

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

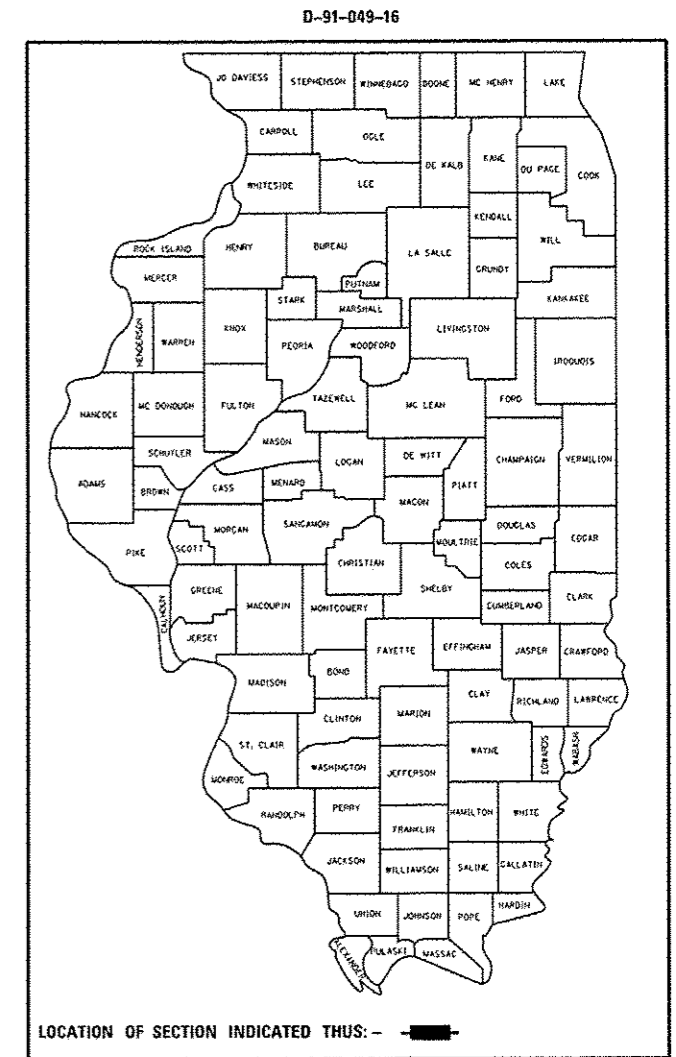
VARIOUS ROUTES
VARIOUS LOCATIONS
SECTION: 2015-067BR
BRIDGE REPAIR; SIGN MAINTENANCE
COOK COUNTY

C-91-049-16

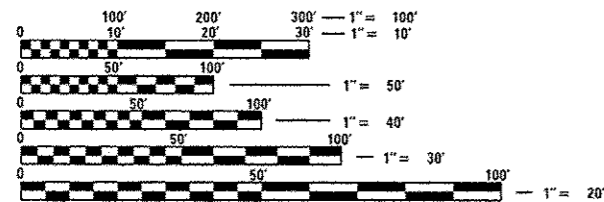
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	27	1
		ILLINOIS	CONTRACT NO. 62B49	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

IMPROVEMENT IS LOCATED IN THE
VILLAGES OF MAYWOOD AND WILMETTE



SEE LOCATION MAPS
SHEET 4



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

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

CONTRACT NO. 62B49

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *Dec 23 2015*

John Fortman
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Dec 4 2015
John D. Baranelli P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 4 2015
Ornes Osman P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

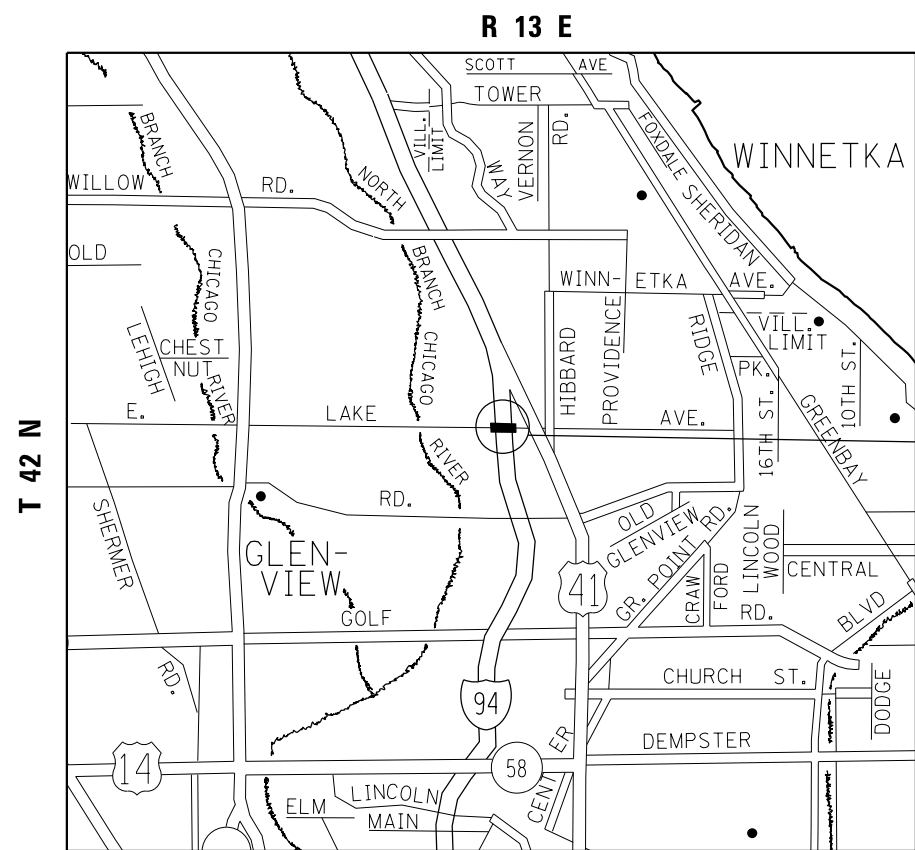
URBAN 1 2 3

URBAN

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	016-0545 0014	MCHD 782303 016-0692 0014	016-0699 0014	016-0545 0021	MCHD 782303 016-0692 0021
50102400	CONCRETE REMOVAL	CU YD	6.0	2.1	3.9			
50300255	CONCRETE SUPERSTRUCTURE	CU YD	6.0	2.1	3.9			
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	38930	23400	15530			
52100520	ANCHOR BOLT, 1"	EACH	2	2				
67100100	MOBILIZATION	LSUM	1	0.33	0.33	0.34		
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1		1			
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1		1			
70200100	NIGHTTIME WORK ZONE LIGHTING	LSUM	1	0.33	0.33	0.34		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	287	287				
70400100	TEMPORARY CONCRETE BARRIER	FOOT	250	250				
* 72000200	SIGN PANEL - TYPE 2	SO FT	23.75			23.75		
* 72000300	SIGN PANEL - TYPE 3	SQ FT	123			123		
* 73304000	OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	FOOT	21			21		
* 73602000	REMOVE OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	EACH	1			1		
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	202	202				
* 78200530	BARRIER WALL MARKERS, TYPE C	EACH	9	9				
1/6 78300100	PAVEMENT MARKING REMOVAL	SO FT	68	68				

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	016-0545 0014	MCHD 782303 016-0692 0014	016-0699 0014	016-0545 0021	MCHD 782303 016-0692 0021
* 84200600	REMOVAL OF LIGHTING UNIT, NO SALVAGE	EACH	3	3				
x7010218	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	EACH	1	1				
x7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	LSUM	1	0.33	0.33	0.34		
x7030030	WET REFLECTIVE TEMPORARY TAPE TYPE III, 4 INCH	FOOT	861	861				
x7380150	REMOVE AND RE-ERECT OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED, SPECIAL	EACH	1					1
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	38050	22750	15020	280		
Z0001905	STRUCTURAL STEEL REPAIR	POUND	540			540		
Z0003600	BEAM STRAIGHTENING	LSUM	1	0.4	0.4	0.2		
Z0073300	TEMPORARY SHORING AND CRIBBING	L SUM	1	0.5	0.5			
Z0073351	TEMPORARY SLAB SUPPORT SYSTEM	L SUM	1	0.5	0.5			

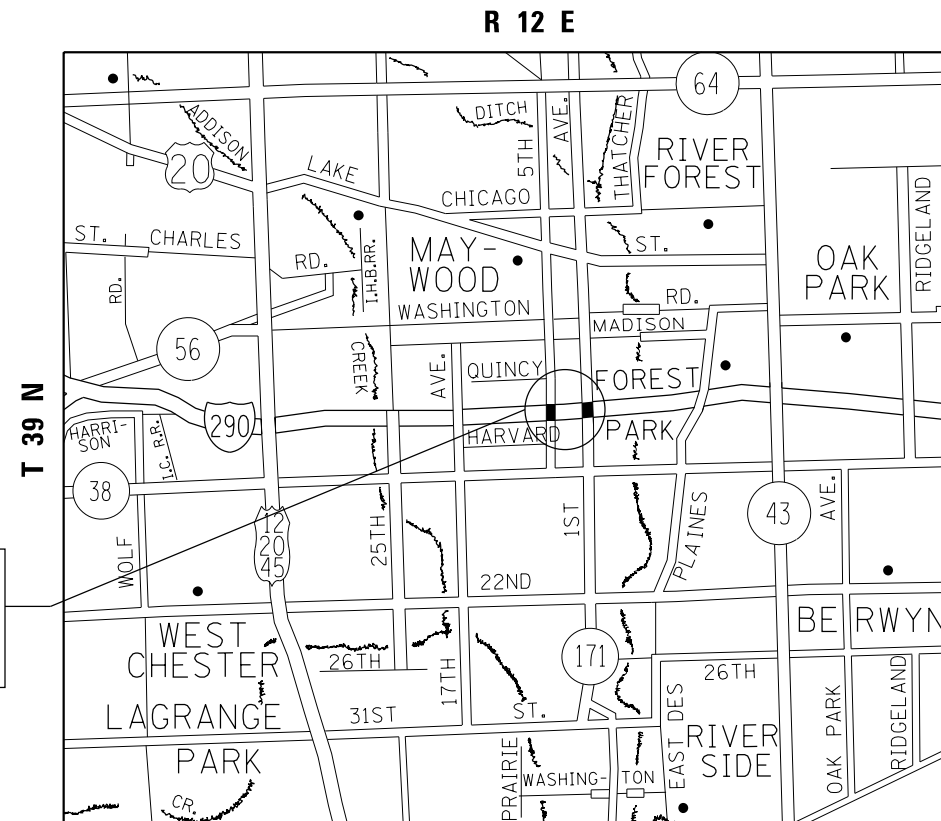
* Specialty Items



NEW TRIER TOWNSHIP

**LOCATION 1: SN 016-0545
LAKE AVE. OVER I-94
VILLAGE OF WILMETTE**

**LOCATION 2: SN 016-0692
5TH AVE. OVER I-290
LOCATION 3: SN 016-0699
IL 171 OVER I-290
VILLAGE OF MAYWOOD**



PROVISO TOWNSHIP

TRAFFIC DATA

LAKE AVE.

2014 ADT = 23,600
POSTED SPEED LIMIT = 35 MPH

I-94

2014 ADT = 133,400
POSTED SPEED LIMIT = 55 MPH

TRAFFIC DATA

5TH AVE.

2014 ADT = 8,550
POSTED SPEED LIMIT = 25 MPH

IL 171

2013 ADT = 25,600
POSTED SPEED LIMIT = 35 MPH

I-290

2014 ADT = 185,700
POSTED SPEED LIMIT = 55 MPH

FILE NAME =	USER NAME = pyrzenowski	DESIGNED -	REVISED -
pw\l\084EBIDINTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\104916\104916-sht-plen.dgn		REVISED -	REVISED -
Default	PLOT DATE = 11/5/2015	CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

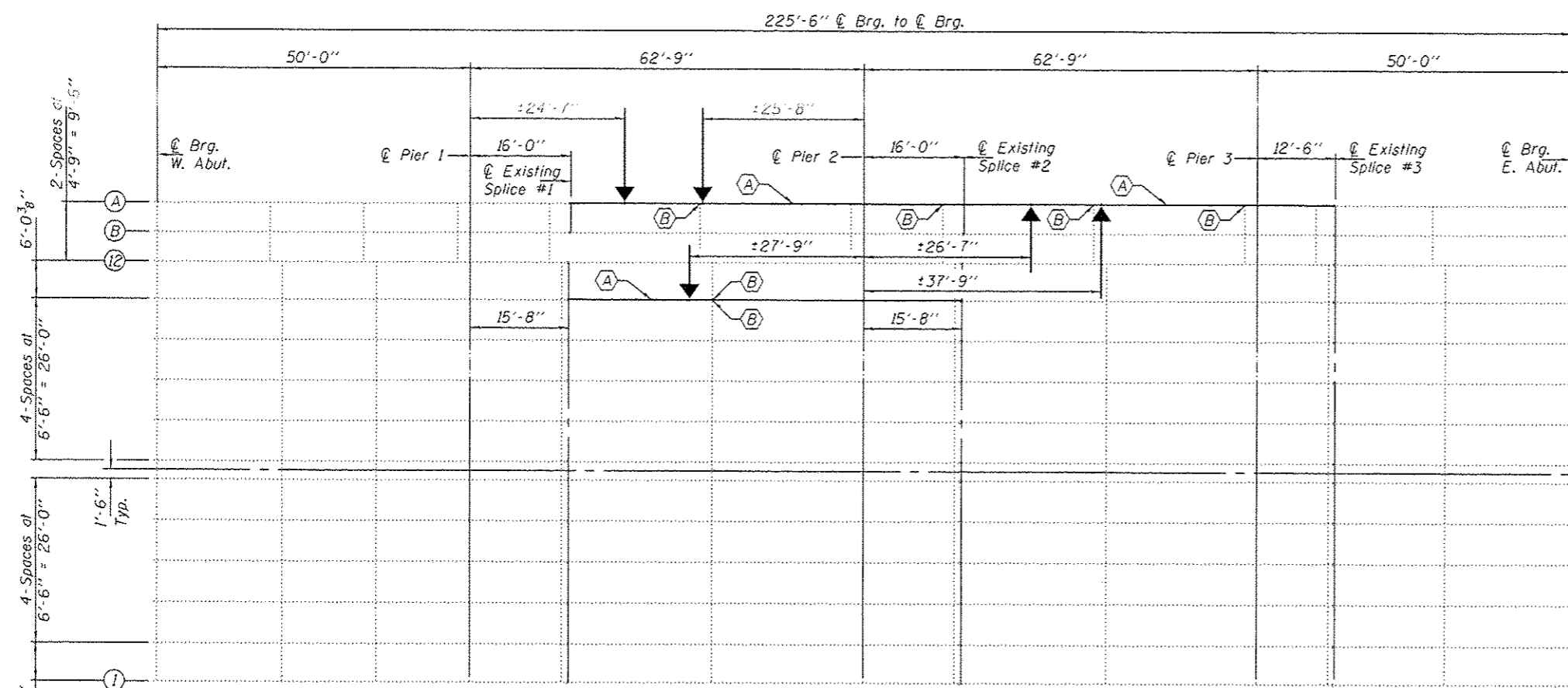
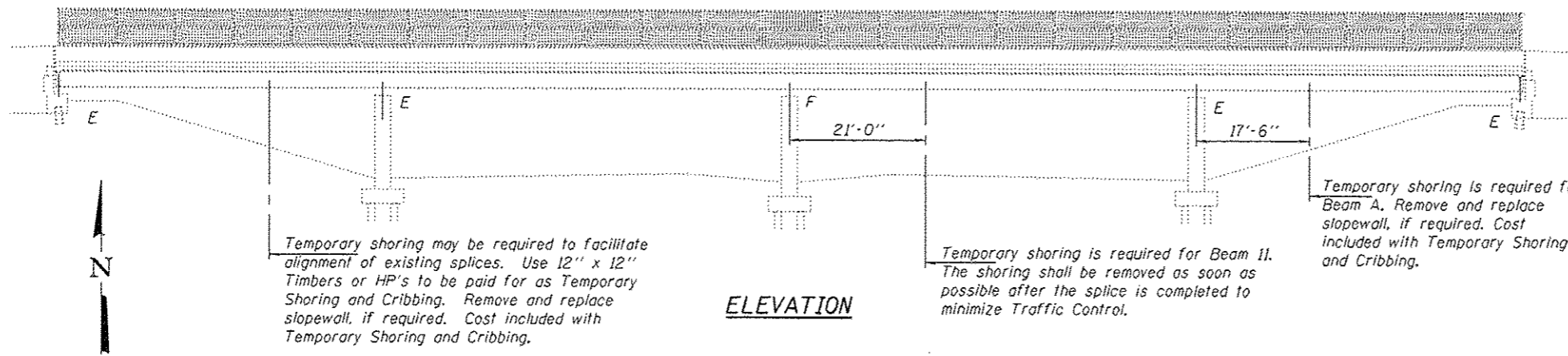
LOCATION MAPS

SCALE: SHEET OF SHEETS STA. TO STA.

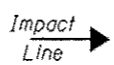
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	26	4
			CONTRACT NO. 62B49	
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
 Fasteners shall be high strength bolts. Flange splice holes shall be $\frac{1}{8}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Web splice holes shall be $\frac{1}{8}$ " ϕ for $\frac{3}{4}$ " ϕ bolts, unless otherwise noted.
 Diaphragm connection holes shall be $\frac{1}{8}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at diaphragm connections.
 The Contractor shall provide support and/or shoring systems for the slab and beam in the area of existing beam removal. See Special Provisions "Temporary Shoring and Cribbing" and "Temporary Slab Support System."
 After the new beam is in its final position and/or beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".
 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 at the unit price bid for the work.
 Cost of removal and 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 with Furnishing and Erecting Structural Steel.
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
 Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
 The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5b 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4.
 Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.



- (A) - Remove & Replace Beam Segment
- (B) - Remove & Replace Bottom Clip Angles



BEAM "A" AT PIERS 1 & 3

REACTION TABLE AT TEMPORARY SHORING		
R ϕ	(K)	53
R \downarrow	(K)	33
Imp.	(K)	9
R (Total)	(K)	95

BEAM "A" AT PIER 2

REACTION TABLE AT TEMPORARY SHORING		
R ϕ	(K)	54
R \downarrow	(K)	34
Imp.	(K)	9
R (Total)	(K)	97

BEAM 11 AT PIERS 1 & 3

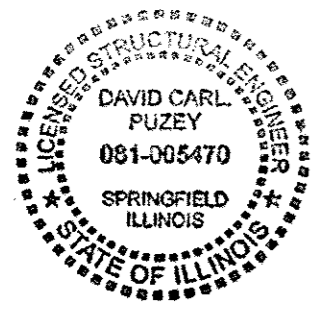
REACTION TABLE AT TEMPORARY SHORING		
R ϕ	(K)	59
R \downarrow	(K)	42
Imp.	(K)	12
R (Total)	(K)	113

BEAM 11 AT PIER 2

REACTION TABLE AT TEMPORARY SHORING		
R ϕ	(K)	59
R \downarrow	(K)	43
Imp.	(K)	12
R (Total)	(K)	114

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	2.1
Concrete Superstructure	Cu. Yd.	2.1
Structural Steel Removal	Pound	22,750
Furnishing & Erecting Structural Steel	Pound	23,240
Beam Straightening	L.S.	0.4
Anchor Bolts, 1" ϕ	Each	24
Temporary Shoring and Cribbing	L.S.	0.5
Temporary Slab Support System	L.S.	0.5
Remove Overhead Sign Structure - Bridge Mounted	Each	1
Overhead Sign Structure - Bridge Mounted	Foot	21.0



DESIGNED: Stephen M. Ryan
 CHECKED: [Signature]
 DRAWN: Steffen
 CHECKED: SMR

PASSED: [Signature]
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

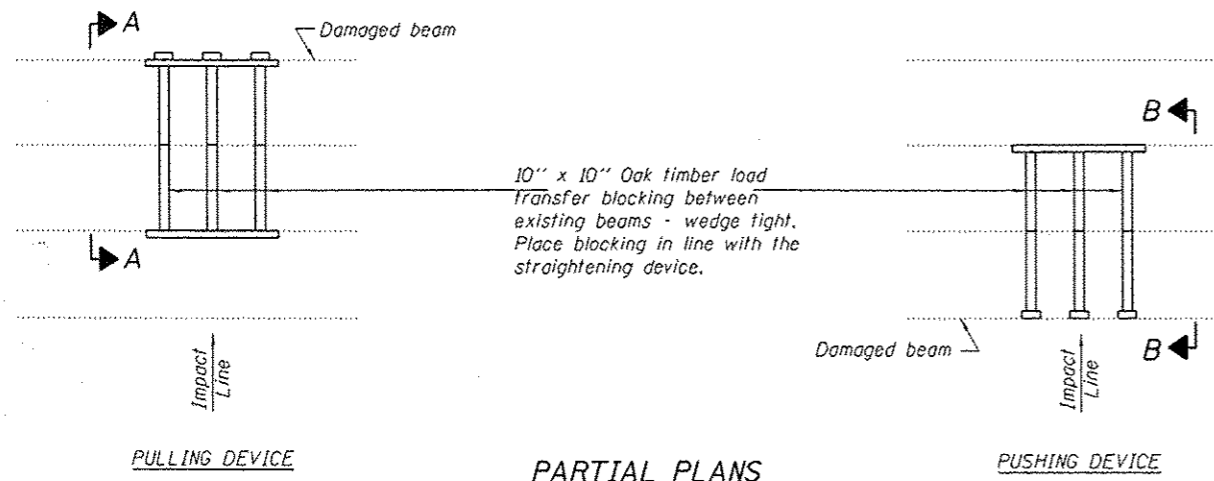
DATE: NOVEMBER 25, 2015
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

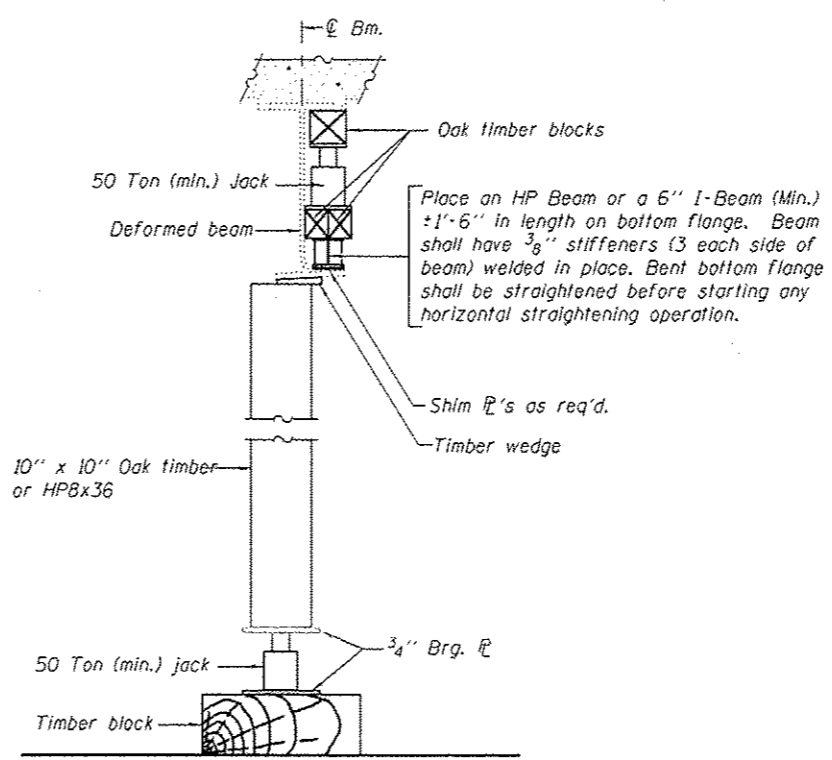
PLAN AND ELEVATION
 LAKE AVE. OVER FAI 94
 SN 016-0545
 SHEET NO. 1 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2015-0678R	COOK	26	5

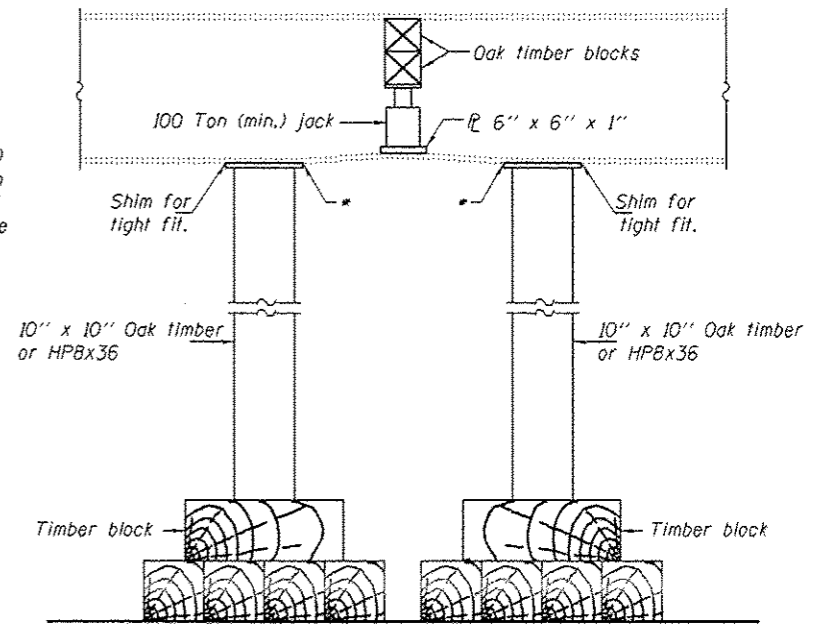
CONTRACT NO. 62849
 ILLINOISIFIED AID PROJECT



PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS
 Straightening force shall be maintained on all load transfer blocking during beam straightening.



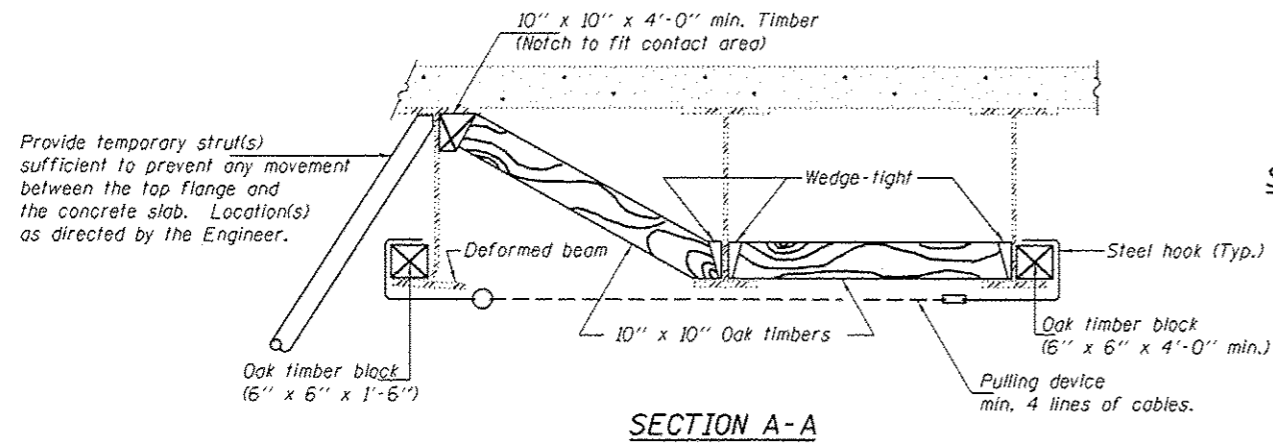
SUGGESTED VERTICAL STRAIGHTENING DETAIL
 (To correct flange rotation.)



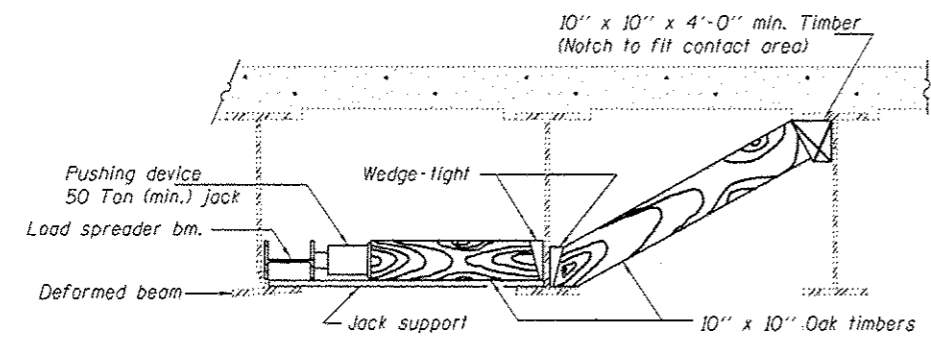
SUGGESTED VERTICAL STRAIGHTENING DETAIL
 (To correct localized vertical flange deformations.)

* Edge of plate shall line up with edge of deformation.

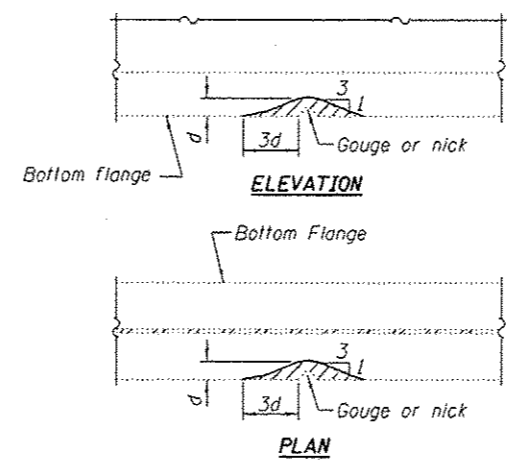
Note:
 Braces and jack assembly shall be placed on same side of web.
 Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A



SECTION B-B

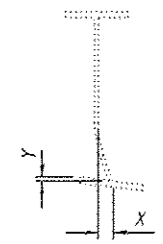


Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.

EXISTING DEFORMATION TO BE STRAIGHTENED
 (See Table for direction)
 (Approximate max. deflections)
 Deflected length of beam to be straightened is approximately "Z".

TABLE OF DIMENSIONS

Beam	X	Y	Z	Loading
A (SB)	2 1/2"	1 1/4"	4'-0"	East
A (NB)	6 3/4"	1"	8'-0"	West
II	6 1/4"	2 1/2"	4'-0"	East



REP-11-14-2005

DESIGNED SMR
 CHECKED CCC
 DRAWN Steffen
 CHECKED SMR CCC

PASSED
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

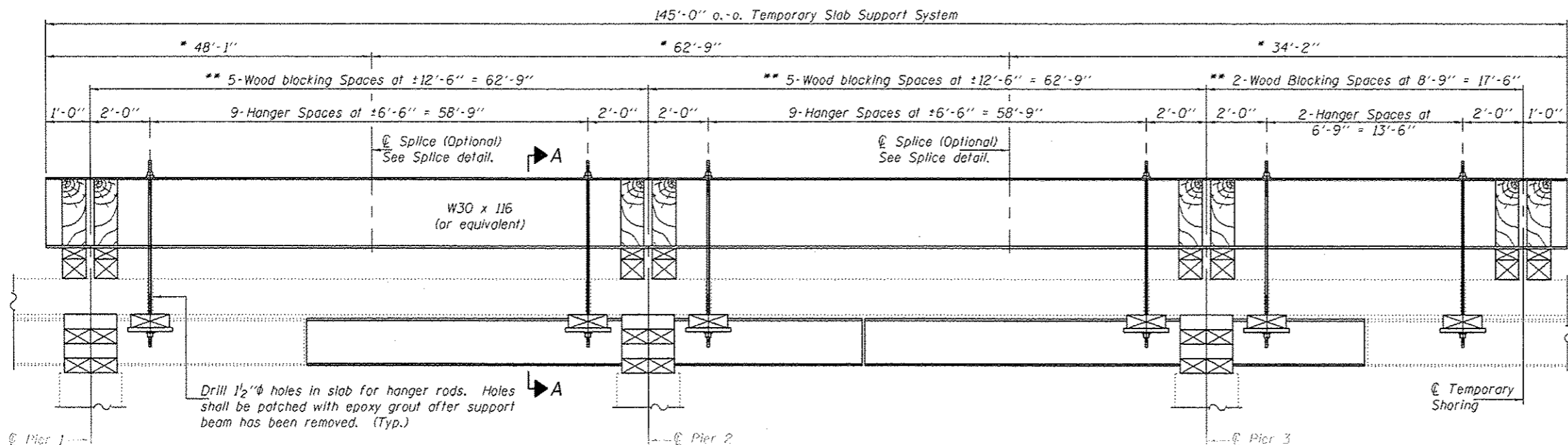
DATE NOVEMBER 25, 2015
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEAM STRAIGHTENING DETAILS
 SN 016-0545

SHEET NO. 2 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2015-067BR	COOK	26	5A
CONTRACT NO. 62B49			ILLINOIS FED. AID PROJECT	

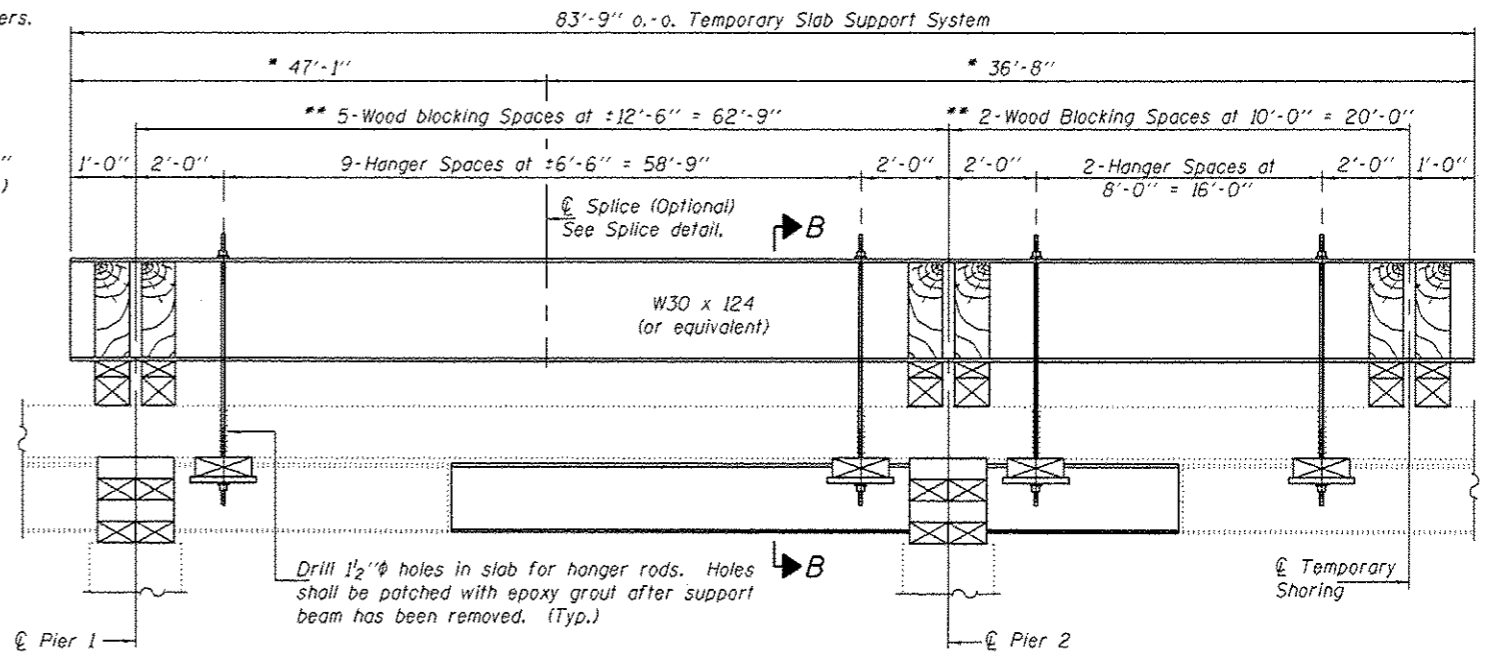
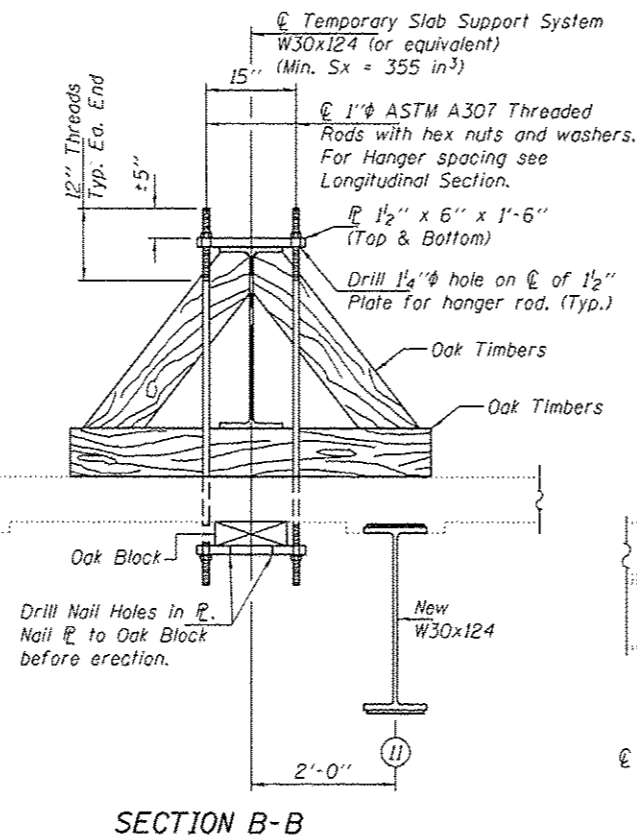
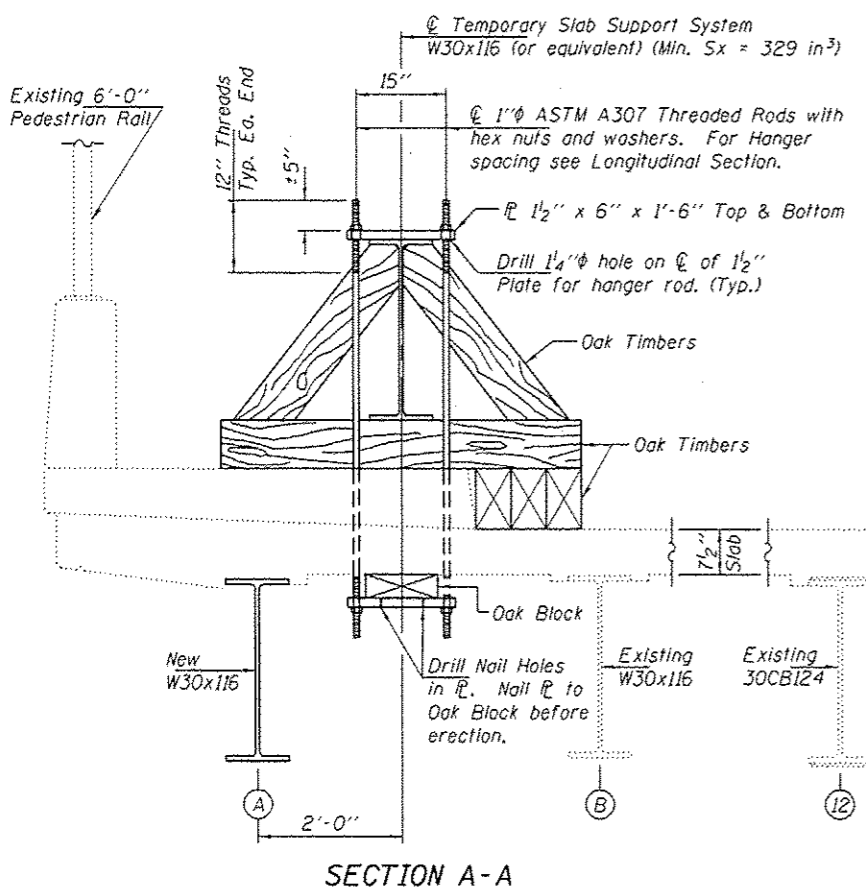
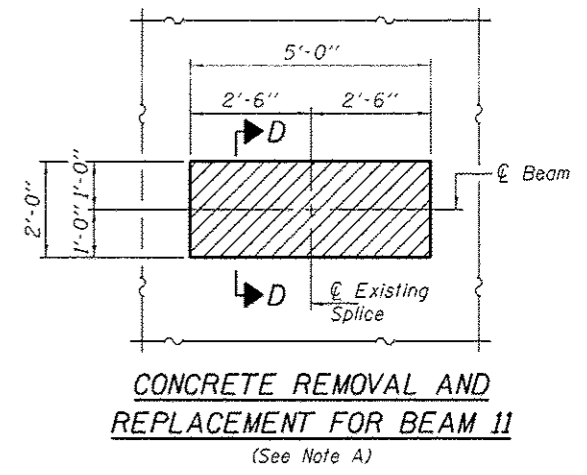
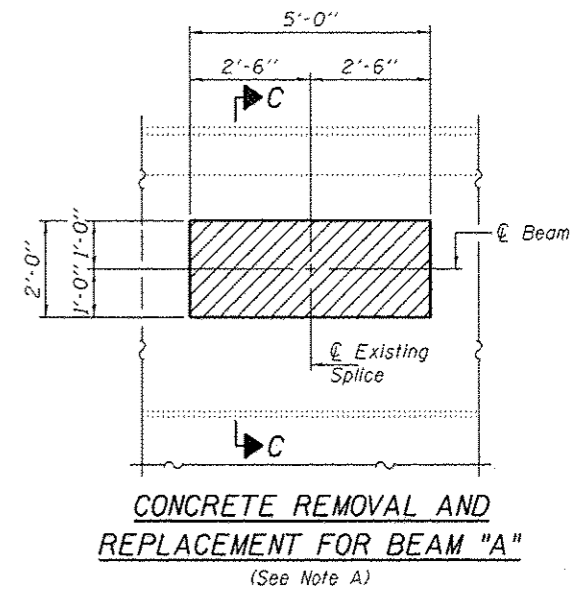
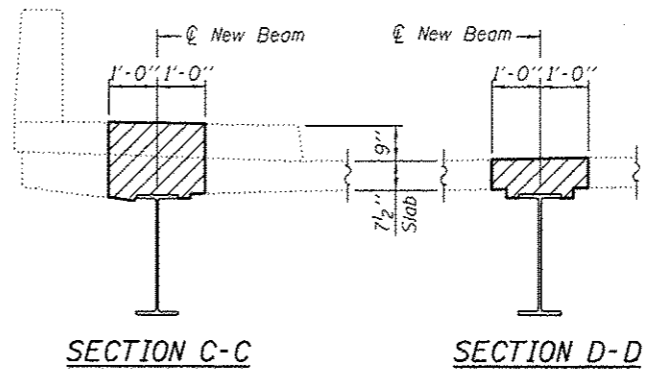


* These dimensions may vary for available beams in stock.

** Wood blocking between supports to be placed after support beam deflects under its own weight.

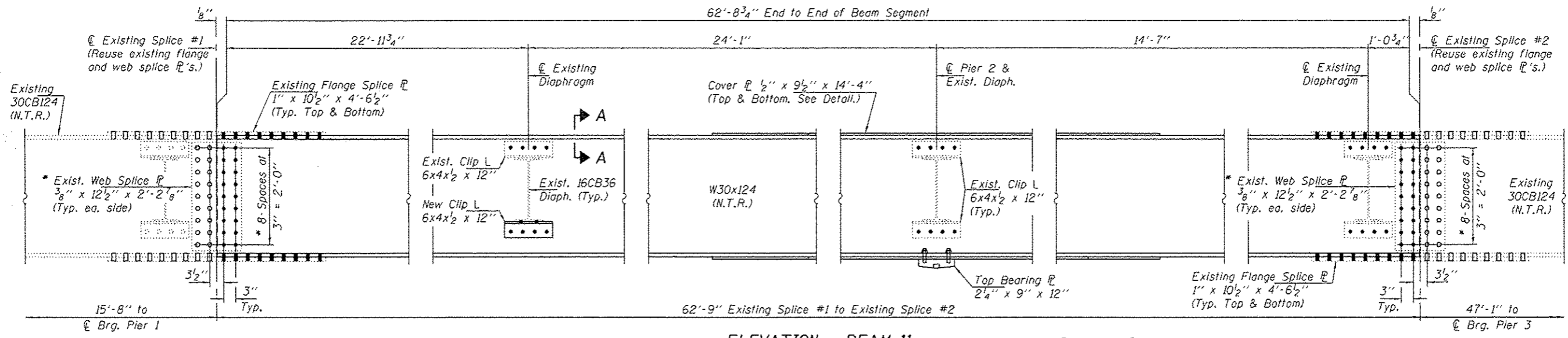
LONGITUDINAL SECTION SUGGESTED TEMPORARY SLAB SUPPORT SYSTEM FOR BEAM "A"
(Looking North)

Note A:
Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4" prior to the removal of concrete. Reinforcement shall be cut only if required for fitting bolts. Cut reinforcement shall be spliced as directed by the Engineer. Cost shall be included with Concrete Removal.



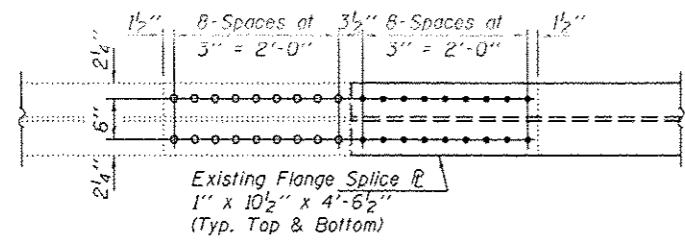
LONGITUDINAL SECTION SUGGESTED TEMPORARY SLAB SUPPORT SYSTEM FOR BEAM "II"
(Looking North)

DESIGNED SMR	DATE NOVEMBER 25, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SLAB SUPPORT SYSTEM & CONCRETE REMOVAL DETAILS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED CCC			SN 016-0545	VAR	2015-067BR	COOK	26	6
DRAWN Steffen								
CHECKED SMR CCC								
PASSED <i>Carl Perry</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 3 OF 9 SHEETS	CONTRACT NO. 62849				
ILLINOIS FED. AID PROJECT								

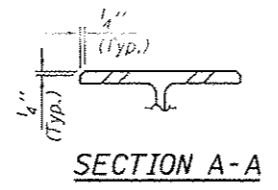


ELEVATION - BEAM 11
(Looking North)

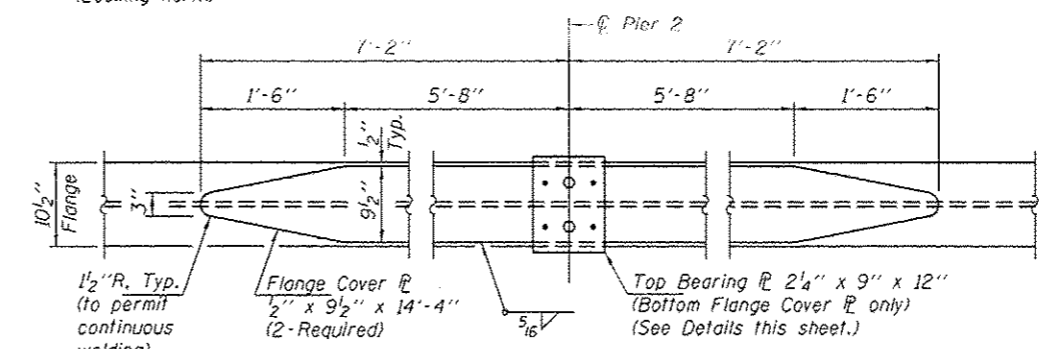
* 7/8" φ Bolts, 1 5/16" φ Holes.



TYPICAL FLANGE SPLICE



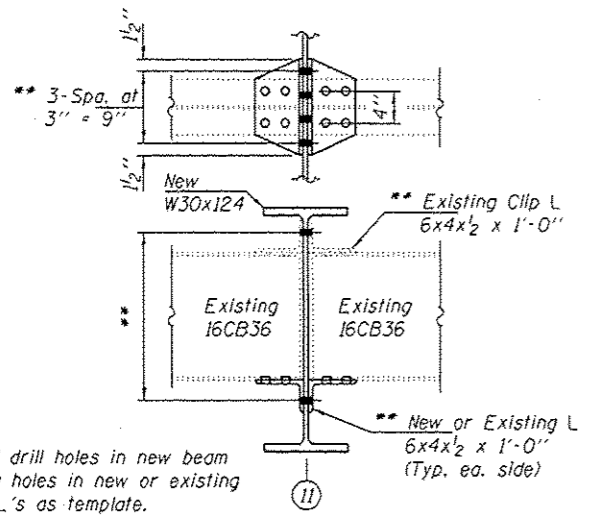
SECTION A-A



COVER PLATE DETAIL

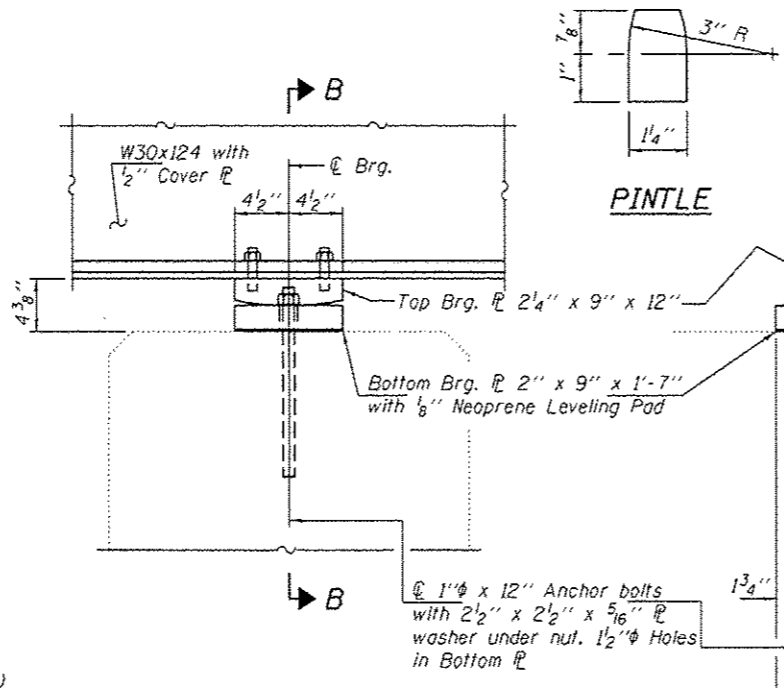
Bottom Flange Cover PL shown.
Top Flange Cover PL similar except as noted.

Note A:
Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy. Cost included with Structural Steel Removal.

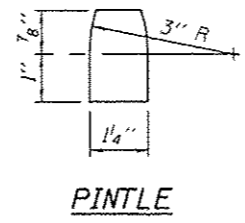


TYPICAL DIAPHRAGM CONNECTION AT BEAM 11

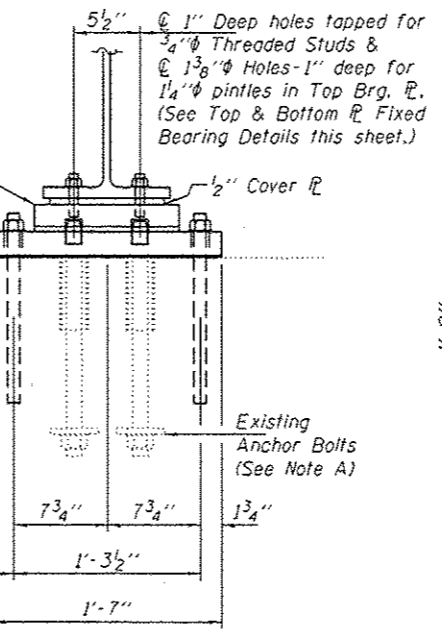
(Natural camber of new beam shall be placed upward for fabrication.)



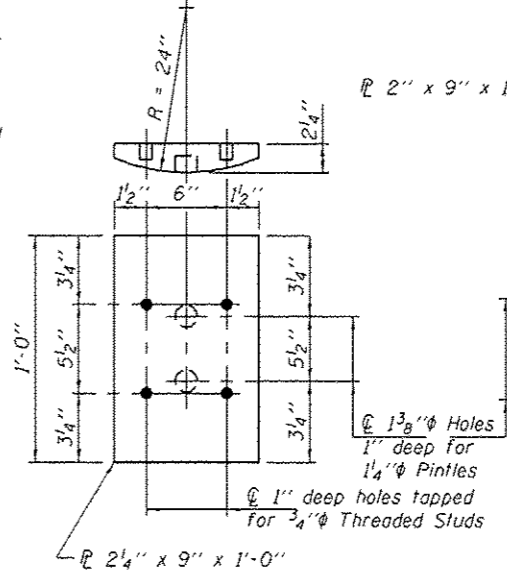
FIXED BEARING AT PIER 2



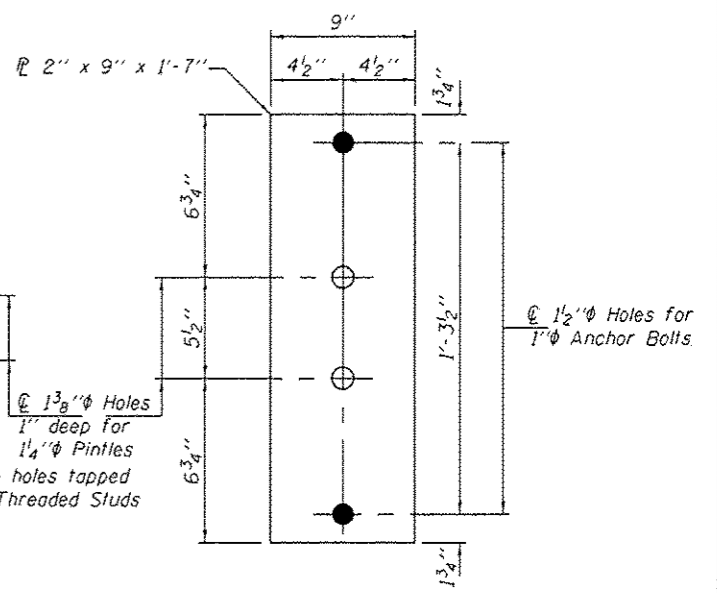
PINTLE



SECTION B-B



PLAN - TOP PLATE FIXED BEARINGS



PLAN - BOTTOM PLATE FIXED BEARING

DESIGNED	SMR
CHECKED	CCC
DRAWN	Steffen
CHECKED	SMR CCC

PASSED

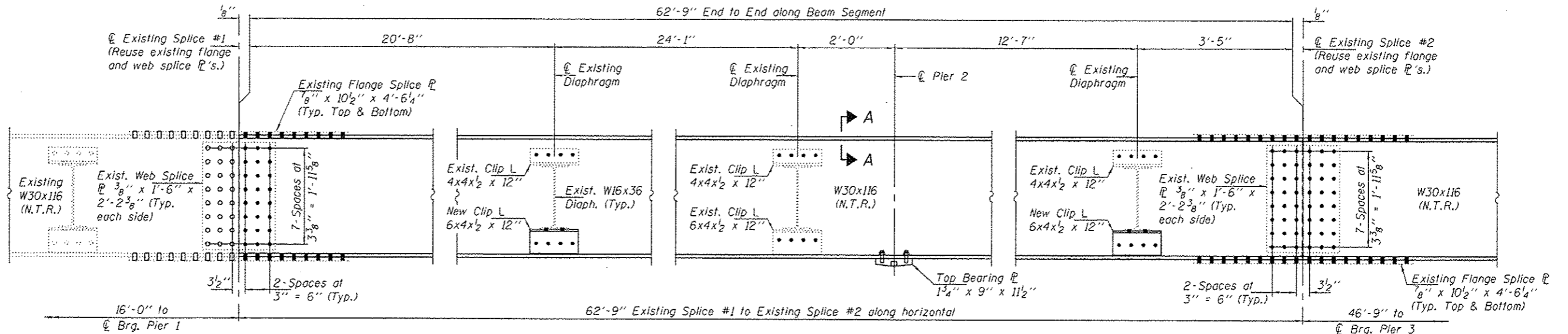
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE	NOVEMBER 25, 2015
REVISED	
REVISED	

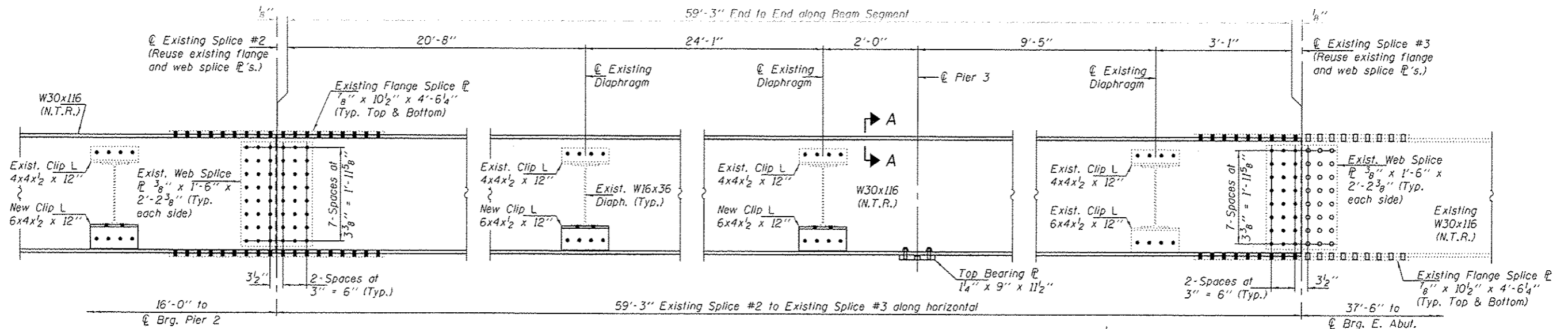
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEAM REPLACEMENT & BEARING DETAILS FOR BEAM 11
 SN 016-0545

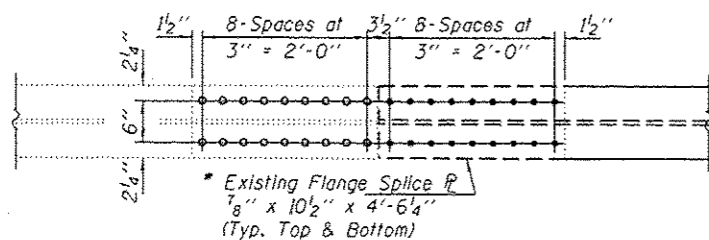
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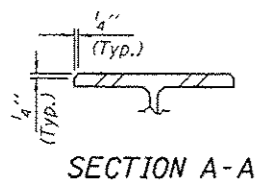
ELEVATION - BEAM "A" - SPAN 2
(Looking North)



ELEVATION - BEAM "A" - SPAN 3
(Looking North)

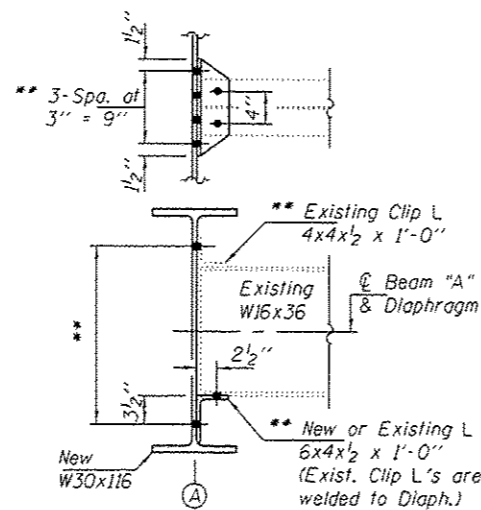


TYPICAL FLANGE SPLICE



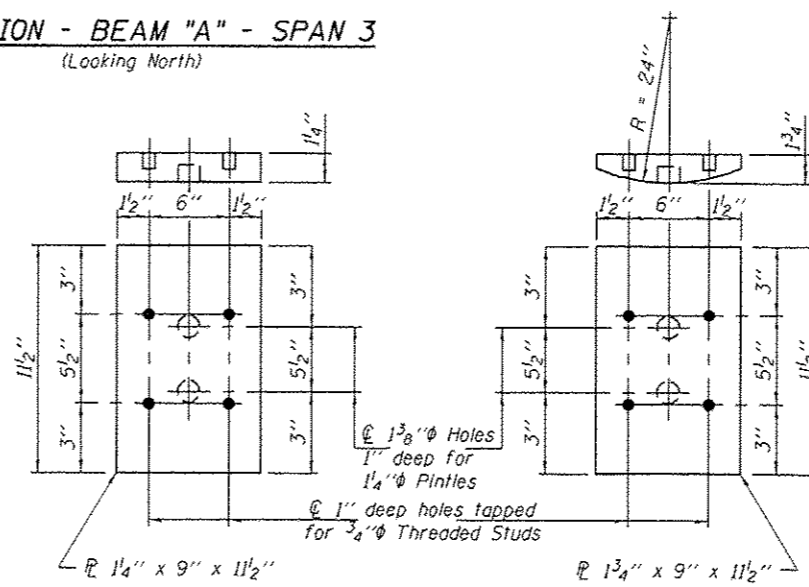
SECTION A-A

** Field drill holes in new beam and existing diaphragm using holes in new or existing clip L's as template. Existing clip L's to be replaced shall be removed using the air-arc method. Cost included with Structural Steel Removal



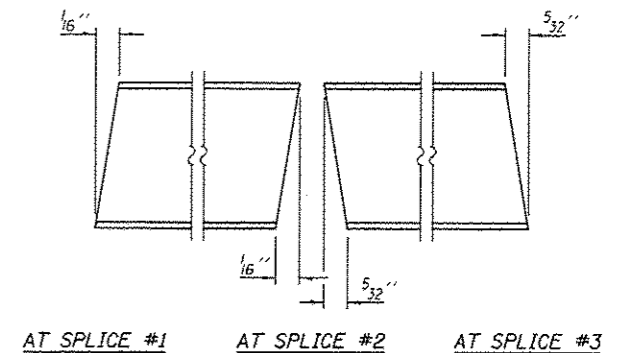
TYPICAL DIAPHRAGM CONNECTION AT BEAM "A"

(Natural camber of new beam shall be placed upward for fabrication.)



TOP BEARING PLATE AT PIER 3

TOP BEARING PLATE AT PIER 2



BEAM "A" END DETAILS

DESIGNED	SMR
CHECKED	CCC
DRAWN	Steffen
CHECKED	SMR CCC

PASSED	<i>Carl Perry</i>
ACTING ENGINEER OF BRIDGES AND STRUCTURES	

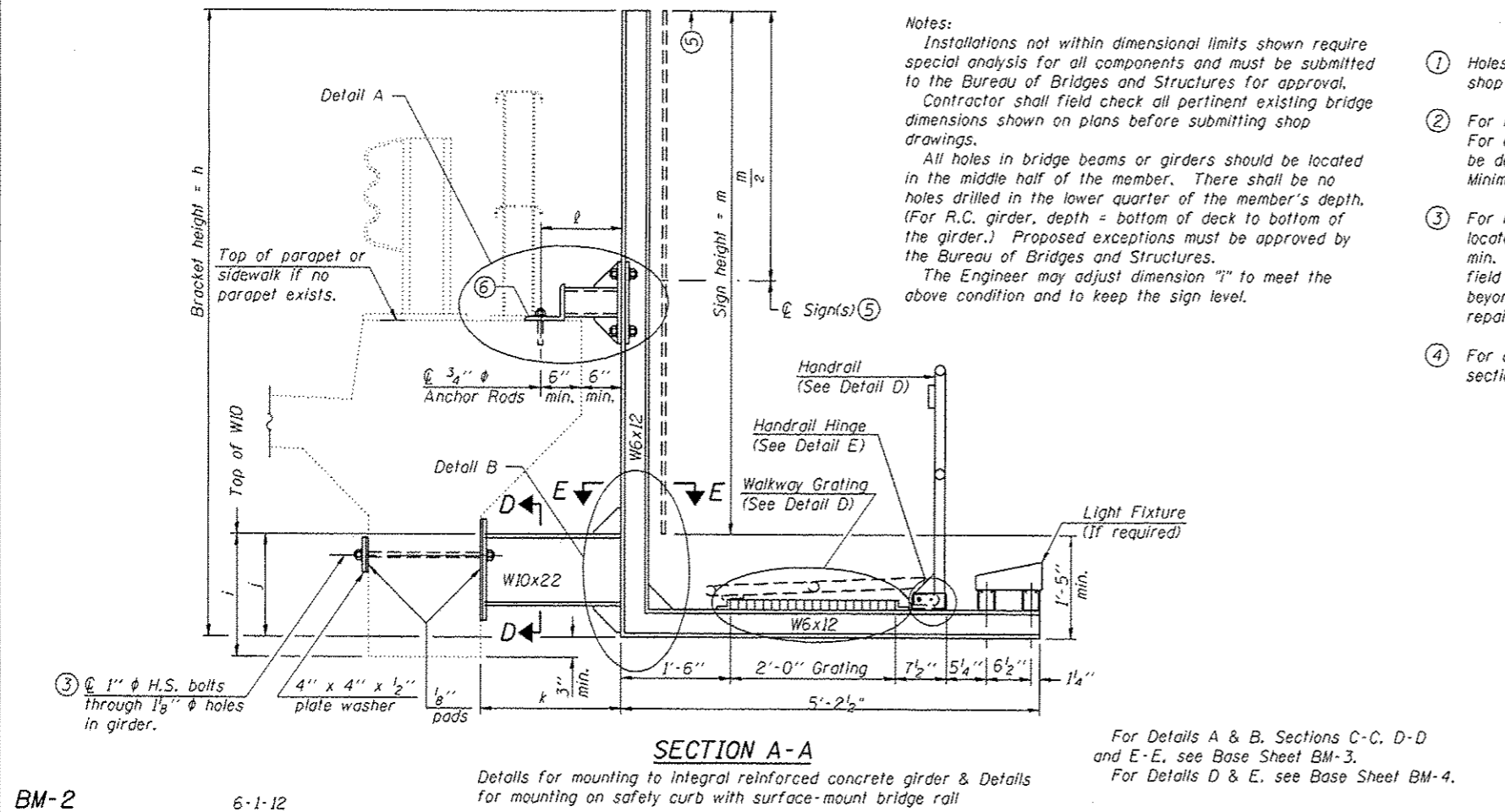
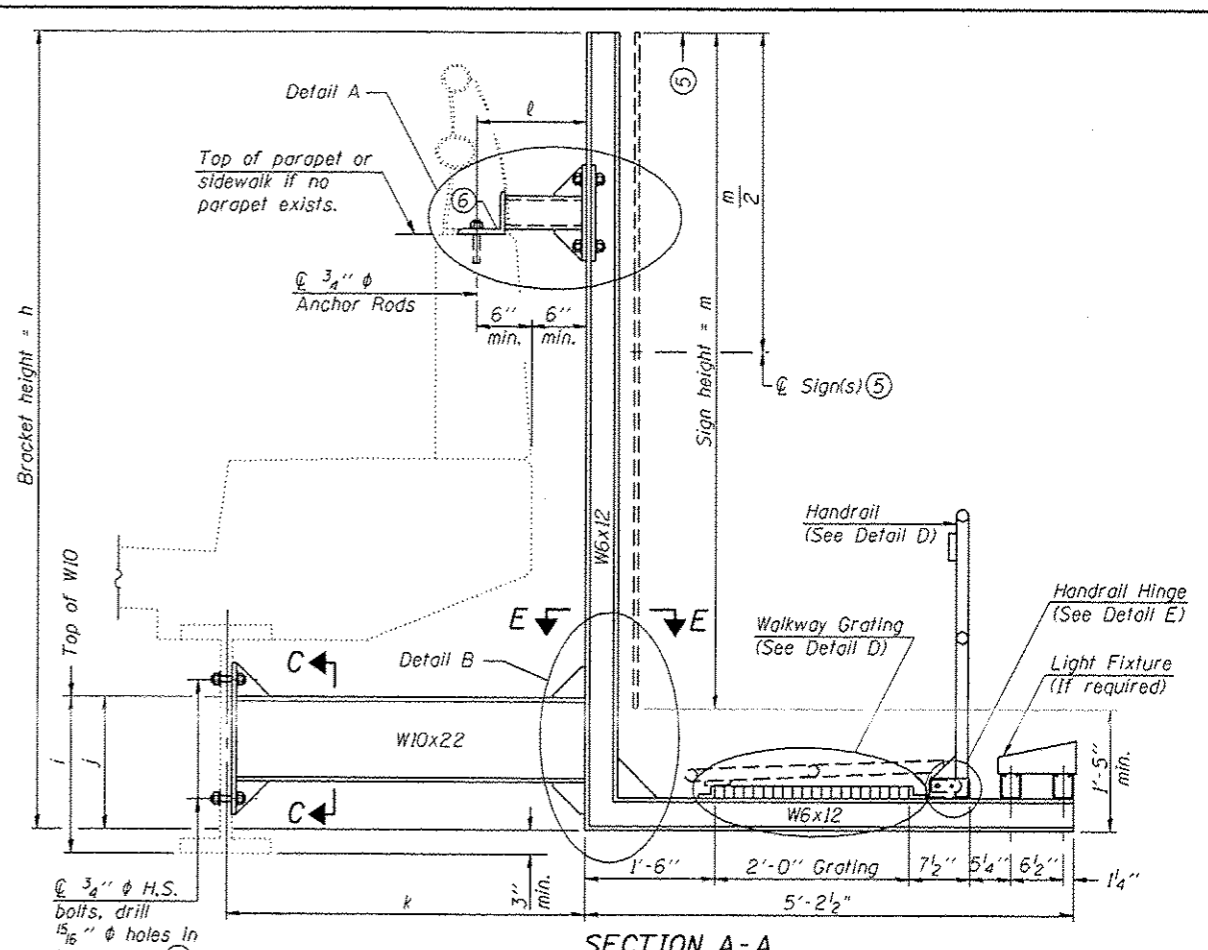
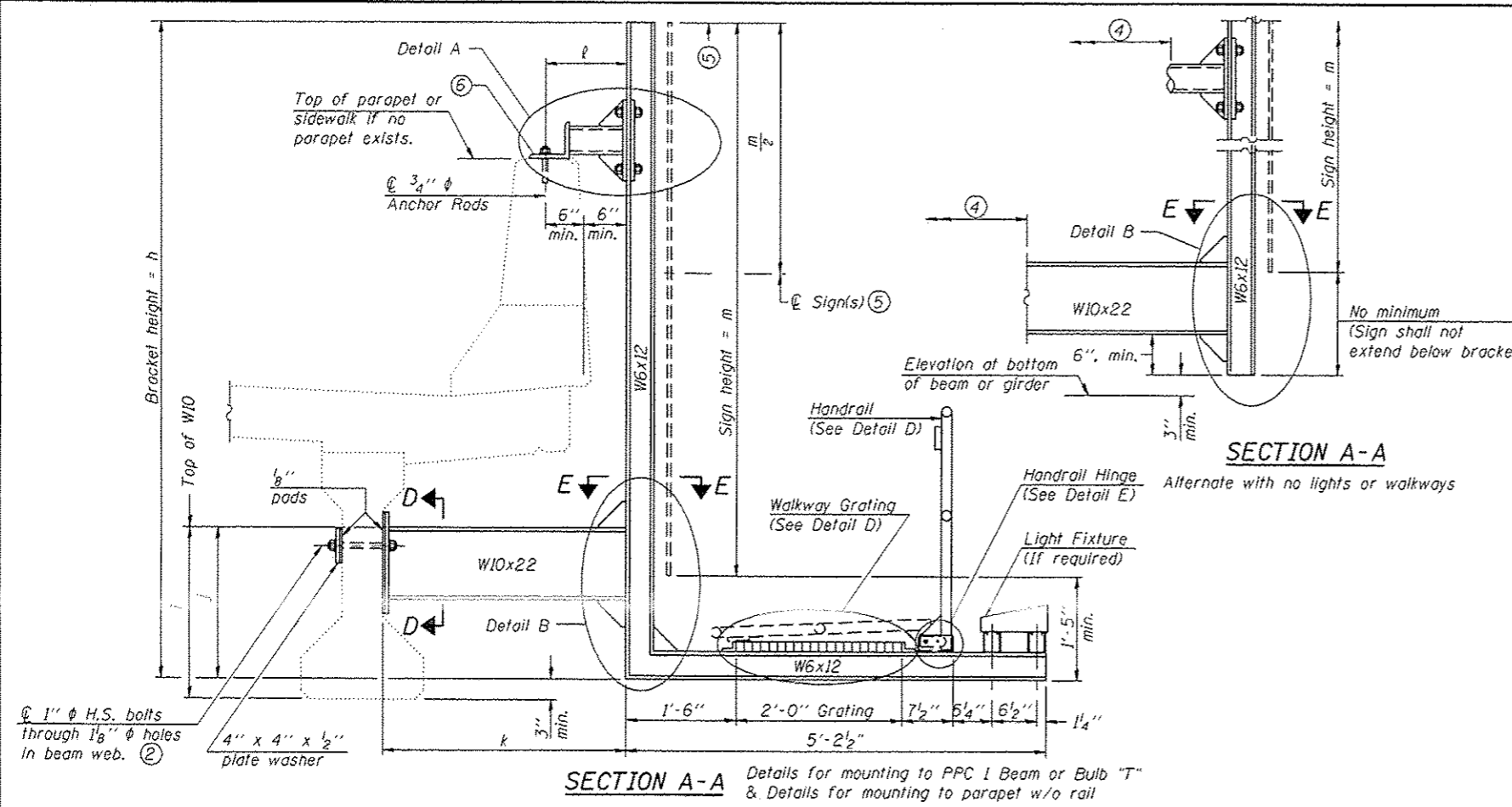
DATE	NOVEMBER 25, 2015
REVISED	
REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM REPLACEMENT & BEARING DETAILS FOR BEAM A
SN 016-0545

SHEET NO. 5 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2015-067BR	COOK	26	8
CONTRACT NO. 62B49			ILLINOIS FED. AID PROJECT	



Notes:
 Installations not within dimensional limits shown require special analysis for all components and must be submitted to the Bureau of Bridges and Structures for approval. Contractor shall field check all pertinent existing bridge dimensions shown on plans before submitting shop drawings.
 All holes in bridge beams or girders should be located in the middle half of the member. There shall be no holes drilled in the lower quarter of the member's depth. (For R.C. girder, depth = bottom of deck to bottom of the girder.) Proposed exceptions must be approved by the Bureau of Bridges and Structures.
 The Engineer may adjust dimension "i" to meet the above condition and to keep the sign level.

- ① Holes in new steel members may be drilled in the fabrication shop or in the field. Field drill existing members.
- ② For new PPC I beams, holes shall be formed during casting. For existing PPC I beams, prestressing strand locations shall be determined and spaced to miss strands by 6", min. Minimize spalling during field drilling of existing beams.
- ③ For new construction, form holes. For existing RC beams, locate primary reinforcement and space holes to miss by 6", min. Minimize spalling and concrete fracturing/damage during field drilling of existing concrete. Spalls over 1/4" deep or beyond the coverage of the 4x4 plate washer shall be repaired with epoxy mortar before installing washer.
- ④ For attachment details of 3 1/2" pipe and W10x22, see other sections as applicable.
- ⑤ Sign shall not extend more than 6" above top of bracket, and this dimension may vary to keep sign level if bridge is on grade or vertical curve. Multiple signs of various heights shall share a common horizontal centerline and use equal bracket heights. If no sign is attached to a W6x12 vertical (bracket only supporting walkway), dimension h shall be the same as an adjacent bracket with a sign attached, unless Engineer specifically directs shorter brackets due to locational restraints on future uses. (See Detail A for minimum bracket height.)
- ⑥ For bridge mounted sign structures installed on new bridges with railing, during design, bracket spacing must be coordinated with railing post spacing and the Contractor must install upper brackets prior to railing installation. For bridge mounted sign structures installed on existing bridges with railing, during design, brackets spacing must be coordinated with railing post spacing and the Contractor must temporarily remove sections of railing to facilitate upper bracket installation. If it is determined during design that existing railings can't be removed, alternate upper connection details must be developed for the contract plans and approved by the Bureau of Bridges and Structures.

Structure Number	Station	h	i	j	k max. (10'-0" max.)	ℓ max. (8'-0" max.)	m (15'-0" max.)

For Details A & B, Sections C-C, D-D and E-E, see Base Sheet BM-3.
 For Details D & E, see Base Sheet BM-4.

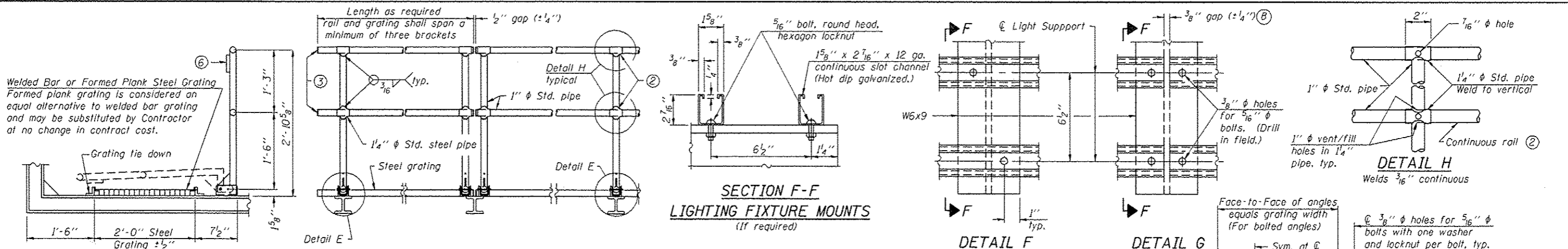
BM-2 6-1-12

DESIGNED SMR	DATE NOVEMBER 25, 2015
CHECKED CCC	REVISOR
DRAWN Steffen	REVISOR
CHECKED SMR CCC	REVISOR

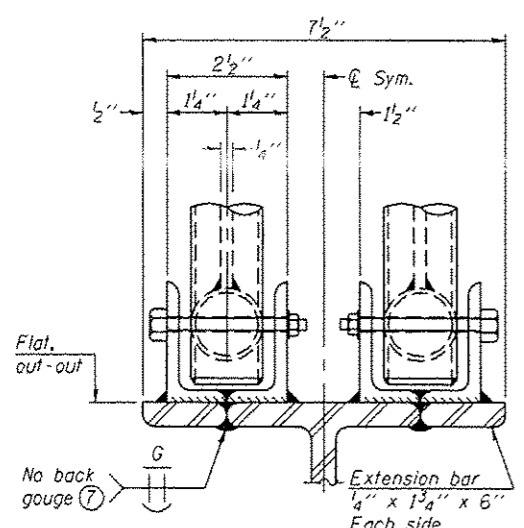
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE MOUNT SIGN STRUCTURES - WALKWAY & CONNECTION DETAILS
 SN 016-0545
 SHEET NO. 7 OF 9 SHEETS

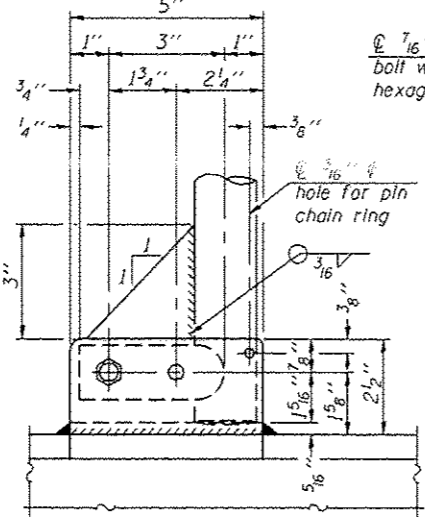
F.A.J. RTE. VAR	SECTION 2015-067BR	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 10
CONTRACT NO. 62B49				
ILLINOIS FED. AID PROJECT				



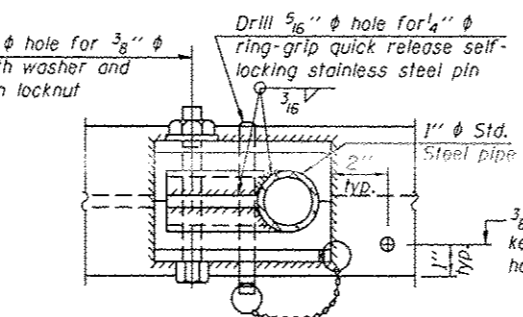
SECTION F-F LIGHTING FIXTURE MOUNTS
(If required)



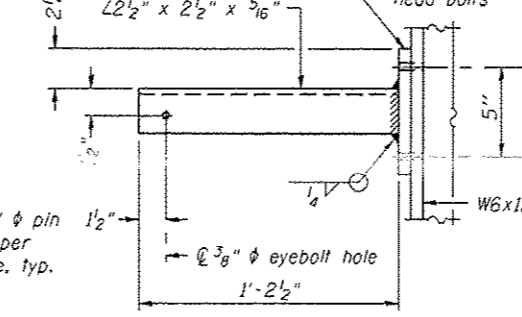
SIDE ELEVATION DETAIL D HANDRAIL FRONT ELEVATION



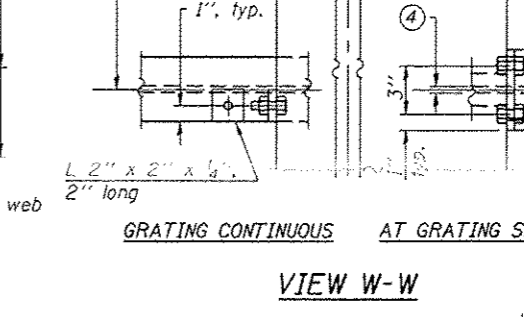
DETAIL E



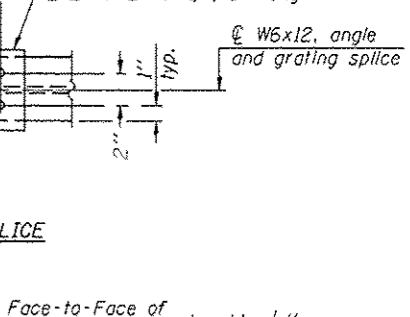
PLAN AT SINGLE HANDRAIL HINGE
DETAIL E



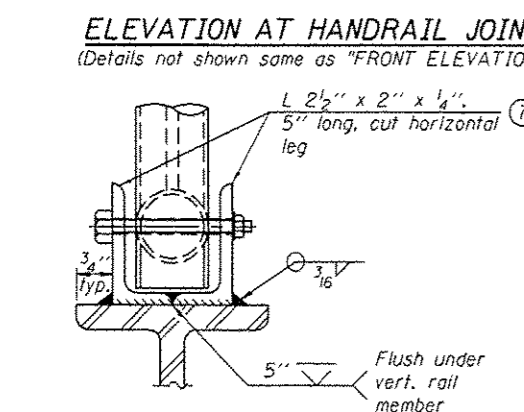
SECTION P-P



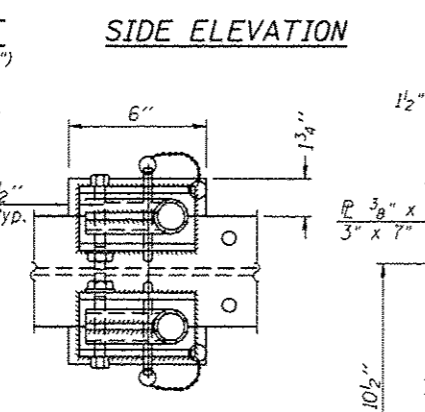
DETAIL F DETAIL G



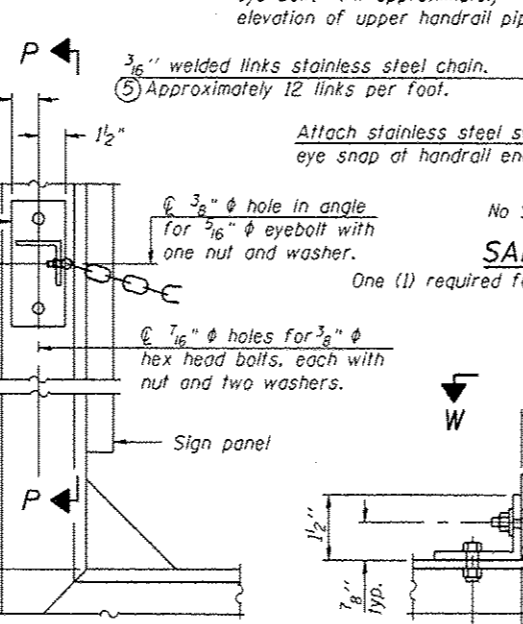
DETAIL H



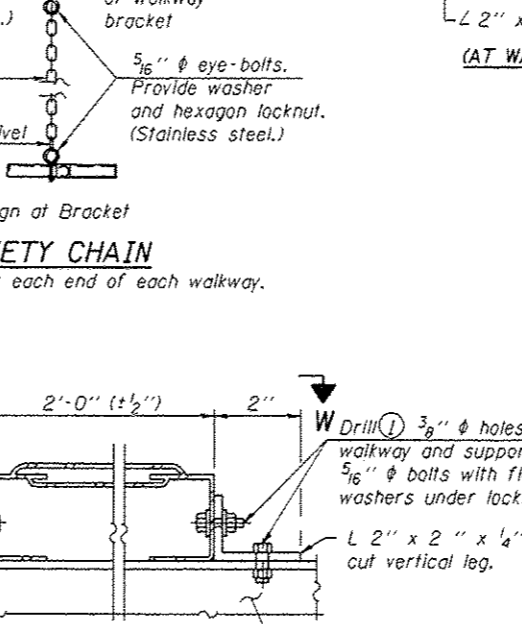
ELEVATION AT HANDRAIL JOINT



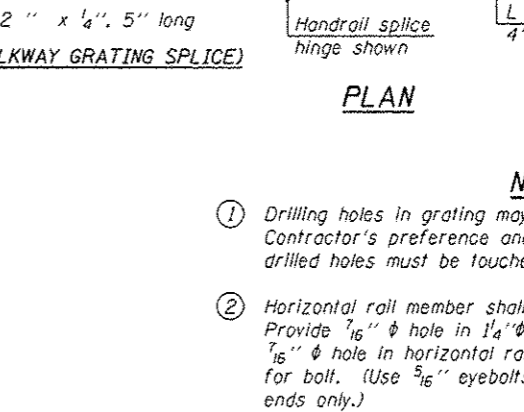
SIDE ELEVATION



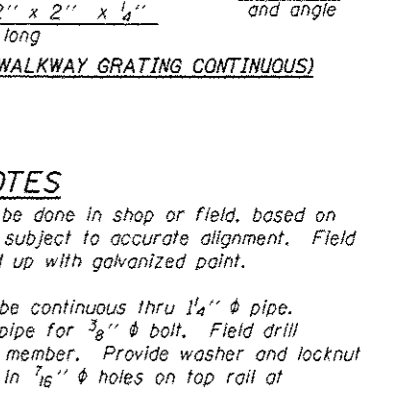
SAFETY CHAIN ATTACHMENT



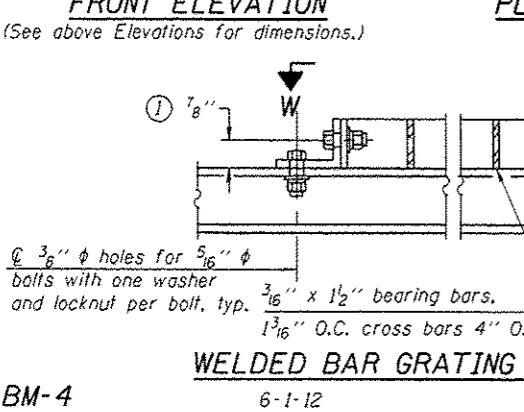
ALTERNATE FORMED PLANK GRATING DETAILS



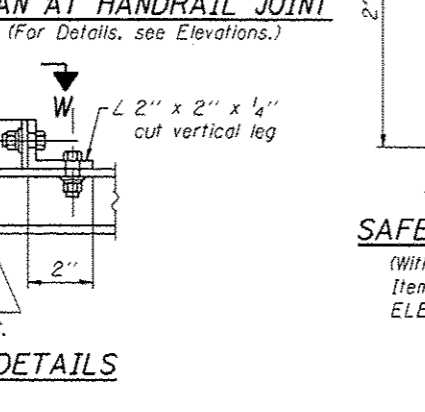
VIEW W-W



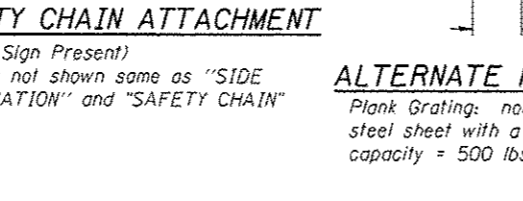
PLAN



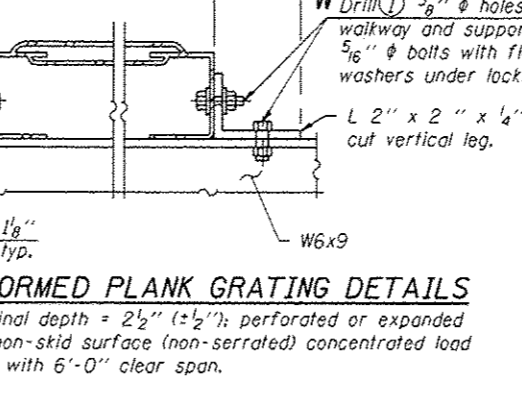
WELDED BAR GRATING DETAILS



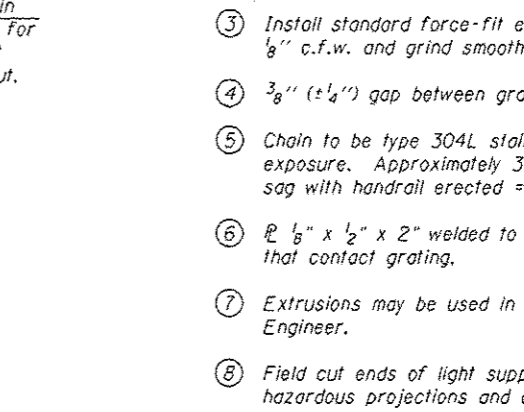
FRONT ELEVATION



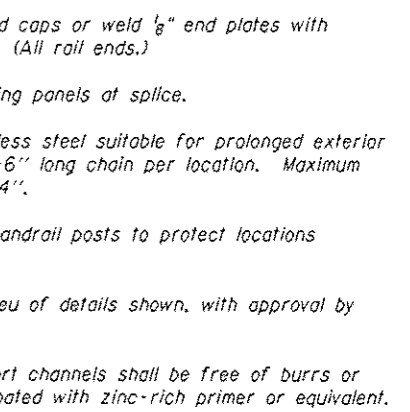
SAFETY CHAIN



GRATING CONTINUOUS AT GRATING SPLICE



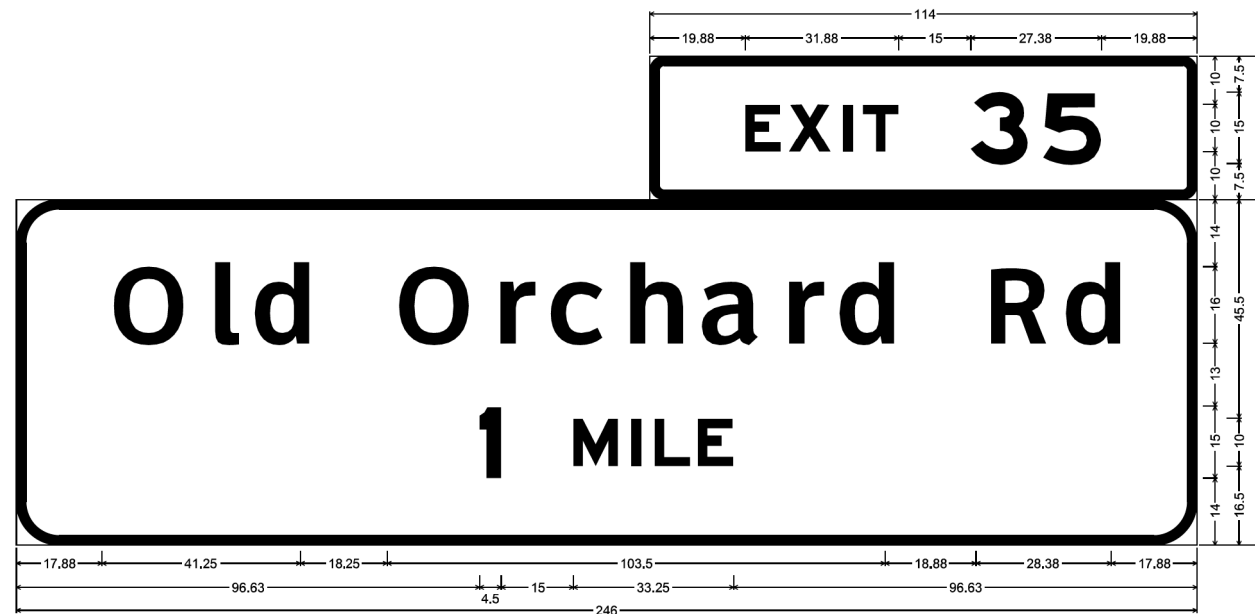
WALKWAY GRATING SPLICE



WALKWAY GRATING CONTINUOUS

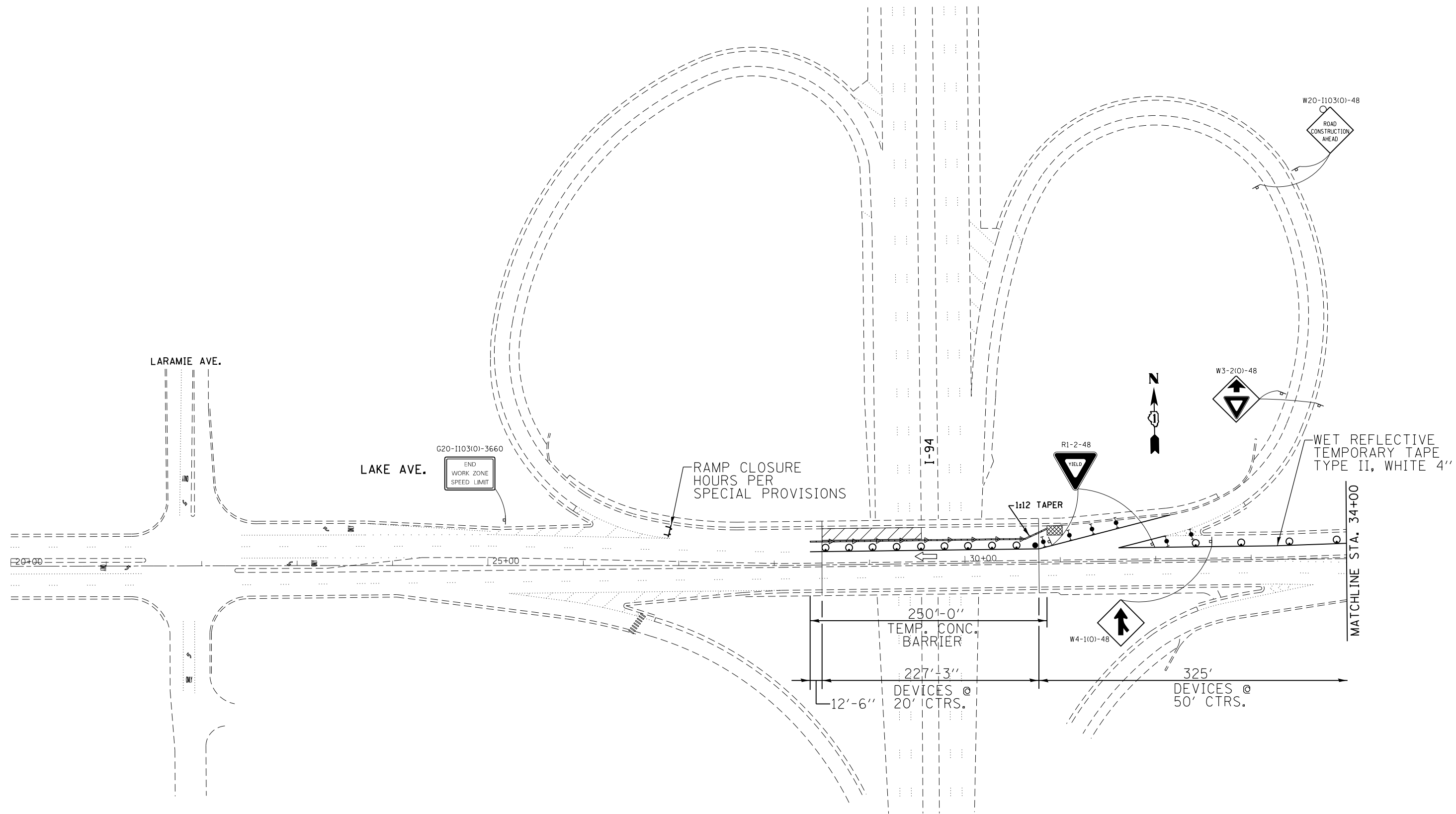
- NOTES**
- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment. Field drilled holes must be touched up with galvanized paint.
 - Horizontal rail member shall be continuous thru 1 1/4 inch pipe. Provide 3/8 inch hole in 1 1/4 inch pipe for 3/8 inch bolt. Field drill 7/16 inch hole in horizontal rail member. Provide washer and locknut for bolt. (Use 3/16 inch eyebolts in 1/2 inch holes on top rail at ends only.)
 - Install standard force-fit end caps or weld 1/8 inch end plates with 1/8 inch c.f.w. and grind smooth. (All rail ends.)
 - 3/8 inch (± 1/4 inch) gap between grating panels at splice.
 - Chain to be type 304L stainless steel suitable for prolonged exterior exposure. Approximately 3'-6" long chain per location. Maximum sag with handrail erected = 4".
 - 1/8 inch x 1/2 inch x 2 inch welded to handrail posts to protect locations that contact grating.
 - Extrusions may be used in lieu of details shown, with approval by Engineer.
 - Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

STRUCTURE NUMBER		1B0161094R034.6-000	
LOCATION		EXPRESSWAY	
SIZE (W x H)	EXIT PLAQUE	-	
	MAIN PANEL	-	
MOUNTING / TYPE		OVERHEAD / BRIDGE	
MOUNTING LOC (L, M, R)		-	
SHEETING / COLOR	BACKGROUND	TYPE:	ZZ
		COLOR:	GREEN
		TYPE:	
	LEGEND / BORDER	TYPE:	ZZ
		COLOR:	WHITE
		TYPE:	
		COLOR:	



3.00" Radius, 2.00" Border, White on Green;
 [EXIT] E Mod 2K 120% spacing; [35] E Mod 2K;
 9.00" Radius, 2.00" Border, White on Green;
 [Old Orchard Rd] ClearviewHwy-5-W; [1] E Mod 2K; [MILE] E Mod 2K;
 Table of widths and spaces.

19.88	7.38	1.63	8.75	2.50	2.00	2.13	7.38	15.00	12.25	3.13	12.13	19.88												
17.88	14.88	5.50	5.13	4.13	11.63	18.25	14.88	5.50	7.50	3.88	11.00	4.63	11.13	5.00	12.00	4.88	7.50	3.88	11.75	18.88	12.00	4.75	11.63	17.75
96.63	4.50	15.00	9.25	2.88	2.00	2.75	7.38	1.63	7.38	96.63														



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	PLOT DATE = 11/5/2015	DATE -	REVISED -

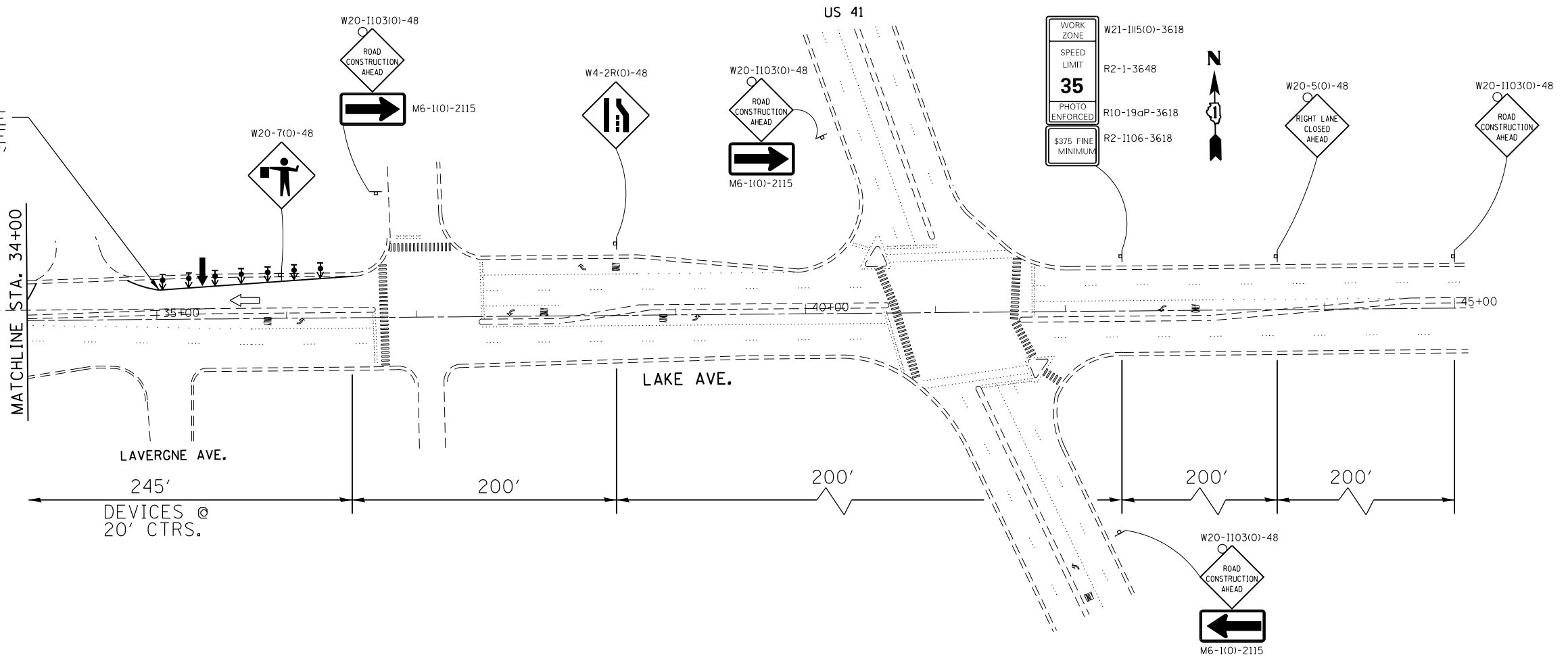
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGING PLAN
LAKE AVE. (LARAMIE AVE. - U.S. ROUTE 41)**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	26	14
CONTRACT NO. 62B49			ILLINOIS FED. AID PROJECT	

WET REFLECTIVE
TEMPORARY TAPE
TYPE II, WHITE 4"



SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊢ Sign
- ⬆ Direction indicator barricade with steady burn monodirectional light
- ⬇ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Temporary concrete barrier
- ◁ Monodirectional barrier wall/guardrail marker
- ▣ Impact attenuator, test level 3
- Flagger with traffic control sign
- ⌌ Type III barricade
- ⊙ Drum with steady burn monodirectional light

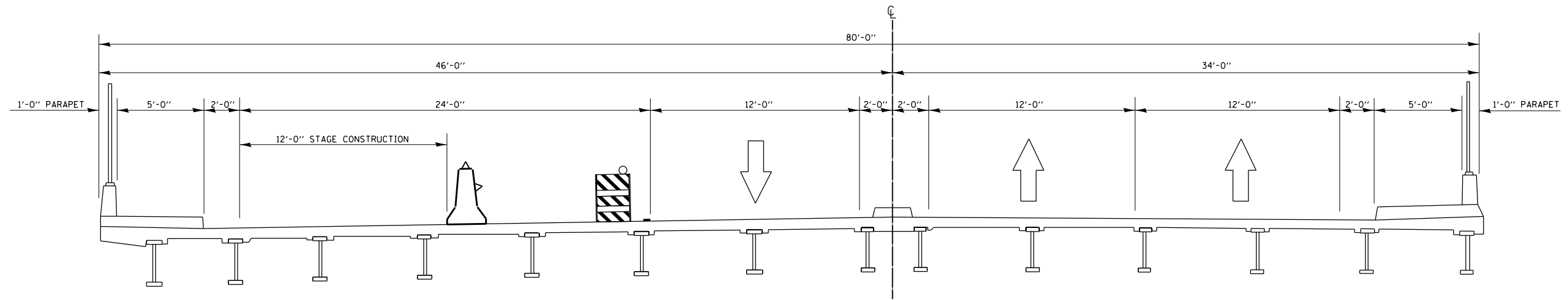
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

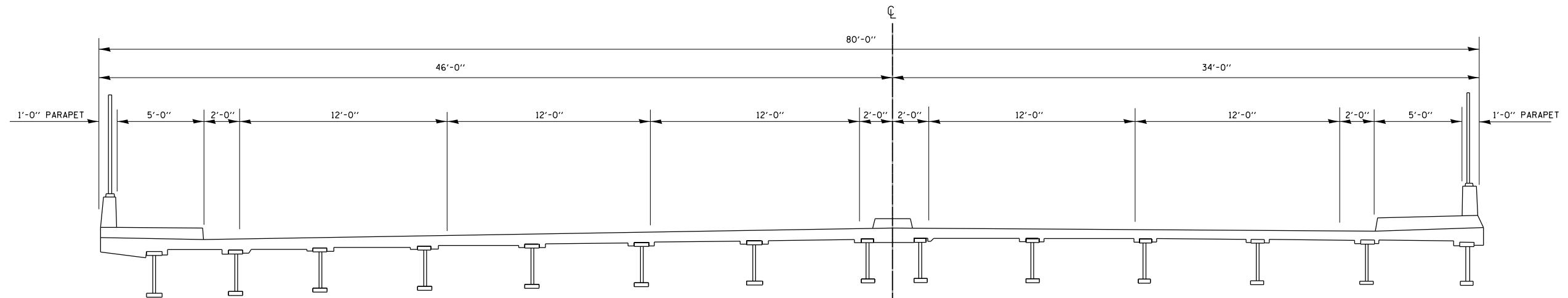
**STAGING PLAN
LAKE AVE. (LARAMIE AVE. - U.S. ROUTE 41)**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	26	15
CONTRACT NO. 62B49			ILLINOIS FED. AID PROJECT	



STAGE CROSS SECTION
(LOOKING EAST)



CROSS SECTION
(LOOKING EAST)

FILE NAME =	USER NAME = pyznowskirb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -								CONTRACT NO. 62B49				
	PLOT DATE = 11/5/2015	DATE -	REVISED -								ILLINOIS FED. AID PROJECT				

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
 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 at the unit price bid for the work.

Cost of removal and 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 with Furnishing and Erecting Structural Steel.
 The existing structural steel contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4.

Diaphragm connection holes shall be 1 5/16" φ for 3/4" φ bolts. Two hardened washers shall be required at diaphragm connections.

Fasteners shall be high strength bolts. Flange and web splice holes shall be 1 5/8" φ for 1 1/2" φ bolts.

After the new beam is in its final position and/or beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

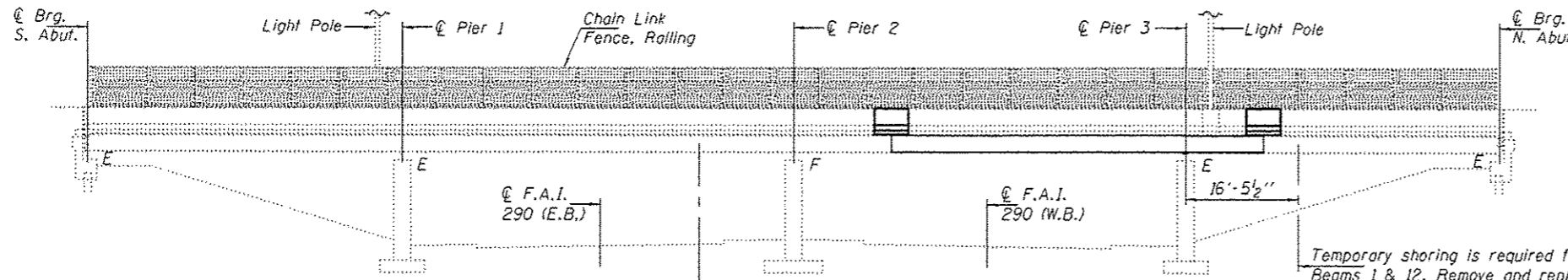
Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

The Contractor shall provide support and/or shoring systems for the slab and beam in the area of existing beam removal. See Special Provisions "Temporary Shoring and Cribbing" and "Temporary Slab Support System."



ELEVATION

Temporary shoring may be required to facilitate alignment of existing splice. Use 12" x 12" Timbers or HP's to be paid for as Temporary Shoring and Cribbing. The shoring shall be removed as soon as possible after the splice is completed to minimize Traffic Control.

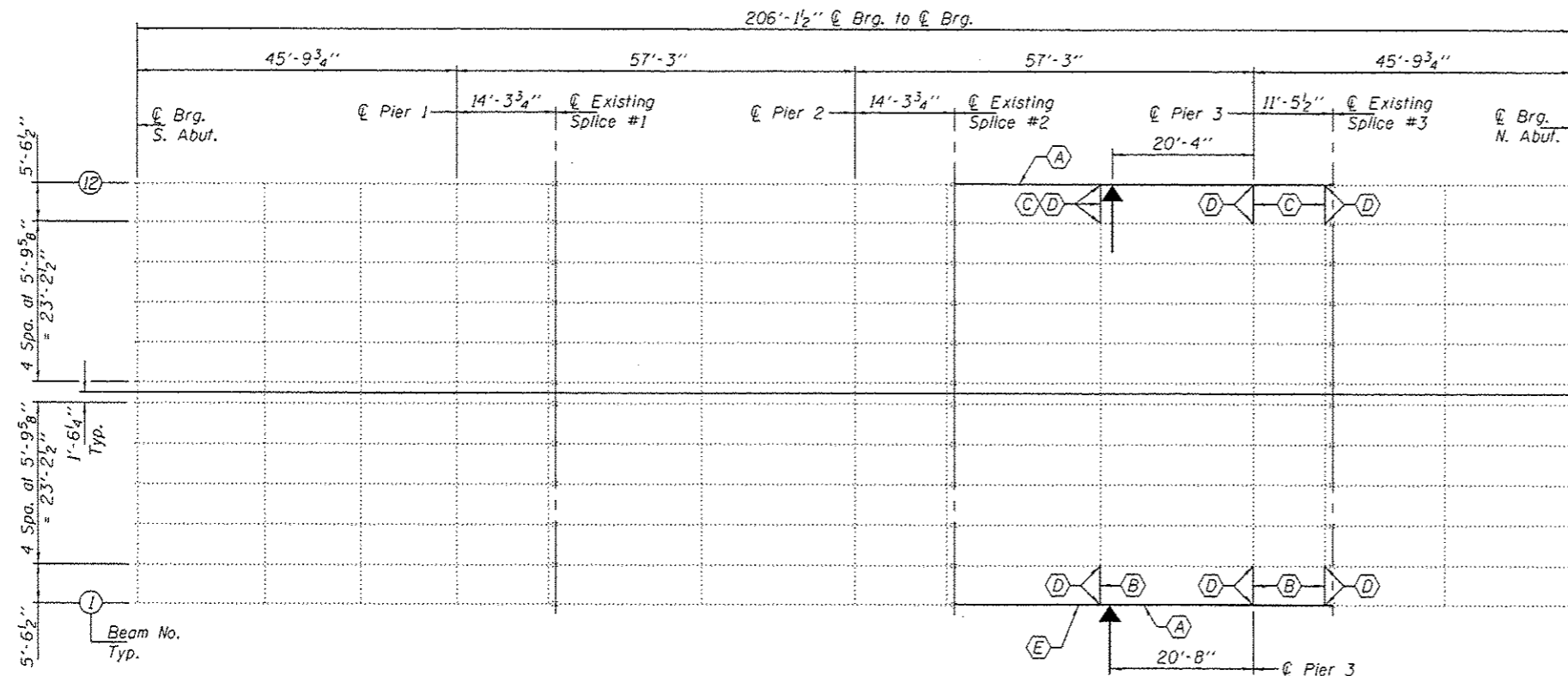
Temporary shoring is required for Beams 1 & 12. Remove and replace slopewall, if required. Cost included with Temporary Shoring and Cribbing.

PIER 2

REACTION TABLE AT TEMPORARY SHORING		
R ₀	(K)	45
R _L	(K)	36
Imp.	(K)	10
R (Total)	(K)	91

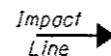
PIER 3

REACTION TABLE AT TEMPORARY SHORING		
R ₀	(K)	47
R _L	(K)	36
Imp.	(K)	10
R (Total)	(K)	93



FRAMING PLAN

- (A) - Existing beam segment to be replaced with W30x116.
- (B) - Replace diaphragm with W16x36.
- (C) - Replace diaphragm with W12x40.
- (D) - Replace diaphragm clip angles.
- (E) - Remove & Re-erect sign structure.



TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	3.9
Concrete Superstructure	Cu. Yd.	3.9
Structural Steel Removal	Pound	15,020
Furnishing & Erecting Structural Steel	Pound	15,530
Beam Straightening	L.S.	0.4
Temporary Slab Support System	L.S.	0.5
Temporary Shoring & Cribbing	L.S.	0.5
Remove and Re-erect Overhead Sign Structure - Bridge Mounted, Special	Each	1



DESIGNED *Stephen M. Ryan*
 CHECKED *Steffen*
 DRAWN *Steffen*
 CHECKED *SMR*

PASSED *David Carl Puzey*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

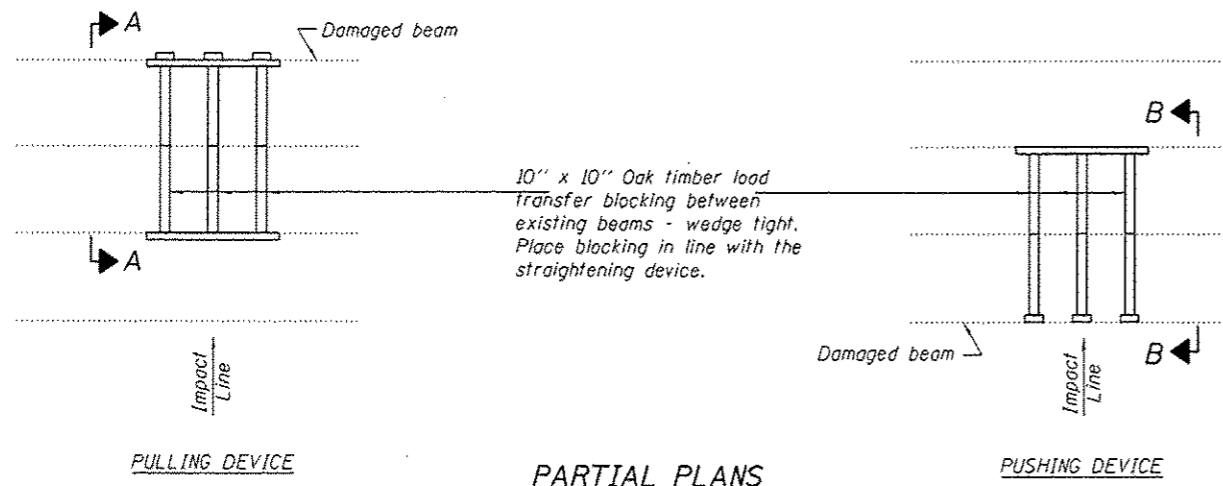
DATE **NOVEMBER 25, 2015**
 REVISED
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

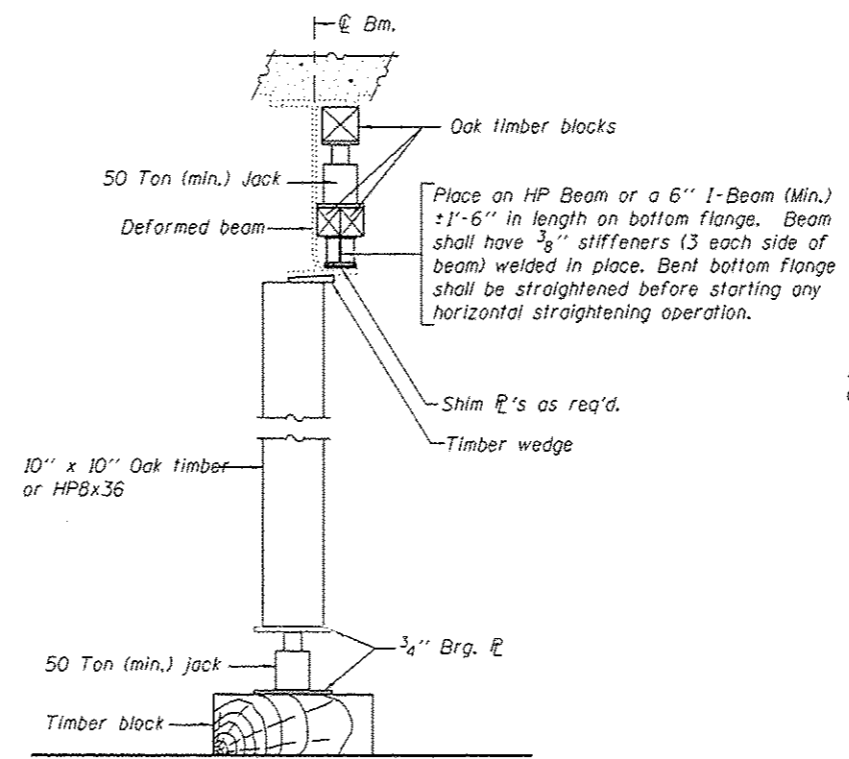
PLAN AND ELEVATION
5TH AVENUE OVER F.A.I. ROUTE 290
SN 016-0692

SHEET NO. 1 OF 4 SHEETS

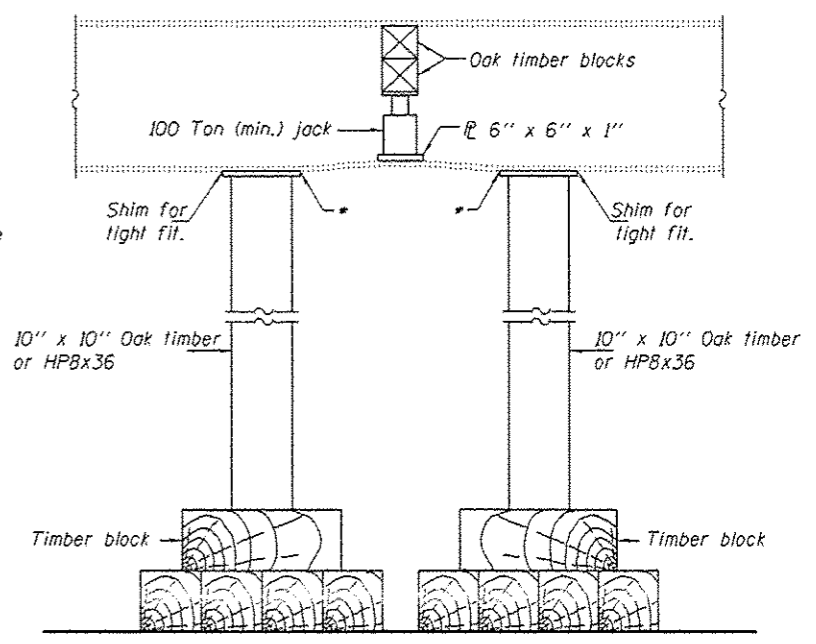
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2015-067BR	COOK	26	17
CONTRACT NO. 62B49				
ILLINOIS FED. AID PROJECT				



PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS
 Straightening force shall be maintained on all load transfer blocking during beam straightening.



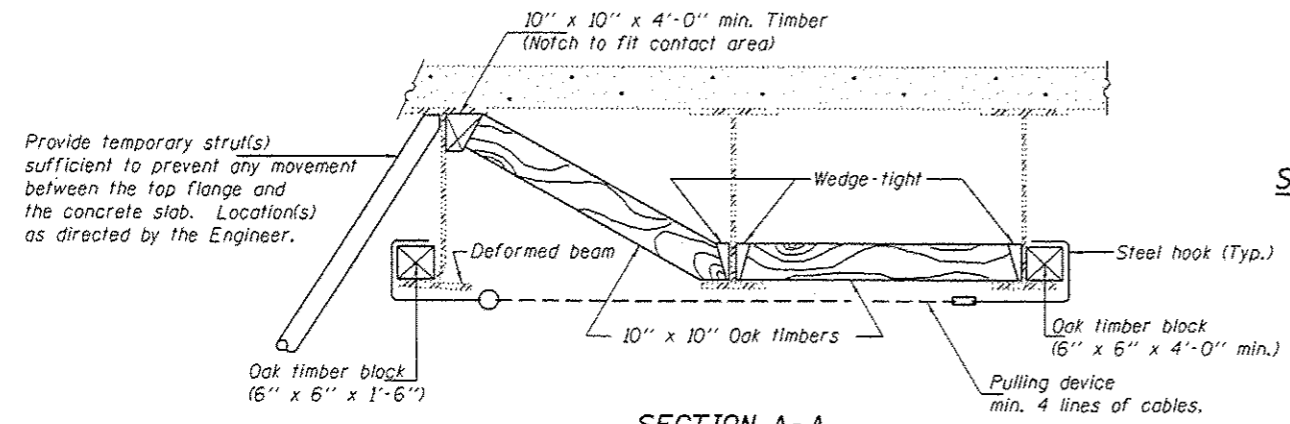
SUGGESTED VERTICAL STRAIGHTENING DETAIL
 (To correct flange rotation.)



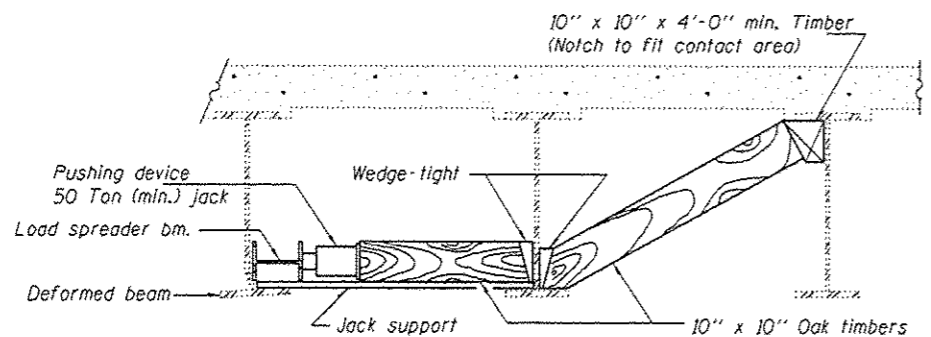
SUGGESTED VERTICAL STRAIGHTENING DETAIL
 (To correct localized vertical flange deformations.)

* Edge of plate shall line up with edge of deformation.

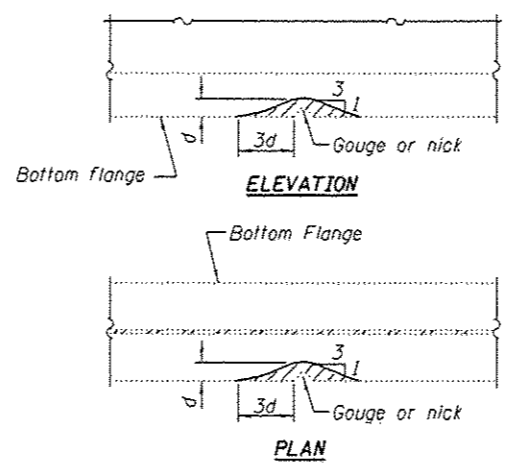
Note:
 Braces and jack assembly shall be placed on same side of web.
 Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A



SECTION B-B



GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam 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. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.

TABLE OF DIMENSIONS

BEAM	"A"	"B"	"C"
1	9'-4"	3'-8"	8'-0"
12	4'-4"	2'-2"	8'-0"

EXISTING DEFORMATION TO BE STRAIGHTENED
 (Looking South)

(Approximate max. deflections)
 Deflected length of beam to be straightened is approximately "C".

REP-11-14-2005

DESIGNED	SMR
CHECKED	CCC
DRAWN	Steffen
CHECKED	SMR CCC

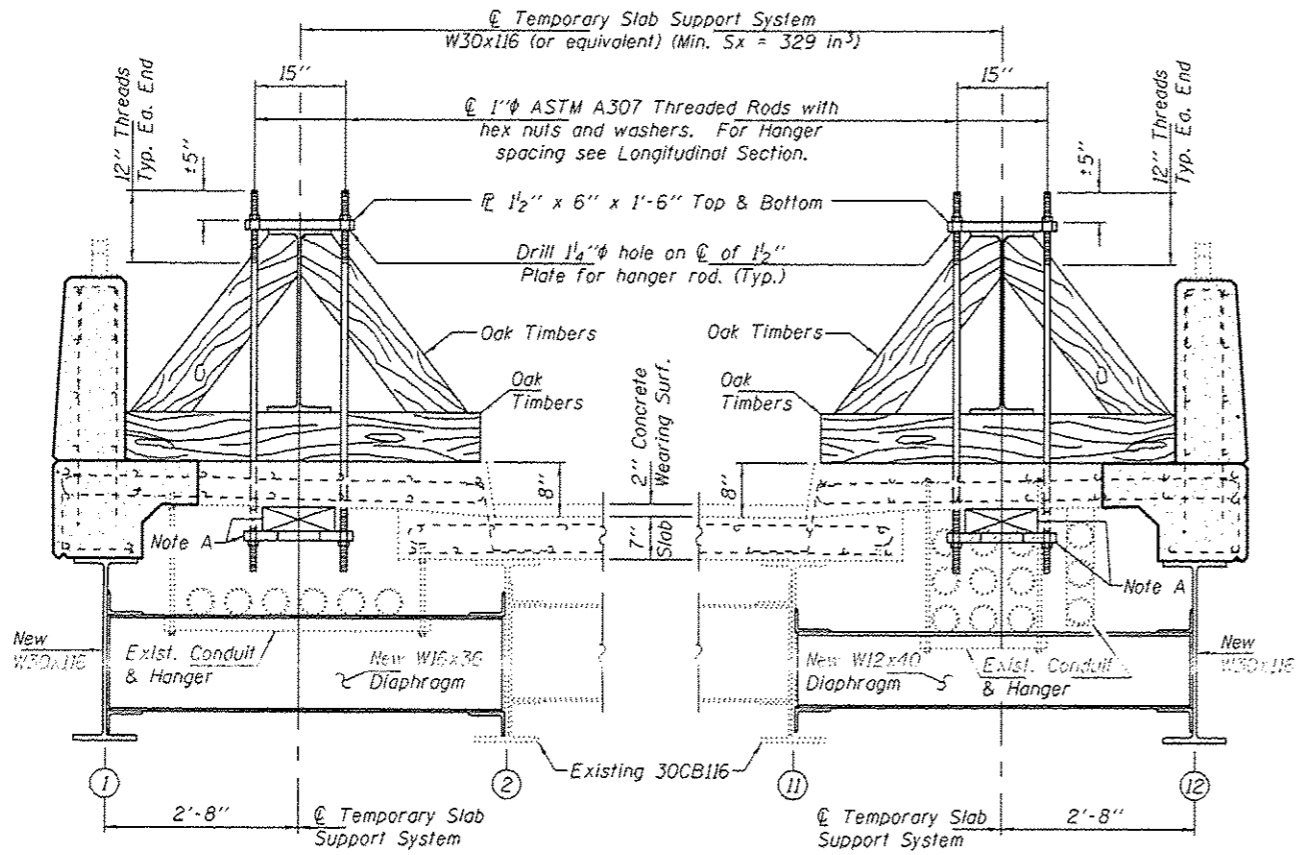
PASSED	<i>[Signature]</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES
DATE	NOVEMBER 25, 2015
REVISED	
REVISED	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEAM STRAIGHTENING DETAILS
 SN 016-0692

SHEET NO. 2 OF 4 SHEETS

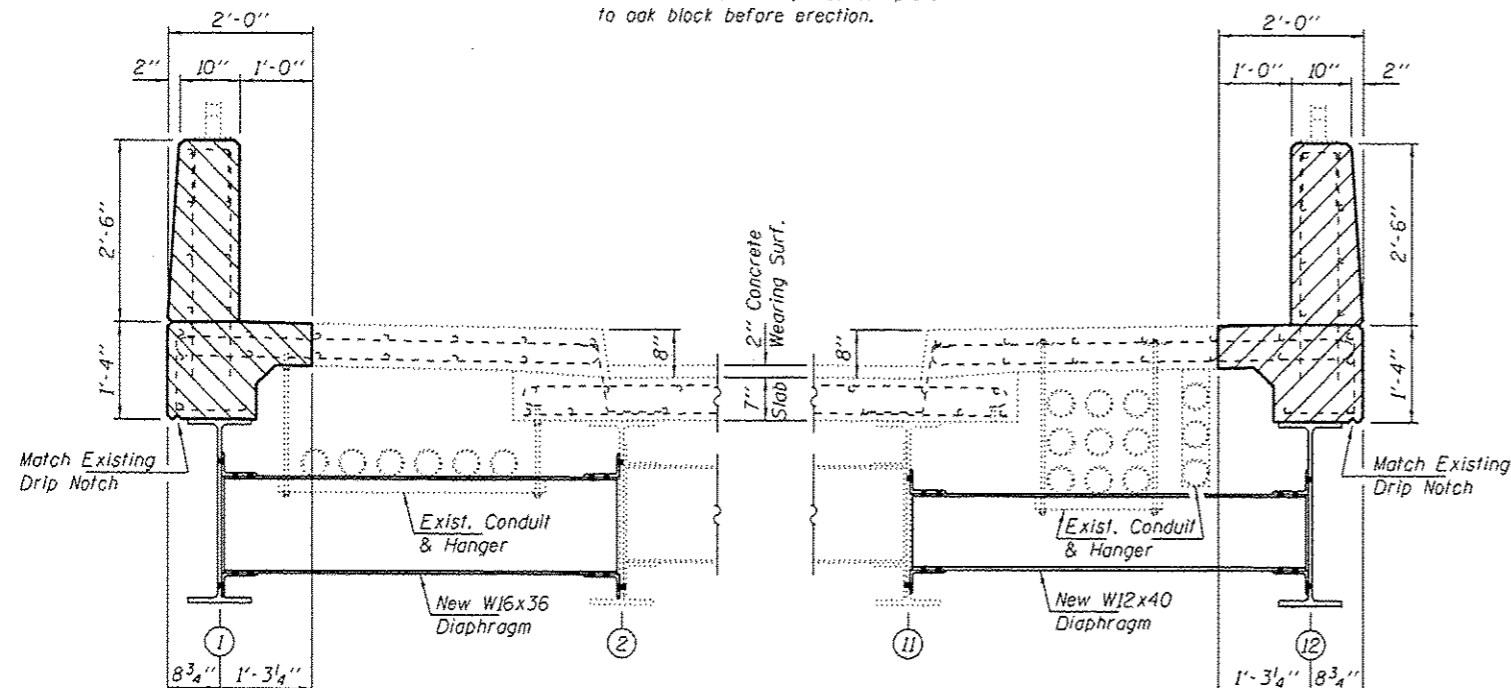
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2015-067BR	COOK	26	18
CONTRACT NO. 62B49			ILLINOIS FED. AID PROJECT	



SECTION A-A THRU BEAM 1
(Looking South)

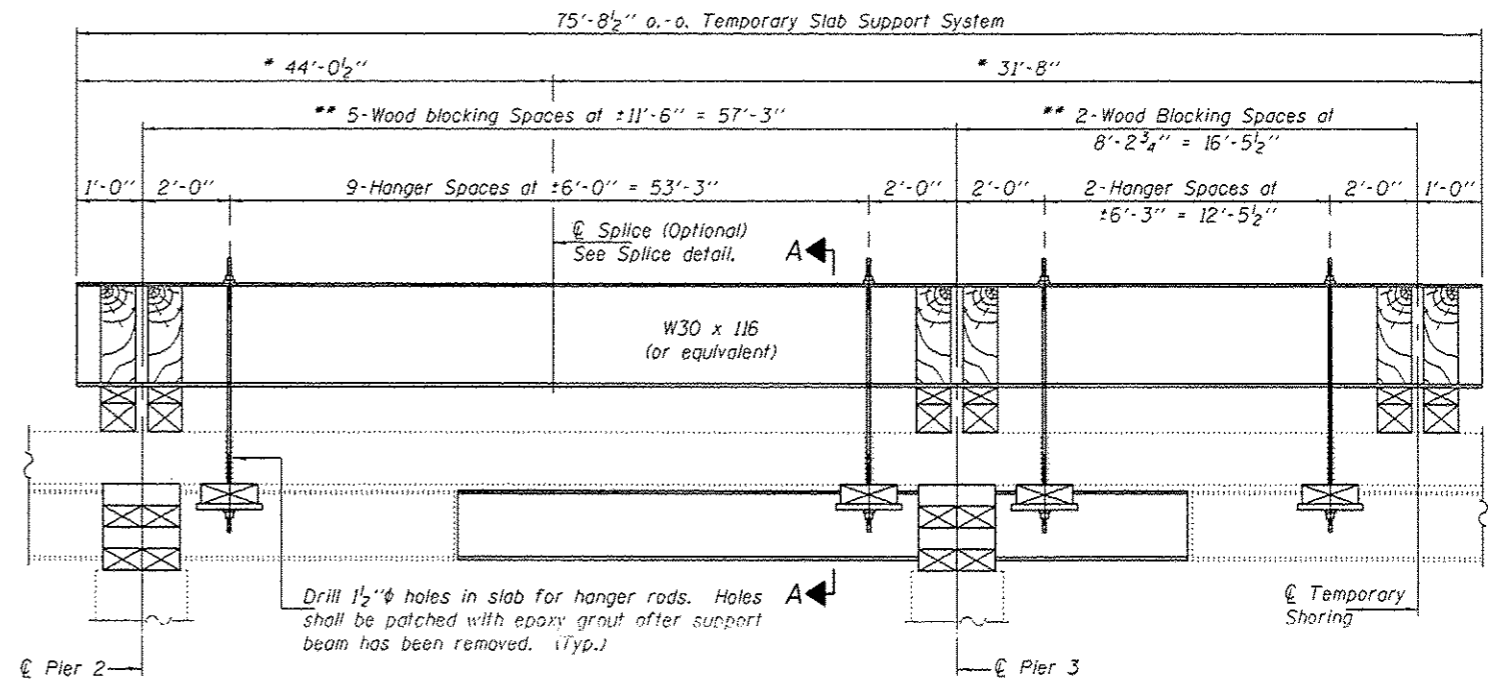
SECTION A-A THRU BEAM 12
(Looking South)

Note A:
Drill nail holes in plate. Nail plate to oak block before erection.



SECTION THRU BEAM 1 SHOWING CONCRETE REMOVAL & REPLACEMENT
(Looking South)

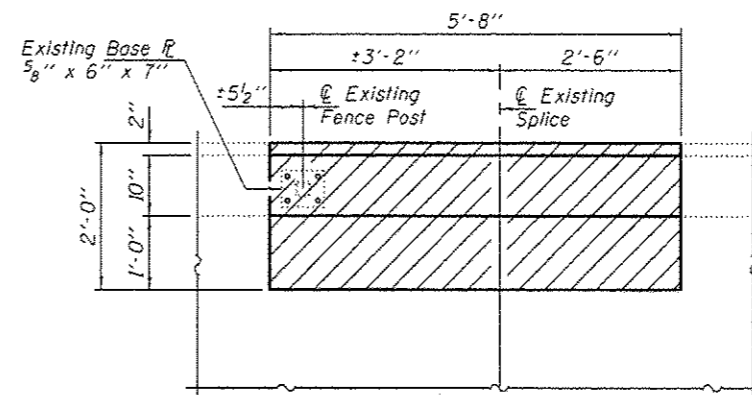
SECTION THRU BEAM 12 SHOWING CONCRETE REMOVAL & REPLACEMENT
(Looking South)



LONGITUDINAL SECTION SUGGESTED TEMPORARY SLAB SUPPORT SYSTEM FOR BEAMS 1 & 12
(Looking West)

* These dimensions may vary for available beams in stock.

** Wood blocking between supports to be placed after support beam deflects under its own weight.



CONCRETE SURFACE REMOVAL AND REPLACEMENT
(West Parapet shown at Splices; East Parapet similar by 180° rotation.)

Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4\"/>

DESIGNED	SMR
CHECKED	CCC
DRAWN	Steffen
CHECKED	SMR CCC

PASSED
Carl Pappas
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE	NOVEMBER 25, 2015
REVISED	
REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SLAB SUPPORT & CONCRETE DETAILS
SN 016-0692

SHEET NO. 4 OF 4 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2015-067BR	COOK	26	20
CONTRACT NO. 62B49			ILLINOIS FED. AID PROJECT	

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

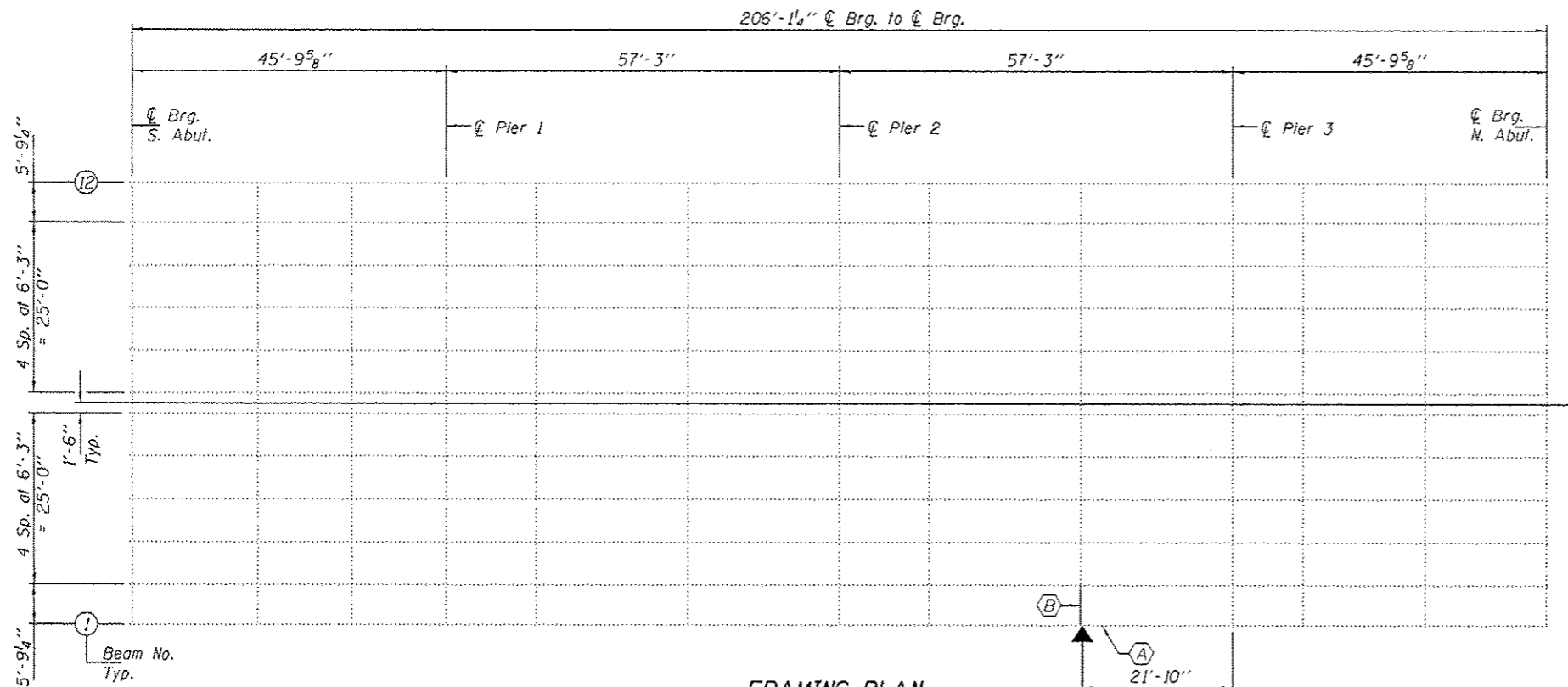
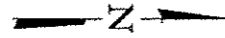
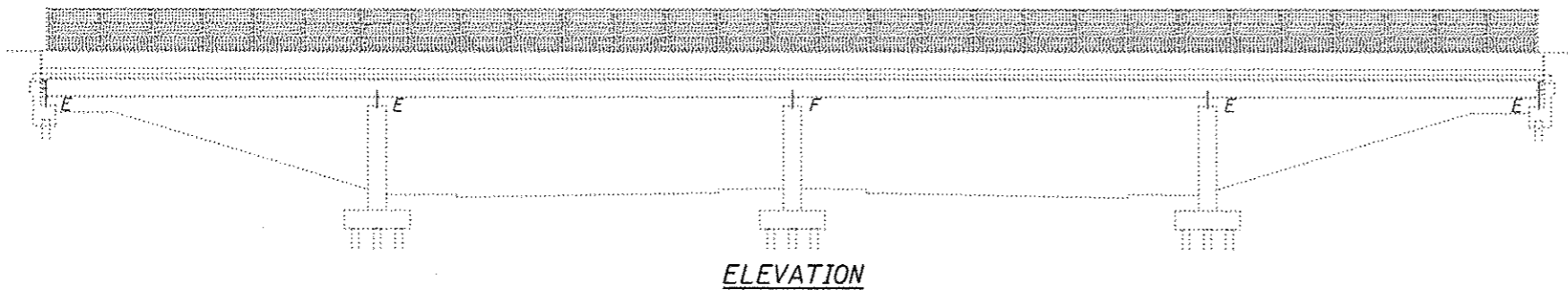
Fasteners shall be high strength bolts. Bolts $\frac{7}{8}$ " ϕ , open holes $\frac{15}{16}$ " ϕ , unless otherwise noted.

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 at the unit price bid for the work.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

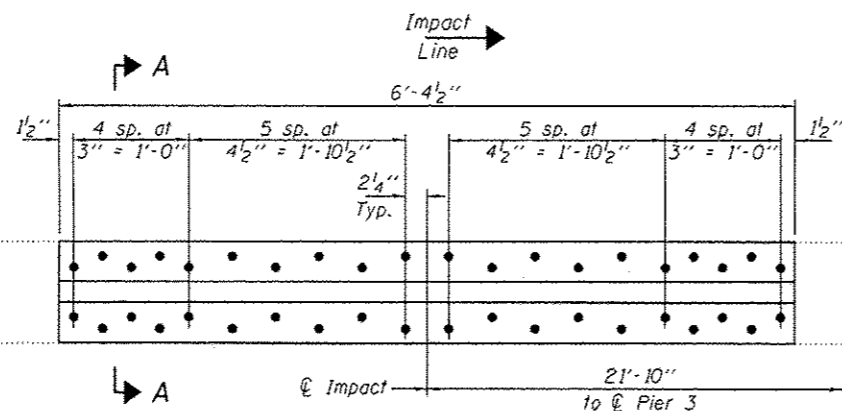
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.



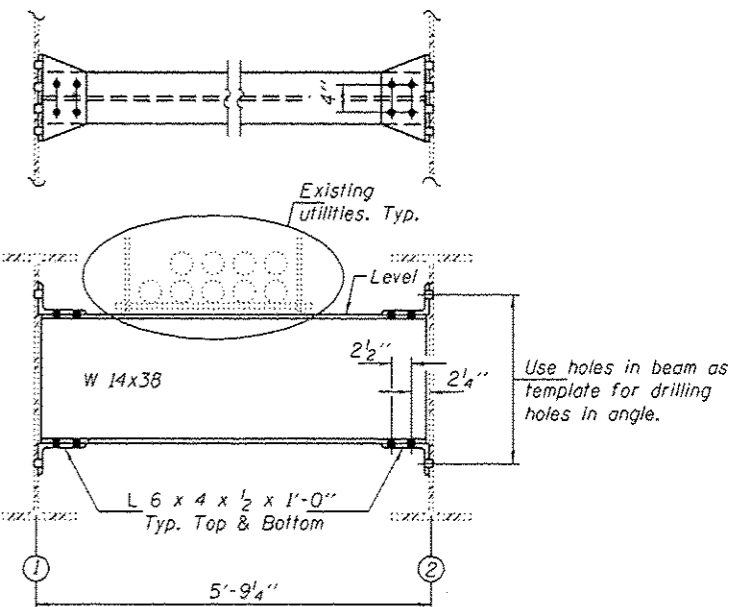
FRAMING PLAN

- (A) - Existing Beam to be Straightened & Strengthened.
- (B) - Replace diaphragm and clip angles.



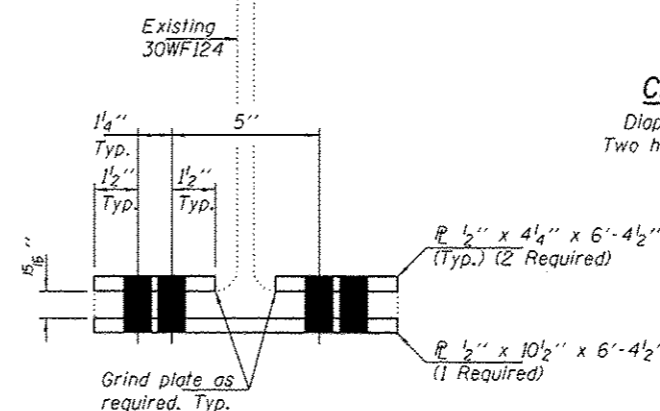
STRENGTHENING DETAIL

See Section A-A for dimensions not shown.



DIAPHRAGM AND CLIP ANGLE REPLACEMENT DETAIL

Diaphragm connection holes shall be $\frac{15}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at diaphragm connections.



SECTION A-A

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	540
Beam Straightening	L.S.	0.2
Structural Steel Removal	Pound	280



EXPIRES 11-30-2016

DESIGNED *Stephen M. Ryan*
 CHECKED *[Signature]*
 DRAWN *baliva*
 CHECKED *OCU SMR*

PASSED

David Carl Puzey
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE NOVEMBER 23, 2015

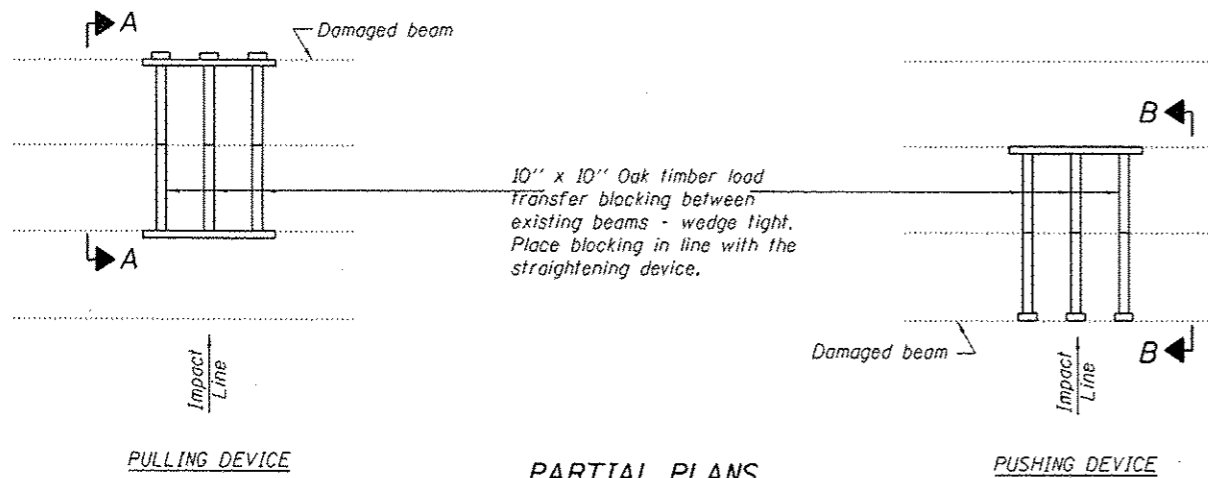
REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
 1ST. AVE. OVER FAI 290
 SN 016-0699

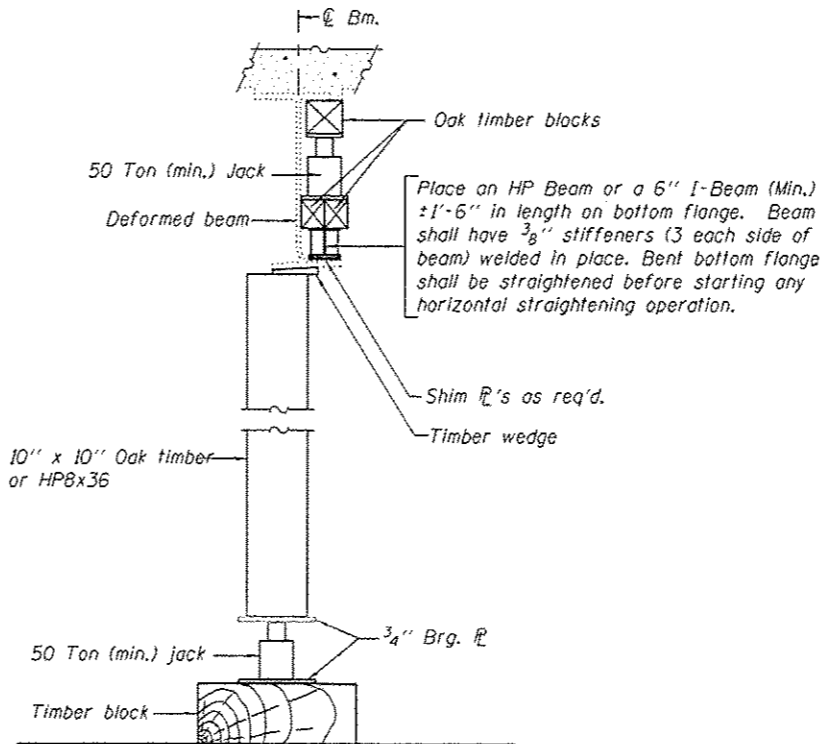
SHEET NO. 1 OF 2 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-057BR	COOK	26	21
CONTRACT NO. 62849			ILLINOIS FED. AID PROJECT	

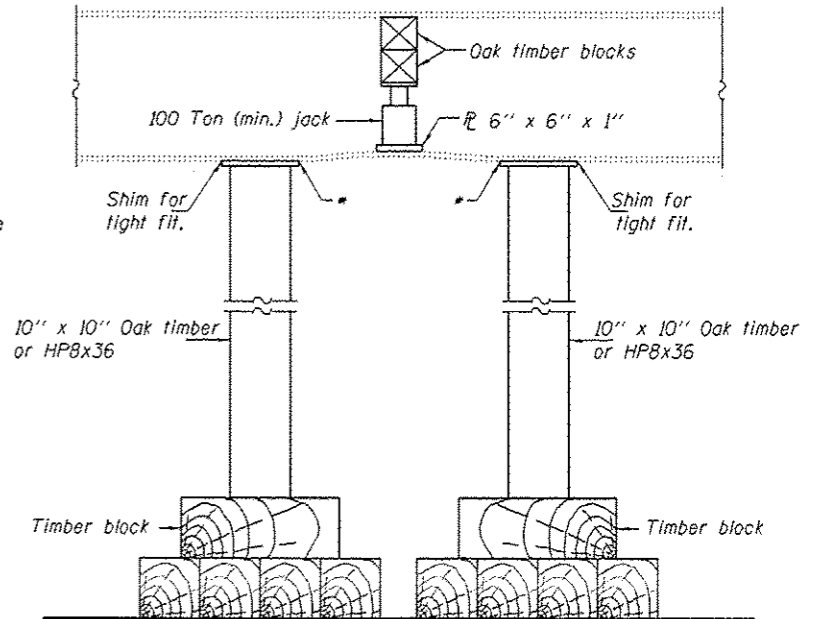


PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS

Straightening force shall be maintained on all load transfer blocking during beam straightening.



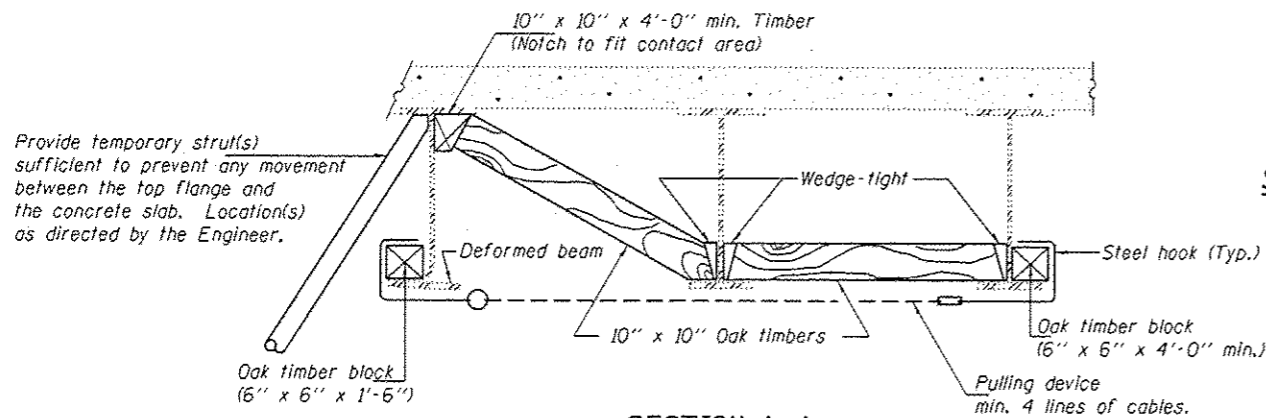
SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct flange rotation.)



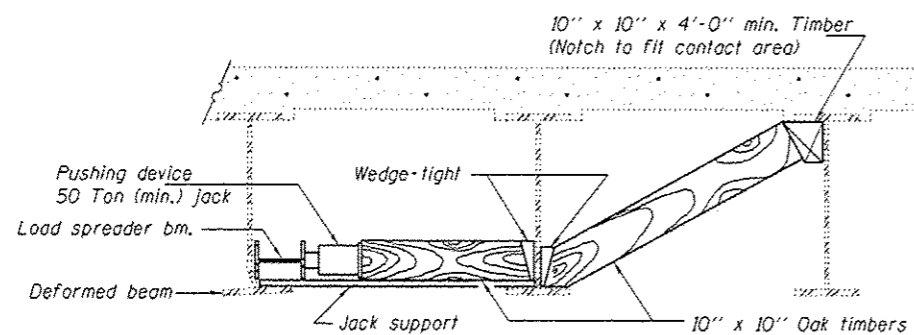
SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct localized vertical flange deformations.)

* Edge of plate shall line up with edge of deformation.

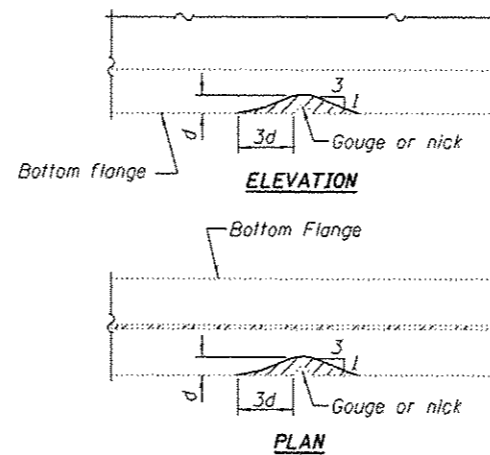
Note:
Braces and jack assembly shall be placed on same side of web.
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A

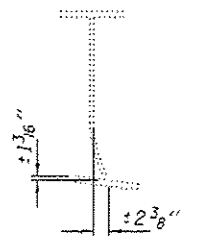


SECTION B-B



GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam 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. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.



EXISTING DEFORMATION TO BE STRAIGHTENED

(Looking South)
(Approximate max. deflections)
Deflected length of beam to be straightened is approximately 4'-0''.

REP-11-14-2005

DESIGNED SMR
CHECKED CCC
DRAWN baliva
CHECKED SMR CCC

PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

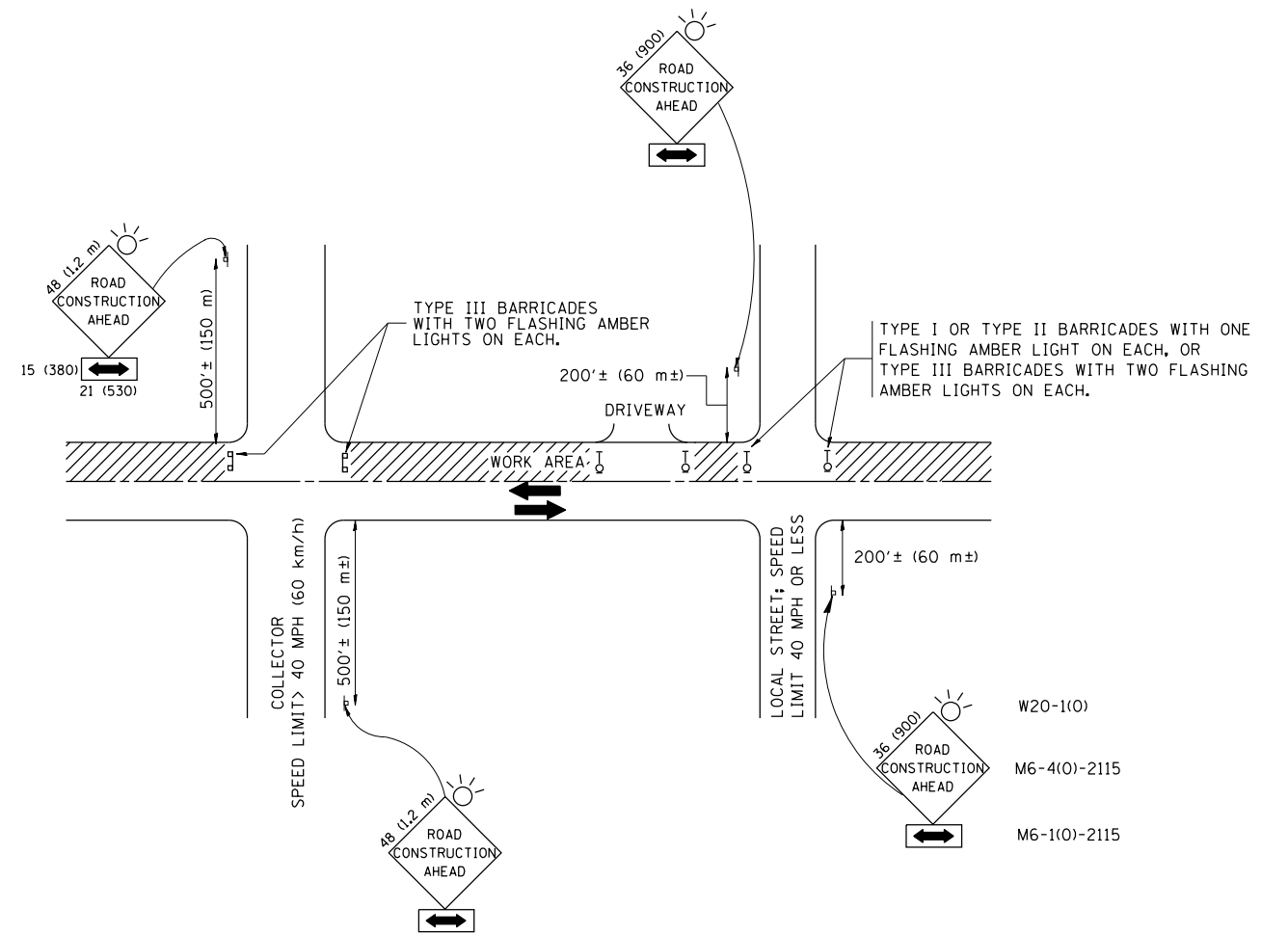
DATE NOVEMBER 23, 2015
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM STRAIGHTENING DETAILS
SN 016-0699

SHEET NO. 2 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	26	22
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62849	



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS**
- SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:**
- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.**
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.**

All dimensions are in millimeters (inches) unless otherwise shown.

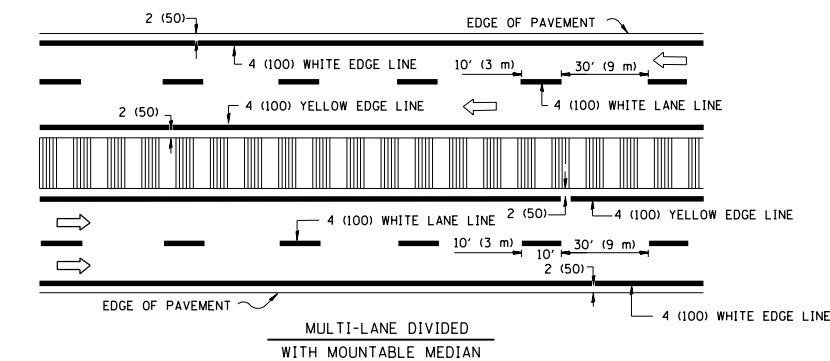
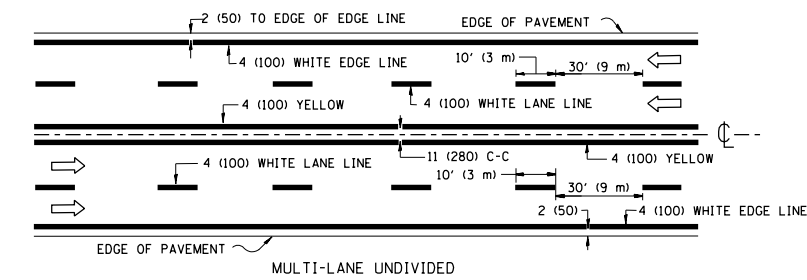
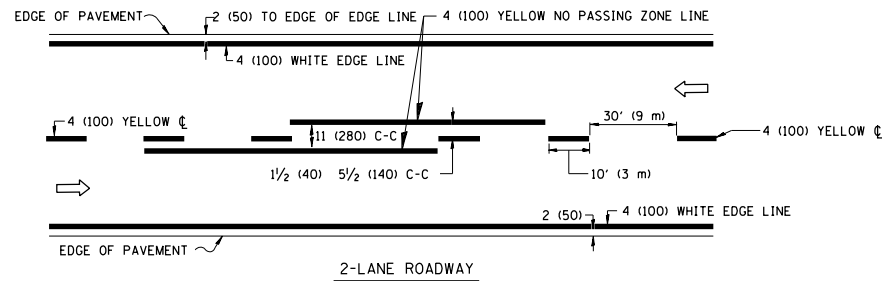
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	PLOT DATE = 11/5/2015	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

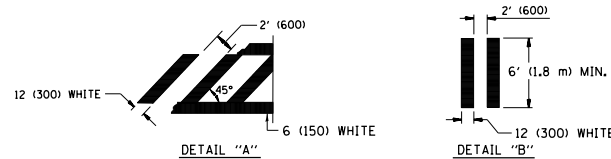
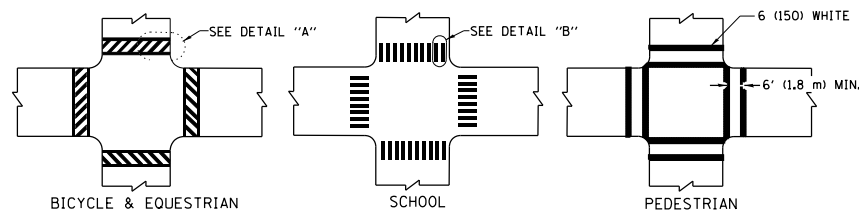
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 62B49	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

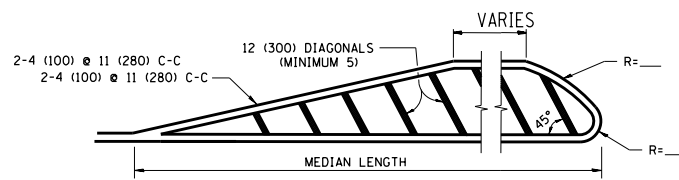
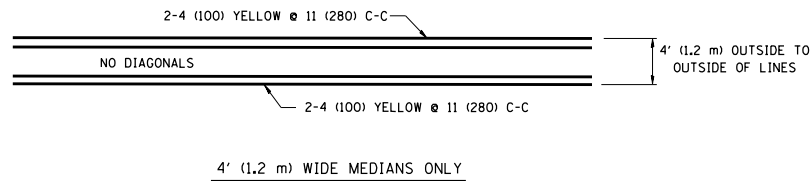


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

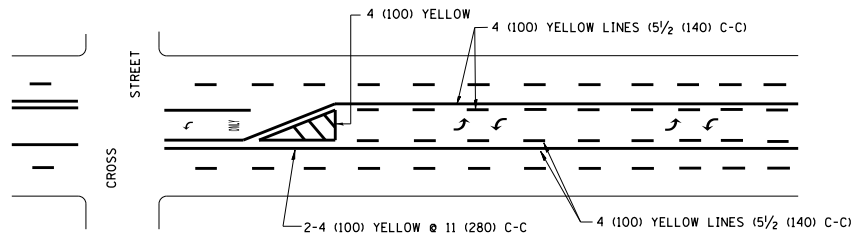


TYPICAL CROSSWALK MARKING

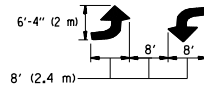


DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

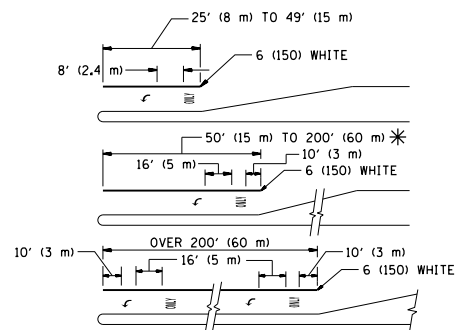


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

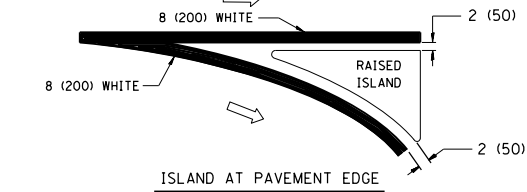
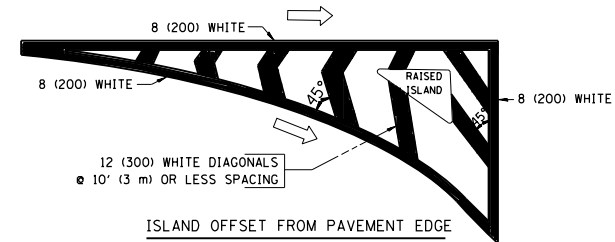


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION	4 (100)	SOLID	YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE. SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE. SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" 15' (4.5 m) AREA OF LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = pyznowskirb	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
pw\11\084EBIDINTEG.11\inois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\DI04916\Design\DI04916-sht-plan.dgn		CHECKED -	REVISED - C. JUCIUS 09-09-09
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PLOT DATE = 11/5/2015			

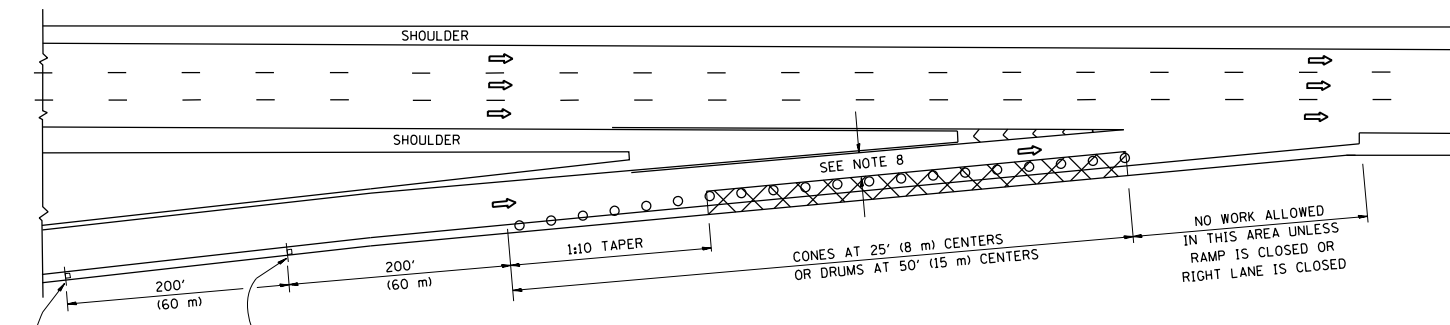
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE TYPICAL PAVEMENT MARKINGS

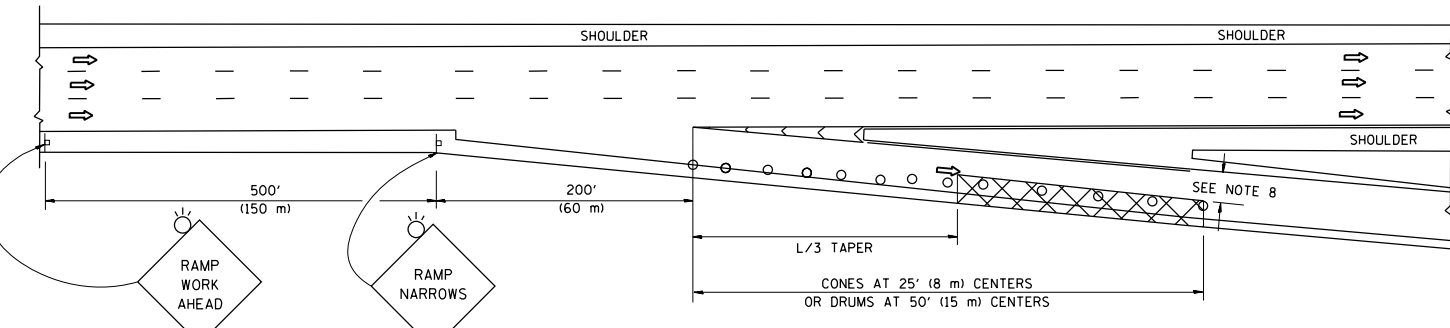
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	26	24
TC-13		CONTRACT NO. 62B49		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

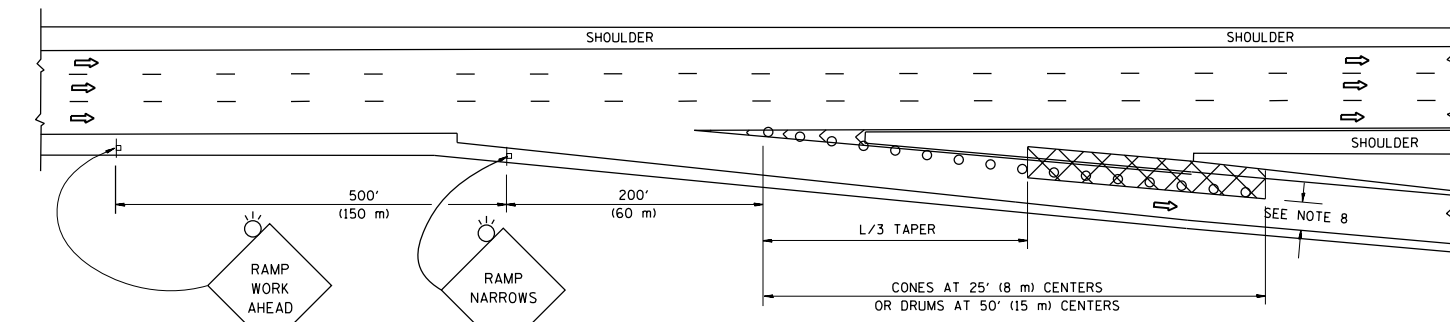
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

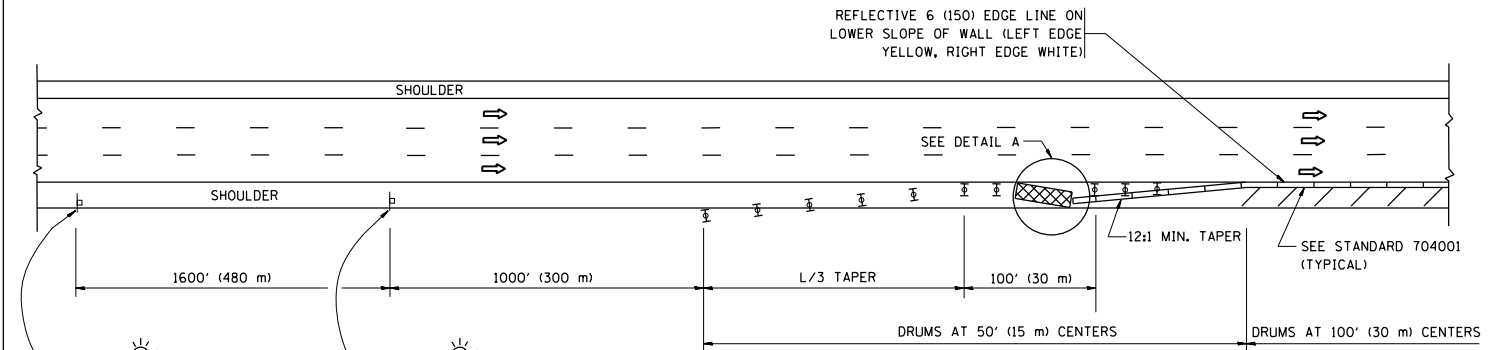
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

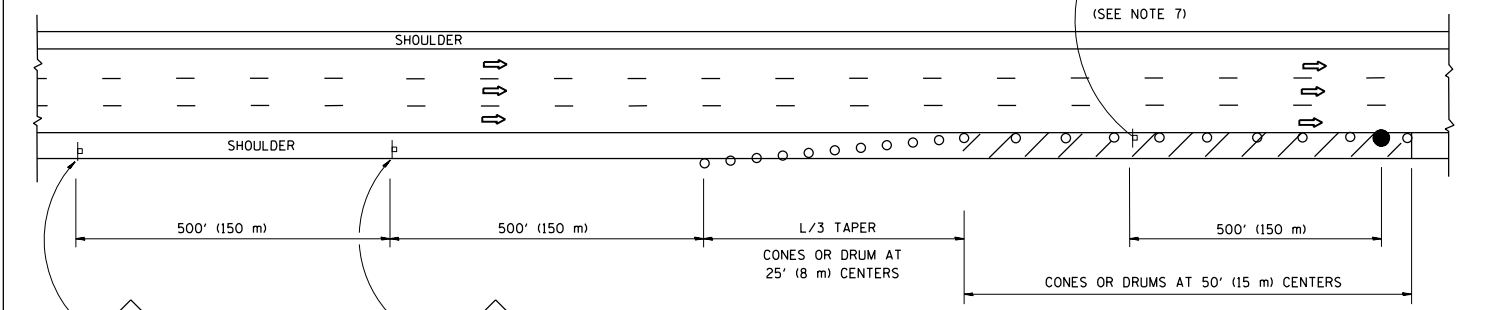
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC ENGLISH 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 NIGHTTIME 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.

SHOULDER CLOSURE DETAILS

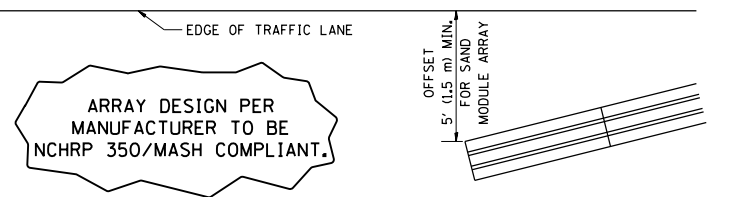


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCR OACH 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 ATTENUATOR, TEMPORARY
 (SEE NOTE 5)

5. THE IMPACT ATTENUATOR, 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 ENCR OACHMENT 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.

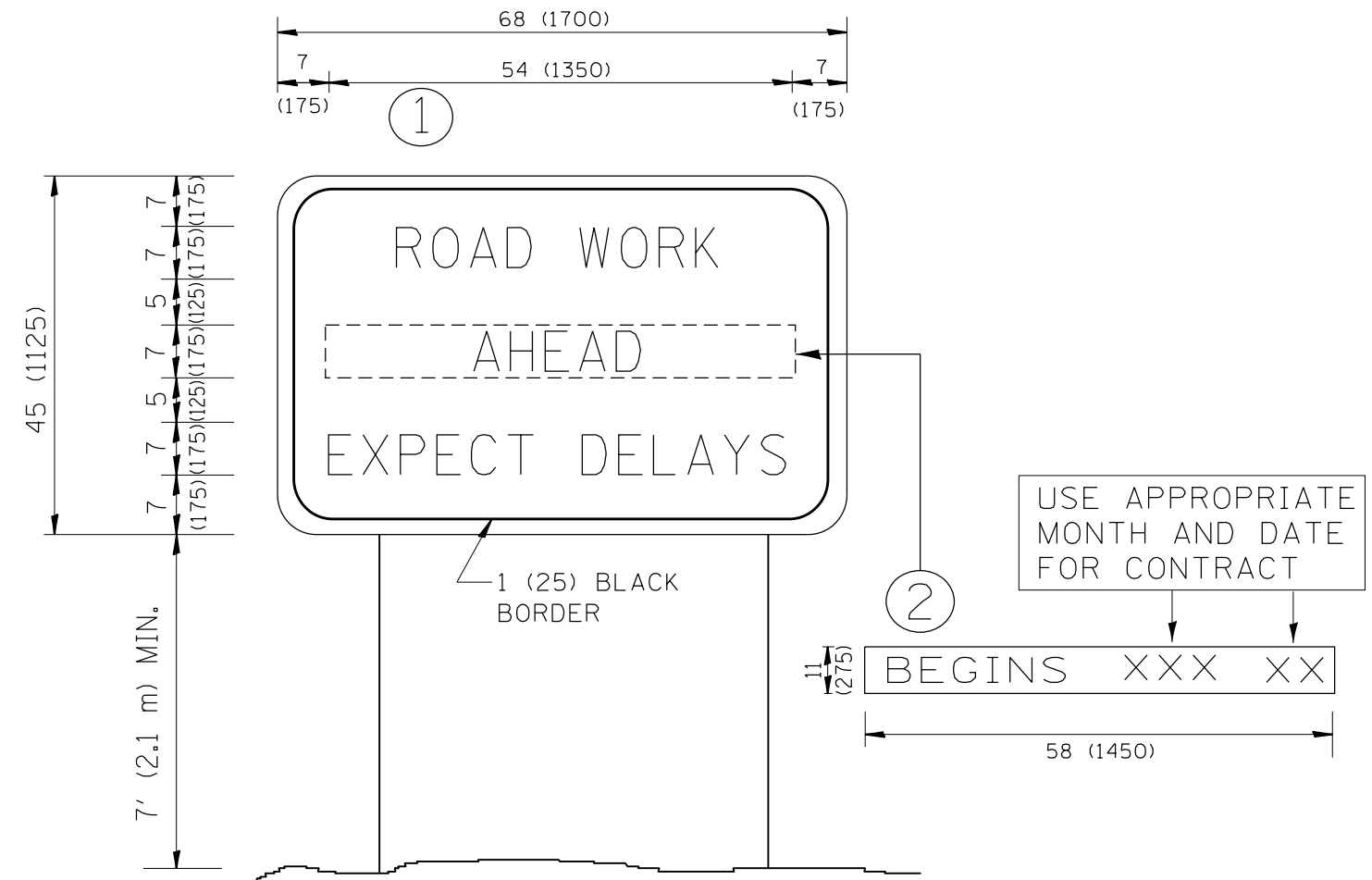
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = pyrzenowski	DESIGNED -	REVISED - J.A.F. 12-06
p:\11084EBID\INTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\DI049\Drawings\Design\DWG\16-shr-pln.dgn		CHECKED -	REVISED - S.P.B. 01-07
		DATE - 11-96	REVISED - S.P.B. 12-09
			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. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2015-067BR	COOK	26	25
TC-17		CONTRACT NO. 62B49		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

FILE NAME =	USER NAME = pyrzenowski	DESIGNED -	REVISED - R. MIRS 09-15-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 1\Projects\DI04916\Design\DI04916-sht-plan.dgn		CHECKED -	REVISED - R. MIRS 12-11-97			VAR.	2015-067BR	COOK	26	26
		PLOT SCALE = 100.0000' / 1in.	REVISED - T. RAMMACHER 02-02-99			TC-22		CONTRACT NO. 62B49		
		PLOT DATE = 11/5/2015	REVISED - C. JUCIUS 01-31-07			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT