊙ B ELECTRIC CABLE, 600V, 2-1C NO 10, 1/C NO 10 GROUND, IN CONDUIT ATTACHED TO STRUCTURE, 3/4" DIA GALVANIZED STEEL
- ⊙ C ELECTRIC CABLE, 600V, 2-1C NO 8, 1/C NO 8 GROUND, IN UNDERGROUND CONDUIT, 1" DIA GALVANIZED STEEL

NOTE:

1. SEE SHEET 8 FOR SECTIONS A-A AND B-B

FILE NAME =	USER NAME = dudleybm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WIRING DIAGRAM SN 009-0001	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C:\OPERATIONS\Bridges\Bridgplans.CAD\72H63 - Beardstown nav light replacement\Circuits\Diagram_10-23-2014.dgn		REVISION 10-23-2014.dgn	REVISION -			310	(86) L	CASS	8	6
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ELEVATION - PIER 16
(SOUTH FACE)

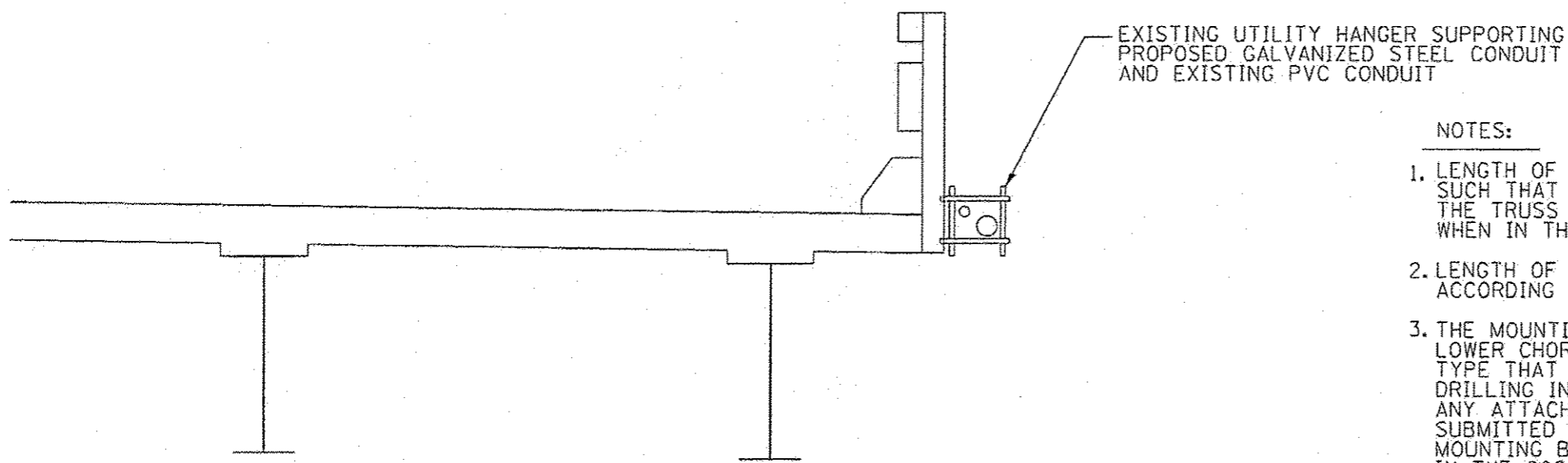
LEGEND

- ① EXISTING LIGHTING CONTROLLER
- ② PROPOSED ELECTRIC CABLE, 600V, 2-1C NO.8, 1/C NO.8 GROUND, 1" DIA GALVANIZED STEEL CONDUIT
- ③ MALLEABLE IRON CONDUIT CLAMPS AT 5' INTERVALS
- ④ 1" MALLEABLE IRON CONDUIT BODY
- ⑤ LIGHTING CIRCUIT CONDUCTORS IN 1" DIA LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT, 6' MAXIMUM LENGTH TO JUNCTION BOX ATTACHED TO STRUCTURE.

NOTES:

- 1. CONDUIT CLAMPS WITHIN 3' OF CONDUIT BODY.
- 2. LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT SHALL NOT BE MEASURED FOR PAYMENT AND SHALL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO THE STRUCTURE PAY ITEM.
- 3. EXISTING ELECTRIC CABLE FEEDING THE EXISTING NAVIGATION LIGHTING CIRCUIT SHALL BE DISCONNECTED AND REMOVED FROM THE CONTROLLER. FEED PROPOSED NAVIGATION LIGHTING CIRCUIT FROM AN EXISTING 30A CIRCUIT BREAKER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE APPLICABLE ELECTRIC CABLE IN CONDUIT PAY ITEM.

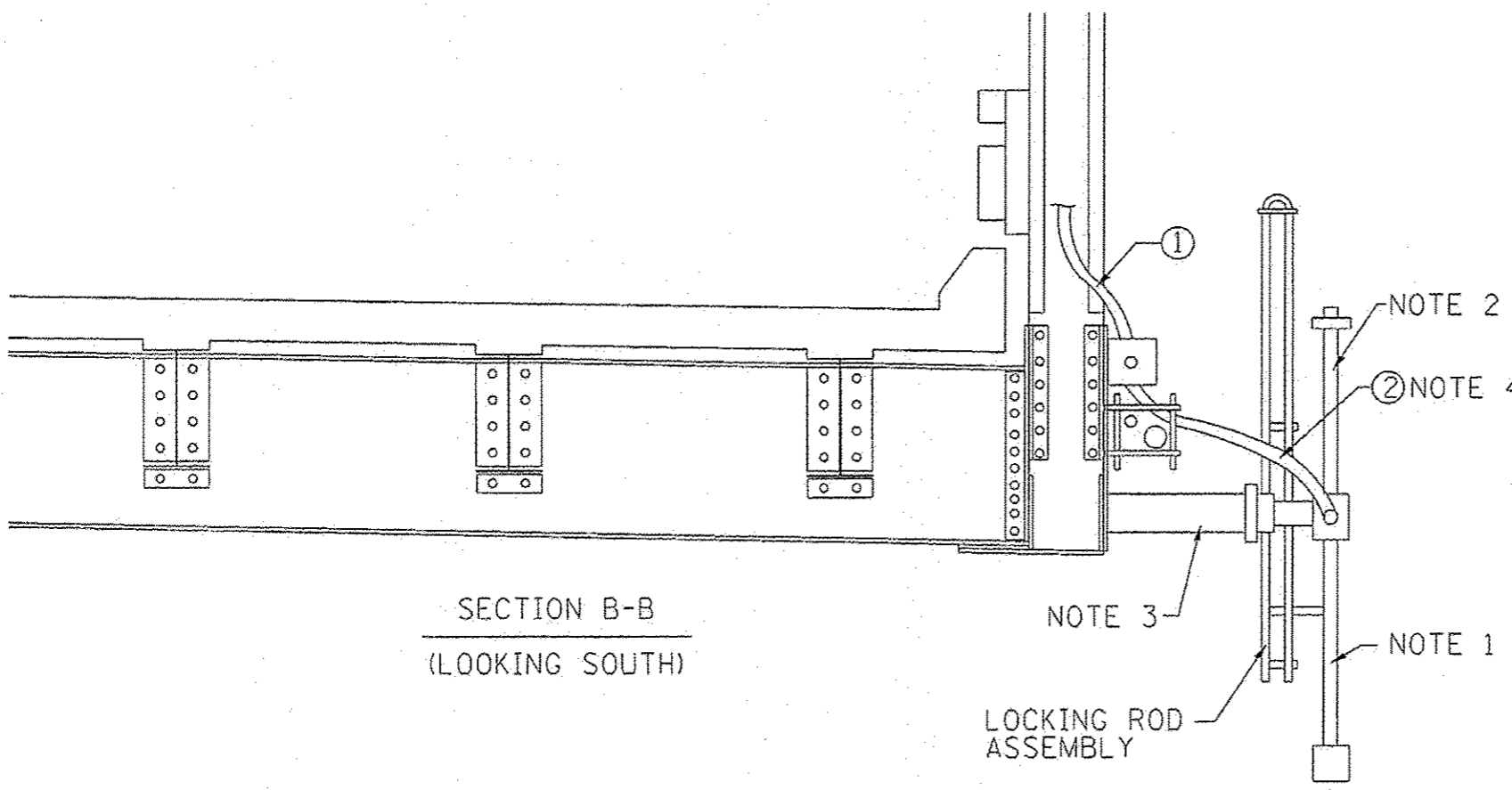
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SECTION A-A
(LOOKING SOUTH)

NOTES:

1. LENGTH OF THE FIXTURE PIPE SHALL BE AS NEEDED SUCH THAT THE TOP OF THE LUMINAIRE FALLS BELOW THE TRUSS AND THE FIXTURE IS EASILY ACCESSIBLE WHEN IN THE MAINTENANCE POSITION.
2. LENGTH OF THE COUNTERWEIGHT PIPE SHALL BE ACCORDING TO THE MANUFACTURER RECOMMENDATIONS.
3. THE MOUNTING BRACKET THAT ATTACHES THE SYSTEM TO THE LOWER CHORD OF THE TRUSS SHALL BE A "CLAMPING" TYPE THAT ENGAGES THE WHOLE LOWER CHORD. NO DRILLING INTO THE LOWER CHORD CHANNELS IS ALLOWED. ANY ATTACHMENT TO THE STRUCTURE SHALL BE SUBMITTED TO THE BRIDGE OFFICE FOR APPROVAL. MOUNTING BRACKET AND HARDWARE SHALL BE INCLUDED IN THE COST OF THE WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED PAY ITEM.
4. LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT AND ELECTRIC CABLE FROM THE JUNCTION BOX TO THE PIVOT ASSEMBLY SHALL NOT BE MEASURED FOR PAYMENT AND SHALL BE INCLUDED IN THE COST OF THE WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED PAY ITEM.



SECTION B-B
(LOOKING SOUTH)

LEGEND

- No. 10
- ① ELECTRIC CABLE, 600V, 2-1C NO. 10, 1/C GROUND IN 3/4" DIA GALVANIZED STEEL CONDUIT ATTACHED TO THE STRUCTURE
- No. 10
- ② ELECTRIC CABLE, 600V, 2-1C NO. 10, 1/C GROUND IN 3/4" MIN DIA LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT

FILE NAME * S:\Bridges\Bridgenets.CAD\72H63 - Bear	USER NAME * stroughan	DESIGNED - SDRAM14.dgn	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURE CROSS SECTION SN 009-0001			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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Defaults					ILLINOIS FED. AID PROJECT								