

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-I	COOK	54	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60J37		

D-91-227-10

PROJECT LOCATED IN THE VILLAGE OF HODGKINS AND THE VILLAGE OF WILLOW SPRINGS IN COOK COUNTY, IL

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.P. ROUTE 330 US ROUTE 12, 20, 45 SOUTHBOUND (LAGRANGE RD) OVER SANTA FE DR, RRS, DES PLAINES (0.5 MI SOUTH OF I-55)

SECTION: 462 X-B-I

COOK COUNTY

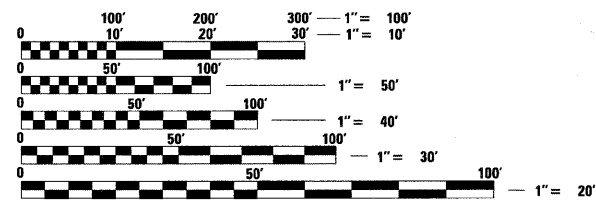
C-91-227-10

PROJECT: NHF-0330(061)

NORTH BRIDGE REHABILITATION

SN 016-2407

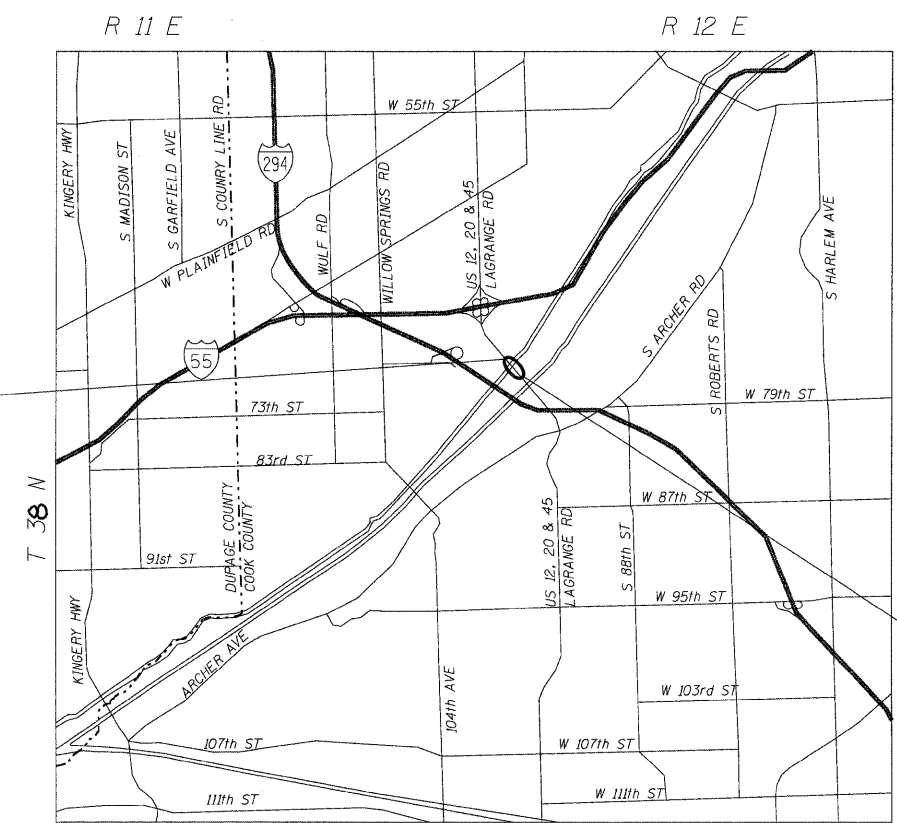
DESIGN DESIGNATION
OTHER PRINCIPAL ARTERIAL
ADT 67400 (2005)
POSTED SPEED LIMIT 45 MPH



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 BEGINS
STA. 69+00.70



PROJECT ENDS
STA. 31+99.36

LOCATION MAP



NET AND GROSS LENGTH OF PROJECT = 3701.34' = 0.701 MI

PROJECT MANAGER: KIM HARVEY (847) 705-4055
PROJECT ENGINEER: ERSKINE W. KLYCE (847) 705-4594

CONTRACT NO. 60J37

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED JANUARY 29, 2010

Diana M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 19, 2010
Scott E. Stitt P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

March 19, 2010
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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LONGO, INC.
CONSULTING ENGINEERS
1560 WALL ST., SUITE 222
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

W. J. Longo
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
EX. 11/30/11

FRED M. LIN
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
EX. 11/30/11

STATE STANDARDS

<u>SHEET NO.</u>	<u>TITLE</u>
1	TITLE SHEET
2	GENERAL NOTES, STATE STANDARDS AND INDEX OF SHEETS
3-4	SUMMARY OF QUANTITIES
5	TYPICAL SECTIONS
6	STAGING TYPICAL SECTIONS
7-9	CONSTRUCTION STAGING PLAN - STAGE 1
10-12	CONSTRUCTION STAGING PLAN - STAGE 2
13	ROADWAY RESURFACING PLAN
14-16	PAVEMENT MARKING PLAN
17-20	DETOUR PLAN
21-47	STRUCTURAL PLANS
48	BUTT JOINT AND HMA TAPER DETAILS
49	FREEWAY SINGLE AND MULTILANE WEAVE
50	RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLow RESISTANT)
51	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
52	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURE AND PARTIAL RAMP CLOSURES
53	SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS
54	ARTERIAL ROAD INFORMATION SIGN
	HIGHWAY STANDARDS

<u>SHEET NO.</u>	<u>TITLE</u>
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT REBARS
635011-02	REFLECTOR MARKER AND MOUNTING DETAIL
701101-02	OFF-RD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701400-04	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-05	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411-06	LANE CLOSURE, MULTILANE AT ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701426-03	LANE CLOSURE, MULTILANE INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
720011-01	METAL POST FOR SIGNS, MARKERS & DELINEATORS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A & B METAL POST (FOR SIGNS & MARKERS)

GENERAL NOTES

ALL ELEVATIONS ARE BASED ON UNITED STATES COAST AND GEODETIC SURVEY DATUM.

DIMENSIONS ARE IN ENGLISH UNITS UNLESS OTHERWISE NOTED.

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES (48 HOURS NOTIFICATION IS REQUIRED).

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

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

ANY REFERENCE TO STANDARDS IN THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE DEPARTMENT LISTED IN THE PLANS WITH THE LATEST NUMBERS.

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

THE RESIDENT ENGINEER SHALL CONTACT MS. PATRICE HARRIS, AREA TRAFFIC ENGINEER, AT (708) 597-9800 AT A MINIMUM OF 2 WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKING.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.

ALL WORK IS TO BE COMPLETED BY THE COMPLETION DATE. THE COMPLETION DATE FOR THIS CONTRACT IS OCTOBER 29, 2010.

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

LONGO, INC.
CONSULTING ENGINEERS
1560 WALL ST, SUITE 222
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

DESIGNED - MJY	REVISED -
DRAWN - ST, TSC	REVISED -
CHECKED - MJY, DC	REVISED -
DATE - 01/29/2010	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, STATE STANDARDS AND INDEX OF SHEETS
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRs, DES PLAINES**

SCALE: NONE SHEET NO. 2 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	2
D-91-227-10		CONTRACT NO. 60J37		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES			80% FED. 20% STATE			SUMMARY OF QUANTITIES			80% FED. 20% STATE		
CODE NO.	ITEM	UNIT	URBAN TOTAL	ROADWAY J000-2A	BRIDGE X321-2A	CODE NO.	ITEM	UNIT	URBAN TOTAL	ROADWAY J000-2A	BRIDGE X321-2A
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	5340	5340		67100100	MOBILIZATION	L SUM	1	1	
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	148	148		70101800	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1	
40603595	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90	TON	460	460		70102550	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	EACH	1	1	
40701921	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 12"	SQ YD	140	140		70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	40	40	
44000100	PAVEMENT REMOVAL	SQ YD	140	140		70106800	CHANGEABLE MESSAGE SIGN	CAL MO	12	12	
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	1967	1967		70400100	TEMPORARY CONCRETE BARRIER	FOOT	3825	3825	
44000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"	SQ YD	3245	3245		70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	3663	3663	
44000198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	257	257		* 78008210	POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4"	FOOT	12294	12294	
50102400	CONCRETE REMOVAL	CU YD	80.5		80.5	* 78008240	POLYUREA PAVEMENT MARKING TYPE 1 - LINE 8"	FOOT	468	468	
50157300	PROTECTIVE SHIELD	SQ YD	7732		7732	* 78008250	POLYUREA PAVEMENT MARKING TYPE 1 - LINE 12"	FOOT	70	70	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	92.3		92.3	* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	48	48	
50300260	BRIDGE DECK GROOVING	SQ YD	11439		11439	* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	140		140
50300300	PROTECTIVE COAT	SQ YD	12166		12166	* 78100300	REPLACEMENT REFLECTOR	EACH	38	38	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	14290		14290	* 78200530	BARRIER WALL MARKERS, TYPE C	EACH	1224	1224	
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	80		80	78300100	PAVEMENT MARKING REMOVAL	SQ FT	3679	3679	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	18010		18010	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	188	48	140
50800515	BAR SPLICERS	EACH	194		194	X0322185	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4 INCHES	SQ YD	11918		11918
52000110	PREFORMED JOINT STRIP SEAL	FOOT	100		100	X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	200	200	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	80		80	X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SQ FT	200	200	
52100520	ANCHOR BOLTS, 1"	EACH	160		160	X0325775	WET REFLECTIVE TEMPORARY TAPE, TYPE III, 4 INCH	FOOT	19065	19065	

* SPECIALTY ITEMS

LONCO, INC.
CONSULTING ENGINEERS
1560 WALL ST., SUITE 222
NAPERVILLE, ILLINOIS 60563 PH 16301 577-9100

DESIGNED - MJY
DRAWN - ST, TSC
CHECKED - MJY, DC
DATE - 01/29/2010

REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRs, DES PLAINES**

SCALE: NONE SHEET NO. 3 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	3
D-91-227-10			CONTRACT NO. 60J37	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES			80% FED. 20% STATE			SUMMARY OF QUANTITIES					
CODE NO.	ITEM	UNIT	URBAN TOTAL	ROADWAY 1000-2A	BRIDGE X321-2A	CODE NO.	ITEM	UNIT	URBAN TOTAL	ROADWAY 1000-2A	BRIDGE X321-2A
X0325840	WET REFLECTIVE TEMPORARY TAPE TYPE III, 12 INCH	FOOT	135	135							
X0325876	WET REFLECTIVE TEMPORARY TAPE TYPE III, 8 INCH	FOOT	1327	1327							
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	361		361						
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"	SQ YD	11918		11918						
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1							
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	7		7						
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	136		136						
Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	3		3						
Z0030330	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 3	EACH	3		3						
Z0034390	MODULAR EXPANSION JOINT 6"	FOOT	215		215						
Z0034806	MODULAR EXPANSION JOINT-SWIVEL 6"	FOOT	94		94						
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1							
© Z0076600	TRAINEES	HOUR	1,500	1,500							

* SPECIALTY ITEMS

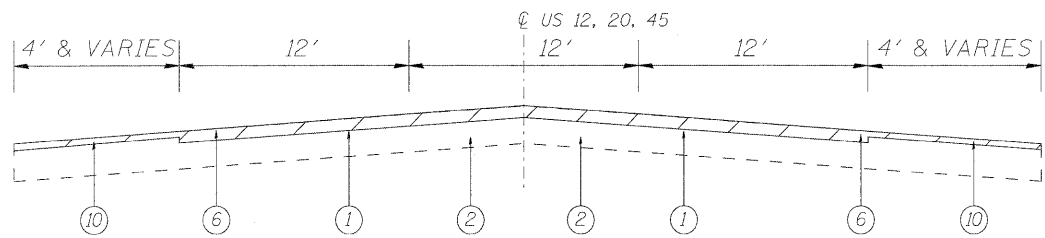
LONGO, INC.
CONSULTING ENGINEERS
1960 WALL ST, SUITE 222
NAPERVILLE, ILLINOIS 60563 PH: 16301 577-9100

DESIGNED - MJY	REVISED -
DRAWN - ST, TSC	REVISED -
CHECKED - MJY, DC	REVISED -
DATE - 01/29/2010	REVISED -

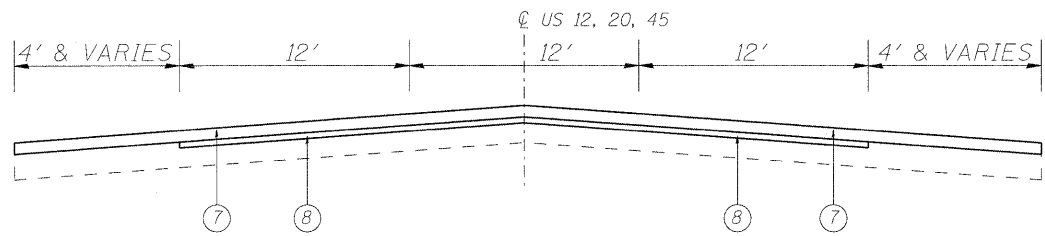
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRS, DES PLAINES
SCALE: NONE SHEET NO. 4 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

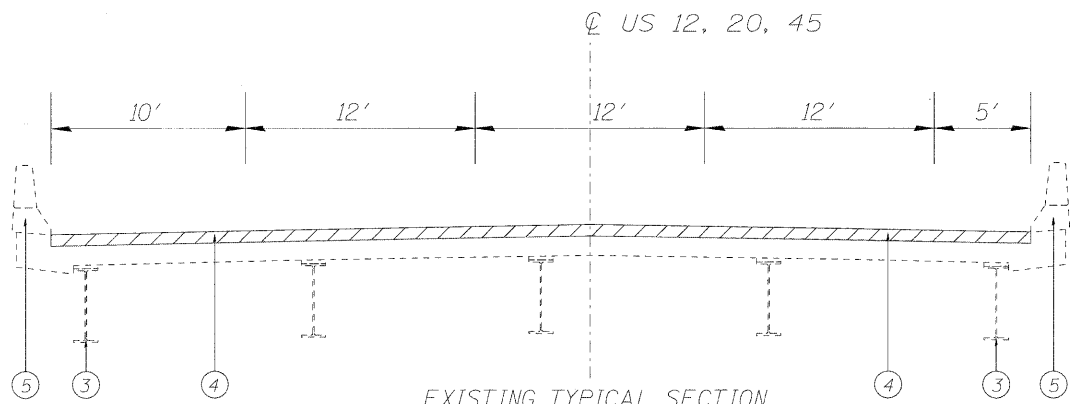
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	4
D-91-227-10			CONTRACT NO. 60J37	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



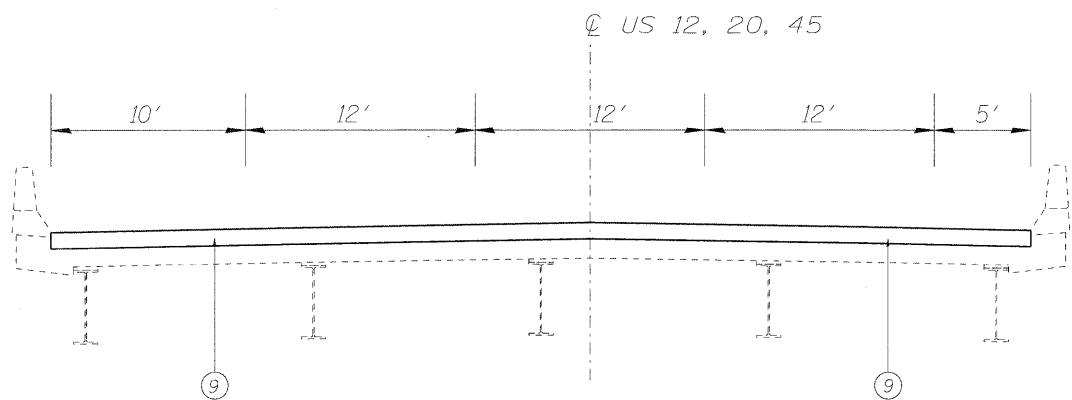
EXISTING TYPICAL SECTION
STA. 31+99.36 TO STA. 41+29.23
STA. 68+66.40 TO STA. 69+00.70



PROPOSED TYPICAL SECTION
STA. 31+99.36 TO STA. 41+29.23
STA. 68+66.40 TO STA. 69+00.70



EXISTING TYPICAL SECTION
STA. 41+29.23 TO STA. 68+66.40



PROPOSED TYPICAL SECTION
STA. 41+29.23 TO STA. 68+66.40

LEGEND

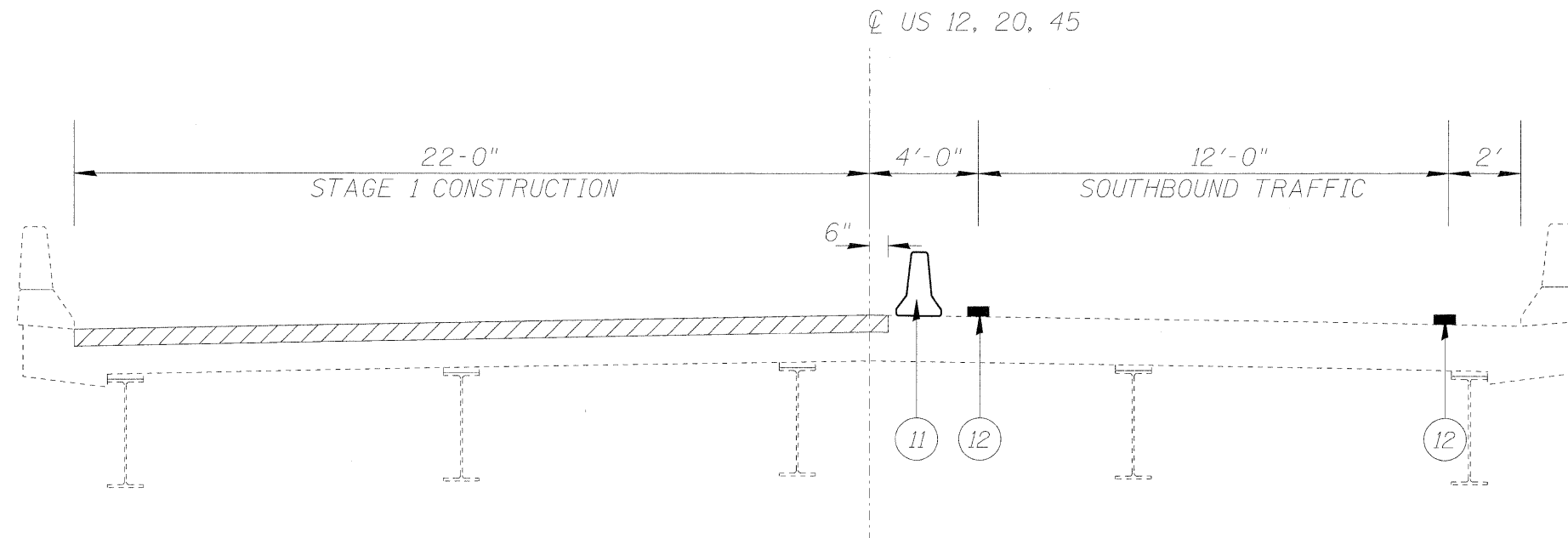
- ① EXISTING HMA OVERLAY
- ② EXISTING BASE COURSE, 4"
- ③ EXISTING WF STEEL BEAMS
- ④ EXISTING BRIDGE DECK HYDRO-SCARIFICATION, 1/2"
- ⑤ EXISTING PARAPET WALLS
- ⑥ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
- ⑦ PROPOSED POLYMERIZED HMA SURFACE CSE., MIX "F", N90, 1 3/4"
- ⑧ PROPOSED LEVELING BINDER (MACHINE METHOD), N70, 3/4"
- ⑨ PROPOSED BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4"
- ⑩ HMA SURFACE REMOVAL, 1 1/2"

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
OPERATION	MIXTURE TYPE	DESIGN AIR VOIDS
ROADWAY	POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 (IL 9.5 mm)	4% @ 90 GYR
	LEVELING BINDER (MACHINE METHOD), N70	4% @ 70 GYR
SHOULDER	POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 (IL 9.5 mm)	4% @ 90 GYR

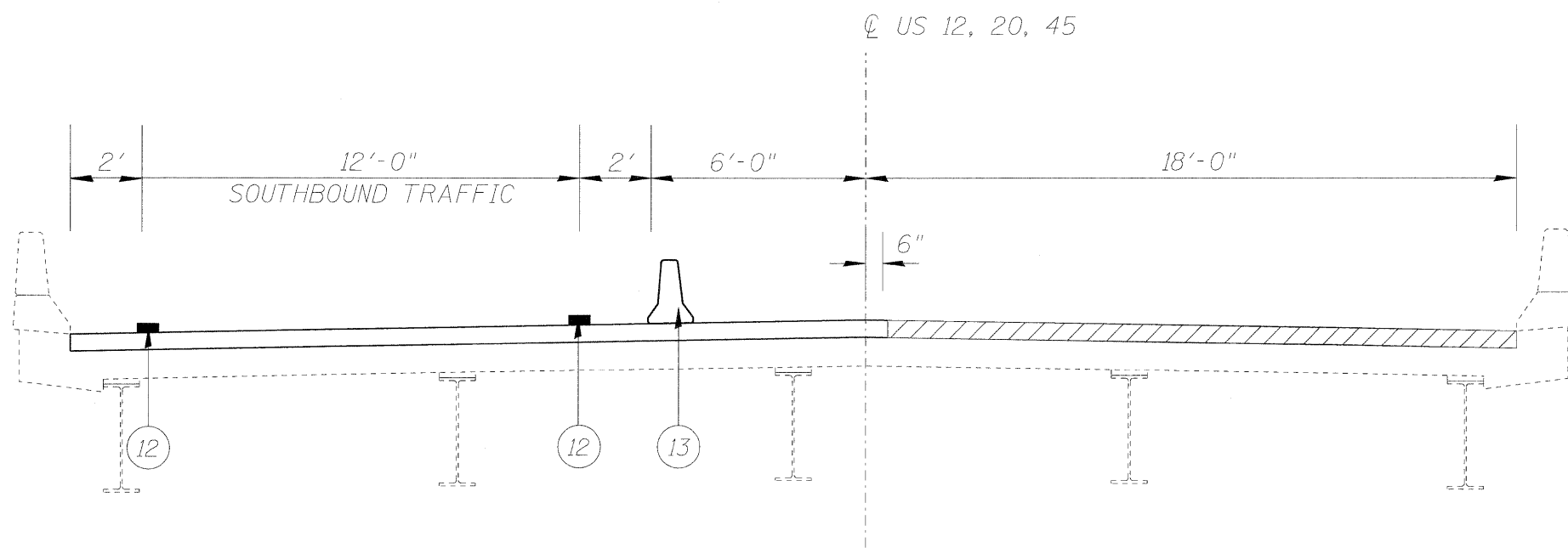
NOTES:

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE COURSE MIXTURES IS 112 LBS/SQ-YD/IN.

FOR "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70 -22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64 -22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.

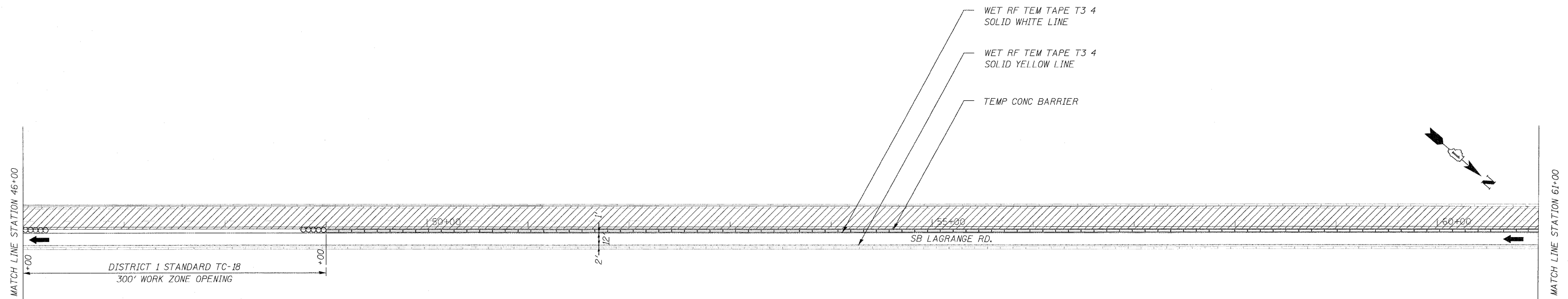


STAGE 1 TYPICAL SECTION



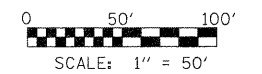
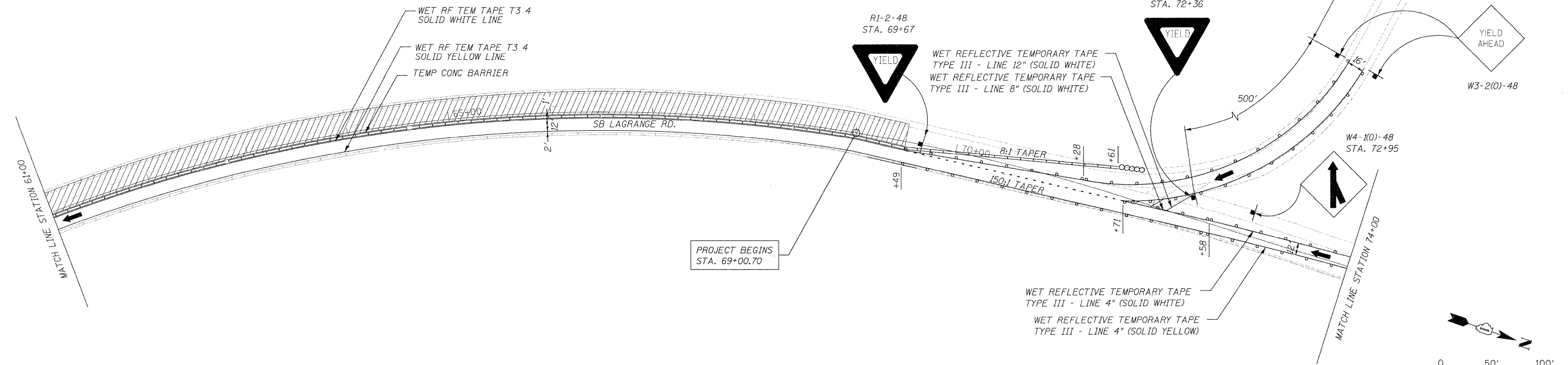
STAGE 2 TYPICAL SECTION

- ⑪ TEMPORARY CONCRETE BARRIER
- ⑫ WET REFLECTIVE TEMPORARY TAPE, TYPE III, 4"
- ⑬ RELOCATE TEMPORARY CONCRETE BARRIER









LEGEND

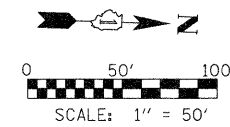
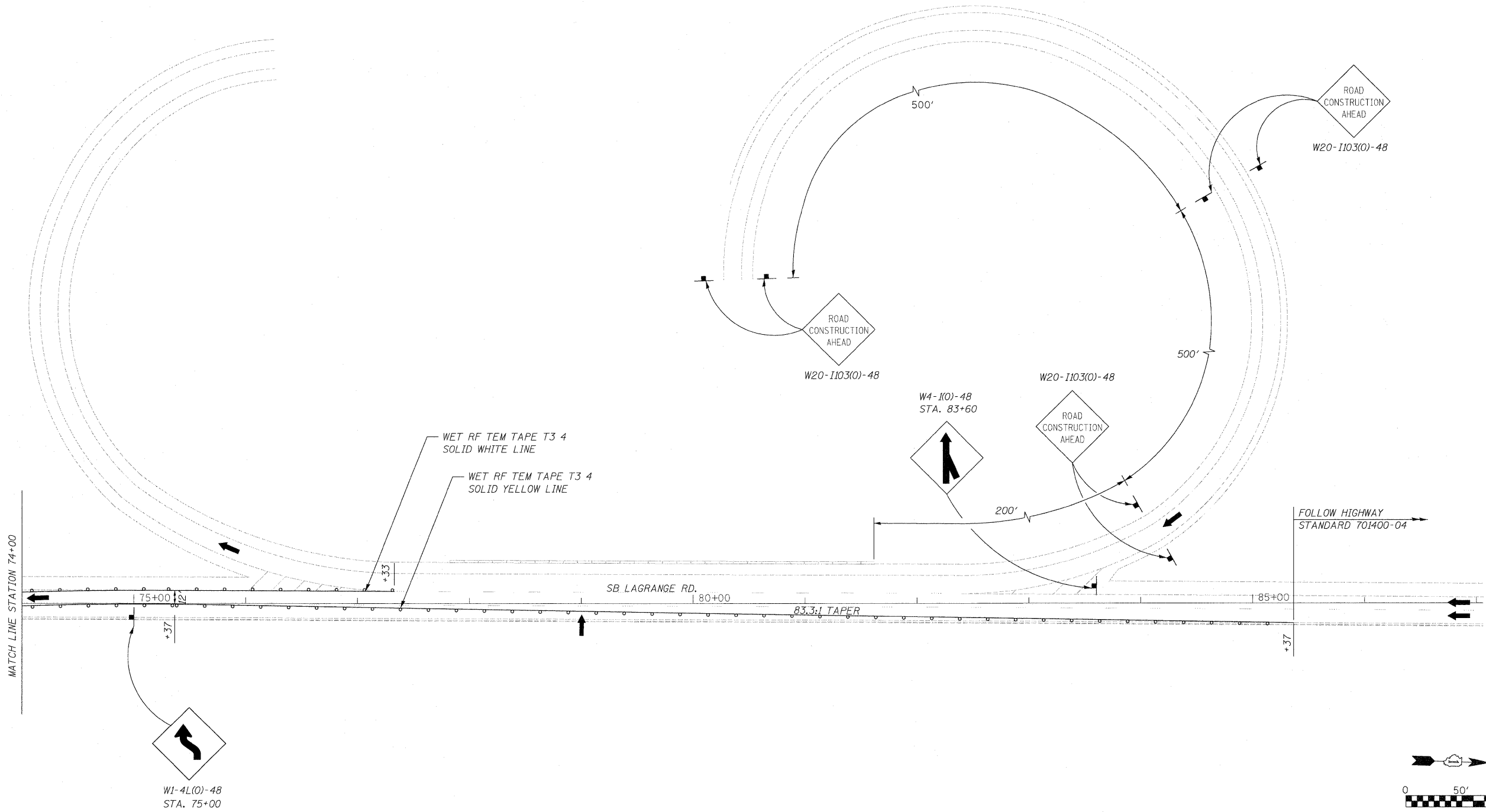
- WORK AREA
- IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW, TEST LEVEL 3)
- TEMPORARY CONCRETE BARRIER
- DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701402-07)
- SIGN
- ARROW BOARD



FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED - SEW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC - STAGE I US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407			F.A.P. RTE. 330	SECTION 462 X-B-1	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 8
	PLOT SCALE = *SCALE*	DRAWN - SEW	REVISED -		SCALE: 1"=50'	SHEET NO. 8 OF 54 SHEETS	STA. 31+99.36 TO STA. 69+00.70	CONTRACT NO. 60J37				
	PLOT DATE = *DATE*	CHECKED - FML	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
		DATE - 01/2010	REVISED -									

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701402-07)
-  SIGN
-  ARROW BOARD



FILE NAME =	USER NAME = #USER#	DESIGNED - SEW	REVISED -
#FILE#		DRAWN - SEW	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -
	PLOT DATE = #DATE#	DATE - 01/2010	REVISED -







**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC - STAGE I
US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407**

SCALE: 1"=50' SHEET NO. 9 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	9
CONTRACT NO. 60J37				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701402-07)
-  SIGN
-  ARROW BOARD

STAGE II CONSTRUCTION:

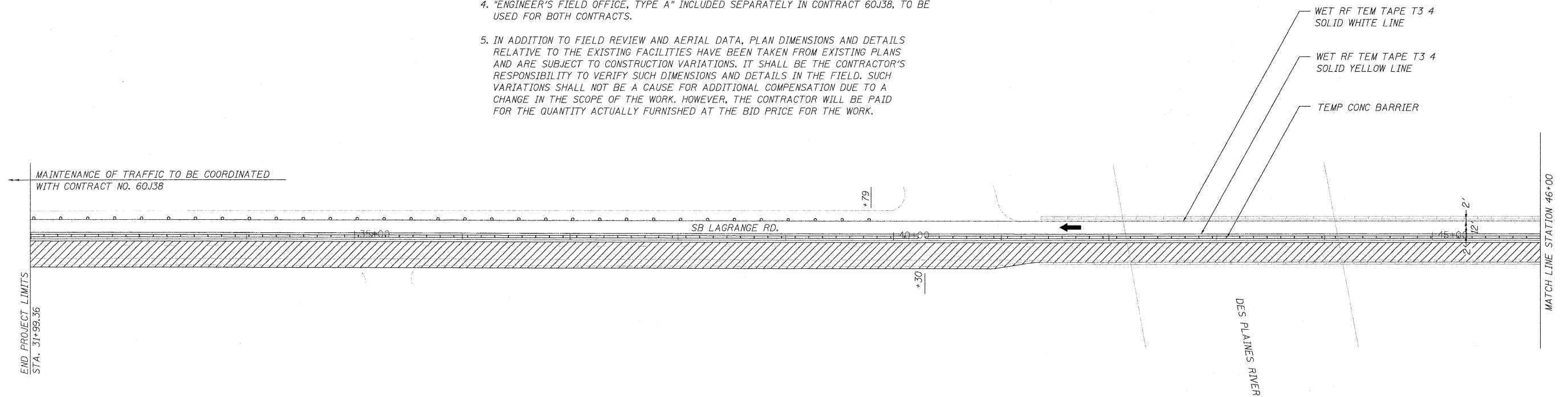
1. REMOVE CONFLICTING EXISTING PAVEMENT MARKING LINES AND REFLECTORS UNDER HIGHWAY STANDARD 701426-03.
2. CLOSE EAST HALF OF SB LA GRANGE RD IN ACCORDANCE WITH HIGHWAY STANDARD 701400-04 & 701401-05 AND AS SHOWN IN THE PLANS.
3. PERFORM TRAFFIC CONTROL ON THE ENTRANCE RAMP FROM NB I-55 TO SB LA GRANGE RD IN ACCORDANCE WITH HIGHWAY STANDARD 701411-06 APPLICATION NO. 2 AND AS SHOWN IN THE PLANS.
4. PERFORM EAST HALF STRUCTURAL REPAIRS, APPROACH ROADWAY REPAIRS AND RESURFACING, AND ROADWAY RESURFACING AS SHOWN IN THE PLANS.

STAGE III CONSTRUCTION:

1. PLACE NEW PAVEMENT MARKINGS AT LOCATIONS PREVIOUSLY REMOVED FOR STAGING, TO REVERT BACK TO EXISTING PAVEMENT MARKING CONFIGURATION. THIS WORK TO BE PERFORMED UNDER HIGHWAY STANDARD 701426-03.

NOTES:

1. ALL SIGNS SHALL BE MOUNTED WITH STEADY BURN LIGHTS AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION. THE COST OF THIS WORK SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT COST FOR HIGHWAY STANDARD 701402-07.
2. "ROAD CONSTRUCTION AHEAD" SIGNS SHALL BE PLACED ON THE ENTRANCE RAMP FROM SB I-55 TO SB LA GRANGE RD AS SHOWN IN PLANS.
3. ALL WORK AS SHOWN IN THE PLANS SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT COST PER LUMP SUM FOR "TRAFFIC CONTROL AND PROTECTION, (SPECIAL)", UNLESS OTHERWISE PROVIDED IN THE PLANS.
4. "ENGINEER'S FIELD OFFICE, TYPE A" INCLUDED SEPARATELY IN CONTRACT 60J38, TO BE USED FOR BOTH CONTRACTS.
5. IN ADDITION TO FIELD REVIEW AND AERIAL DATA, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE BID PRICE FOR THE WORK.



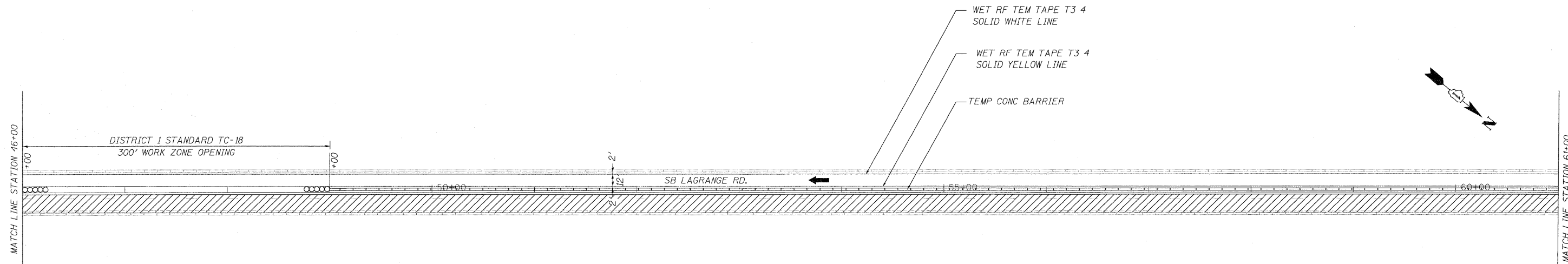
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC - STAGE II
US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407**

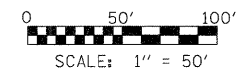
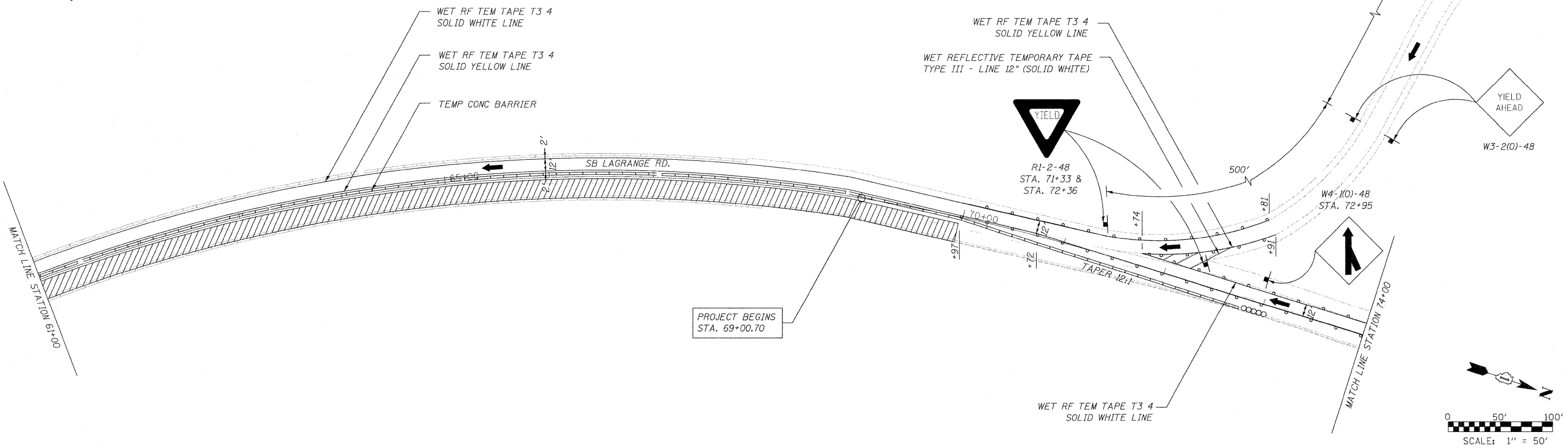
SCALE: 1"=50' SHEET NO. 10 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-I	COOK	54	10
CONTRACT NO. 60J37				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



LEGEND

- WORK AREA
- IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
- TEMPORARY CONCRETE BARRIER
- DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701402-07)
- SIGN
- ARROW BOARD



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





**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

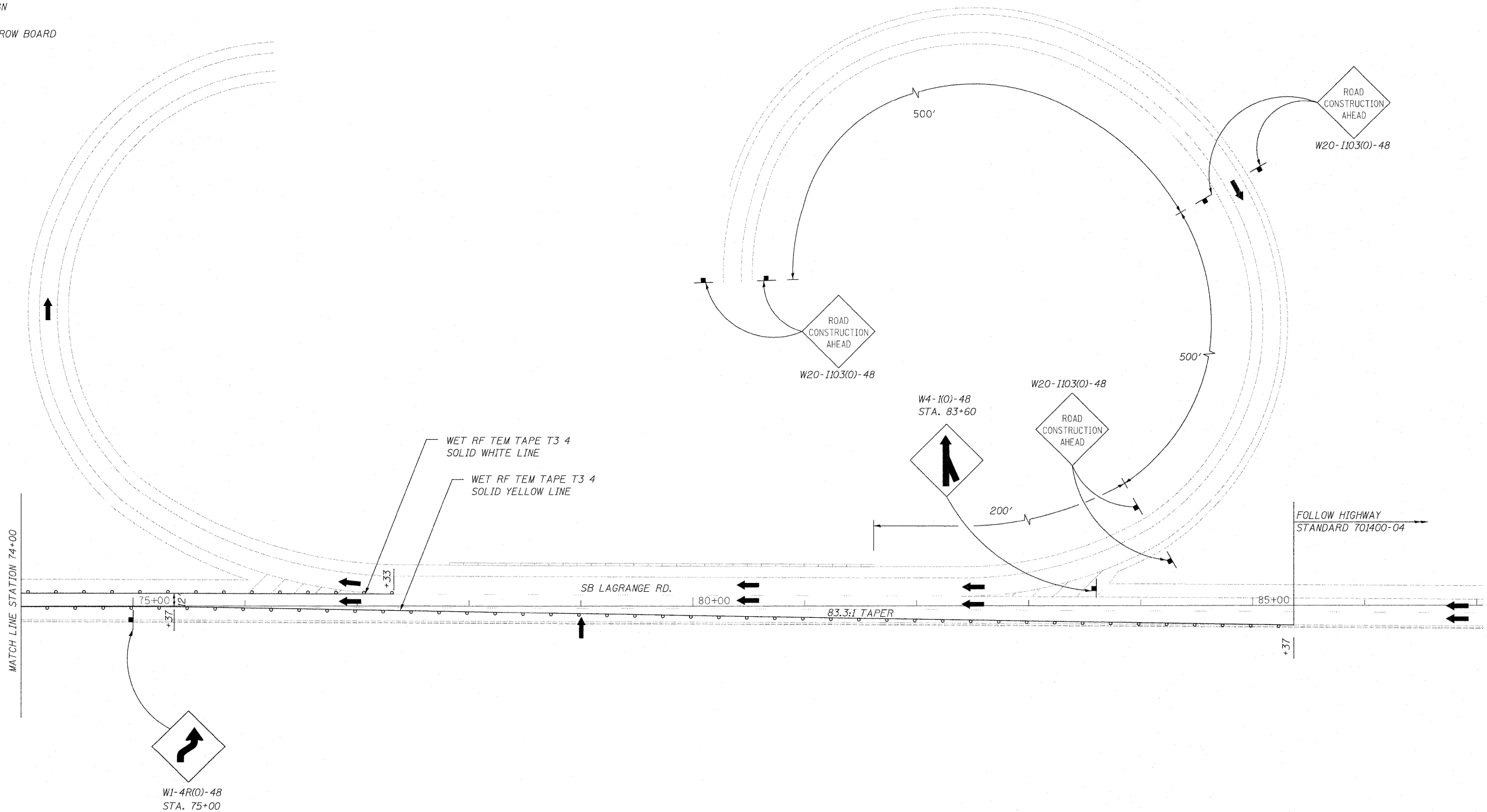
**MAINTENANCE OF TRAFFIC - STAGE II
US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407**

SCALE: 1"=50' SHEET NO. 11 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	11
CONTRACT NO. 60J37				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701402-07)
-  SIGN
-  ARROW BOARD



MATCH LINE STATION 74+00

WET RF TEM TAPE T3 4
SOLID WHITE LINE

WET RF TEM TAPE T3 4
SOLID YELLOW LINE

SB LAGRANGE RD.

83.3:1 TAPER

FOLLOW HIGHWAY
STANDARD 701400-04

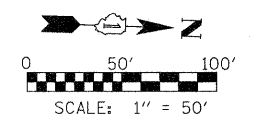
W1-4R(O)-48
STA. 75+00

W20-1103(O)-48

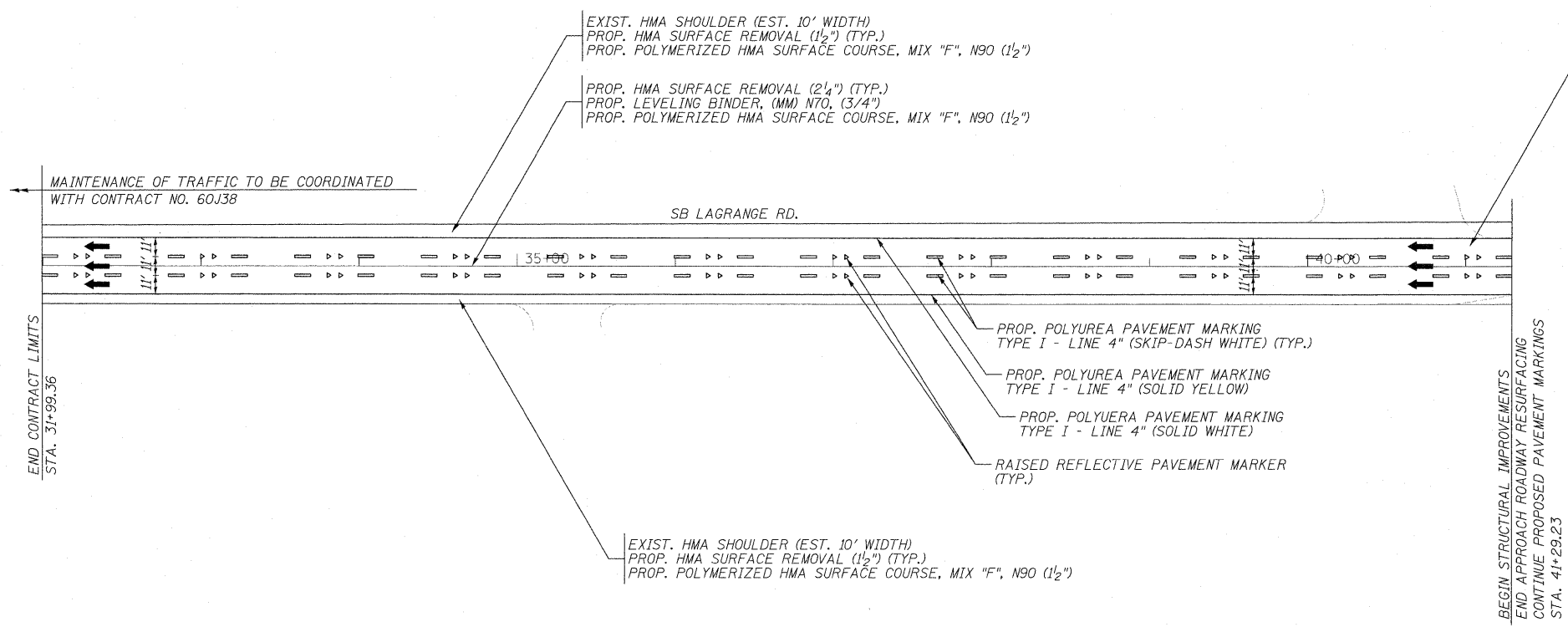
W4-1(O)-48
STA. 83+60

W20-1103(O)-48

ROAD
CONSTRUCTION
AHEAD
W20-1103(O)-48



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#FILEL#		DRAWN - ST	REVISED -		SCALE: 1"=50'	SHEET NO. 12 OF 54 SHEETS	STA. 31+99.36	TO STA. 69+00.70	CONTRACT NO. 60J37			
		CHECKED - FML	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							
		DATE - 01/2010	REVISED -									



APPROACH ROADWAY RESURFACING TO BE PERFORMED AT NORTH AND SOUTH APPROACHES OF S.N. 016-2407.

APPROACH LENGTHS ESTIMATED TO BE 35' AT BOTH ENDS - EXACT LOCATIONS AND LIMITS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK.

COMPOSITION OF 2 1/4" APPROACH ROADWAY RESURFACING SHALL BE:
 - HMA SURFACE REMOVAL, VARIABLE DEPTH
 - LEVELING BINDER, (MM) N70, (3/4")
 - POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 (1 1/2")

PROPOSED HMA THICKNESSES TO BE MAINTAINED THROUGHOUT APPROACH ROADWAY RESURFACING LIMITS.

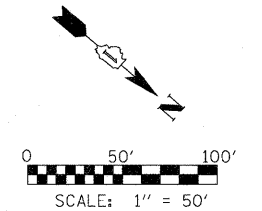
MINIMUM 1/2" HMA SURFACE REMOVAL AND VARIES. PROVIDE 1:240 TAPER RATE FROM 1 3/4" RISE IN BRIDGE DECK ELEVATION DOWN TO EXISTING PROFILE GRADE.

CONTINUE ROADWAY RESURFACING BEYOND SOUTH APPROACH ROADWAY RESURFACING AS SHOWN ON THIS SHEET.

THE COST OF SAW CUTS SHALL BE INCLUDED IN THE COST FOR THE HMA PAY ITEMS.

GENERAL NOTES:

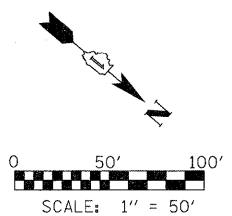
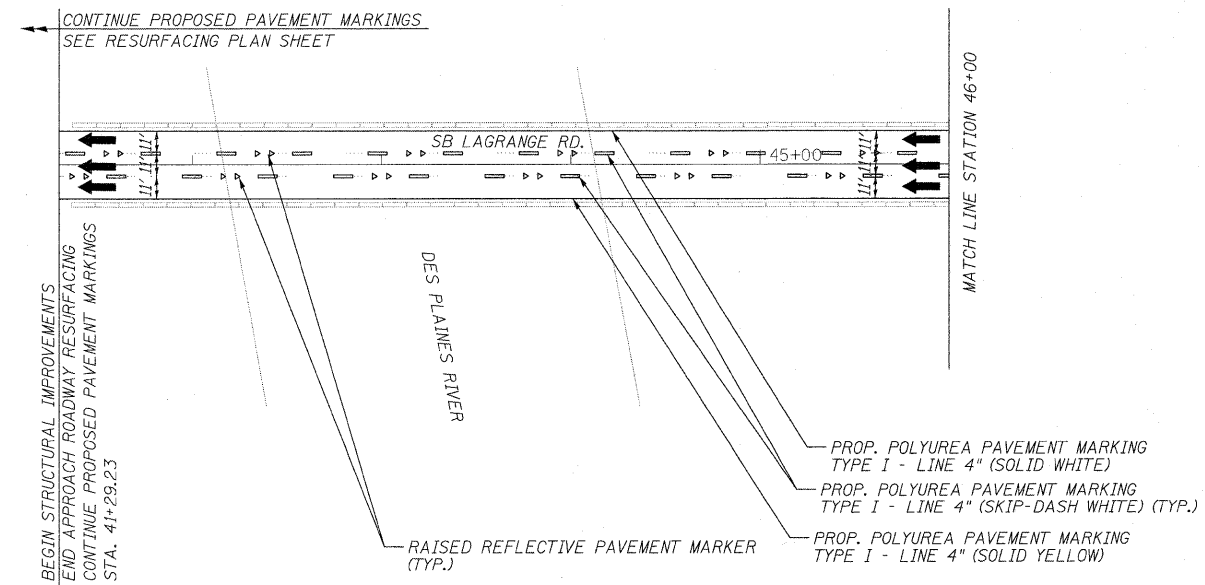
1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 FOR FIELD LOCATIONS OF BURIED UTILITIES. (48 HOUR NOTIFICATION IS REQUIRED).
2. ALL PROPOSED PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" (TC-13).
3. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" SOLID WHITE SHALL BE PLACED ALONG 2" FROM EDGE OF PAVEMENT WHERE AGGREGATE OR HMA SHOULDER IS PRESENT.
4. IN ADDITION TO FIELD REVIEW AND AERIAL DATA, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE BID PRICE FOR THE WORK.



FILE NAME =	USER NAME = #USER#	DESIGNED - SEW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROADWAY RESURFACING PLAN US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - SEW	REVISED -		SCALE: 1"=50'	SHEET NO. 13 OF 54 SHEETS	STA. 31+99.36 TO STA. 69+00.70	330	462 X-B-1	COOK	54	13
		CHECKED - FML	REVISED -		CONTRACT NO. 60J37							
		DATE - 01/2010	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

GENERAL NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" (TC-13).
2. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" SOLID WHITE SHALL BE PLACED ALONG 2" FROM EDGE OF PAVEMENT WHERE AGGREGATE OR HMA SHOULDER IS PRESENT.
3. IN ADDITION TO FIELD REVIEW AND AERIAL DATA, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE BID PRICE FOR THE WORK.



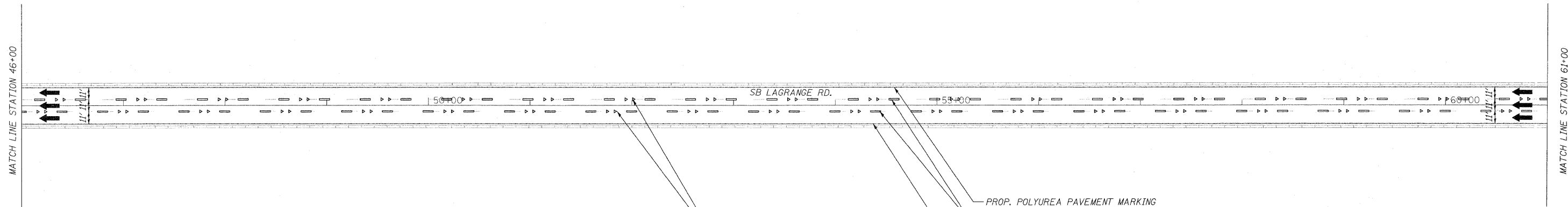
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	PLOT DATE = *DATE*	DATE - 01/2010	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS
US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407**

SCALE: 1"=50' SHEET NO. 14 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	14
CONTRACT NO. 60J37				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



GENERAL NOTES:

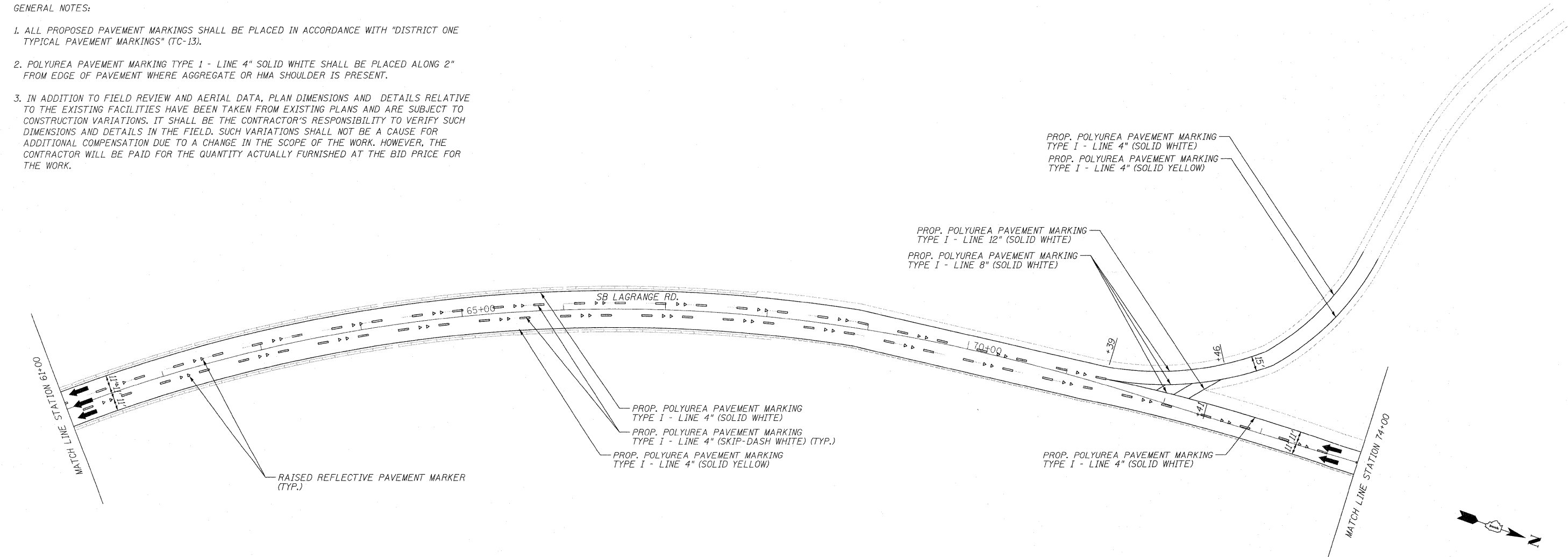
1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" (TC-13).
2. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" SOLID WHITE SHALL BE PLACED ALONG 2" FROM EDGE OF PAVEMENT WHERE AGGREGATE OR HMA SHOULDER IS PRESENT.
3. IN ADDITION TO FIELD REVIEW AND AERIAL DATA, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE BID PRICE FOR THE WORK.

RAISED REFLECTIVE PAVEMENT MARKER (TYP.)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SOLID WHITE)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SKIP-DASH WHITE) (TYP.)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SOLID YELLOW)



RAISED REFLECTIVE PAVEMENT MARKER (TYP.)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SOLID WHITE)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SKIP-DASH WHITE) (TYP.)

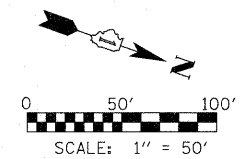
PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SOLID YELLOW)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 12" (SOLID WHITE)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 8" (SOLID WHITE)

PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SOLID WHITE)

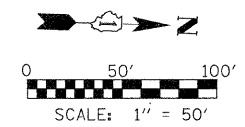
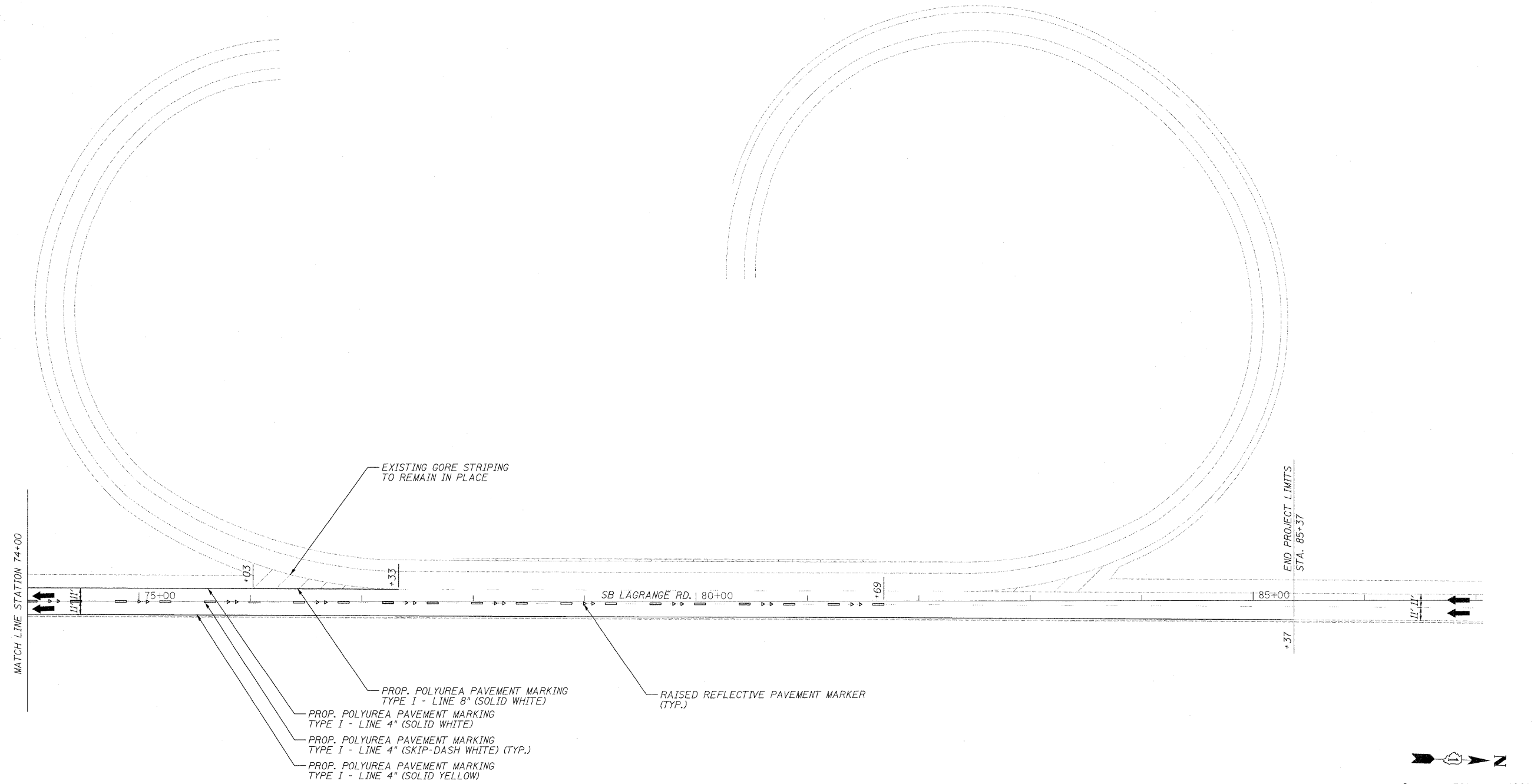
PROP. POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (SOLID YELLOW)



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	PLOT SCALE = #SCALE#	DRAWN - SEW	REVISED -		SCALE: 1"=50'	SHEET NO. 15 OF 54 SHEETS	STA. 31+99.36 TO STA. 69+00.70	CONTRACT NO. 60J37				
	PLOT DATE = #DATE#	CHECKED - FML	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							
		DATE - 01/2010	REVISED -									

GENERAL NOTES:

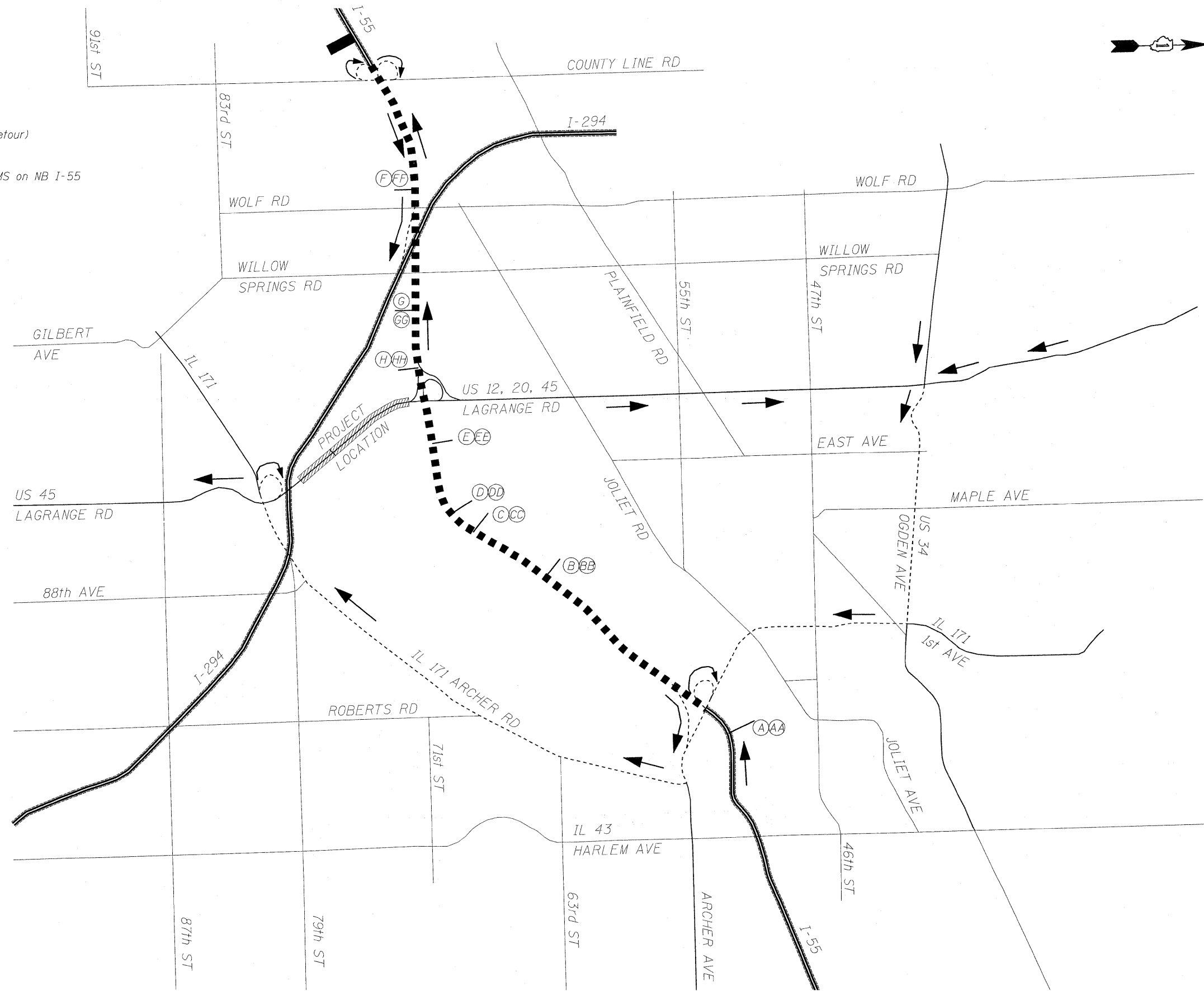
1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" (TC-13).
2. POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4" SOLID WHITE SHALL BE PLACED ALONG 2" FROM EDGE OF PAVEMENT WHERE AGGREGATE OR HMA SHOULDER IS PRESENT.
3. IN ADDITION TO FIELD REVIEW AND AERIAL DATA, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE BID PRICE FOR THE WORK.



FILE NAME =	USER NAME = #USER#	DESIGNED - SEW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING PLANS US ROUTE 12, 20, 45 SB (LA GRANGE RD) - S.N. 016-2407			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - SEW	REVISED -		SCALE: 1"=50'	SHEET NO. 16 OF 54 SHEETS	STA. 31+99.36 TO STA. 69+00.70	330	462 X-B-I	COOK	54	16
		CHECKED - FML	REVISED -					CONTRACT NO. 60J37				
		DATE - 01/2010	REVISED -					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

LEGEND

-  Interstate
-  Interstate (Detour)
-  Main Local Roads
-  Main Local Roads (Detour)
-  Collector Roads
-  Existing overhead DMS on NB I-55
-  County Line Road



LOXCO, INC.
 CONSULTING ENGINEERS
 1560 WALL ST, SUITE 222
 NAPERVILLE, ILLINOIS 60563 PH 630 577-9100

DESIGNED - MJY	REVISED -
DRAWN - SV	REVISED -
CHECKED - MJY, DC	REVISED -
DATE - 01/29/2010	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

DETOUR PLAN - OVERVIEW
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRs, DES PLAINES

SCALE: NONE SHEET NO. 17 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	17
D-91-227-10		CONTRACT NO. 60J37		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

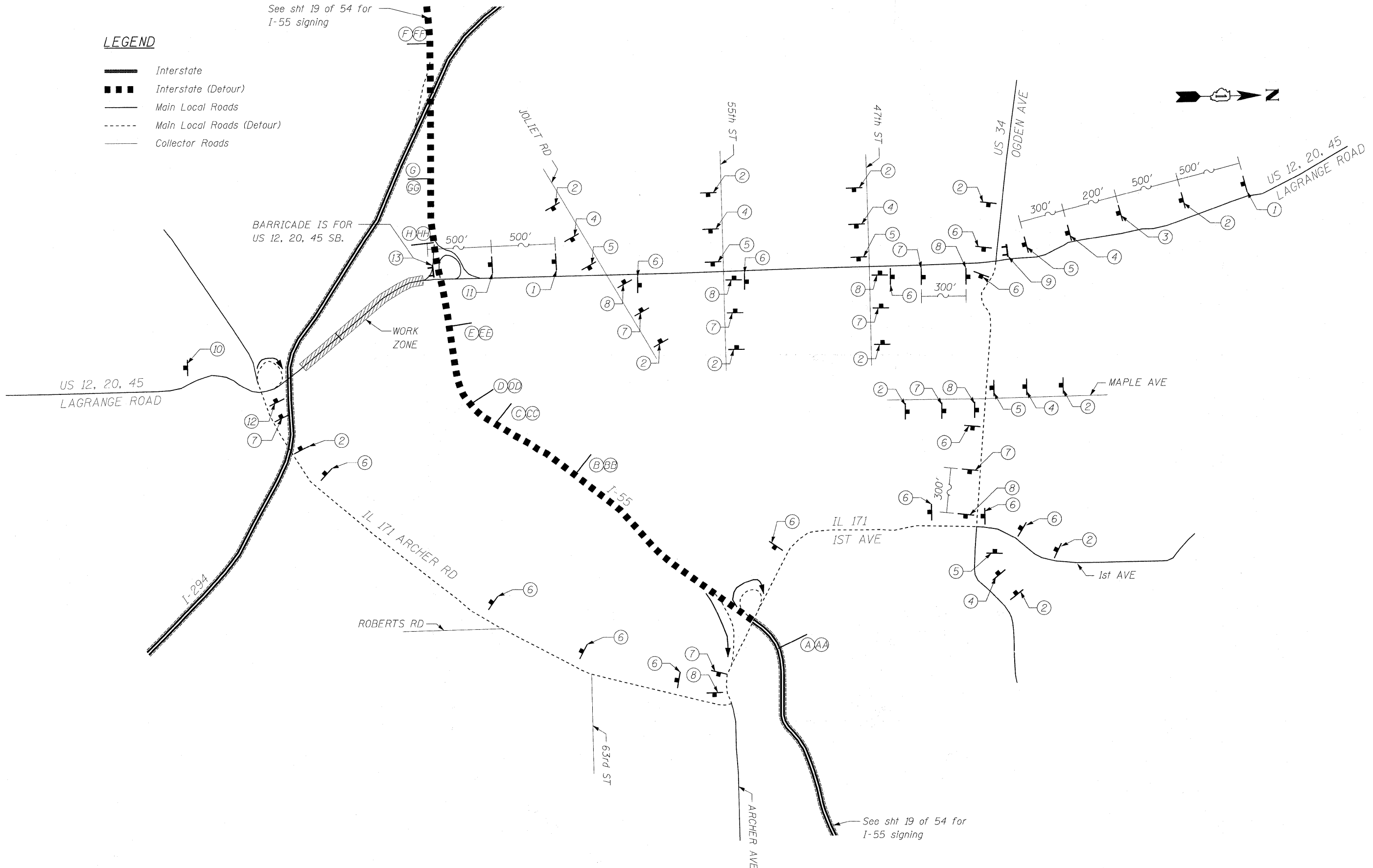
LEGEND

-  Interstate
-  Interstate (Detour)
-  Main Local Roads
-  Main Local Roads (Detour)
-  Collector Roads

See sht 19 of 54 for I-55 signing

BARRICADE IS FOR US 12, 20, 45 SB.

WORK ZONE



See sht 19 of 54 for I-55 signing

LOCAL ROADS DETOUR FOR LAGRANGE SB

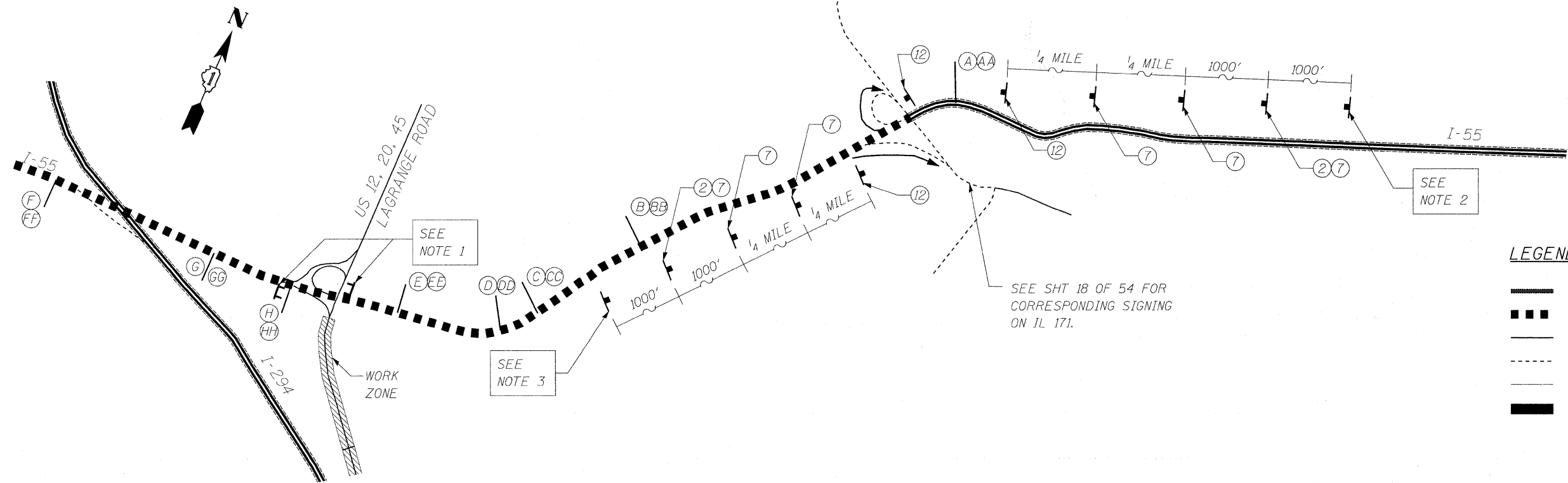
LOCO, INC.
CONSULTING ENGINEERS
1560 WALL ST, SUITE 222
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

DESIGNED - MJY	REVISED -
DRAWN - SV	REVISED -
CHECKED - MJY, DC	REVISED -
DATE - 01/29/2010	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETOUR PLAN - OVERVIEW
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRs, DES PLAINES
SCALE: NONE SHEET NO. 18 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

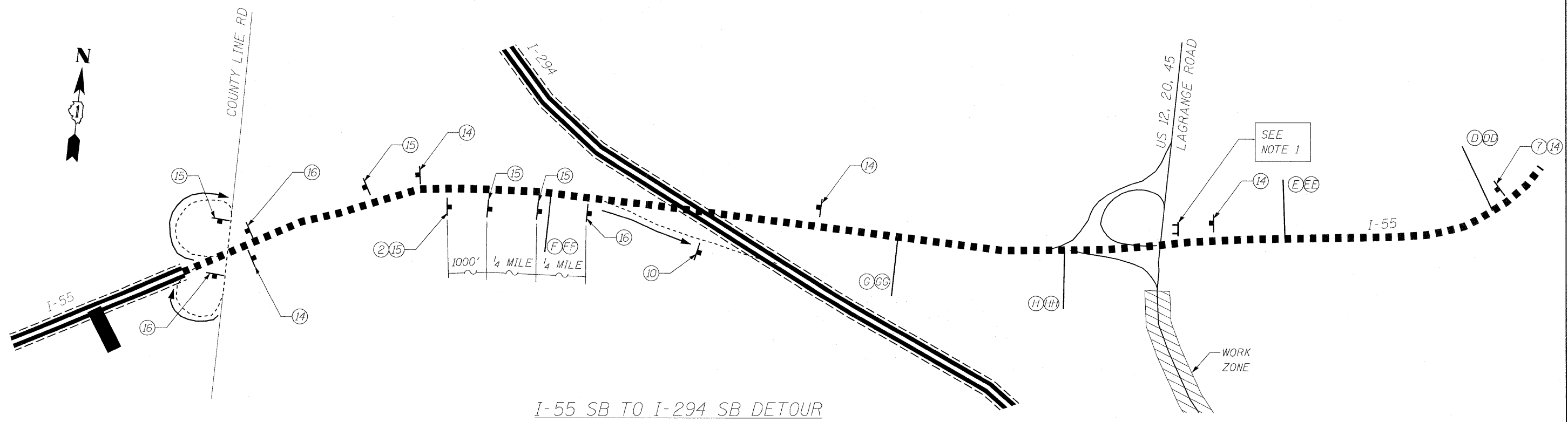
F.A.P. RTE. 330	SECTION 462 X-B-1	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 18
D-91-227-10		CONTRACT NO. 60J37		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



- LEGEND**
- Interstate
 - - - Interstate (Detour)
 - Main Local Roads
 - - - Main Local Roads (Detour)
 - Collector Roads
 - Existing overhead DMS on NB I-55
 - ⊙ County Line Road

I-55 NB & SB TO LAGRANGE RD SB DETOUR

- NOTE 1: EXIT RAMP CLOSURE TO FOLLOW DISTRICT DETAIL FOR FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS (TC-8).
- NOTE 2: ADD PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) AT THE EAST SIDE OF IL 171 ON SOUTHBOUND I-55.
- NOTE 3: ADD PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) AT THE WEST SIDE OF IL 173 ON NORTHBOUND I-55.



I-55 SB TO I-294 SB DETOUR

LOWCO, INC.
 CONSULTING ENGINEERS
 1560 WALL ST, SUITE 222
 NAPERVILLE, ILLINOIS 60563 PH: 630 577-9100

DESIGNED - MJY	REVISED -
DRAWN - SV	REVISED -
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DATE - 01/29/2010	REVISED -

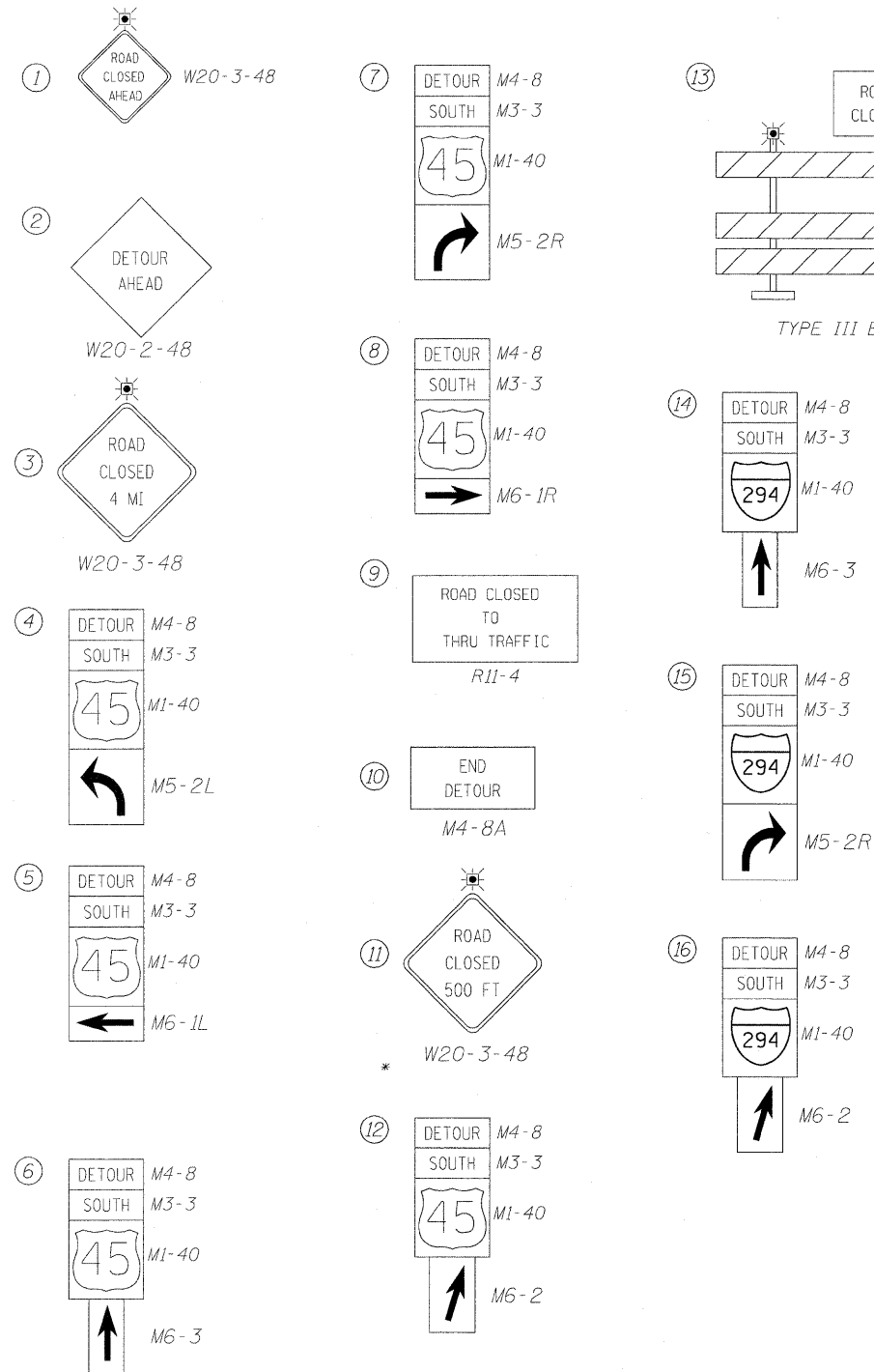
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

DETOUR PLAN - OVERVIEW
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRs, DES PLAINES
 SCALE: NONE SHEET NO. 19 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE. 330	SECTION 462 X-B-1	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 19
D-91-227-10		CONTRACT NO. 60J37		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

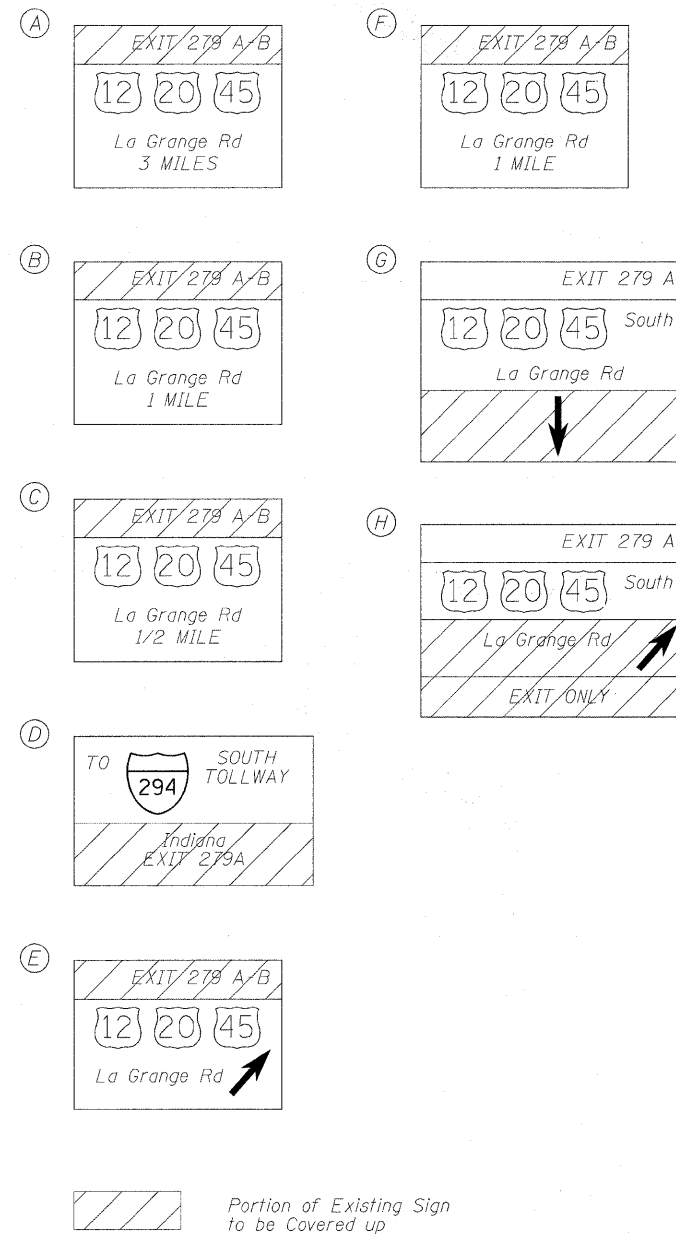
LEGEND

☐ - TYPE III BARRICADE WITH TWO FLASHING LIGHTS

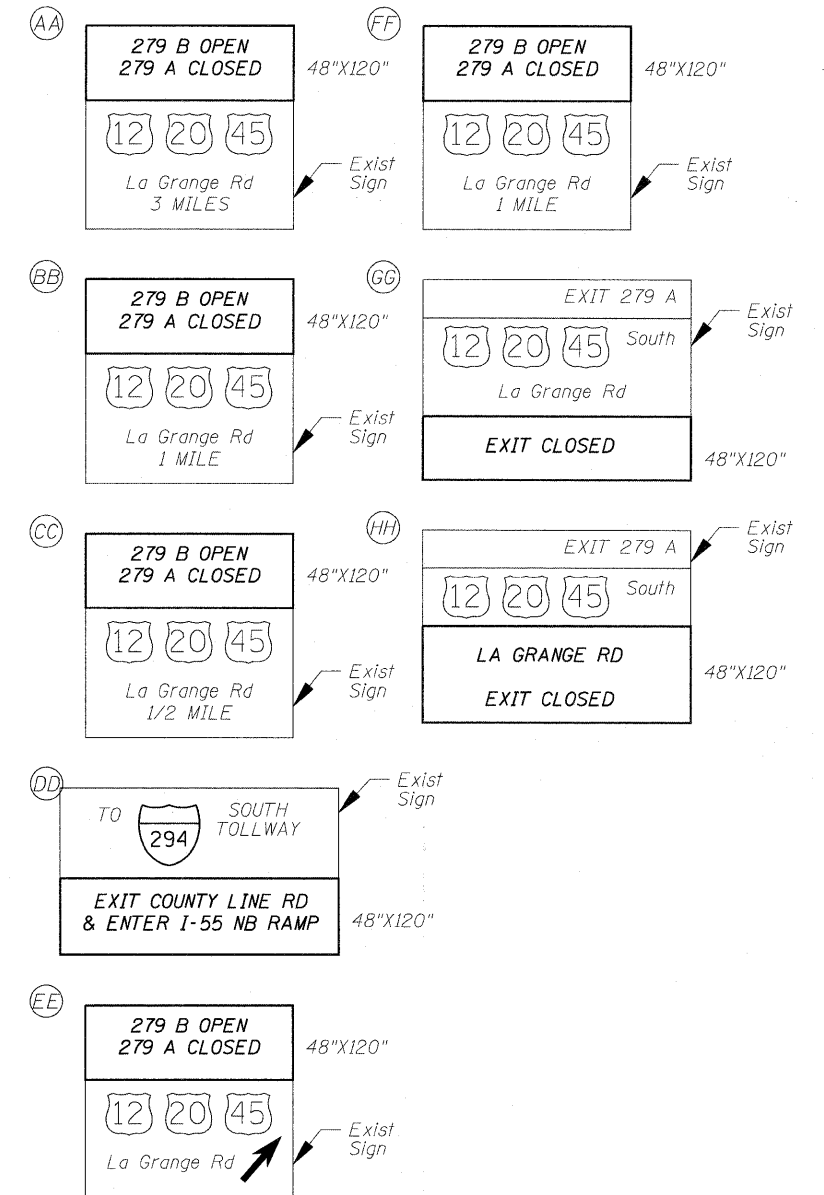


*IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

EXISTING OVERHEAD SIGNING FOR I-55 NB & SB



PROPOSED TEMPORARY OVERHEAD SIGNING



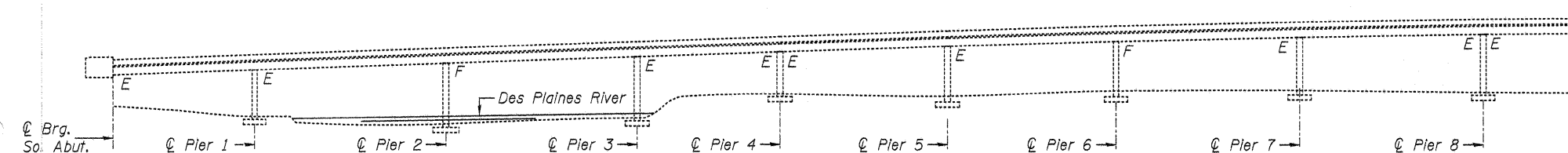
Existing Structure:
Structure No. 016-2407 was built in 1980 as FA45, Section 462-X-BQR. Existing structure is a thirty span steel plate girder bridge on closed abutments and 29 concrete piers on spread footings. The structure measures 2737'-2" bk. to bk. abutments, and 43'-2" out to out deck. Stage construction shall be utilized to maintain traffic during construction.

No Salvage.

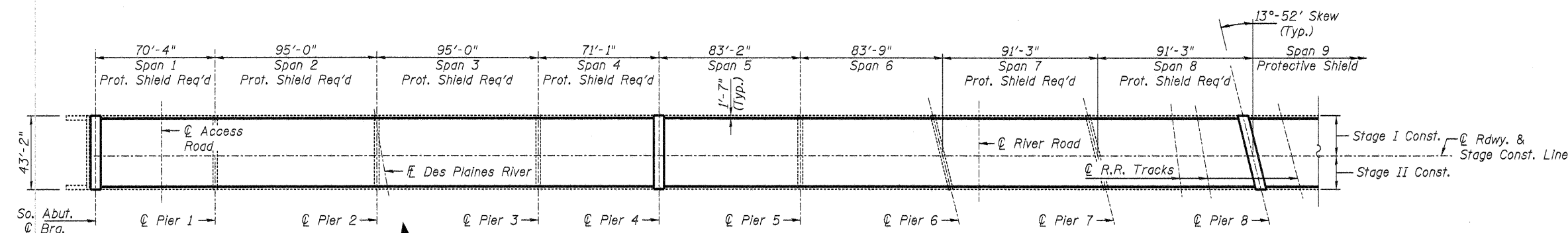
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

- 1-2 General Plan and Elevation
- 3 General Data & Bill of Material
- 4 Stage Construction Details
- 5 Temporary Concrete Barrier for Stage Construction
- 6-10 Deck Repair
- 11 Joint Details, South Abutment
- 12 Joint Details, North Abutment
- 13 Preformed Joint Strip Seal
- 14-15 Joint Details, Pier 4
- 16-17 Joint Details, Piers 8, 12, 16 & 20
- 18-19 Joint Details, Piers 24 & 27
- 20-22 Bearing Details
- 23-26 Pier Repair
- 27 Bar Splicer Assembly and Mechanical Splicer Details



PARTIAL ELEVATION

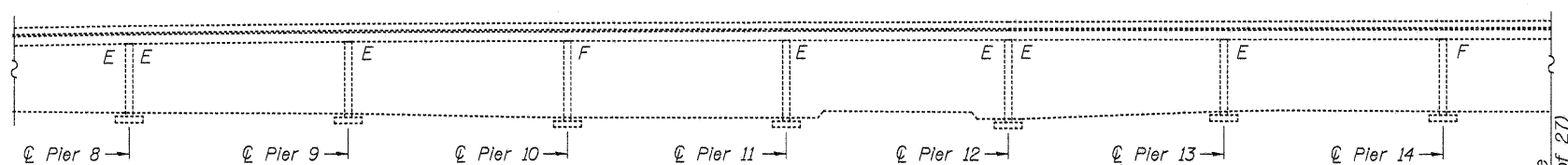


PARTIAL PLAN

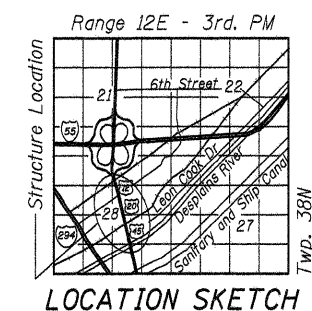
SCOPE OF WORK

1. Remove concrete deck and parapet adjacent to expansion joints.
2. Provide Preformed Joint Strip Seal expansion joints at abutments and Modular Expansion Joints at the piers.
3. Replace concrete deck and parapet adjacent to expansion joints.
4. Apply 1/2" scarification to deck slab.
5. Repair deck slab.
6. Place 2 1/4" latex concrete overlay on bridge deck.
7. Apply protective coat and bridge deck grooving to top of bridge deck overlay and new concrete at joints.
8. Jack and remove existing bearings at expansion joints and replace with elastomeric bearings.
9. Repair deteriorated concrete at piers.

Note:
⊙ Roadway is for information only, which references location given in existing plans.



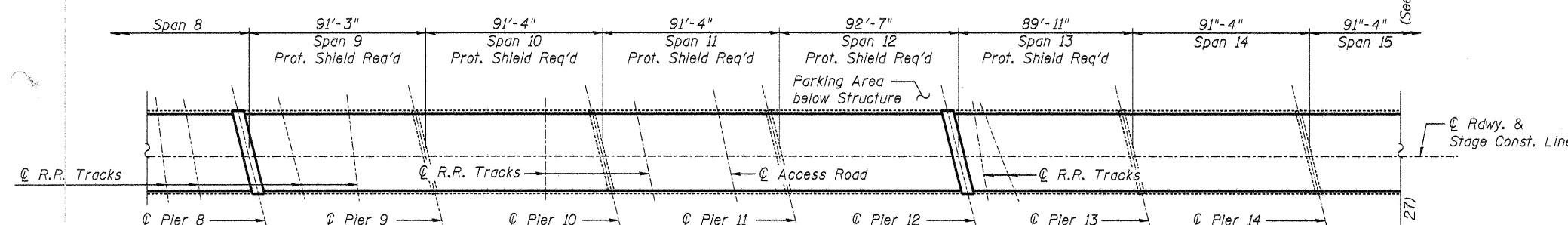
PARTIAL ELEVATION



LOCATION SKETCH



Michael T. Haley 1/27/10
Date
Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010



PARTIAL PLAN

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"
17th Edition

LOADING HS20-44

(Original Construction)

DESIGN STRESSES

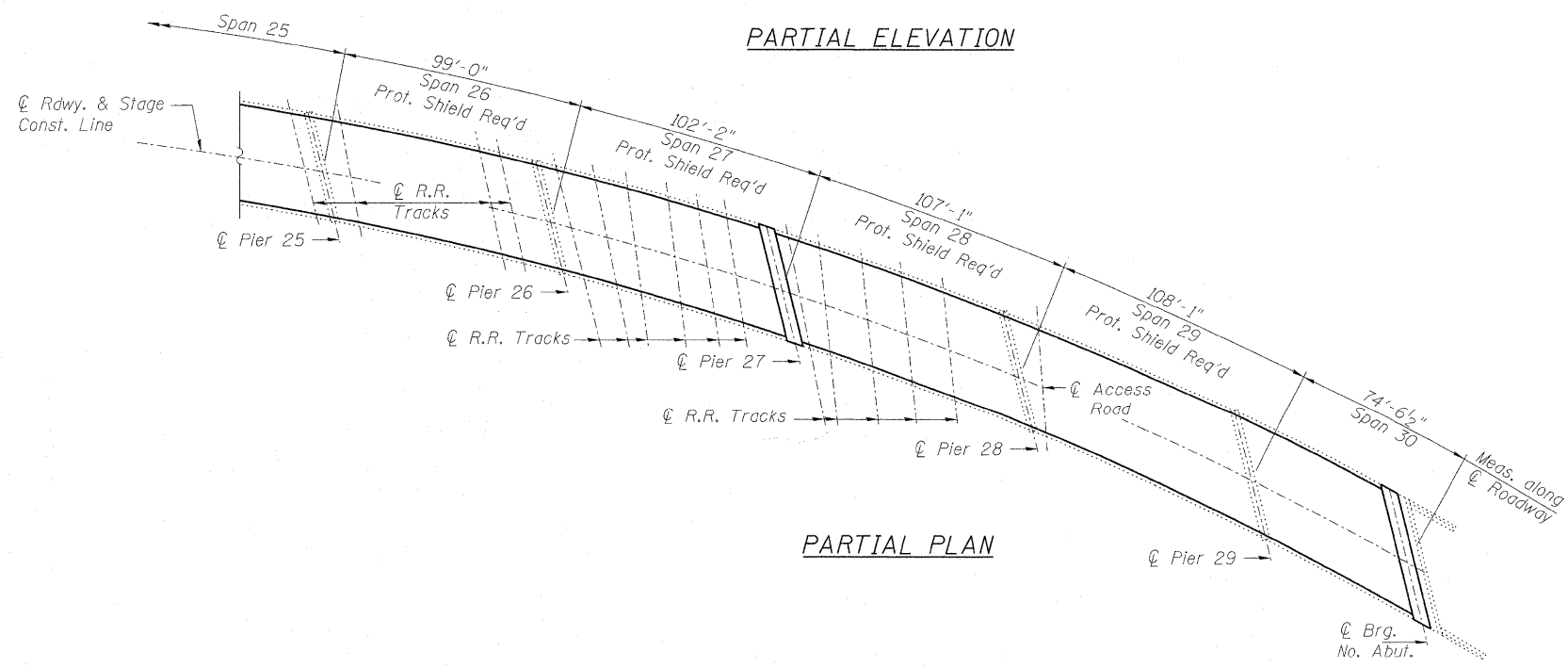
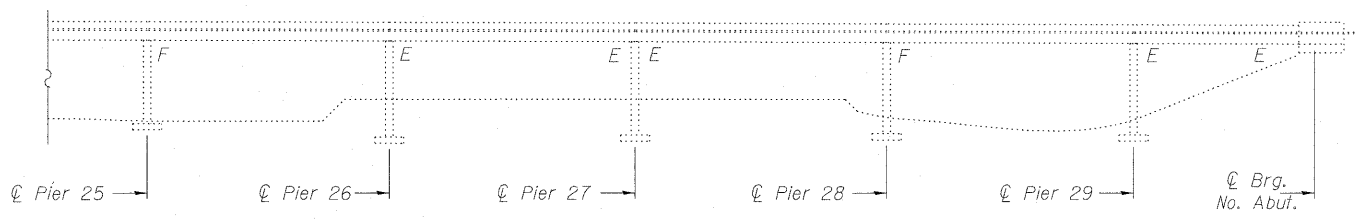
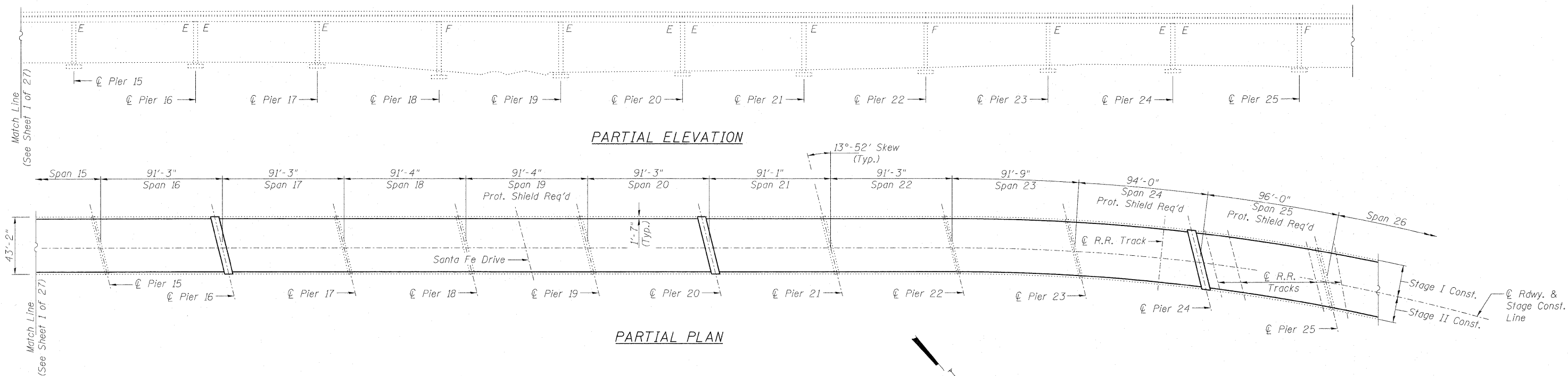
FIELD UNITS

New Construction
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)(M270, Gr. 36)

GENERAL PLAN AND ELEVATION (1 of 2)
SB US 12/20/45 (LAGRANGE RD)
OVER SANTA FE DRIVE, ET AL
FAP RTE 330 - SECTION 462 X-B-I
COOK COUNTY
STRUCTURE NO. 016-2407

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: TBP Checked By: MTH Drawn By: A.F. Date: 1/2010 File: 016-2407.dgn</small>	SHEET NO. 1 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		330	462 X-B-I	COOK	54	21
					CONTRACT NO. 60J37	
ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



GENERAL PLAN AND ELEVATION (2 of 2)
SB US 12/20/45 (LAGRANGE RD)
OVER SANTA FE DRIVE, ET AL
FAP RTE 330 - SECTION 462 X-B-I
COOK COUNTY
STRUCTURE NO. 016-2407

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: TBP Checked By: MTH Drawn By: AJF Date: 1/2000 File: 016-2407.dgn</small>	SHEET NO. 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	22
					CONTRACT NO. 60J37	
ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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.

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

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.

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

No in-stream work will be allowed in this project.

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.

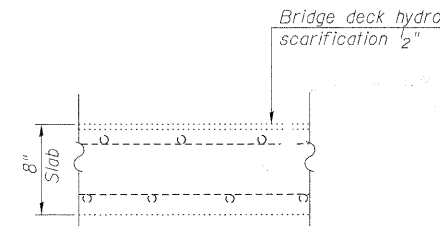
The contractor shall exercise extreme care with the existing conduits in sections of the parapet to be removed and to protect and support the conduit. The Contractor will be required to repair any damage done to the conduit to the satisfaction of the Engineer at no additional cost to the Department. No splicing will be allowed to any cable damage resulting from this work, instead the Contractor will be required to repair the entire span of any damaged cable at no additional cost to the Department.

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

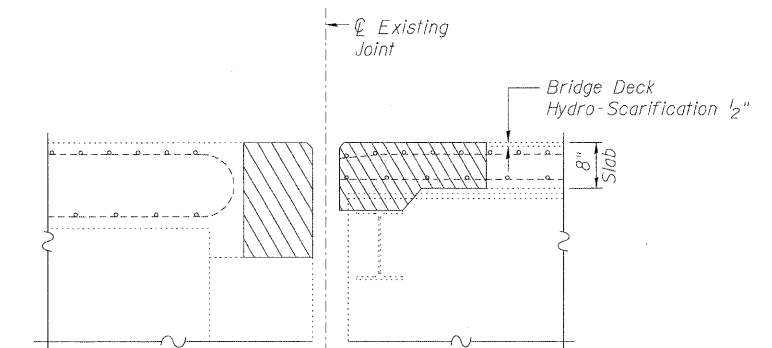
The Contractor shall be responsible for maintaining the stability and structural integrity of the existing structure, in accordance with the project specifications.

Temporary Shoring and Cribbing required to complete bearing replacement and/or Structural Repair of Concrete (Depth Equal to or Less Than 5 inches) shall not be paid for separately but shall be included in the cost of Jack and Remove Existing Bearings. When doing the pier repair and bearing replacement at the same time, the structure shall not be jacked up from the pier, the weight must be taken off the pier, in the area of the pier repair. Concrete must be cured to minimum strength for the repair before bearing can be replaced and weight put back on the pier, according to special provisions.

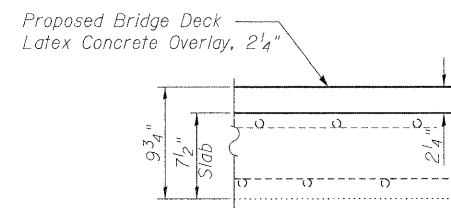
If the analysis submitted to the Contractor for the jacking/temporary support system to be used shows temporary stiffeners are required to prevent web crippling or buckling, the stiffeners shall be steel and bolted to the web. If stiffeners are not required, hardwood timbers shall be installed tightly between the top and bottom flange to prevent flange rotation.



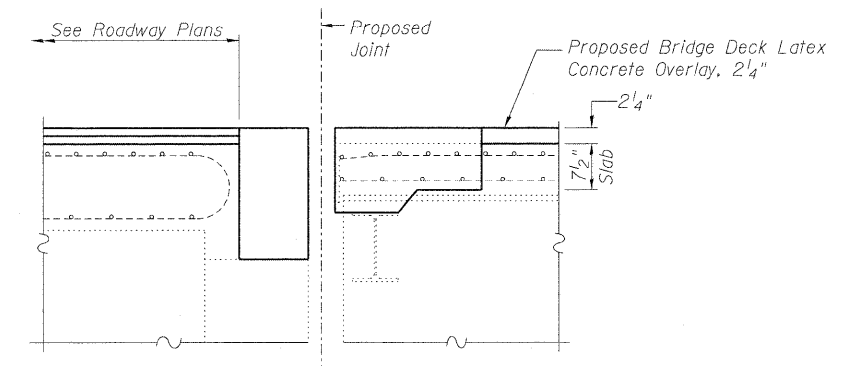
EXISTING SLAB CROSS SECTION



EXISTING ABUTMENT CROSS SECTION



PROPOSED SLAB CROSS SECTION



PROPOSED ABUTMENT CROSS SECTION

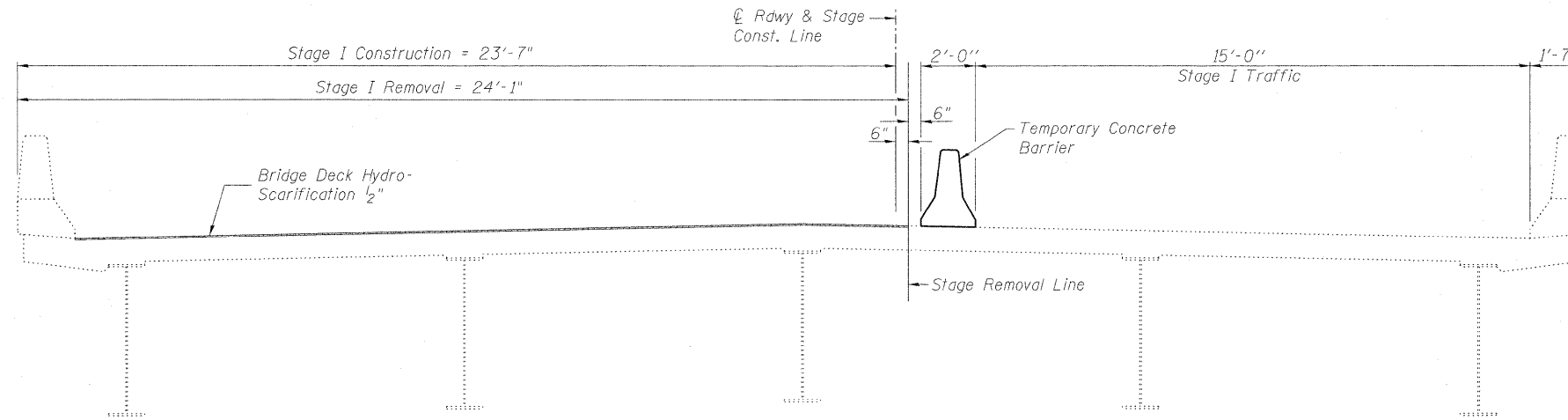
TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Concrete Removal	Cu. Yd.	80.5	-	80.5
Protective Shield	Sq. Yd.	7732	-	7732
Concrete Superstructure	Cu. Yd.	92.3	-	92.3
Bridge Deck Grooving	Sq. Yd.	11439	-	11439
Protective Coat	Sq. Yd.	12166	-	12166
Furnishing and Erecting Structural Steel	Pound	-	14290	14290
Jack and Remove Existing Bearings	Each	-	80	80
Reinforcement Bars, Epoxy Coated	Pound	18010	-	18010
Bar Splicers	Each	194	-	194
Preformed Joint Strip Seal	Foot	100	-	100
Elastomeric Bearing Assembly, Type II	Each	-	80	80
Anchor Bolts, 1"	Each	-	160	160
Bridge Deck Latex Concrete Overlay, 2 1/4"	Sq. Yd.	11918	-	11918
Structural Repair of Concrete (Depth Equal to or Less Than 5 in.)	Sq. Ft.	-	361	361
Bridge Deck Hydro-scarification 1/2"	Sq. Yd.	11918	-	11918
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	7	-	7
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	136	-	136
Modular Expansion Joint, 6"	Foot	215	-	215
Modular Expansion Joint-Swivel, 6"	Foot	94	-	94

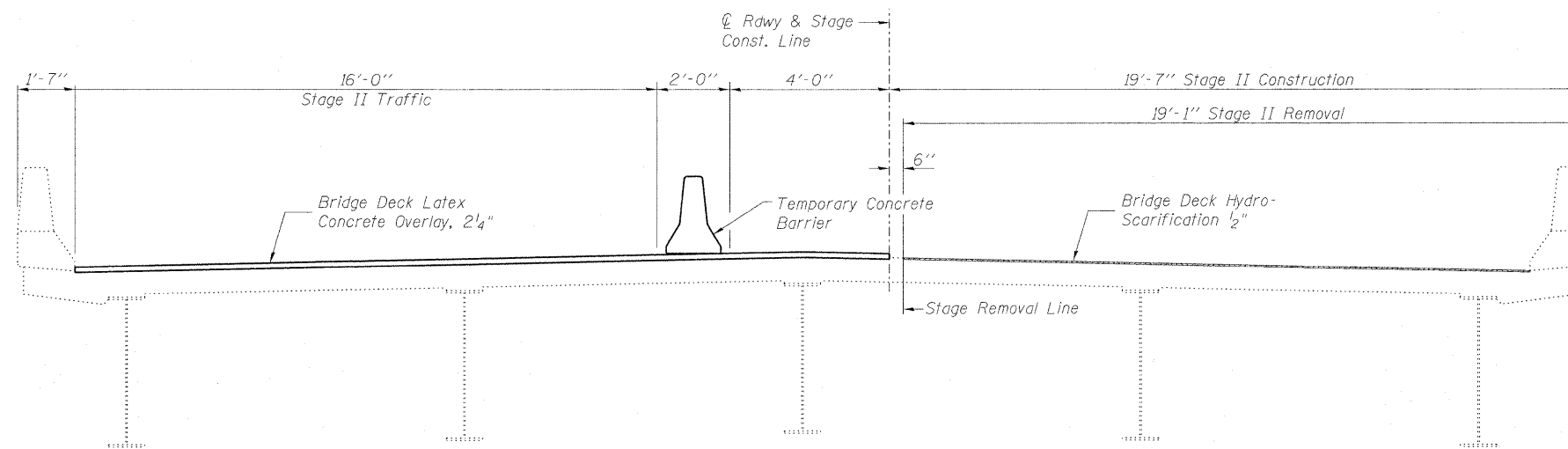
**GENERAL DATA & BILL OF MATERIAL
STRUCTURE NO. 016-2407**

LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois <small>Designed By: TBP Checked By: MTH Drawn By: AJF Date: 1/20/00 File: 016-2407.dgn</small>	SHEET NO. 3	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 23
	27 SHEETS	CONTRACT NO. 60J37		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION




STAGE I REMOVAL & CONSTRUCTION
(Looking North)



STAGE II REMOVAL AND CONSTRUCTION
(Looking North)

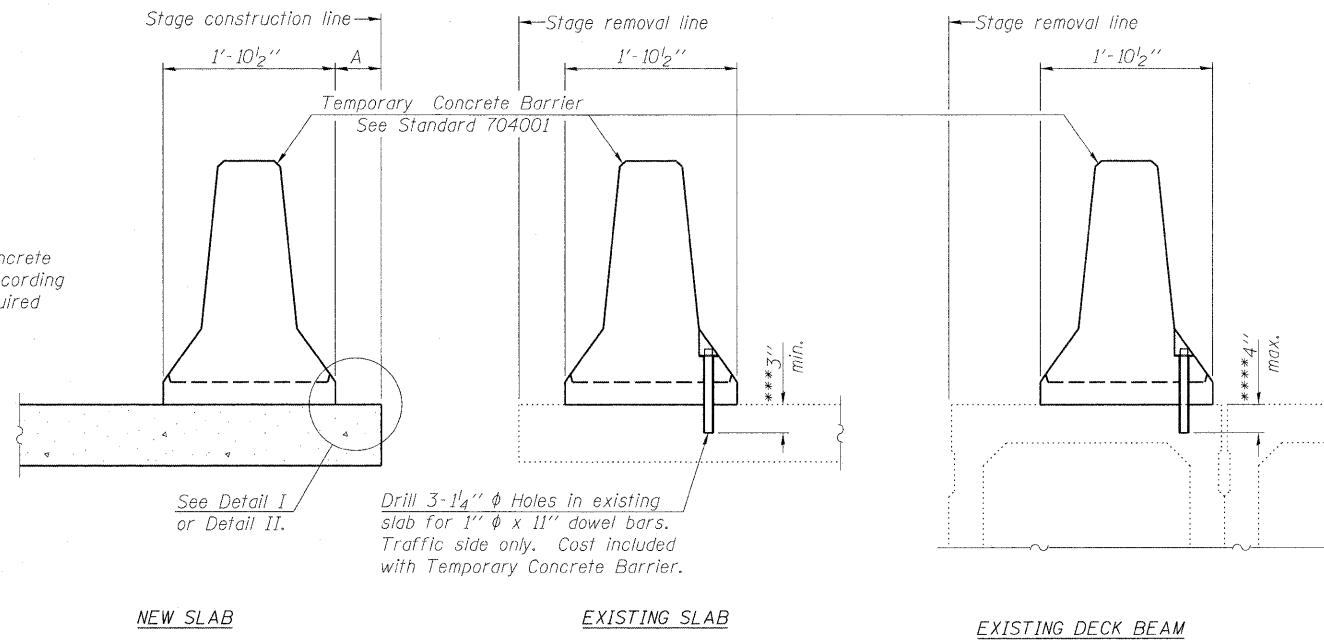
Notes:
See Sheet 5 of 27 for details of Temporary Concrete Barrier.
See Roadway Plans for quantities of Temporary Concrete Barrier.

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 016-2407

 LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	24
Designed By: TBP Date: 1/2010		Checked By: MTH File: 016_2407.dgn		Drawn By: RH		CONTRACT NO. 60J37 ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



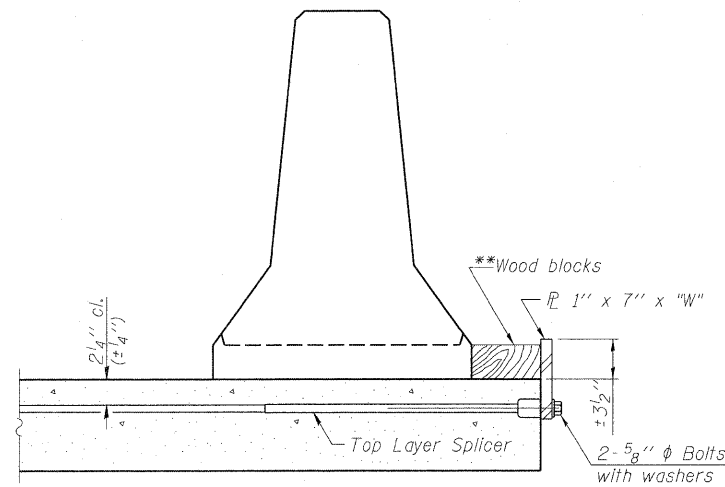
SECTIONS THRU SLAB OR DECK BEAM

NOTES

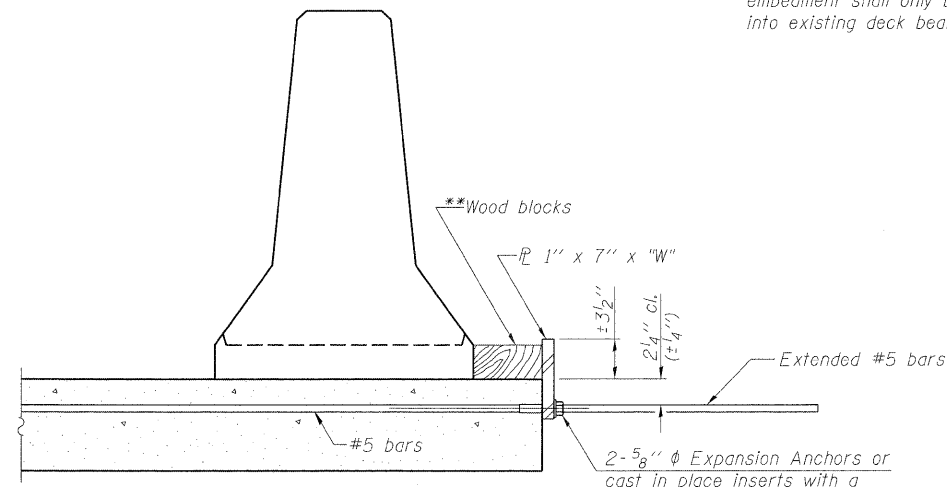
- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

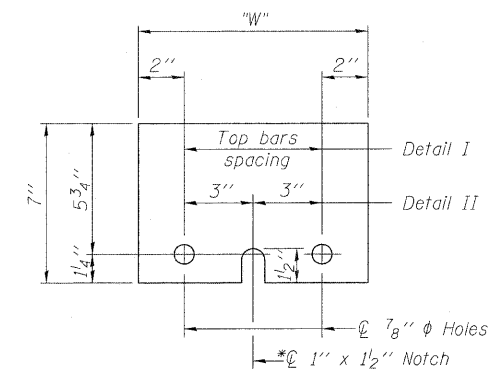
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

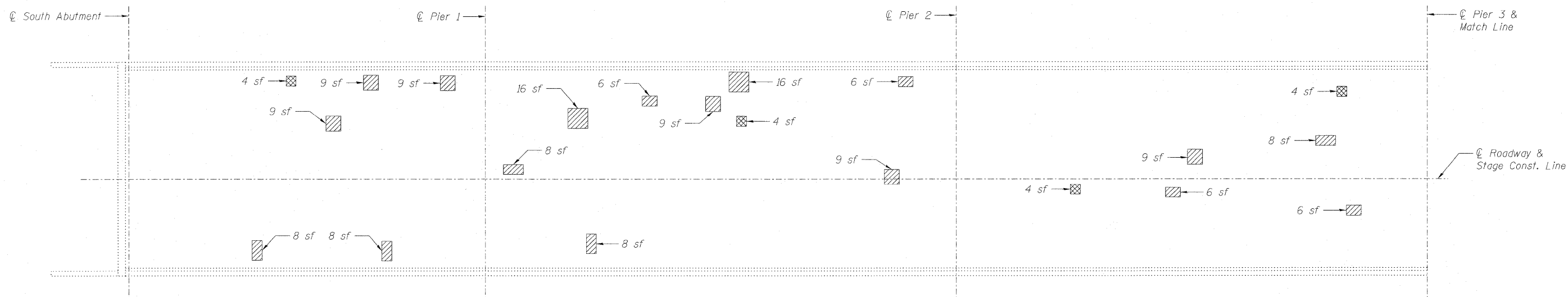
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

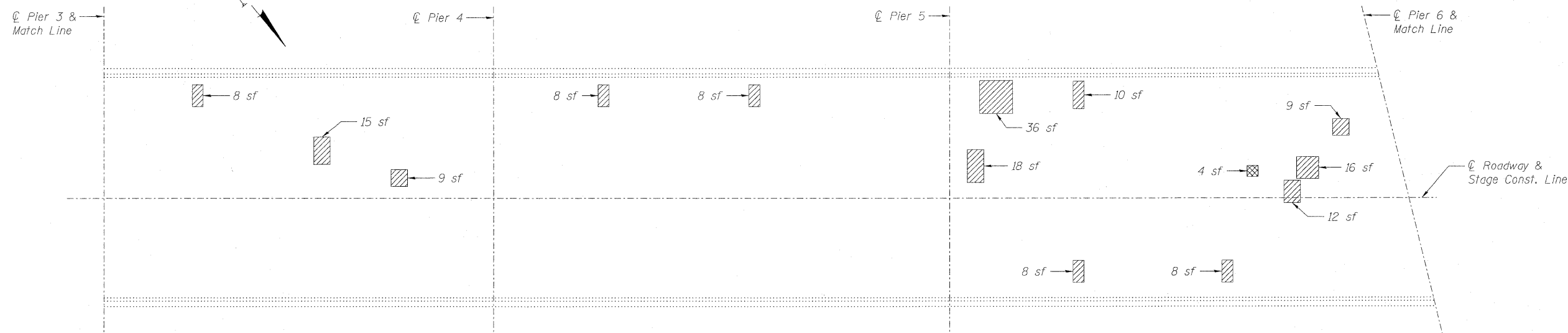
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-2407

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 5	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	25
			CONTRACT NO. 60J37			
			ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN
(Spans 1 Thru 3)



PARTIAL PLAN
(Spans 4 Thru 6)

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	2.2
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	35.0
Protective Shield	Sq. Yd.	1547

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

LEGEND

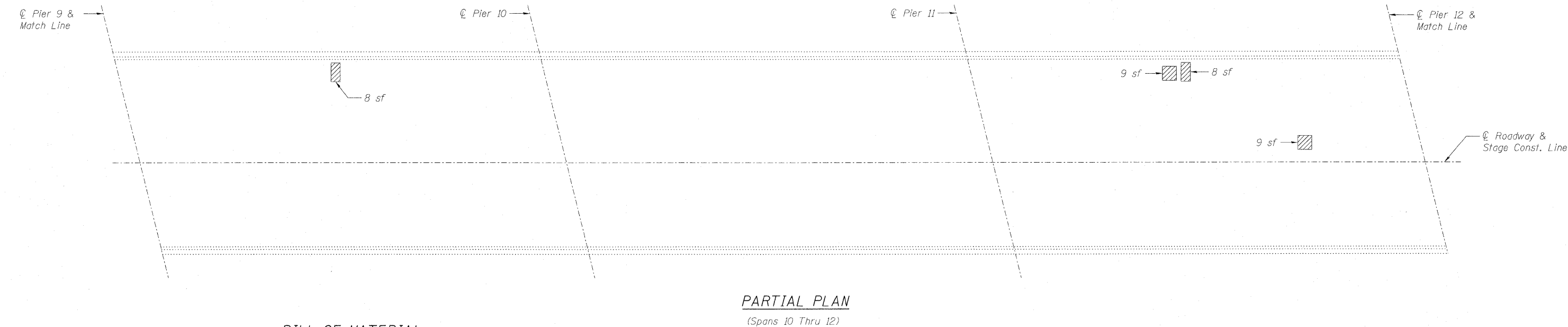
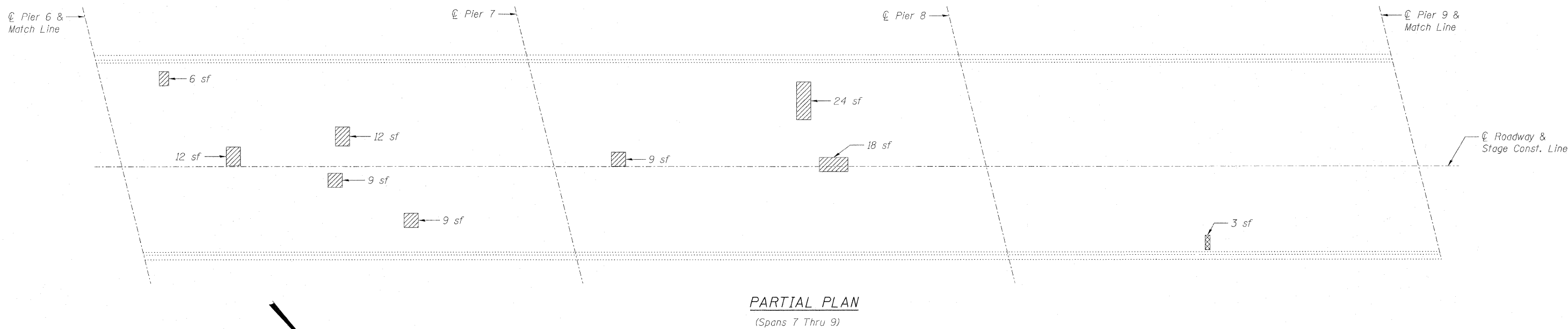
- Indicates Deck Slab Repair (Full Depth, Type I)
- Indicates Deck Slab Repair (Full Depth, Type II)
- sf Square Feet

Note:
See Sheet 1 of 27 for locations
of protective shield.

DECK REPAIR (1 of 5)
STRUCTURE NO. 016-2407

Lin ENGINEERING LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 6 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		330	462 X-B-I	COOK	54	26
		CONTRACT NO. 60J37				
		ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	14.8
Protective Shield	Sq. Yd.	2547

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

LEGEND

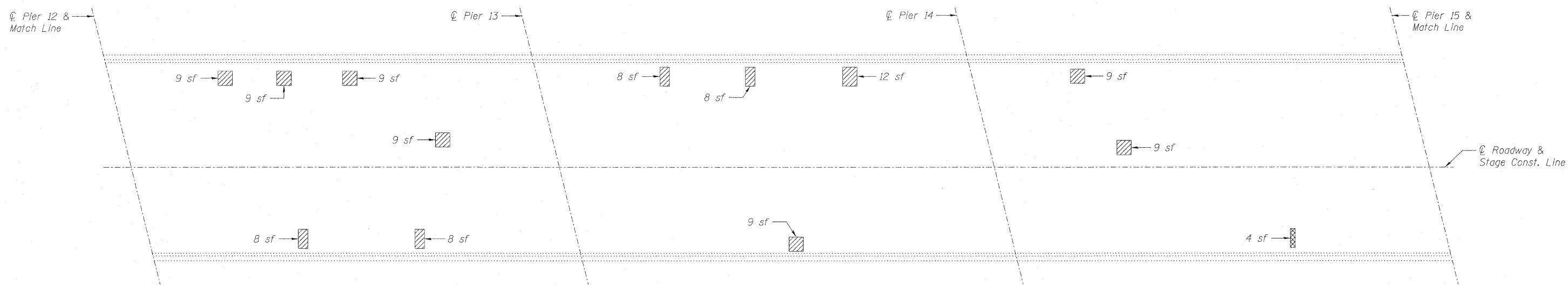
- Indicates Deck Slab Repair (Full Depth, Type I)
- Indicates Deck Slab Repair (Full Depth, Type II)
- sf Square Feet

Note:
See Sheet 1 of 27 for locations of protective shield.

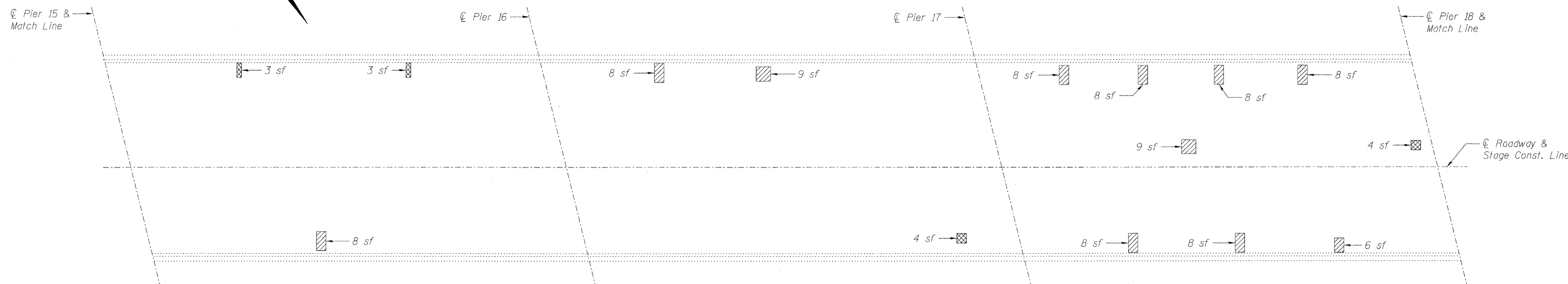
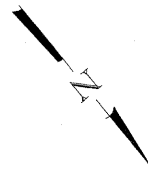
**DECK REPAIR (2 of 5)
STRUCTURE NO. 016-2407**

Lin Engineering Ltd. Consulting Engineers Channah, Illinois	SHEET NO. 7 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		330	462 X-B-I	COOK	54	27
		CONTRACT NO. 60J37				
		ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN
(Spans 13 Thru 15)



PARTIAL PLAN
(Spans 16 Thru 18)

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	2.0
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	21.7
Protective Shield	Sq. Yd.	417

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

LEGEND

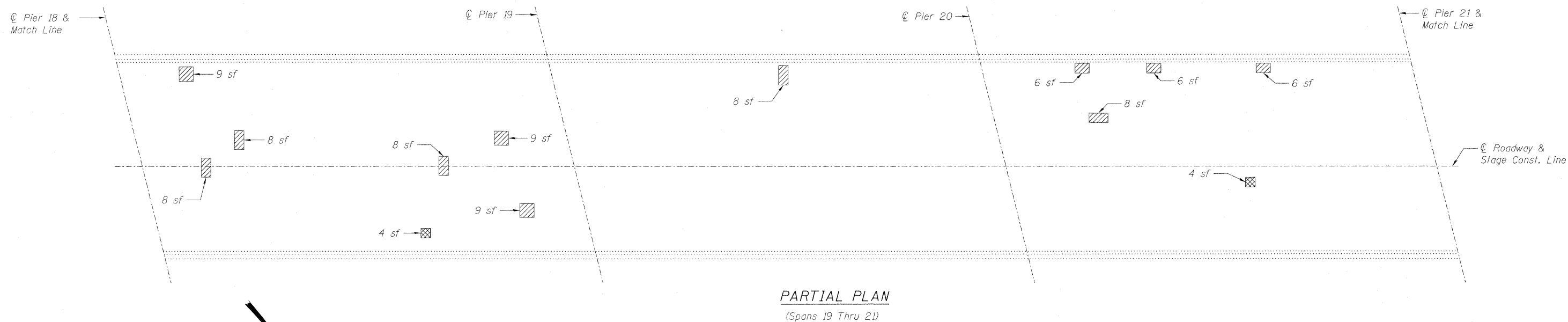
- Indicates Deck Slab Repair (Full Depth, Type I)
- Indicates Deck Slab Repair (Full Depth, Type II)
- sf Square Feet

Note:
See Sheets 1 and 2 of 27 for locations of protective shield.

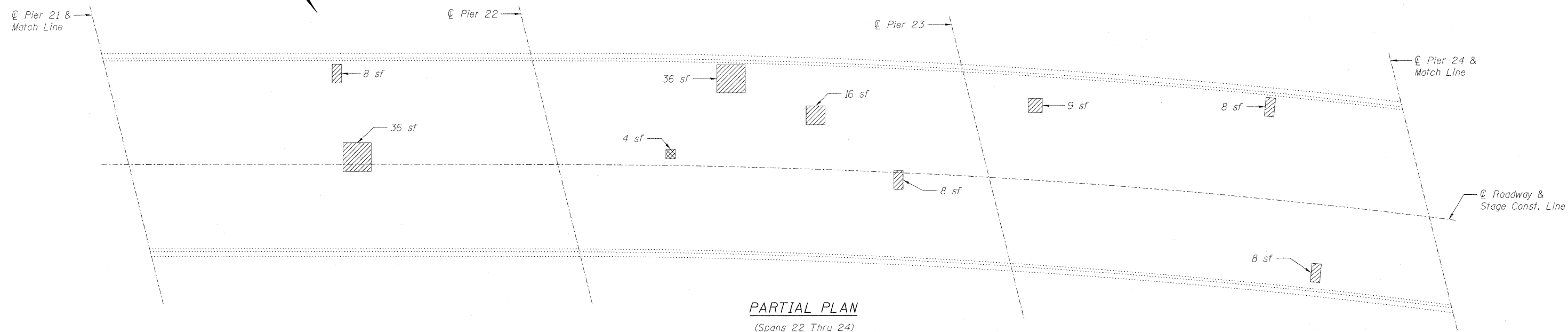
DECK REPAIR (3 of 5)
STRUCTURE NO. 016-2407

LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 8	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 28
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	
<small>Designed By: TBP Checked By: WTR Drawn By: TBP Date: 1/20/00 File: 016-2407.dgn</small>						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN
(Spans 19 Thru 21)



PARTIAL PLAN
(Spans 22 Thru 24)

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1.3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	23.8
Protective Shield	Sq. Yd.	858

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

LEGEND

- Indicates Deck Slab Repair (Full Depth, Type I)
- Indicates Deck Slab Repair (Full Depth, Type II)
- sf Square Feet

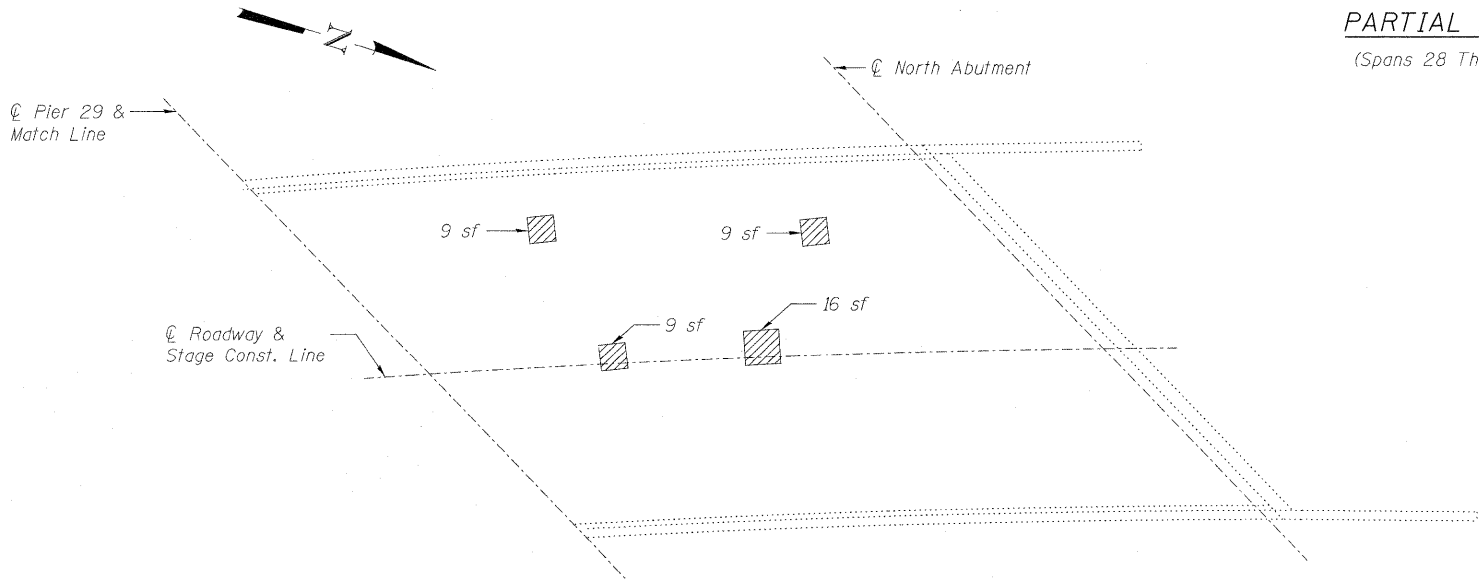
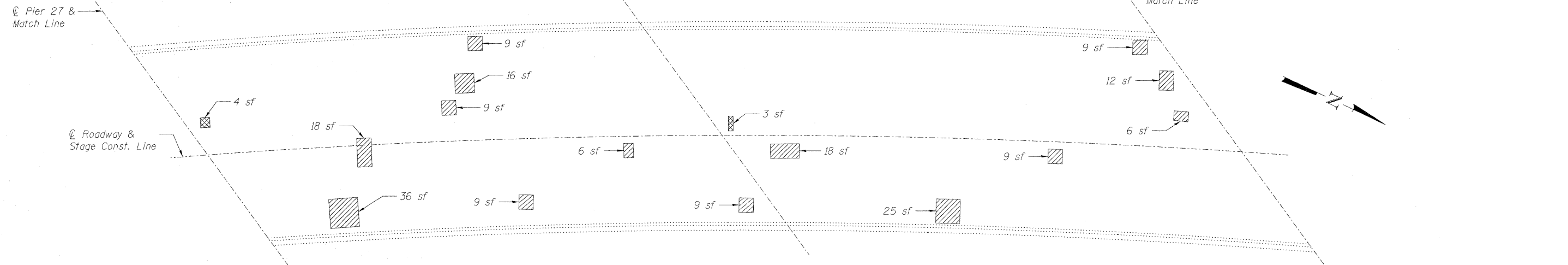
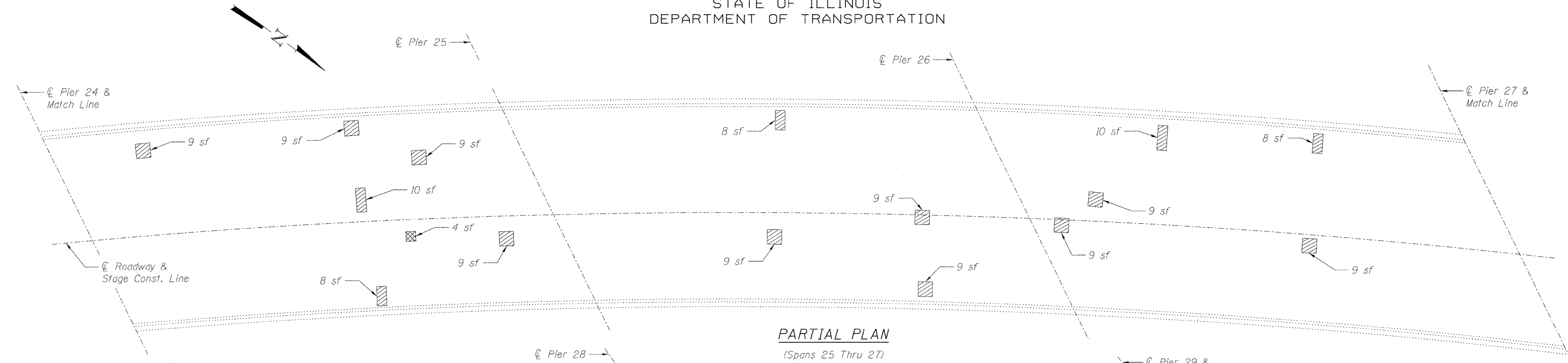
Note:
See Sheet 2 of 27 for locations of protective shield.

DECK REPAIR (4 of 5)
STRUCTURE NO. 016-2407

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 9	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	27 SHEETS	330	462 X-B-1	COOK	54	29	
		CONTRACT NO. 60J37					
		ILLINOIS FED. AID PROJECT					

Designed By: TBP Checked By: MTH Drawn By: TBP
Date: 1/20/00 File: 016-2407.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1.2
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	40.9
Protective Shield	Sq. Yd.	2363

LEGEND

- Indicates Deck Slab Repair (Full Depth, Type I)
- Indicates Deck Slab Repair (Full Depth, Type II)
- sf Square Feet

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

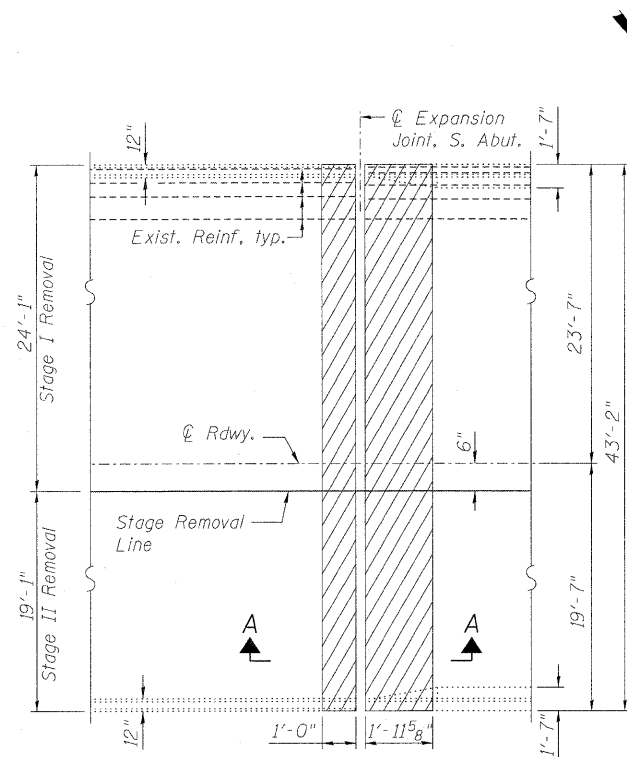
Note:
See Sheet 2 of 27 for locations of protective shield.

DECK REPAIR (5 of 5)
STRUCTURE NO. 016-2407

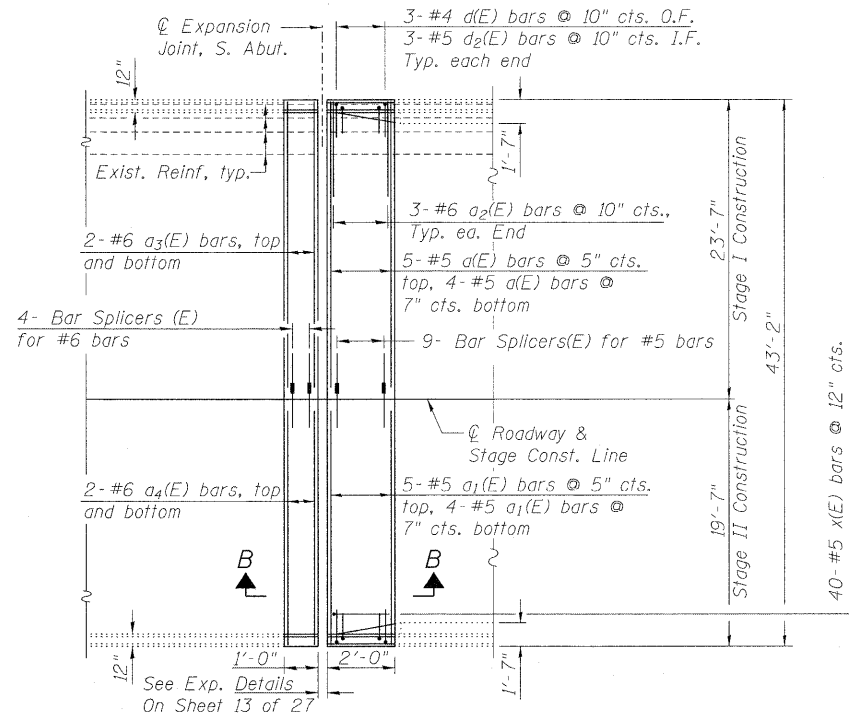
Lin Engineering Ltd. Consulting Engineers Chatham, Illinois	SHEET NO. 10 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		330	462 X-B-I	COOK	54	30
		CONTRACT NO. 60J37				
		ILLINOIS FED. AID PROJECT				

Designed By: TBP Checked By: MTH Drawn By: TBP
Date: 1/2010 File: 016-2407.dgn

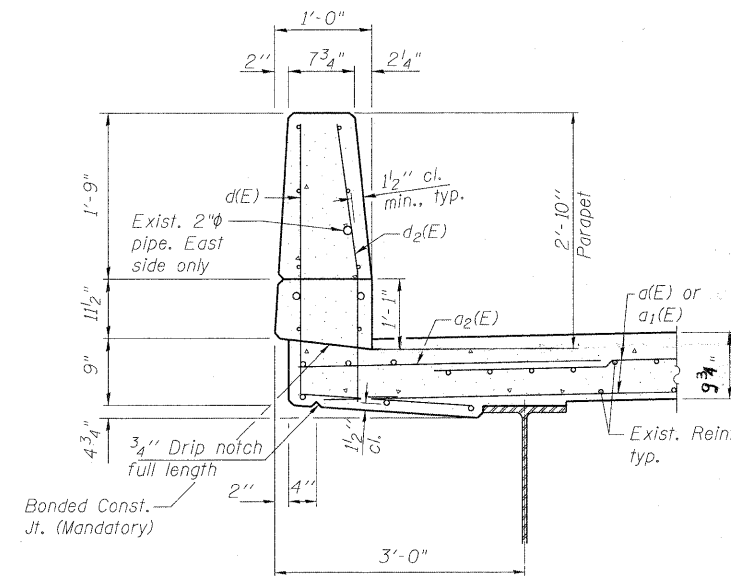
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



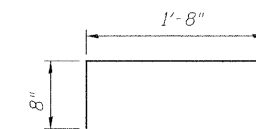
PARTIAL PLAN SHOWING CONCRETE
REMOVAL AT SOUTH ABUTMENT



PARTIAL PLAN SHOWING CONCRETE
REPLACEMENT AT SOUTH ABUTMENT



SECTION THRU PARAPET



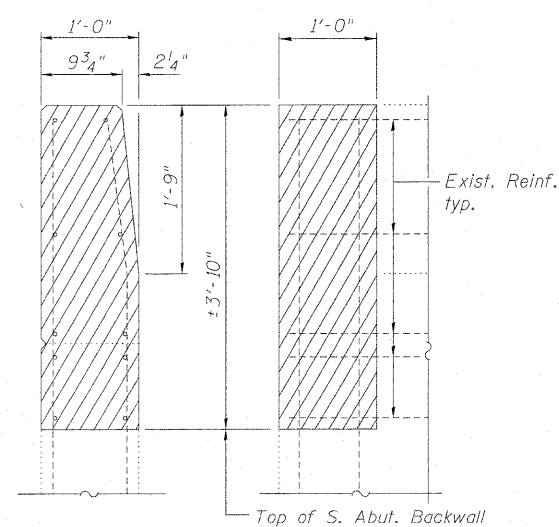
BAR x(E)

LEGEND

O.F. = Outside Face
I.F. = Inside Face

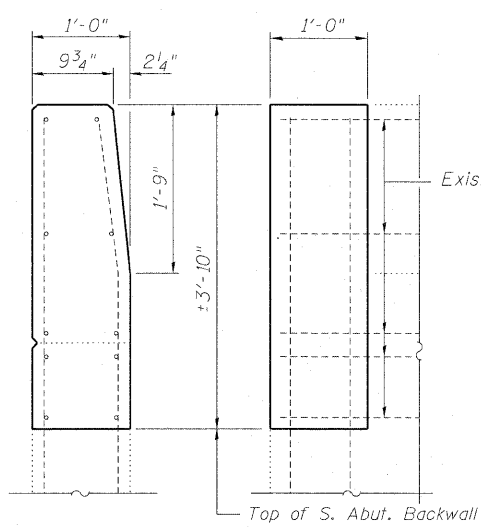
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	9	#5	22'-11"	—
a1(E)	9	#5	18'-11"	—
a2(E)	6	#6	6'-0"	—
a3(E)	4	#6	23'-3"	—
a4(E)	4	#6	19'-3"	—
d(E)	6	#4	5'-2"	—
d2(E)	6	#5	4'-2"	—
x(E)	40	#5	2'-4"	—
Concrete Removal			Cu. Yd.	6.1
Concrete Superstructure			Cu. Yd.	7.2
Reinforcement Bars, Epoxy Coated			Pound	850



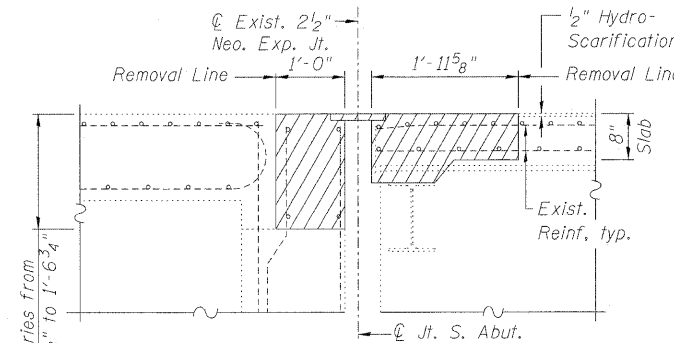
END VIEW

ELEVATION

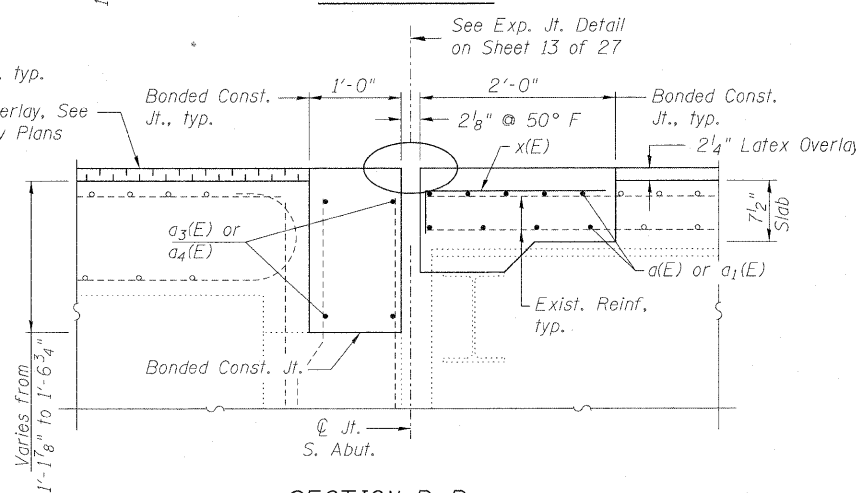


END VIEW

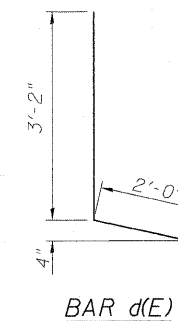
ELEVATION



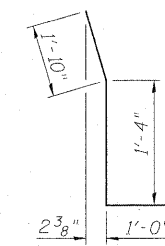
SECTION A-A



SECTION B-B



BAR d(E)



BAR d2(E)

NOTES

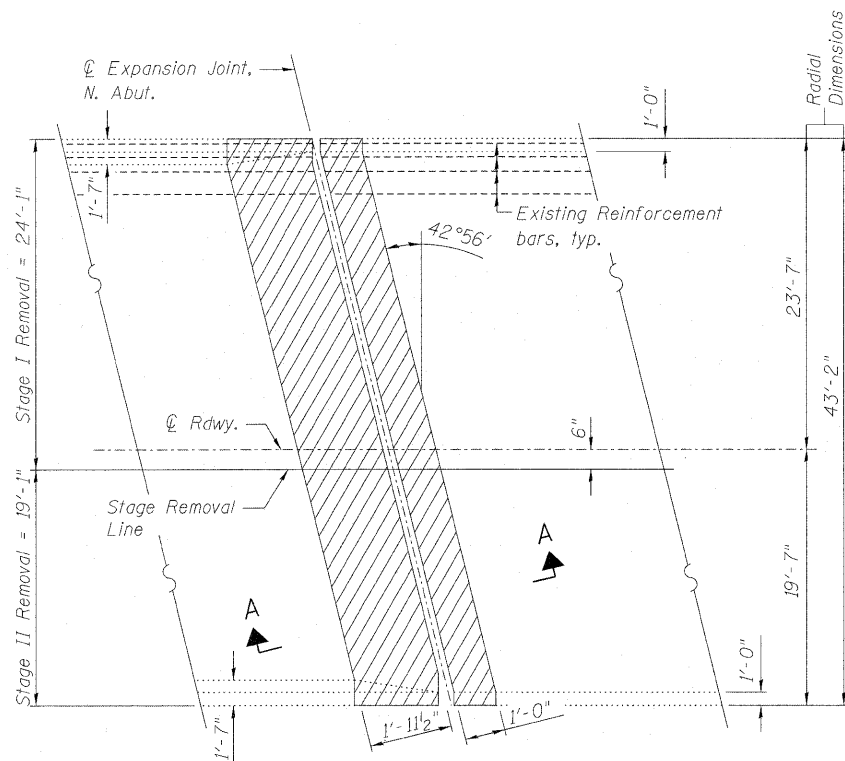
Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4" prior to removal of the concrete. Existing reinforcement shall be cleaned, straightened (if required) and incorporated into the new construction. Cost included with Concrete Removal. Removal of the existing joint system is included with Concrete Removal.

JOINT DETAILS, SOUTH ABUTMENT
STRUCTURE NO. 016-2407

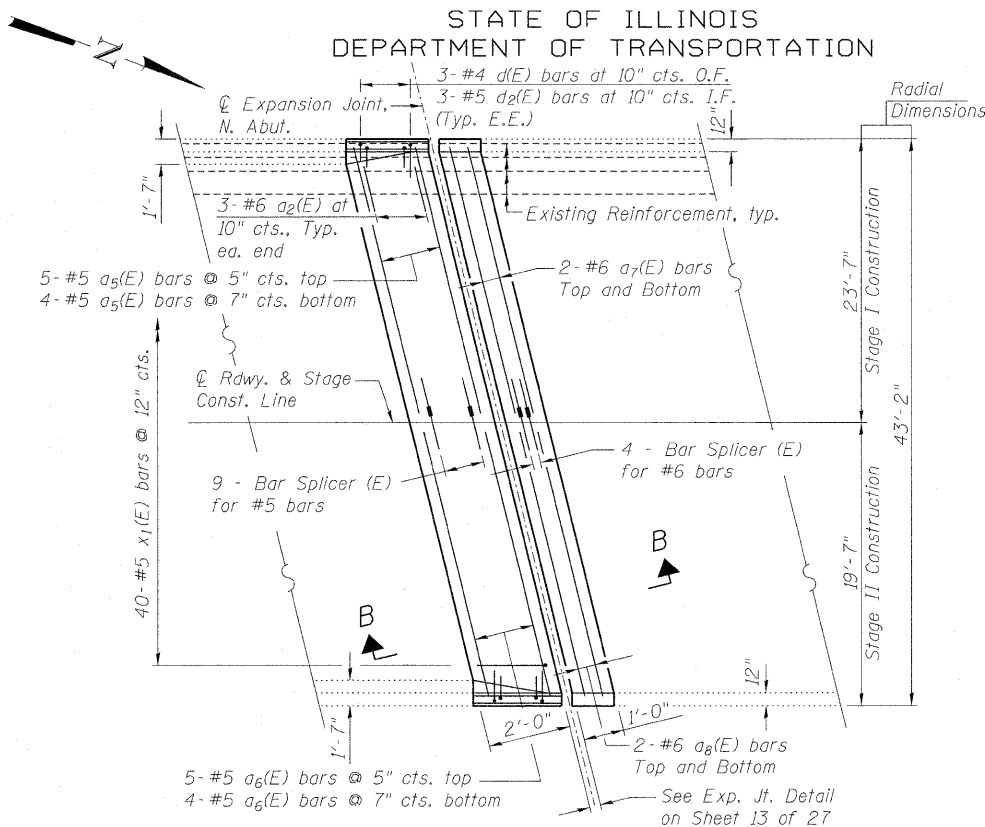
WINGWALL CONCRETE REMOVAL DETAIL WINGWALL CONCRETE REPLACEMENT DETAIL

<p>LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 11	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 31
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

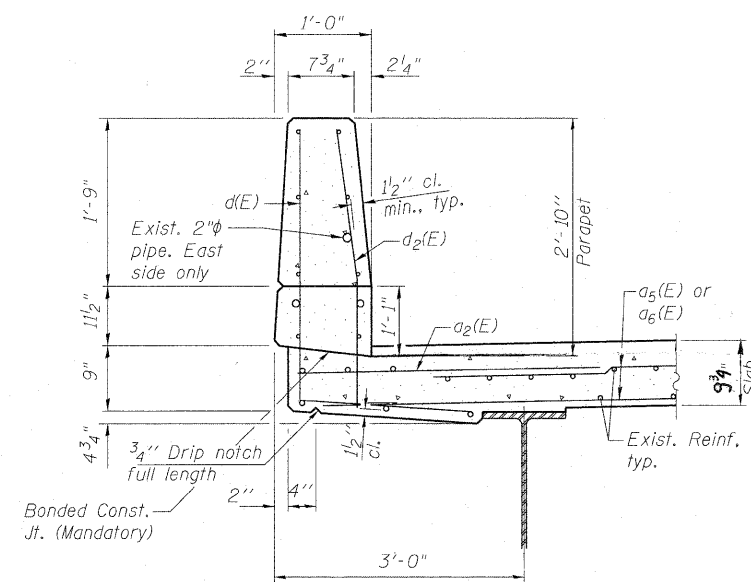
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



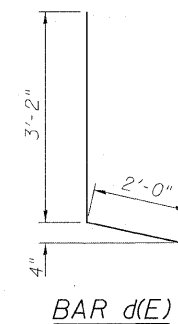
PARTIAL PLAN SHOWING CONCRETE
REMOVAL AT NORTH ABUTMENT



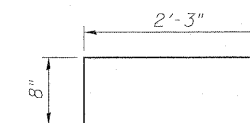
PARTIAL PLAN SHOWING CONCRETE
REPLACEMENT AT NORTH ABUTMENT



SECTION THRU PARAPET
(Horizontal Dimensions measured radially)



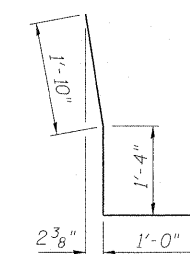
BAR d(E)



BAR x1(E)

BILL OF MATERIAL

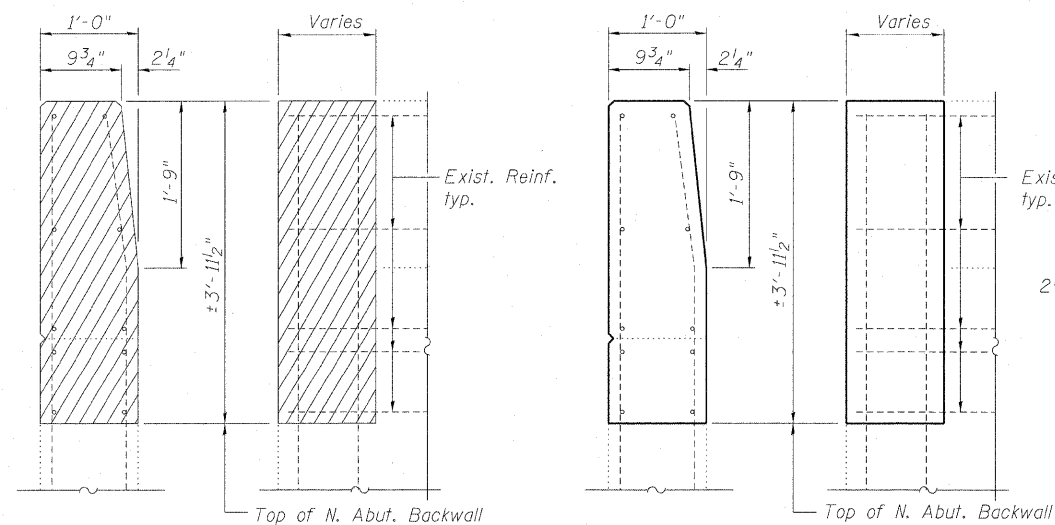
Bar	No.	Size	Length	Shape
a2(E)	6	#6	6'-0"	—
a5(E)	9	#5	31'-4"	—
a6(E)	9	#5	25'-10"	—
a7(E)	4	#6	31'-9"	—
a8(E)	4	#6	26'-4"	—
d(E)	6	#4	5'-2"	—
d2(E)	6	#5	4'-2"	—
x1(E)	40	#5	2'-11"	—
Concrete Removal			Cu. Yd.	8.1
Concrete Superstructure			Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated			Pound	1110



BAR d2(E)

LEGEND

O.F. = Outside Face
I.F. = Inside Face
E.E. = Each End



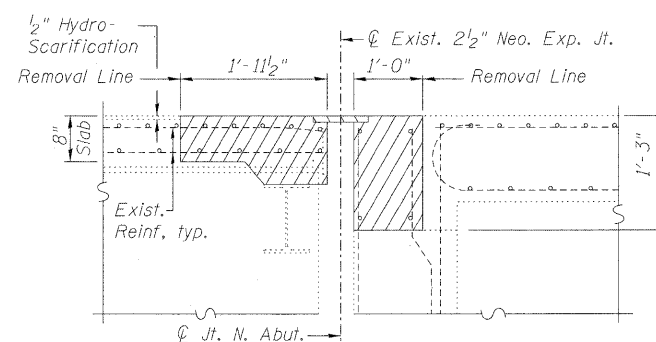
END VIEW

ELEVATION

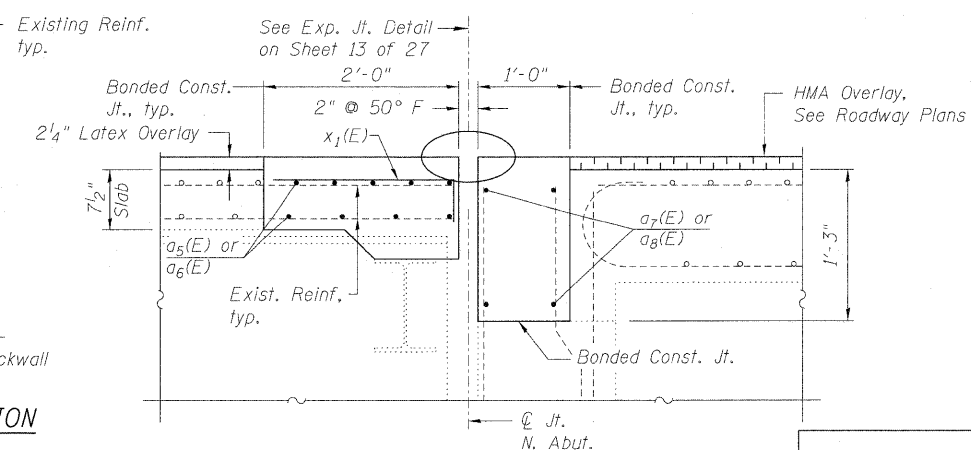
END VIEW

ELEVATION

WINGWALL CONCRETE REMOVAL DETAIL WINGWALL CONCRETE REPLACEMENT DETAIL



SECTION A-A
(Dimensions at Rt. Angles)



SECTION B-B
(Dimensions at Rt. Angles)

NOTES:

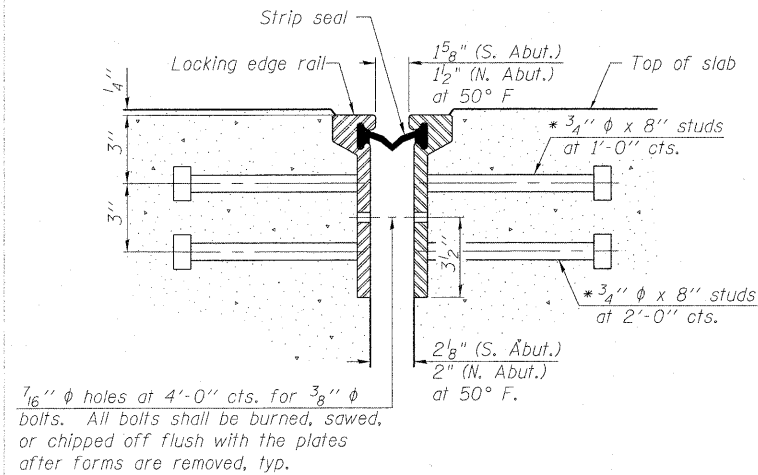
Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4" prior to removal of the concrete. Existing reinforcement shall be cleaned, straightened (if required) and incorporated into the new construction. Cost included with Concrete Removal. Removal of the existing joint system is included with Concrete Removal.

JOINT DETAILS, NORTH ABUTMENT
STRUCTURE NO. 016-2407

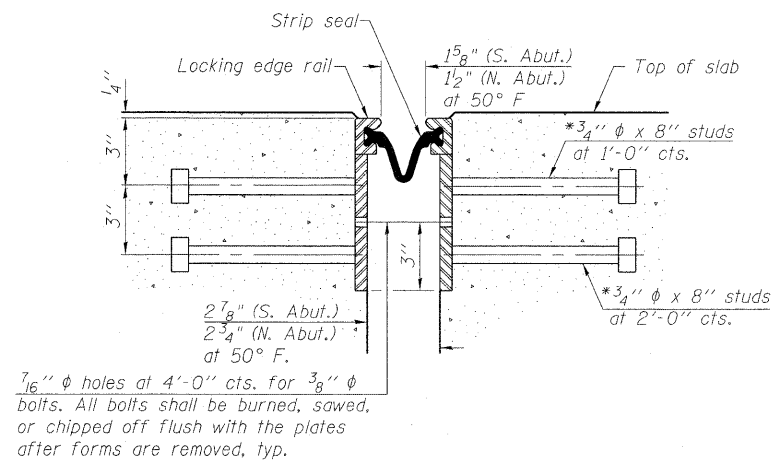
<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 12	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 32
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

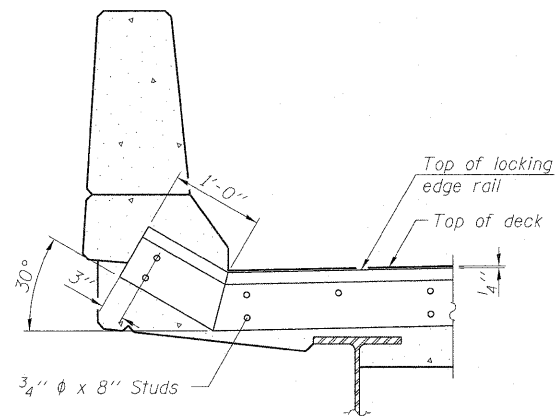
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SECTION THRU
ROLLED RAIL JOINT

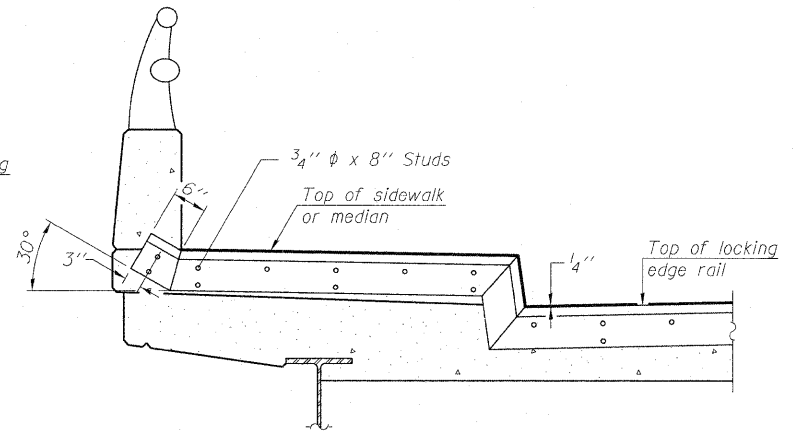


SECTION THRU
WELDED RAIL JOINT



AT PARAPET

See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

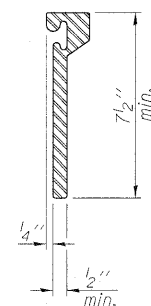
7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

TYPICAL END TREATMENTS

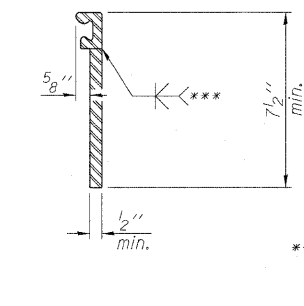
Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

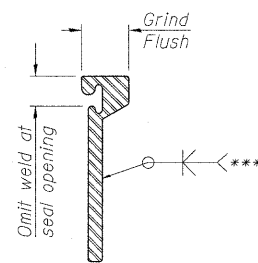
The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.



ROLLED
EXTRUDED RAIL

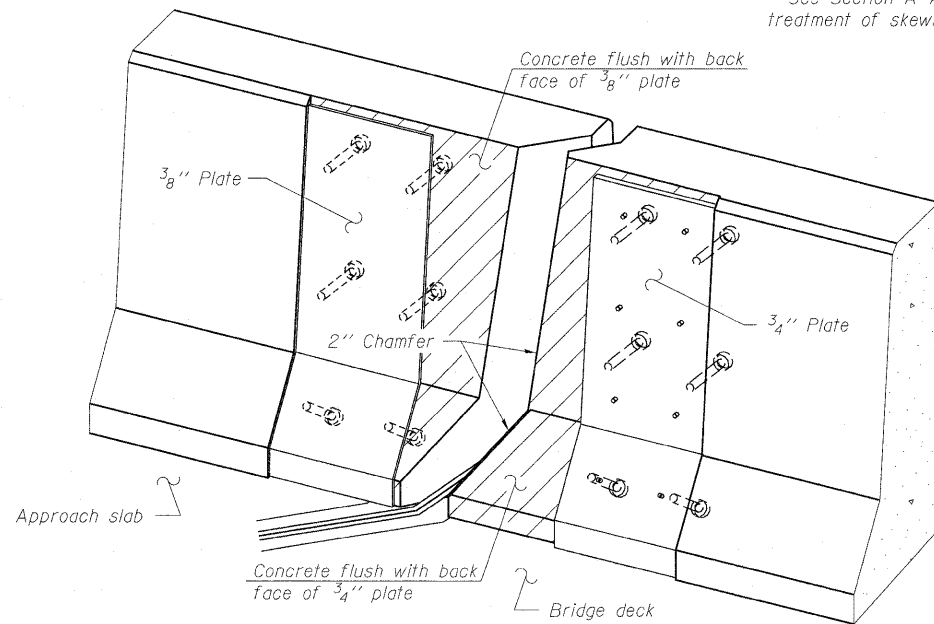


WELDED RAIL



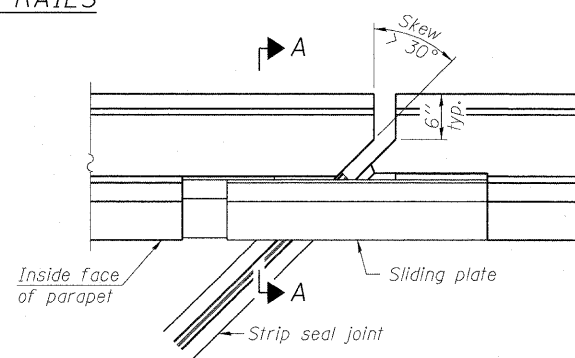
LOCKING EDGE
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

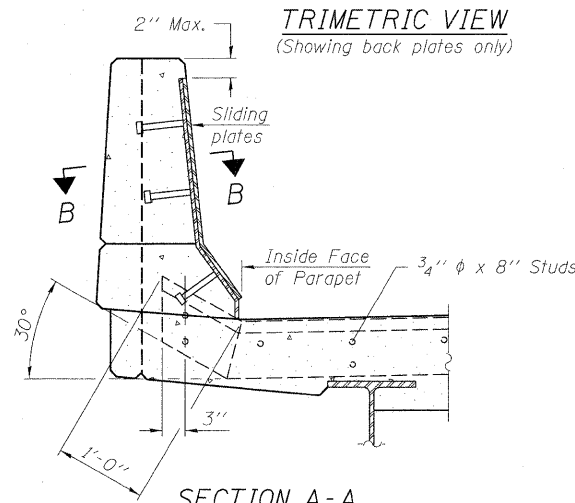


TRIMETRIC VIEW
(Showing back plates only)

LOCKING EDGE RAILS

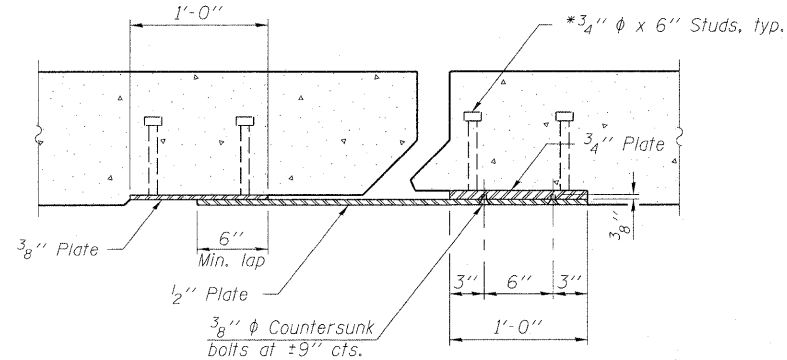


PLAN



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

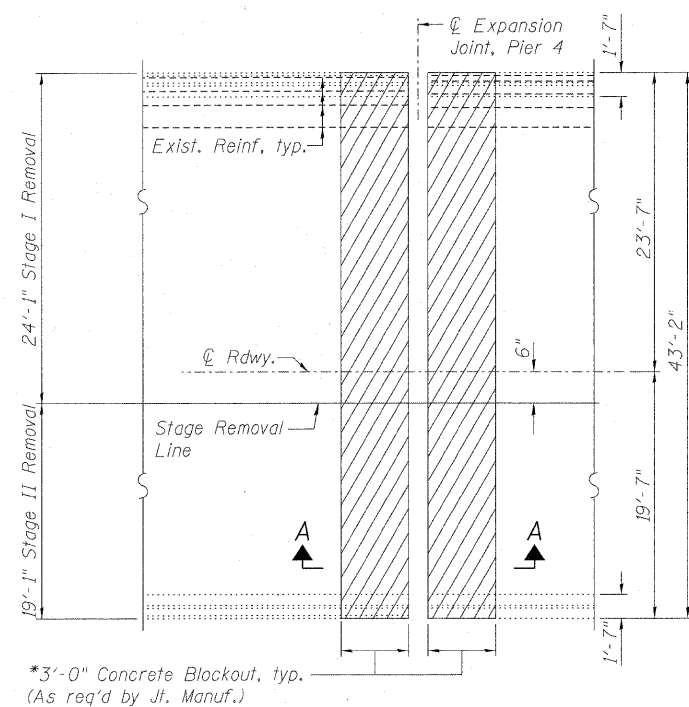
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	100

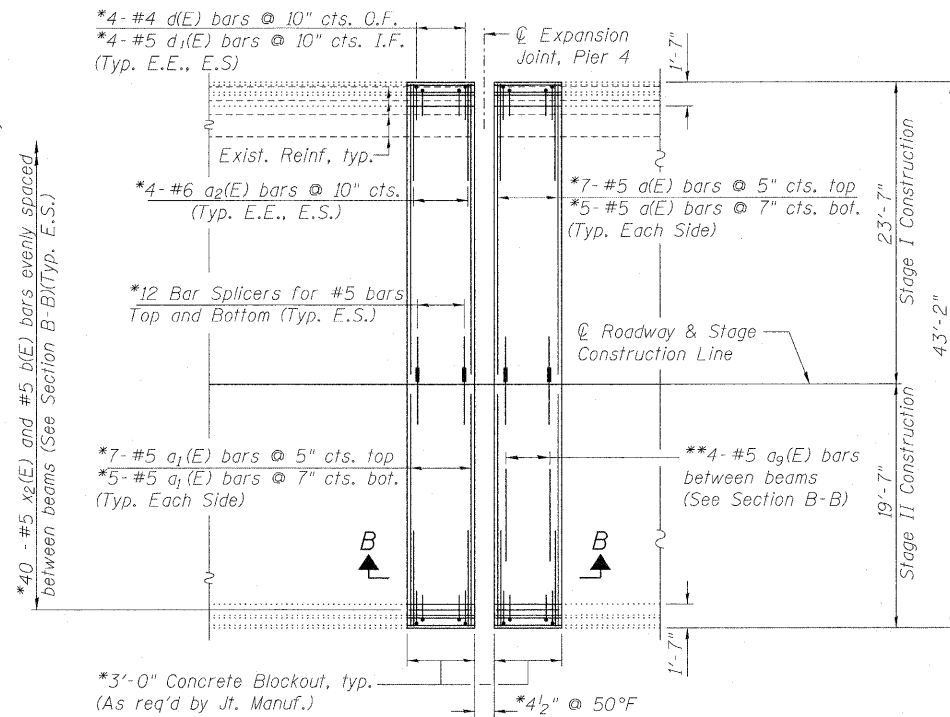
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-2407

LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 13	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 33
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



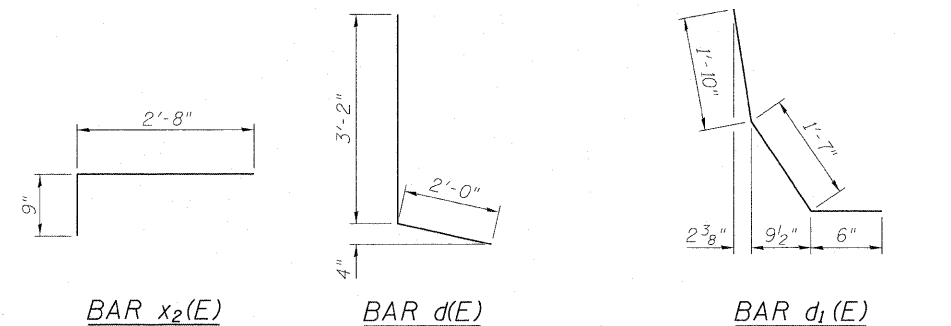
PARTIAL PLAN SHOWING CONCRETE
REMOVAL AT PIER 4



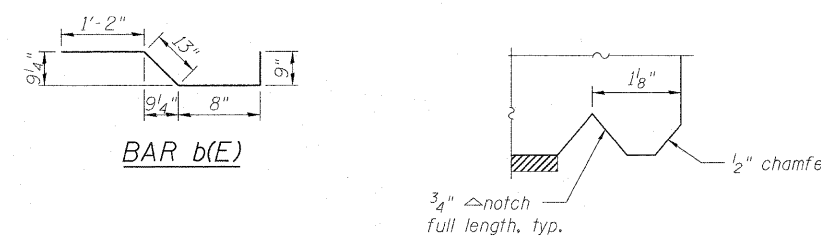
PARTIAL PLAN SHOWING CONCRETE
REPLACEMENT AT PIER 4

NOTES

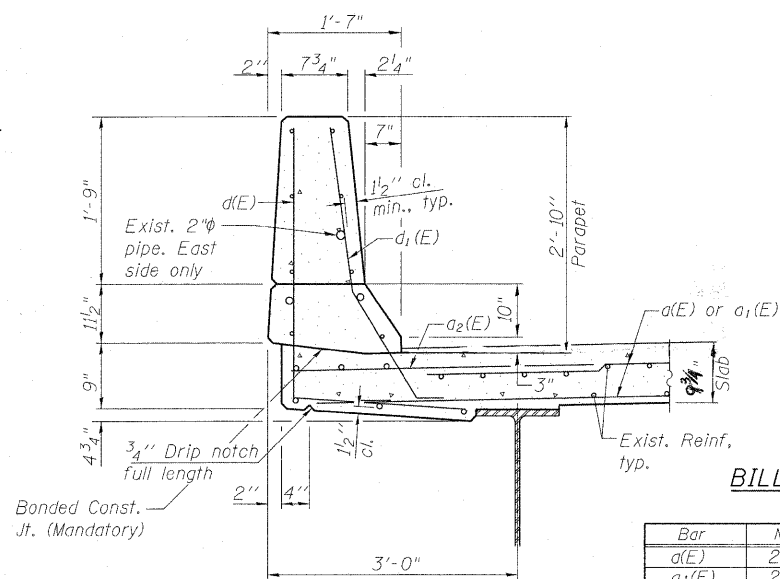
Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut $\frac{3}{4}$ " prior to removal of the concrete.
Existing reinforcement shall be cleaned, straightened (if required) and incorporated into the new construction. Cost included with Concrete Removal.
Drilling and epoxy grouting of reinforcement bars shall be in accordance with Article 584 of the Standard Specifications.
Removal of the existing joint system is included with Concrete Removal. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.



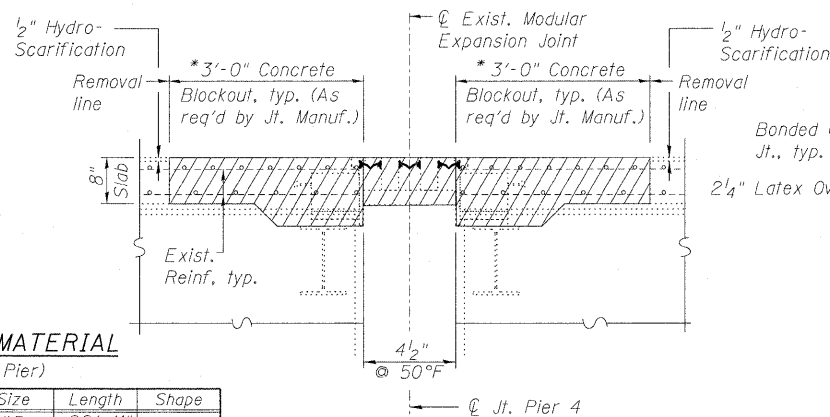
* Length of blockout, width of joint and number of reinforcement bars needed may vary as required by Joint Manufacturer.
** Bars to be placed so as to miss joint's support boxes. Cut to fit at Stage Construction Line



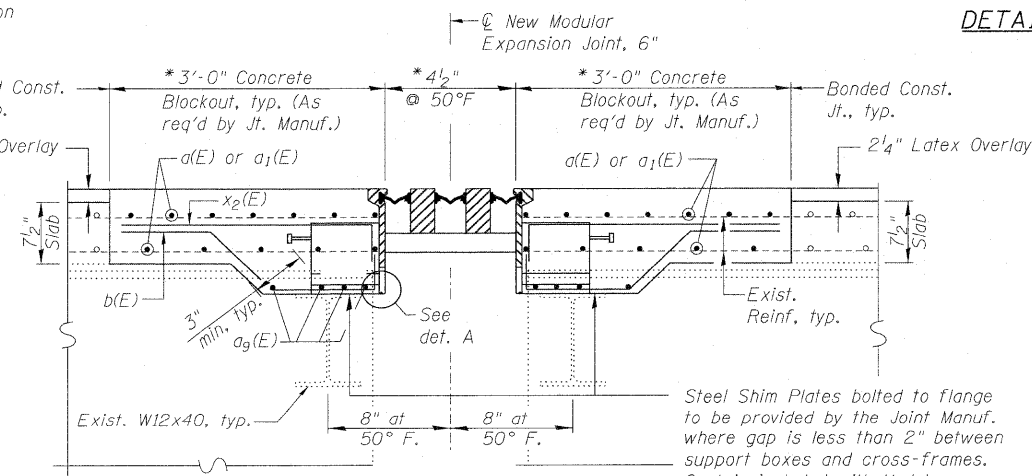
DETAIL A



SECTION THRU PARAPET



SECTION A-A



SECTION B-B

(Cut or bend reinforcement bars as req'd to miss support boxes by 1/2")

JOINT DETAILS, PIER 4 (1 of 2)
STRUCTURE NO. 016-2407

BILL OF MATERIAL
(One Pier)

Bar	No.	Size	Length	Shape
d(E)	24	#5	22'-11"	—
a1(E)	24	#5	18'-11"	—
a2(E)	16	#6	6'-0"	—
a9(E)	32	#5	8'-10"	—
b(E)	80	#5	3'-8"	—
d(E)	16	#4	5'-2"	—
d1(E)	16	#5	3'-11"	—
x2(E)	80	#5	3'-5"	—

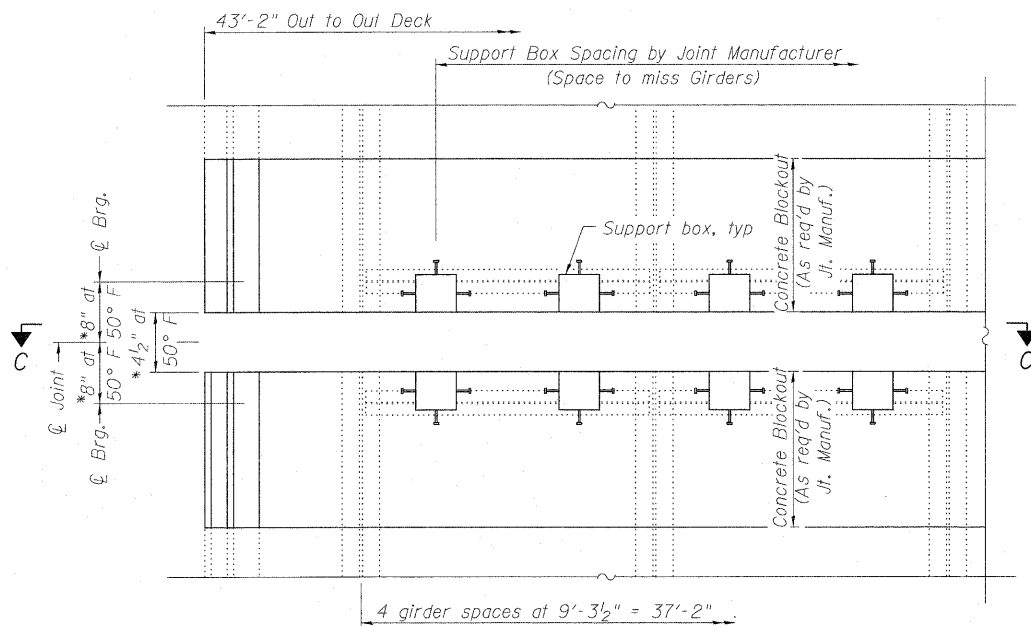
Concrete Removal	Cu. Yd.	9.1
Concrete Superstructure	Cu. Yd.	10.4
Modular Expansion Joint, 6"	Foot	42
Reinforcement Bars, Epoxy Coated	Pounds	2200

LEGEND

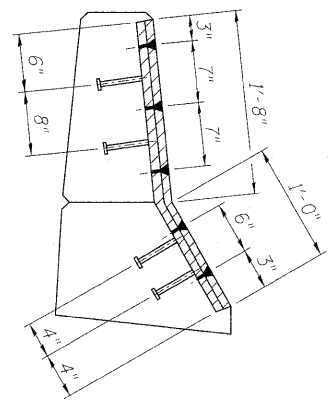
E.E. = Each End
E.S. = Each Side
I.F. = Inside Face
O.F. = Outside Face

	SHEET NO. 14	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 34
	27 SHEETS	CONTRACT NO. 60J37		ILLINOIS FED. AID PROJECT		

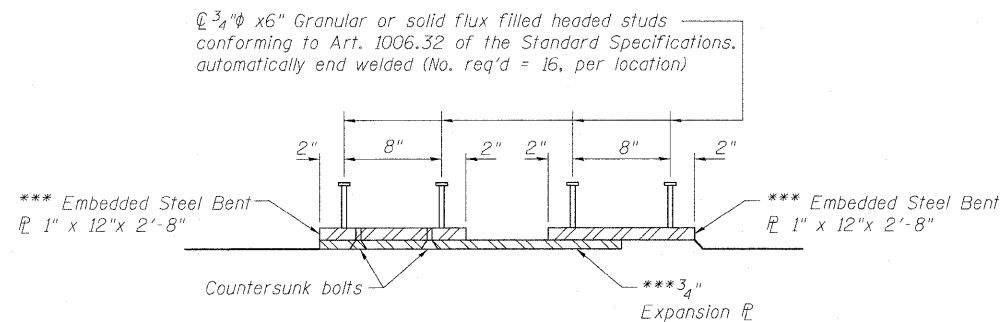
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN AT PIER 4



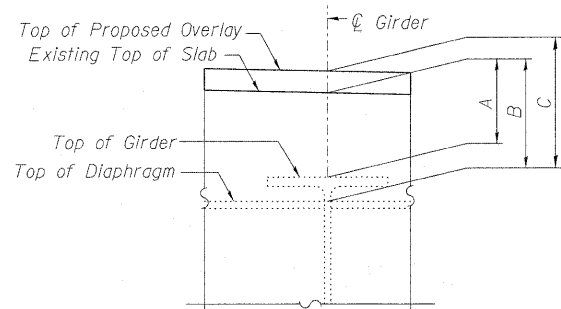
SECTION D-D



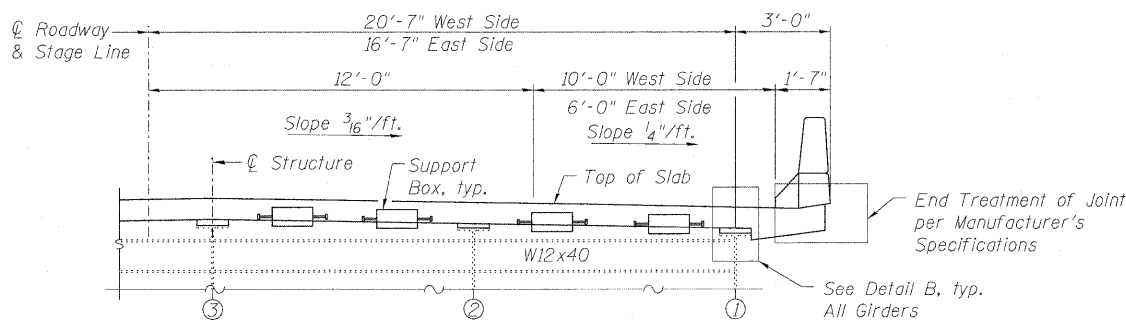
SECTION E-E

*** Expansion Plate and Embedded Plates shall be galvanized According to AASHTO M111. Cost included with Modular Expansion Joint 6"

* Adjusted as required by Joint Manufacturer



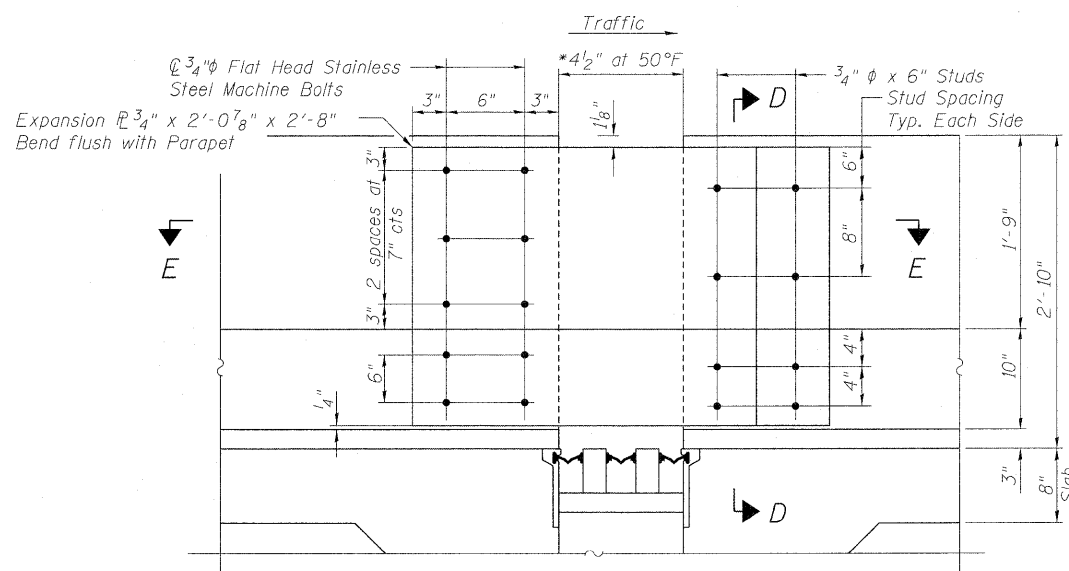
DETAIL B



SECTION C-C
(Looking South)

A, B & C DIMENSIONS
(from 2002 Existing Plans)

Location	Beam Number	At Bearing		
		Dim "A"	Dim "B"	Dim "C"
Pier #4 South Bearing	1	8 7/8"	12 5/8"	14 3/8"
	2	8 7/8"	14 7/8"	16 5/8"
	3	8 7/8"	16 5/8"	18 3/8"
	4	8 7/8"	15 5/8"	17 3/8"
	5	8 7/8"	13 5/8"	15 3/8"
Pier #4 North Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/2"	16 1/4"
	3	8 1/2"	16 1/4"	18"
	4	8 1/2"	15 1/4"	17"
	5	8 1/2"	13 1/4"	15"



ELEVATION - PARAPET SLIDING
PLATE AT PIER 4

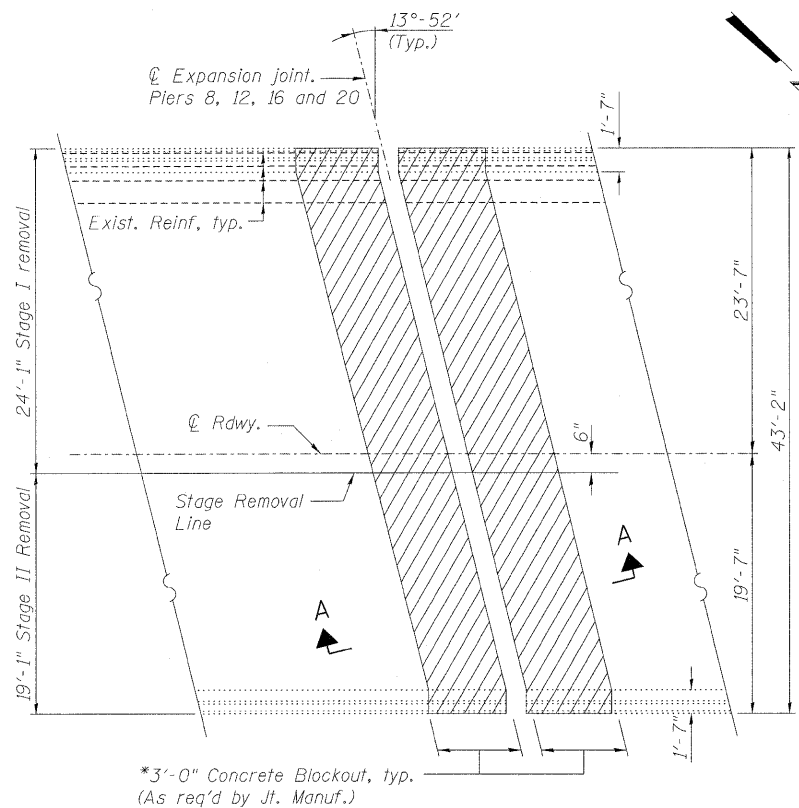
NOTES

- Modular Expansion Joint shall be designed according to the latest ASTM Specifications for HS20 Loading with 30% impact and for a minimum movement of ±3" (total of 6").
- The Modular Expansion Joint shall be either Steel flex system by D.S. Brown Company, WABO system, by Watson Bowman Acme Corp., or the LG system, by TechStar Inc.
- Joint shall be fabricated and installed according to the manufacturer's recommendations and as approved by the Engineer.
- Joint shall be fabricated to conform to the Roadway Profile and Cross-Slopes.
- Cost of all hardware and installation of Steel Bearing Shim Plates and additional reinforcement required to anchor the joint to the slab shall be included with "Modular Expansion Joint 6".
- The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except no top coat required in non-exposed areas. The color of the acrylic finish coat shall be Gray, Munsell No. 5B 7/1. See special Provisions "Cleaning and Painting New Metal Structures."

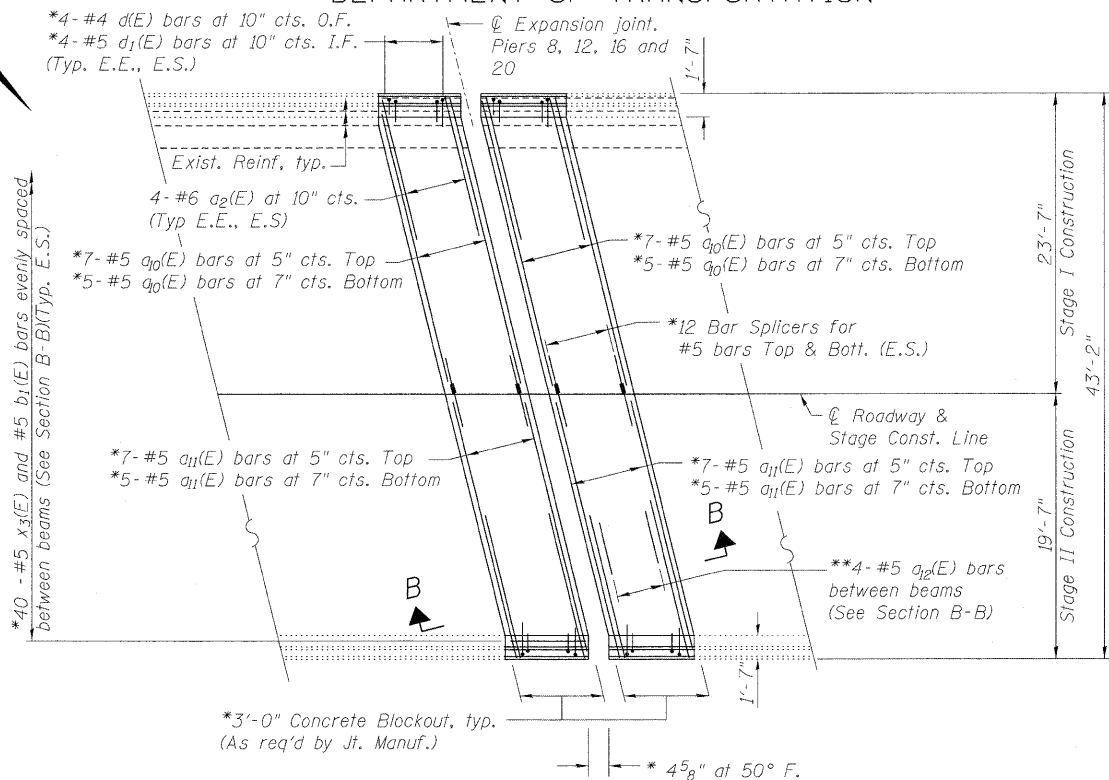
JOINT DETAILS, PIER 4 (2 of 2)
STRUCTURE NO. 016-2407

 LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois <small>Designed By: TBP Checked By: MTH Drawn By: TBP Date: 1/2010 File: 016-2407.dgn</small>	SHEET NO. 15	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 35
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN SHOWING CONCRETE
REMOVAL AT PIERS 8, 12, 16 & 20

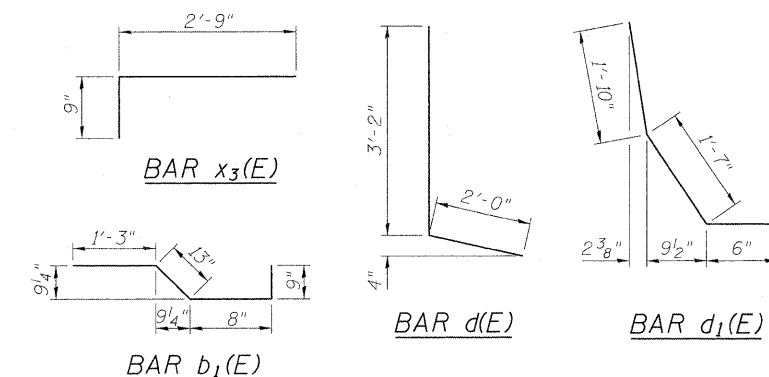


PARTIAL PLAN SHOWING CONCRETE
REPLACEMENT AT PIERS 8, 12, 16 & 20

* Length of blockout, width of joint and number of reinforcement bars needed may vary as required by joint Manufacturer.
** Bars to be placed so as to miss joint's support boxes. Cut to fit at Stage Construction Line

NOTES

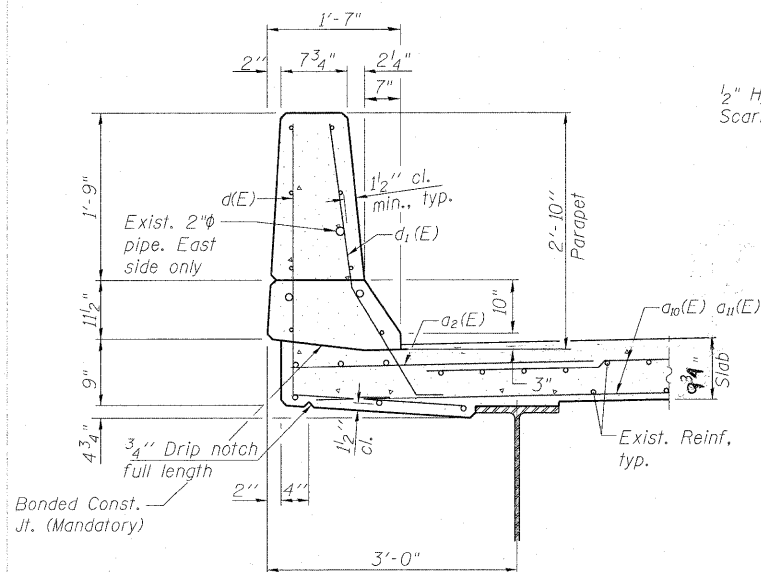
Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4" prior to removal of the concrete. Existing reinforcement shall be cleaned, straightened (if required) and incorporated into the new construction. Cost included with Concrete Removal. Drilling and epoxy grouting of reinforcement bars shall be in accordance with Article 584 of the Standard Specifications. Removal of the existing joint system is included with Concrete Removal. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.



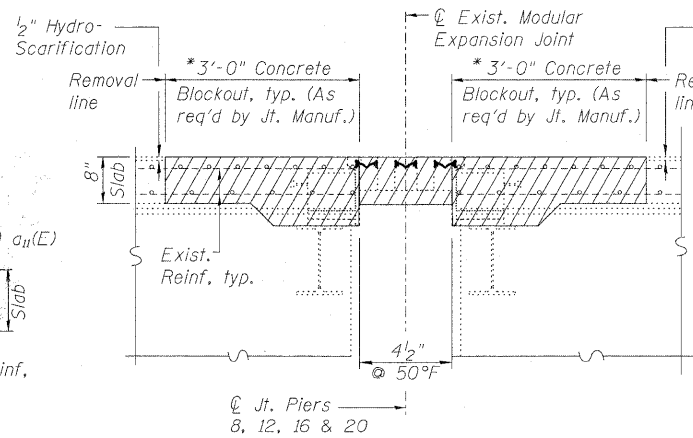
DETAIL A

BILL OF MATERIAL
(4 Piers)

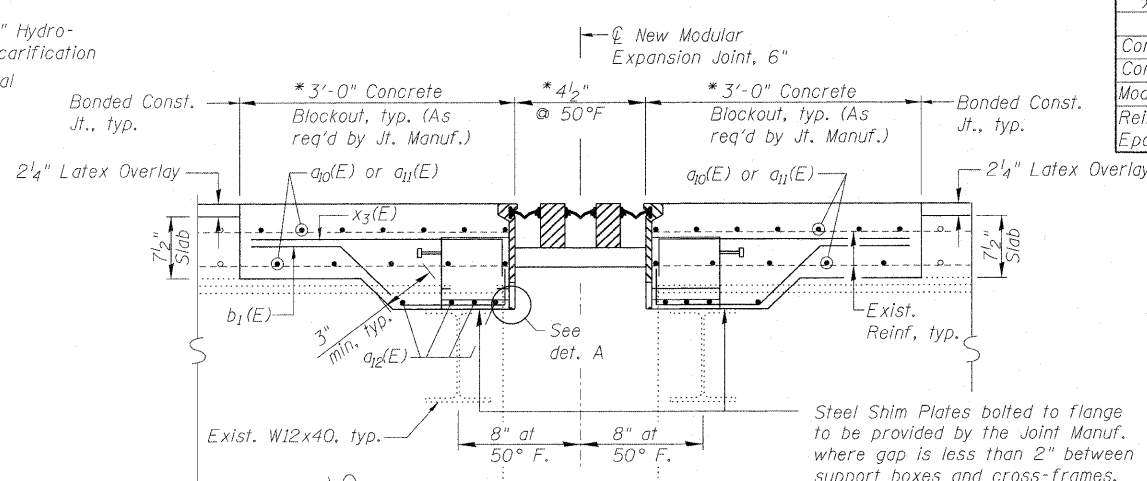
Bar	No.	Size	Length	Shape
a2(E)	64	#6	6'-0"	—
a10(E)	96	#5	23'-7"	—
a11(E)	96	#5	19'-6"	—
a12(E)	128	#5	9'-1"	—
b1(E)	320	#5	3'-9"	—
d(E)	64	#4	5'-2"	—
d1(E)	64	#5	3'-11"	—
x3(E)	320	#5	3'-6"	—
Concrete Removal			Cu. Yd.	37.2
Concrete Superstructure			Cu. Yd.	42.8
Modular Expansion Joint, 6"			Foot	173
Reinforcement Bars, Epoxy Coated			Pounds	9010



SECTION THRU PARAPET



SECTION A-A



SECTION B-B

(Cut or bend reinforcement bars as req'd to miss support boxes by 1/2")

LEGEND

E.E. = Each End
E.S. = Each Side
I.F. = Inside Face
O.F. = Outside Face

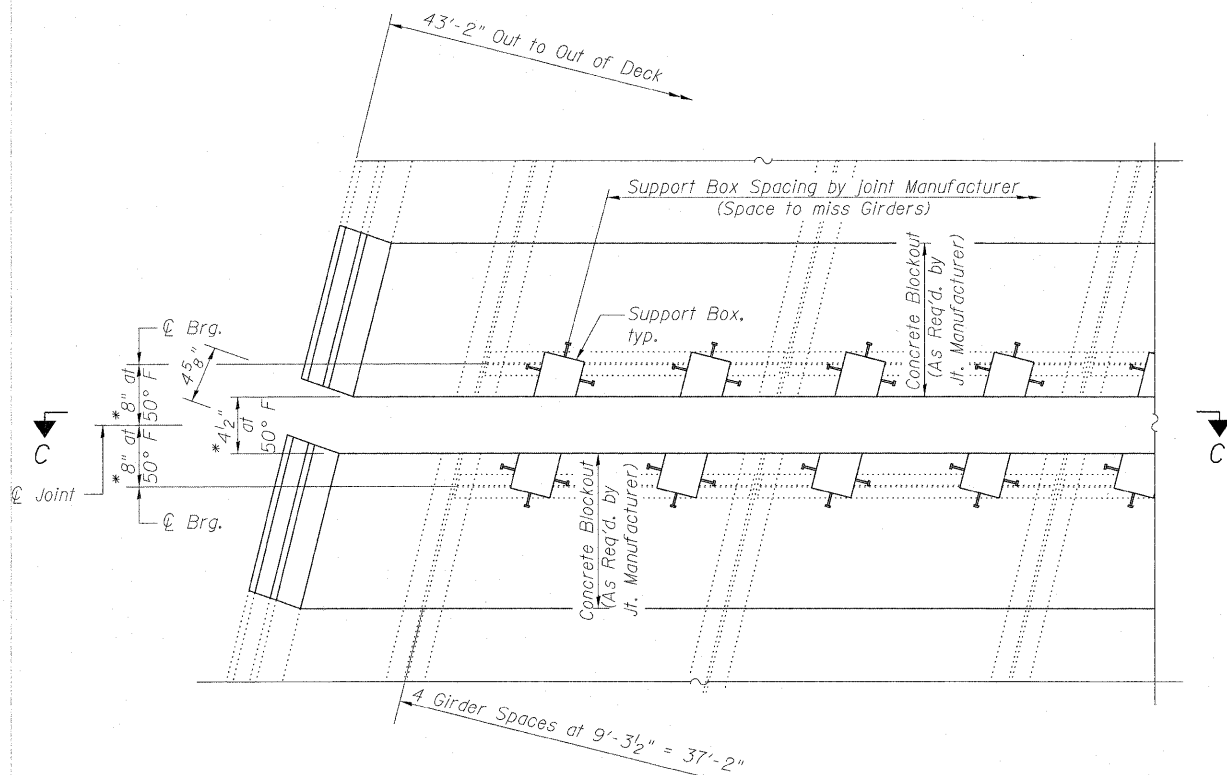
JOINT DETAILS, PIERS
8, 12, 16 & 20 (1 of 2)
STRUCTURE NO. 016-2407

	SHEET NO. 16	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 36
	27 SHEETS				CONTRACT NO. 60J37	
ILLINOIS FED. AID PROJECT						

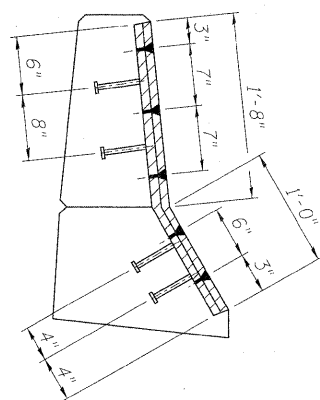
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

A, B & C DIMENSIONS

(From 2002 Existing Plans)



PARTIAL PLAN
AT PIERS 8, 12, 16 & 20



SECTION D-D

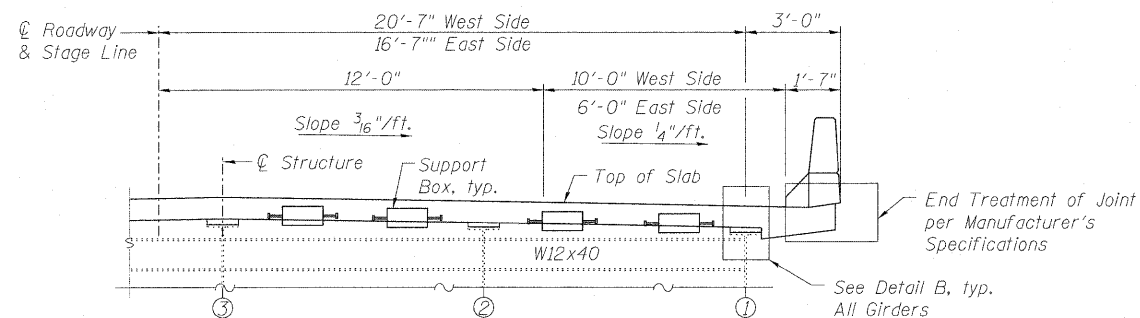
Location	Beam Number	At ϕ Bearing		
		Dim "A"	Dim "B"	Dim "C"
Pier #8 South ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/8"	16 5/8"
	3	8 1/2"	17"	18 3/4"
	4	8 1/2"	16 3/8"	18 1/8"
	5	8 1/2"	14 5/8"	16 3/8"
Pier #8 North ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/8"	16 5/8"
	3	8 1/2"	16 7/8"	18 5/8"
	4	8 1/2"	16 1/4"	18"
	5	8 1/2"	14 5/8"	16 3/8"

Location	Beam Number	At ϕ Bearing		
		Dim "A"	Dim "B"	Dim "C"
Pier #12 South ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/2"	16 1/4"
	3	8 1/2"	16 3/8"	18 1/8"
	4	8 1/2"	15 1/2"	17 1/4"
	5	8 1/2"	13 1/2"	15 1/4"
Pier #12 North ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 5/8"	16 3/8"
	3	8 1/2"	16 2"	18 1/4"
	4	8 1/2"	15 1/2"	17 1/4"
	5	8 1/2"	13 5/8"	15 3/8"

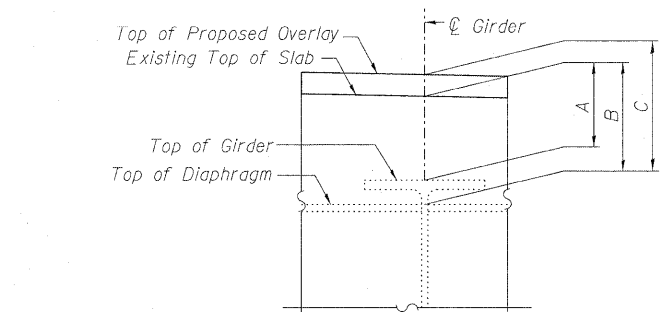
Location	Beam Number	At ϕ Bearing		
		Dim "A"	Dim "B"	Dim "C"
Pier #16 South ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/2"	16 1/4"
	3	8 1/2"	16 1/8"	18"
	4	8 1/2"	15 1/4"	17"
	5	8 1/2"	13 1/4"	15"
Pier #16 North ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/2"	16 1/4"
	3	8 1/2"	16 1/4"	18"
	4	8 1/2"	15 1/4"	17"
	5	8 1/2"	13 1/4"	15"

Location	Beam Number	At ϕ Bearing		
		Dim "A"	Dim "B"	Dim "C"
Pier #20 South ϕ Bearing	1	8 1/2"	12 1/4"	14"
	2	8 1/2"	14 1/2"	16 1/4"
	3	8 1/2"	16 1/8"	17 7/8"
	4	8 1/2"	15"	16 3/4"
	5	8 1/2"	13"	14 3/4"
Pier #20 North ϕ Bearing	1	8 3/4"	12 1/2"	14 1/4"
	2	8 3/4"	14 3/4"	16 1/2"
	3	8 3/4"	16 3/8"	18 1/8"
	4	8 3/4"	15 3/8"	17 1/8"
	5	8 3/4"	13 1/4"	15"

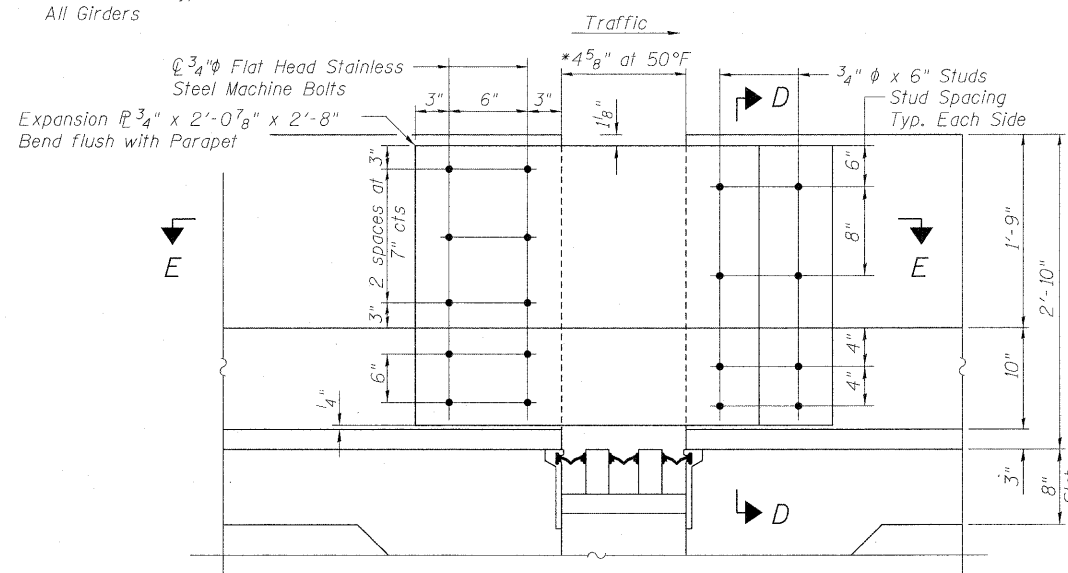
* Adjusted as required by Joint Manufacturer



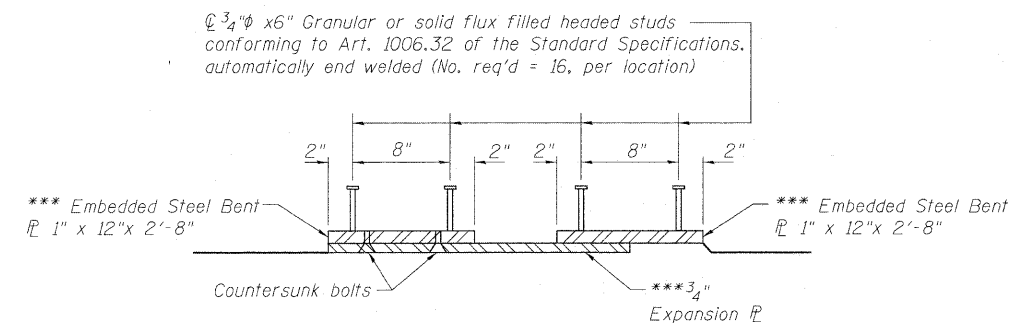
SECTION C-C
(Dimensions at rights angles to ϕ roadway)



DETAIL B



ELEVATION - PARAPET SLIDING PLATE AT PIERS 8, 12, 16 & 20



SECTION E-E

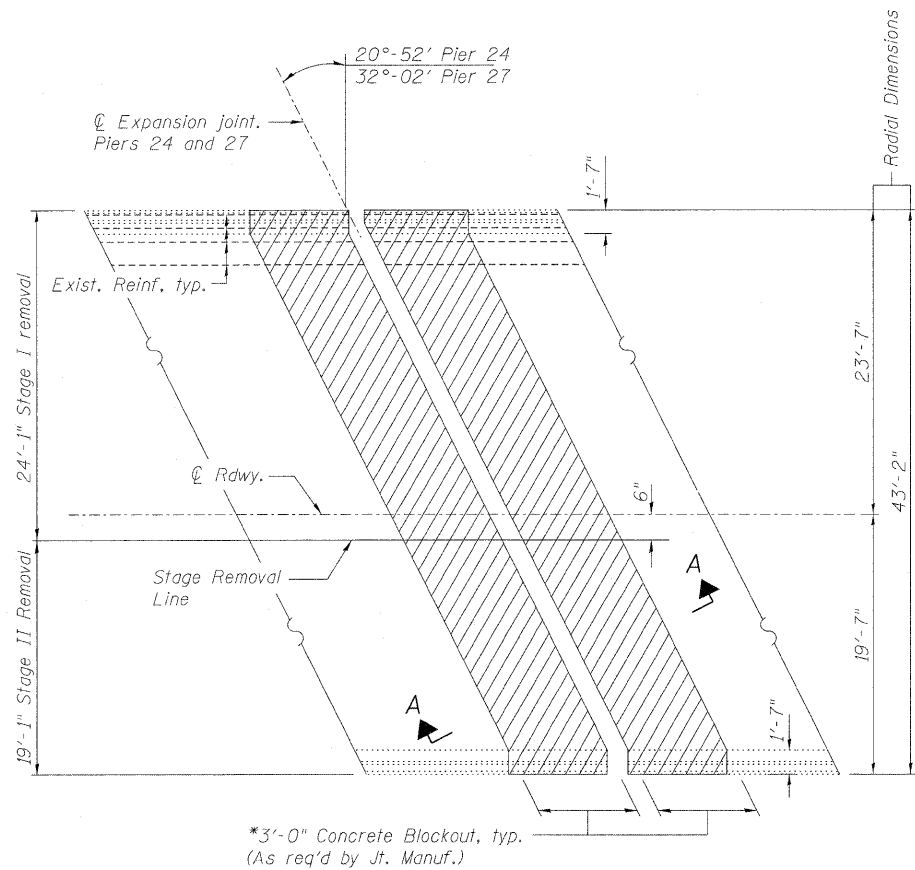
NOTES

Modular Expansion Joint shall be designed according to the latest ASTM Specifications for HS20 Loading with 30% impact and for a minimum movement of $\pm 3"$ (total of 6").
The Modular Expansion Joint shall be either Steel flex system by D.S. Brown Company, WABO system, by Watson Bowman Acme Corp., or the LG system, by TechStar Inc.
Joint shall be fabricated and installed according to the manufacturer's recommendations and as approved by the Engineer.
Joint shall be fabricated to conform to the Roadway Profile and Cross-Slopes.
Cost of all hardware and installation of Steel Bearing Shim Plates and additional reinforcement required to anchor the joint to the slab shall be included with "Modular Expansion Joint 6".
The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except no top coat required in non-exposed areas. The color of the acrylic finish coat shall be Gray, Munsell No. 5B 7/1. See special Provisions "Cleaning and Painting New Metal Structures."

JOINT DETAILS, PIERS
8, 12, 16 & 20 (2 of 2)
STRUCTURE NO. 016-2407

	SHEET NO. 17	F.A.P. RTE. 330	SECTION 462 X-B-1	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 37
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

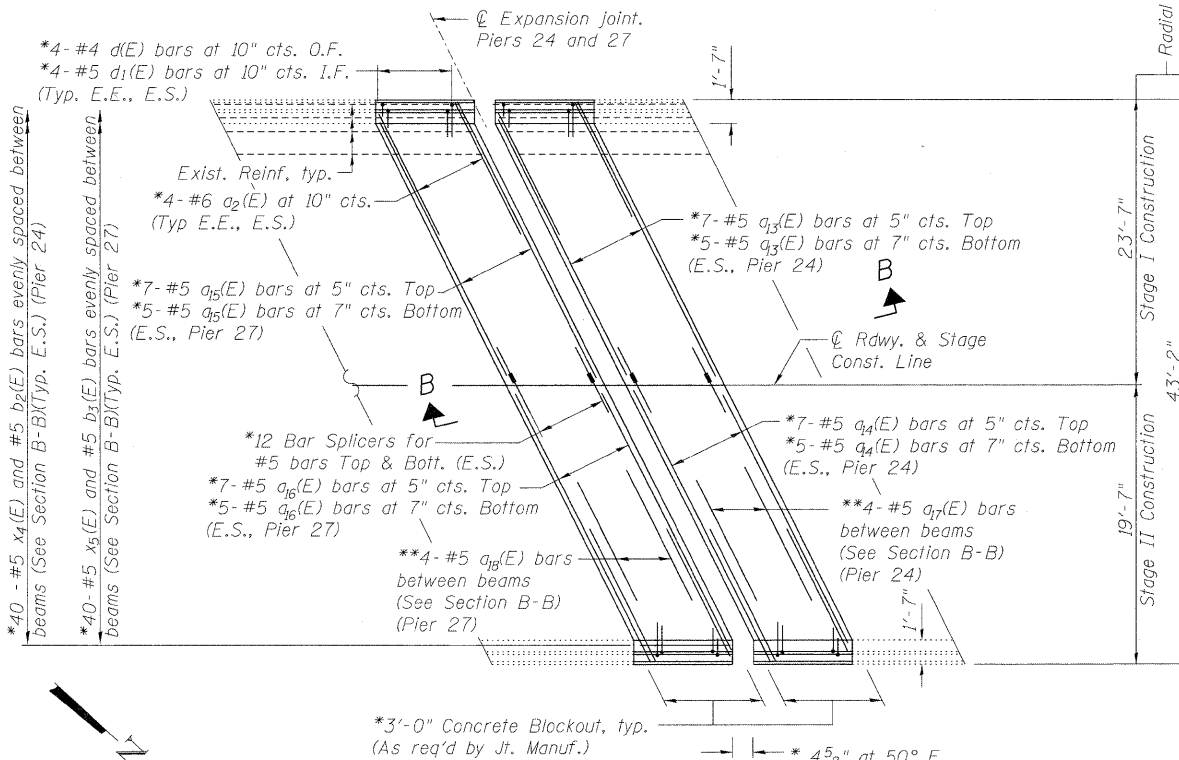
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN

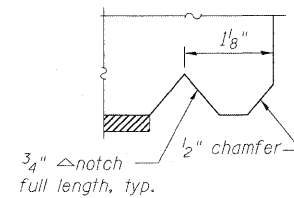
Showing Concrete Removal at Piers 24 & 27

- * Length of blockout, width of joint and number of reinforcement bars needed may vary as required by joint Manufacturer.
- ** Bars to be placed so as to miss joint's support boxes. Cut to fit at Stage Construction Line



PARTIAL PLAN

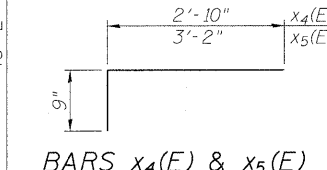
Showing Concrete Replacement at Piers 24 & 27



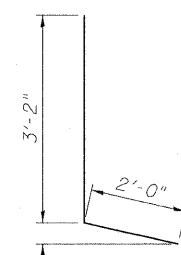
DETAIL A

NOTES

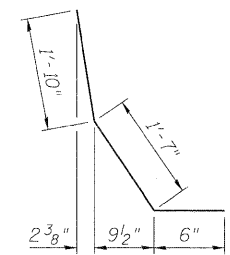
- Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut $\frac{3}{4}$ " prior to removal of the concrete.
- Existing reinforcement shall be cleaned, straightened (if required) and incorporated into the new construction. Cost included with Concrete Removal.
- Drilling and epoxy grouting of reinforcement bars shall be in accordance with Article 584 of the Standard Specifications.
- Removal of the existing joint system is included with Concrete Removal.
- Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.



BARS $x_4(E)$ & $x_5(E)$



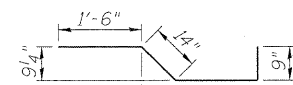
BAR $d(E)$



BAR $d_1(E)$



BAR $b_2(E)$



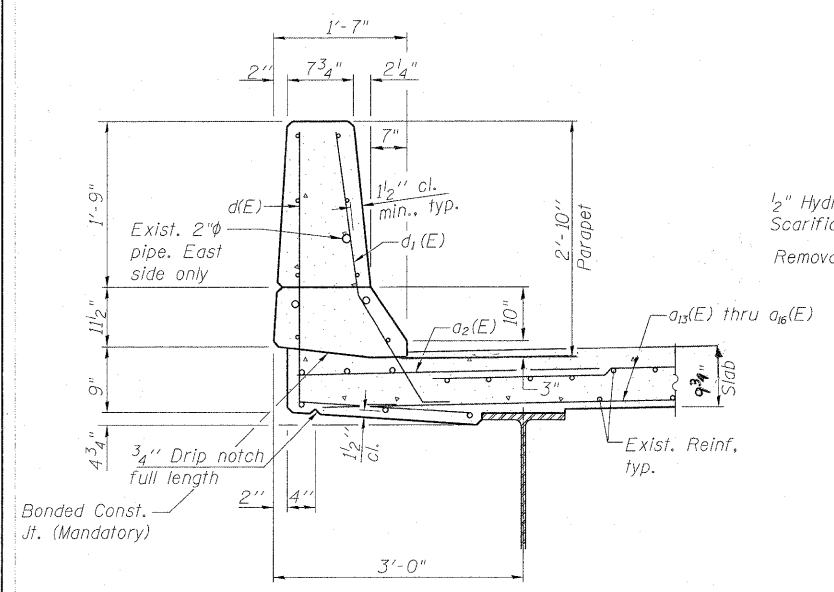
BAR $b_3(E)$

BILL OF MATERIAL
(2 Piers)

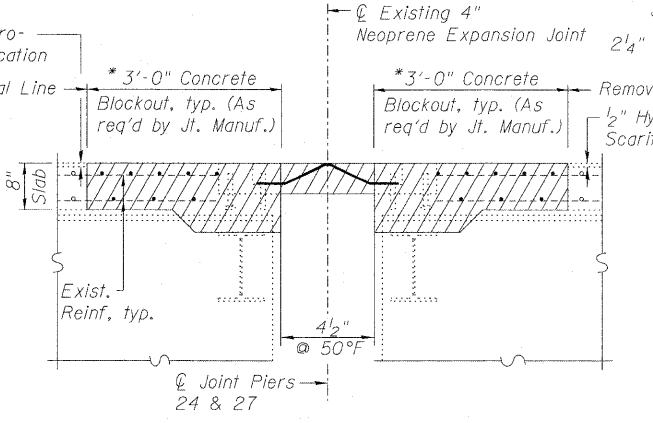
Bar	No.	Size	Length	Shape
$a_2(E)$	32	#6	6'-0"	—
$a_3(E)$	24	#5	24'-6"	—
$a_4(E)$	24	#5	20'-3"	—
$a_5(E)$	24	#5	27'-0"	—
$a_6(E)$	24	#5	22'-4"	—
$a_7(E)$	32	#5	9'-5"	—
$a_8(E)$	32	#5	10'-5"	—
$b_2(E)$	80	#5	3'-10"	~
$b_3(E)$	80	#5	4'-2"	~
$d(E)$	32	#4	5'-2"	—
$d_1(E)$	32	#5	3'-11"	—
$x_4(E)$	80	#5	3'-7"	—
$x_5(E)$	80	#5	3'-11"	—
Concrete Removal		Cu. Yd.	20.0	
Concrete Superstructure		Cu. Yd.	23.2	
Modular Expansion Joint-Swivel, 6"		Foot	94	
Reinforcement Bars, Epoxy Coated		Pounds	4840	

LEGEND

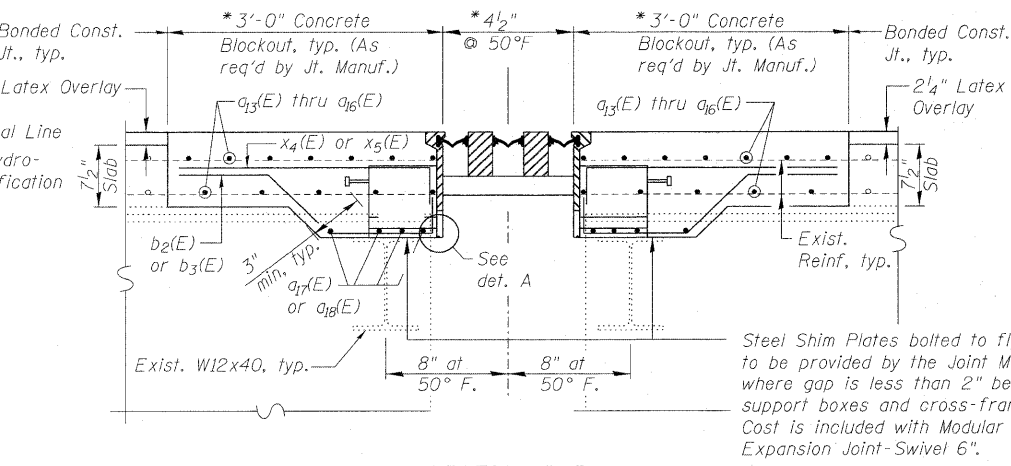
- E.E. = Each End
- E.S. = Each Side
- I.F. = Inside Face
- O.F. = Outside Face



SECTION THRU PARAPET



SECTION A-A
(Dimensions at Right Angles)



SECTION B-B

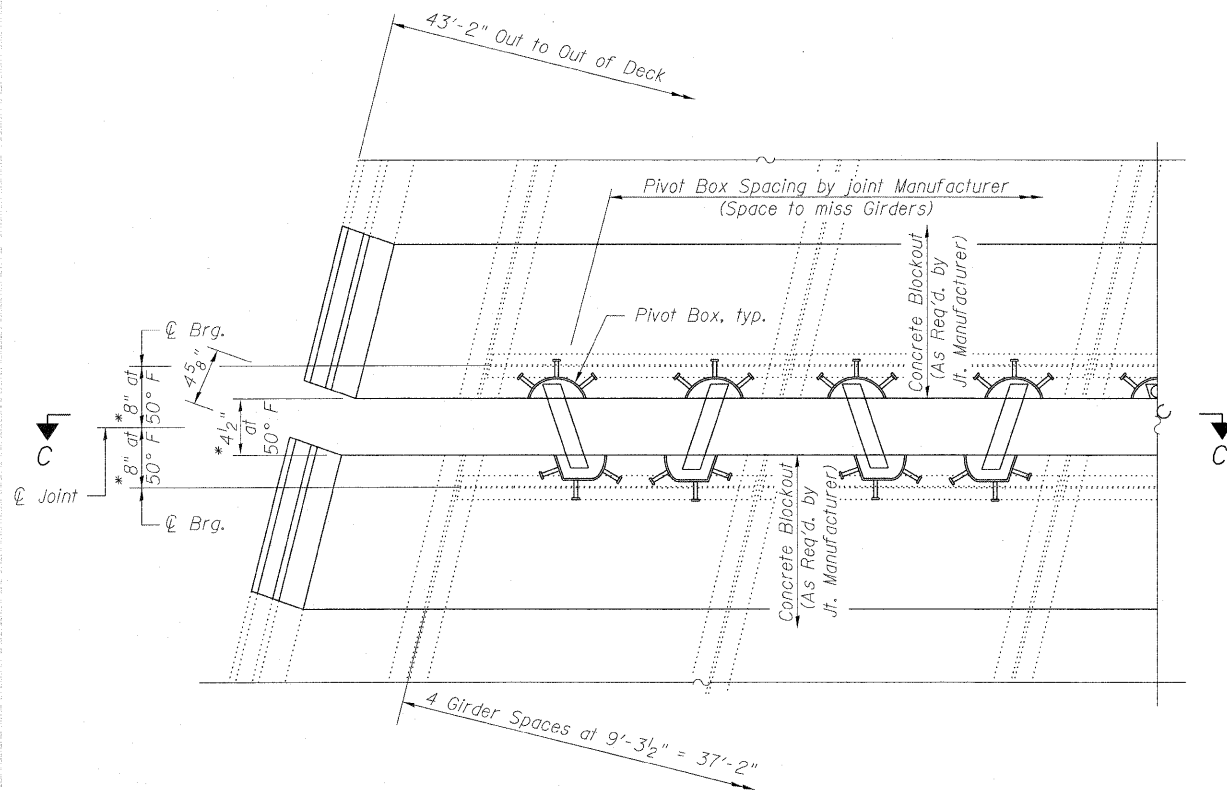
(Cut or bend reinforcement bars as req'd to miss support boxes by $\frac{1}{2}$ ")

Steel Shim Plates bolted to flange to be provided by the Joint Manuf. where gap is less than 2" between support boxes and cross-frames. Cost is included with Modular Expansion Joint-Swivel 6".

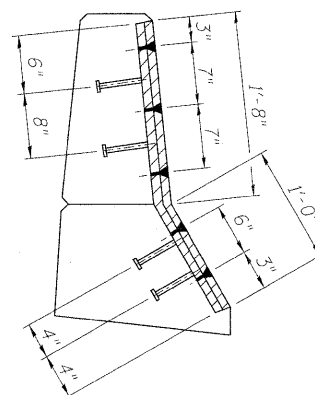
JOINT DETAILS, PIERS 24 & 27 (1 of 2)
STRUCTURE NO. 016-2407

<p>LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois</p>	<p>SHEET NO. 18 27 SHEETS</p>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		330	462 X-B-I	COOK	54	38
<p>CONTRACT NO. 60J37</p>						ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

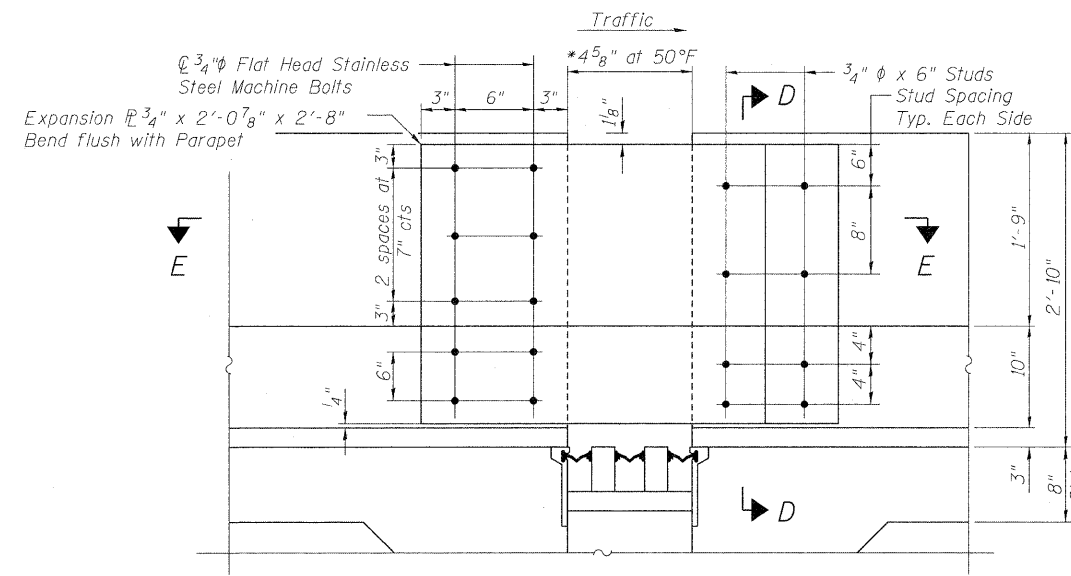


**PARTIAL PLAN
AT PIERS 24, 27**



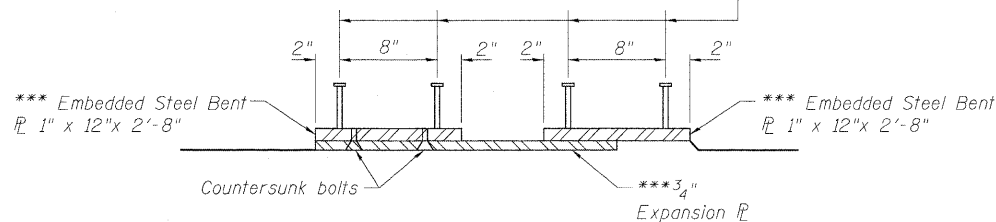
SECTION D-D

* Adjusted as required by Joint Manufacturer



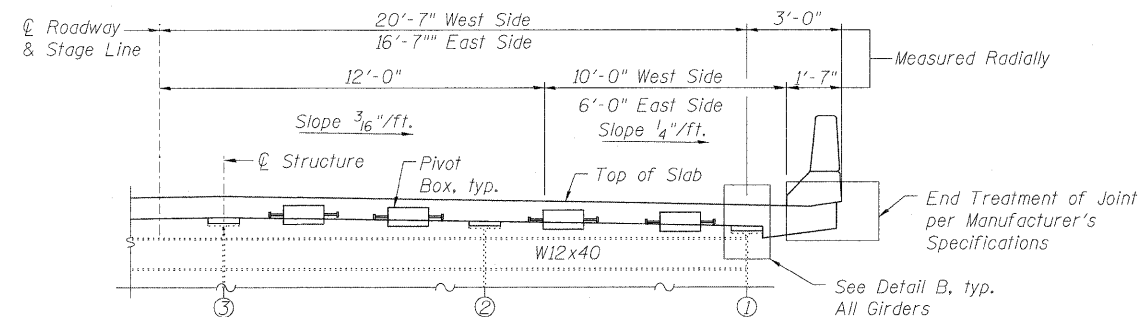
**ELEVATION - PARAPET SLIDING
PLATE AT PIERS 24 & 27**

#3/4" x 6" Granular or solid flux filled headed studs conforming to Art. 1006.32 of the Standard Specifications, automatically end welded (No. req'd = 16, per location)



SECTION E-E

*** Expansion Plate and Embedded Plates shall be galvanized according to AASHTO M111. Cost included with Modular Expansion Joint-Swivel 6"



**SECTION C-C
(Looking South)**

NOTES

Swivel Modular Expansion Joint shall be designed according to the latest ASTM Specifications for HS20 Loading with 30% impact and for a minimum movement of ±3" (total of 6").

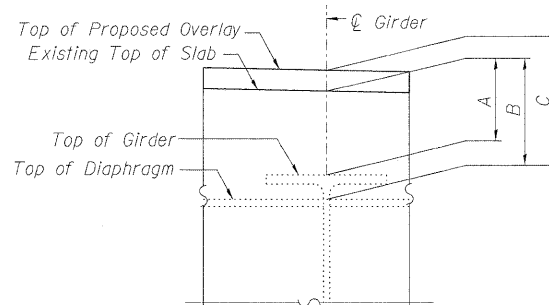
The Swivel Modular Expansion Joint shall be either Maurer Swivel system by the D.S. Brown Company or the WABO X-CEL system by the Watson Bowman Acme Corporation.

Joint shall be fabricated and installed according to the manufacturer's recommendations and as approved by the Engineer.

Joint shall be fabricated to conform to the Roadway Profile and Cross-Slopes.

Cost of all hardware and installation of Steel Bearing Shim Plates and additional reinforcement required to anchor the joint to the slab shall be included with "Modular Expansion Joint-Swivel 6".

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except no top coat required in non-exposed areas. The color of the acrylic finish coat shall be Gray, Munsell No. 5B 7/1. See special Provisions "Cleaning and Painting New Metal Structures."

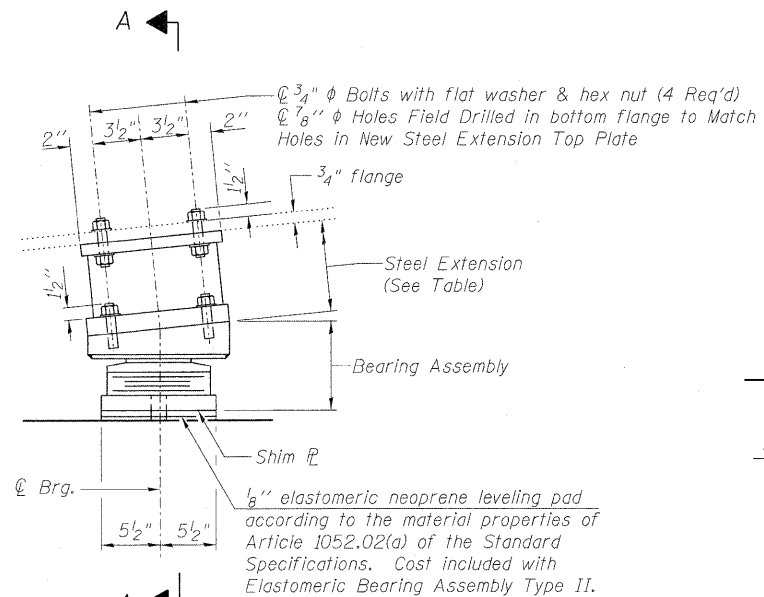


DETAIL B

**JOINT DETAILS, PIERS 24 & 27 (2 of 2)
STRUCTURE NO. 016-2407**

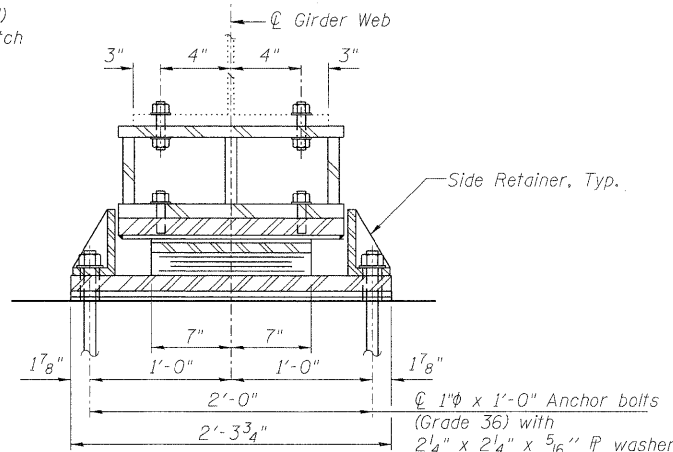
LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 19	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 39
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TYPE II ELASTOMERIC EXP. BRG.

(S. Abut. & Pier 4)



SECTION A-A

Notes:

Hatch area indicates Bearing removal. See Special Provision for Jack and Remove Existing Bearings. Cribbing shall be designed to resist horizontal and vertical loads at bearing locations.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

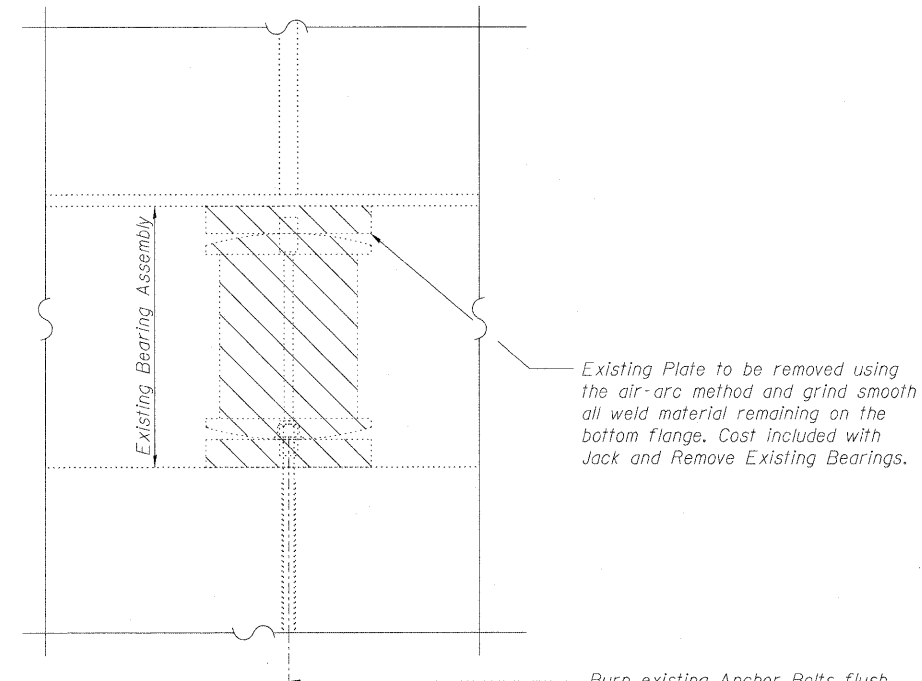
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Steel Extensions and fasteners shall be included in the cost of Furnishing and Erecting Structural Steel.

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts.

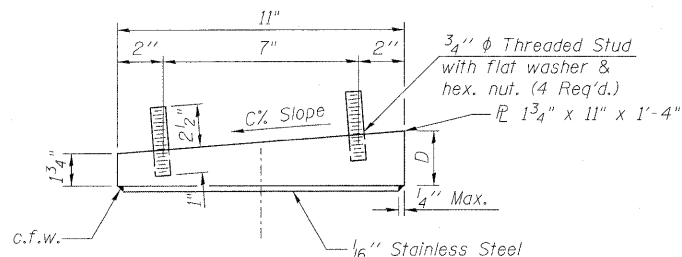
The Contractor is to verify the existing dimensions prior to fabricating the steel extensions. It is intended to keep the existing beams at their current elevation.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

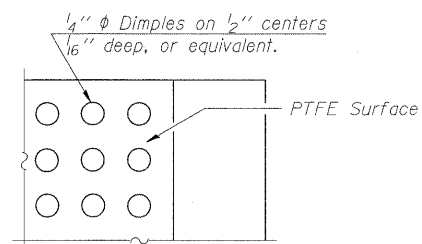


EXISTING BEARING REMOVAL DETAIL

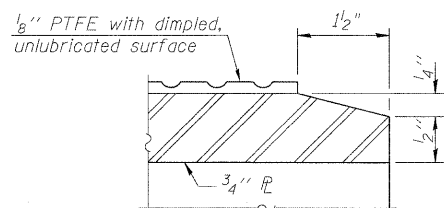
Burn existing Anchor Bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost included with Jack and Remove Existing Bearings.



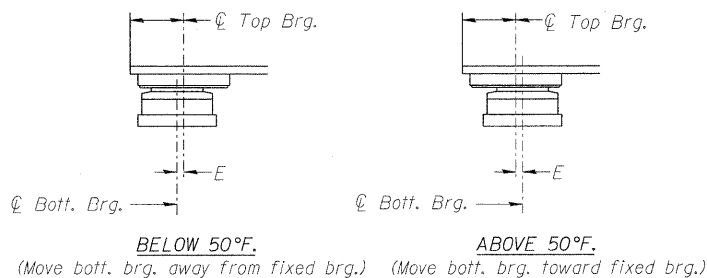
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE



SECTION THRU PTFE



SETTING ANCHOR BOLTS AT EXP. BRG.

E=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

STEEL EXTENSION DIMENSIONS

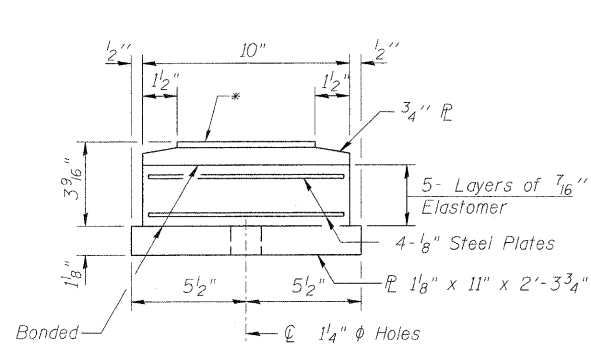
Location	A	B	C	D
S. Abut.	5 1/16"	7 1/16"	3.2	2 1/8"
Pier 4 S	5 13/16"	7 13/16"	3.6	2 3/16"
Pier 4 N	5 9/16"	7 9/16"	3.2	2 1/8"

GIRDER REACTION TABLE

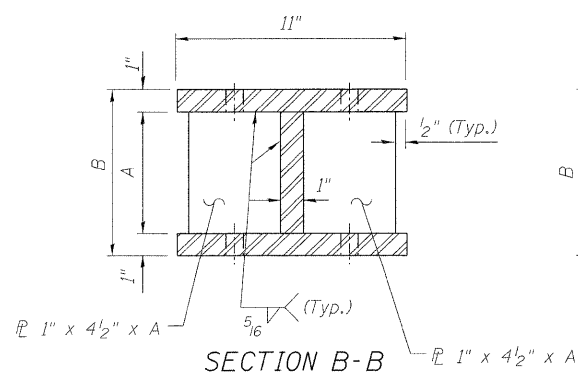
	S. Abut.	Pier 4 S	Pier 4 N
Dead Load (K)	37.8	37.8	48.4
Live Load (K)	55.1	55.1	56.6
Impact (K)	14.1	14.1	13.7
Total (K)	107.0	107.0	118.7
Min. Jack Capacity (Tons)	55	55	65

BILL OF MATERIAL

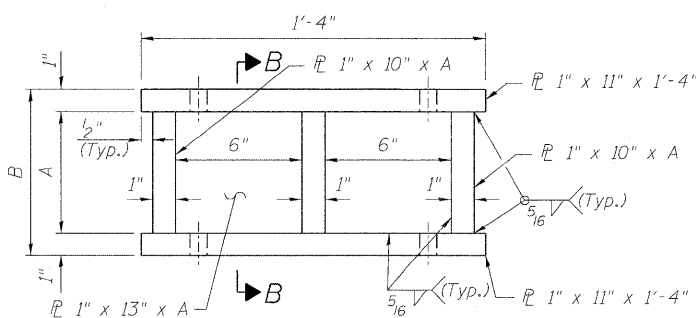
Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	15
Anchor Bolts, 1"	Each	30
Jack and Remove Existing Bearings	Each	15
Furnishing and Erecting Structural Steel	Pound	2613



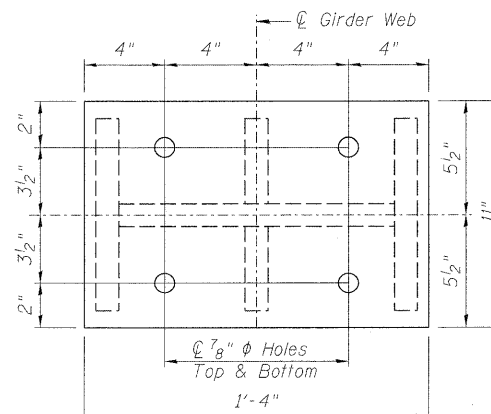
BOTTOM BEARING ASSEMBLY



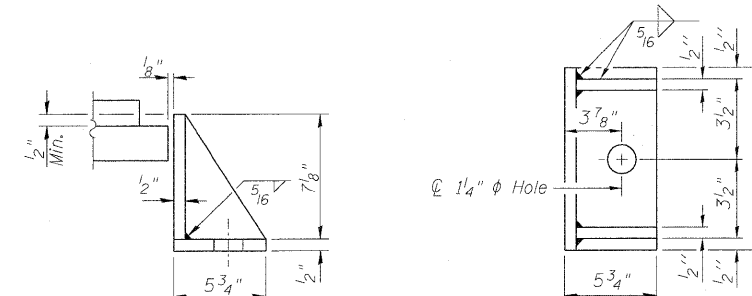
SECTION B-B



ELEVATION STEEL EXTENSION



PLAN STEEL EXTENSION



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

**BEARING DETAILS (1 of 3)
STRUCTURE NO. 016-2407**

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 20	F.A.P. RTE. 330	SECTION 462 X-B-1	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 40
	27 SHEETS	CONTRACT NO. 60J37			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:

Hatch area indicates Bearing removal. See Special Provision for Jack and Remove Existing Bearings. Cribbing shall be designed to resist horizontal and vertical loads at bearing locations.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

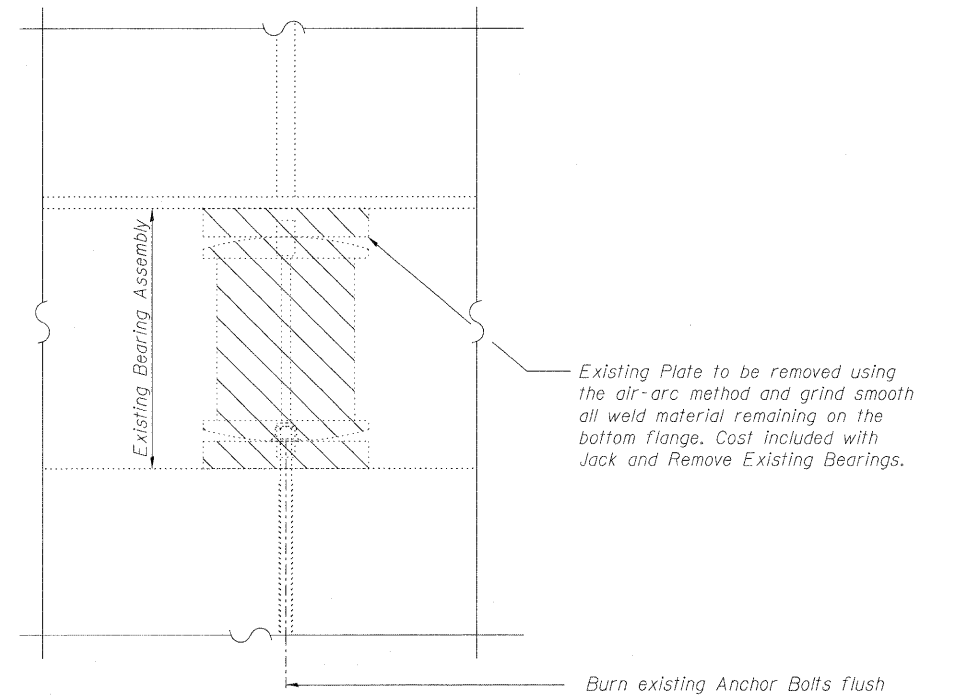
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Steel Extensions and fasteners shall be included in the cost of Furnishing and Erecting Structural Steel.

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts.

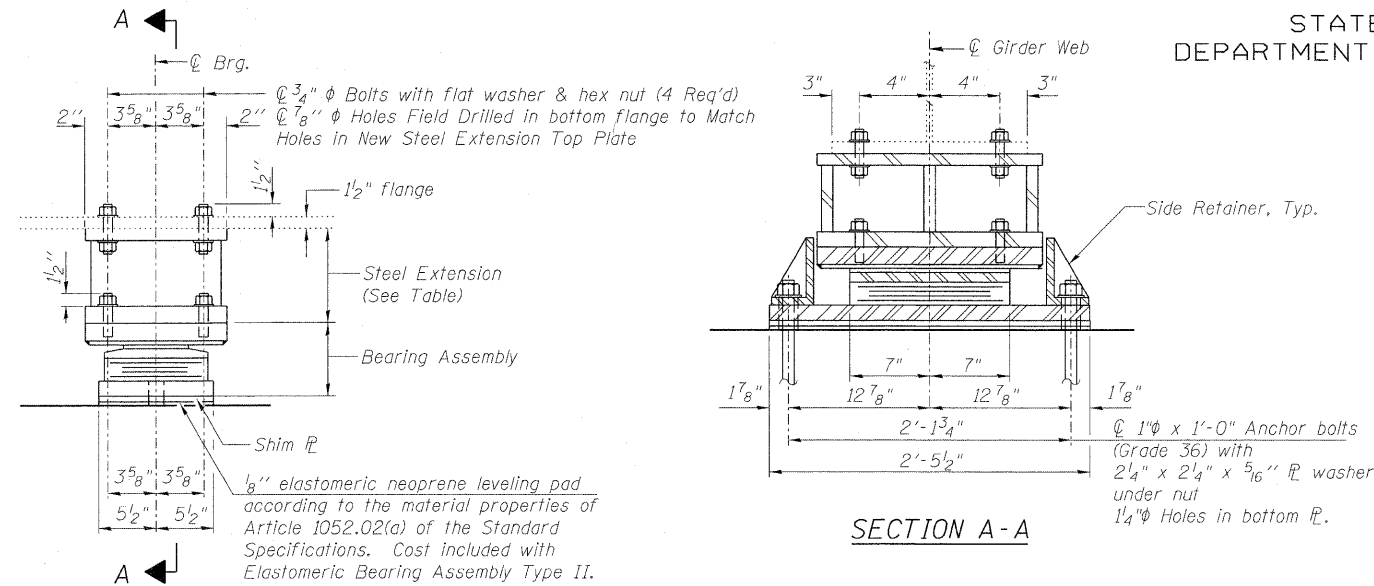
The Contractor is to verify the existing dimensions prior to fabricating the steel extensions. It is intended to keep the existing beams at their current elevation.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



EXISTING BEARING REMOVAL DETAIL

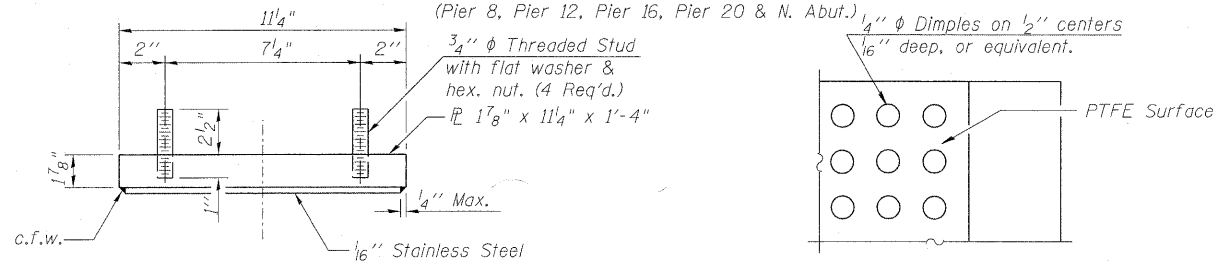
Burn existing Anchor Bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost included with Jack and Remove Existing Bearings.



SECTION A-A

TYPE II ELASTOMERIC EXP. BRG.

(Pier 8, Pier 12, Pier 16, Pier 20 & N. Abut.)



TOP BEARING ASSEMBLY

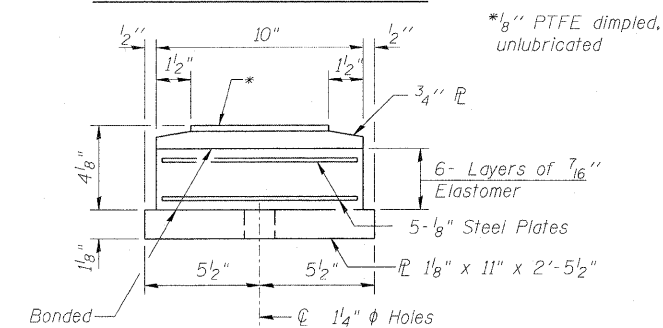
PLAN-PTFE SURFACE

BILL OF MATERIAL

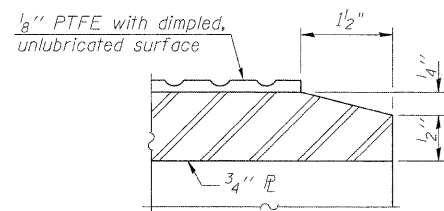
Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	45
Anchor Bolts, 1"	Each	90
Jack and Remove Existing Bearings	Each	45
Furnishing and Erecting Structural Steel	Pound	7630

STEEL EXTENSION DIMENSIONS

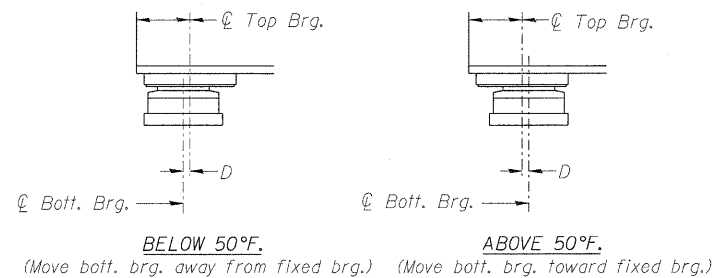
Location	A	B
Pier 8 S	4 15/16"	6 15/16"
Pier 8 N	4 15/16"	6 15/16"
Pier 12 S	4 15/16"	6 15/16"
Pier 12 N	4 15/16"	6 15/16"
Pier 16 S	4 13/16"	6 13/16"
Pier 16 N	4 13/16"	6 13/16"
Pier 20 S	5 9/16"	7 9/16"
Pier 20 N	4 15/16"	6 15/16"
N. Abut.	5 3/16"	7 3/16"



BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

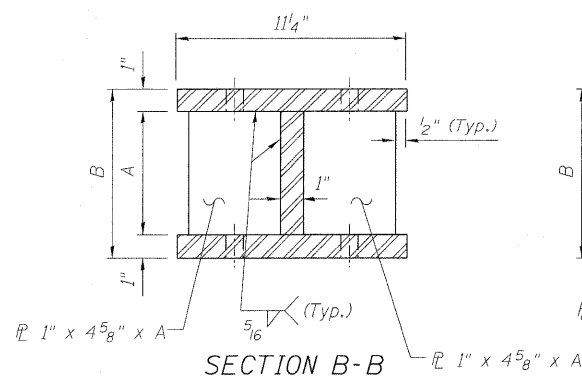


SETTING ANCHOR BOLTS AT EXP. BRG.

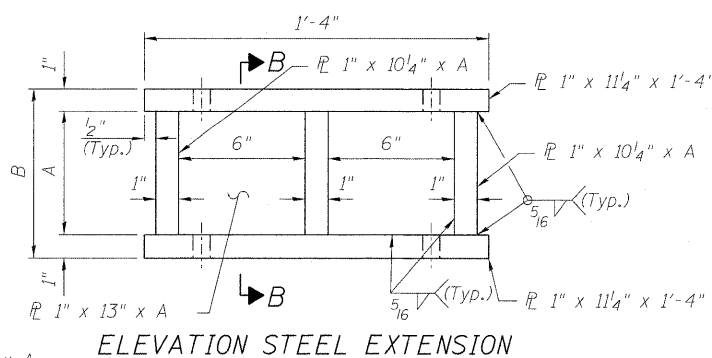
D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

GIRDER REACTION TABLE

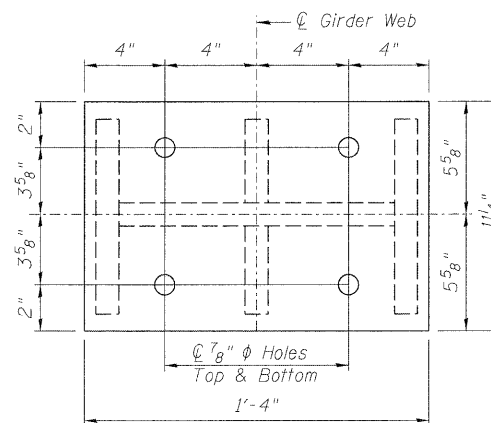
	Pier 8 S	Pier 8 N	Pier 12 S	Pier 12 N	Pier 16 S	Pier 16 N	Pier 20 S	Pier 20 N	N. Abut.
Dead Load (K)	54.1	54.8	54.8	54.3	54.3	53.4	53.4	56.7	44.0
Live Load (K)	57.3	57.3	57.3	57.2	57.2	57.2	57.2	56.7	55.4
Impact (K)	13.3	13.2	13.2	13.3	13.3	13.3	13.3	13.2	13.9
Total (K)	124.7	125.3	125.3	124.8	124.8	123.9	123.9	126.6	113.3
Min. Jack Capacity (Tons)	70	70	70	70	70	70	70	70	60



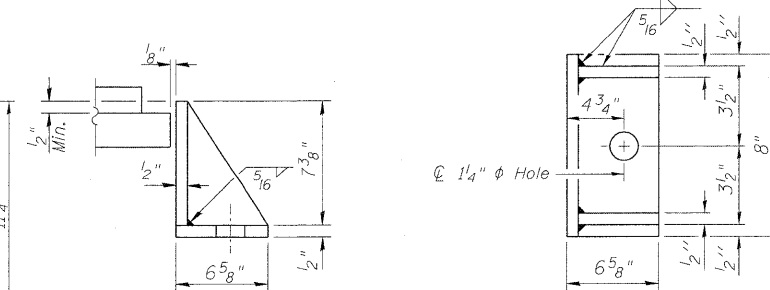
SECTION B-B



ELEVATION STEEL EXTENSION



PLAN STEEL EXTENSION



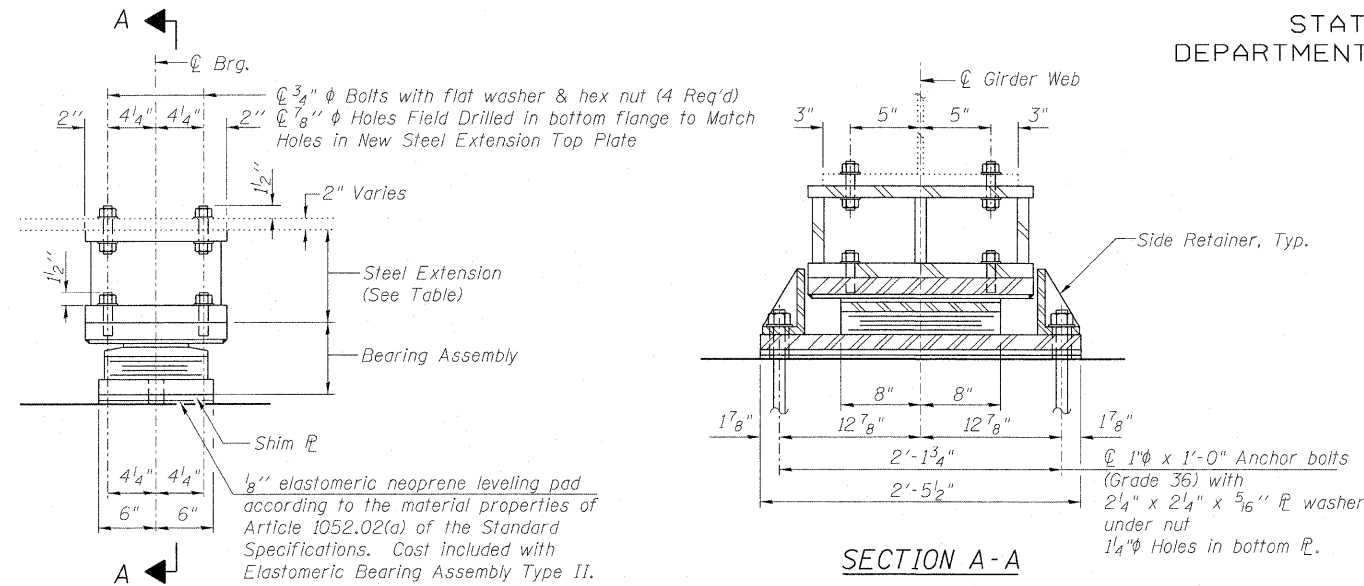
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BEARING DETAILS (2 of 3)
STRUCTURE NO. 016-2407

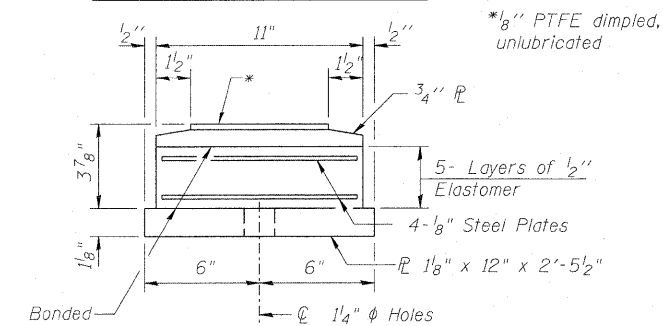
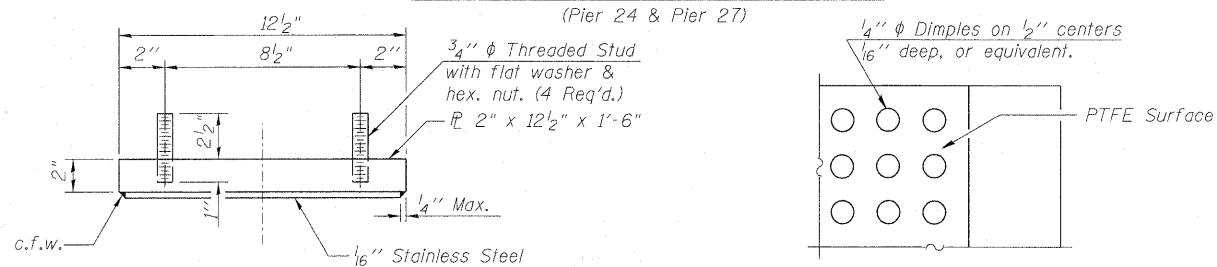
<p>LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 21	F.A.P. RTE. 330	SECTION 462 X-B-I	COUNTY COOK	TOTAL SHEETS 54	SHEET NO. 41
	27 SHEETS	CONTRACT NO. 60J37		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

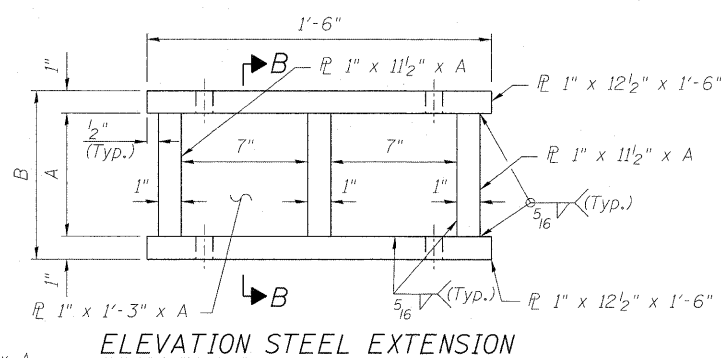
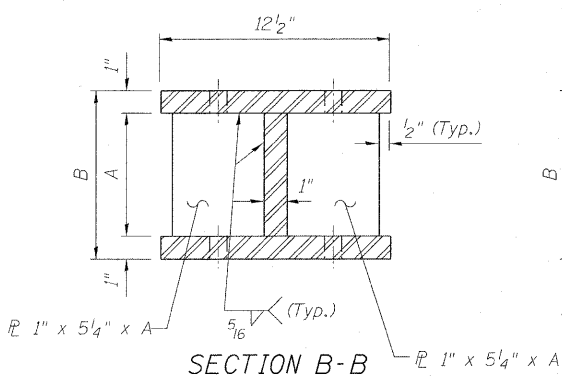


TYPE II ELASTOMERIC EXP. BRG.

(Pier 24 & Pier 27)

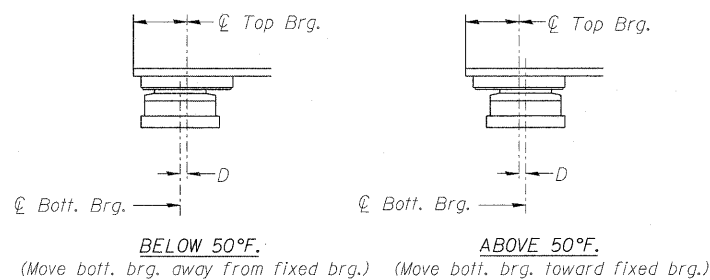


BOTTOM BEARING ASSEMBLY



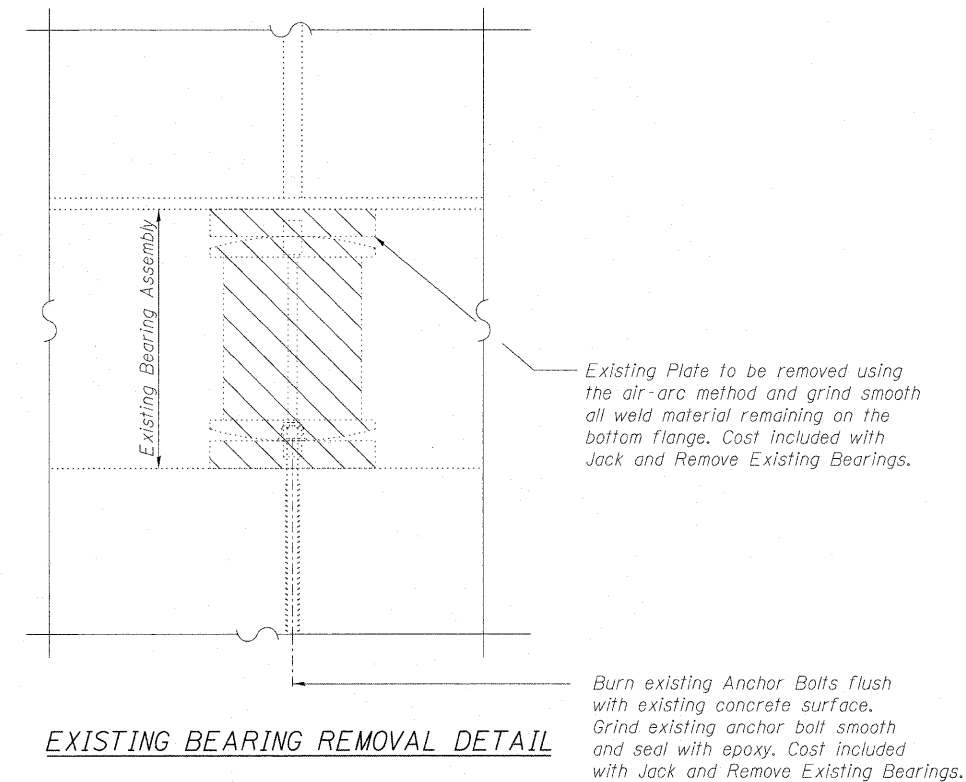
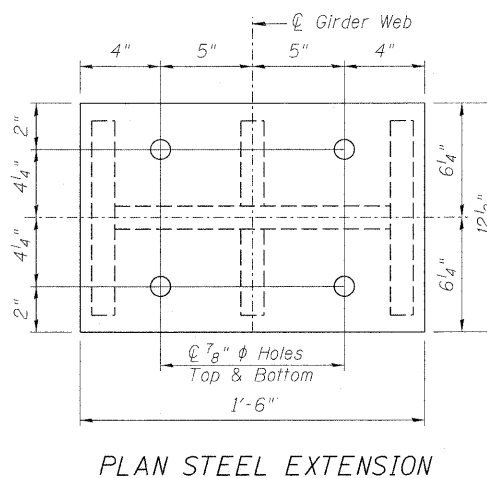
SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



EXISTING BEARING REMOVAL DETAIL

Existing Plate to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange. Cost included with Jack and Remove Existing Bearings.

Burn existing Anchor Bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	20
Anchor Bolts, 1"	Each	40
Jack and Remove Existing Bearings	Each	20
Furnishing and Erecting Structural Steel	Pound	4040

STEEL EXTENSION DIMENSIONS

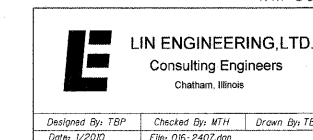
Location	A	B
Pier 24 S	5 1/16"	7 1/16"
Pier 24 N	4 7/8"	6 7/8"
Pier 27 S	5 5/8"	7 5/8"
Pier 27 N	4 13/16"	6 13/16"

GIRDER REACTION TABLE

	Pier 24 S	Pier 24 N	Pier 27 S	Pier 27 N
Dead Load (K)	58.8	62.1	66.4	67.9
Live Load (K)	56.9	57.2	57.6	57.9
Impact (K)	13.0	12.9	12.7	12.5
Total (K)	128.7	132.5	136.7	138.3
Min. Jack Capacity (Tons)	75	75	80	80

SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BEARING DETAILS (3 of 3)
STRUCTURE NO. 016-2407

SHEET NO. 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	330	462 X-B-I	COOK	54	42
			CONTRACT NO. 60J37		
ILLINOIS FED. AID PROJECT					

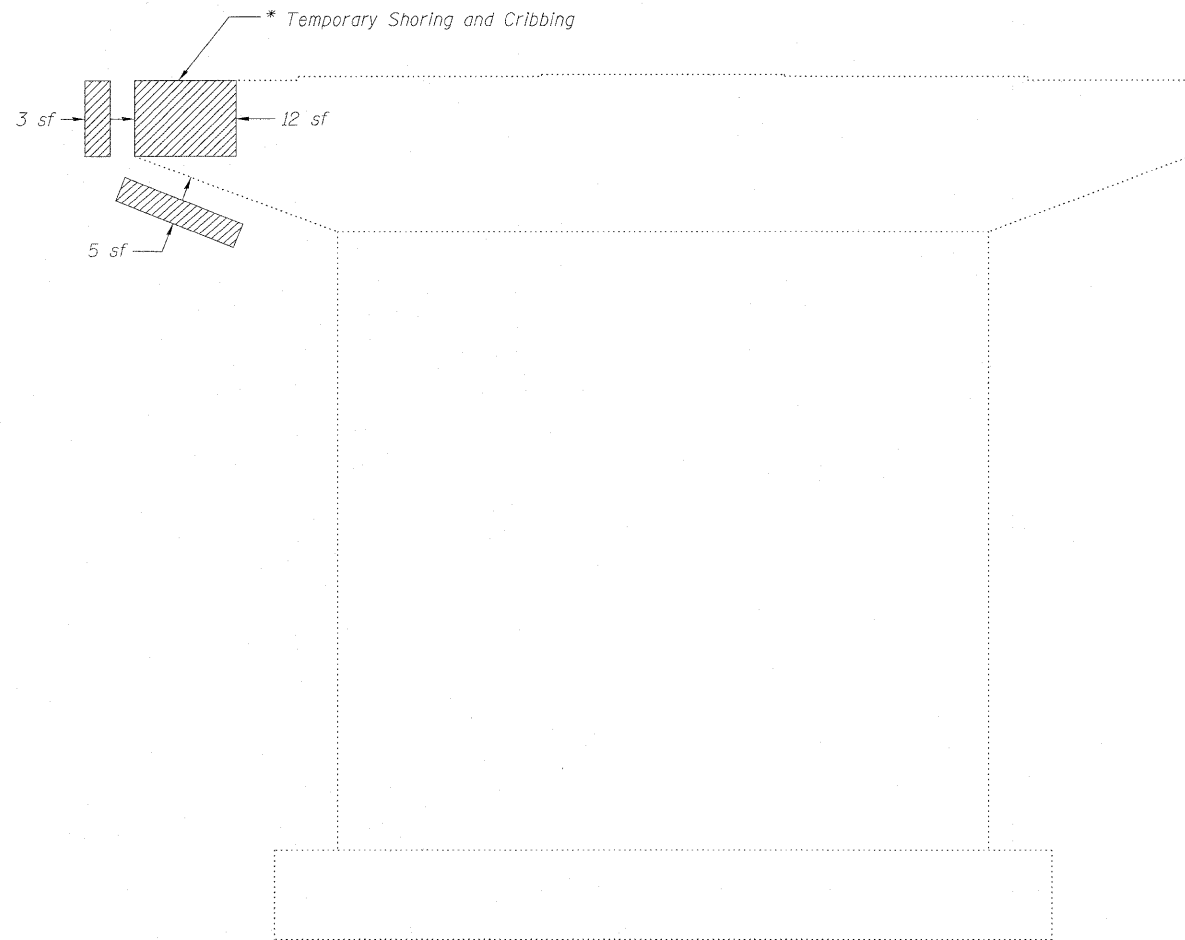
DESIGNED BY: TBP
CHECKED BY: MTH
DATE: 1/2/00

CONSULTING ENGINEERS
CHATHAM, ILLINOIS

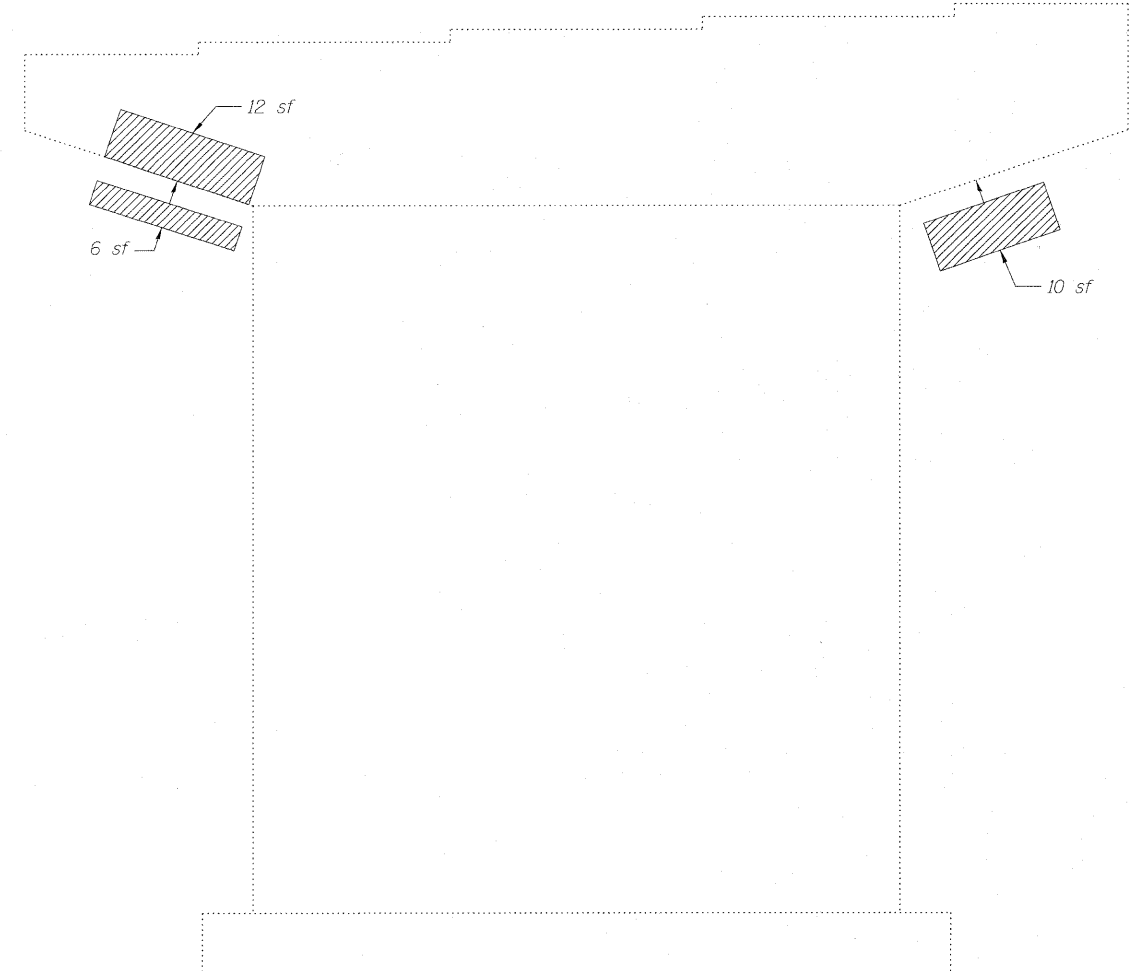
DRAWN BY: TBP
FILE: 016-2407.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* Cost included with Jack and Remove Existing Bearings



PIER 12
(North Face)




PIER 24
(North Face)

Notes:
Temporary Shoring and Cribbing required to complete bearing replacement and/or Structural Repair of Concrete (Depth Equal to or Less Than 5 inches) shall not be paid for separately but shall be included in the cost of Jack and Remove Existing Bearings. When doing the pier repair and bearing replacement at the same time, the structure shall not be jacked up from the pier, the weight must be taken off the pier, in the area of the pier repair. Concrete must be cured to minimum strength for the repair before bearing can be replaced and weight put back on the pier, according to special provisions.
See Sheet 21 of 27 for Reaction.
Repair of the existing piers shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.


BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	48

LEGEND

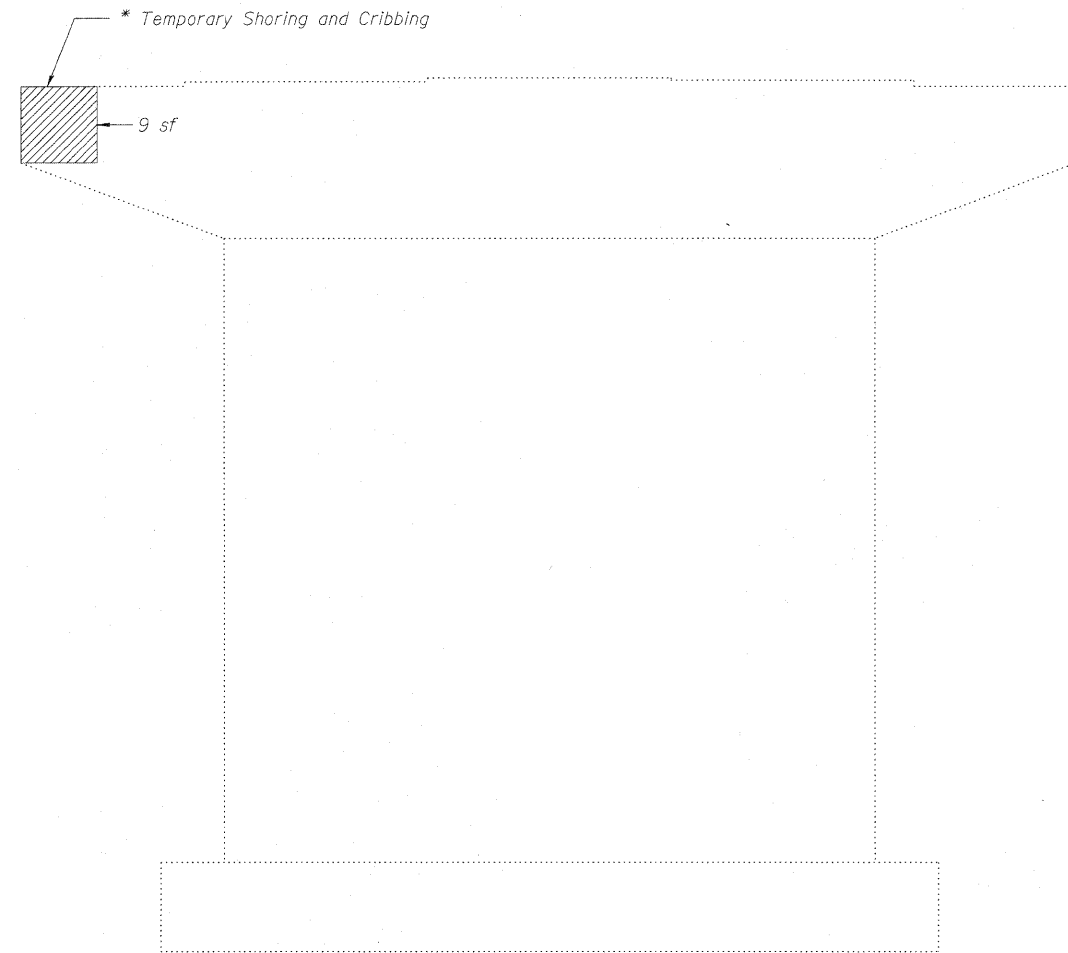
 Structural Repair of Concrete (Depth equal to or less than 5")
sf Square Feet

PIER REPAIR (1 of 4)
STRUCTURE NO. 016-2407

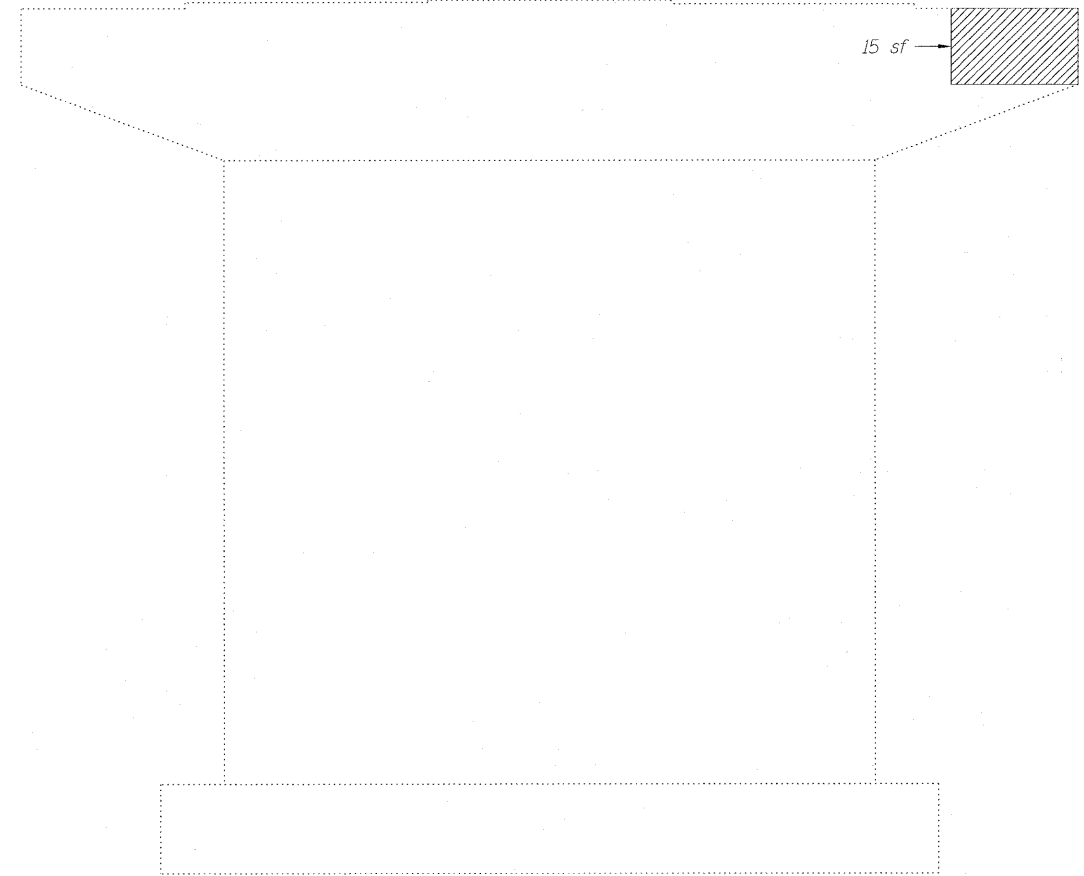
 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 23 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		330	462 X-B-I	COOK	54	43
Designed By: TBP Date: 1/2010					Checked By: MTH Files: 016-2407.dgn	
ILLINOIS FED. AID PROJECT						CONTRACT NO. 60J37

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* Cost included with Jack and Remove Existing Bearings



PIER 16
(North Face)



PIER 16
(South Face)

Notes:

Temporary Shoring and Cribbing required to complete bearing replacement and/or Structural Repair of Concrete (Depth Equal to or Less Than 5 inches) shall not be paid for separately but shall be included in the cost of Jack and Remove Existing Bearings. When doing the pier repair and bearing replacement at the same time, the structure shall not be jacked up from the pier, the weight must be taken off the pier, in the area of the pier repair. Concrete must be cured to minimum strength for the repair before bearing can be replaced and weight put back on the pier, according to special provisions.

See Sheet 21 of 27 for Reactions.

Repair of the existing piers shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	24

LEGEND

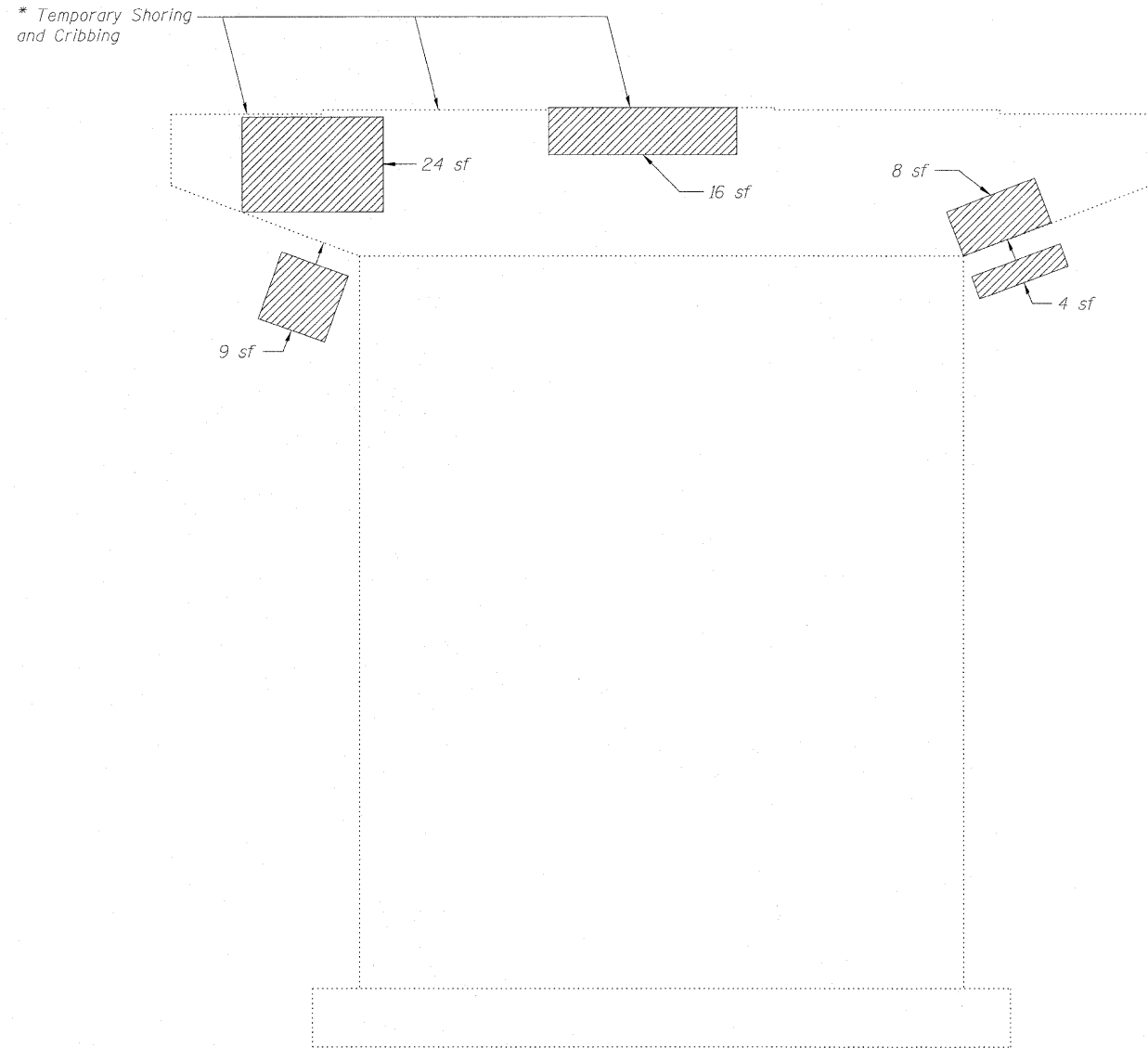
Structural Repair of Concrete (Depth equal to or less than 5")

sf Square Feet

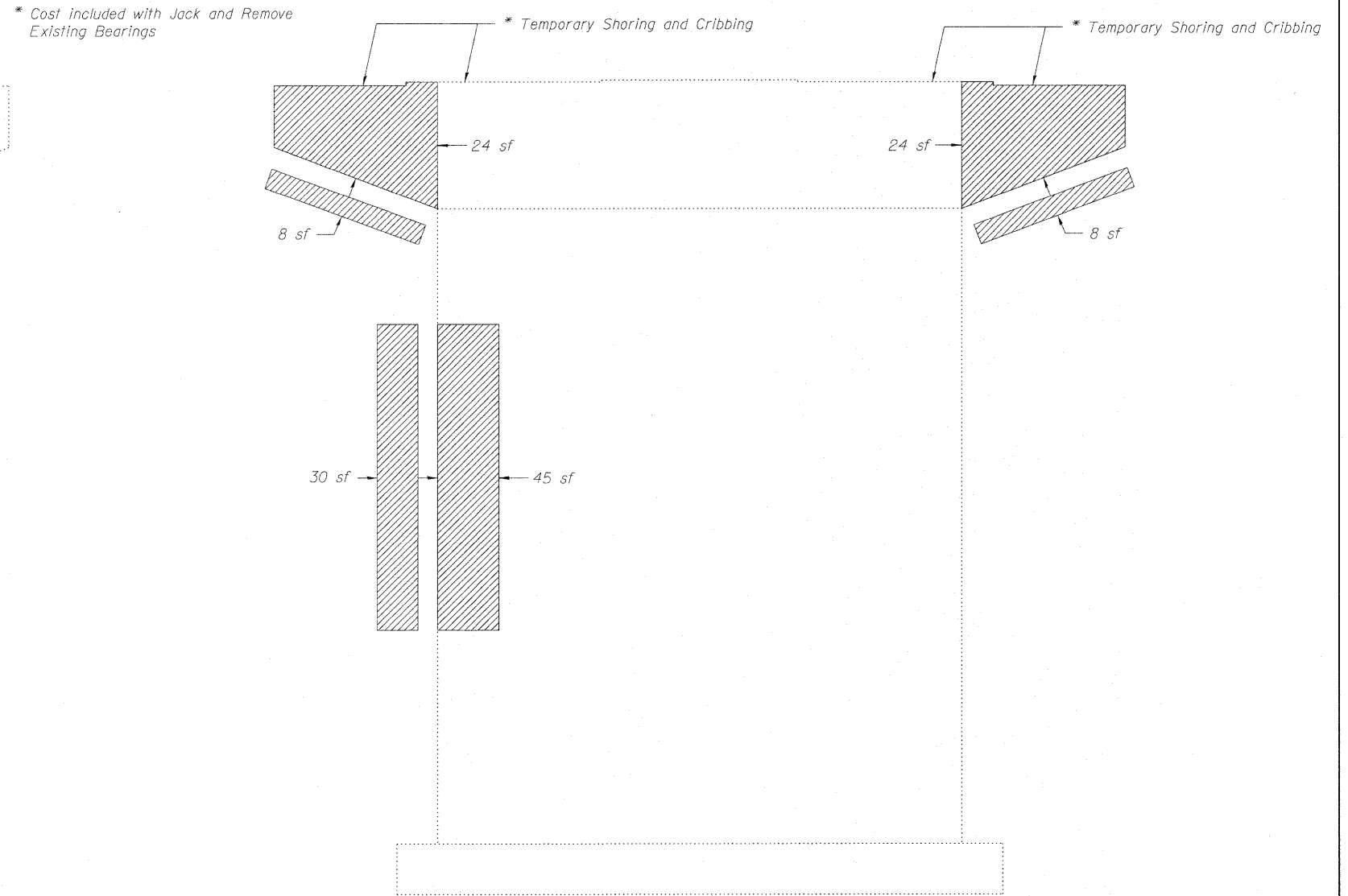
PIER REPAIR (2 of 4)
STRUCTURE NO. 016-2407

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 24	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	44
Designed By: TBP Date: 1/20/00		Checked By: WTH File: 016-2407.dgn		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60J37

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 20
(North Face)



PIER 20
(South Face)

Notes:
Temporary Shoring and Cribbing required to complete bearing replacement and/or Structural Repair of Concrete (Depth Equal to or Less Than 5 inches) shall not be paid for separately but shall be included in the cost of Jack and Remove Existing Bearings. When doing the pier repair and bearing replacement at the same time, the structure shall not be jacked up from the pier, the weight must be taken off the pier, in the area of the pier repair. Concrete must be cured to minimum strength for the repair before bearing can be replaced and weight put back on the pier, according to special provisions.
See Sheet 21 of 27 for Reactions.
Repair of the existing piers shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	200

LEGEND

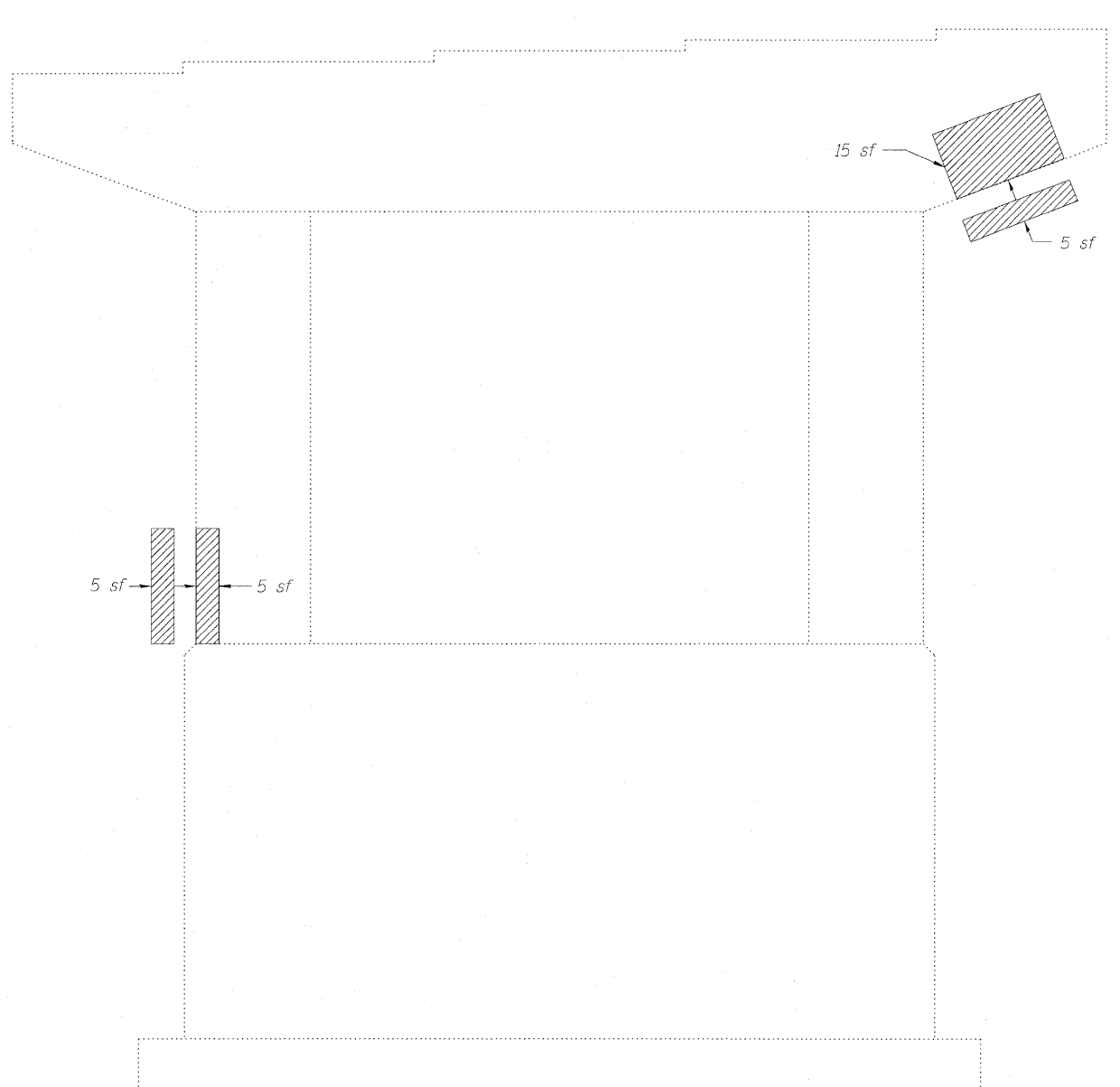
Structural Repair of Concrete (Depth equal to or less than 5")

sf Square Feet

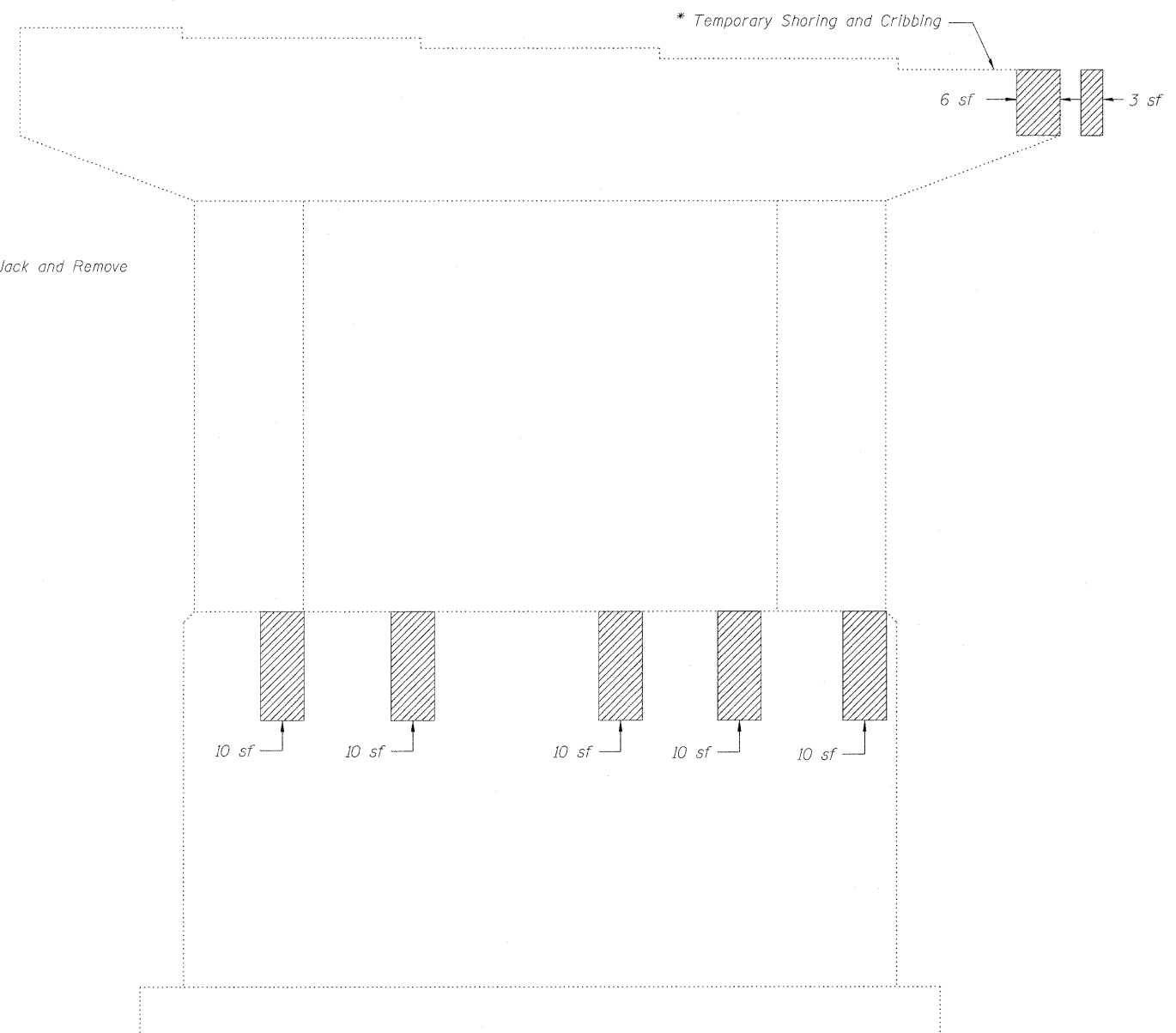
PIER REPAIR (3 of 4)
STRUCTURE NO. 016-2407

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 25	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	45
ILLINOIS FED. AID PROJECT					CONTRACT NO. 60J37	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 27
(North Face)



PIER 27
(South Face)

* Cost Included with Jack and Remove Existing Bearings

Notes:
Temporary Shoring and Cribbing required to complete bearing replacement and/or Structural Repair of Concrete (Depth Equal to or Less Than 5 inches) shall not be paid for separately but shall be included in the cost of Jack and Remove Existing Bearings. When doing the pier repair and bearing replacement at the same time, the structure shall not be jacked up from the pier, the weight must be taken off the pier, in the area of the pier repair. Concrete must be cured to minimum strength for the repair before bearing can be replaced and weight put back on the pier, according to special provisions.
See Sheet 22 of 27 for Reactions.
Repair of the existing piers shall include but may not be limited to the areas shown. The actual area to be repaired will be determined by the Engineer at the time of construction.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	89

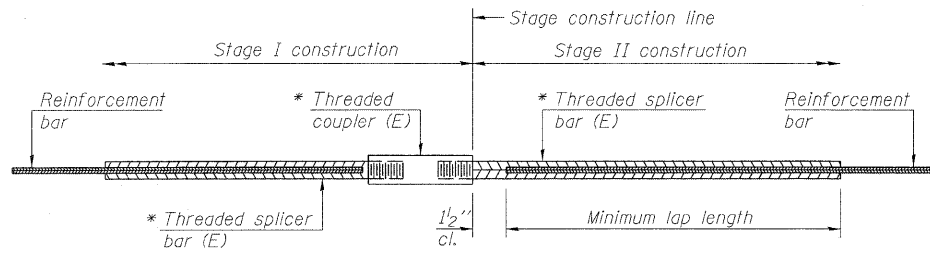
LEGEND

Structural Repair of Concrete (Depth equal to or less than 5")
sf Square Feet

PIER REPAIR (4 of 4)
STRUCTURE NO. 016-2407

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 26	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	46
			CONTRACT NO. 60J37			
			ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

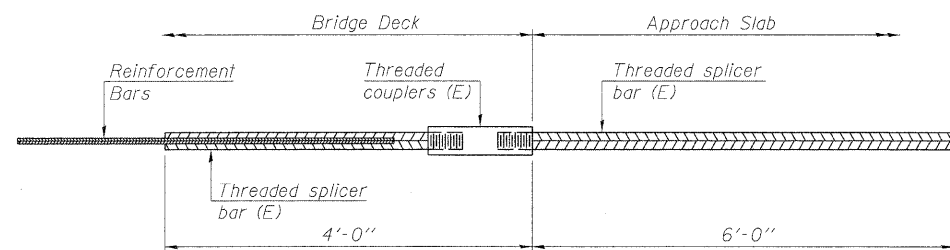
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

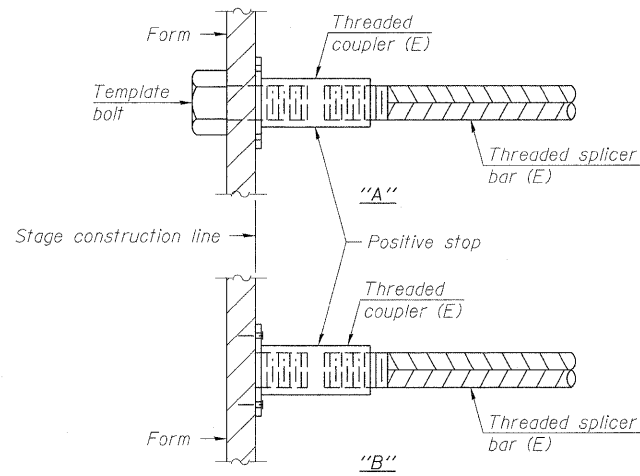
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Abutments	#5	18	3
Abutments	#6	8	3
** Piers	#5	168	3



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

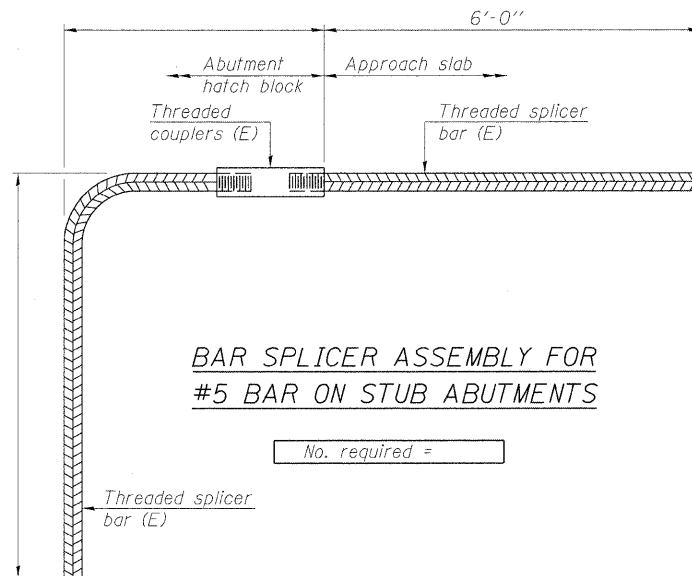
No. required =



INSTALLATION AND SETTING METHODS

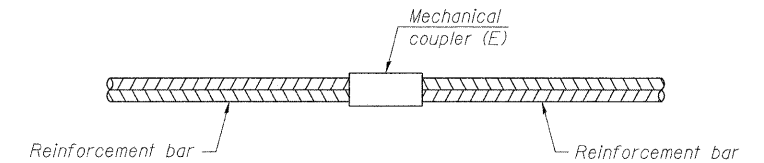
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

** Bar Splicers at Pier locations shall be included with the cost of the joint type specified.



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =



STANDARD MECHANICAL SPLICER

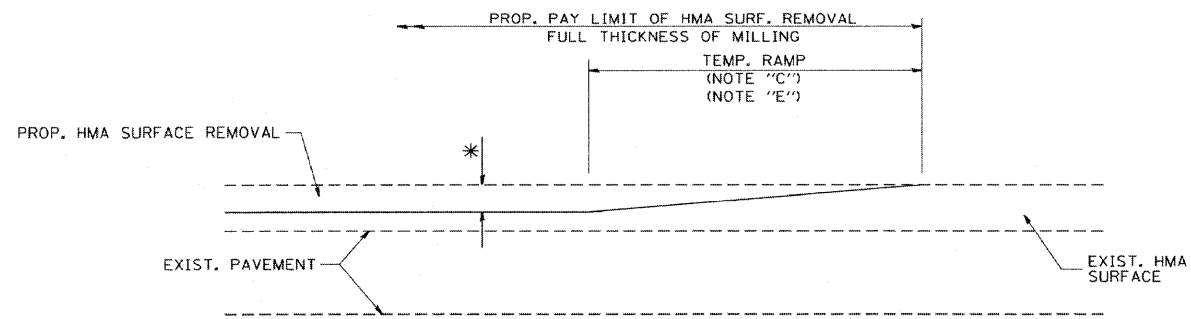
Location	Bar size	No. assemblies required

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

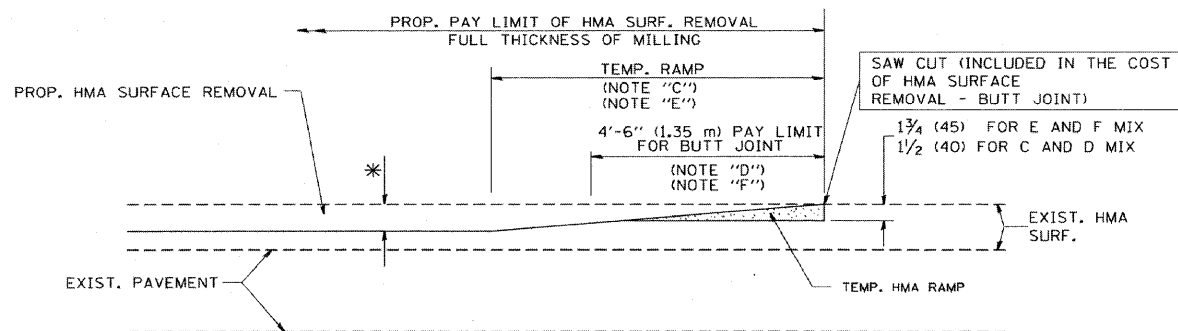
BAR SPLICER ASSEMBLY
AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-2407

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 27	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	27 SHEETS	330	462 X-B-I	COOK	54	47
ILLINOIS FED. AID PROJECT					CONTRACT NO. 60J37	



MILLED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

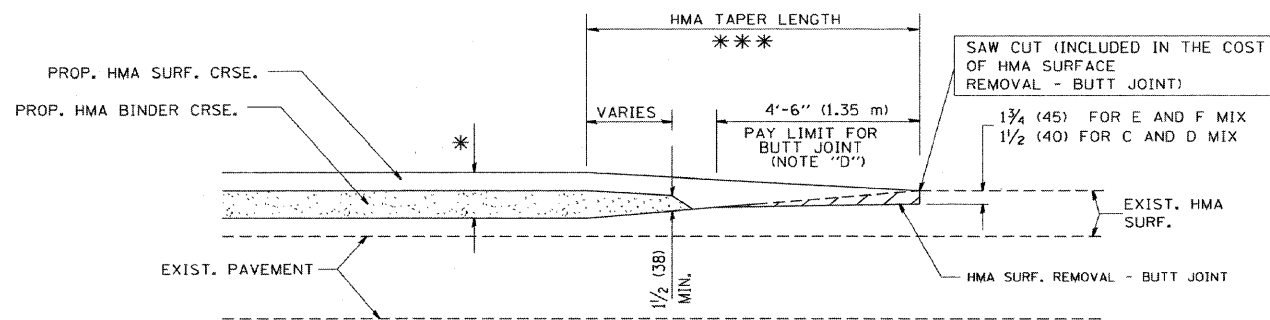
OPTION 1



HMA CONSTRUCTED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

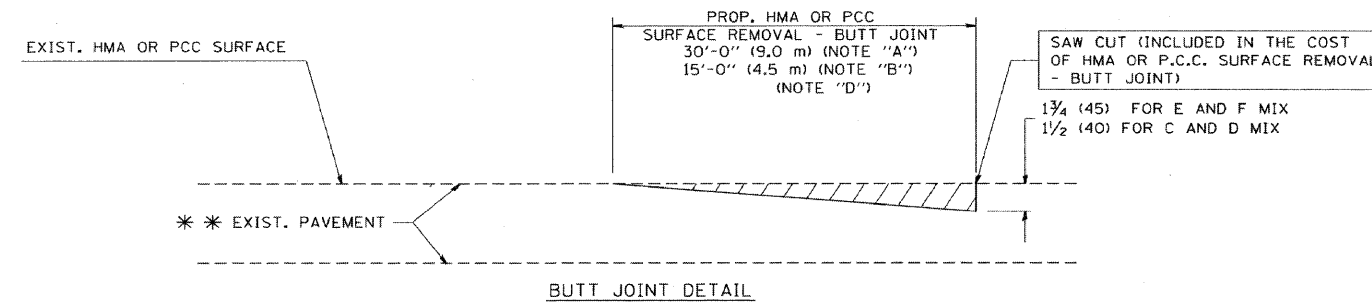
OPTION 2

TYPICAL TEMPORARY RAMP

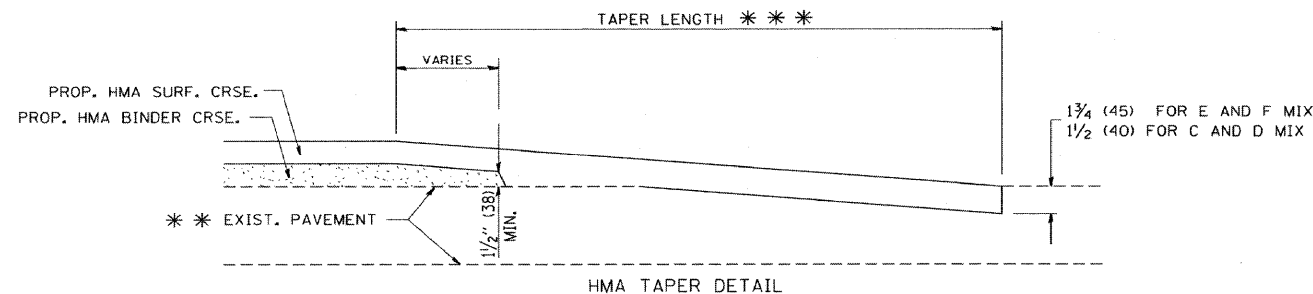


**TYPICAL BUTT JOINT AND HMA TAPER
FOR MILLING AND RESURFACING**

REVISED	-	R. SHAH	10-25-94
REVISED	-	A. ABBAS	03-21-97
REVISED	-	M. GOMEZ	04-06-01
REVISED	-	R. BORD	01-01-07



BUTT JOINT DETAIL



**TYPICAL BUTT JOINT AND HMA TAPER
FOR RESURFACING ONLY**

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- B: MINOR SIDE ROADS.
- C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
- F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
- G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

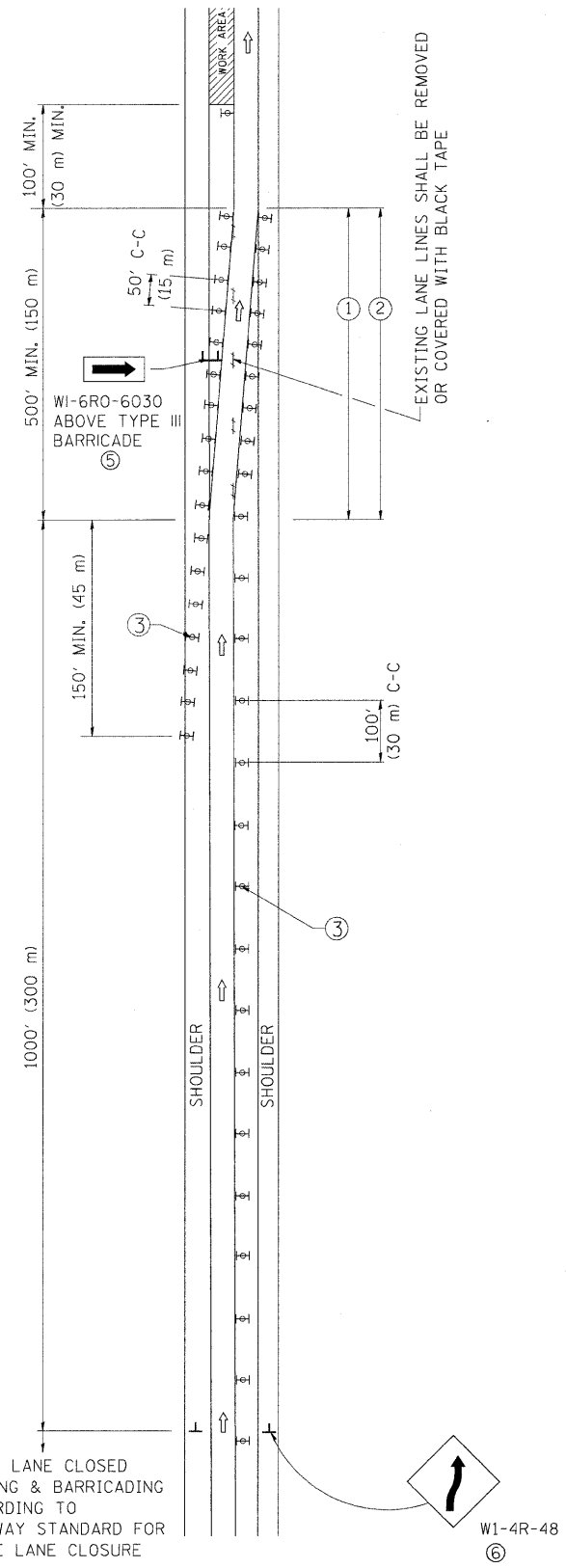
BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

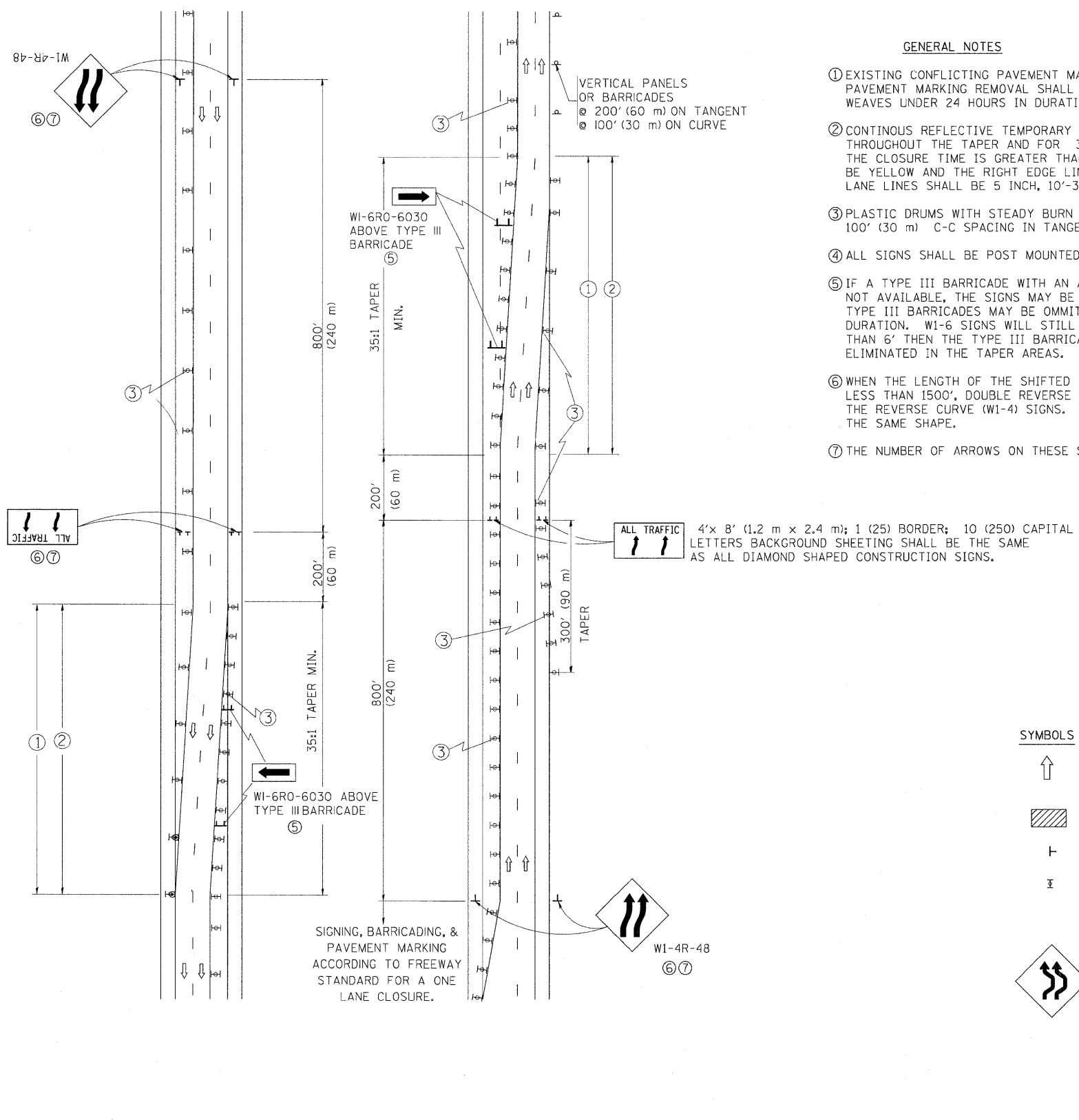
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

BUTT JOINT AND HMA TAPER DETAILS

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

- ① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 24 HOURS IN DURATION.
- ② CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- ③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ⑤ IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS. TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
- ⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
- ⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

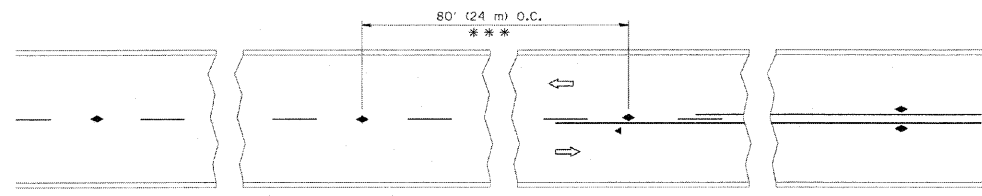
SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

RIGHT LANE CLOSED SIGNING & BARRICADING ACCORDING TO FREEWAY STANDARD FOR A ONE LANE CLOSURE

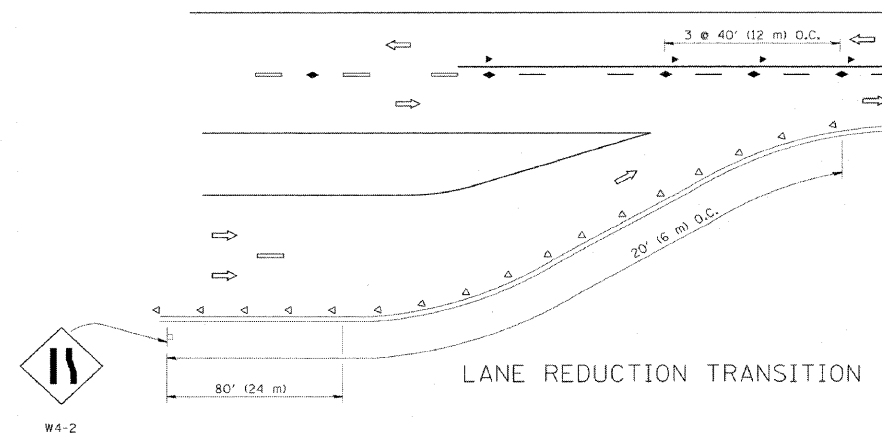
SIGNING, BARRICADING, & PAVEMENT MARKING ACCORDING TO FREEWAY STANDARD FOR A ONE LANE CLOSURE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

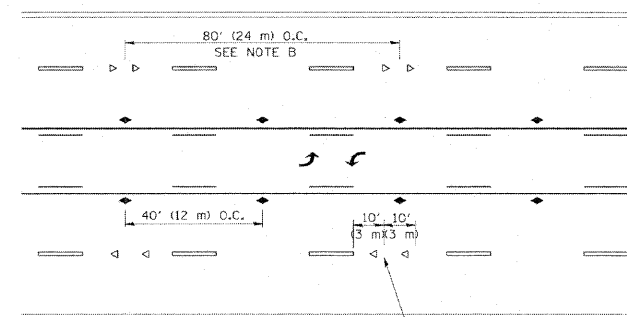


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

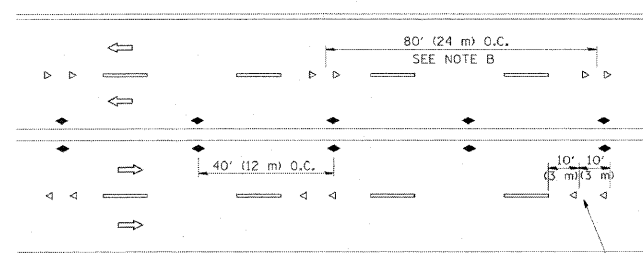
TWO-LANE/TWO-WAY



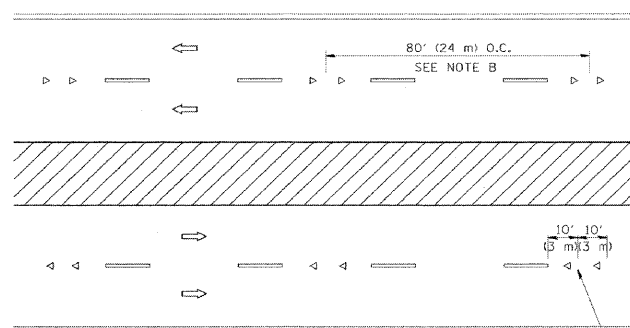
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

LANE MARKER NOTES

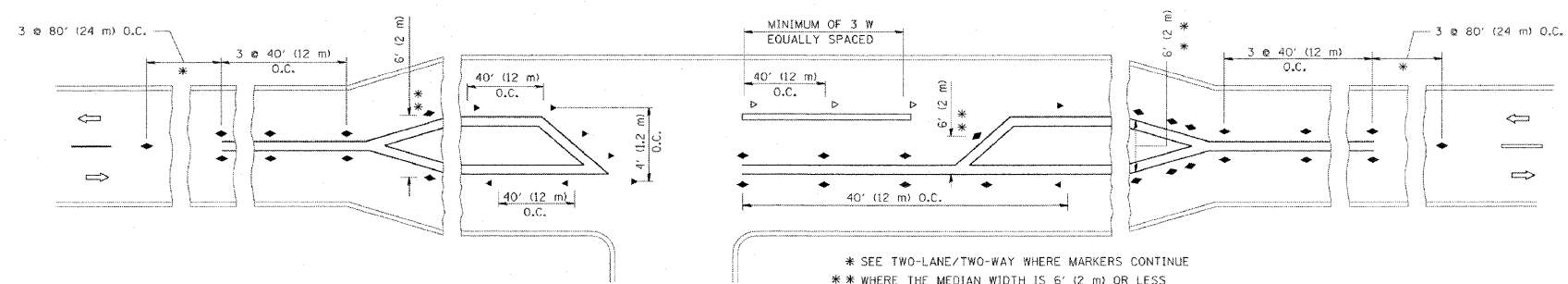
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

REVISED	- T. RAMMACHER	09-19-94
REVISED	- T. RAMMACHER	03-12-99
REVISED	- T. RAMMACHER	01-06-00
REVISED	- C. JUCIUS	09-09-09

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

TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

LONCO, INC.
CONSULTING ENGINEERS
1560 WALL ST, SUITE 222
NAPERVILLE, ILLINOIS 60563 PHS 16301 577-9100

DESIGNED - MJY
DRAWN - ST, TSC
CHECKED - MJY, DC
DATE - 01/29/2010

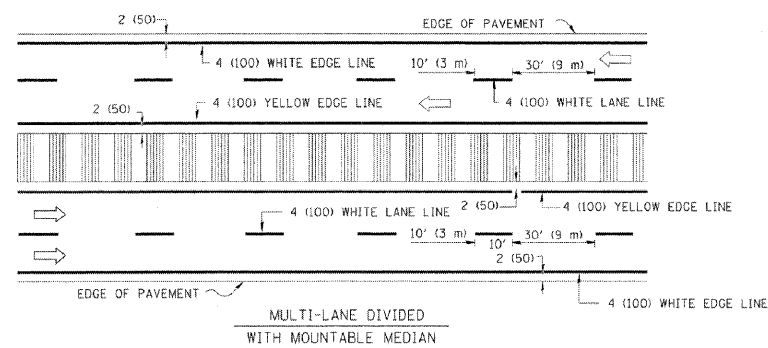
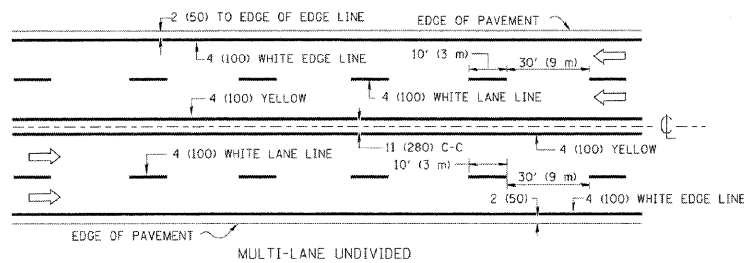
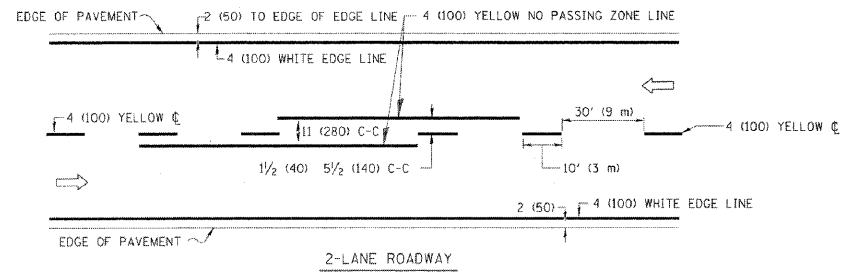
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT STANDARDS
US 12, 20, 45 SB (LA GRANGE RD) OVER SANTA FE DR, RRs, DES PLAINES

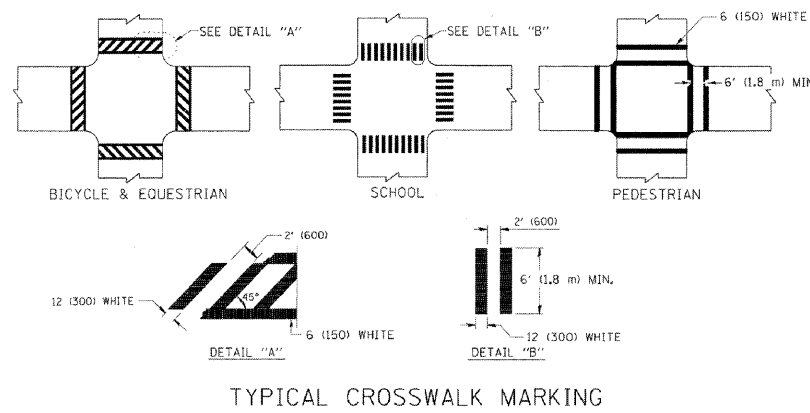
SCALE: NONE SHEET NO. 50 OF 54 SHEETS STA. 31+99.36 TO STA. 69+00.70

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	462 X-B-1	COOK	54	50
D-91-227-10			CONTRACT NO. 60J37	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

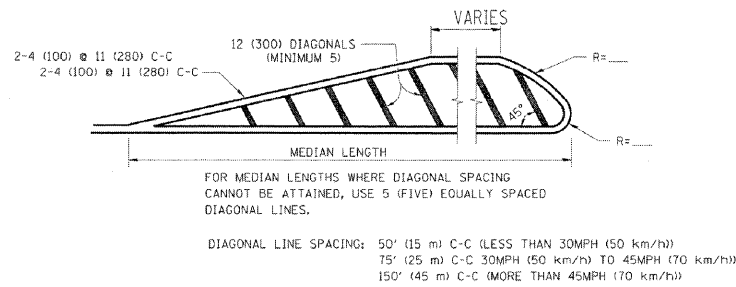
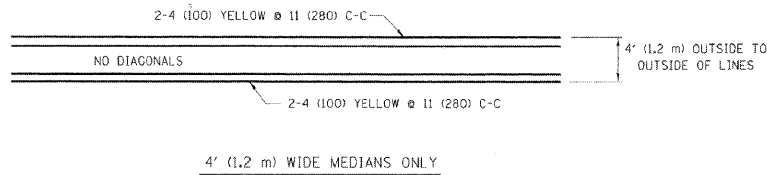


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

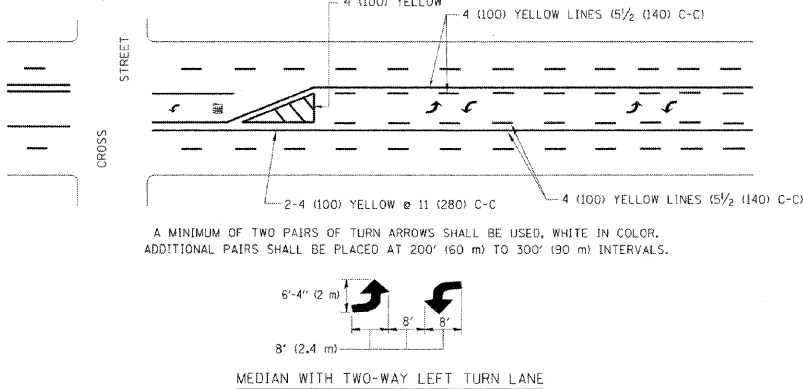
TYPICAL LANE AND EDGE LINE MARKING



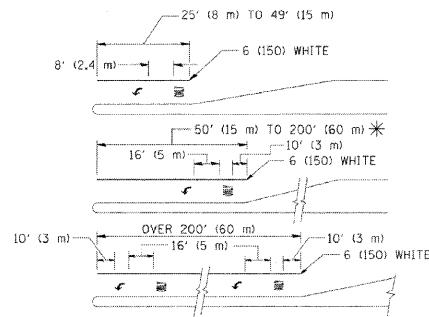
TYPICAL CROSSWALK MARKING



MEDIANS OVER 4' (1.2 m) WIDE



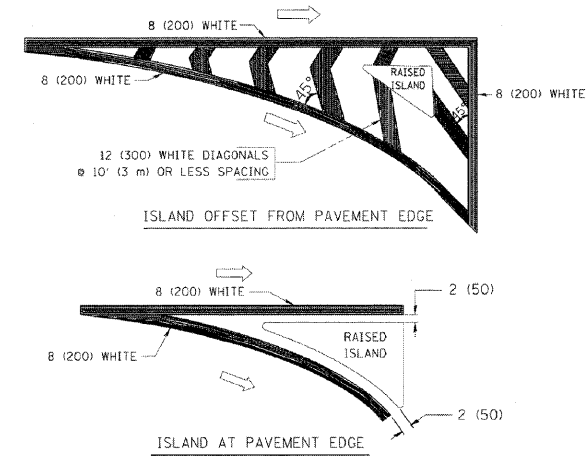
TYPICAL PAINTED MEDIAN MARKING



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 FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE 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) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R" = 3.6 SQ. FT. (0.33 m ²) EACH "X" = 54.0 SQ. FT. (5.0 m ²)
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.

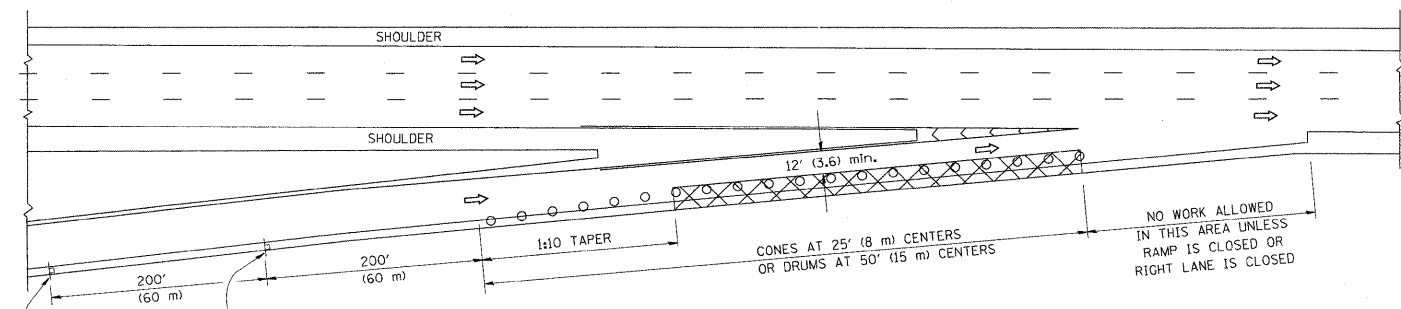
All dimensions are in inches (millimeters) unless otherwise shown.

REVISED	-T. RAMMACHER 10-27-94
REVISED	-C. JUCIUS 09-09-09
REVISED	-
REVISED	-

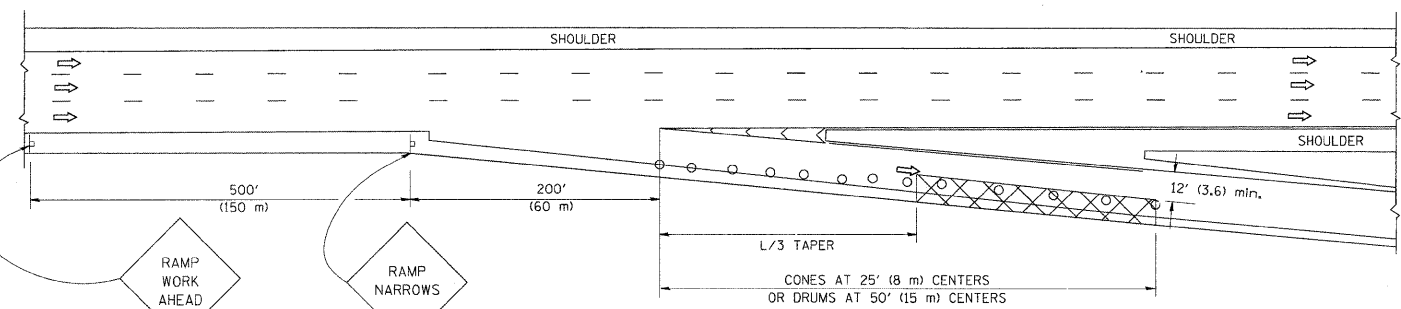
DISTRICT ONE TYPICAL PAVEMENT MARKINGS

PARTIAL RAMP CLOSURE DETAILS

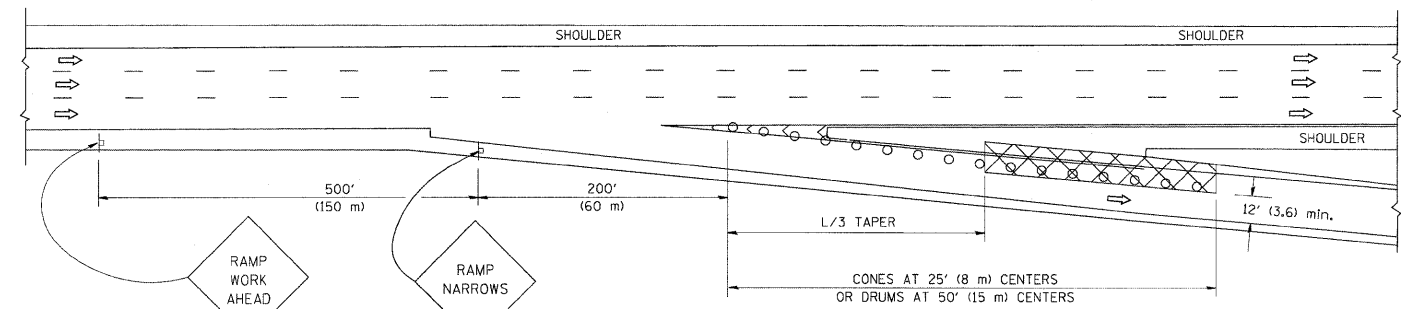
SHOULDER CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

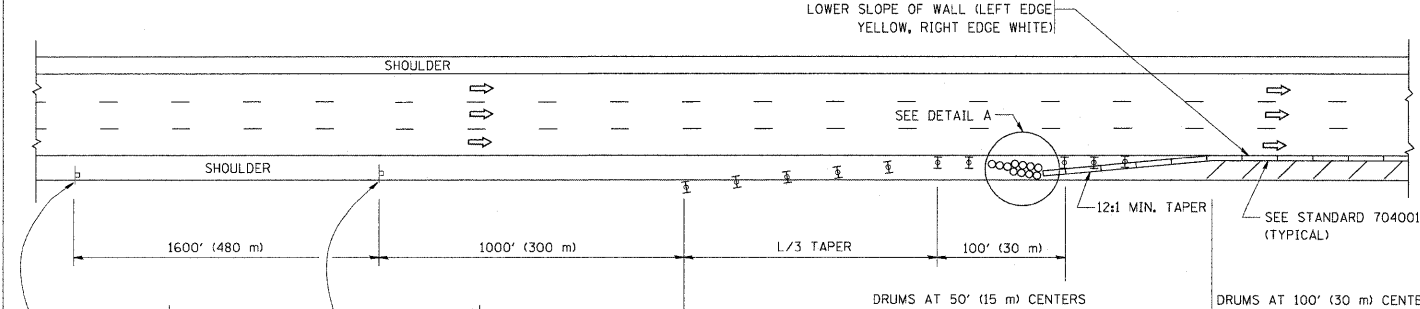
SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

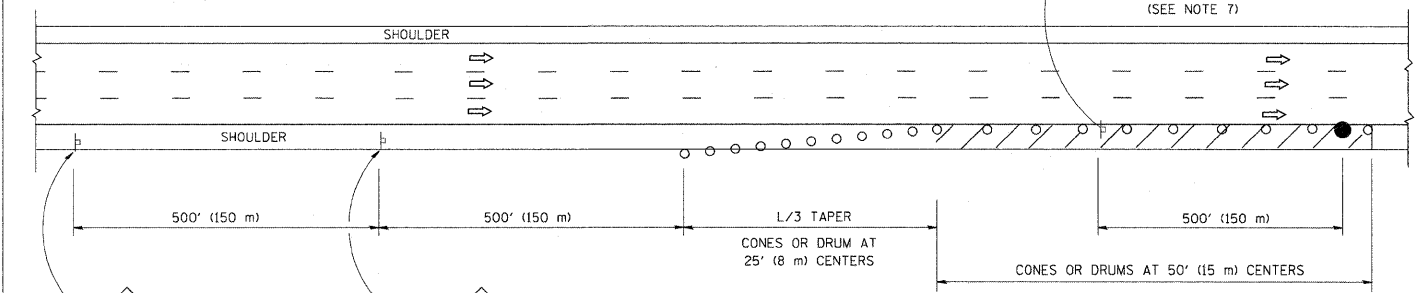
GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

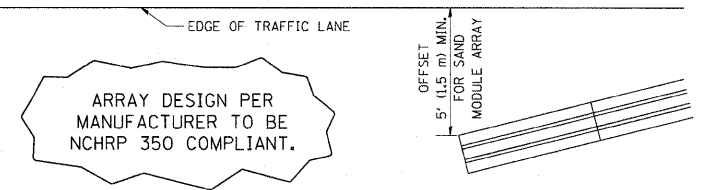
SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC ENGLISH L=0.65(W)(S) L=(W)(S)
W = WIDTH OF OFFSET IN FEET (METERS)	
S = NORMAL POSTED SPEED MPH (KM/H)	
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL 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.



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

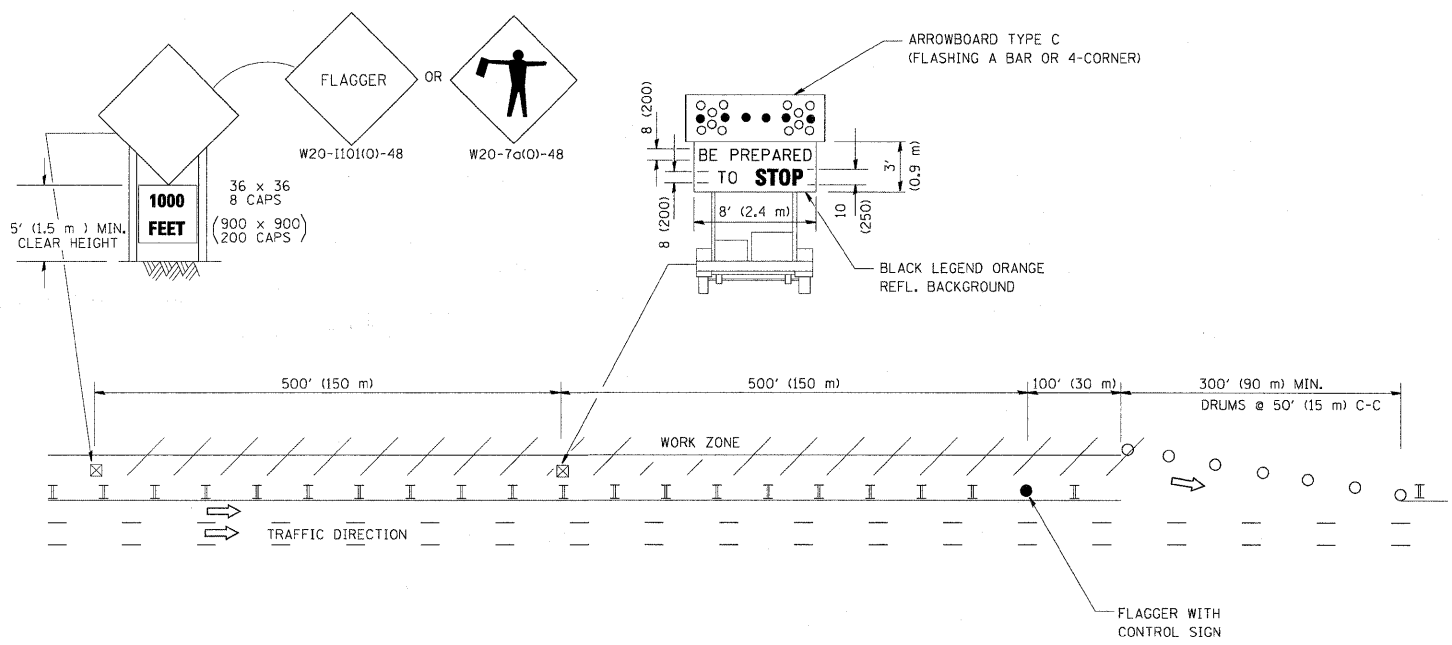


DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)

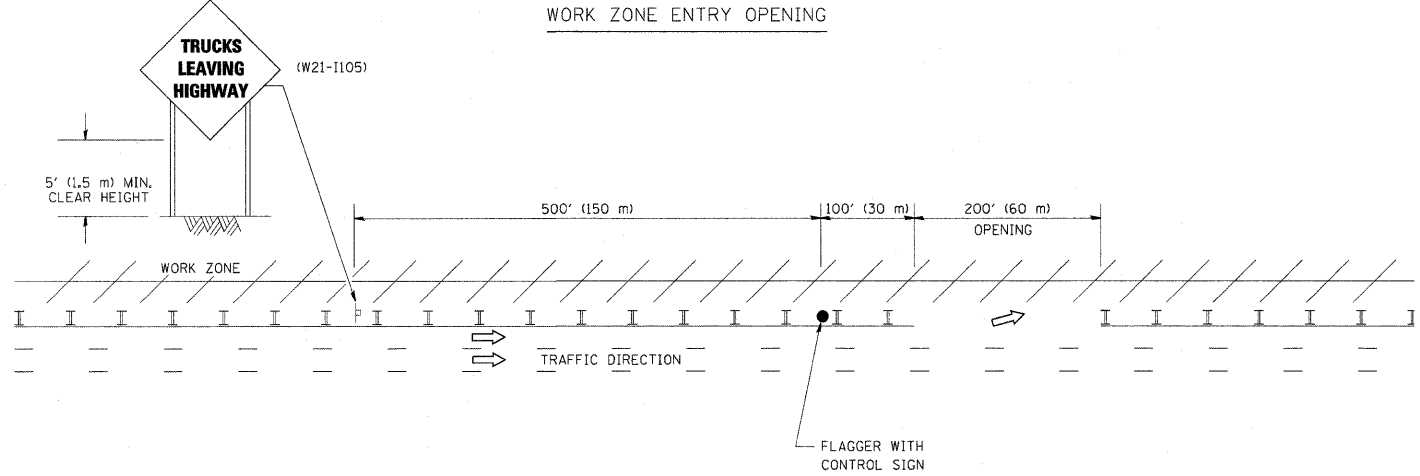
FILE NAME = W:\diststd\22x34\tel7.dgn	USER NAME = leusa	DESIGNED -	REVISED - 04-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			F.A. -	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - D.W.S.	REVISED - J.A.F. 12-06										
		CHECKED -	REVISED - S.P.B. 01-07									54	52
		DATE - 11-96	REVISED - S.P.B. 12-09			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	TC-17 CONTRACT NO.			
												FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT	

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING

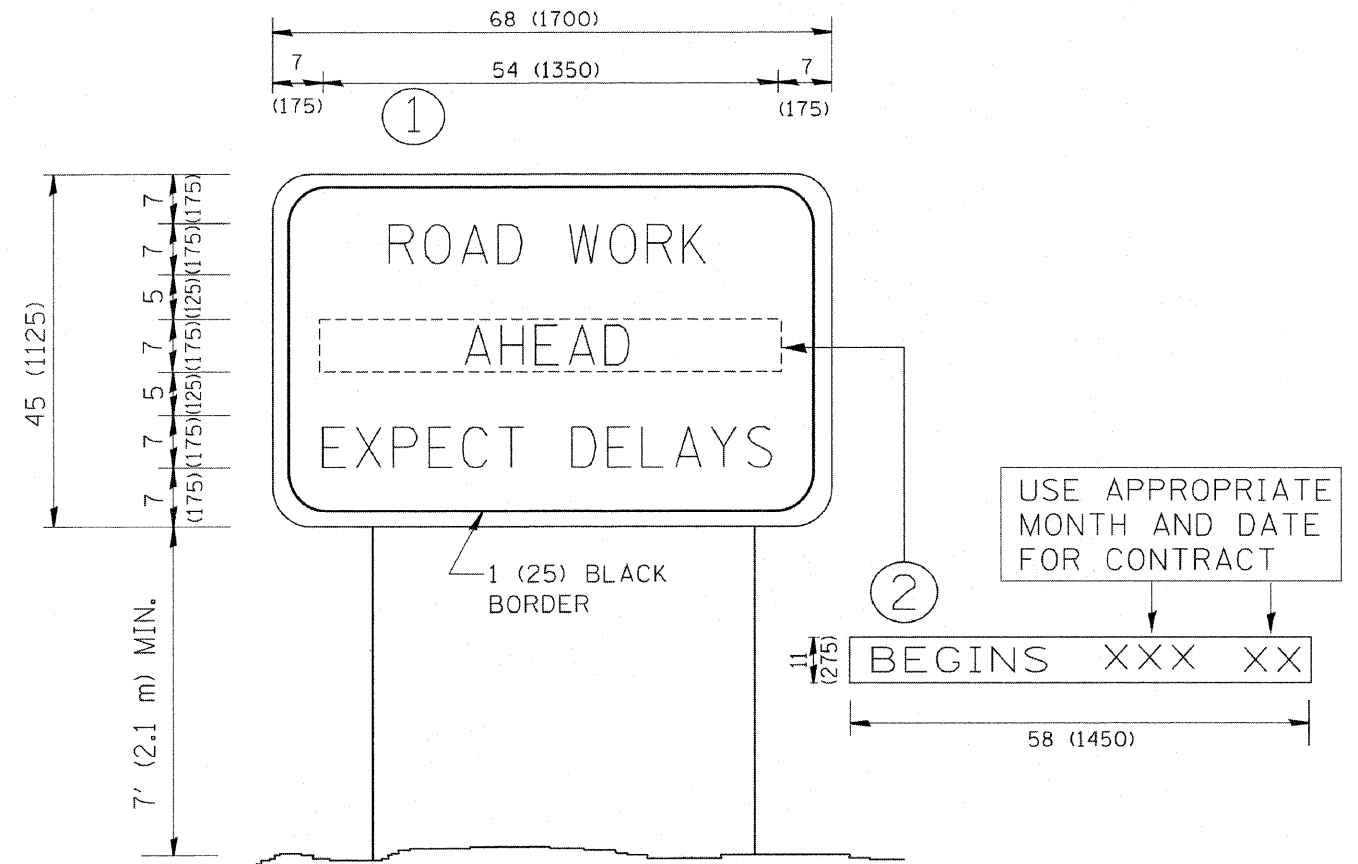


NOTES:

1. THE ARROWBOARD, THE FLAGGER AHEAD SIGN AND THE TRUCKS LEAVING HIGHWAY SIGN SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE EXIT OPENINGS SHOULD BE A MINIMUM OF ONE HALF MILE APART.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME = W:\distatd\22x34\td18.dgn	USER NAME = lsgso	DESIGNED -	REVISED - J.A.F. 04-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.000' / IN.	DRAWN -	REVISED - J.A.F. 02-06		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	TC-18		54	53
PLOT DATE = 1/26/2010	CHECKED -	REVISED - S.P.B. 01-07	REVISED - S.P.B. 12-09					CONTRACT NO.				
	DATE -							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.

REVISED	- R. MIRS 09-15-97
REVISED	- R. MIRS 12-11-97
REVISED	- T. RAMMACHER 02-02-99
REVISED	- C. JUCIUS 01-31-07

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

ARTERIAL ROAD INFORMATION SIGN