

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(104C-BR)BP	BUREAU	15	1
		ILLINOIS	CONTRACT NO. 66H81	

INDEX OF SHEETS

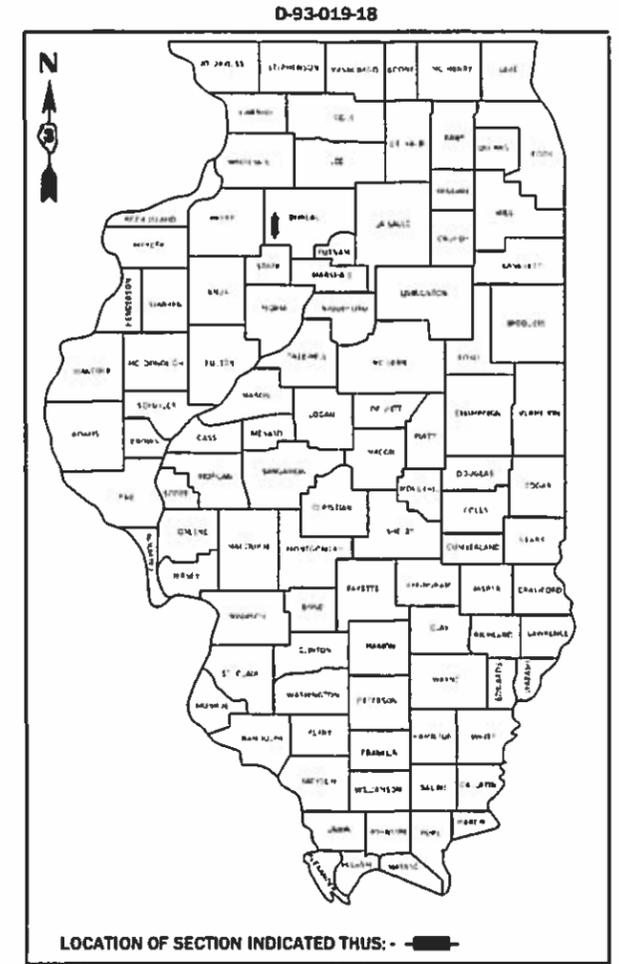
- 1 COVER SHEET
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- 5. TYPICAL SECTION
- 6. ADVANCE SIGNING FOR TRAFFIC CONTROL AND PROTECTION, STANDARD 701321
- 7 - 8. STAGING DETAILS FOR TRAFFIC CONTROL AND PROTECTION, STANDARD 701321
- 9 - 14. EXISTING STRUCTURE PLANS FOR INFORMATION ONLY
- 15. DETAILS

HIGHWAY STANDARDS

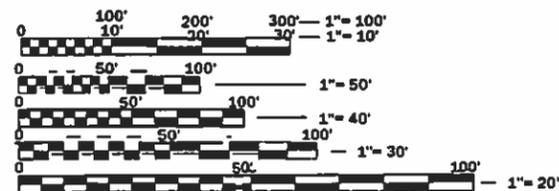
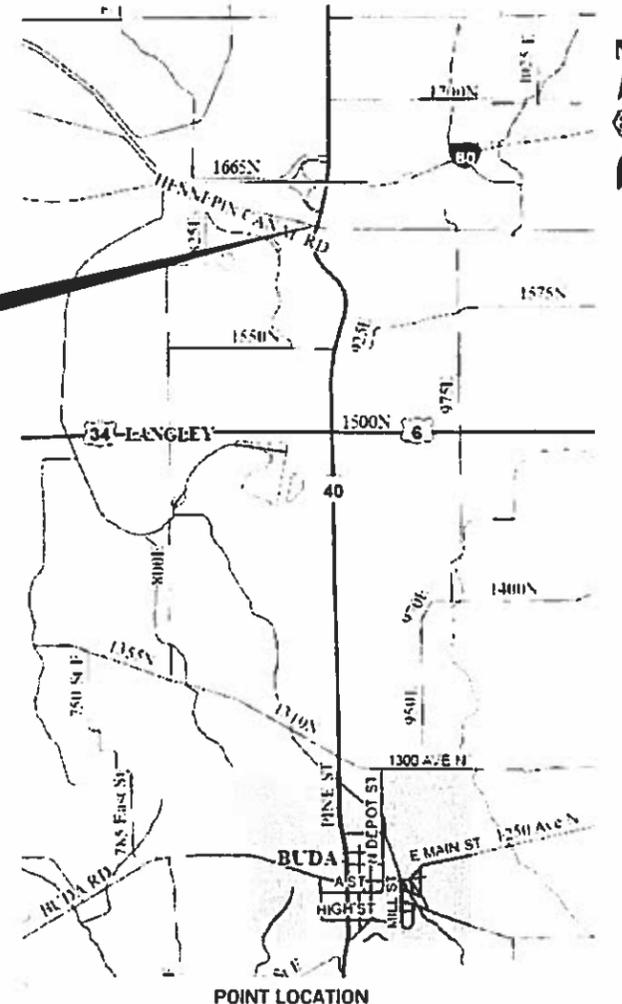
- 000001-07 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 701001-02 OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 15' (4.5 m) AWAY
- 701006-05 OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701201-05 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS \geq 45 MPH
- 701206 05 LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS \geq 45 MPH
- 701301-04 LANE CLOSURE 2L, 2W, SHORT TIME OPERATIONS
- 701311-03 LANE CLOSURE 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701901-08 TRAFFIC CONTROL DEVICES
- 704001-08 TEMPORARY CONCRETE BARRIER
- 782006 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- 701321-17 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER

**PROPOSED
HIGHWAY PLANS**

F.A.P. ROUTE 646 (IL 40)
SECTION (104C-BR)BP
PROJECT STP-KFX4(316) BRIDGE
PAINTING
BUREAU COUNTY
C-93-018-18



PROJECT LOCATION
STRUCTURE NO. 006-0090
CARRYING FAP 646 (IL 40) OVER THE
HENNEPIN CANAL, 0.4 MILES SOUTH OF I-80



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER JOE KANNEL P.E.
UNIT CHIEF RON WOODSHANK
DISTRICT 3 NO. (815) 434-6131
CONTRACT NO. 66H81

FUNCTIONAL CLASSIFICATION
RURAL
MINOR ARTERIAL
F.A.P. ROUTE 646 (IL 40)
2017 ADT = 2300
P.V. 45.9% S.U. 5.2% M.U. 48.9%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 10-18-2018
K. Marshall
REGIONAL ENGINEER

Dec 7 2018
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 7 2018
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

GENERAL NOTES

1. 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 WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
2. THE EXISTING STRUCTURAL STEEL CONTAINS LEAD. THE CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.
3. STRUCTURE NO. 006-0090 SHALL BE DESIGNATED AS "LOCATION 1".
4. THE SSPC-QP1 AND SSPC-QP2 "PAINTING CONTRACTOR CERTIFICATIONS" WILL BE REQUIRED FOR THIS PROJECT.
5. A MINIMUM OF TWO AIR MONITORS SHALL BE REQUIRED FOR THIS STRUCTURE. THE CONTRACTOR SHALL FURNISH AND INSTALL THE MONITORS AS DIRECTED BY THE ENGINEER. (SEE THE SPECIAL PROVISION FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".)
6. CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND AS SPECIFIED BELOW.
 - a) ALL EXISTING STRUCTURAL STEEL, (INCLUDING BEAMS, DIPHRAGMS, DRAINS, CROSS/LATERAL FRAMING WHEN PRESENT, AND EXPOSED SURFACES OF BEARING ASSEMBLIES WITHIN A DISTANCE OF 12' EACH WAY FROM DECK JOINTS SHALL BE CLEANED PER THE REQUIREMENTS OF "NEAR WHITE BLAST CLEANING - SSPC-SP-10".
 - b) ALL EXISTING STRUCTURAL STEEL, (INCLUDING BEAMS, DIPHRAGMS, DRAINS, CROSS/LATERAL FRAMING WHEN PRESENT AND EXPOSED SURFACES OF BEARING ASSEMBLIES WITHIN A DISTANCE OF 12' EACH WAY FROM DECK JOINTS SHALL BE PAINTED PER THE REQUIREMENT OF "PAINT SYSTEM 1-OZ/E/U".
 - 1) THE FINAL FINISH COAT FOR ALL STRUCTURAL STEEL SHALL BE MUNSELL NO. 2.5YR 3/4, REDDISH BROWN.
7. THE CONTRACTOR SHALL BE REQUIRED TO SECURE WASTE CONTAINERS THAT REMAIN ON THE JOB SITE. THIS WILL ENTAIL THAT ALL WASTE CONTAINERS CAN NOT BE MOVED OR OPENED DURING NON-WORKING HOURS.
8. WORKING DAYS SHALL BE CHARGED UNTIL THE CONTRACTOR/SUBCONTRACTOR LISCENSED TO DISPOSE OF NON-LEAD PAINT RESIDUES HAS REMOVED THE WASTE MATERIAL FROM THE JOB SITE ACCORDING TO ALL FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES. IF THE LISCENSED CONTRACTOR OR SUBCONTRACTOR FAILS TO DISPOSE OF THE NON-LEAD PAINT RESIDUES ON OR BEFORE THE SPECIFIED COMPLETION DATE, LIQUIDATED DAMAGES SHALL BE CHARGED PER CALENDAR DAY ACCORDING TO ARTICLE 108.09 OF THE STANDARD SPECIFICATIONS UNTIL SUCH TIME THAT ALL PAINT RESIDUE MATERIALS HAVE BEEN PROPERLY REMOVED AND DISPOSED OF.

COMMITMENTS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
AS BUILT INFORMATION

SUPERVISING CONSTRUCTION FIELD ENGINEER

RESIDENT ENGINEER / TECHNICIAN

START & END DATES
OF CONSTRUCTION:

INSPECTORS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PREPARED BY: *Don Bevil*
DISTRICT STUDIES & PLANS ENGINEER

DATE: 10/18/18

EXAMINED BY: *Kyle Vidigars*
DISTRICT CONSTRUCTION ENGINEER

Michael A. Shurt
DISTRICT MATERIALS ENGINEER

Tom [Signature]
DISTRICT OPERATIONS ENGINEER

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Default		CHECKED - JW	REVISED -
	PLOT DATE = 8/10/2018	DATE - 5/31/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(104C-BR)BP	BUREAU	15	2
CONTRACT NO. 66H81				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				BRIDGE PAINTING	
				80% FED. 20% STATE	
				BRIDGE	
				0047	
				S.N. 006-0090	
67100100	MOBILIZATION	L SUM	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	L SUM	1	1	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	300	300	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	300	300	
70600251	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	
70600352	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	
Δ 78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	160	160	
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	80	80	
X2700001	TEMPORARY RUMBLE STRIPS (SPECIAL)	EACH	6	6	
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	

Δ SPECIALTY ITEM

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

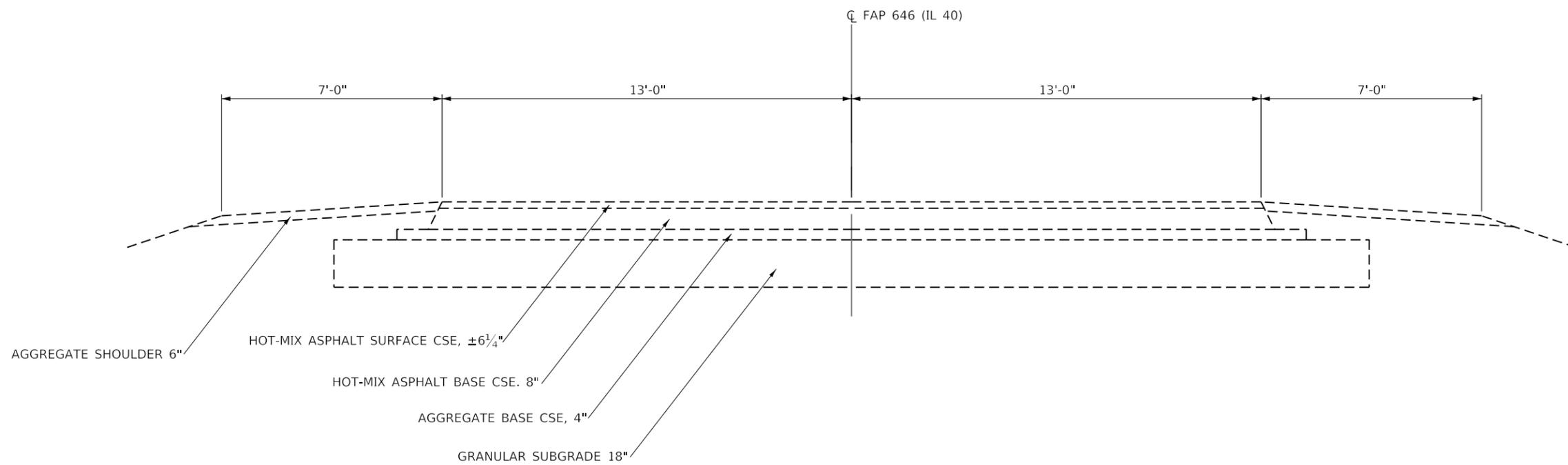
SUMMARY OF QUANTITIES

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 66H81	
ILLINOIS FED. AID PROJECT				

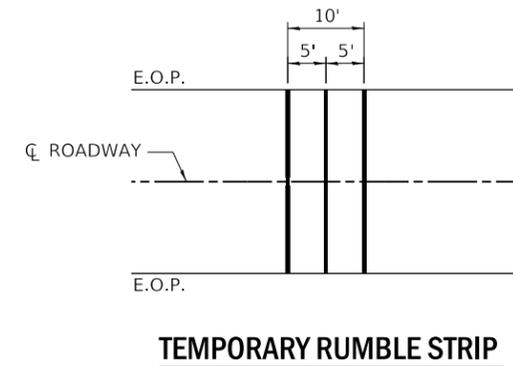
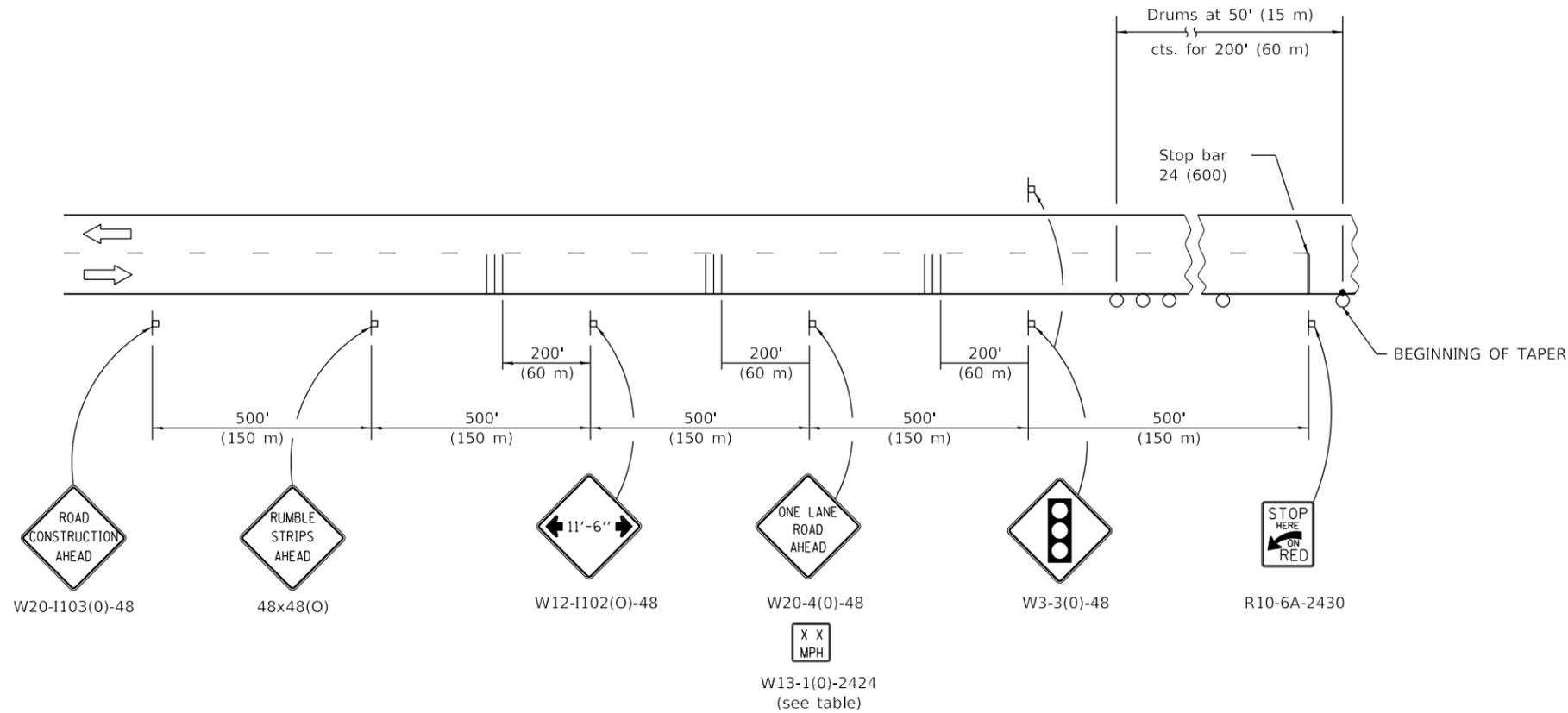
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE
				BRIDGE PAINTING 80% FED. 20% STATE BRIDGE 0047 S.N. 006-0090
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	42	42

FILE NAME =	USER NAME = woodshank1	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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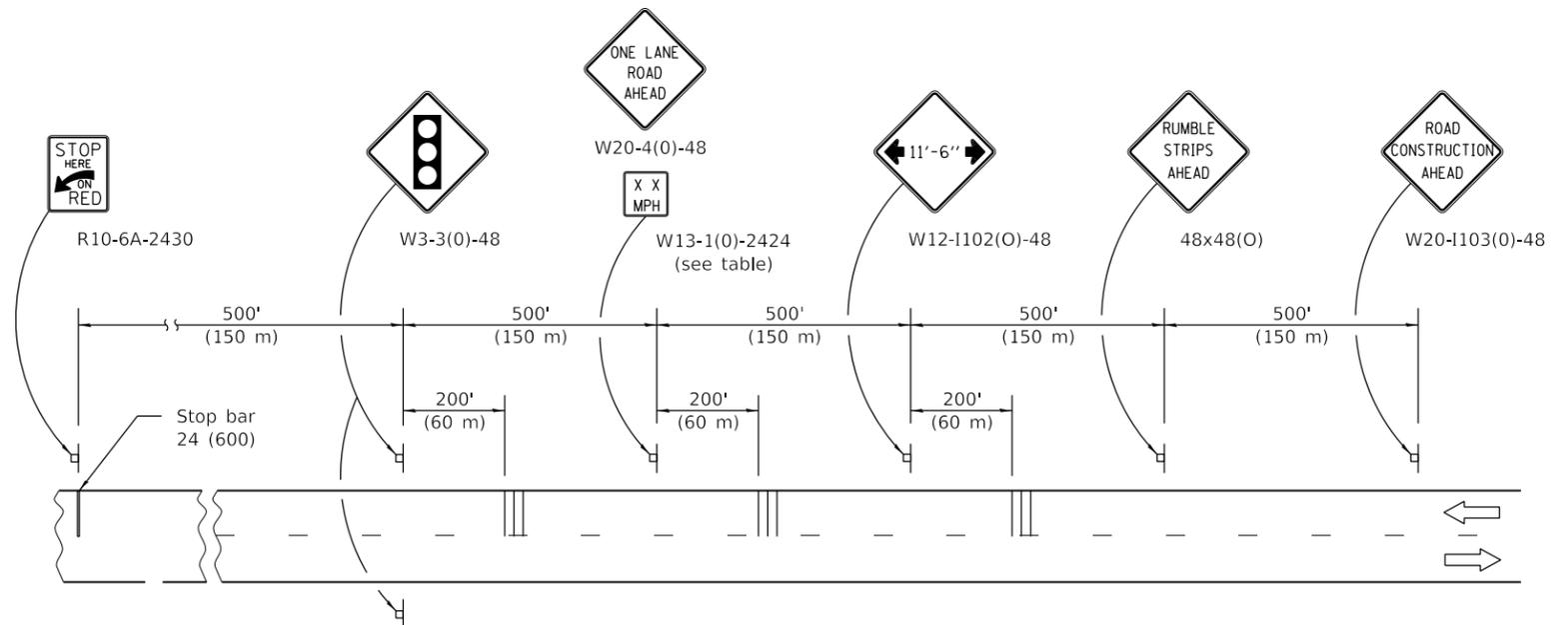
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	PLOT DATE = 7/23/2018	DATE - 5/31/2018	REVISED -		SCALE:	SHEET 1	OF 1 SHEETS	STA.	TO STA.			



SYMBOLS

- SIGN
- TEMPORARY RUMBLE STRIP (SEE DETAIL & SPECIAL PROVISION)
- DRUM
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT



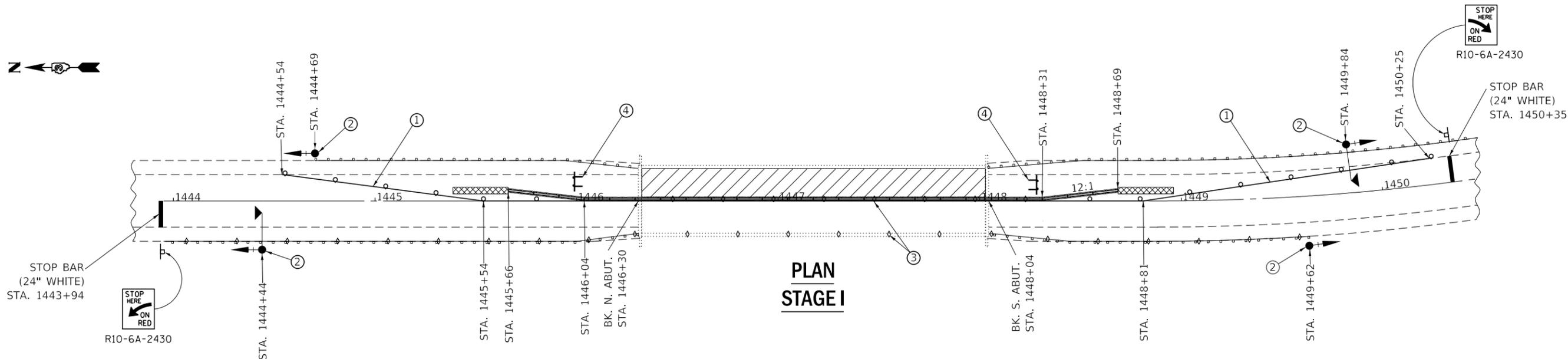
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ADVANCE SIGNING FOR TRAFFIC CONTROL
AND PROTECTION, STANDARD 701321**

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

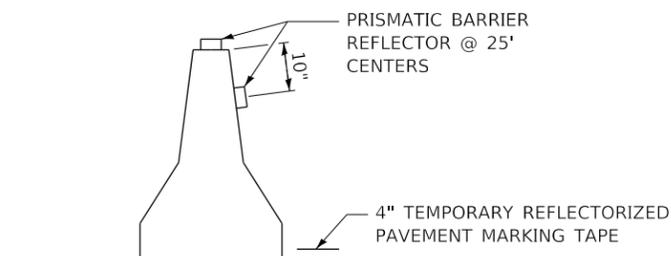
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646	(104C-BR)BP	BUREAU	15	6
CONTRACT NO. 66H81				
ILLINOIS FED. AID PROJECT				



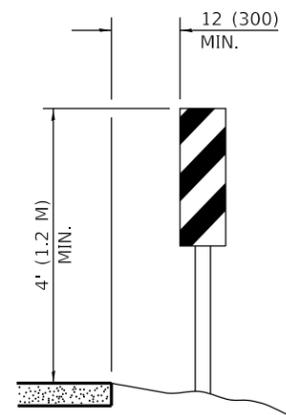
TRAFFIC SIGNAL SEQUENCE						
PHASE	A	B				
INTERVAL	1	2	3	4	5	6
NORTHBOUND OR EASTBOUND	G	Y	R	R	R	R
SOUTHBOUND OR WESTBOUND	R	R	R	G	Y	R

TEMPORARY CONCRETE BARRIER	
NORMAL POSTED SPEED	TAPER RATIO
40 mph AND ABOVE	12:1
BELOW 40 mph	8:1

ADVISORY SPEED LIMIT	
NORMAL POSTED SPEED	ADVISORY SPEED
55 - 45 mph	40 mph
40 mph	35 mph
35 - 30 mph	30 mph



TEMPORARY CONCRETE BARRIER WALL DETAILS



VERTICAL PANELS
(POST MOUNTED, ONE EACH SIDE)

- ① TEMPORARY REFLECTORIZED PAVEMENT MARKING TAPE. (4")
- ② THE EDGE OF THE POST MOUNTED SIGNAL HEADSHALL BE BETWEEN 24 (610) AND 6' (1.8 M) FROM EDGE OF SHOULDER.
- ③ GUARDRAIL/BARRIER WALL REFLECTORS AT 25' (7.6 M) CTS. SEE STANDARDS 704001 & 782006.
- ④ TYPE III BARRICADE TO BE PLACED WHEN NO WORK IS BEING PERFORMED.

GENERAL NOTES

THIS STANDARD IS USED WHERE, AT ANY TIME, ANY VEHICLE, EQUIPMENT, WORKERS, OR THEIR ACTIVITIES WILL ENCROACH ON ONE LANE OF A BRIDGE. TRAFFIC SIGNALS AND A POSITIVE BARRIER ARE REQUIRED.

TRAFFIC SIGNALS SHALL BE OPERATIONAL ONLY WHEN ALL TRAFFIC CONTROLS ARE IN PLACE. WHEN TRAFFIC SIGNALS ARE NOT IN OPERATION, FLAGGERS SHALL BE USED AND TRAFFIC CONTROL SHALL CONFORM TO STANDARD 701201 OR 701206.

TEMPORARY CONCRETE BARRIER SHALL BE ACCORDING TO STANDARD 704001.

EXISTING OR TEMPORARY PAVEMENT MARKINGS SHALL BE ON BOTH SIDES OF OPEN LANE FROM STOP BAR TO STOP BAR.

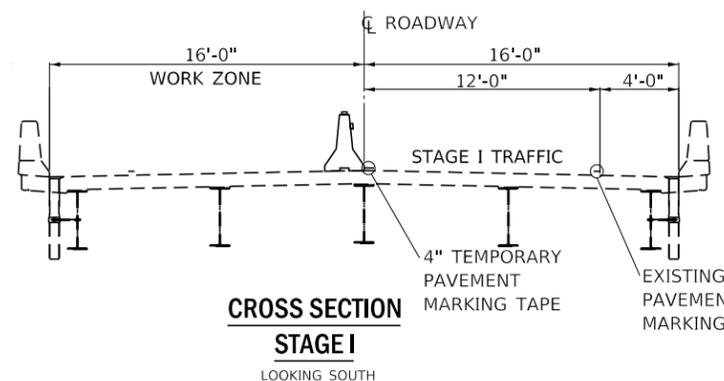
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

TEMPORARY PAVEMENT MARKING AS SHOWN ON THIS DETAIL, SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE STANDARD.

THE ARROW ON THE BACKSIDES OF DIRECTIONAL INDICATOR BARRICADES MUST BE REMOVED OR COVERED. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE APPLICABLE TRAFFIC CONTROL STANDARDS.

SYMBOLS

- | | | | |
|--|---|--|---|
| | WORK AREA | | DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT (TAPERS) |
| | SIGN | | DRUM (TANGENTS) |
| | TYPE III BARRICADE WITH FLASHING LIGHTS | | TEMPORARY CONCRETE BARRIER |
| | TRAFFIC SIGNAL WITH BACKPLATE | | CRYSTAL, BIDIRECTIONAL GUARDRAIL/BARRIER WALL REFLECTOR |
| | TEMPORARY IMPACT ATTENUATOR (NARROW) | | |
| | MICROWAVE DETECTOR | | |



CROSS SECTION STAGE I
LOOKING SOUTH

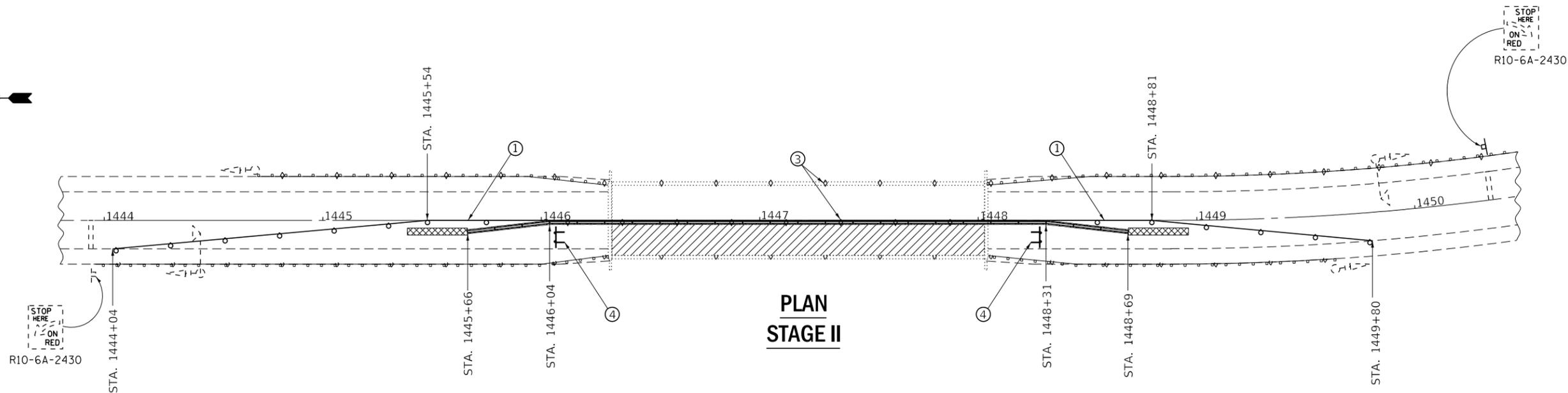
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		DATE - 5/31/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGING DETAILS - STAGE I
FOR TRAFFIC CONTROL AND PROTECTION, STANDARD 701321**

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

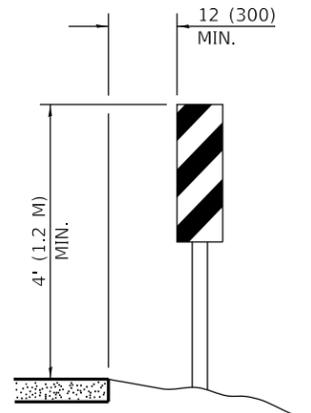
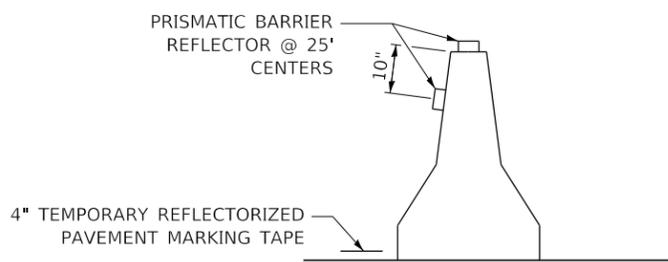
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(104C-BR)BP	BUREAU	15	7
CONTRACT NO. 66H81				
ILLINOIS FED. AID PROJECT				



TRAFFIC SIGNAL SEQUENCE						
PHASE	A			B		
INTERVAL	1	2	3	4	5	6
NORTHBOUND OR EASTBOUND	G	Y	R	R	R	R
SOUTHBOUND OR WESTBOUND	R	R	R	G	Y	R

TEMPORARY CONCRETE BARRIER	
NORMAL POSTED SPEED	TAPER RATIO
40 mph AND ABOVE	12:1
BELOW 40 mph	8:1

ADVISORY SPEED LIMIT	
NORMAL POSTED SPEED	ADVISORY SPEED
55 - 45 mph	40 mph
40 mph	35 mph
35 - 30 mph	30 mph



- ① TEMPORARY REFLECTORIZED PAVEMENT MARKING TAPE. (4")
- ② THE EDGE OF THE POST MOUNTED SIGNAL HEADSHALL BE BETWEEN 24 (610) AND 6' (1.8 M) FROM EDGE OF SHOULDER.
- ③ GUARDRAIL/BARRIER WALL REFLECTORS AT 25' (7.6 M) CTS. SEE STANDARDS 704001 & 782006.
- ④ TYPE III BARRICADE TO BE PLACED WHEN NO WORK IS BEING PERFORMED.

GENERAL NOTES

THIS STANDARD IS USED WHERE, AT ANY TIME, ANY VEHICLE, EQUIPMENT, WORKERS, OR THEIR ACTIVITIES WILL ENCROACH ON ONE LANE OF A BRIDGE. TRAFFIC SIGNALS AND A POSITIVE BARRIER ARE REQUIRED.

TRAFFIC SIGNALS SHALL BE OPERATIONAL ONLY WHEN ALL TRAFFIC CONTROLS ARE IN PLACE. WHEN TRAFFIC SIGNALS ARE NOT IN OPERATION, FLAGGERS SHALL BE USED AND TRAFFIC CONTROL SHALL CONFORM TO STANDARD 701201 OR 701206.

TEMPORARY CONCRETE BARRIER SHALL BE ACCORDING TO STANDARD 704001.

EXISTING OR TEMPORARY PAVEMENT MARKINGS SHALL BE ON BOTH SIDES OF OPEN LANE FROM STOP BAR TO STOP BAR.

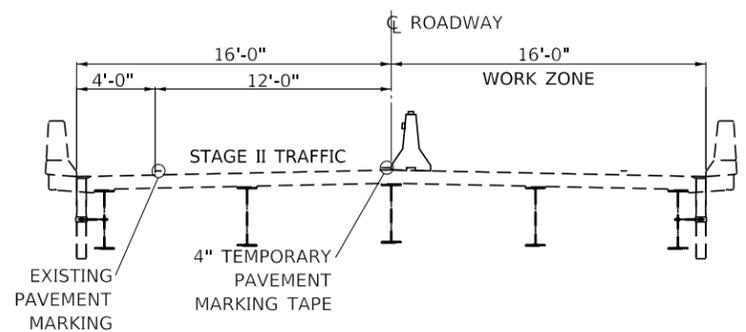
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

TEMPORARY PAVEMENT MARKING AS SHOWN ON THIS DETAIL, SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE STANDARD.

THE ARROW ON THE BACKSIDES OF DIRECTIONAL INDICATOR BARRICADES MUST BE REMOVED OR COVERED. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE APPLICABLE TRAFFIC CONTROL STANDARDS.

SYMBOLS

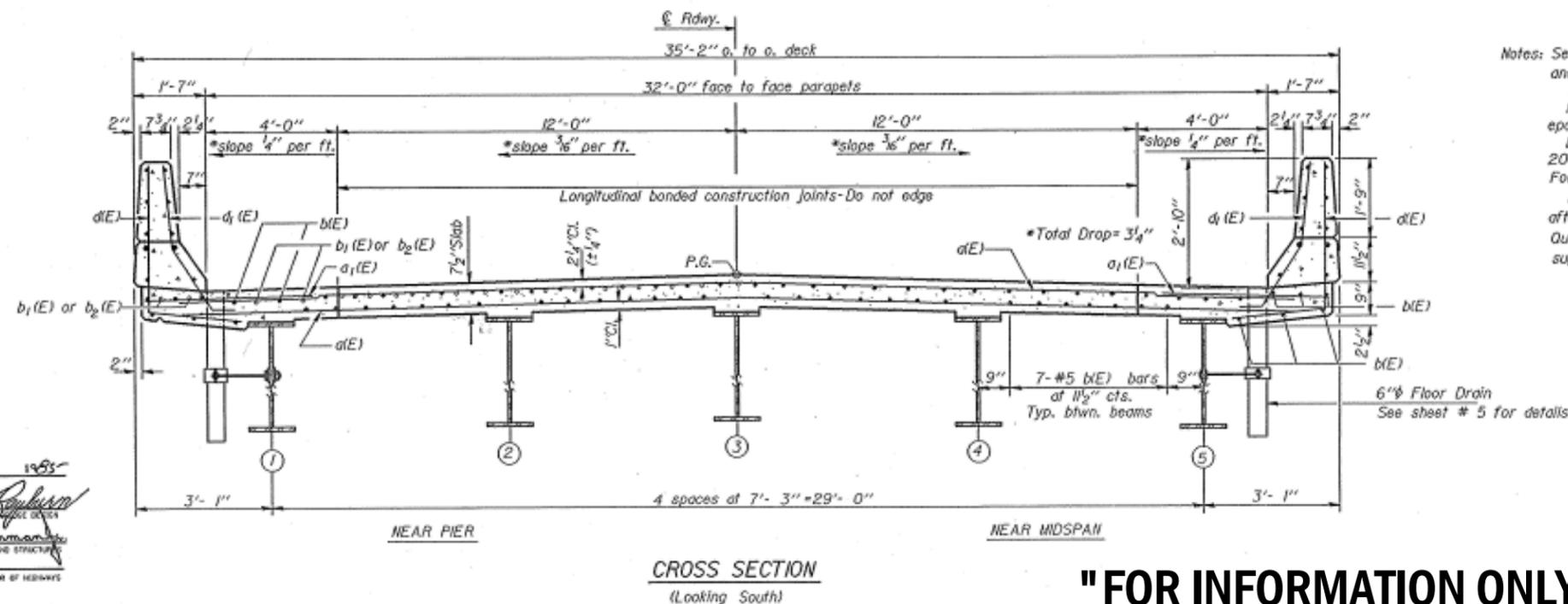
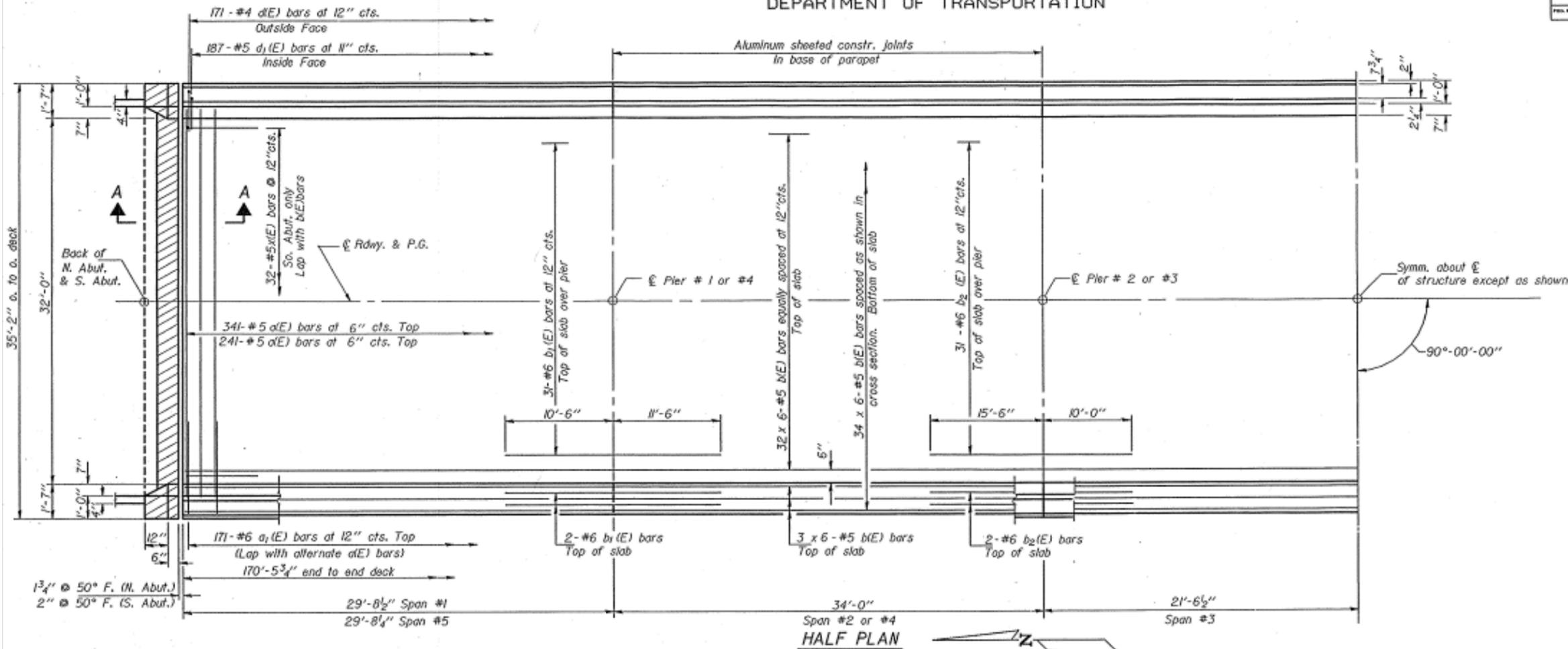
- WORK AREA
- SIGN
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TRAFFIC SIGNAL WITH BACKPLATE INSTALLED FOR STAGE I
- TEMPORARY IMPACT ATTENUATOR (NARROW)
- MICROWAVE DETECTOR INSTALLED FOR STAGE I
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT (TAPERS)
- DRUM (TANGENTS)
- TEMPORARY CONCRETE BARRIER
- CRYSTAL, BIDIRECTIONAL GUARDRAIL/BARRIER WALL REFLECTOR



CROSS SECTION STAGE II
LOOKING SOUTH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 4
F.A. 646	104C-BR	BUREAU	34	12	16 SHEETS
FED. AID PROJ. NO.	ILLINOIS	FED. AID PROJECT			



Notes: See sheet # 5 for superstructure details and Bill of Material.
See sheet # 1 for Floor Drain Spacing. Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line. For Sec. A-A, see sheet # 5.
Hatched area and curb end to be poured after superstructure formwork has been removed. Quantity of Class X Concrete billed with superstructure.
* Varies for Superelevation transition

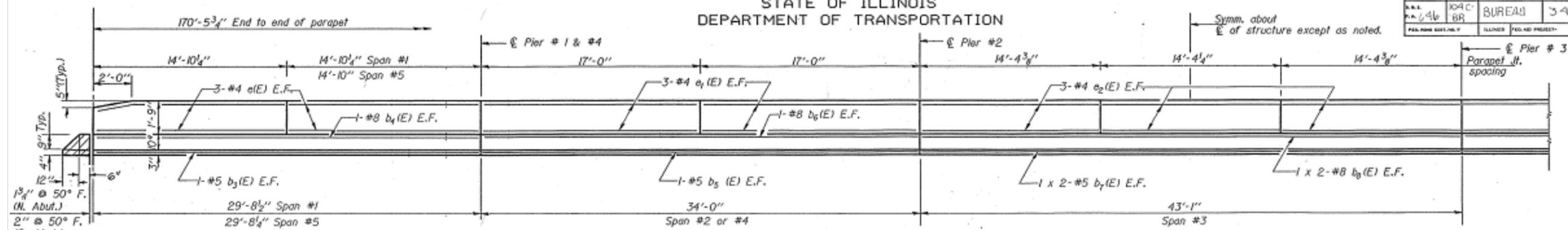
SUPERSTRUCTURE
F.A. RTE. 646 SEC. 104C-BR
BUREAU COUNTY
STA. 1447+17.56

"FOR INFORMATION ONLY"

DESIGNED Steven K. Dimes	EXAMINED James J. Reynolds
CHECKED Chhaganlal P. Patel	PASSED [Signature]
DRAWN F. Mercado	APPROVED [Signature]
CHECKED SKD CPP	

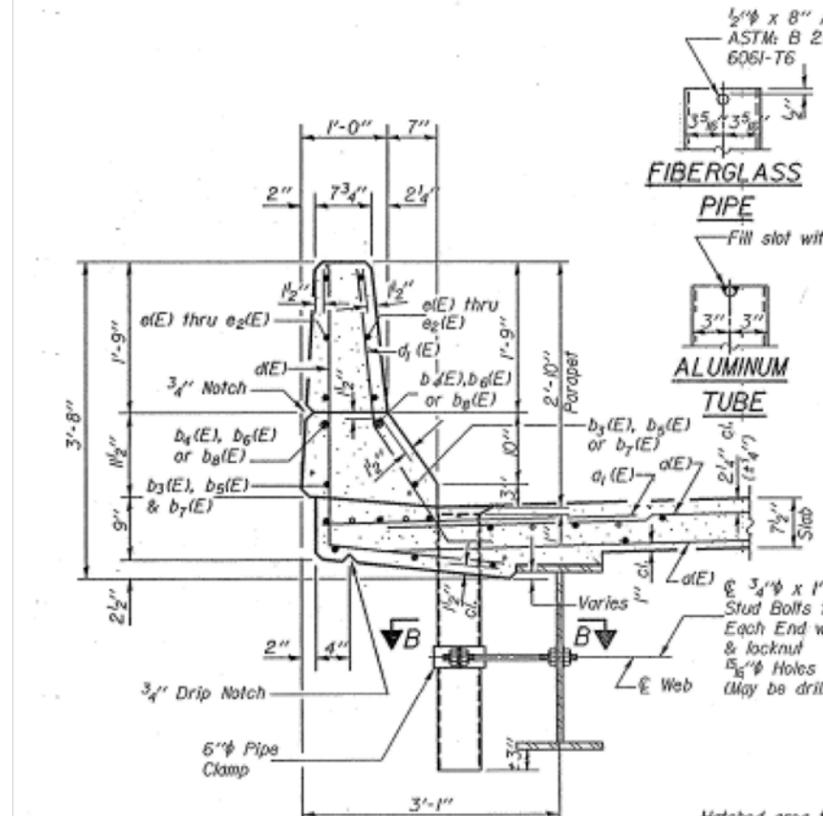
May 10 1985

FILE NAME =	USER NAME = woodyerp	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS "FOR INFORMATION ONLY"	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct:\pw_work\pwwid\woodyerp\0528528\66H81-cover.dgn	PLOT SCALE = 100.0000 / 1 in.	DRAWN - RW	REVISED -			646	(104C-BR)BP	BUREAU	15	10	
SMODELNAME =	PLOT DATE = 7/23/2018	CHECKED - JW	REVISED -			CONTRACT NO. 66H81					
		DATE - 5/31/2018	REVISED -			ILLINOIS	FED. AID PROJECT				

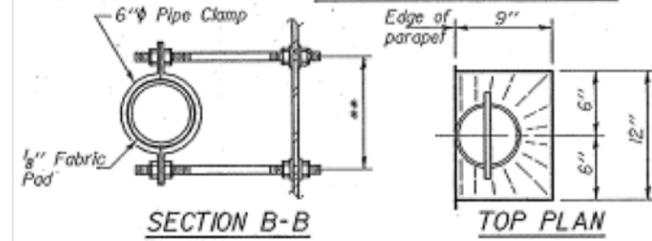


INSIDE ELEVATION OF PARAPET

(E.F. - Each Face)
(LOOKING EAST)

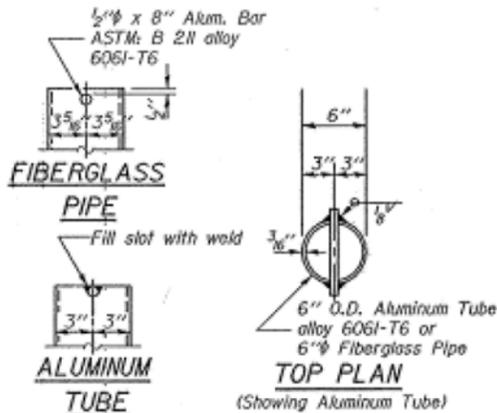


SECTION THRU PARAPET



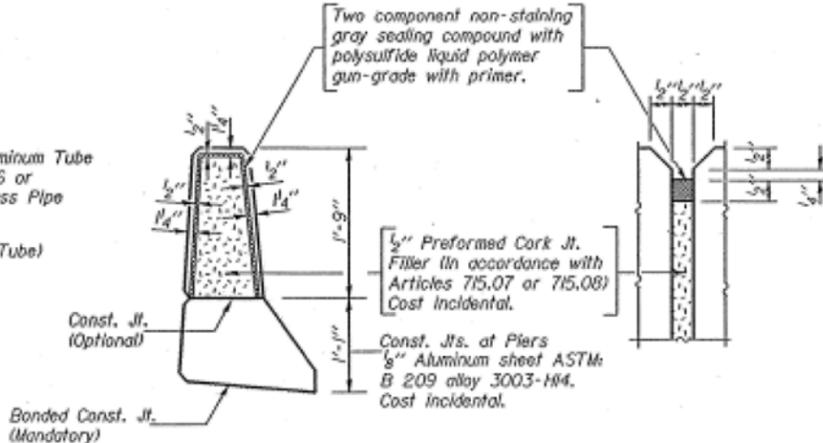
SECTION B-B

TOP PLAN



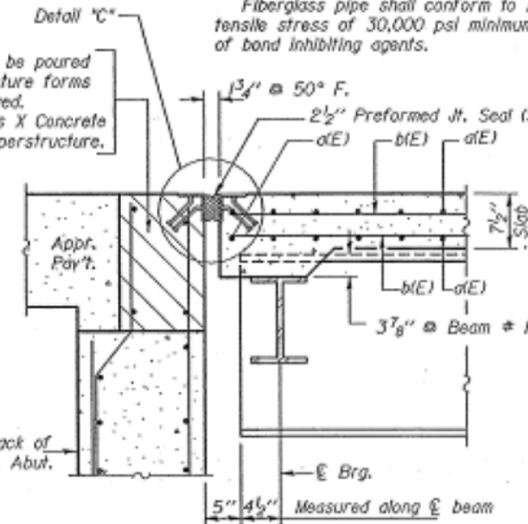
TOP PLAN

(Showing Aluminum Tube)

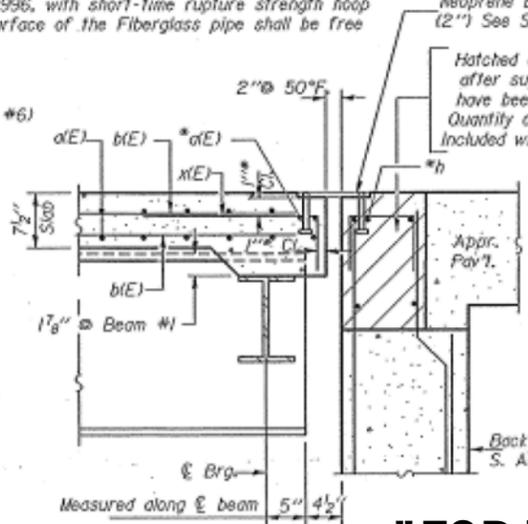


PARAPET JOINT DETAILS

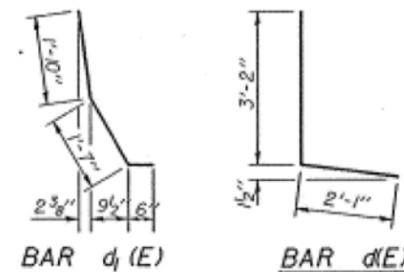
Notes:
The exterior surfaces of the floor drains shall be painted with a dark maroon vinyl enamel coat. The vinyl enamel coat may be applied in the shop with spot painting only in the field. The exterior surface of the Aluminum tube shall be cleaned and given a wash coat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SPI & SSPC-Paint 27 prior to painting.
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 psi minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.



SECTION A-A
(AT NORTH ABUT.)

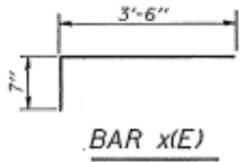


SECTION A-A
(AT SOUTH ABUT.)



BAR d1(E)

BAR d(E)



BAR x(E)

SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
d1(E)	582	#5	34'-0"	—	
d1(E)	342	#6	4'-0"	—	
d(E)	432	#5	29'-10"	—	
b1(E)	70	#6	22'-0"	—	
b2(E)	70	#6	25'-6"	—	
b3(E)	8	#5	29'-5"	—	
b4(E)	8	#8	29'-5"	—	
b5(E)	8	#5	33'-8"	—	
b6(E)	8	#8	33'-8"	—	
b7(E)	8	#5	22'-3"	—	
b8(E)	8	#8	23'-3"	—	
d(E)	342	#4	5'-3"	L	
d1(E)	374	#5	3'-11"	L	
e1(E)	48	#4	14'-6"	—	
e2(E)	48	#4	15'-8"	—	
e2(E)	36	#4	14'-1"	—	
x(E)	32	#5	4'-1"	—	
Reinforcement Bars (Epoxy Coated)				Lbs.	47,890
Class X Concrete				Cu. Yds.	185.9

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. ... indicates 20 lines of bars with 3 lengths per line.
See sht. #6 for Detail 'C'

SUPERSTRUCTURE DETAILS
F.A. RTE. 646 SEC. 104C-BR
BUREAU COUNTY
STA. 1447+17.56

DESIGNED: S. K. Deane
CHECKED: Chayantal P. Patel
DRAWN: F. Mercado
CHECKED: SKD
EXAMINED: James J. [Signature]
PASSED: [Signature]
APPROVED: [Signature]
DATE: 5/31/2018

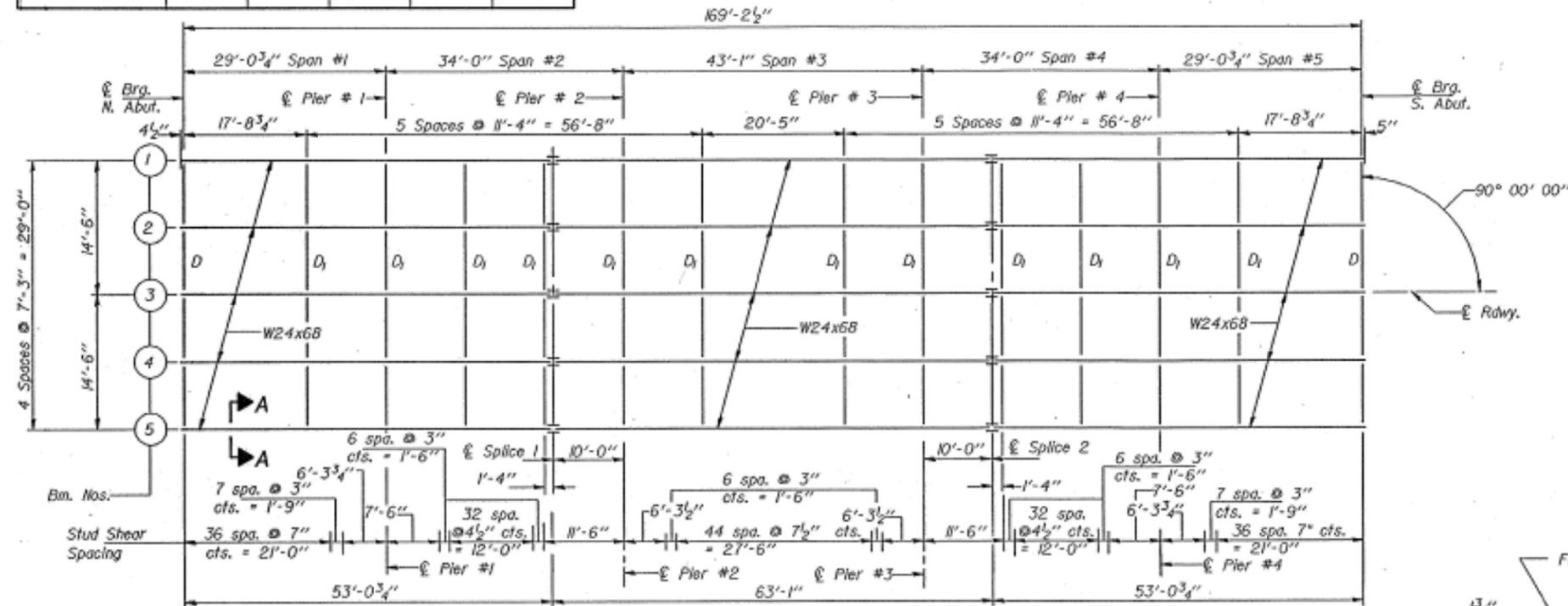
TOP OF FLANGE ELEVATIONS (For Fabrication Only)

	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
⊕ Brg. N. Abut.	649.04	649.16	649.27	649.16	649.04
⊕ Pier 1	649.13	649.25	649.36	649.25	649.13
⊕ Splice 1	649.20	649.33	649.44	649.33	649.20
⊕ Pier 2	649.21	649.34	649.45	649.34	649.21
⊕ Pier 3	649.28	649.40	649.51	649.40	649.28
⊕ Splice 2	649.29	649.42	649.53	649.42	649.29
⊕ Pier 4	649.21	649.37	649.52	649.46	649.39
⊕ Brg. S. Abut.	649.11	649.32	649.51	649.51	649.51

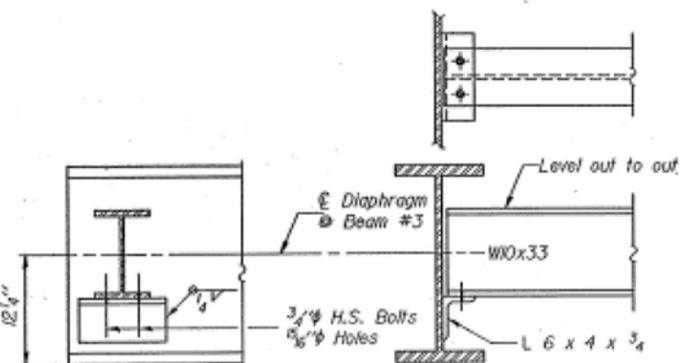
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	PROJECT	DATE	SHEET NO.
104C-BR	BUREAU	34	15	16 SHEETS

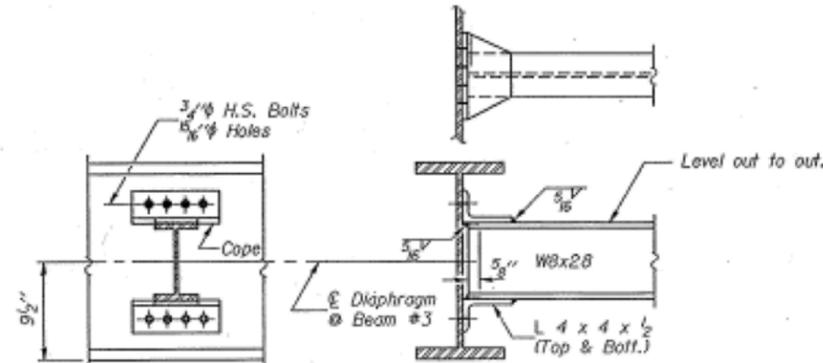
	.4 SPAN 1 & .6 SPAN 5	PIER 1 & 4 & .5 SPAN 4	.5 SPAN 2 & .5 SPAN 4	PIER 2 & 3	.5 SPAN 3
I_s (in ⁴)	1830	1830	1830	1830	1830
I_c (in ⁴)	6257	6257	6257	6257	6257
S_x (in ³)	154	154	154	154	154
S_y (in ³)	256	256	256	256	256
Q (K.FT)	.7813	.7813	.7813	.7813	.7813
$M \bar{P}$ (FT-K)	51	70	25	106	75
$S \bar{P}$ (K.FT)	.3453	.3453	.3453	.3453	.3453
$M_2 \bar{P}$ (FT-K)	26	23	21	36	44
$M \bar{L}$ (FT-K)	155	85	159	107	236
M_{AP} (FT-K)	46	25	48	32	71
S_3 (M L + I) (FT-K)	335	183	344	232	512
M_3 (FT-K)	536	360	507	485	822
M_{U_3} (FT-K)	1504		1504		1504
$f_s \bar{P}$ NON-COMP (KSI)	4.0	7.3	1.9	11.1	5.8
$f_s \bar{P}$ (COMP) (KSI)	1.2		1.0		2.1
$f_s S_3$ (L + I) (KSI)	15.7	14.3	16.1	18.0	24.0
f_s (OVERLOAD) (KSI)	20.9	21.6	19.0	29.1	31.9
f_s (TOTAL) (KSI)	27.2	28.1	24.7	37.8	41.6
V_R (K)	43.7		38.3		43.2



FRAMING PLAN



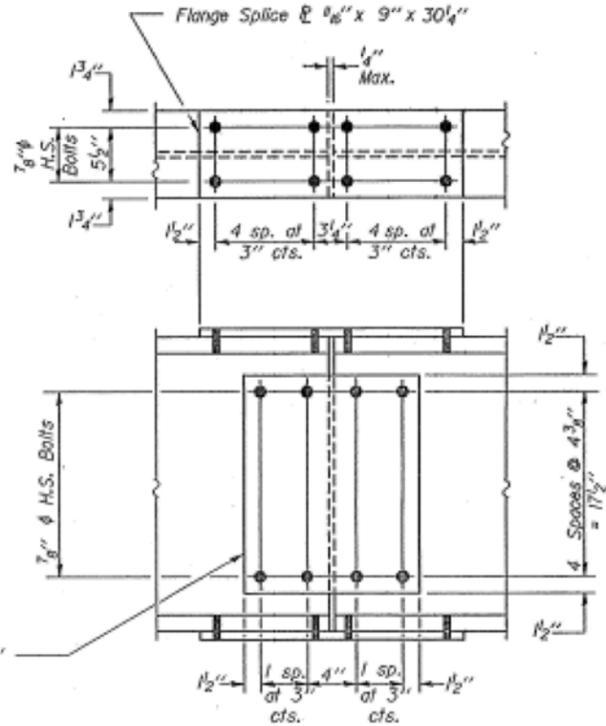
DIAPHRAGM D
8 Required



DIAPHRAGM D1
48 Required

Note: Two hardened washers shall be required over all 5/16 Holes.

DESIGNED	Straw K. Donnan	EXAMINED	James J. [Signature]
CHECKED	Chirag Patel	PASSED	[Signature]
DRAWN	E.V. Tauler	APPROVED	[Signature]
CHECKED	SKD CPP		

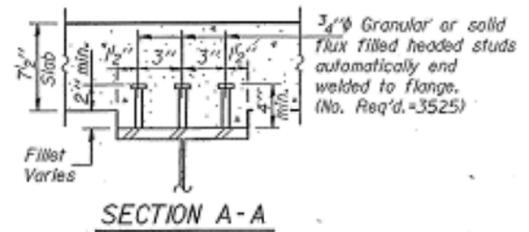


SPlice #1 & #2

	ABUTS.	PIERS 1 & 4	PIERS 2 & 3
$R \bar{P}$ (K)	13.1	37.3	44.9
$R \bar{L}$ (K)	31.0	39.5	41.7
Imp. (K)	9.3	11.8	12.5
R TOTAL (K)	53.4	88.6	99.1

* Values given are based upon service loads.

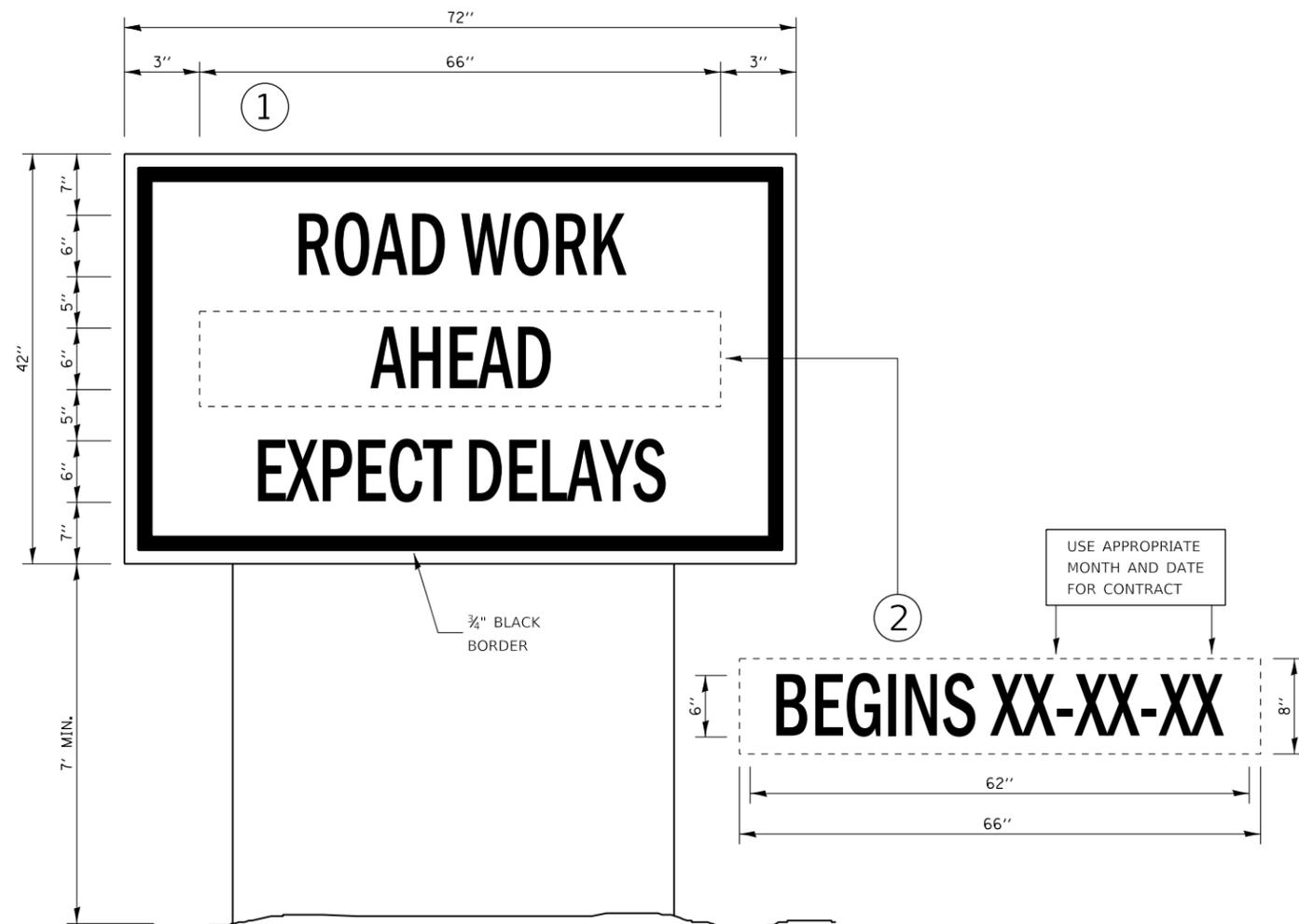
I_s and S_x are the moment of inertia and section modulus of the steel section used in computing f_s (TOTAL and OVERLOAD).
 I_c and S_y are the moment of inertia and section modulus of the composite section used in computing f_s (TOTAL and OVERLOAD).
 V_R is the maximum $\frac{1}{4}$ impact shear range in span.
 M_0 (APPLIED MOMENT) = $1.3 M \bar{P} + M_2 \bar{P} + S_3 (M \bar{L} + I)$.
 M_U is the full plastic moment capacity for compact, braced section, computed according to AASHTO 1.7.59(A) & 1.7.62(A).
 f_s (OVERLOAD) is the sum of the stresses due to $1.3 (M \bar{P} + M_2 \bar{P} + S_3 (M \bar{L} + I))$.
 f_s (TOTAL) is the sum of the stresses due to $1.3 (M \bar{P} + M_2 \bar{P} + S_3 (M \bar{L} + I))$.



SECTION A-A

"FOR INFORMATION ONLY"

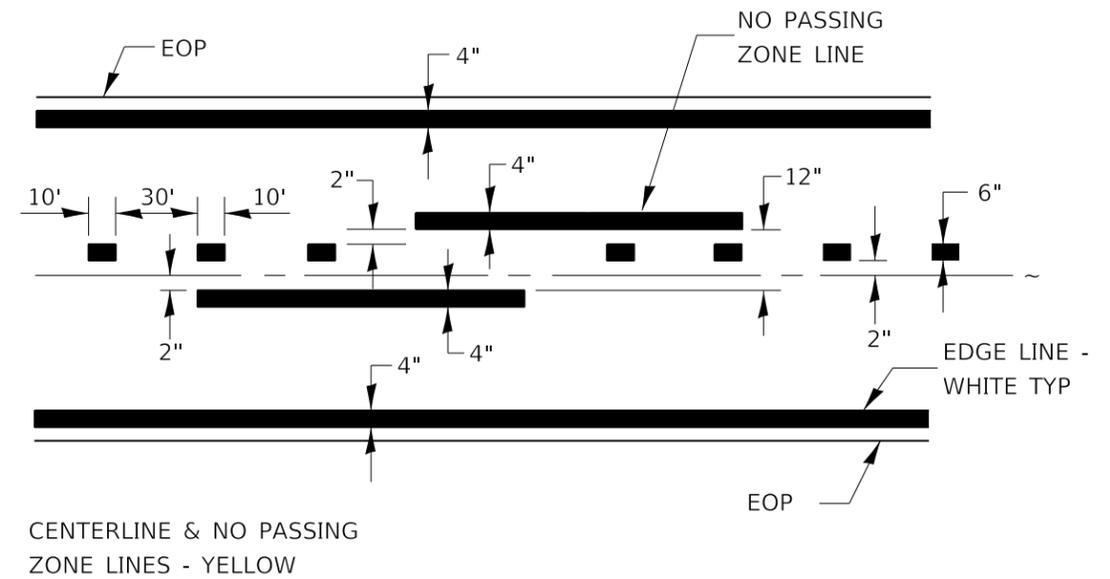
STRUCTURAL STEEL
F.A. RTE. 646 SEC. 104C-BR
BUREAU COUNTY
STA. 1447+17.56



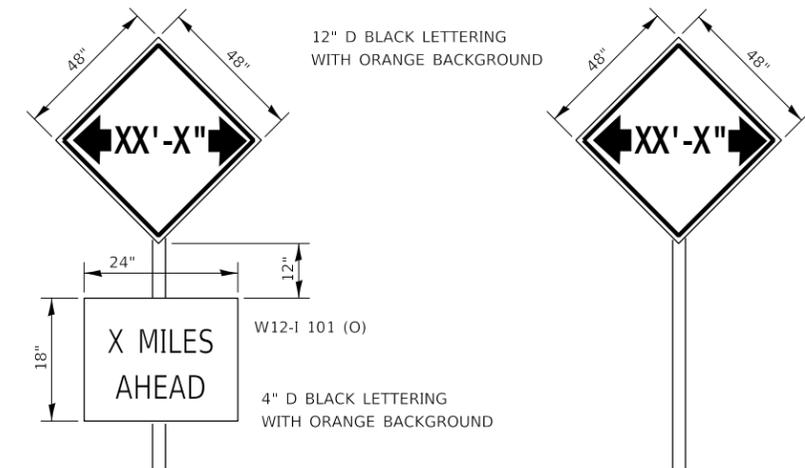
TEMPORARY INFORMATION SIGNING

NOTES:

1. USE 6" D BLACK LETTERING ON FLUORESCENT ORANGE BACKGROUND.
2. ERECT SIGNS AT LOCATIONS IN ADVANCE OF THE "ROAD CONSTRUCTION AHEAD" SIGNS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) A MINIMUM OF ONE WEEK PRIOR TO THE START OF THE LANE CLOSURE.
4. REMOVE PANEL (2) ON THAT DATE.
5. SEE SPECIAL PROVISION "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. WILL BE PAID FOR PER SQ FT AS "TEMPORARY INFORMATION SIGNING". EACH SIGN = 21 SQ FT AND THE DATE PANEL (2) WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.



PAVEMENT MARKING



TO BE POST MOUNTED AS SHOWN ELSEWHERE IN THE PLANS.

COST OF SUPPLYING, INSTALLING, MAINTAINING AND REMOVING WIDTH RESTRICTION SIGNS SHALL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION PAY ITEMS.

WIDTH RESTRICTION SIGNING DETAILS

FILE NAME =	USER NAME = woodyerjp	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cc:\pw_work\pwidot\woodyerjp\d0528528\66H81-cover.dgn	DRAWN - RW	REVISD -	646					(104C-BR)BP	BUREAU	15	15	
\$MODELNAME\$	PLOT SCALE = 100.0000' / in.	CHECKED - JW	REVISED -		CONTRACT NO. 66H81							
	PLOT DATE = 7/23/2018	DATE - 5/31/2018	REVISED -		SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.	ILLINOIS	FED. AID PROJECT