06-16-2017 LETTING ITEM 231

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	1
	ILLINOIS	CONTRACT NO. 62F08		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

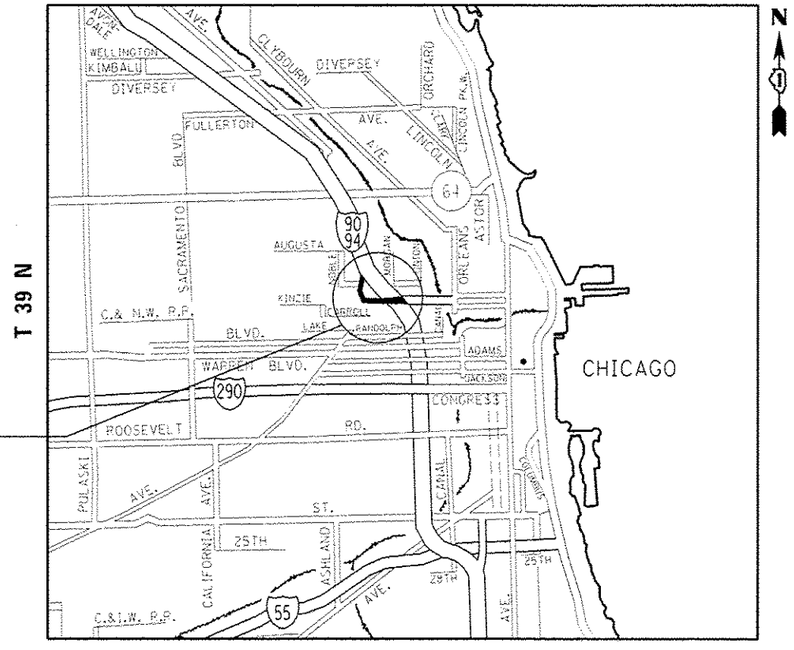
F.A.I. ROUTE 94 – I–90 /94 (EB RAMP TO OHIO)
OVER I–90 /94 (JFK)
SECTION: 2017–009–B–R
BRIDGE REPAIRS (BEAM IMPACT)
COOK COUNTY

PROJECT NHPP-0094(410)

C-91-209-17

R 14 E

T 39 N



LOCATION OF IMPROVEMENT: SN 016–0204

WEST CHICAGO TOWNSHIP

GROSS & NETLENGTH = 2870.00 FT. = 0.543 MILE

FOR INDEX OF SHEETS, SEE SHEET NO. 2

THE IMPROVEMENT IS LOCATED IN THE CITY OF CHICAGO.

TRAFFIC DATA

I–90 /94
ADT (2016) = 250,400
POSTED SPEED LIMIT = 45–55 MPH

D–91–209–17

LOCATION OF SECTION INDICATED THUS: –

100' 200' 300' — 1" = 100'
0 10' 20' 30' — 1" = 10'
0 50' 100' — 1" = 50'
0 50' 100' — 1" = 40'
0 50' 100' — 1" = 30'
0 50' 100' — 1" = 20'

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED April 3 20 17
REGIONAL ENGINEER
May 12 20 17
ENGINEER OF DESIGN AND ENVIRONMENT
May 12 20 17
DIRECTOR OF PROGRAM DEVELOPMENT

PROJECT ENGINEER J. ALAIN MIDY (847) 221–3056
PROJECT MANAGER ISSAM RAYYAN (847) 705–4178

CONTRACT NO. 62F08

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, STANDARDS, AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-8	BRIDGE PLANS (SN 016-0204)
9-10	STAGING PLANS
11	ENTRANCE AND EXIT RAMP CLOSURE DETAILS (TC-08)
12	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE AND MULTILANE WEAVE (TC-09)
13	TRAFFIC CONTROL FOR SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC-17)

HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
701400-09	APPROACH TO LANE CLOSURE, FREEWAY / EXPRESSWAY
701401-10	LANE CLOSURE, FREEWAY / EXPRESSWAY
701411-09	LANE CLOSURE, MULTILANE, ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL, FREEWAY / EXPRESSWAY
701446-08	TWO LANE CLOSURE, FREEWAY / EXPRESSWAY
701901-06	TRAFFIC CONTROL DEVICES

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "C.U.A.N." (CHICAGO UTILITY ALERT NETWORK) AT (312)744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. (48 HOUR NOTIFICATION IS REQUIRED).

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE CITY OF CHICAGO.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED AT THE UNIT PRICE BID FOR THE WORK.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT (847)705-4155 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THE ENGINEER SHALL CONTACT THE IDOT'S AREA TRAFFIC FIELD ENGINEER AT (847)705-4153 A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTENANCE BRIDGE INSPECTORS.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

URBAN

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0014					
CODE NO	ITEM	UNIT		90/10 0014					
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	LSUM	1	1					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6					
67100100	MOBILIZATION	LSUM	1	1					
X0326191	BEAM HEAT STRAIGHTENING	LSUM	1	1					
X7011015	TRAFFIC CONTROL AND PROTECTION, (EXPRESSWAYS)	LSUM	1	1					
Z0001905	STRUCTURAL STEEL REPAIR	POUND	3040	3040					
Z0007112	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	LSUM	1	1					

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT							

1

FILE NAME:	USER NAME = gyrzonowski1b	DESIGNED -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	DRAWN -	REVISED -
	PLOT DATE = 4/19/2022	CHECKED -	REVISED -
		DATE -	REVISED -

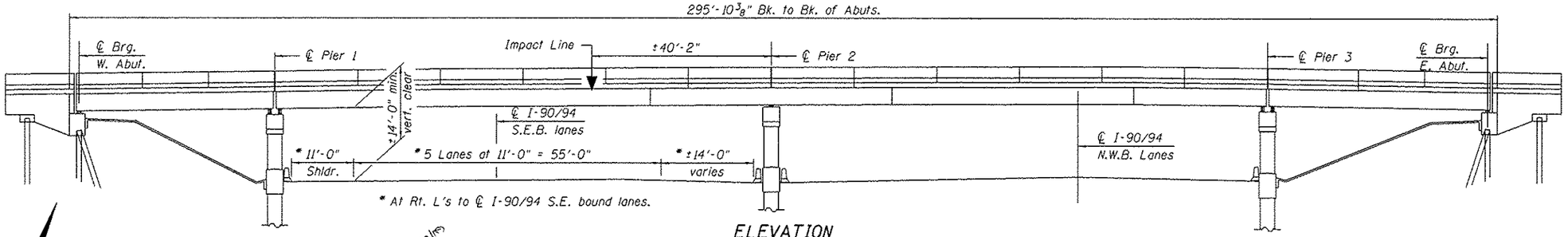
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

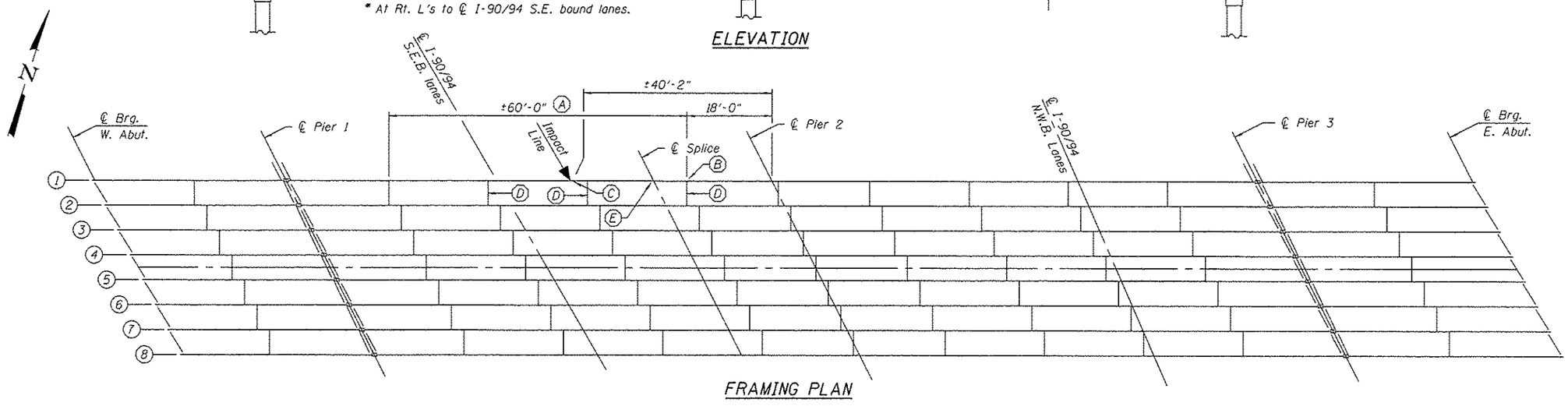
SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	3
		CONTRACT NO. 62F08		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

LAST SAVED DATE $LASTSAVEDD.



ELEVATION



FRAMING PLAN

GENERAL NOTES

1. All structural steel shall be AASHTO M 270 Grade 36, unless otherwise noted.
2. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$" ϕ, holes $\frac{15}{16}$" ϕ, unless otherwise noted.
3. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
4. Cost of removal and/or re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of "Structural Steel Repair".
5. The cost of field drilling required for installation of the steel members is included with "Structural Steel Repair".
6. The existing girder shall be cleaned and painted according to the special provision "Cleaning and Painting Existing Steel Structures". The area to be cleaned and painted shall be according to the special provision for "Beam Heat Straightening". The entire specified area shall be cleaned per the requirements for Commercial Grade Power Tool Cleaning - SSPC-SP15 and painted according to the requirements of Paint System 1 Organic Zinc / Epoxy / Urethane. Application of the intermediate and top coats shall be done after all new structural steel has been installed. The color of the final finish coat shall match the color of the existing steel. Cost included with Cleaning and Painting Structural Steel, Location No. 1.
7. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
8. All new structural steel shall be painted with the Organic Zinc / Epoxy / Urethane Paint System in accordance with Section 506 of the Standard Specifications. The new steel shall be shop primed and the intermediate and final coats shall be applied in the field after the new structural steel is installed. The color of the final finish coat shall match the color of the existing steel.
9. Paint shall be removed from the damaged girder in the area of impact and areas of heating before the girder is straightened according to the special provision for "Beam Heat Straightening"
10. No field welding is permitted except as specified in the contract documents.
11. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
12. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
13. Plans of the original construction and prior rehabilitation contracts are available for review at the IDOT District 1 office in Schaumberg, IL.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Beam Heat Straightening	L. Sum	1
Structural Steel Repair	Pound	3,040
Cleaning and Painting Structural Steel, Location 1	L. Sum	1
Containment and Disposal of Lead Paint Cleaning Residues, No. 1	L. Sum	1

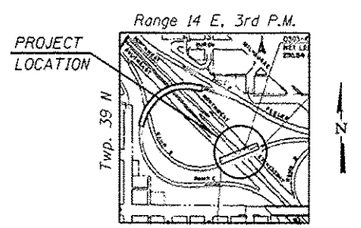
LEGEND

- (A) Heat straighten damaged girder.
- (B) Heat strengthen bottom flange.
- (C) Add bottom flange and web strengthening plates.
- (D) Replace diaphragm and connection plates.
- (E) Replace bottom flange splice plate.

4-12-17

STATE OF ILLINOIS
SCOTT D. SANFORD
081-005468
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

Expires: 11/30/2018



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
BEAM HEAT STRAIGHTENING
RAMP D OVER I-90/94
SEC. 2017-009-B-R
COOK COUNTY
STRUCTURE NO. 016-0204

FILE NAME = $DGN-SPEC=

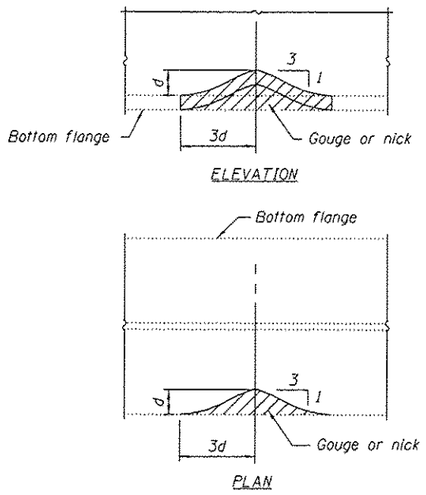
design firm no. 184001036 — whks engineers • planners • land surveyors

USER NAME = $USER$	DESIGNED -	REVISED	
FILE NAME = $FILES$	CHECKED -	REVISED	
PLOT SCALE = $SCALE$	DRAWN -	REVISED	
PLOT DATE = $DATE$	CHECKED -	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 016-0204
SHEET NO. 1 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2017-009-B-R	COOK	13	4
		CONTRACT NO. 62F08		
		ILLINOIS FED. AID PROJECT		

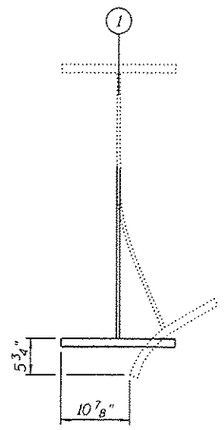


GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged girder as detailed. Ground surfaces shall be inspected for cracks using non-destructive testing (See Special Provisions for "Beam Heat Straightening") prior to initiating any beam heat straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Cost included with "Beam Heat Straightening".

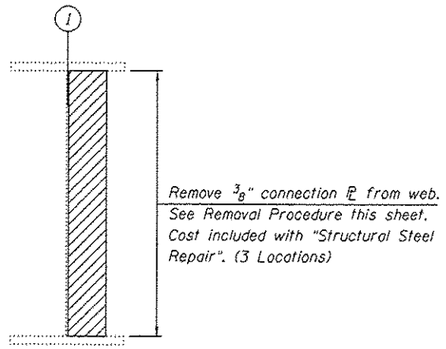
SEQUENCE OF CONSTRUCTION

1. *Close the North shoulder on Ramp D over I-90/94 as shown in the traffic control plans. See Roadway Plans for traffic control.*
2. *Remove the existing diaphragm near the impact line between girders 1 and 2. The diaphragm to be removed is 39'-0" West of Pier 2.*
3. *Remove both diaphragms on either side of the impact line between girders 1 and 2. These diaphragms are 21' east and west of the diaphragm removed in step 2, above.*
4. *Remove the existing connection plates on girder 1 at the above locations as shown in the Diaphragm Connection Plate Removal Detail.*
5. *Grind existing nicks, gouges and cracks as shown in the Grinding Detail and drill crack arrestor holes as shown in the Web Puncture Detail.*
6. *Conduct heat-straightening of girder 1 as shown on sheet 3 of 5 and as described in the Special Provision "Beam Heat Straightening".*
7. *Clean and prime the existing girder as described in the Special Provisions for "Beam Heat Straightening" and "Cleaning and Painting Existing Steel Structures".*
8. *Close the North shoulder and North traffic lane on Ramp D over I-90/94 as shown in the traffic control plans. No traffic will be permitted on the North shoulder or North traffic lane until sequence 9 is fully completed.*
9. *Remove the existing bottom flange splice plate and install new bottom flange splice plate as shown in the Bottom Flange Field Splice Plate Replacement Detail on sheet 5 of 5. In no case, will traffic be permitted on the North lane and shoulder of Ramp D until the new splice plate is fully installed and all bolts are fully-tightened.*
10. *Adjust traffic control to permit traffic on North traffic lane of Ramp D. The North shoulder of Ramp D shall remain closed.*
11. *Install the bottom flange strengthening plate as shown in the detail on sheet 4 of 5.*
12. *Install the web strengthening plate, diaphragm connection angles and diaphragms as shown in the details on sheet 4 of 5.*
13. *Remove all traffic control from Ramp D.*
14. *Apply intermediate and top paint coats to all previously primed structural steel.*



EXISTING GIRDER DEFORMATION TO BE HEAT STRAIGHTENED (A)

(Looking East) (Approximate max. displacement at point of impact)
Deformed length of girder to be straightened is approximately 60'-0".

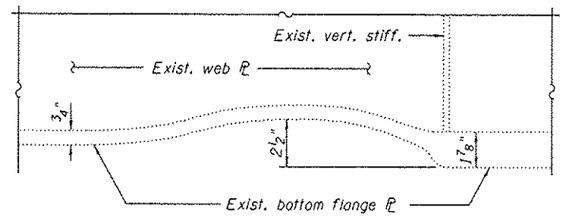


DIAPHRAGM CONNECTION PLATE REMOVAL DETAIL

(Looking East)

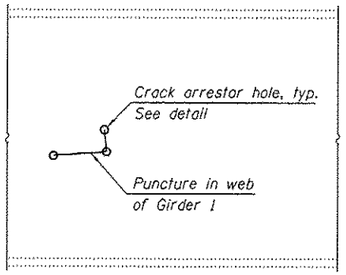
REMOVAL PROCEDURE

1. *Cut existing connection plate along the existing web and flanges as shown. The minimum distance from the cut line to the face of the web or flanges shall be the larger of 1/4" or the connection plate weld size, with removal of the remaining material accomplished by grinding as described below. The cut shall be made parallel to the web and flanges without angling the cut towards the web or flanges. Equipment and method of cutting shall be approved by the Engineer.*
2. *Remove material between cut line and the girder plates to remain by grinding and grind smooth at remaining plate surfaces. Remaining plate surfaces shall have a roughness average (Ra) of 250μin or less. Grinding equipment shall be approved by the Engineer. The grinding operation shall not gouge the girder.*
3. *The girder plates at the grinding locations shall be inspected using non-destructive testing according to the Special Provision for "Structural Steel Repair" . Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.*



EXISTING BOTTOM FLANGE DEFORMATION TO BE HEAT STRAIGHTENED (B)

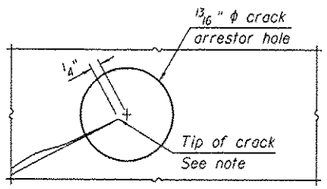
(Looking North at Girder 1)
(Approximate max. displacement at flange transition ±18'-0" west of Pier 2)
Deformed length of flange to be straightened is approximately 2'-6"



WEB PUNCTURE DETAIL

(Looking South at Girder 1)
(Web puncture at approx. ±39'-0" west of Pier 2.)

Note:
Damaged portion of web at puncture shall be straightened prior to drilling the crack arrestor holes. After straightening, the horizontal projection of the damaged portion of the web shall be no greater than 1/16". Straightening may be accomplished by heat or mechanical means. Cost included with "Structural Steel Repair".



CRACK ARRESTOR HOLE DETAIL

(3 Locations)

Note:
Locate crack tip using non-destructive testing, according to the Special Provision for "Structural Steel Repair". Drill 13/16" ϕ crack arrestor hole at the crack tip. After crack arrestor hole has been drilled, non-destructive testing shall be used to verify that the drilled

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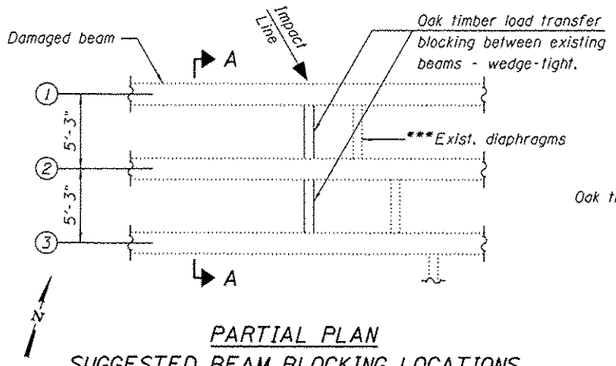
FILE NAME = $FILES$	CHECKED -	REVISED	
PLOT SCALE = $SCALE$	DRAWN -	REVISED	
PLOT DATE = $DATE$	CHECKED -	REVISED	

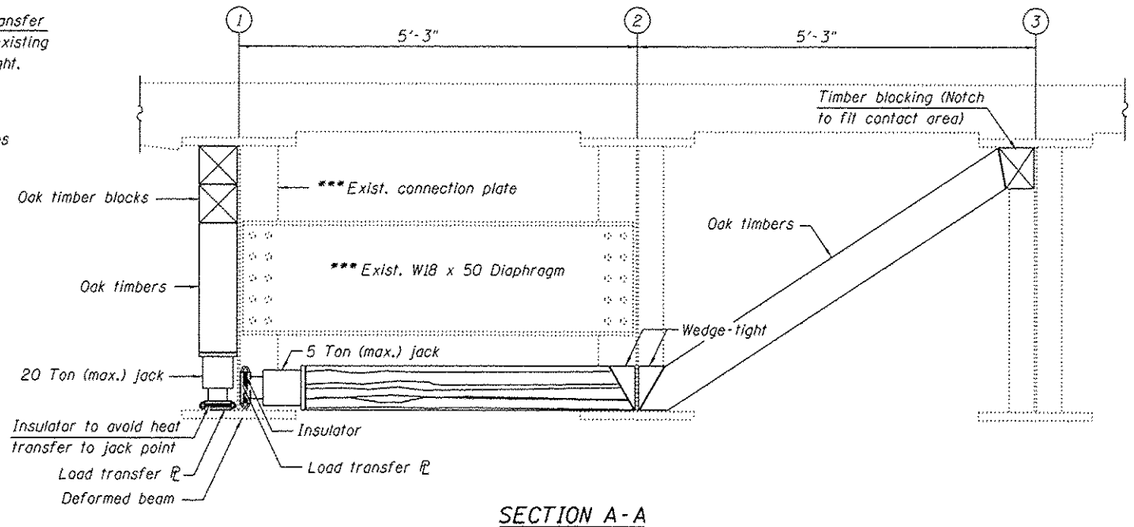
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 016-0204
SHEET NO. 2 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2017-009-B-R	COOK	13	5
		CONTRACT NO. 62F08		
		ILLINOIS FED. AID PROJECT		

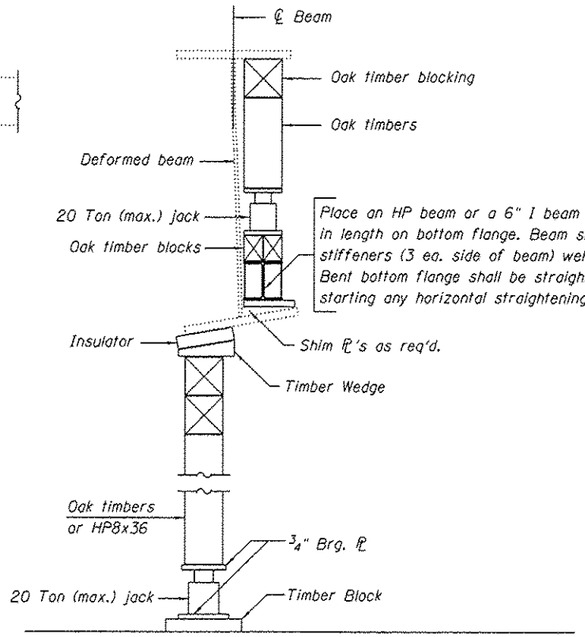


PARTIAL PLAN
SUGGESTED BEAM BLOCKING LOCATIONS

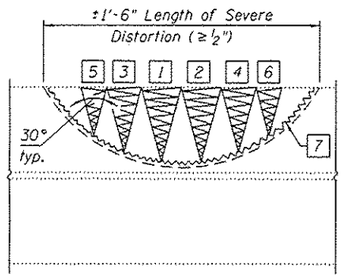


SECTION A-A

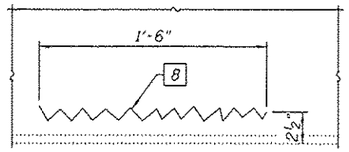
*** To be removed or disconnected prior to heat straightening.
See Sequence of Construction on sheet 2 of 5.



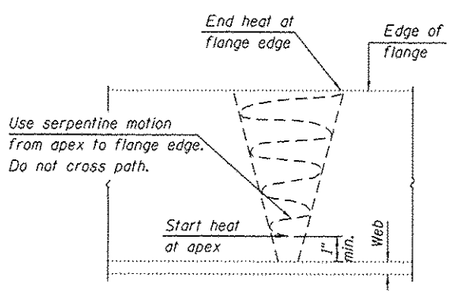
VERTICAL STRAIGHTENING DETAIL



BOTTOM FLANGE HEATING PATTERN
(Looking at bottom flange)



WEB LINE HEAT
(Looking East)



TYPICAL HEAT PATTERN

Notes:

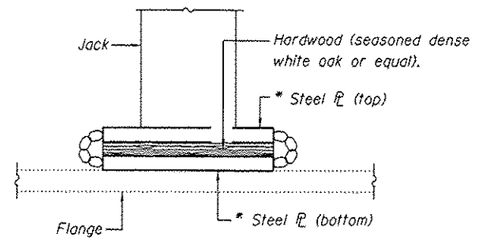
1. The details shown on this sheet are for example purposes only. The final details shall be approved by the Department in accordance with the Special Provision for "Beam Heat Straightening".

** 6 patterns are shown for the example, but the actual number shall be based on the deformation size and severity. Patterns should be placed on greatest distortion, and patterns in a subsequent series should be offset.

** [1] thru [6] "V" heat

[7] Line heat on flange

[8] Line heat on web



SAMPLE INSULATOR

* Top & bottom plates may be attached with cable or chain to aid handling.

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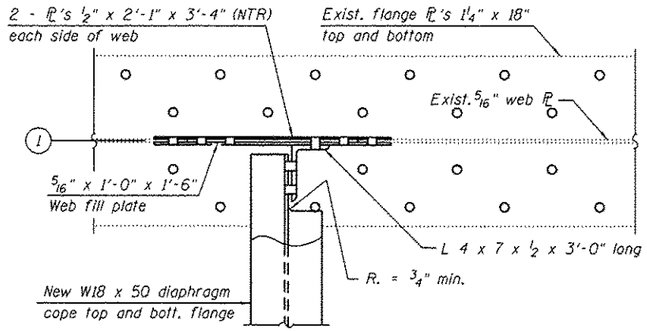
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

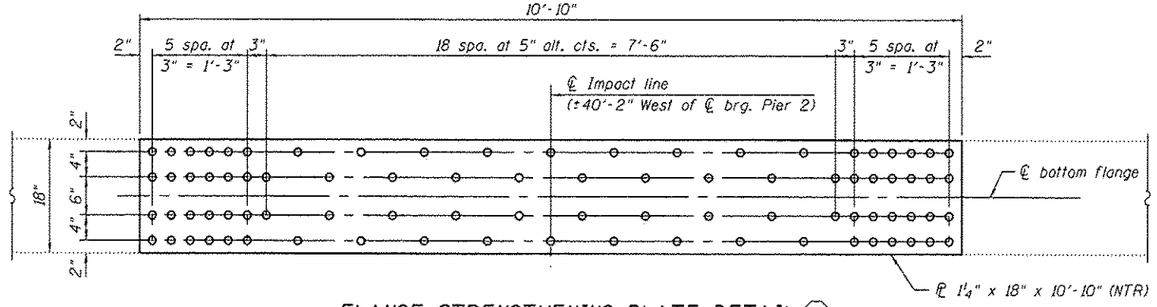
BEAM STRAIGHTENING DETAILS
STRUCTURE NO. 016-0204
SHEET NO. 3 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2017-009-B-R	COOK	13	6
		CONTRACT NO. 62F08		
	ILLINOIS FED. AID PROJECT			



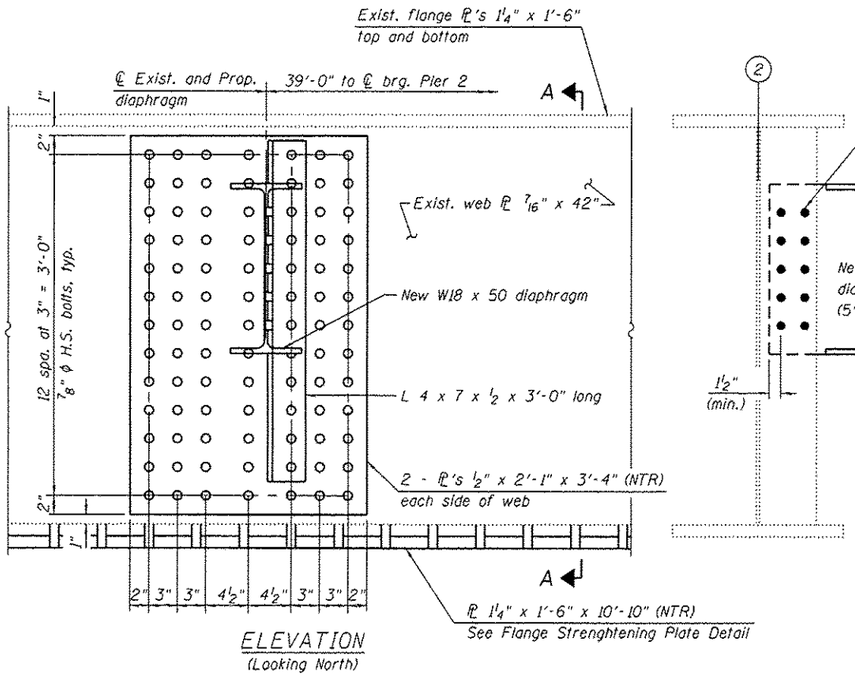
LEGEND

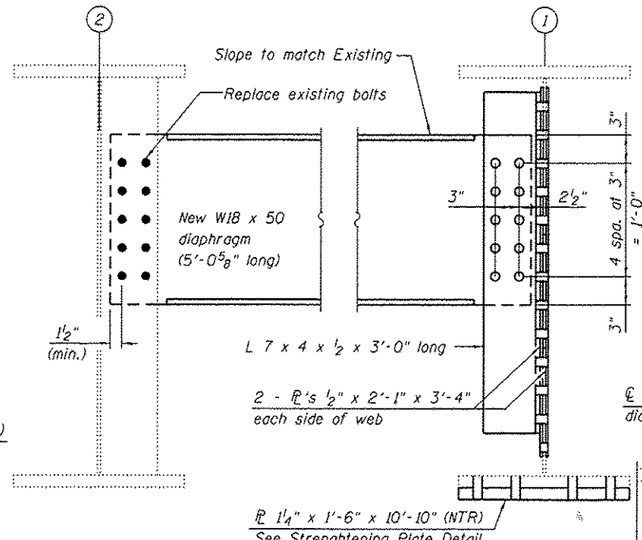
- (A) Heat straighten damaged girder.
- (B) Heat strengthen bottom flange.
- (C) Add bottom flange and web strengthening plates.
- (D) Replace diaphragm and connection plates.
- (E) Replace bottom flange splice plate.



FLANGE STRENGTHENING PLATE DETAIL (C)

(At point of impact)





BOTTOM FLANGE AND WEB STRENGTHENING PLATE DETAIL (C)

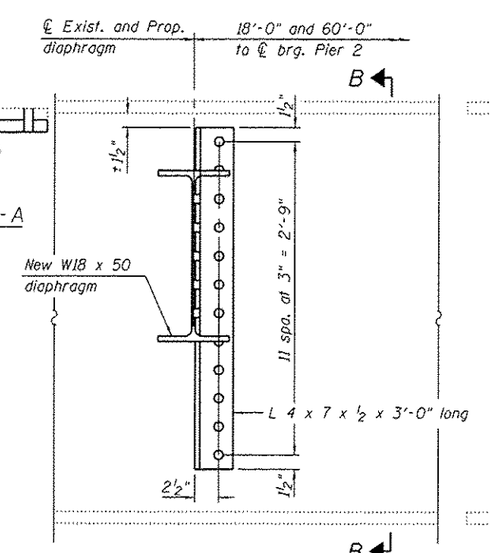
DIAPHRAGM REPLACEMENT DETAIL (D)

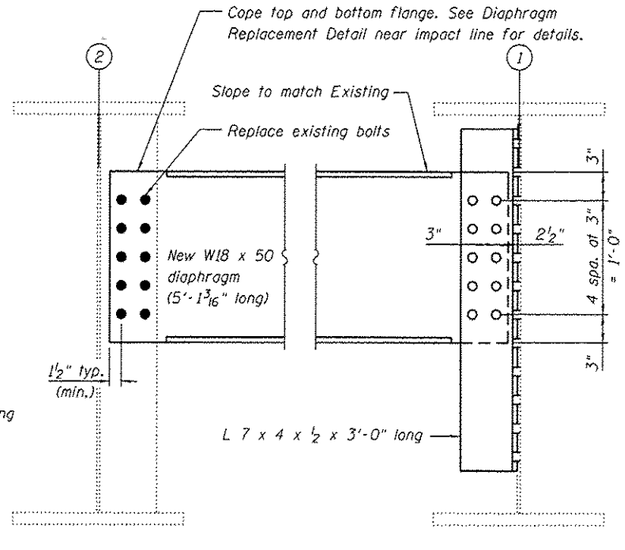
(Showing Diaphragms near impact line.)

Notes:

1. The Contractor shall field verify the required bolt length and length of threads necessary to install all bolts in accordance with the Standard Specifications and the details provided herein.
2. All new high strength bolts in the Flange Strengthening Plate shall be ⅞" ϕ ASTM A325 Type 1, mechanically galvanized bolts with threads excluded from the shear plane.
3. Work this sheet with sheet 5 of 5.

- ○ Holes in existing steel shall be field drilled using holes in proposed plates as a template.
- ● Holes in proposed angles and plates shall be field drilled using holes in existing steel as a template.





DIAPHRAGM CONNECTION DETAILS (D)

(Showing Diaphragms adjacent to the diphragm at impact line.)

design firm no. 184001036

whks engineers + planners + land surveyors

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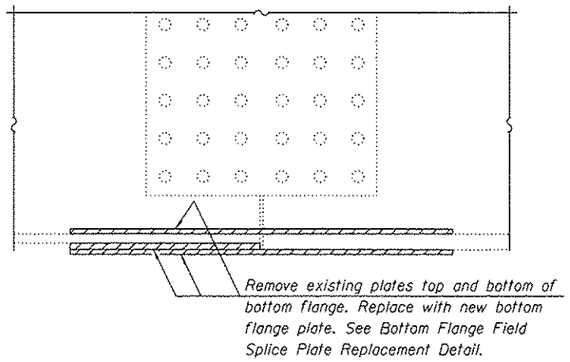
FILE NAME = *FILES*	CHECKED -	REVISED
PLOT SCALE = *SCALE*	DRAWN -	REVISED
PLOT DATE = *DATE*	CHECKED -	REVISED

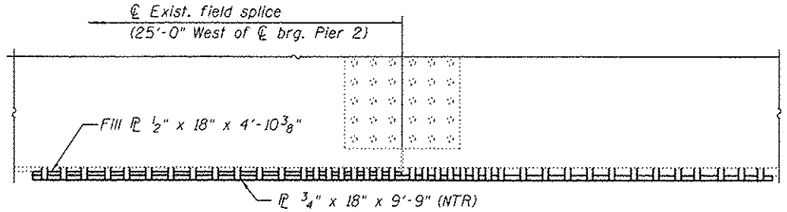
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS
STRUCTURE NO. 016-0204
SHEET NO. 4 OF 5 SHEETS

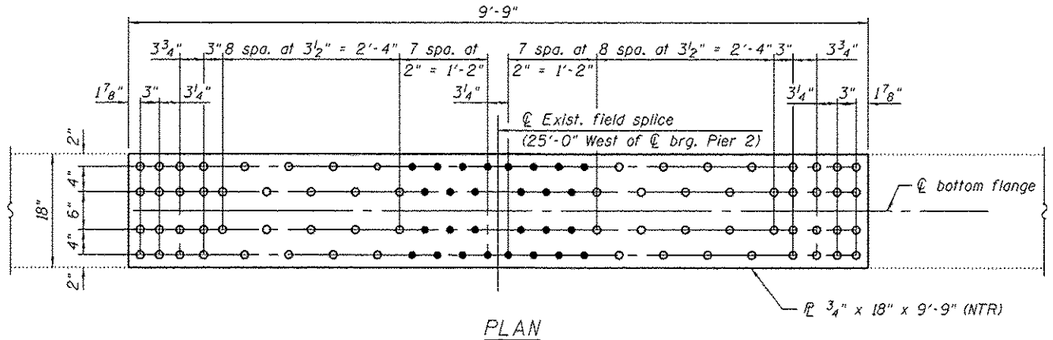
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2017-009-B-R	COOK	13	7
		CONTRACT NO. 62F08		
	ILLINOIS FED. AID PROJECT			



FIELD SPLICE BOTTOM FLANGE (E)
SPLICE PLATE REMOVAL



ELEVATION
(Looking South)



PLAN

BOTTOM FLANGE FIELD SPLICE (E)
PLATE REPLACEMENT DETAIL

Notes:

1. The Contractor shall field verify the required bolt length and length of threads necessary to install all bolts in accordance with the Standard Specifications and the details provided herein.
2. All new high strength bolts in the Bottom Flange Field Splice Plates shall be 7/8" ϕ ASTM A325 Type 1, mechanically galvanized bolts with threads excluded from the shear plane.
3. Work this sheet with Sheet 4 of 5.

design firm no. 184001036 whks engineers • planners • land surveyors	USER NAME = $USER$	DESIGNED -	REVISED
	FILE NAME = $FILES$	CHECKED -	REVISED
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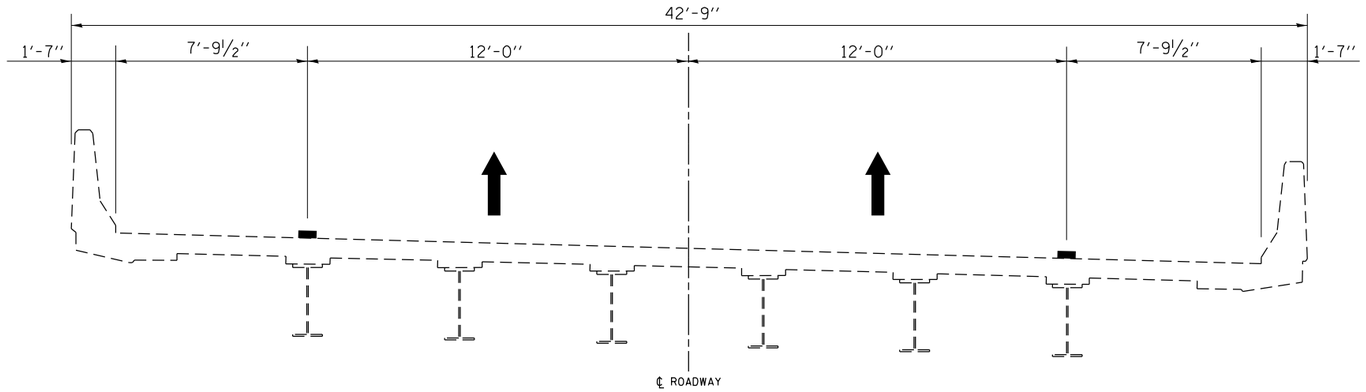
	PLOT DATE = $DATE$	CHECKED -	REVISED

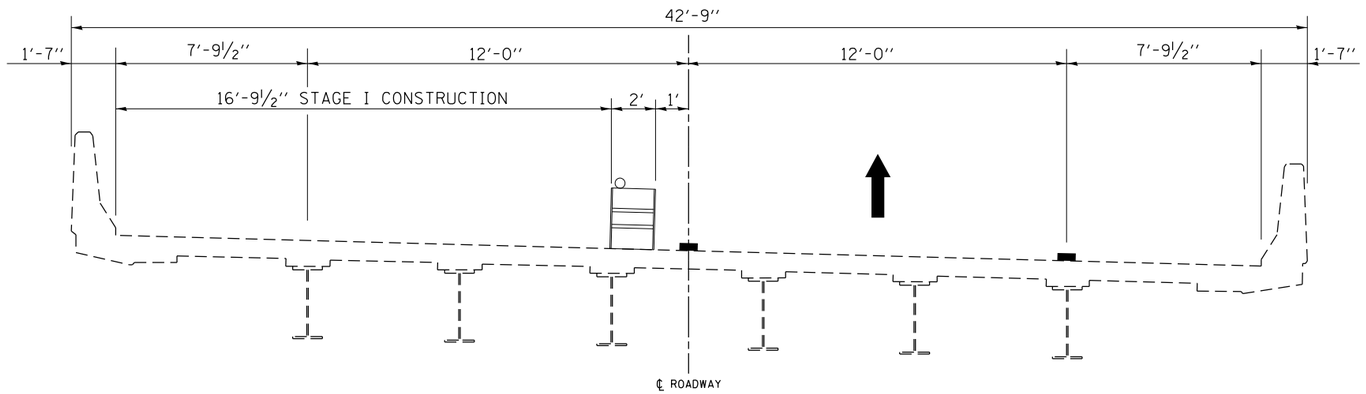
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS
STRUCTURE NO. 016-0204
SHEET NO. 5 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2017-009-B-R	COOK	12	8
		CONTRACT NO. 62F08		
	ILLINOIS FED. AID PROJECT			



EXISTING & FINAL CROSS SECTION
(LOOKING EAST)



WEEKEND LANE CLOSURE
(LOOKING EAST)

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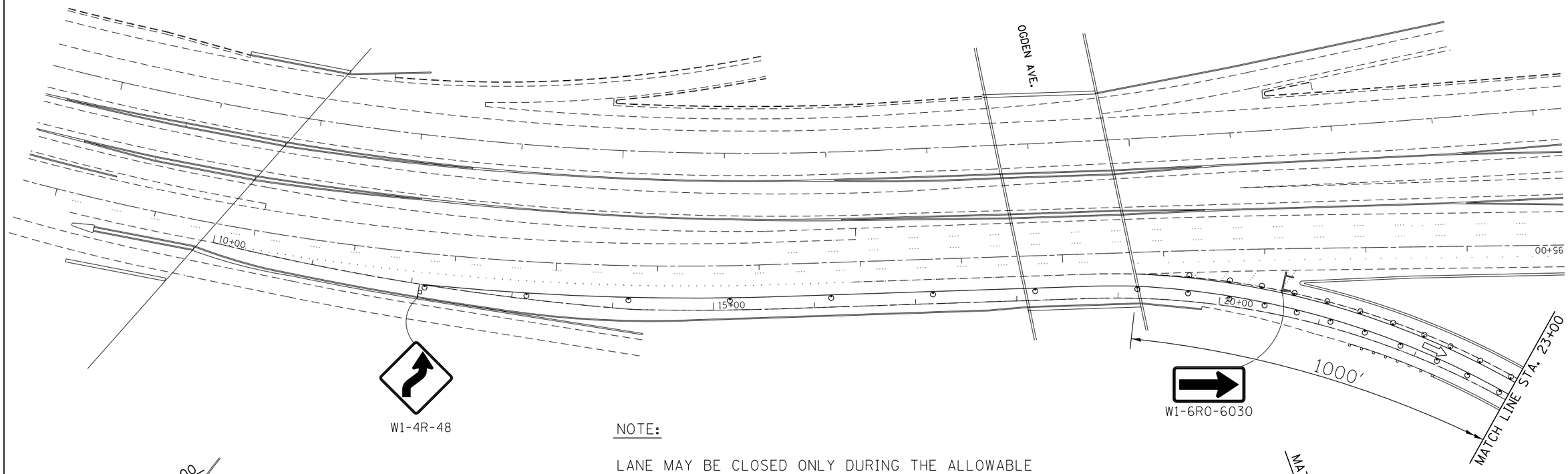
Default	PLOT DATE = 4/11/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION
I-90/94 (EB RAMP TO OHIO ST. OVER I-90/94)

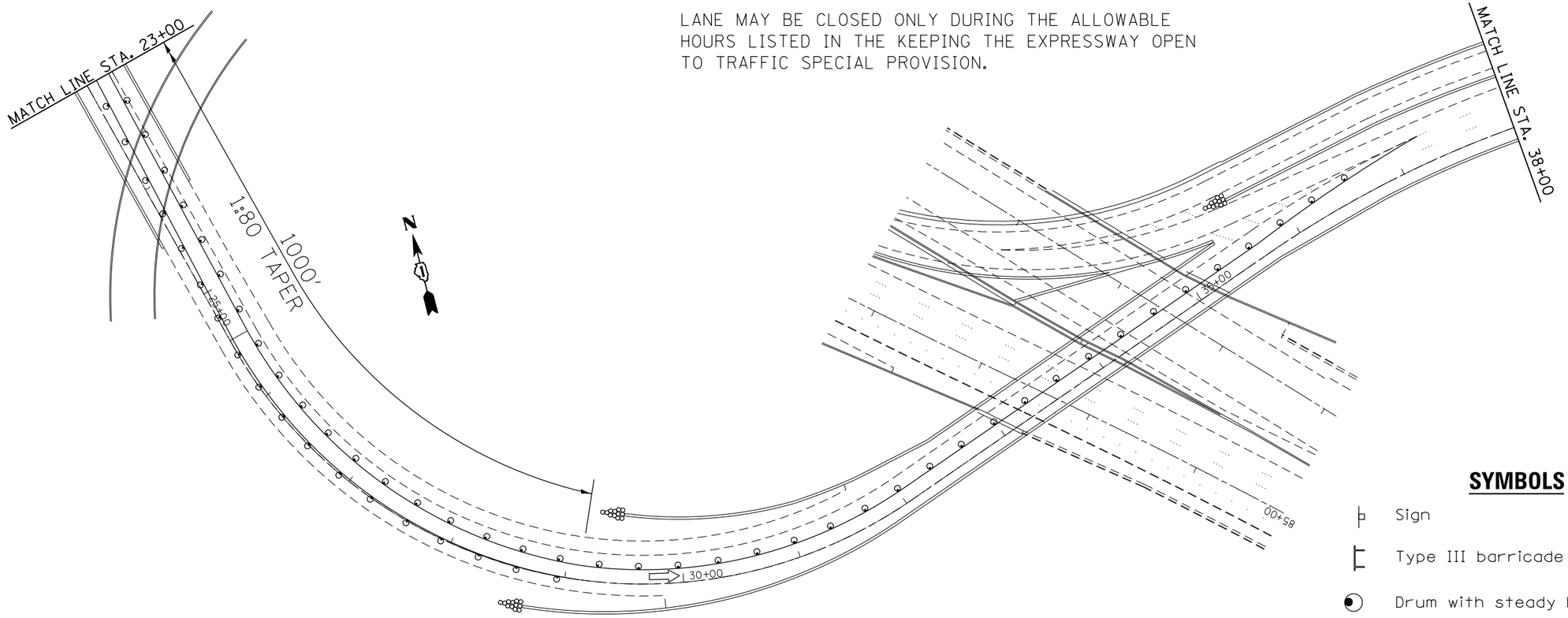
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	9
		CONTRACT NO. 62F08		
	ILLINOIS FED. AID PROJECT			



NOTE:

LANE MAY BE CLOSED ONLY DURING THE ALLOWABLE HOURS LISTED IN THE KEEPING THE EXPRESSWAY OPEN TO TRAFFIC SPECIAL PROVISION.



SYMBOLS

- Sign
- Type III barricade with flashing lights
- Drum with steady burning light @ 50' centers

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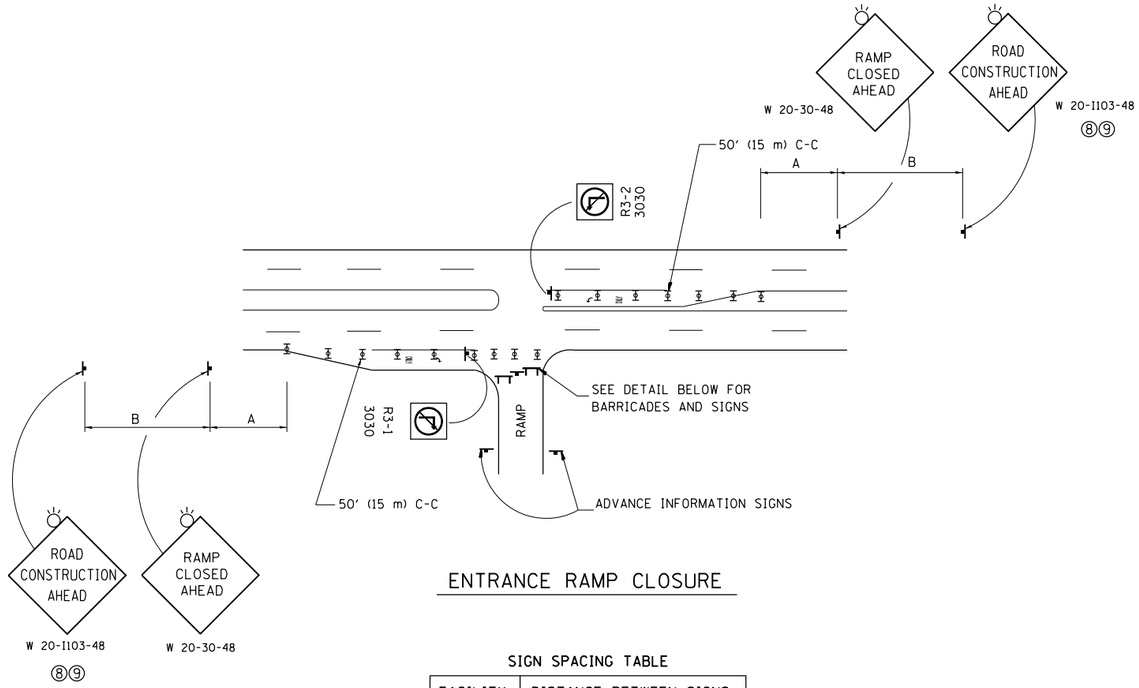
Default	PLOT DATE = 4/11/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING PLAN
I-90/94 (EB RAMP TO OHIO ST. OVER I-90/94)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	10
		CONTRACT NO. 62F08		
	ILLINOIS FED. AID PROJECT			

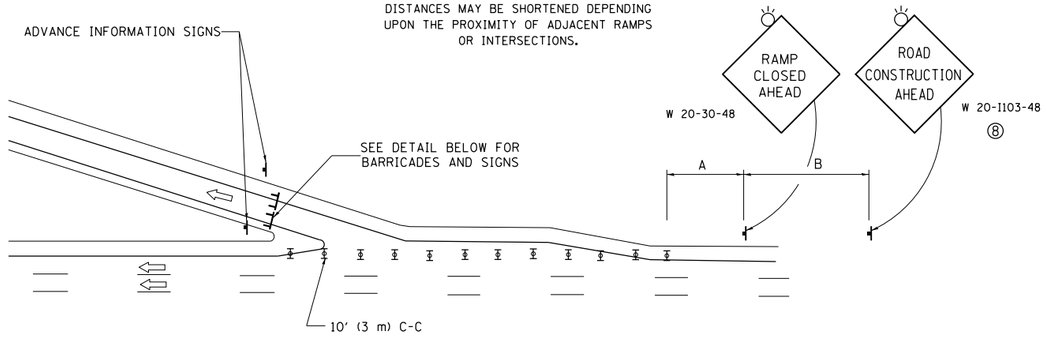


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS A	DISTANCE BETWEEN SIGNS B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.

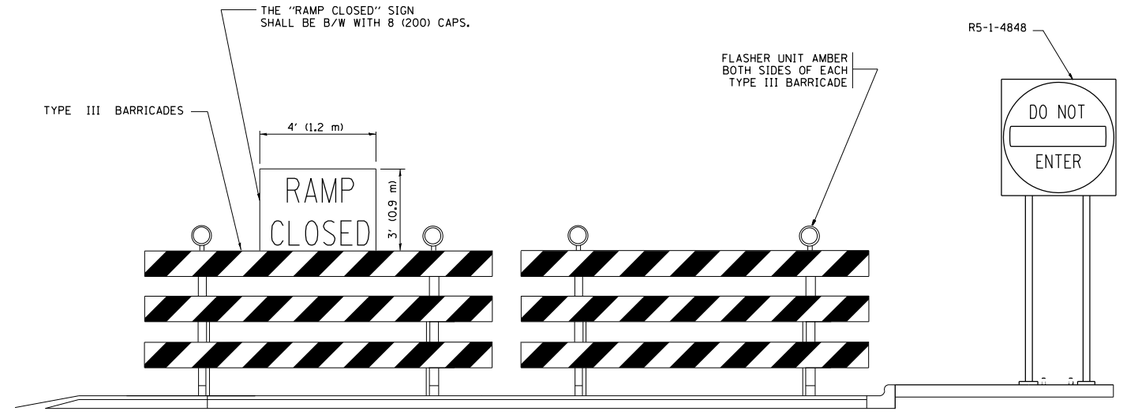


EXIT RAMP CLOSURE

SYMBOLS

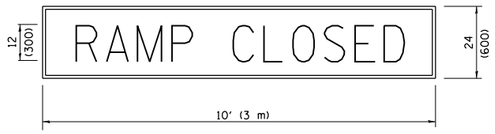
TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT

TYPE III BARRICADE WITH 2 FLASHING LIGHTS



DETAIL FOR REQUIRED BARRICADES & SIGNS

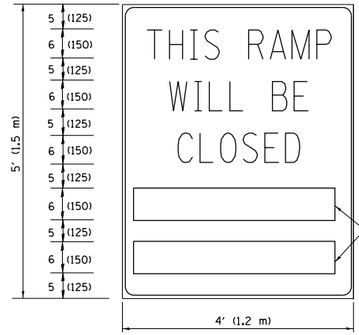
RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

GENERAL NOTES:

1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEEDED BY A W20-7 FLAGGER WARNING SIGN.
4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
5. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
7. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH
8. ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
9. ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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	PLOT DATE = 4/11/2017	DATE - 02-83	REVISED - MD 06-13

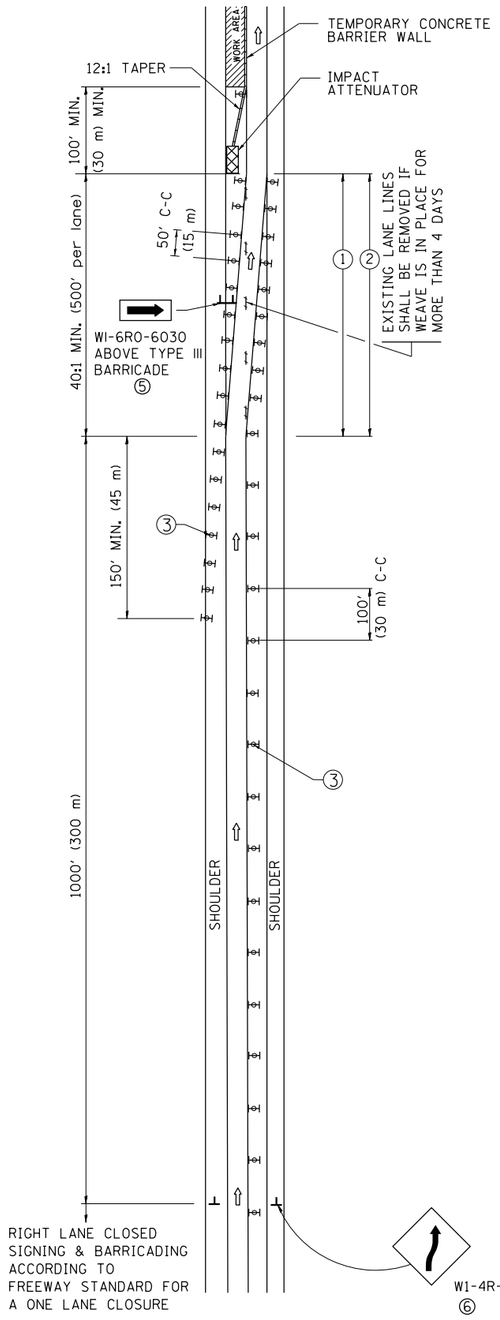
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ENTRANCE AND EXIT RAMP CLOSURE DETAILS

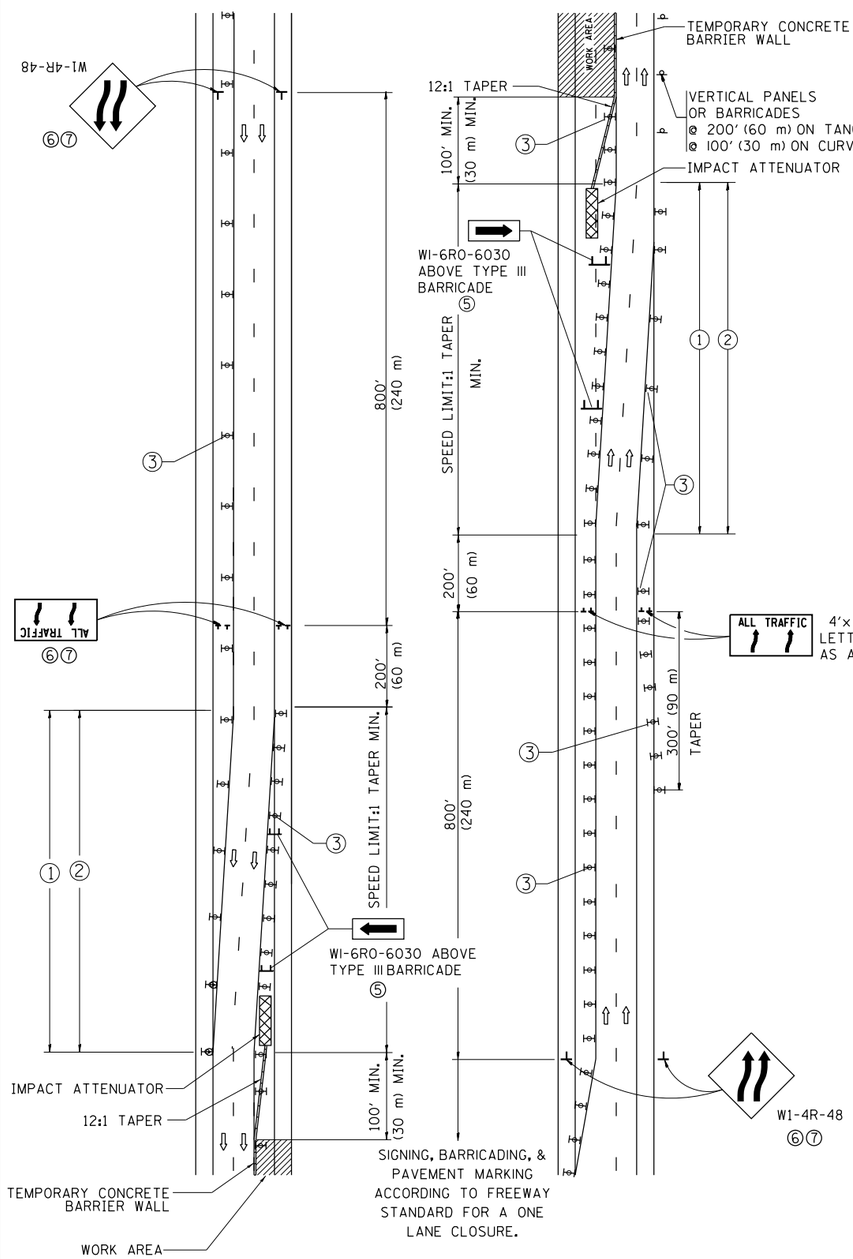
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	11
	TC-08	CONTRACT NO. 62F08		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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	PLOT DATE = 4/11/2017	DATE - 02-87	REVISED - MD 06-13

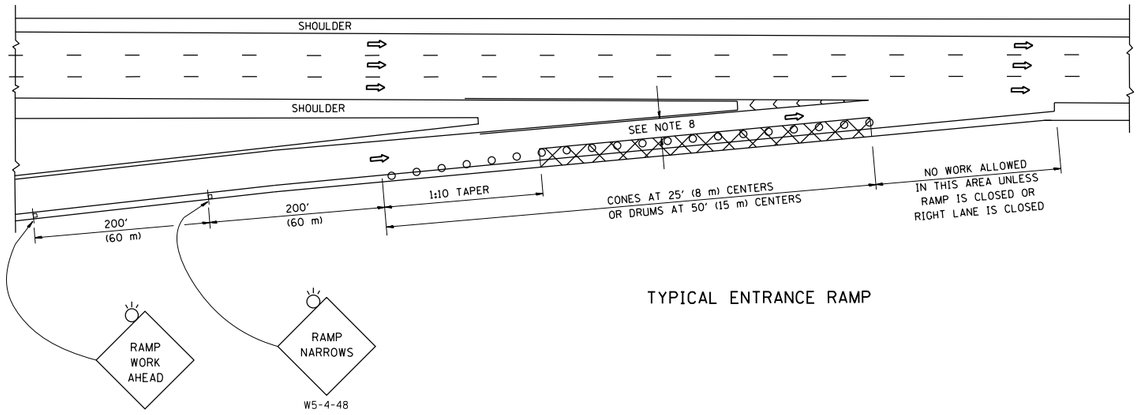
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE

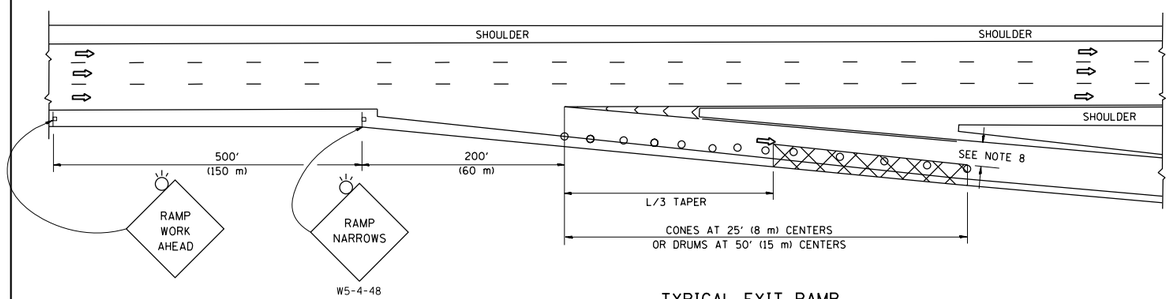
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	12
	TC-09	CONTRACT NO. 62F08		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

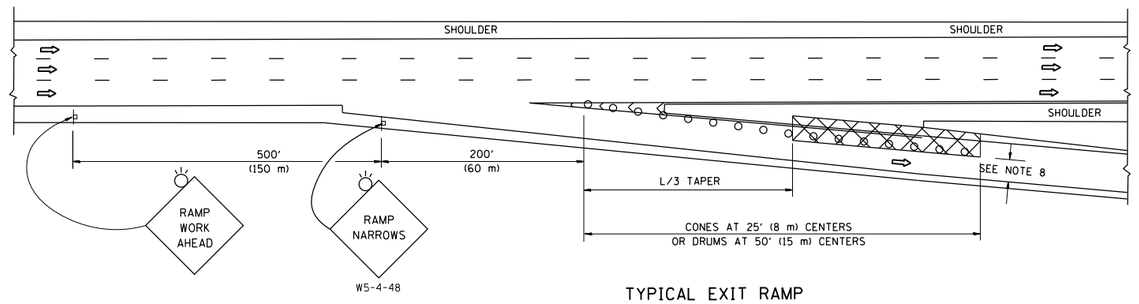
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP

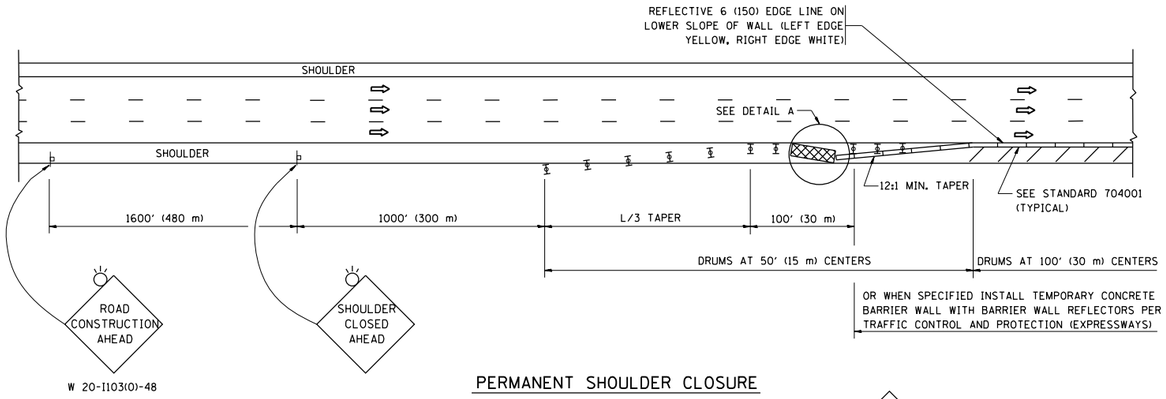


TYPICAL EXIT RAMP

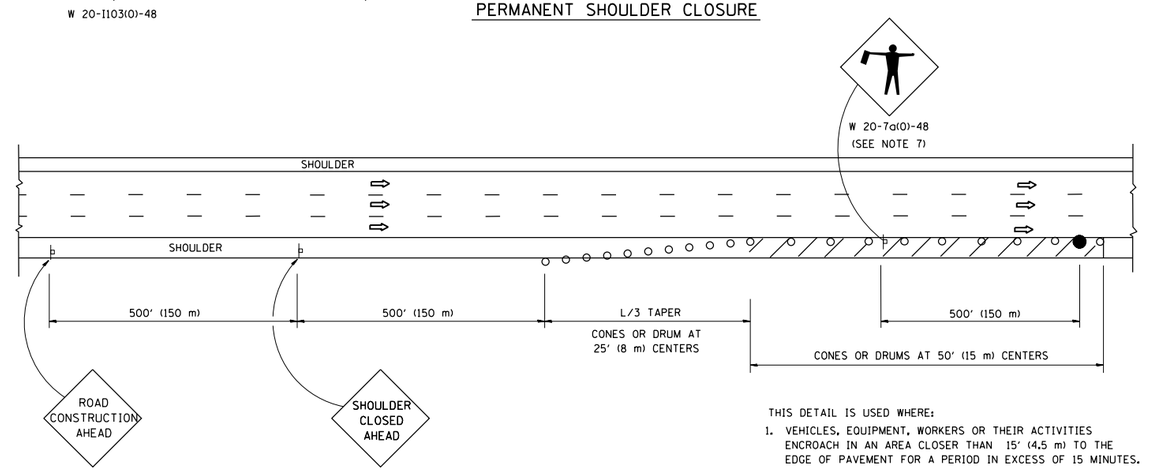


TYPICAL EXIT RAMP

SHOULDER CLOSURE DETAILS



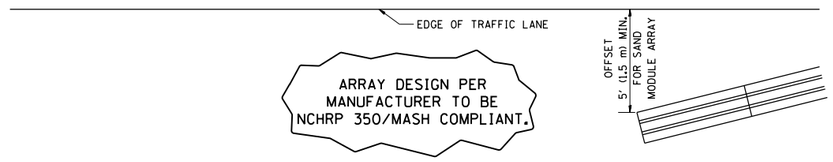
PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"
IMPACT ATTENTUATOR, TEMPORARY
(SEE NOTE 5)

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
	METRIC	ENGLISH
45 mph (80 km/h) OR GREATER:	L=0.65(W)(S)	L=(W)(S)

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
   16' MIN. WIDTH CURVE SECTION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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	PLOT DATE = 4/11/2017	DATE - 11-96	REVISED - M.D. 06-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2017-009-B-R	COOK	13	13
	TC-17	CONTRACT NO. 62F08		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		