11-**5**-2021 LETTING ITEM 041

INDEX OF SHEETS

SEE SHEET 2 FOR INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

# PROPOSED HIGHWAY PLANS

FAP 404 (RIVERFRONT DRIVE SPUR)
SECTION (90-12)L
TAZEWELL COUNTY

NHPP-JFEI(182)

C-94-087-21

# HIGHWAY STANDARDS

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SEE SHEET 2 FOR A LIST OF APPLICABLE HIGHWAY STANDARDS

## PROJECT DESCRIPTION

REMOVE AND REPLACE EXISTING HIGH MAST LIGHT TOWER, LUMINAIRES, AND CONCRETE FOUNDATION ON RIVERFRONT DR. SPUR, EAST OF WASHINGTON ST. IN EAST PEORIA.

AD DEOMNELL

TAXE

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

PROJECT ENGINEER: TREVOR HANSON (309) 671-4474 PROJECT MANAGER: BEN TELLEFSON (309) 671-4477

CATALOG NO. 36250-00D CONTRACT NO. 68G64

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 12 2021
REGION THREE ENGINEER
October 1 20 21
ENGINEER OF DESIGN AND SUMBONMENT
October 21
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

LOCATION OF SECTION INDICATED THUS: -

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

RIVERFRONT DR. SPUR <u>HIGH MAST LIGHT TOWER</u> D-94-066-21

INDEX OF	SHEETS
SHEET	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, AND COMMITMENTS
3	CONSTRUCTION NOTES
4	STATUS OF UTILITIES
5	SUMMARY OF QUANTITIES
6	SCHEDULE OF QUANTITIES
7	EXISTING LIGHTING PLANS & REMOVAL ITEMS
8	PROPOSED LIGHTING PLANS
9	SOIL BORING LOG
10	LUMINAIRE PERFORMANCE TABLE
11	TRAFFIC CONTROL DETAIL

HIGHWAY STANDARDS							
STANDARD	APPLICATION						
000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS						
001006	DECIMAL OF AN INCH AND OF A FOOT						
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY						
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE						
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS						
701456-05	PARTIAL EXIT RAMP CLOSURE FREEWAY/ EXPRESSWAY						
701901-08	TRAFFIC CONTROL DEVICES						
821101-02	LUMINAIRE WIRING IN POLE						
835001-01	LIGHT TOWER						
837001-05	LIGHT TOWER FOUNDATION						

NO COMMITMENTS HAVE BEEN MADE IN CONJUNCTION WITH THIS PROJECT.

USER NAME = hansontj	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -
PLOT DATE = 8/11/2021	DATE -	REVISED -

INDEX OF						F.A.P. RTE	SECT	ΓΙΟΝ	COUNTY	TOTAL SHEETS	SHEET NO.
INDEX OF SHEETS, HIGHWAY STANDARDS, AND COMMITMENTS						404	(90-	12)L	TAZEWELL	11	2
									CONTRACT	NO.	68G64
SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT					

USER NAME = hansontj	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -
PLOT DATE = 8/11/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

 CONSTRUCTION NOTES
 F.A. P. RTE. RTE. SECTION (GO-12)L
 COUNTY SHEETS NO. SHEETS NO. OS664

 SHEET OF SHEETS STA. TO STA.
 ILLINOIS FED. ALD PROJECT

NO KNOWN THIRD PARTY UTILITIES WITHIN THE PROJECT AREA

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

	SUMMARY OF QUANTITIES									
CODE	ITEM DESCRIPTION	UNIT	TOTAL QTY.	20% STATE URBAN						
67100100	MOBILIZATION	L SUM	1.0	1.0						
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	10.0	10.0						
82110016	LUMINAIRE, LED, HIGHMAST, OUTPUT DESIGNATION I	EACH	6.0	6.0						
83502400	LIGHT TOWER, 100 FT. MOUNTING HEIGHT, LUMINAIRE MT 6	EACH	1.0	1.0						
83700300	LIGHT TOWER FOUNDATION, 48" DIAMETER	FOOT	15.5	15.5						
X0325541	REMOVE EXISTING LIGHTING SYSTEM	L SUM	1.0	1.0						
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1.0	1.0						
X8130110	JUNCTION BOX (SPECIAL)	EACH	1.0	1.0						
X8420510	REMOVAL OF TOWER FOUNDATION	EACH	1.0	1.0						

USER NAME = hansontj	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -
PLOT DATE = 8/11/2021	DATE -	REVISED -

STATE	OF ILLINOIS
DEPARTMENT O	F TRANSPORTATION

							SEC	TION		COUNTY	TOTAL SHEETS	SHEET NO.
SUMMARY OF QUANTITIES					404	404 (90-12)L		TAZEWELL	11	5		
										CONTRACT	NO.	68G64
SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. AID PRO.			ID PROJECT		

68G64 - Final Plans\68G64 EP Light Tower (08-1

MODEL: Default FILE NAME: O:\common\G

SCHEDULE OF QUANTITIES			TAZEWELL COUNTY
ITEM DESCRIPTION	UNIT	TOTAL QTY.	RIVERFRONT DR. SPUR
MOBILIZATION	L SUM	1.0	1.0
UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	10.0	10.0
LUMINAIRE, LED, HIGHMAST, OUTPUT DESIGNATION I	EACH	6.0	6.0
LIGHT TOWER, 100 FT. MOUNTING HEIGHT, LUMINAIRE MT 6	EACH	1.0	1.0
LIGHT TOWER FOUNDATION, 48" DIAMETER	FOOT	15.5	15.5
REMOVE EXISTING LIGHTING SYSTEM	L SUM	1.0	1.0
TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1.0	1.0
JUNCTION BOX (SPECIAL)	EACH	1.0	1.0
REMOVAL OF TOWER FOUNDATION	EACH	1.0	1.0

USER NAME = hansontj	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -
PLOT DATE = 8/11/2021	DATE -	REVISED -

SCALE:

						F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCHEDULE OF QUANTITIES					404	(90-12)L	TAZEWELL	11	6	
								CONTRACT	NO.	68G64
	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				



BILL OF MATERIALS						
DESCRIPTION	UNIT	QTY.				
REMOVE EXISTING LIGHTING SYSTEM	LSUM	1.0				
REMOVAL OF TOWER FOUNDATION	EACH	1.0				

REMOVE EXISTING LIGHTING SYSTEM - QTY. 1.0 LUMP SUM								
(INCLUDES ALL ITEMS LISTED BELOW)								
THE FOLLOWING ITEMS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR								
OFF OF THE RIGHT-OF-WAY:								
QTY. ITEM								
1.0	TOWER LIGHTING STRUCTURE, COMPLETE WITH 6 HIGH MAST LUMINAIRES							

#### NOTES:

- 1. REMOVAL ITEMS ARE LABELED "R."
- 2. THE EXISTING CONDUIT AND ELECTRICAL CABLES SHALL REMAIN AND BE RE-USED FOR THE PROPOSED DESIGN.
- 3. THE EXISTING HIGH MAST LIGHT TOWER CONCRETE FOUNDATION SHALL BE A PARTIAL REMOVAL IN ACCORDANCE WITH ARTICLE 895.05.

#### LEGEND

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EXISTING LIGHT TOWER, 100 FT. M.H. 6 LUMINAIRE ON EXISTING TOWER FOUNDATION

---- EXISTING CONDUIT

ご>ー・◇ EXISTING LIGHT POLE

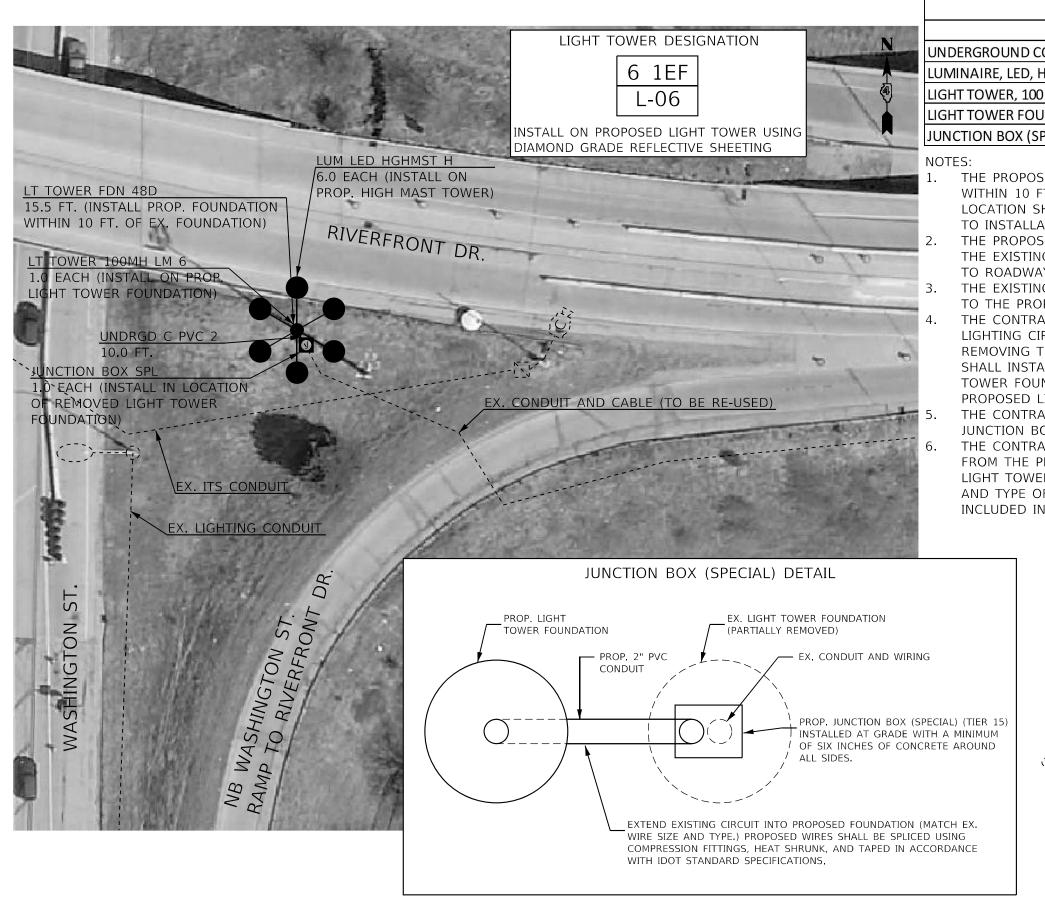
S EXISTING HANDHOLE

EXISTING ITS CAMERA POLE

CG EXISTING ITS CCTV CAMERA

NOT TO SCALE

USER NAME = hansontj	DESIGNED -	REVISED -								F.A. P.	SECTION	COUNTY	TOTAL SH	EET
	DRAWN -	REVISED -	STATE OF ILLINOIS	EX	ISTING LIC	GHTING	PLANS &	REMOVAL	. ITEMS	404	(90-12)L	TAZEWELL	11	7
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION									CONTRACT	NO 680	64
PLOT DATE = 8/11/2021	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. A	D PROJECT		-



BILL OF MATERIALS		
DESCRIPTION	UNIT	QTY.
UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	10.0
LUMINAIRE, LED, HIGHMAST, OUTPUT DESIGNATION I	EACH	6.0
LIGHT TOWER, 100 FT. MOUNTING HEIGHT, LUMINAIRE MT 6	EACH	1.0
LIGHT TOWER FOUNDATION, 48" DIAMETER	FOOT	15.5
JUNCTION BOX (SPECIAL)	EACH	1.0

- I. THE PROPOSED LIGHT TOWER AND FOUNDATION SHALL BE INSTALLED WITHIN 10 FT. OF THE EXISTING LIGHT TOWER. VERIFCATION OF LOCATION SHALL BE REQUIRED BY THE ENGINEER OF TRAFFIC PRIOR TO INSTALLATION.
- THE PROPOSED LIGHT TOWER SHALL BE FULLY OPERATIONAL BEFORE THE EXISTING LIGHT TOWER IS REMOVED TO PREVENT INTERRUPTION TO ROADWAY LIGHTING.
- 3. THE EXISTING CONDUIT AND WIRING SHALL BE RE-USED AND EXTENDED TO THE PROPOSED LIGHT TOWER.
- I. THE CONTRACTOR SHALL PROVIDED PROTECTION TO THE EXISTING LIGHTING CIRCUIT CABLES AND CONDUIT TO PREVENT DAMAGE WHILE REMOVING THE EXISTING LIGHT TOWER FOUNDATION. THE CONTRACTOR SHALL INSTALL THE PROPOSED JUNCTION BOX OVER THE EXISTING LIGHT TOWER FOUNDATION CONDUITS AND EXTEND THE CIRCUIT TO THE PROPOSED LIGHT TOWER.
- THE CONTRACTOR SHALL INSTALL 2" PVC CONDUIT BETWEEN THE PROPOSED JUNCTION BOX AND THE PROPOSED LIGHT TOWER FOUNDATION.
- 6. THE CONTRACTOR SHALL FURNISH AND INSTALL NEW ELECTRICAL CABLING FROM THE PROPOSED JUNCTION BOX INTO THE BASE OF THE PROPOSED LIGHT TOWER. THE PROPOSED ELECTRICAL CABLES SHALL MATCH THE SIZE AND TYPE OF THE EXISTING CABLES. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE PROPOSED LIGHT TOWER.

# LEGEND

\*

PROPOSED LIGHT TOWER, 100 FT. M.H. 6 LUMINAIRE ON PROPOSED LIGHT TOWER FOUNDATION 48" DIA.

---- EXISTING CONDUIT

PROPOSED CONDUIT

PROPOSED JUNCTION BOX (SPECIAL)

こ EXISTING HANDHOLE

EXISTING ITS CAMERA POLE

EXISTING ITS CCTV CAMERA

NOT TO SCALE

USER NAME = hansontj	DESIGNED -	REVISED -							F.A.P. RTF	SECTION	COUNTY TOTAL SHEE
	DRAWN -	REVISED -	STATE OF ILLINOIS		PR	<b>OPOSED</b>	LIGHTING PLANS		404	(90-12)L	TAZEWELL 11 8
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	CONTRACT NO. 68G64
PLOT DATE = 8/11/2021	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS STA.	TO STA.		ILLINOIS FED. A	D PROJECT



# **SOIL BORING LOG**

Page  $\underline{1}$  of  $\underline{1}$ 

Date 4/28/21

ROUTE	FAI 74 (I-74)	_ DES	SCRI	IPTION	1	Structu	re Boring for High Mast Light Tower	L(	OGGI	ED BY	AT (R	(ubino
SECTION	90-12		_ L	OCAT	ION _	Riverf	ront Drive Spur, East Peoria, <b>SEC.</b> 3 Ide 40.6780, <b>Longitude</b> -89.5881	32, <b>TWP</b>	. 26N	I, RNG	i. 4W,	3 <sup>rd</sup> <b>PM</b> ,
COUNTY	Tazewell Di	RILLING	ME	THOD				TYPE		Auto	matic	
STRUCT. NO. Station	-		D E P	B L O	U C S	M O I	Surface Water Elev. None Stream Bed Elev.	_ ft _ ft	D E P	B L O	၂၀၈	M 0 1
Station Offset	LTB-01		T H	W S	Qu (tof)	S T	Groundwater Elev.: First EncounterNot encountered Upon Completion	ft	H	W S	Qu (to 5)	S T
TOPSOIL, bro	face Elev. 470.00	ft 469.50		(/6")	(tsf)	(%)	After Hrs	<b>ft</b> 449.50		(/6")	(tsf)	(%)
	ots, light gray,	409.50		3			SANDY CLAY LOAM, gray and black, medium stiff	449.50	_	4		
		467.00	_	7		14		447.00	_	9	0.8 P	15 7
SILTY CLAY brown and gra	LOAM, trace gravel, ay, stiff		_	3			SAND, fine, black, very dense	111.00	_	24		
			-5	6 5	1.7 S	14			-25	21 31		10
			-	3			SILTY CLAY, with sand lenses,	444.00	-	1		
				3	1.0 S	15	trace gravel, dark brown and black, with coal pieces, hard		_	2	6.3	19
SILTY LOAM	, trace gravel, gray,	462.00					LOAM, with brick and wood and	442.00				
loose	, , , , , , , , , , , , , , , , , , , ,			3		15	coal pieces, trace gravel, black, medium dense		_	3 6		25
			-10	4			End of Boring	440.00	-30	5		
	trace gravel, gray,	459.00		3	0.5	4.0			_			
very stiff		457.00	_	4	2.5 P	18			_			
CLAY LOAM, moist, very sti	some gravel, brown,	2000/20 502/50	_	4					_			
			-15	5 7	3.0 P	13			-35			
CII TV CI AV	LOAM trace to	454.00	_	3					_			
	LOAM, trace to brown and gray, stiff		-	4 6	1.0 B	15			_			
			_						_			
			-20	5 7	2.3 B	14			-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SCALE:

USER NAME = hansontj	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 30226.0352 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/11/2021	DATE -	REVISED -

AND POPULO LOS					F.A. P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SOIL BORING LOG					404	(90-12)L	TAZEWELL	11	9
							CONTRACT	NO.	68G64
SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED.	AID PROJECT		



# **Luminaire Performance Table**



roi	ect

Date	Contract Number	Section Number	County	
08/18/21	68G64	(90-12)L	Tazewell	
Marked Route N	umber	Municipality		
FAP 404				

#### Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	Q-Zero Value	
12	2	N/A	R3	0.07	

#### Structure

Number of Luminaires Mounting Height Arm Length (Highmast & Sign Lighting Only) 100 ft 3 ft 50 ft 6, same direction

#### Luminaire

Description		I.E.S. Transverse Distribution I.E.			S. Lateral Distribution		
Luminaire, LED, Highmast,	Type III		Short	/Medium			
Total Light Loss Factor (LLF)	B-U-G Rating		Shields	]	Dimming Protocol		
0.7	U = 0		No		0 - 10V		

#### Layout

Spac	ing (to Nearest 5 ft)	Configuration (Opposite, Staggered, 1 Sided, or Median)	
600	ft	1 Sided	

#### Performance

Average Illuminance, EAVE (fc)	Uniformity Ratio, EAVE/EMIN		
1.3	3.0		
Average Luminance, LAVE (cd/m²)	Uniformity Ratio, LAVE/LMIN	Uniformity Ratio, LMAX/LMIN	Veiling Luminance Ratio, Lv/Lave
N/A	N/A	N/A	0.3

## **Light Tresspass**

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, EH	Max. Vertical Illuminance at ROW, E <sub>∨</sub>
N/A	N/A	N/A

# **Notes**

- 1. Set-Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign
- 2. Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to the roadway.
- 3. Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- 4. Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.
- 5. Lighting calculations shall be performed in one direction only.
- 6. Compliance with performance criteria shall be held to one significant digit.
- 7. Initial lumens of the proposed luminaire may vary from the values specified in the table given in Article 1067.06 of the BDE Special Provision Luminaire, LED.

Printed 08/18/21 BDE 5630 (04/10/19)

USER NAME = howalder	DESIGNED -	REVISED - ERH (8-19-21)					F.A. P.	SECTION	COUNTY	TOTAL	SHEET					
	DRAWN -	REVISED -	STATE OF ILLINOIS	LUMINAIRE PERFORMANCE TABLE			404	(90-12)L	TAZEWELL	11	10					
PLOT SCALE = 30226.0352 / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION			DEPARTMENT OF TRANSPORTATION								CONTRAC		38G64
PLOT DATE = 8/19/2021	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS	FED. AID PROJECT				

ROAD CONSTRUCTION AHEAD SIGN (W20-I103(0)-48) AND FLAGGER SIGN (W20-7(0)-48) REQUIRED FOR INTERMITTENT TRAFFIC STOPS ON RIVERFRONT DR. SPUR.





W20-I103(0)-48

(W20-7(O)-48)

TRAFFIC CONTROL HIGHWAY STANDARDS

701001-02 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY

701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE

701901-08 TRAFFIC CONTROL DEVICES

#### NOTES

- 1. ALL LANE CLOSURES, INCLUDING RAMP CLOSURE AND INTERMITTMENT TRAFFIC STOPS, SHALL BE LIMITED TO 8:30AM TO 3:00PM
- 2. ONE CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED AT THE RIVERFRONT DR. RAMP ENTRANCE A MINIMUM OF 7 DAYS PRIOR TO THE RAMP CLOSURE, INDICATING THE DATES OF CLOSURE.
- 3. WHEN FLAGGER PRESENT FOR INTERMITTENT TRAFFIC STOPS ON RIVERFRONT DR. SPUR, ROAD CONSTRUCTION AHEAD SIGN (W20-I103(0)-48) AND FLAGGER SIGN (W20-7(0)-48) ARE REQUIRED.
- 4. ALL TRAFFIC CONTROL REQUIRED FOR THIS CONTRACT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE BID PRICE FOR THE LUMP SUM "TRAFFIC CONTROL AND PROTECTION, (SPECIAL)."

ONE TYPE III BARICADE
WITH THE FOLLOWING SIGN:

ROAD CLOSED

RAMP CLOSED VIA BARRELS SPACED 10 FT. APART

ONE CHANGEABLE MESSAGE SIGN
(MINIMUM 7 DAYS PRIOR TO RAMP CLOSURE, DURING RAMP CLOSURE)

RAMP CLOSED USE IL 40 TO I-74 FROM DATE TO DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1

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