

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	0708.2-A-1-2	COOK	14	1

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP 348: ILL 43 (HARLEM AVE.)  
OVER FAI 55 (STEVENSON EXPWY)

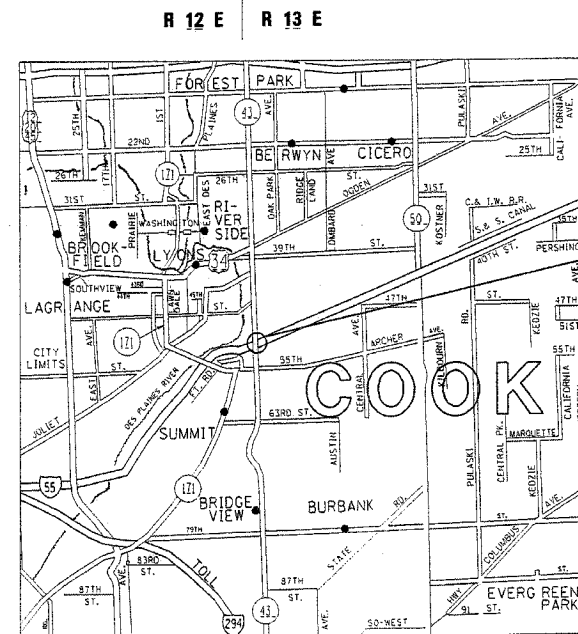
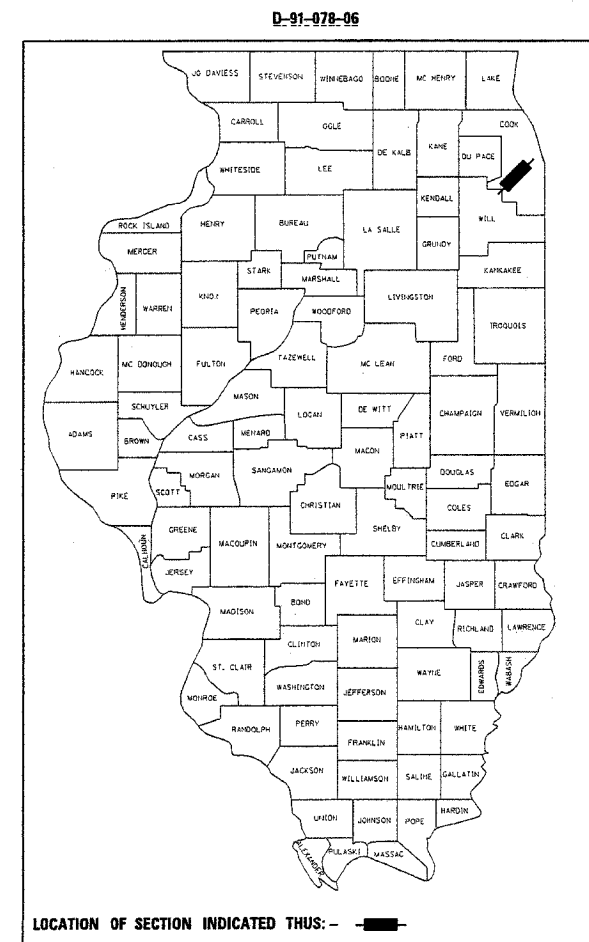
SECTION: 0708.2 A-1-2  
BEAM REPLACEMENT  
COOK COUNTY

C-91-078-06

SN 016-0316

FOR INDEX OF SHEETS, SEE SHEET NO. 2

IMPROVEMENT LOCATED IN  
THE VILLAGE OF FOREST VIEW



LOCATION OF  
IMPROVEMENT  
SN 016-0316

TRAFFIC DATA:  
IL 43: 2004 ADT = 43,000  
POSTED SPEED LIMIT = 40 MPH  
I-55: 2003 ADT = 133,400  
POSTED SPEED LIMIT = 55 MPH

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

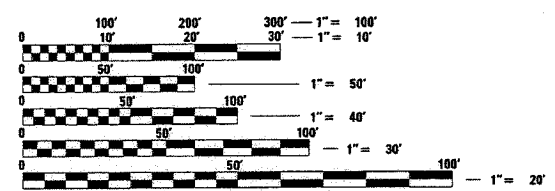
SUBMITTED: OCT. 27 20 05

*Diane M. O'Keefe* (ed)  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 9, 2005  
*Mike Dineen*  
ENGINEER OF DESIGN AND ENVIRONMENT

December 9, 20 05  
*Eric Vasquez*  
DEPUTY DIRECTOR, DIVISION OF HIGHWAYS

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OF THE STATE OF ILLINOIS



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

CONTRACT NO. 60A60

DISTRICT ONE - PLAN PREPARATION ENGINEER:  
KEN ENG/ R. BORO (847) 705-4178

10/27/2005  
c:\proj\ctv\m4360\estimat\p.32  
midyjc

F.A.P. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	070828-1:2	COOK	19	2
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

INDEX OF SHEETS

STATE STANDARDS

GENERAL NOTES

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS, & GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-8	BRIDGE REPAIR DETAILS - SN 016-0316
9	TRAFFIC STAGING PLANS
10	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
11	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING
12	TRAFFIC CONTROL FOR SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES
13	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)
14	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS

STANDARD NO.	DESCRIPTION
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701400-02	APPROACH TO LANE CLOSURE, FREEWAY/ EXPRESSWAY
701401-03	LANE CLOSURE, FREEWAY/ EXPRESSWAY
701411-03	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP FOR SPEEDS > 45 MPH
701446	TWO LANE CLOSURE, FREEWAY/ EXPRESSWAY
701601-04	URBAN LANE CLOSURE MULTILANE 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701801-03	LANE CLOSURE, MULTILANE, 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
702001-05	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE & GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES

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 THE CONTRACTOR'S EXPENSE.

WHEN ARTIFICIAL LIGHT IS UTILIZED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCES, ALL EXISTING PAVEMENT MARKING LINES AND RAISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS & CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION & ORDERING OF MATERIAL.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE ARTERIAL TRAFFIC CONTROL SUPERVISOR AT (847)705-4470 FOR ARTERIALS, AND THE DISTRICT ONE EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT (847)705-4155 FOR EXPRESSWAY A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

THE "ADVANCED WARNING SIGN DETAIL FOR ARTERIAL TRAFFIC" LOCATED IN THE SPECIAL PROVISIONS FOR "TEMPORARY INFORMATION SIGNING FOR LANE CLOSURES" IS APPLICABLE ONLY TO ARTERIAL ROADS AND SHALL NOT BE APPLIED TO EXPRESSWAYS.

A MINIMUM OF 10 DAYS BEFORE BEGINNING ANY WORK ON IL 43 (HARLEM AVE.), THE CONTRACTOR SHALL CONTACT DAVE HOVING IN TRAFFIC SIGNALS AT (847) 705-4418. IN ADDITION, THE CONTRACTOR SHALL CONTACT DAVE HOVING A MINIMUM OF ONE DAY IN ADVANCE OF THE FOLLOWING THREE STAGES: THE START OF JOB, THE POURING OF CONCRETE, AND THE COMPLETION OF THE PARAPET WALL.

ALL DAMAGE TO THE EXISTING PAVEMENT MARKINGS OUTSIDE THE CONCRETE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

THE ENGINEER SHALL CONTACT SCOTT KUZWICKI TRAFFIC FIELD ENGINEER AT (773) 685-8386 TWO (2) WEEKS PRIOR TO THE START OF THIS PROJECT SO THAT EXACT STATIONING OF HO PASSING ZONES AND OTHER PERMANENT PAVEMENT MARKINGS MAY BE ESTABLISHED

THE CONTRACTOR SHALL SALVAGE AND RETURN THE EXISTING STEEL CARRIER BEAM (W33x141, 86'-1/2") TO: DISTRICT BRIDGE OFFICE, 1101 BIESTERFIELD RD, ELK GROVE VILLAGE IL 60007. THIS WORK SHALL INCLUDE REMOVING, TRANSPORTING AND UNLOADING THE EXISTING CARRIER BEAM TO THE MENTIONED YARD WHICH COST IS INCLUDED IN THE COST OF "STRUCTURAL STEEL REMOVAL"

WHEN REMOVING THE EXISTING DAMAGED BEAM, THE CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS TO ENSURE THE DECK AND BEAM ARE PROPERLY SUPPORTED DURING THE ENTIRE REMOVAL OPERATION SO AS TO PROTECT THE TRAFFIC AND PAVEMENT ON AND BELOW THE BRIDGE. THE CONTRACTOR SHALL SUBMIT THE REMOVAL SEQUENCE AND PROCEDURE TO THE ENGINEER PRIOR TO REMOVAL OF THE EXIST DECK, DAMAGED BEAM OR CARRIER BEAM. THIS COST IS INCLUDED IN THE COST OF "STRUCTURAL STEEL REMOVAL"

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		INDEX OF SHEETS STATE STANDARDS GENERAL NOTES
SCALE:		DRAWN BY
DATE		CHECKED BY

F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	0108.2.A-1-2	COOK	14	3
FED. ROAD DIST. NO. 1		ILLINOIS	HIGHWAY PROJECT	

MCHD CLAIM #713941

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 100% STATE SFTY-2A					CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 100% STATE SFTY-2A					
50102400	CONCRETE REMOVAL	CU YD	34.1	34.1					X0321781	MECHANICAL SPLICE	EACH	280	280					
50300255	CONCRETE SUPERSTRUCTURE	CU YD	34.1	34.1					X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SO FT	48	48					
50300260	BRIDGE DECK GROOVING	SO YD	57	57					X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1					
50300300	PROTECTIVE COAT	SO YD	114	114					Z0003600	BEAM STRAIGHTENING	L SUM	1	1					
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	20300	20300					Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	1	1					
50500505	STUD SHEAR CONNECTORS	EACH	392	392					Z0047300	PROTECTIVE SHIELD	SO YD	155	155					
50501110	STRUCTURAL STEEL REMOVAL	POUND	19640	19640					Z0073300	TEMPORARY SHORING AND CRIBBING	L SUM	1	1					
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6740	6740														
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	74	74														
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	1														
67100100	MOBILIZATION	L SUM	1	1														
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	1														
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1														
70300210	TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	38	38														
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	1500	1500														
70300540	PAVEMENT MARKING TAPE, TYPE III 6"	FOOT	200	200														
70400100	TEMPORARY CONCRETE BARRIER	FOOT	110	110														
78003110	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 4"	FOOT	850	850														
78003150	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 12"	FOOT	120	120														

© SFTY-3N

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUMMARY OF QUANTITIES

PLOT DATE: 10/27/2005

10/27/2005 12:00:00 PM C:\PROJECTS\6066Q\1027005\SFTY-3N.DWG

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Cook	14	4
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4  
5 SHEETS

Contract Number: 60A60

**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  $1\frac{5}{16}$ "  $\phi$  for  $1\frac{1}{2}$ "  $\phi$  bolts. Web splice holes shall be  $1\frac{3}{16}$ "  $\phi$  for  $3\frac{3}{4}$ "  $\phi$  bolts.

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".

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".

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the 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 in the cost of Furnishing and Erecting Structural Steel.

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the acrylic finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5 YR 3/4. See Special Provision "Cleaning and Painting New Metal Structures".

The existing structural steel coating contains lead. The Contractor should 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".

Existing reinforcement 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 shall be included with Concrete Removal.

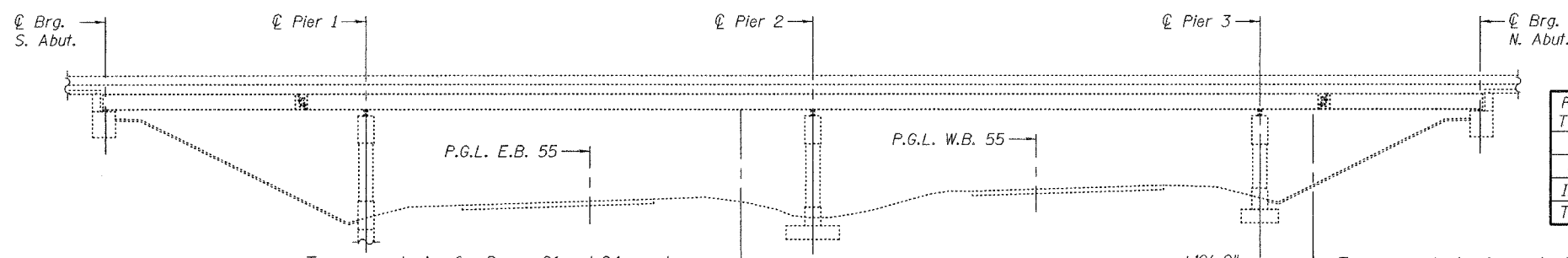
Prior to pouring the new concrete deck, all loose rust, loose mill scale and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

Diaphragm connection holes shall be  $1\frac{5}{16}$ "  $\phi$  for  $3\frac{3}{4}$ "  $\phi$  bolts. Two hardened washers shall be required at diaphragm connections.

All construction joints shall be bonded. The existing 2"  $\phi$  and 4"  $\phi$  conduits shown in Section A-A, on sheet 3 of 5, are to be removed and re-installed. Cost shall be included in the cost of Concrete Removal.

Field welding of construction accessories will not be permitted to beams.

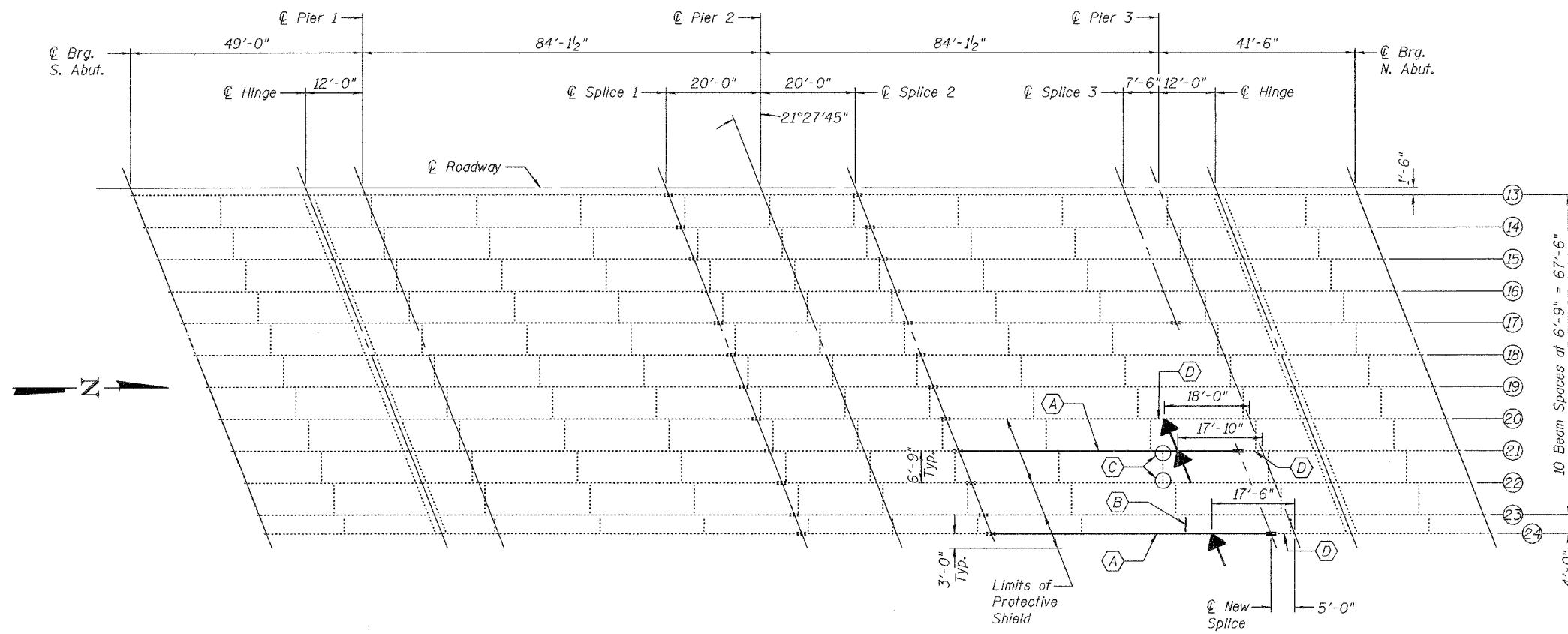
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.



**ELEVATION**

Q	(k)	21.1
L	(k)	31.1
Imp.	(k)	9.3
Total	(k)	61.5

Temporary shoring is required for Beams 21 and 24 South of hinge. To be paid for as Temporary Shoring and Cribbing. Removal and Replacement of the slopewall, if required, shall be included with Temporary Shoring and Cribbing.



**PARTIAL FRAMING PLAN**

Impact Line →

- (A) Remove and replace existing beam section.
- (B) Remove and replace existing diaphragm.
- (C) Remove and replace bottom clip angles.
- (D) Beam Straightening.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	34.1
Concrete Superstructure	Cu. Yd.	34.1
Reinforcement Bars, Epoxy Coated	Pound	6,740
Stud Shear Connectors	Each	392
Furnishing and Erecting Structural Steel	Pound	20,300
Beam Straightening	L.S.	1
Removing and Re-erecting Existing Railing	Foot	74
Protective Shield	Sq. Yd.	155
Temporary Shoring and Cribbing	L.S.	1
Mechanical Splice	Each	280
Bridge Deck Grooving	Sq. Yd.	57
Protective Coat	Sq. Yd.	114
Structural Steel Removal	Pound	19,640

DESIGNED *[Signature]*  
CHECKED Victor H. Velaz  
DRAWN *[Signature]*  
CHECKED S.T.B./ V.H.V.

November 10, 2005  
EXAMINED *[Signature]*  
PASSED *[Signature]*  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES



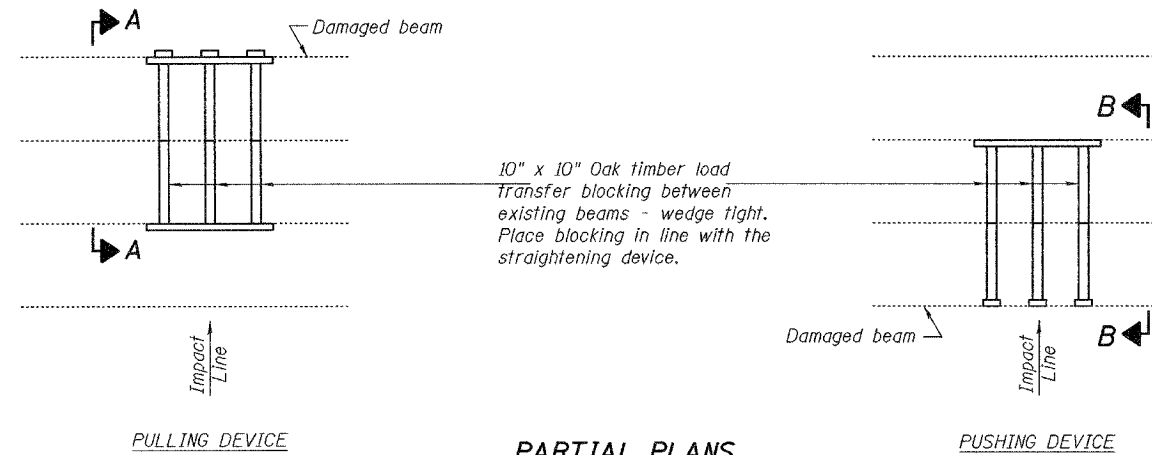
Expires: November 30, 2006

**PLAN AND ELEVATION**  
**HARLEM AVE / F.A.I. 55**  
**COOK COUNTY**  
**SN 016-0316**

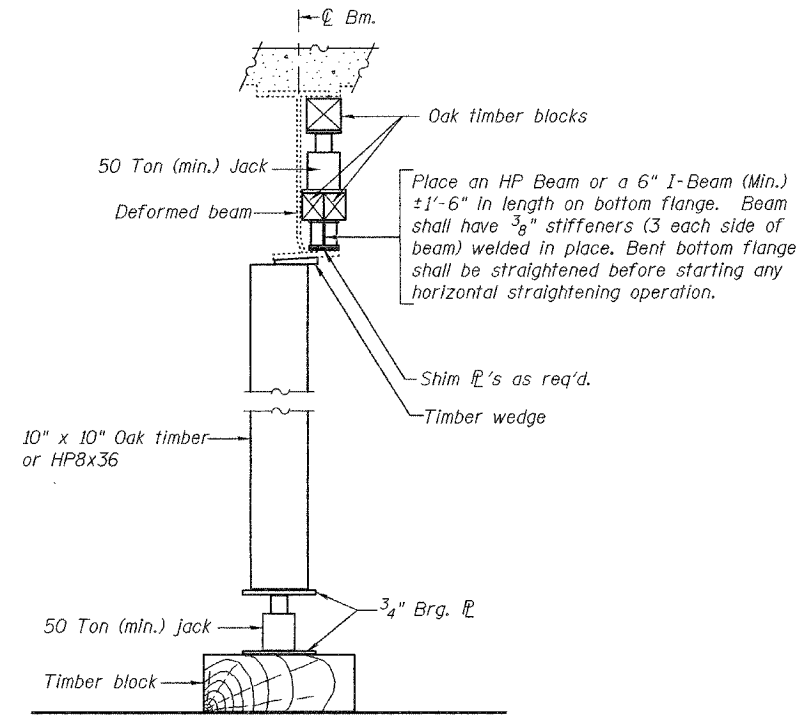
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Cook	14	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

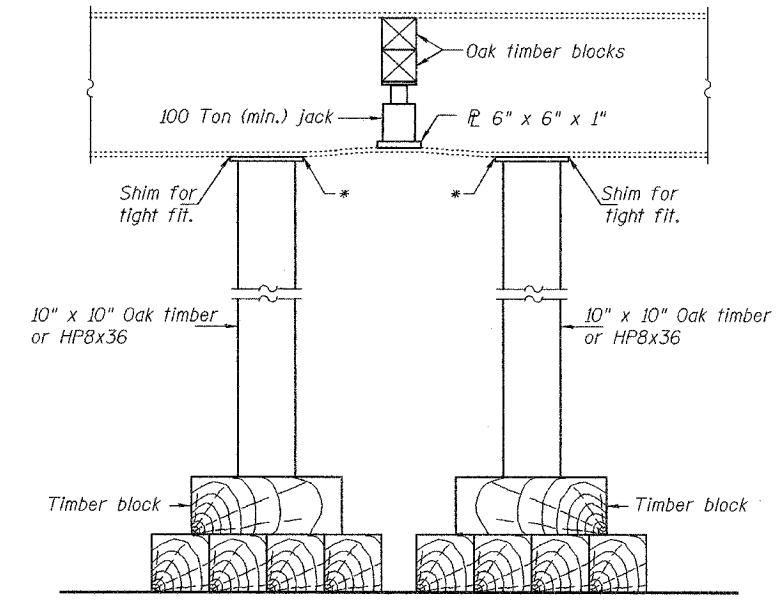
Contract Number: 60A60



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

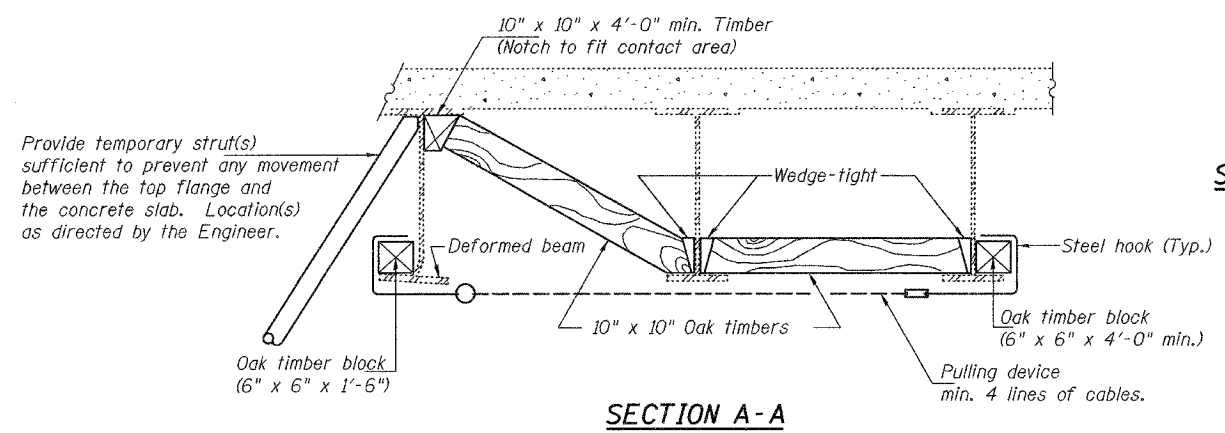


**SUGGESTED VERTICAL STRAIGHTENING DETAIL**  
(To correct flange rotation.)

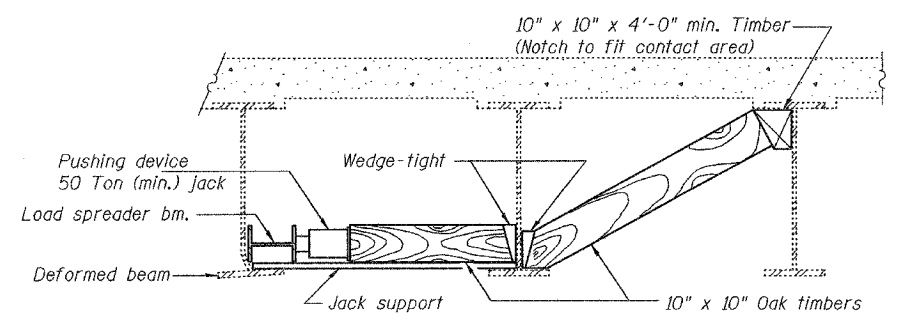


**SUGGESTED VERTICAL STRAIGHTENING DETAIL**  
(To correct localized vertical flange deformations.)

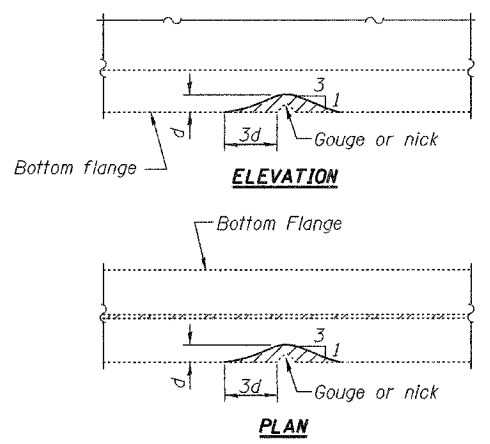
\* Edge of plate shall line up with edge of deformation.  
Note:  
Braces and jack assembly shall be placed on same side of web.  
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



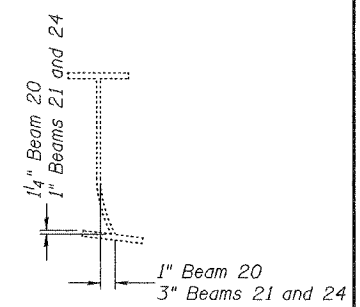
**SECTION A-A**



**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**  
(Looking South)  
(Approximate max. deflections)  
Deflected length of beams 21 and 24 to be straightened is approximately 5'-0".  
Deflected length of beam 20 to be straightened is approximately 6'-0".

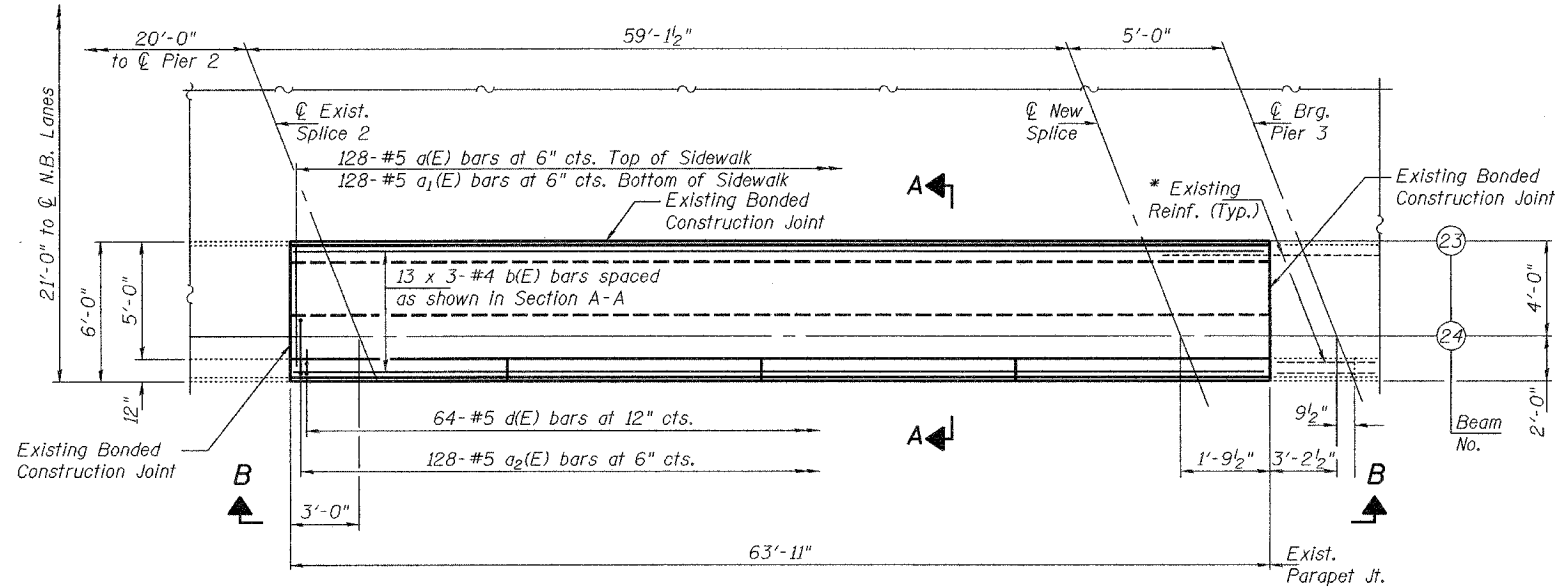
**BEAM STRAIGHTENING DETAILS**  
**HARLEM AVE / F.A.I. 55**  
**COOK COUNTY**  
**SN 016-0316**

DESIGNED	S.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	S.J.B. V.H.V.

EXAMINED	November 9, 2005
EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

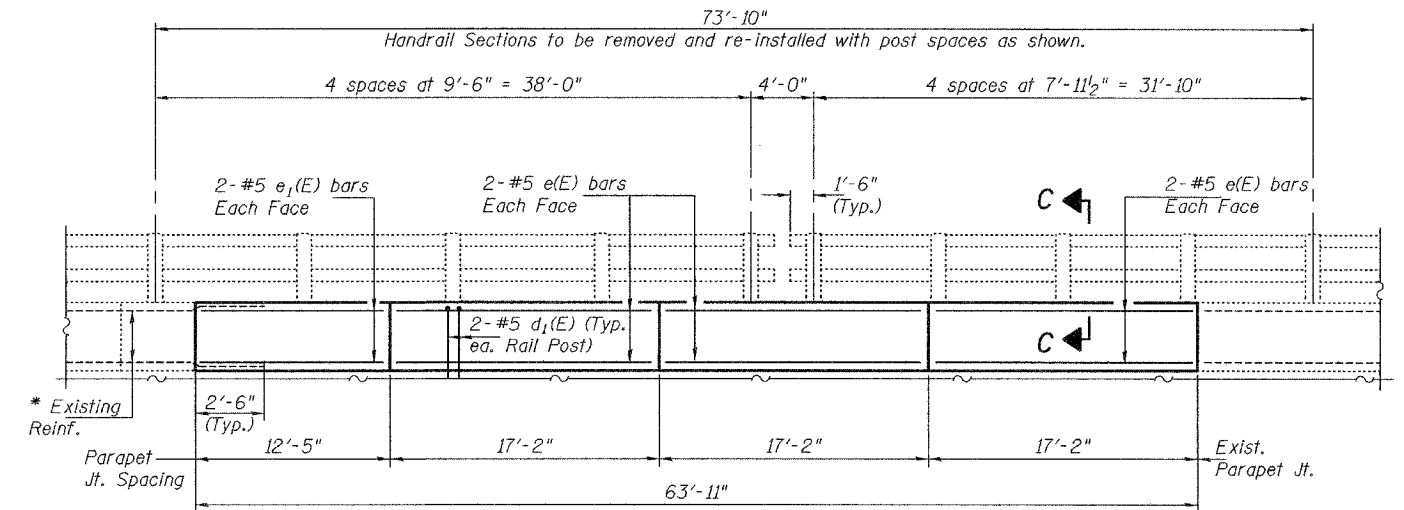
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Cook	14	5
SHEET NO. 3				
5 SHEETS				
Contract Number: 60A60				



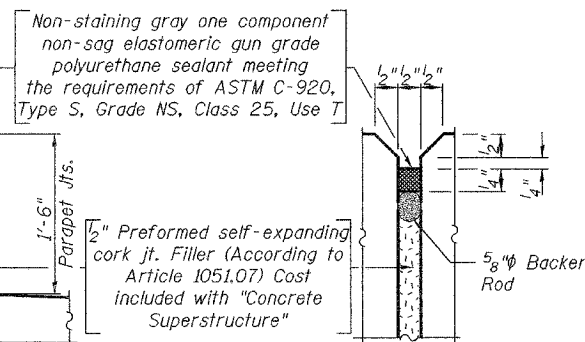
**PARTIAL PLAN  
CONCRETE REMOVAL & REPLACEMENT**

Perimeters of concrete removal areas shall be saw cut  $\frac{3}{4}$ " prior to the removal of concrete. Existing reinforcement shall be cut only if required for fitting bolts. Cut reinforcement shall be spliced as directed by the Engineer. Cost shall be included in the cost of "Concrete Superstructure".

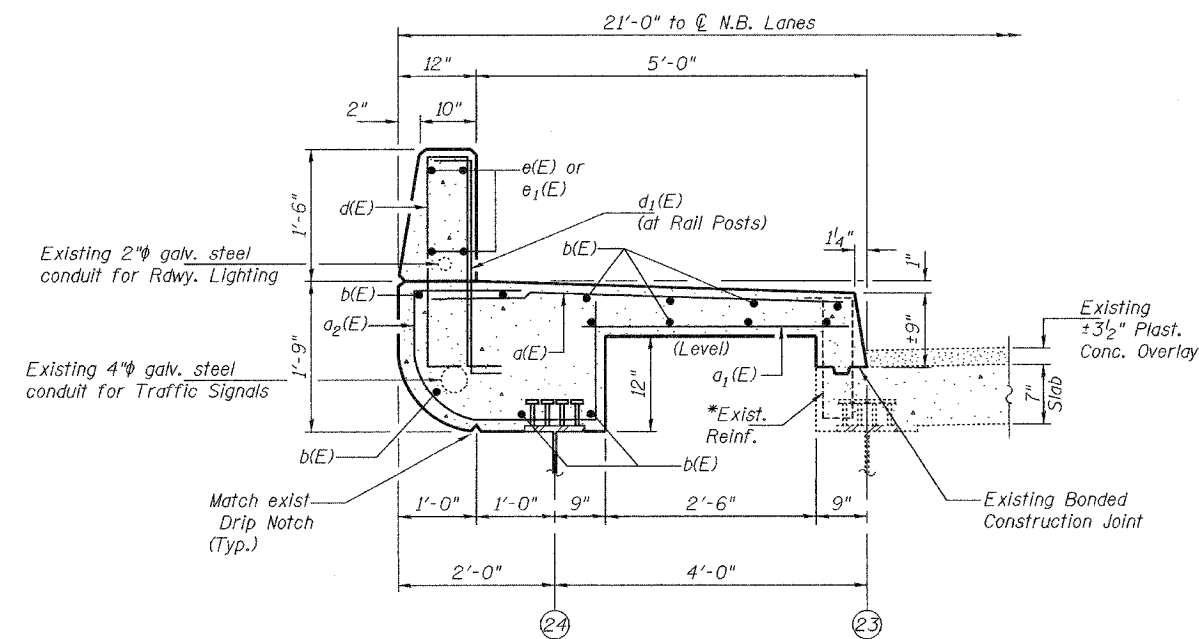
\* Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction.



**VIEW B-B**

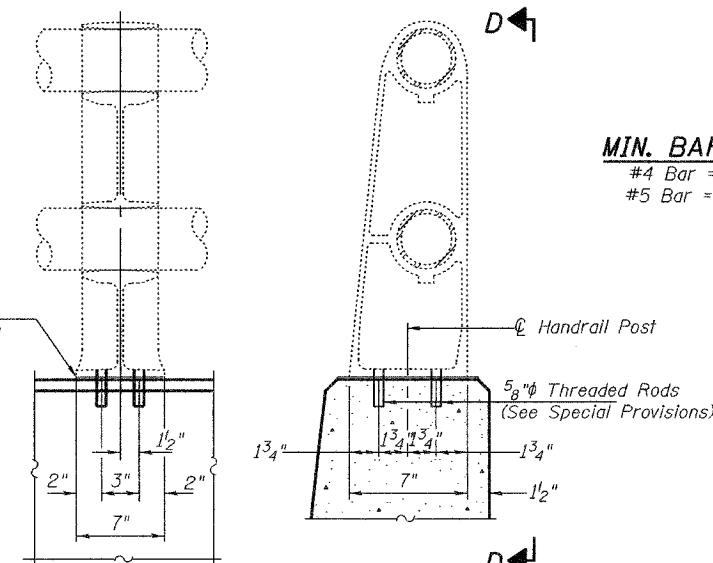


**SECTION AT PARAPET**



**SECTION A-A**

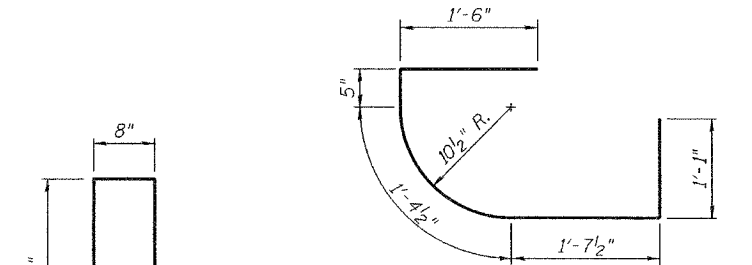
$\frac{1}{8}$ " Prefabricated Pad Cost shall be included in the cost of "Removing & Re-erecting Existing Railing".



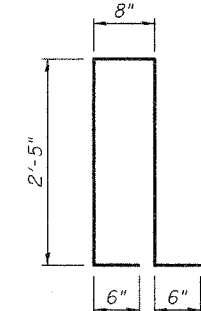
**VIEW D-D**

**SECTION C-C**

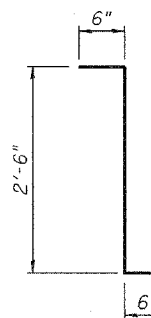
**HANDRAIL POST DETAILS**



**BAR a2(E)**



**BAR d(E)**



**BAR d1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1(E)	128	#5	5'-9"	—
a2(E)	128	#5	4'-6"	—
a2(E)	128	#5	6'-0"	U
b(E)	39	#4	22'-4"	—
d(E)	64	#5	6'-6"	—
d1(E)	16	#5	3'-6"	—
e(E)	12	#5	16'-10"	—
e1(E)	4	#5	12'-1"	—
Concrete Removal			Cu. Yd.	19.9
Concrete Superstructure			Cu. Yd.	19.9
Reinforcement Bars, Epoxy Coated			Lbs.	3,500

Reinforcement bars designated (E) shall be epoxy coated. Bars indicated thus 13 x 3-#4 etc. indicates 13 lines of bars with 3 lengths per line.

**MIN. BAR LAPS**

#4 Bar = 1'-8"  
#5 Bar = 2'-2"

DESIGNED	S.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	S.J.B. V.H.V.

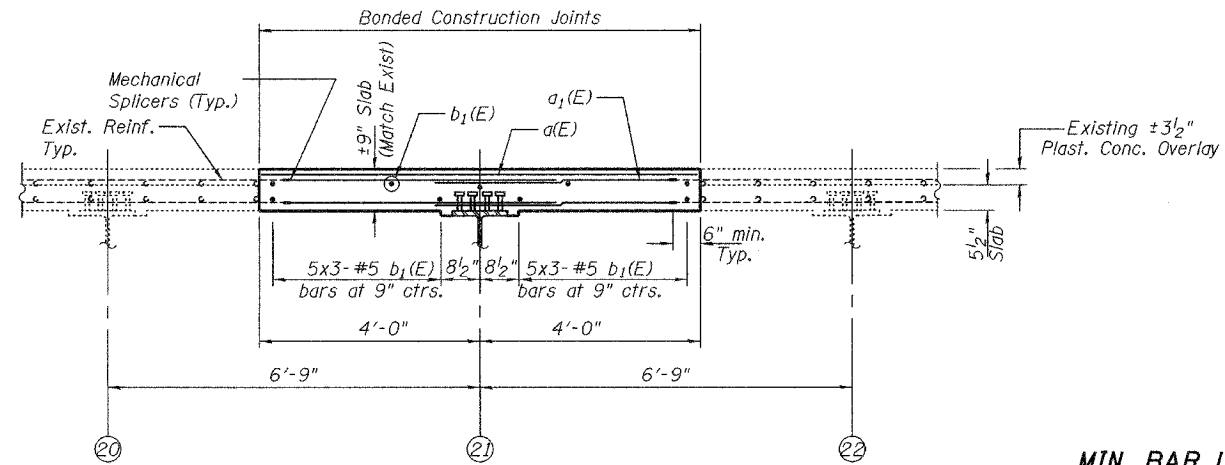
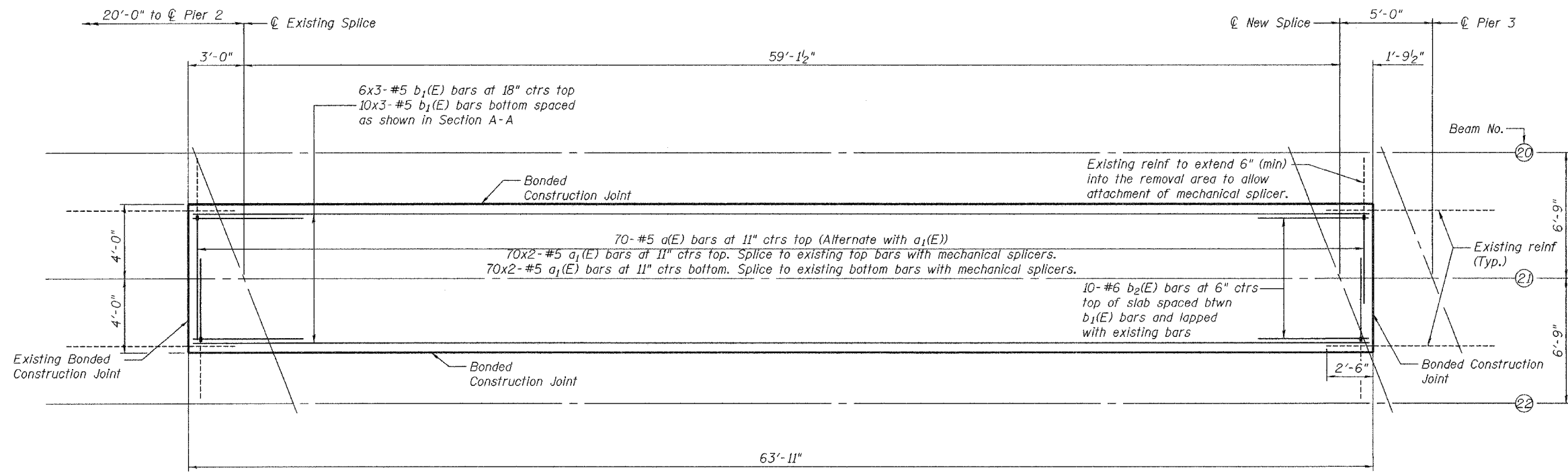
November 9, 2005  
EXAMINED *John A. Morris*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**BRIDGE REPAIRS**  
**CONCRETE REMOVAL & REPLACEMENT DETAILS**  
F.A.I. 55 SEC. 207-0708  
COOK COUNTY  
S.N. 016-0316

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
		Cook	14	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract Number: 60A60



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	70	#5	7'-7"	
a1(E)	280	#5	5'-0"	
b1(E)	48	#5	22'-9"	
b2(E)	10	#6	5'-11"	
Mechanical Splicers			Each	280
Concrete Removal			Cu. Yd.	14.2
Concrete Superstructure			Cu. Yd.	14.2
Reinforcement Bars, Epoxy Coated			Lbs.	3,240

Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 13 x 3-#4 etc. indicates 13 lines of bars with 3 lengths per line.

**MIN. BAR LAPS**  
#5 Bar = 2'-2"

DESIGNED	S.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	S.J.B. V.H.V.

November 9, 2005  
EXAMINED *John A. Morris*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

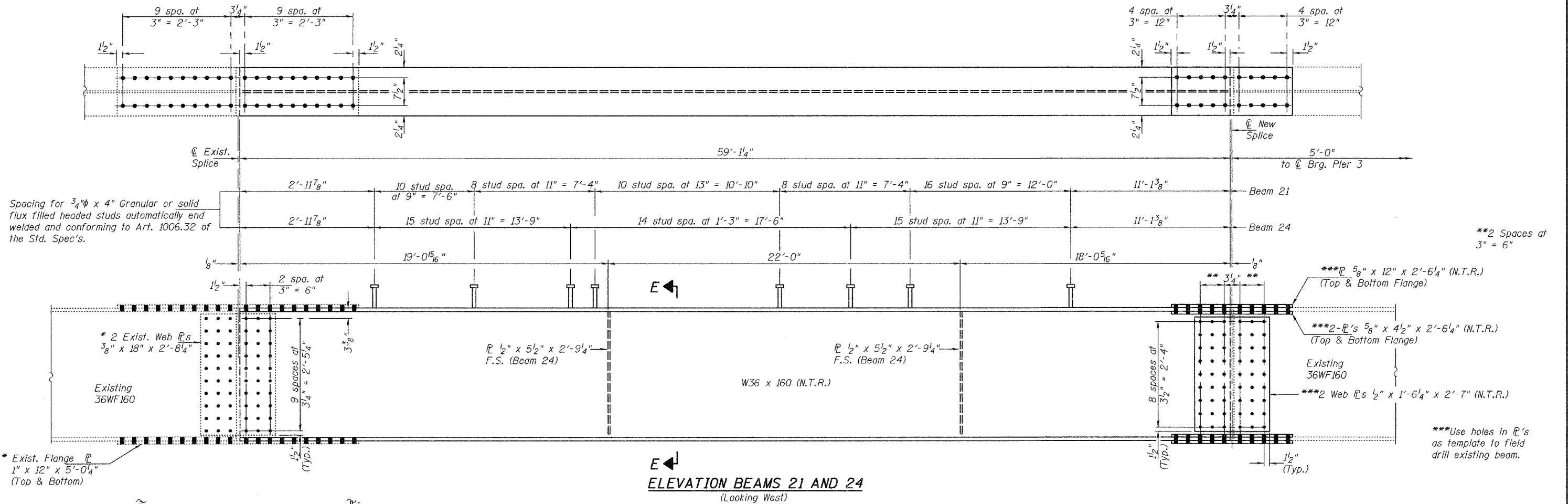
**BRIDGE REPAIRS**  
**CONCRETE REMOVAL & REPLACEMENT DETAILS**  
**F.A.I. 55 SEC. 207-0708**  
**COOK COUNTY**  
**S.N. 016-0316**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Cook	14	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

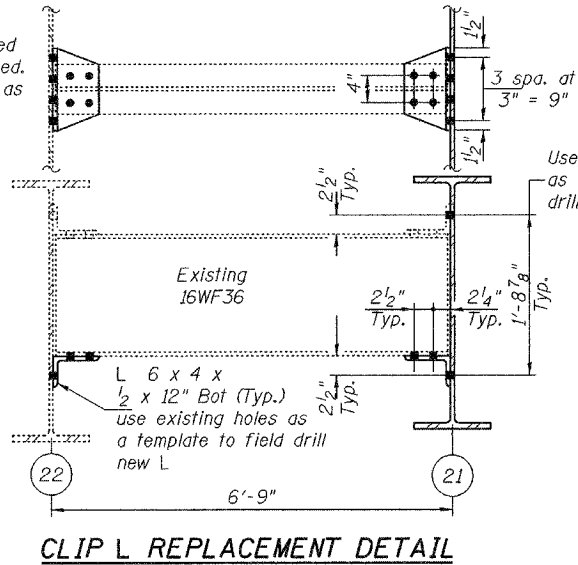
SHEET NO. 5  
5 SHEETS

Contract Number: 60A60



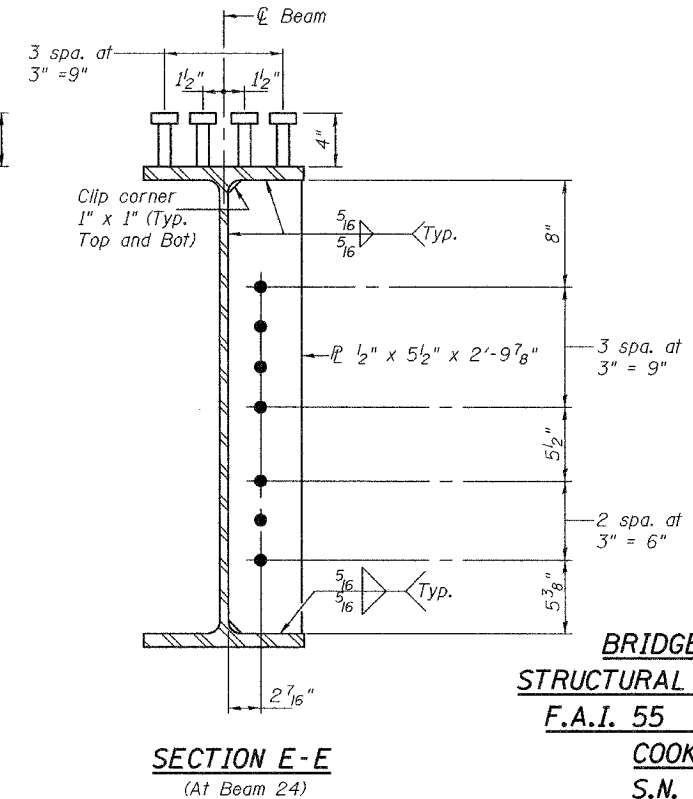
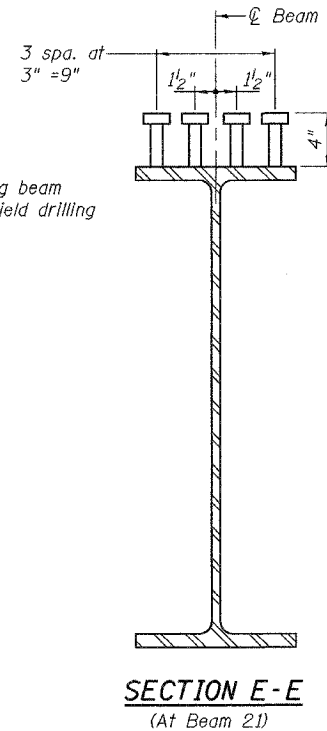
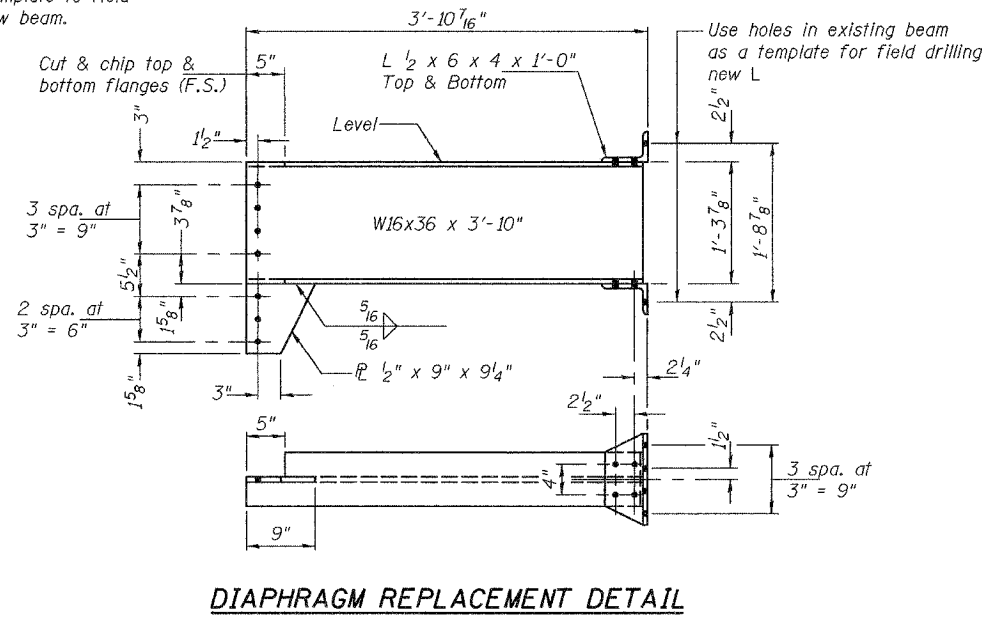
ELEVATION BEAMS 21 AND 24  
(Looking West)

\* Exist.  $\phi$ 's to be matched marked, removed and reused. Use holes in existing  $\phi$ 's as a template to field drill new beam.



Notes:

Natural camber of new beam shall be placed upward for fabrication. Fasteners shall be high strength bolts. Flange splice holes shall be  $\frac{15}{16}"$   $\phi$  for  $\frac{7}{8}"$   $\phi$  bolts. Web splice holes shall be  $\frac{13}{16}"$   $\phi$  for  $\frac{3}{4}"$   $\phi$  bolts. Diaphragm connection holes shall be  $\frac{15}{16}"$   $\phi$  for  $\frac{3}{4}"$   $\phi$  bolts. Two hardened washers shall be required at diaphragm connections.



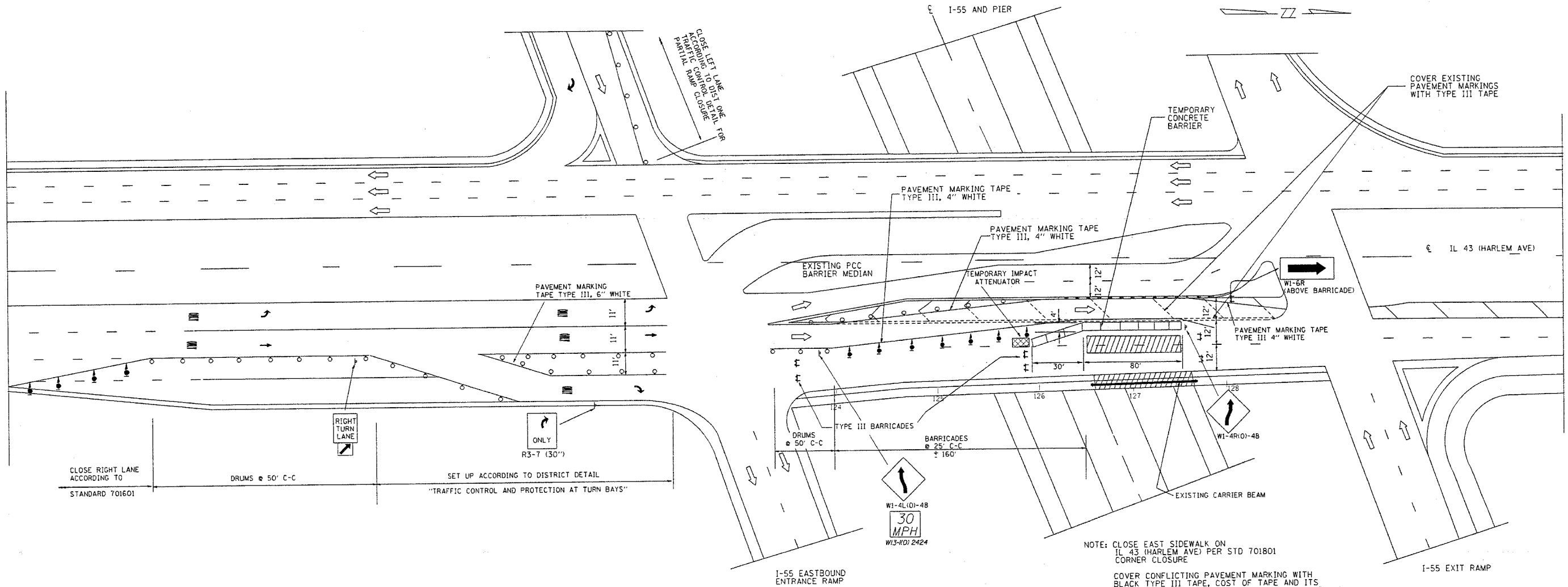
BRIDGE REPAIRS  
STRUCTURAL STEEL DETAILS  
F.A.I. 55 SEC. 207-0708  
COOK COUNTY  
S.N. 016-0316

DESIGNED	S.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	S.J.B. V.H.V.

November 9, 2005  
EXAMINED John A. Morris  
ENGINEER OF STRUCTURAL SERVICES  
PASSED Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES



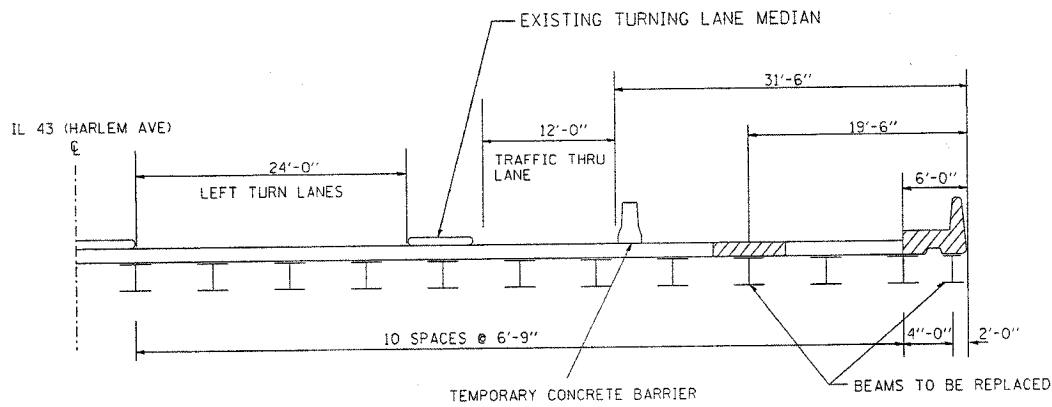
F.A.D. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34B	0708.2A-1-2	COOK	14	9
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		



NOTE: CLOSE EAST SIDEWALK ON IL 43 (HARLEM AVE) PER STD 701801 CORNER CLOSURE  
 COVER CONFLICTING PAVEMENT MARKING WITH BLACK TYPE III TAPE, COST OF TAPE AND ITS REMOVAL IS INCLUDE IN THE COST OF "TC&P 701601"  
 COST OF TRAFFIC CONTROL ITEMS SHOWN SHALL BE INCLUDED IN THE COST OF "TC&P 701601"

LEGEND

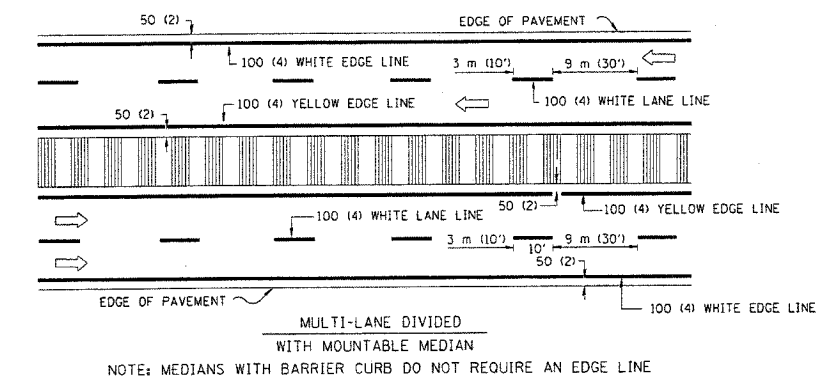
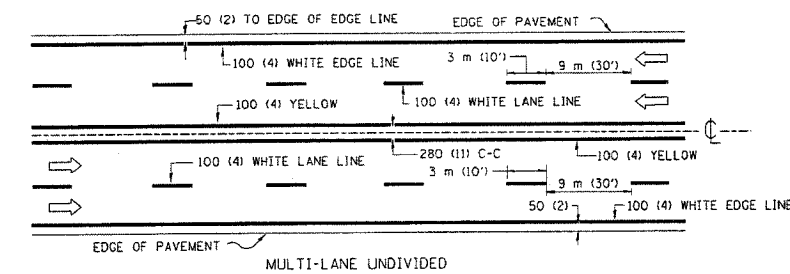
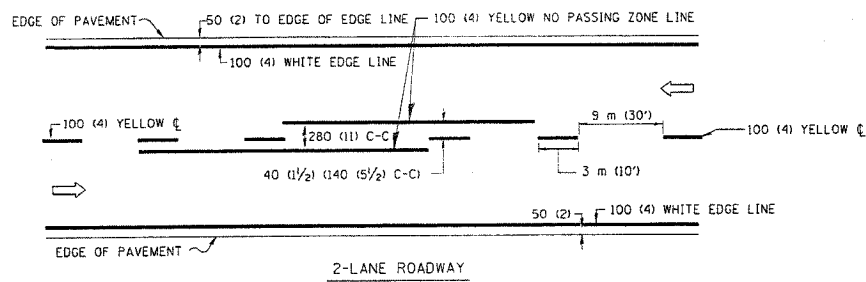
- TEMPORARY IMPACT ATTENUATOR
- TRAFFIC DIRECTION
- TYPE III BARRICADE WITH FLASHING LIGHTS
- WORK AREA
- SIGN OR SIGN W/ STEADY BURN LIGHT AS SHOWN
- DRUMS W/ STEADY BURN MONO DIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONO DIRECTIONAL LIGHTS



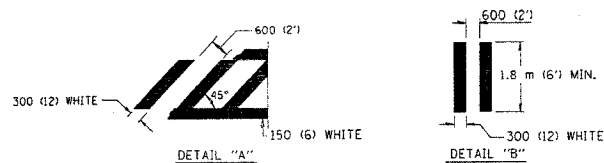
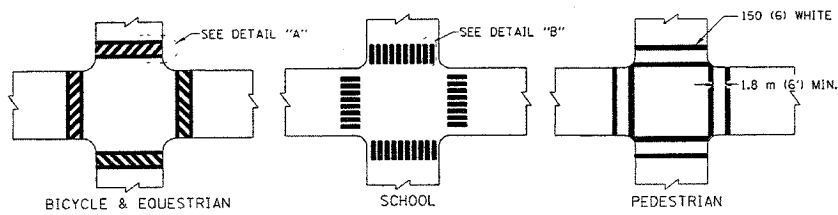
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 TRAFFIC CONTROL PLAN  
 IL 43 (HARLEM AVE.)  
 OVER I-55  
 SCALE: VERT. \_\_\_\_\_  
 DATE \_\_\_\_\_ HORIZ. \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

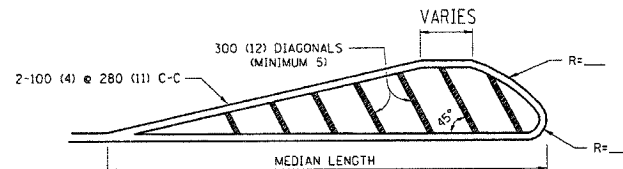
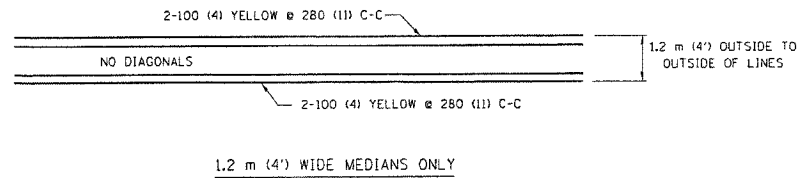
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 USER = mdy



TYPICAL LANE AND EDGE LINE MARKING

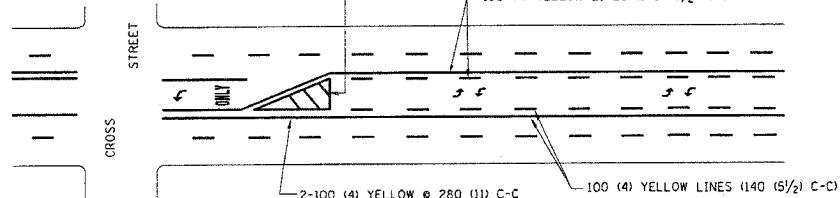


TYPICAL CROSSWALK MARKING

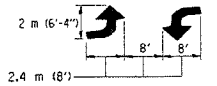


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.  
 DIAGONAL LINE SPACING: 15 m (50') C-C (LESS THAN 50 km/h (30 MPH))  
 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH))  
 45 m (150') C-C (MORE THAN 70 km/h (45 MPH))

MEDIANS OVER 1.2 m (4') WIDE

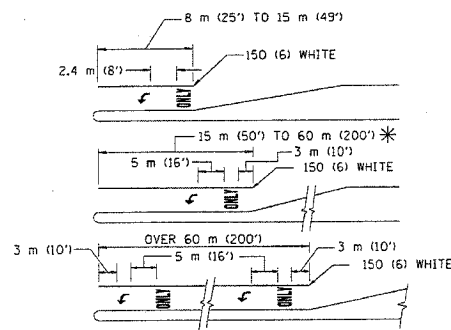


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 60 m (200') TO 90 m (300') INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

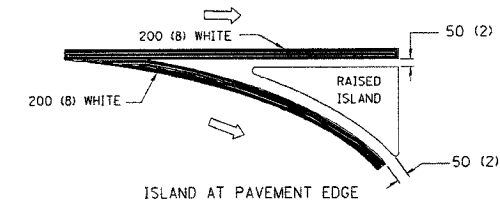
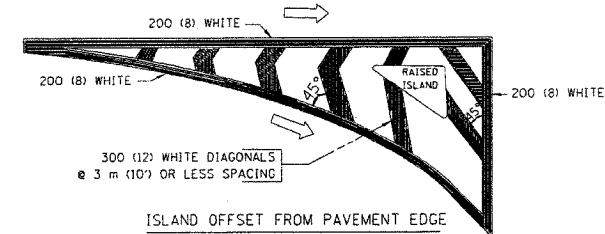


FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.  
 AREA = 1.5 m<sup>2</sup> (15.6 SQ. FT.) ONLY AREA = 1.9 m<sup>2</sup> (20.8 SQ. FT.)

\* TURN LANES IN EXCESS OF 120 m (400') 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	100 (4)	SKIP-DASH	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	280 (11) C-C
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	140 (5 1/2) C-C FROM SKIP-DASH CENTERLINE 280 (11) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	3 m (10') LINE WITH 9 m (30') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (24) LINE WITH 1.8 m (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION 2.4 m (8') LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	3 m (10') LINE WITH 9 m (30') SPACE FOR SKIP-DASH; 140 (5 1/2) 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 @ 150 (6) 300 (12) @ 45° 300 (12) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (24) APART 600 (24) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45° NO DIAGONALS USED FOR 1.2 m (4') WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	280 (11) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 4.5 m (15') C-C (LESS THAN 50 km/h (30 MPH)) 6 m (20') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 9 m (30') C-C (OVER 70 km/h (45 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES; "RR" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=10.3m <sup>2</sup> (13.6 SQ. FT.) EACH "X"=5.0 m <sup>2</sup> (54.0 SQ. FT.)
SHOULDER DIAGONALS	300 (12) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	15 m (50') C-C (LESS THAN 50 km/h (30 MPH)) 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 45 m (150') C-C (OVER 70 km/h (45 MPH))

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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
TYPICAL PAVEMENT  
MARKINGS

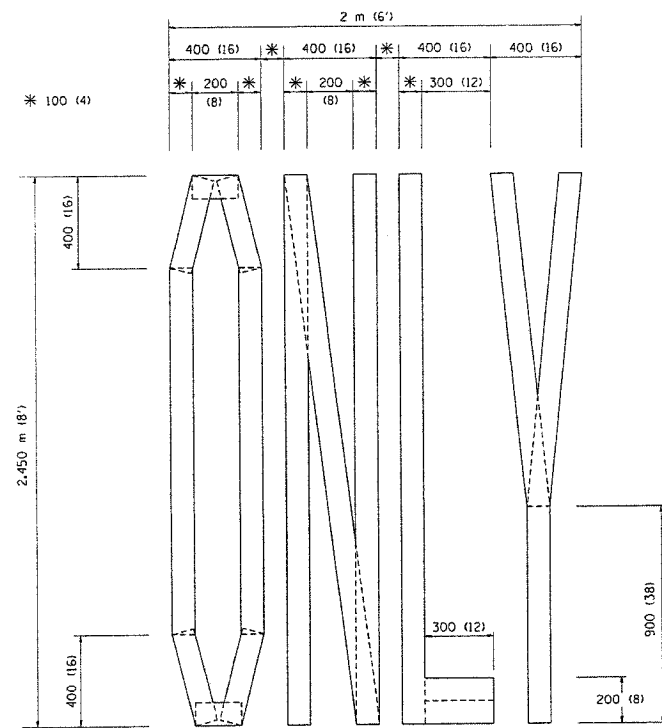
REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

SCALE: NONE  
DATE 10/18/2002

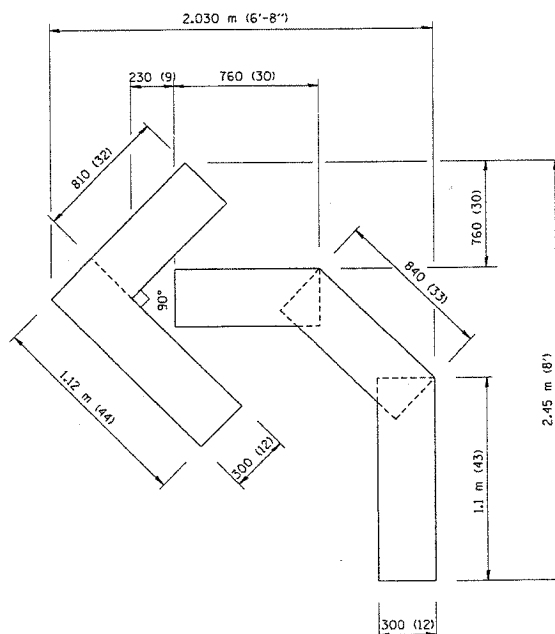
DRAWN BY CADD  
CHECKED BY  
TC-13

Contract Number: 60A60

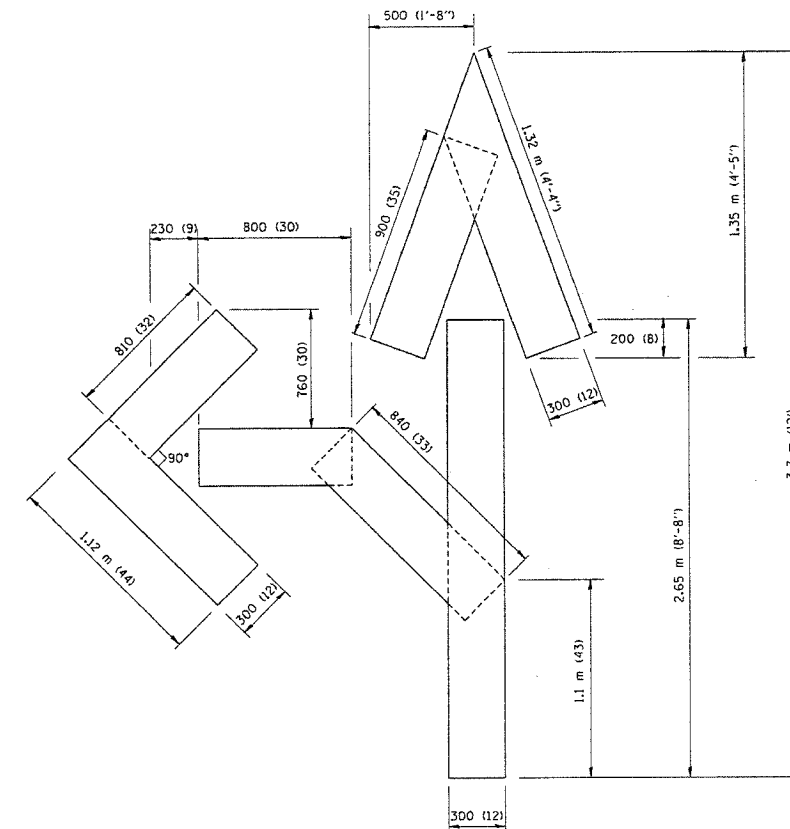
F. & P. SEC.	SECTION	COUNTY	SHEET NO.	SHEET NO.
349	0708.2 A-J-Z	Cook	14	11
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



QUANTITY  
 100 (4) LINE = 19.7 m (64.1 ft.)  
 1.97 sq. m (21.1 sq. ft.)



QUANTITY  
 100 (4) LINE = 13.9 m (45.5 ft.)  
 1.39 sq. m (15.2 sq. ft.)



QUANTITY  
 100 (4) LINE = 25.3 m (82.5 ft.)  
 2.53 sq. m (27.5 sq. ft.)

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING  
 LETTERS AND SYMBOLS  
 FOR TRAFFIC STAGING

REVISIONS		
NAME	DATE	
T. RAMMACHER	09/18/94	
J. OBERLE	06/01/96	
T. RAMMACHER	06/05/96	
T. RAMMACHER	11/04/97	
T. RAMMACHER	03/02/98	
E. GOMEZ	08/28/00	

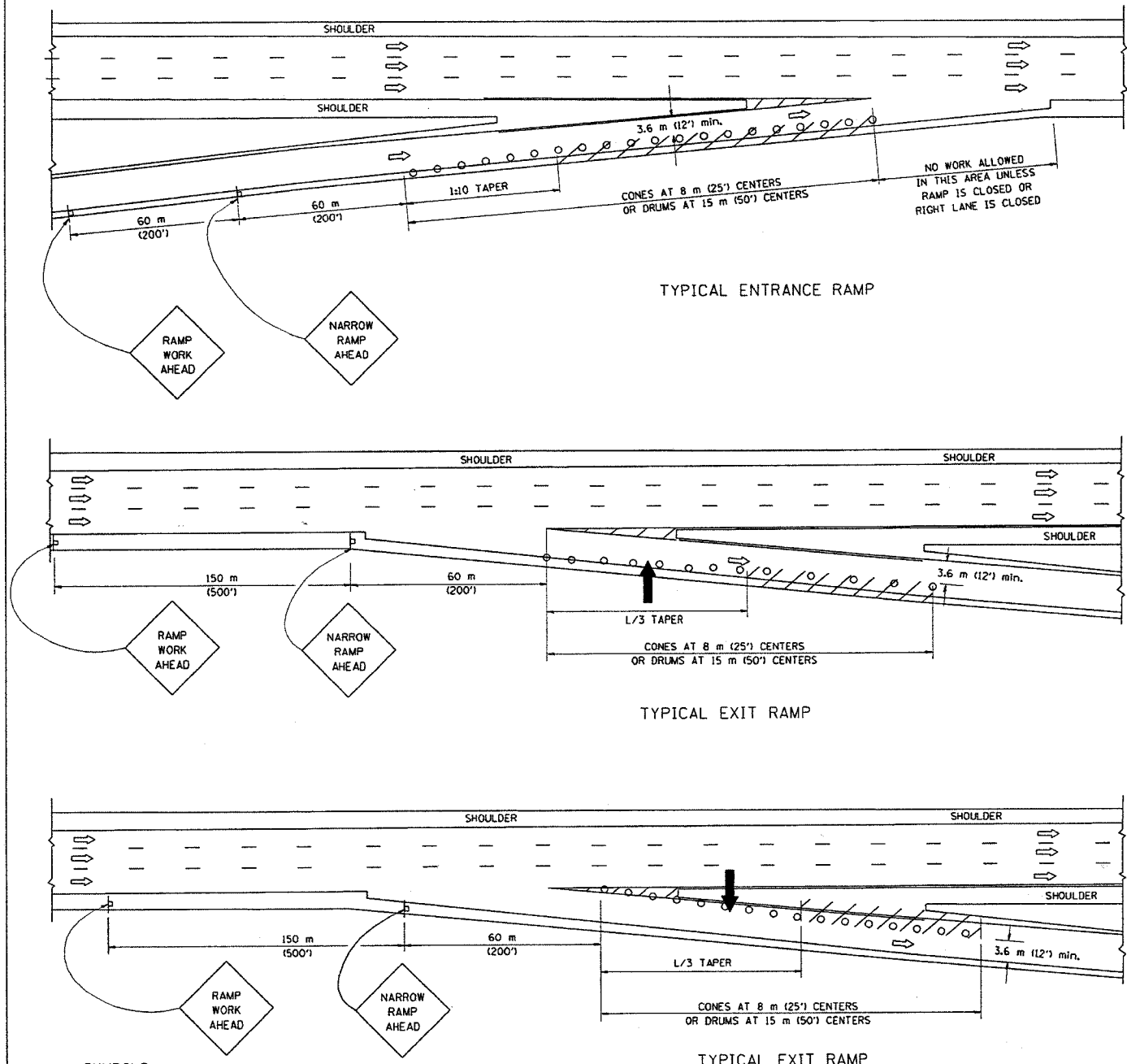
SCALE: NONE  
 DATE 10/18/2002

DRAWN BY CADD  
 CHECKED BY TC-16

REVISION DATE: 08/28/00

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS
348	0702A12	Cook	14
STA.	TO STA.		NO.
			12
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

PARTIAL RAMP CLOSURE DETAILS



SYMBOLS

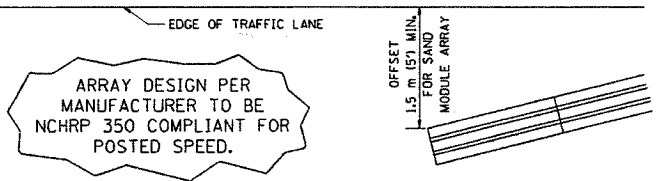
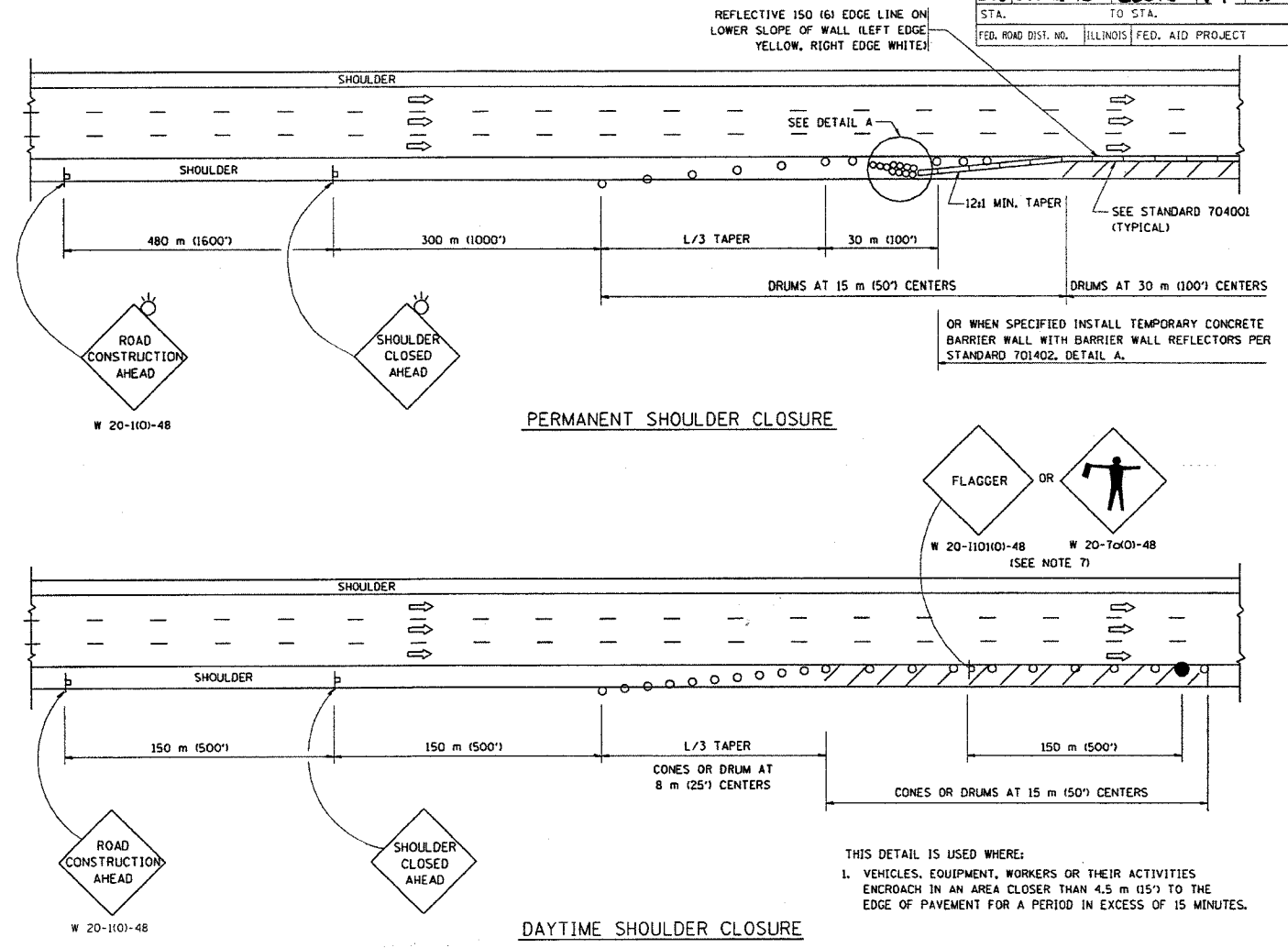
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- CONES - 700 (28) IN HEIGHT

GENERAL NOTES

- THE "L" DISTANCE EQUALS:
 

SPEED LIMIT	FORMULAS
80 km/h (45 mph) OR GREATER:	METRIC: $L=0.65(W)(S)$ ENGLISH: $L=(W)(S)$
	W = WIDTH OF OFFSET IN METERS (FEET)
	S = NORMAL POSTED SPEED KM/H (MPH)
- PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS



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

REVISIONS	
NAME	DATE
DWS	11/96
JAF	12/02
NCHRP 350	04/03

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

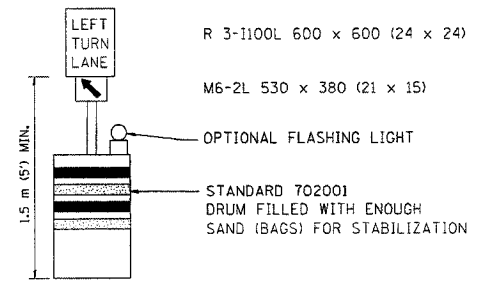
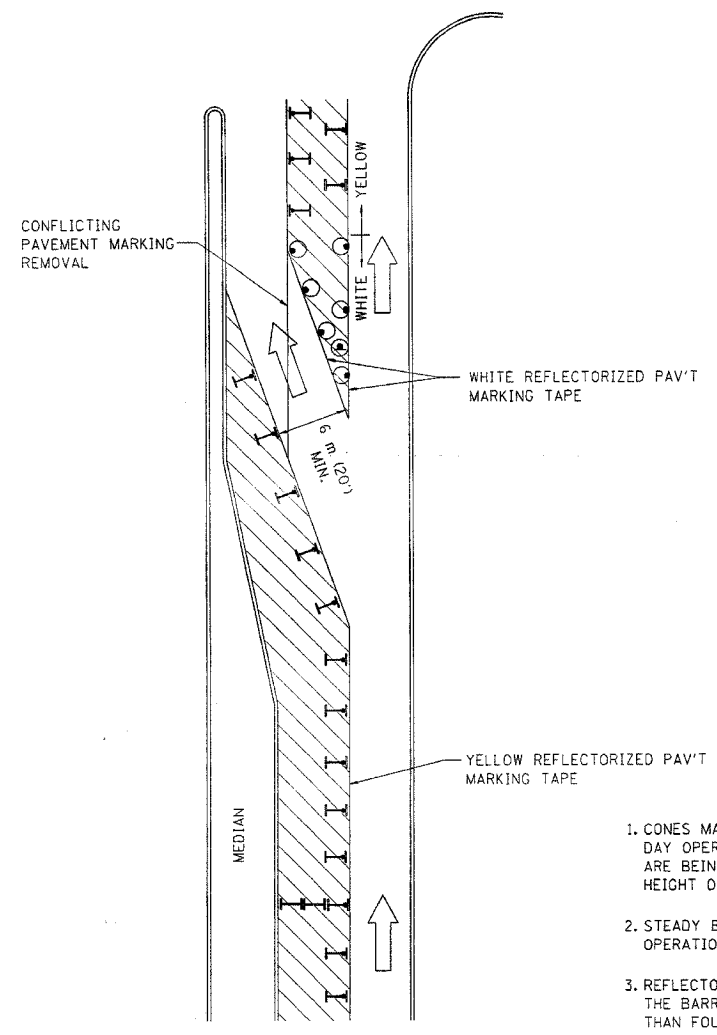
ILLINOIS DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES PARTIAL RAMP CLOSURES**

SCALE: NONE  
DATE: 05/06/2003

DRAWN BY: DWS  
DESIGNED BY: DWS  
CHECKED BY: TC-17

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348 0308.2A-I-2 Cook	14	13	
STA. TO STA.		FED. ROAD DIST. NO.	
		ILLINOIS	
		FED. AID PROJECT	



GENERAL NOTES

- CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 710 (28) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 1.5 m (5').
- STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
- REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
- THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 600 x 600 (24 x 24) AND M6-2R 530 x 380 (21 x 15) SHALL BE USED.
- THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
- FORM BT 725 IS REQUIRED.
- TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

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

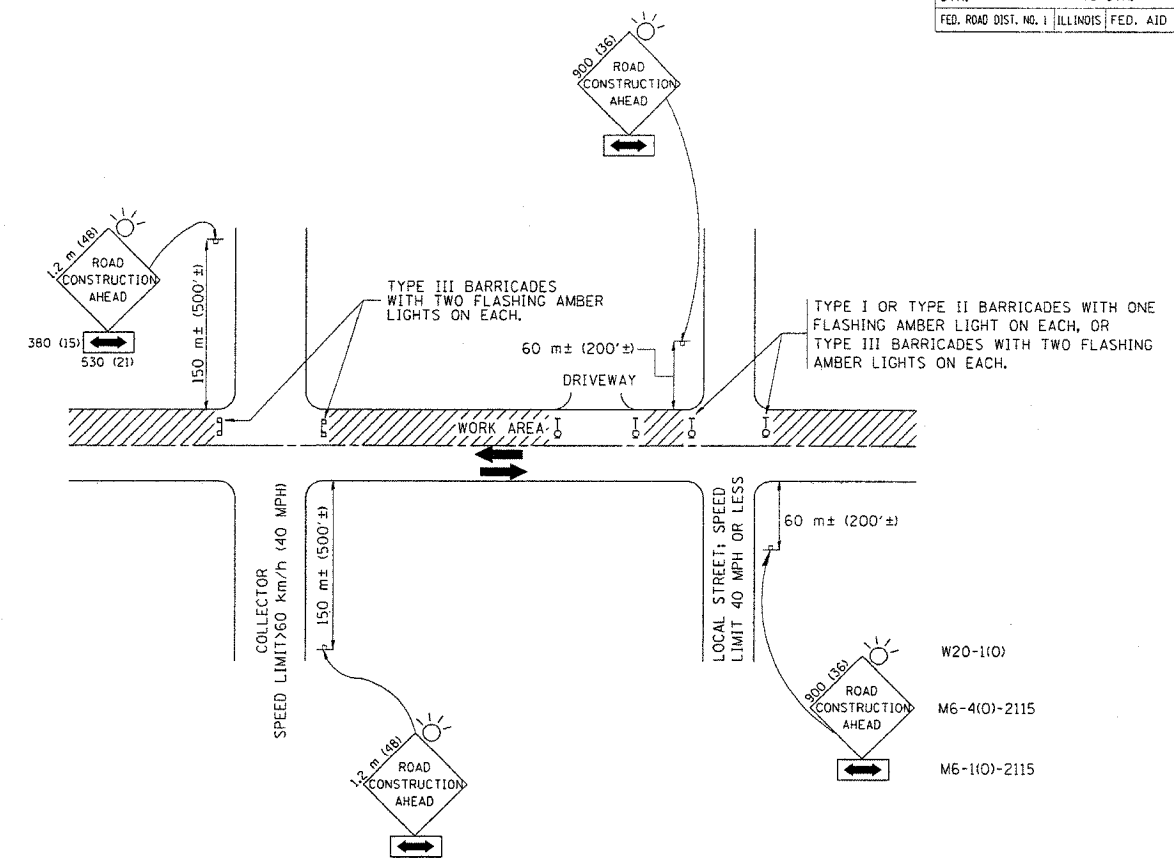
REVISIONS	
NAME	DATE
T. RAMMACHER	09/08/94
A. HOUSEH	11/07/95
A. HOUSEH	10/12/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)**

SCALE: NONE  
 DATE: 10/18/2002

DRAWN BY  
 CHECKED BY LHA  
 TC-14

F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
349 0009.2A-1-2 Cook		14	14
STA.	TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			



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 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - ONE ROAD CONSTRUCTION AHEAD SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') 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 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - ONE ROAD CONSTRUCTION AHEAD SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') 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.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
NAME	DATE	
LHA	6/89	SCALE: VERT. HORIZ. DATE 10/18/2002
T. RAMMACHER	09/08/94	
J. OBERLE	10/18/95	
A. HOUSEH	03/06/96	
A. HOUSEH	10/15/96	
T. RAMMACHER	01/06/00	DRAWN BY CHECKED BY TC-10