

# BALLARD CO., KY. / ALEXANDER CO., IL. CAIRO OHIO RIVER BRIDGE REPAIR PLANS

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## SPECIAL NOTES

Replacing Finger Joints with Modular Joints
Replacing Pourable Joints and/or Installing Armored Edges for Concrete on Bridges
Steel Bridge Railing Repairs
Bridge Restoration and Waterproofing with Concrete Overlays
Use of the Hydrodemolition Method
Bearing Lubrication
Painting Structural Steel Repairs
Traffic Control on Bridge Repair Contracts

## SPECIAL PROVISIONS

4 Welding Steel Bridges

## STANDARD DRAWINGS

[illegible]

## SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction with current Supplemental Specifications
2002 AASHTO Standard Specifications for Highway Bridges with current interims.

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		R.M. DAMON	
DETAILED BY: J.A. ROSE		D.E. RUST	
<b>Commonwealth of Kentucky</b> <b>DEPARTMENT OF HIGHWAYS</b>			
COUNTY			
<b>BALLARD</b>			
ROUTE	CROSSING		
<b>US 51</b>	<b>OHIO RIVER</b>		
<b><i>TITLE SHEET</i></b>			
PREPARED BY			SHEET NO.
<b>PALMER ENGINEERING CO.</b>			<b>S01</b>
			DRAWING NO.
			<b>28288</b>

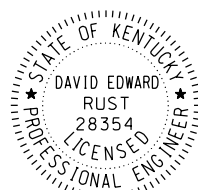
	ESTIMATE OF BRIDGE QUANTITIES																	MAINTENANCE OF TRAFFIC QUANTITIES										
BID ITEM CODE	02569	02568	08510	08534	24094EC	03304	08504	08549	08550	24983EC	03299	24610EC	03294	08151	24879EC	08106	08140		02004	02005	02014	02562	02650	02654	04933	06510	06568	25072EC
BID ITEM	DEMOBILIZATION	MOBILIZATION	REM EPOXY BIT FOREIGN OVERLAY	CONCRETE OVERLAY - LATEX	PARTIAL DEPTH PATCHING	BRIDGE OVERLAY APPROACH PAVEMENT	EPOXY-SAND SLURRY	BLAST CLEANING	HYDRODEMOLITION	BEARING LUBRICATION	ARMORED EDGE FOR CONCRETE	MODULAR EXPANSION JOINT	EXPANSION JOINT REPLACEMENT 1-1/2 IN	STEEL REINFORCEMENT-EPOXY COATED	STEEL REPAIR	CONCRETE CLASS M1	MECHANICAL REINF COUPLER #5 EPOXY COATED		RELOCATE WATER-FILLED BARRIERS	WATER-FILLED BARRIERS	BARRICADE-TYPE III	TEMPORARY SIGNS	MAINTAIN AND CONTROL TRAFFIC	TRUCK MOUNTED ATTENUATOR	TEMP SIGNAL 2 PHASE	PAVE STRIPING-TEMP PAINT-4 IN	PAVE MARKING-THERMO STOP BAR-24IN	RELOCATE TEMPORARY SIGNALS
UNIT	LS	LS	SQYD	CUYD	CUYD	SQYD	SQYD	SQYD	SQYD	EACH	LF	LF	LF	LB	EACH	CUYD	EACH		LF	LF	EACH	SQ FT	LS	EACH	EACH	LF	LF	LS
GENERAL	1	1																	8492	2670	8	1136	1	2	2	5892	144	1
REPAIR 1: REMOVE FINGER JOINTS AND INSTALL MODULAR JOINTS												113		7072		41	60											
REPAIR 2: REMOVE AND REPLACE EXPANSION JOINTS											23		405	2337			16											
REPAIR 3A: HANDRAIL REPAIRS															131													
REPAIR 3B: RAIL POST REPAIR															71													
REPAIR 3C: RAIL AND POST REPAIR AT FINGER JOINTS															10													
REPAIR 4: LATEX CONCRETE DECK OVERLAY			14665	611	261	191	3217	3217	14665					521														
REPAIR 5: CLEAN AND GREASE BEARINGS										42																		
BRIDGE TOTALS	1	1	14665	611	261	191	3217	3217	14665	42	23	113	405	9930	212	41	76		8492	2670	8	1136	1	2	2	5892	144	1



### LOCATION MAP

**BRIDGE SITE**  
**LATITUDE: 36°59'41" NORTH**  
**LONGITUDE: 89°08'41" WEST**

BRIDGE ID
004B00021N



DAVID EDWARD RUST  
P.E. 28354  
02/21/2020  
DATE

GENERAL NOTES

SPECIFICATIONS: REFERENCES TO THE SPECIFICATIONS ARE TO THE 2019 EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION INCLUDING ANY CURRENT SUPPLEMENTAL SPECIFICATIONS. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, WITH INTERIMS. ALL REFERENCES TO THE ASTM STANDARDS ARE TO THE CURRENT EDITION OF THE ASTM STANDARD SPECIFICATIONS, WITH INTERIMS.

DIMENSIONS: DIMENSIONS SHOWN ON THESE PLANS ARE TAKEN FROM THE ORIGINAL CONSTRUCTION CONTRACT PLANS AND DO NOT NECESSARILY REFLECT REVISIONS MADE DURING CONSTRUCTION OR REPAIRS PREVIOUSLY INSTALLED. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND DIMENSIONS, INCLUDING THICKNESS OF PARTS AND FASTENER SIZE/SPACING, WITH FIELD MEASUREMENTS PRIOR TO ORDERING MATERIALS OR FABRICATING STEELWORK. ALL PLAN DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60°F. LAYOUT DIMENSIONS ARE HORIZONTAL DIMENSIONS.

BRIDGE PLANS: A COPY OF AVAILABLE EXISTING BRIDGE PLANS WILL BE MADE AVAILABLE TO THE SUCCESSFUL BIDDER UPON WRITTEN REQUEST.

ON SITE INSPECTION: EACH CONTRACTOR SUBMITTING A BID FOR THIS WORK SHALL MAKE A THOROUGH INSPECTION OF THE BRIDGE AND THE WORK SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS SO THAT WORK CAN BE EXPEDITIOUSLY PERFORMED AFTER A CONTRACT IS AWARDED. A SUITABLE METHOD OF PERFORMING THE WORK DESCRIBED HEREIN SHOULD BE INVESTIGATED. SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE OF THIS INSPECTION HAVING BEEN MADE. ANY CLAIMS FROM SITE CONDITIONS WILL NOT BE HONORED BY THE DEPARTMENT OF HIGHWAYS.

VERIFYING FIELD CONDITIONS: PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE THE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK. IN ADDITION, THE OVERRUN AND UNDERRUN FORMULAS MAY BE APPLIED TO APPROPRIATE REPAIRS PROVIDED THAT THE REQUIREMENTS OF ARTICLE 104.02.02 OF THE STANDARD SPECIFICATIONS ARE SATISFIED.

COOPERATION BY CONTRACTOR: THE CONTRACTOR IS ADVISED THAT ADDITIONAL CONTRACTS MAY BE LET WITHIN THE PROJECT LIMITS PRIOR TO THE COMPLETION OF THIS PROJECT. CONTRACTORS WORKING ON THE SAME PROJECT OR ADJACENT PROJECTS SHALL COOPERATE WITH EACH OTHER.

MAINTAINING TRAFFIC: SEE MAINTENANCE OF TRAFFIC PLANS (SHEETS S11 AND M01-M33) AND THE \*SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS.

RIVER NAVIGATION: CONTINUOUS MAINTENANCE AND SAFETY OF RIVER NAVIGATION THROUGHOUT THE TERM OF THE PROJECT SHALL BE A PRIME CONSIDERATION. ALL WORK INVOLVING THE INSTALLATION OR REMOVAL OF THE STRUCTURAL ELEMENTS BENEATH THE BRIDGE DECK SHALL CEASE WHEN THERE IS APPROACHING RIVER TRAFFIC. THIS WORK SHALL NOT RESUME UNTIL THE RIVER TRAFFIC IS CLEAR OF THE BRIDGE AREA.

AT LEAST 30 DAYS IN ADVANCE OF BEGINNING CONSTRUCTION, THE SUCCESSFUL CONTRACTOR SHALL SUBMIT TO THE DEPARTMENT (FOR SUBMITTAL TO THE COAST GUARD) A WORK PLAN FOR PERFORMING WORK OVER THE OHIO RIVER. THIS WORK PLAN SHALL INCLUDE BUT IS NOT LIMITED TO METHODS FOR CONTAINING DEBRIS, DEBRIS REMOVAL FROM STREAM, AND MAINTENANCE OF EXISTING NAVIGATIONAL TRAFFIC DURING CONSTRUCTION.

THE CONTRACTOR MUST ADVISE THE COAST GUARD OF THE CONTRACTOR'S PROPOSED SCHEDULE OF WORK AT LEAST 10 DAYS PRIOR TO THE COMMENCEMENT OF ANY FIELD OPERATIONS. THE NOTIFICATION SHALL BE ADDRESSED TO:

WESTERN RIVERS BRIDGE BRANCH  
EIGHTH COAST GUARD DISTRICT  
1222 SPRUCE STREET, SUITE 2, 102D  
ST. LOUIS, MISSOURI 63103  
PHONE: 314-269-2378

FALL PROTECTION: PROVIDE FLOORING FOR WORKERS IN SITUATIONS WHERE THE DANGER FROM A FALL IS COMPOUNDED BY TRAFFIC AND FOR PROTECTION TO RIVER TRAFFIC BELOW. IF TEMPORARY FLOORING IS NECESSARY, THE FLOORING IS TO BE DESIGNED USING THE SUM OF DEAD LOAD AND LIVE VERTICAL LOADS. INCLUDE 50 PSF ON HORIZONTAL SURFACES AND THE WEIGHT OF ANY MATERIAL OR EQUIPMENT THAT IS PLACED OR ALLOWED TO FALL DURING CONSTRUCTION OR DEMOLITION IN THE LIVE LOAD COMPUTATION. SUBMIT THE FLOORING DESIGN ALONG WITH THE FALSEWORK DESIGN TO THE ENGINEER FOR APPROVAL. CONSIDER ALL PHASES OF FURNISHING AND REMOVING THE FLOORING AS INCIDENTAL TO THE CONTRACT. THIS ITEM MAY BE CONSIDERED IN ADDITION TO ANY REQUIREMENT SET FORTH IN SUBSECTION 107.01.01 OF THE SPECIFICATIONS.

REINFORCEMENT: DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. USE STIRRUP BEND DIAMETERS FOR BARS DESIGNATED BY SUFFIX (S) IN A BILL OF REINFORCEMENT.

EPOXY COATED REINFORCING STEEL: ALL PROPOSED REINFORCING BARS IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE SPECIFICATIONS.

EXISTING STEEL REINFORCEMENT: THE COST OF CUTTING, BENDING, AND CLEANING EXISTING STEEL REINFORCEMENT SHALL BE INCIDENTAL TO THE REPAIR ITEM BEING COMPLETED.

BEVELED EDGES: BEVEL ALL EXPOSED EDGES ¼", UNLESS OTHERWISE NOTED.

MILL TEST REPORTS: NOTARIZED MILL TEST REPORTS SHALL BE FURNISHED IN TRIPLICATE TO THE DEPARTMENT SHOWING THAT ALL STRUCTURAL STEEL CONFORMS TO THE REQUIREMENTS OF THE SPECIFICATIONS.

WELDING SPECIFICATIONS: ALL WELDING AND WELDING MATERIALS EXCEPT FOR REINFORCEMENT, SHALL CONFORM TO "JOINT SPECIFICATION ANSI/AASHTO/AWS D1.5-2015 BRIDGE WELDING CODE". MODIFICATION AND ADDITIONS AS STATED ON THE PLANS SHALL SUPERSEDE THE JOINT SPECIFICATIONS.

PROHIBITED FIELD WELDING: EXCEPT WHERE SHOWN IN THE PLANS, NO WELDING OF ANY NATURE SHALL BE PERFORMED ON THE LOAD CARRYING MEMBERS OF THE BRIDGE WITHOUT THE WRITTEN CONSENT OF THE DIRECTOR, DIVISION OF BRIDGE MAINTENANCE, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE AUTHORIZATION.

WELDING REINFORCEMENT: THE WELDING AND WELD MATERIAL SHALL CONFORM TO THE "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL", AMERICAN WELDING SOCIETY SPECIFICATIONS, CURRENT EDITION. NO DIRECT PAYMENT SHALL BE MADE FOR WELDING OR WELD MATERIAL, BUT THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE REPAIR BEING COMPLETED.

WELDING PROCEDURES: QUALIFICATION TEST OF ALL WELDING PROCEDURES, WHEN REQUIRED BY AWS, SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL APPROVAL OF THE SHOP DRAWINGS AND THE START OF THE FABRICATION.

WELD SIZES: UNLESS SPECIFIED OTHERWISE, USE THE FOLLOWING FILLET WELD SIZES:

MATERIAL THICKNESS OF THICKER PART JOINED (IN.)	MINIMUM SIZE OF FILLET WELD (IN.)
TO 1/4" INCLUSIVE	1/8"
OVER 1/4" TO 1/2"	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4"	5/16"

REMOVAL OF EXISTING RIVETS AND BOLTS: THE CONTRACTOR WILL BE PERMITTED TO REMOVE RIVETS IN ANY MANNER THAT DOES NOT DAMAGE ADJACENT STRUCTURAL STEEL. THIS MAY INCLUDE MECHANICAL REMOVAL OR OTHER METHODS APPROVED BY THE ENGINEER. USE OF CUTTING TORCHES WILL NOT BE PERMITTED.

HIGH STRENGTH BOLT CONNECTIONS: UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL BOLTED CONNECTIONS SHALL BE ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS, A563DH NUTS, AND F436 FLAT WASHERS. OPEN HOLES SHALL BE 1/16" INCH GREATER THAN THE BOLT DIAMETER, UNLESS OTHERWISE NOTED. BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANE IN ALL BOLTED CONNECTIONS, UNLESS OTHERWISE NOTED. FROM AVAILABLE ORIGINAL DESIGN DRAWING INFORMATION, THE EXISTING RIVET SIZES BELOW ARE ANTICIPATED AND SHALL BE REPLACED WHERE NOTED WITH HIGH STRENGTH BOLTS OF EQUAL SIZE. CONTRACTOR TO VERIFY PRIOR TO ORDERING MATERIALS. 7/8" DIA. IN STRINGERS, FLOORBEAMS, BRACKETS, CROSSFRAMES, ETC. AND CONNECTIONS RIVETED TO SAME. 1" DIA. IN GIRDER, LATERALS, AND CONNECTIONS RIVETED TO GIRDER.

ANY HOLES IN STEEL MEMBERS THAT ARE NOT SPECIFIED TO RECEIVE ANY OTHER CONNECTED PART SHALL BE FILLED WITH A HIGH STRENGTH BOLT THAT IS TENSIONED PER THE SPECIFICATIONS.

TYPE I MECHANICALLY GALVANIZED BOLTS SHALL BE USED AS DESCRIBED IN AASHTO M 164, ALL HIGH STRENGTH BOLTED CONNECTIONS ARE TO BE INSTALLED USING "DIRECT TENSION INDICATORS" (DTI's) IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND ASTM F959. ALL DTI's SHALL BE MECHANICALLY ZINC COATED. INSTALLATION DETAILS OF THE DTI's SHALL BE SHOWN ON THE SHOP PLANS.

SHOP DRAWINGS: SUBMIT SHOP DRAWINGS DIRECTLY TO THE CONSULTANT. WHEN ANY CHANGES IN THE DESIGN PLANS ARE PROPOSED BY THE FABRICATOR OR SUPPLIER, SUBMIT THOSE CHANGES TO THE CONSULTANT.

SUBMIT FINAL APPROVED SHOP DRAWINGS TO THE ENGINEER.

CLEANING AND PAINTING: REFER TO THE SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS.

PAINTING DAMAGED AREAS: ALL AREAS OF NEW OR EXISTING STRUCTURAL STEEL ON WHICH THE PAINT HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE CLEANED AND SPOT PAINTED TO THE SATISFACTION OF THE ENGINEER AND IN ACCORDANCE WITH THE SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS. THE COST OF THIS TOUCH-UP PAINTING IS TO BE INCIDENTAL TO THE CONTRACT.

DISPOSAL OF MATERIALS: ALL MATERIALS AND DEBRIS REMOVED FROM OR BENEATH THE BRIDGE OR APPROACHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE RIGHT-OF-WAY.

CONSTRUCTION IDENTIFICATION: THE NAMES OF THE PRIME CONTRACTOR AND THE SUB-CONTRACTOR SHALL BE IMPRINTED IN THE CONCRETE WITH 1" LETTERS AT A LOCATION DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

UTILITIES: UTILITIES MAY BE ON THE BRIDGE OR IN THE EXISTING PLINTH AND ARE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, DEACTIVATE AND COORDINATE ACTIVITIES WITH THE UTILITY OWNER.

STABILITY OF THE STRUCTURE: THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE FROM THE TIME OF MOBILIZATION UNTIL AFTER THE BRIDGE HAS BEEN REOPENED TO NORMAL TRAFFIC FOLLOWING COMPLETION OF ALL WORK REQUIRED IN THE CONTRACT.

DAMAGE OUTSIDE CONSTRUCTION LIMITS: ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF THE CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE, SHOULD SUCH DAMAGE RESULT FROM THE CONTRACTOR'S ACTIONS.

DAMAGE TO THE STRUCTURE: THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY AND EXPENSE FOR REPAIR OF ANY AND ALL DAMAGES TO THE STRUCTURE, SHOULD SUCH DAMAGE RESULT FROM THE CONTRACTOR'S ACTIONS. AFTER COMPLETION OF ALL OPERATIONS, THE STRUCTURE AND SITE SHALL BE LEFT IN A CONDITION THAT IS IN ACCORDANCE WITH SECTION 105.12 OF THE SPECIFICATIONS.

CONSTRUCTION LOAD: THE CONTRACTOR SHALL ABIDE BY THE BRIDGE POSTING LIMITS. STORAGE OF MATERIAL ON THE BRIDGE IS PROHIBITED.

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	R.M. DAMON	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
GENERAL NOTES		
PREPARED BY		SHEET NO. S02
PALMER ENGINEERING CO.		DRAWING NO. 28288

BRIDGE NUMBER
004B00021N

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2/21/2020

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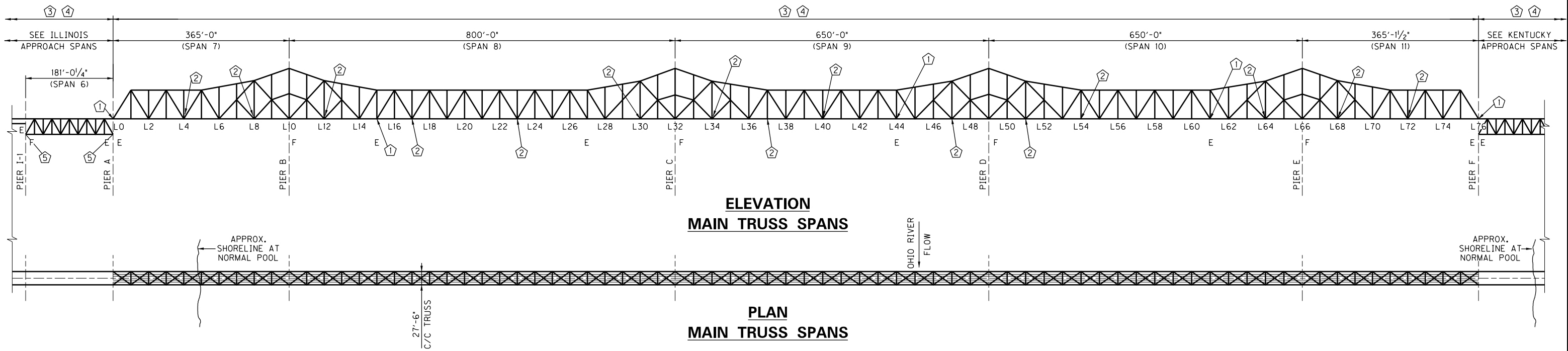
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USER: david-r

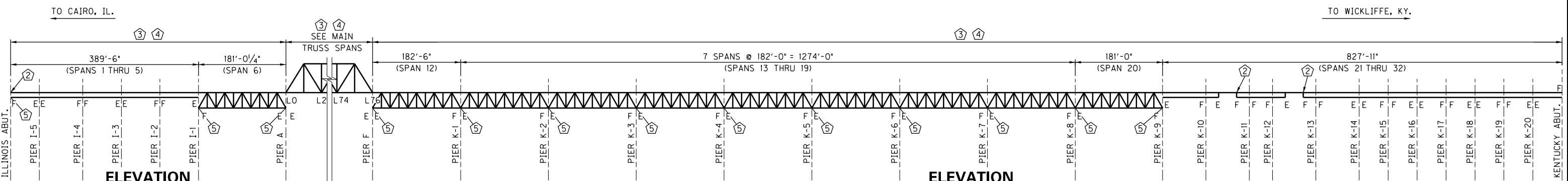
E-SHEET NAME:

DATE PLOTTED: February 13, 2020



ELEVATION  
MAIN TRUSS SPANS

PLAN  
MAIN TRUSS SPANS



ELEVATION  
ILLINOIS APPROACH SPANS

PLAN  
ILLINOIS APPROACH SPANS

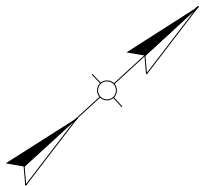
ELEVATION  
KENTUCKY APPROACH SPANS

PLAN  
KENTUCKY APPROACH SPANS

REPAIRS

- ① REMOVE FINGER JOINTS AND INSTALL MODULAR JOINTS
- ② REMOVE AND REPLACE EXPANSION JOINTS
- ③ BRIDGE RAILING REPAIRS
- ④ LATEX CONCRETE DECK OVERLAY
- ⑤ CLEAN AND GREASE BEARINGS- SEE TABLE FOR QUANTITIES

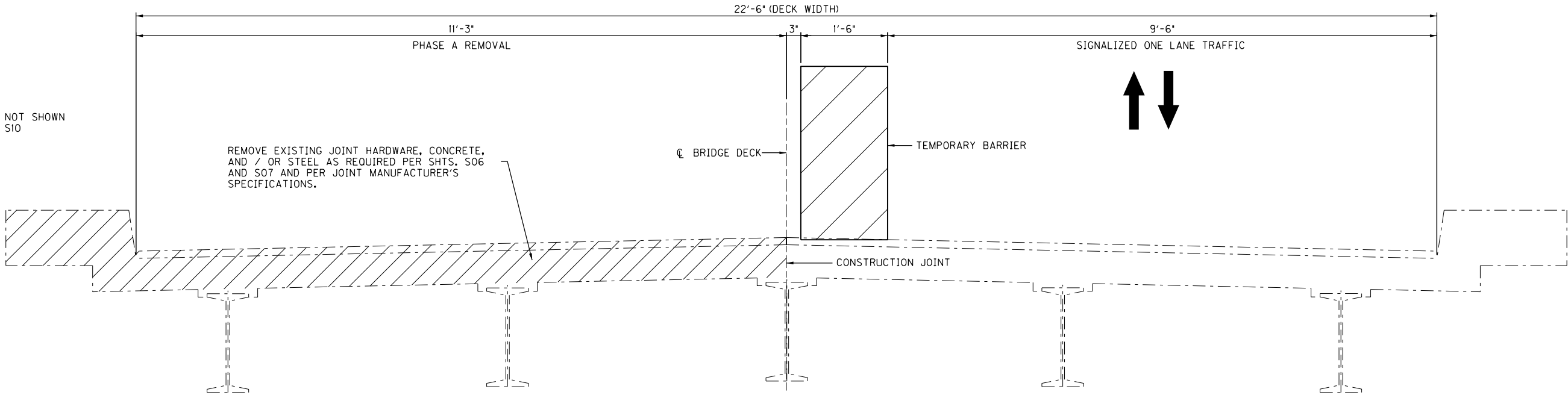
BEARING LUBRICATION QUANTITIES	
PIER	NUMBER OF BEARINGS
IL-ABUT	2
I-1	2
A	2
F	2
K-1	4
K-2	4
K-3	4
K-4	4
K-5	4
K-6	4
K-7	4
K-8	4
K-9	2



REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: L.M. SALLEE	D.E. RUST	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
LAYOUT - REPAIR LOCATIONS		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		S03
		DRAWING NO.
		28288

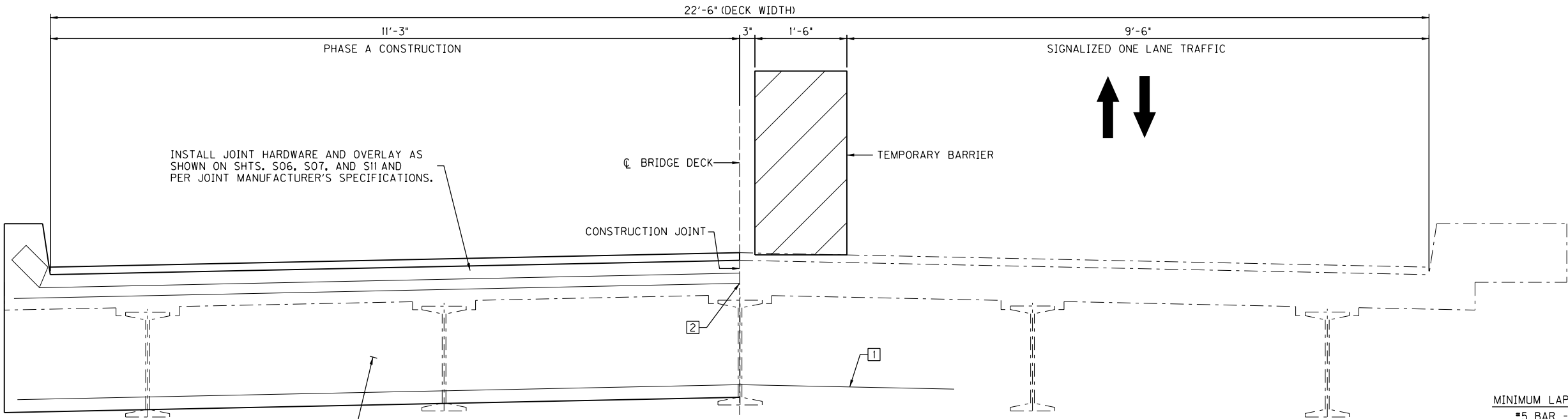
BRIDGE NUMBER
004B00021N

RAIL POST DETAILS NOT SHOWN  
SEE SHTS. S09 AND S10



**PHASE A REMOVAL AT JOINT REPLACEMENT**  
(MOT ZONE 2)

RAIL POST DETAILS NOT SHOWN  
SEE SHTS. S09 AND S10



**PHASE A CONSTRUCTION AT JOINT REPLACEMENT**  
(MOT ZONE 2)

INSTALL CONCRETE DIAPHRAGM AS SHOWN  
ON SHTS. S06 AND S07.

REINFORCEMENT THAT DOES NOT CROSS THE  
CONSTRUCTION JOINT NOT SHOWN FOR CLARITY

MINIMUM LAP SPLICES  
#5 BAR - 2'-8"  
#6 BAR - 3'-6"

- 1 EXTEND CONCRETE DIAPHRAGM REINFORCEMENT, 6D01, ONE LAP LENGTH FROM THE FACE OF THE PHASE "A" CONCRETE. CONTRACTOR HAS THE OPTION TO USE MECHANICAL COUPLERS.
- 2 INSTALL MECHANICAL COUPLERS FOR 5D02 BARS.

BRIDGE NUMBER	PREPARED BY	SHEET NO. S04
004B00021N	PALMER ENGINEERING CO.	DRAWING NO. 28288

2/27/24 PM

2/21/2020

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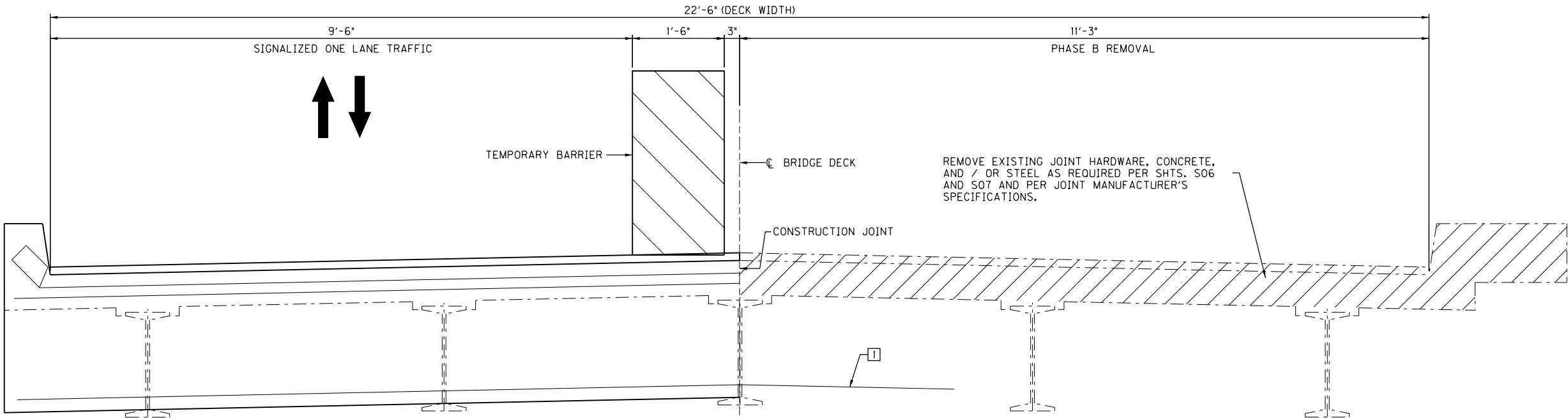
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FILE NAME: J:\KDOT\OHIO RIVER BRIDGE INSPECTIONS 18-19\2. CAIRO\REPAIR PLANS\DONASS.CAIRO.MOT\_TYPICAL-02.DGN

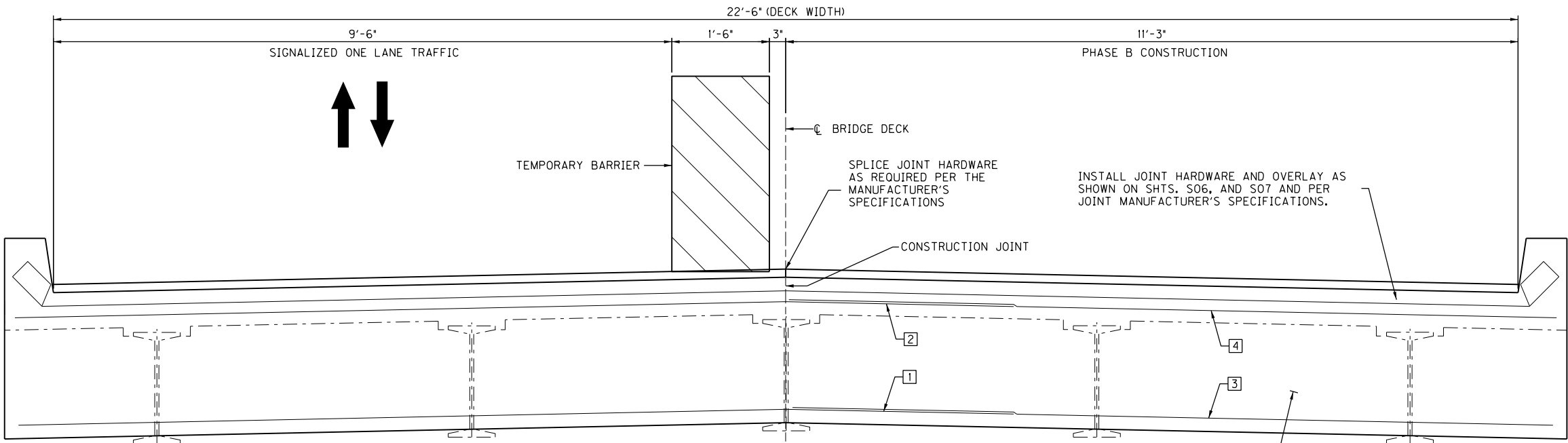
USER: jeff-r  
DATE PLOTTED: February 13, 2020

RAIL POST DETAILS NOT SHOWN  
SEE SHTS. S09 AND S10



**PHASE B REMOVAL AT JOINT REPLACEMENT**  
(MOT ZONE 2)

RAIL POST DETAILS NOT SHOWN  
SEE SHTS. S09 AND S10



**PHASE B CONSTRUCTION AT JOINT REPLACEMENT**  
(MOT ZONE 2)

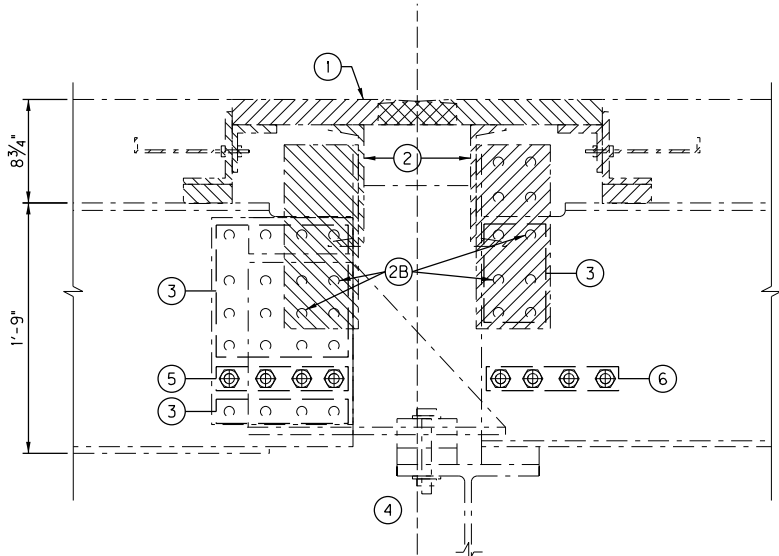
REINFORCEMENT THAT DOES NOT CROSS THE  
CONSTRUCTION JOINT OR LAP WITH REINFORCEMENT  
THAT CROSSES THE CONSTRUCTION JOINT  
NOT SHOWN FOR CLARITY

INSTALL CONCRETE DIAPHRAGM AS SHOWN  
ON SHTS. S06 AND S07.

- 1 6D01 EXTENDED LAP FROM PHASE A
- 2 5D02 EXTENDED LAP FROM PHASE A
- 3 6D01 SPLICE WITH PHASE A BARS
- 3 5D02 SPLICE WITH PHASE A BARS

BRIDGE NUMBER		SHEET NO. <b>S05</b>	
004B00021N			DRAWING NO. <b>28288</b>

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: R.M. DAMON	D.E. RUST	
DETAILED BY: J.A. ROSE	R.M. DAMON	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
FINGER DAMS – PHASE B		
PREPARED BY		SHEET NO. S05
PALMER ENGINEERING CO.		DRAWING NO. 28288

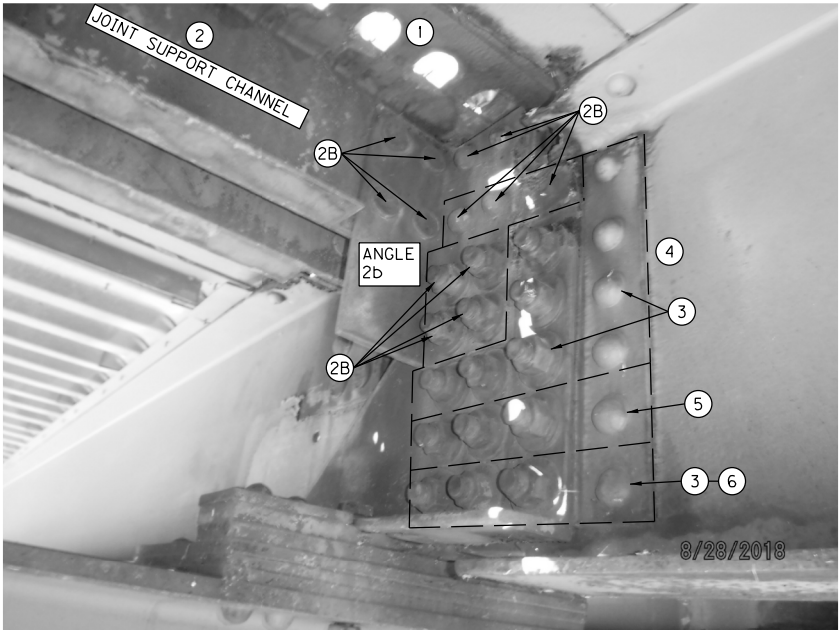


EXISTING SECTION FOR JOINT  
AT L15, L44, L61

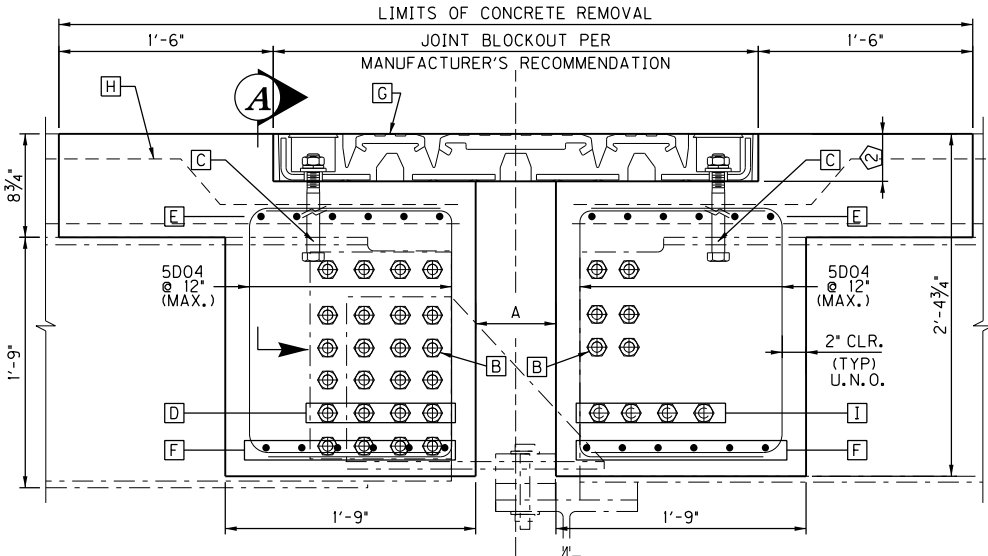
- 1 REMOVE CONCRETE TO THE EXTENT OF THE BLOCKOUTS SHOWN ON THIS SHEET AND SHTS. S04-S05. EDGES OF CONCRETE SHALL BE NEAT AND SQUARE. STEEL EXTENDING INTO BLOCKOUT SHALL REMAIN AND BE CLEANED FREE OF DEBRIS AND RUST. REMOVE FINGER PLATES.
- 2 REMOVE CHANNELS BY REMOVING RIVETS ON CONNECTION ANGLE 2b
- 2B REMOVE RIVETS ATTACHING ANGLE 2b TO STRINGER AND REMOVE ANGLE 2b
- 2C REMOVE CONNECTION ANGLES AND SPACERS
- 3 REPLACE BOLTS IN-KIND, REPLACE RIVETS WITH EQUIVALENT DIAMETER HIGH STRENGTH BOLTS TENSIONED PER THE STANDARD SPECIFICATIONS. REMOVE AND REPLACE ONE BOLT AT A TIME.
- 4 CLEAN RUST AT STRINGER ENDS WITHIN THE EXTENTS OF THE CONCRETE DIAPHRAGM.
- 5 REMOVE RIVETS AND REPLACE WITH 3/4"x 24" ALL THREAD WITH NUTS AND TENSION PER THE STANDARD SPECIFICATIONS ON EACH FACE OF THE STRINGER PER DETAIL THIS SHEET.
- 6 CONTRACTOR'S OPTION, DRILL 7/8" DIA. HOLES AND INSTALL ALL THREAD AS IN NOTE 5 OR INSTALL 3/4"x 6" HEADED STUDS AT SAME SPACING AND LOCATION AS IN NOTE 5.

NOTES:

1. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY MEMBERS TO REMAIN. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. SEE \*SPECIAL NOTE FOR REPLACING FINGER JOINTS WITH MODULAR JOINTS FOR PAINTING REQUIREMENTS AND ADDITIONAL INFORMATION.



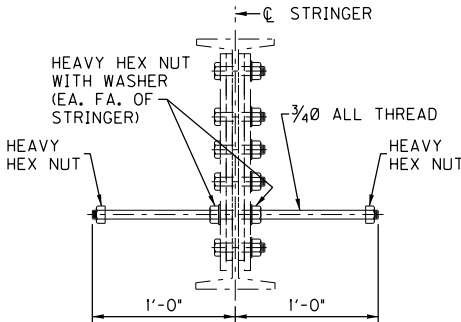
FINGER JOINT REMOVAL AND STRINGER PREPARATION



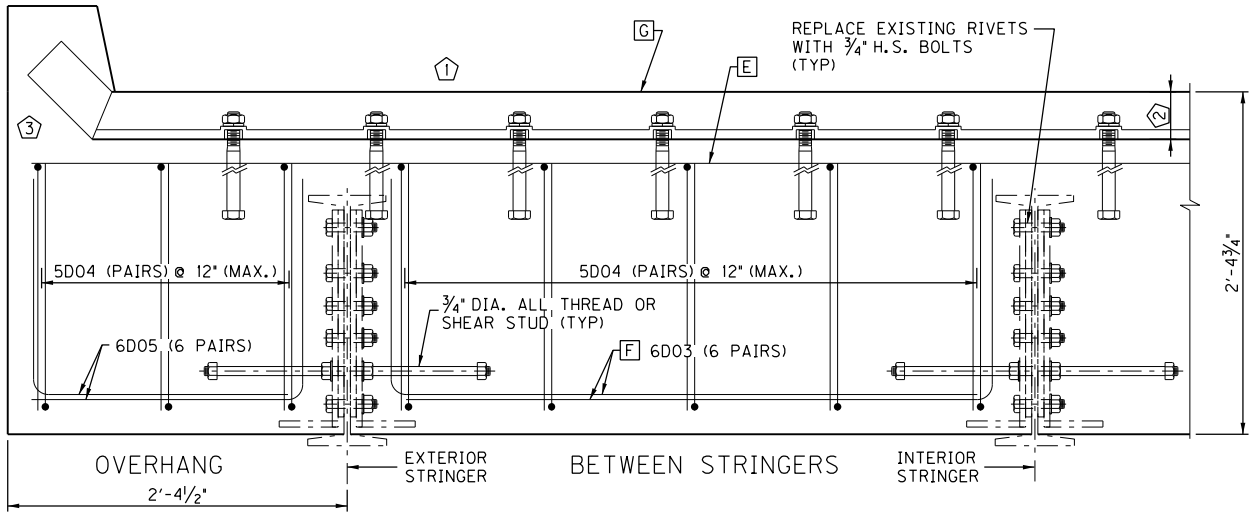
PROPOSED SECTION FOR JOINT  
AT L15, L44, L61

- [A] SEE JOINT SETTING TABLE
- [B] NEW H.S. BOLTS TO REPLACE RIVETS (TYP)
- [C] ANCHOR BOLTS OVER STRINGER TOP FLANGES SHALL BE BOLTED TO TOP FLANGE
- [D] REMOVE RIVETS AND REPLACE WITH 3/4"x 24" ALL THREAD WITH NUTS TENSIONED PER THE STANDARD SPECIFICATIONS ON EACH FACE OF THE STRINGER.
- [E] 5D02 s/w 5D02 SPACED AT 3" C/C.
- [F] 6D03 OR 6D05 BETWEEN STRINGERS
- [G] WATSON BOWMAN ACME WABOFLEX SR-9 OR EQUIVALENT SYSTEM. INSTALL PER MANUFACTURER'S SPECIFICATIONS
- [H] FIELD BEND EXISTING SLAB REINFORCEMENT AS REQ'D.
- [I] CONTRACTOR'S OPTION: DRILL 7/8" DIA. HOLES AND INSTALL ALL THREAD AS IN NOTE D OR INSTALL 3/4"x 6" HEADED STUDS IN THE SAME SPACING AND LOCATION AS IN NOTE D.

MARK	TYPE	NUMBER	SIZE	LENGTH		LOCATION	BEND DIMENSIONS	
				FT	IN		A ft./in.	B ft./in.
6D01(E)	not used							
5D02(E)	STR.	72	# 5	13	3	Top Diaphragm Bar		
6D03(S)(E)	5	144	# 6	5	8	Diaphragm Bars In Bays	1'-8"	4'-0"
5D04(S)(E)	2	144	# 5	4	5	Diaphragm Stirrups	1'-4-1/2"	1'-8"
6D05(S)(E)	5	72	# 6	3	6	Overhang diaphragm bars	1'-8"	1'-10"

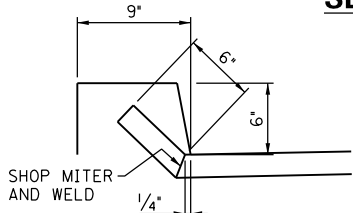


THREADED ROD DETAIL



SECTION "A"

- 1 ANCHOR SPACING SHOWN IS APPROXIMATE. INSTALL ANCHORS PER MANUFACTURER'S SPECIFICATIONS.
- 2 BLOCKOUT PER MANUFACTURER'S RECOMMENDATIONS
- 3 GUARDRAIL ANCHORAGE NOT SHOWN. SEE SHEETS S09 AND S10 FOR DETAILS.



CURB UPTURN DETAIL

DIMENSIONS SHOWN ARE APPROXIMATE. UPTURN JOINT IN CURB PER MANUFACTURER'S RECOMMENDATIONS.

TEMPERATURE (DEGREES F)	[A] JOINT SETTING TABLE		
	L15	L44	L61
30	7-3/8"	8-1/16"	8-1/16"
40	7"	7-7/16"	7-7/16"
50	6-5/8"	6-7/8"	6-7/8"
60	6-1/4"	6-1/4"	6-1/4"
70	5-7/8"	5-5/8"	5-5/8"
80	5-1/2"	5-1/16"	5-1/16"
90	5-1/8"	4-7/16"	4-7/16"
100	4-3/4"	3-13/16"	3-13/16"

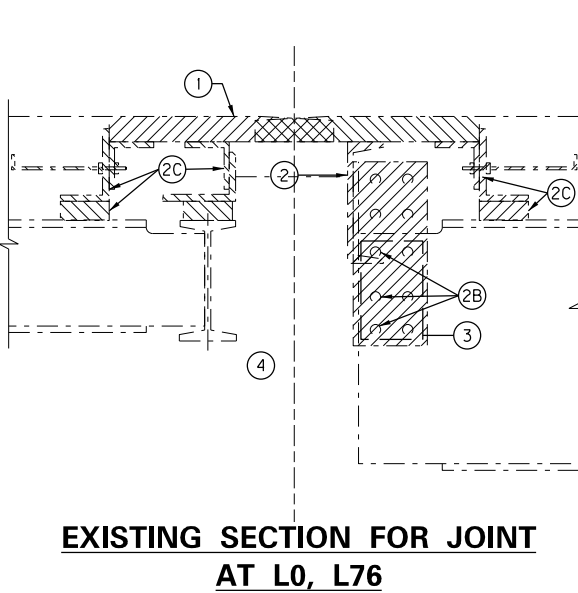
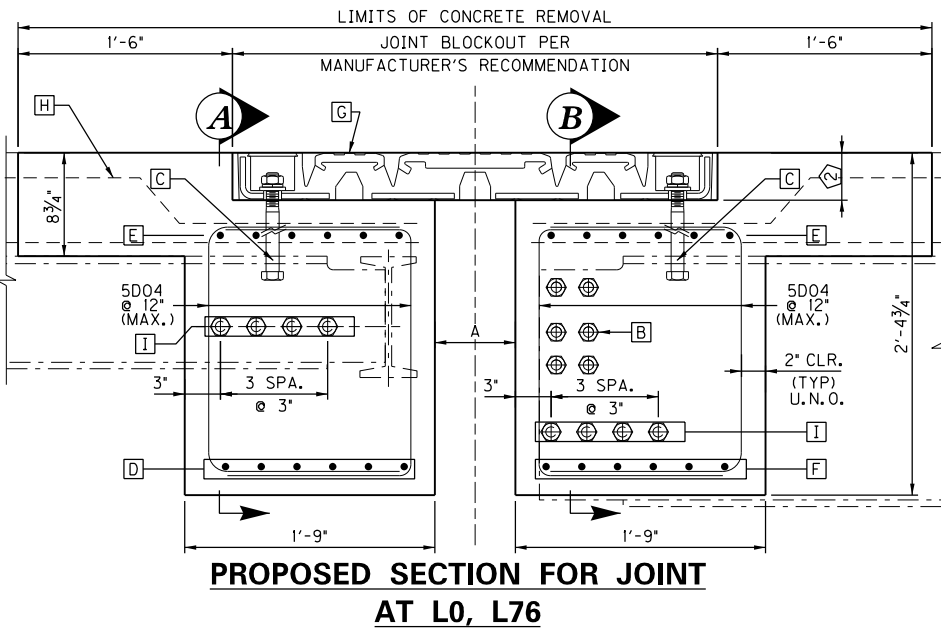
BRIDGE NUMBER

004B00021N

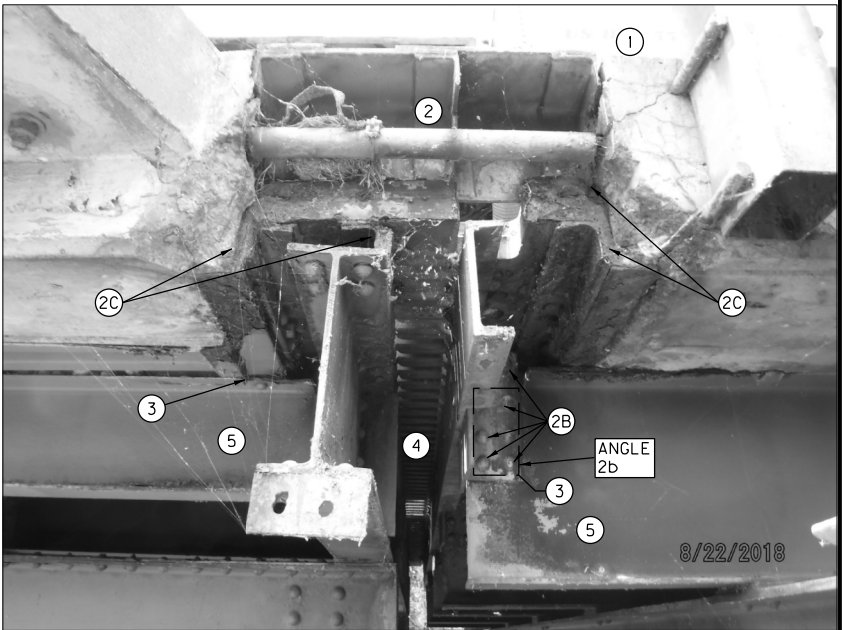
MINIMUM LAP SPLICES  
\*5 BAR - 2'-8"

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: R.M. DAMON	D.E. RUST	
DETAILED BY: J.A. ROSE	R.M. DAMON	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
FINGER DAM REPLACEMENT		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		S06
		DRAWING NO.
		28288

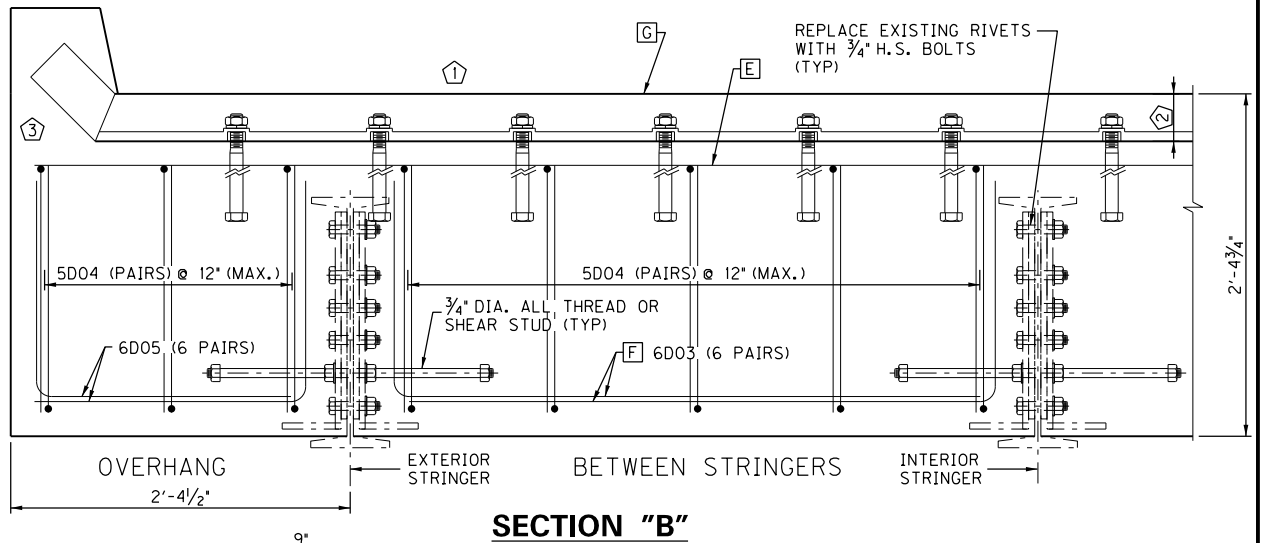
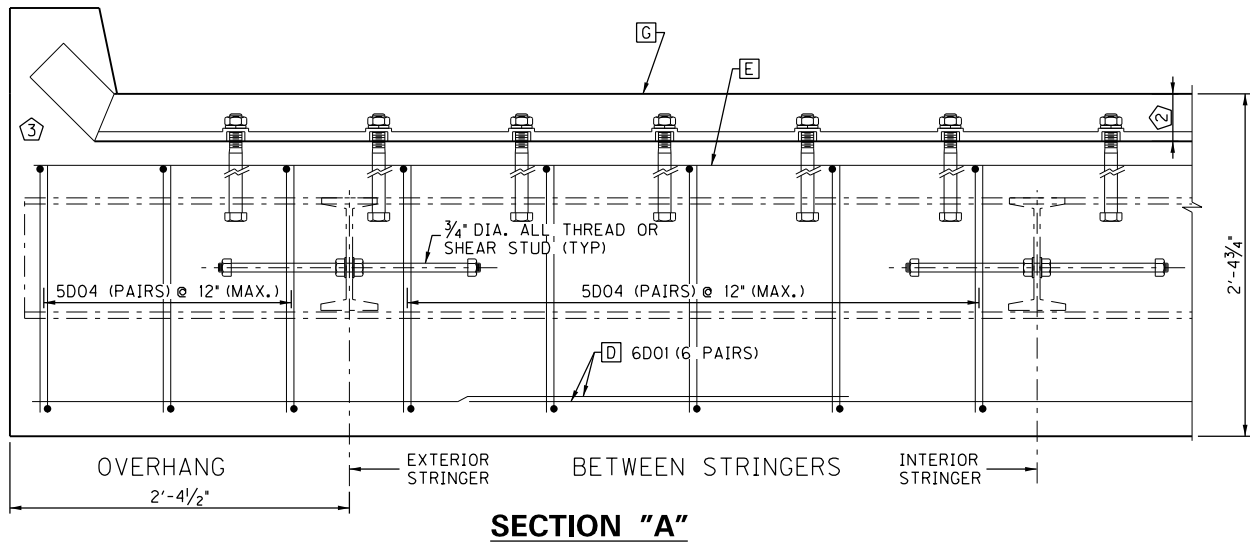




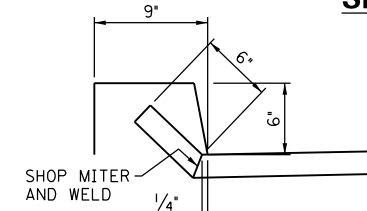
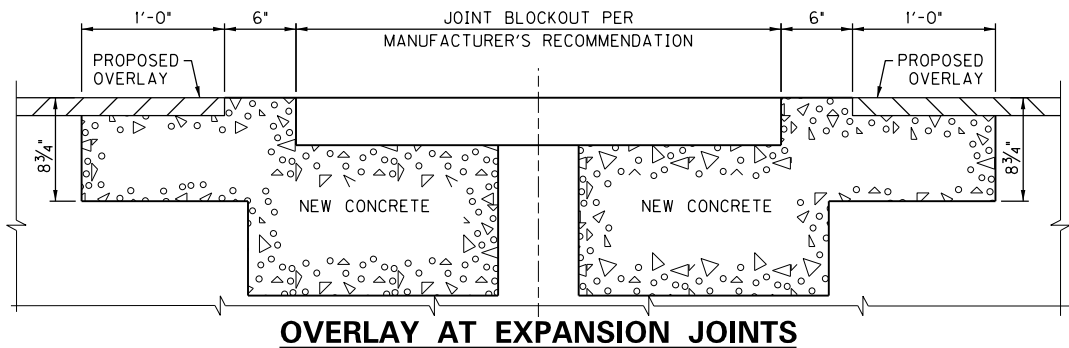
- 1 REMOVE CONCRETE TO THE EXTENT OF THE BLOCKOUTS SHOWN ON THIS SHEET AND SHTS. S04-S05. EDGES OF CONCRETE SHALL BE NEAT AND SQUARE. STEEL EXTENDING INTO BLOCKOUT SHALL REMAIN AND BE CLEANED FREE OF DEBRIS AND RUST. REMOVE FINGER PLATES.
  - 2 REMOVE CHANNELS BY REMOVING RIVETS ON CONNECTION ANGLE 2b.
  - 2B REMOVE RIVETS ATTACHING ANGLE 2b TO STRINGER AND REMOVE ANGLE 2b
  - 2C REMOVE CONNECTION ANGLES AND SPACERS
  - 3 REPLACE BOLTS IN-KIND, REPLACE RIVETS WITH EQUIVALENT DIAMETER HIGH STRENGTH BOLTS TENSIONED PER THE STANDARD SPECIFICATIONS. REMOVE AND REPLACE ONE BOLT AT A TIME.
  - 4 CLEAN RUST AT STRINGER ENDS WITHIN THE EXTENTS OF THE CONCRETE DIAPHRAGM.
  - 5 CONTRACTOR'S OPTION, DRILL 7/8" DIA. HOLES AND INSTALL ALL THREAD AS SHOWN IN JOINT SECTION AND DETAIL ON SHEET S06 OR INSTALL 3/4" x 6" HEADED STUDS AS SHOWN IN JOINT SECTION.
- NOTES:
1. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY MEMBERS TO REMAIN. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
  2. SEE \*SPECIAL NOTE FOR REPLACING FINGER JOINTS WITH MODULAR JOINTS FOR PAINTING REQUIREMENTS AND ADDITIONAL INFORMATION.



FINGER JOINT REMOVAL AND STRINGER PREPARATION



- [A] SEE JOINT SETTING TABLE
- [B] NEW H.S. BOLTS TO REPLACE RIVETS (TYP)
- [C] ANCHOR BOLTS OVER STRINGER TOP FLANGES SHALL BE BOLTED TO TOP FLANGE
- [D] 6D01 s/w 6D01 SPACED AT 3" C/C.
- [E] 5D02 s/w 5D02 SPACED AT 3" C/C.
- [F] 6D03 OR 6D05 BETWEEN STRINGERS
- [G] WATSON BOWMAN ACME WABOFLEX SR-9 OR EQUIVALENT SYSTEM. INSTALL PER MANUFACTURER'S SPECIFICATIONS
- [H] FIELD BEND EXISTING SLAB REINFORCEMENT AS REQ'D.
- [I] CONTRACTOR'S OPTION: DRILL 7/8" DIA. HOLES AND INSTALL ALL THREAD AS SHOWN IN DETAIL ON SHT. S06 OR INSTALL 3/4" x 6" HEADED STUDS AT 3" C/C SPACING.

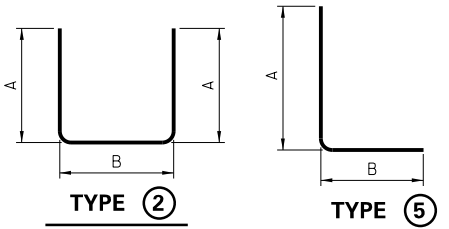


CURB UPTURN DETAIL

DIMENSIONS SHOWN ARE APPROXIMATE. UPTURN JOINT IN CURB PER MANUFACTURER'S RECOMMENDATIONS.

TEMPERATURE (DEGREES F)	[A] JOINT SETTING TABLE	
	L0	L76
30	7-13/16"	7-13/16"
40	7-1/4"	7-1/4"
50	6-3/4"	6-3/4"
60	6-1/4"	6-1/4"
70	5-3/4"	5-3/4"
80	5-1/4"	5-1/4"
90	4-11/16"	4-11/16"
100	4-3/16"	4-3/16"

MARK	TYPE	NUMBER	SIZE	LENGTH		LOCATION	BEND DIMENSIONS	
				FT	IN		A ft./in.	B ft./in.
6D01(E)	STR.	24	# 6	13	7	Bottom Diaphragm Bar		
5D02(E)	STR.	48	# 5	13	3	Top Diaphragm Bar		
6D03(S)(E)	5	48	# 6	5	8	Diaphragm Bars In Bays	1'-8"	4'-0"
5D04(S)(E)	2	98	# 5	4	5	Diaphragm Stirrups	1'-4-1/2"	1'-8"
6D05(S)(E)	5	24	# 6	3	6	Overhang diaphragm bars	1'-8"	1'-10"



MINIMUM LAP SPLICES

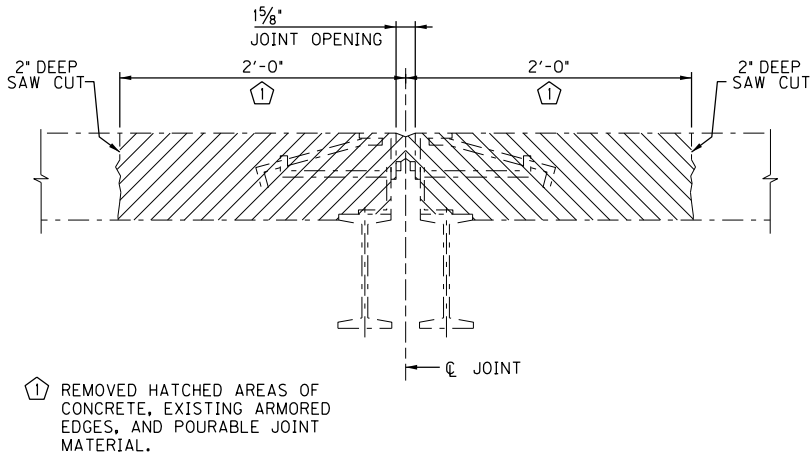
\*5 BAR - 2'-8"

\*6 BAR - 3'-6"

BRIDGE NUMBER

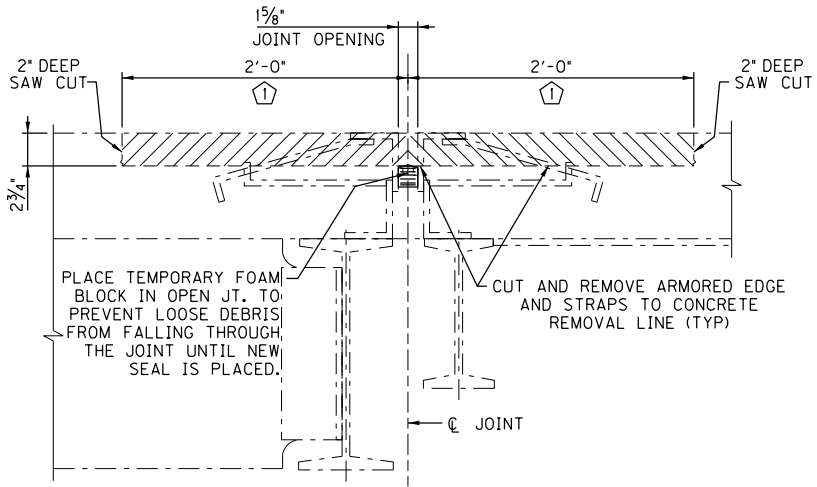
004B00021N

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: R.M. DAMON		D.E. RUST	
DETAILED BY: J.A. ROSE		R.M. DAMON	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
FINGER DAM REPLACEMENT			
PREPARED BY			SHEET NO. S07
PALMER ENGINEERING CO.			DRAWING NO. 28288

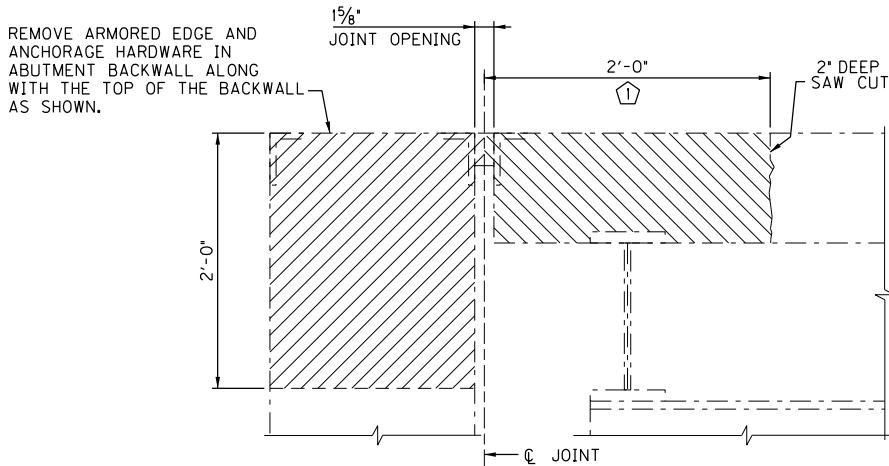


**EXISTING SECTION AT POURABLE JOINT  
MAIN TRUSS SPANS**

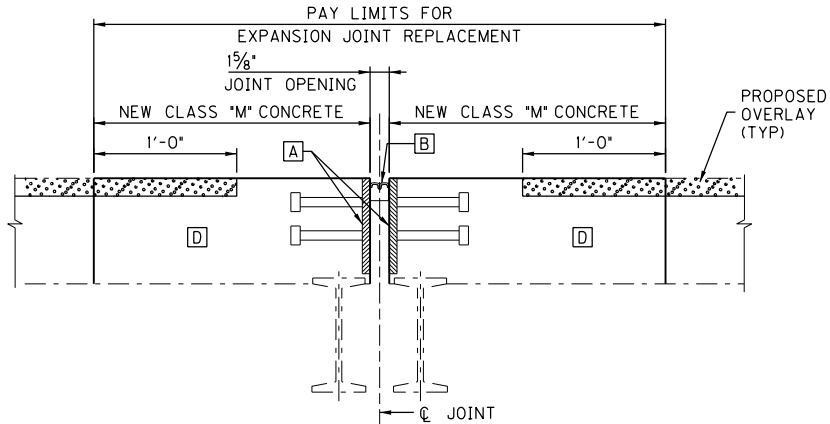
TRUSS PANEL POINTS - 4, 8, 12, 17, 23, 30, 34, 37, 40, 47, 51, 54, 64, 68, 72



**EXISTING SECTION AT POURABLE JOINT  
NORTH END OF SPANS 22 AND 24**

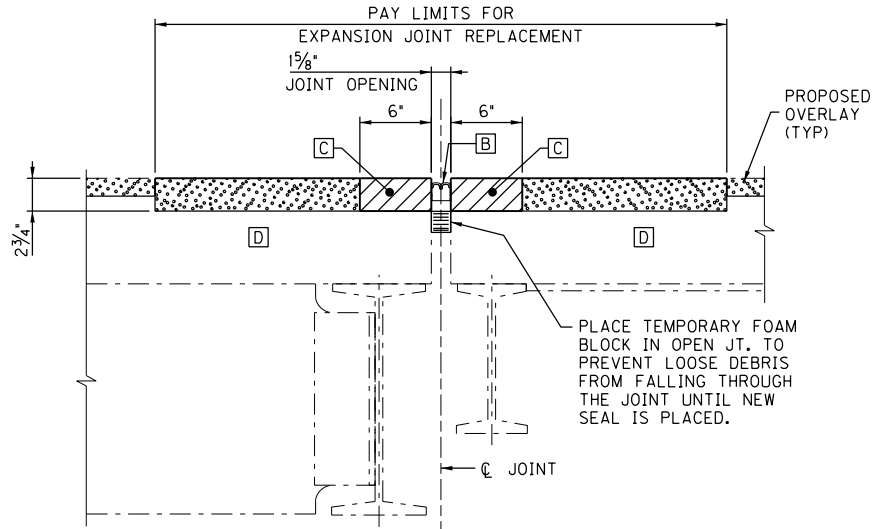


**EXISTING SECTION AT POURABLE JOINT  
ILLINOIS ABUTMENT**

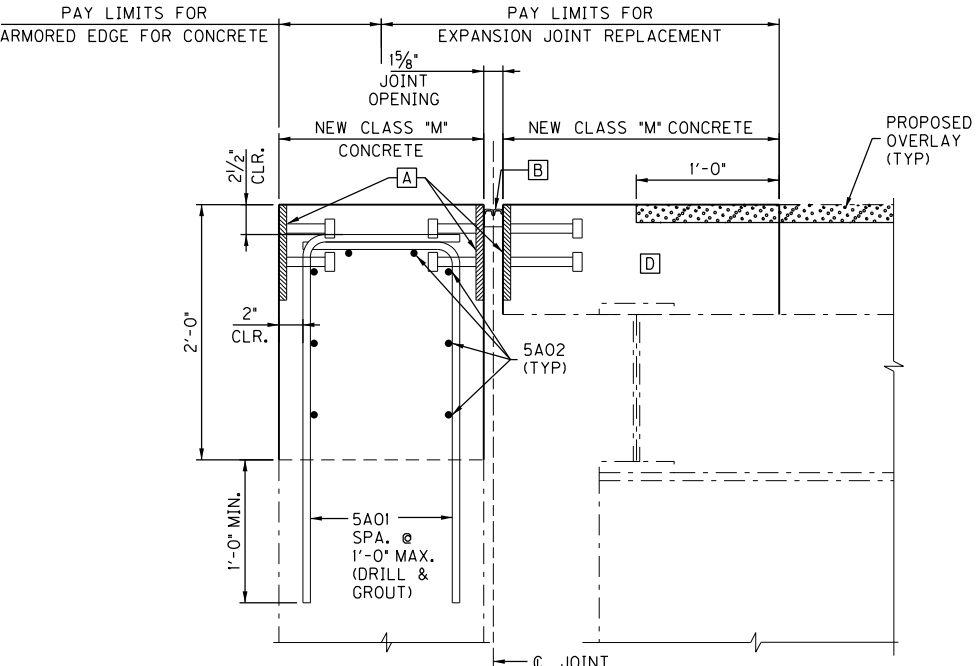


**PROPOSED SECTION AT POURABLE JOINT  
MAIN TRUSS SPANS**

TRUSS PANEL POINTS - 4, 8, 12, 17, 23, 30, 34, 37, 40, 47, 51, 54, 64, 68, 72



**PROPOSED SECTION AT POURABLE JOINT  
NORTH END OF SPANS 22 AND 24**



**PROPOSED SECTION AT POURABLE JOINT  
ILLINOIS ABUTMENT**

SEE "SPECIAL NOTE FOR REPLACING POURABLE JOINTS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE ON BRIDGES" FOR ADDITIONAL INFORMATION.

- A** ARMORED EDGE, SEE STD. DWG. BJE-001, c.e.
- B** USE EMSEAL BEJS OR EQUIVALENT SYSTEM THE JOINT OPENING IS 1 5/8" AT 60° F. USE CORNER TRANSITIONS PER THE MANUFACTURER'S SPECIFICATIONS
- C** EMCRETE ELASTOMERIC NOSING OR APPROVED EQUAL
- D** CLEAN AND LEAVE EXISTING DECK REINFORCEMENT IN PLACE



BAR BILL – ILLINOIS ABUTMENT JOINT REPLACEMENT								
MARK	TYPE	NUMBER	SIZE	LENGTH		LOCATION	A	
				FT	IN		FT./IN.	FT./IN.
5A01 (E)	5	46	#5	4	8	BACKWALL	2'-10"	0'-8"
5A02(E)	STR.	16	#5	11	3	BACKWALL		

#5 MECHANICAL COUPLERS REQUIRED = 16

NOTE: FIELD VERIFY ALL BAR DIMENSIONS PRIOR TO PLACING REINFORCEMENT ORDER

BRIDGE NUMBER

004B00021N

PREPARED BY

PALMER ENGINEERING CO.

SHEET NO.

S08

DRAWING NO.

28288

REVISION

DATE

DATE: FEBRUARY, 2020

CHECKED BY

DESIGNED BY: L.M. SALLEE

D.E. RUST

DETAILED BY: J.A. ROSE

D.E. RUST

Commonwealth of Kentucky

DEPARTMENT OF HIGHWAYS

COUNTY

BALLARD

ROUTE

US 51

CROSSING

OHIO RIVER

POURABLE JOINT REPLACEMENT

PREPARED BY

PALMER ENGINEERING CO.

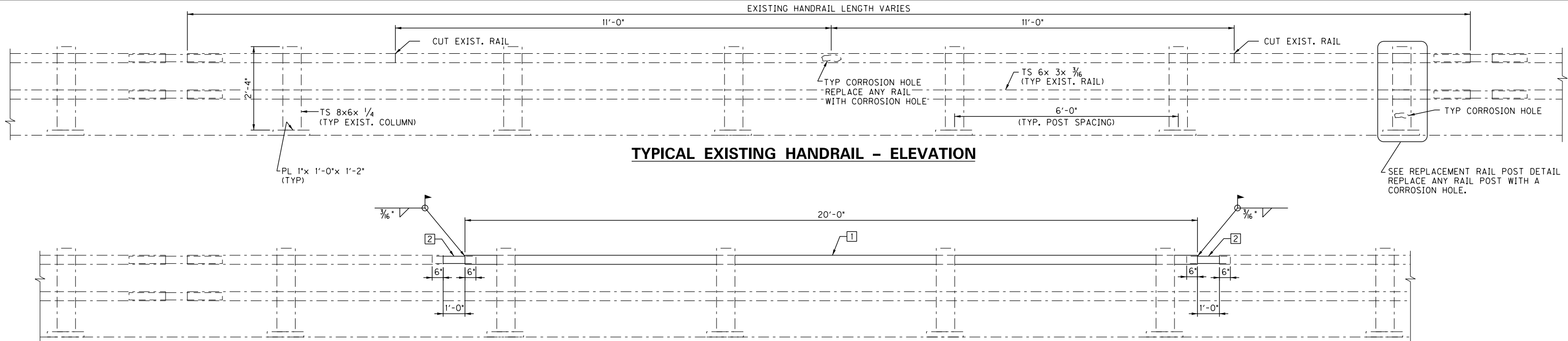
SHEET NO.

S08

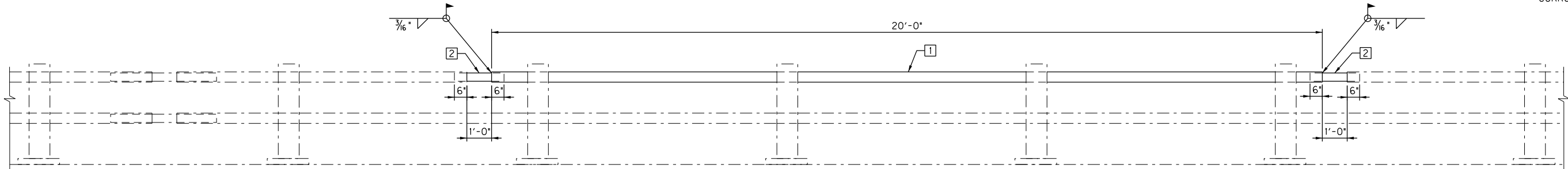
DRAWING NO.

28288



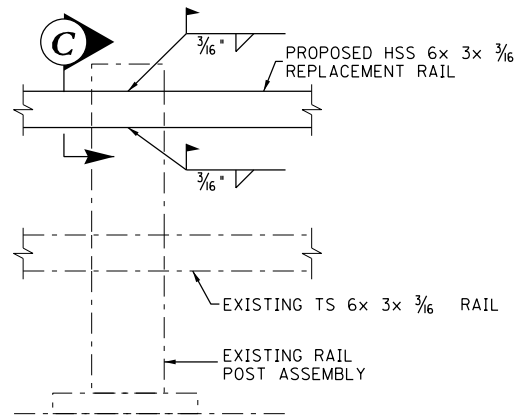


TYPICAL EXISTING HANDRAIL - ELEVATION

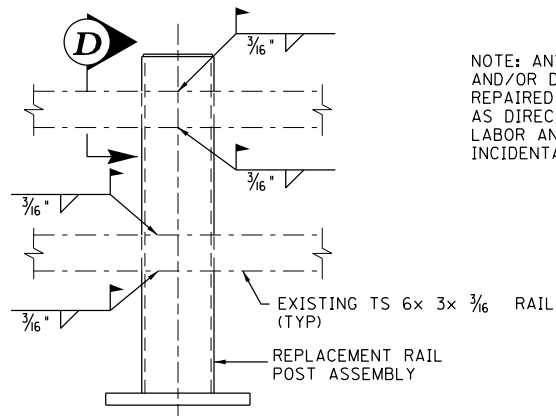


- 1 REPLACEMENT RAIL SECTION  
20'-0" LONG HSS 6x 3x 3/16
- 2 ADJUSTABLE RAIL CONNECTION  
2'-0" LONG SEE SECTION A.  
(FIELD WELD ONCE REPLACEMENT  
RAIL IS IN PLACE)

TYPICAL HANDRAIL REPAIR - ELEVATION



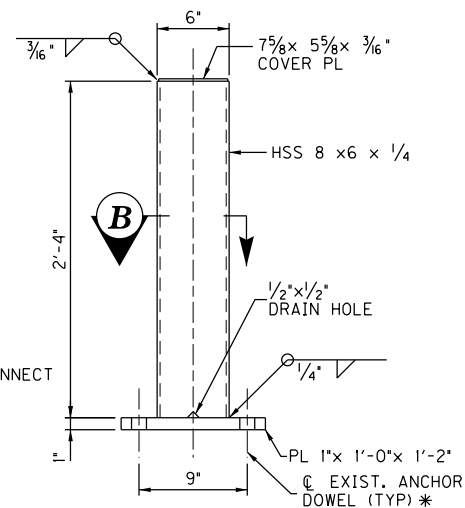
EXISTING RAIL POST CONNECTION DETAIL



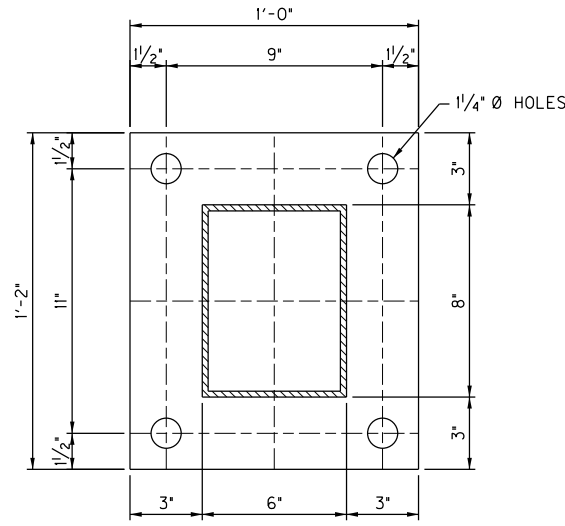
REPLACEMENT RAIL POST CONNECTION DETAIL

NOTE: ANY RAIL POST UTILITY CONNECTIONS MOVED AND/OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IN-KIND AND ATTACHED TO THE RAIL POST AS DIRECTED BY THE ENGINEER. ALL ASSOCIATED LABOR AND MATERIALS FOR THIS WORK ARE CONSIDERED INCIDENTAL TO THE STEEL REPAIR.

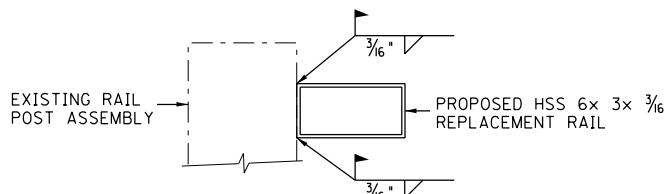
\* USE EXISTING ANCHOR DOWELS TO CONNECT REPLACEMENT POSTS



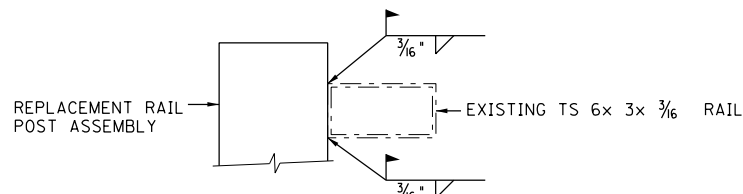
REPLACEMENT RAIL POST DETAIL



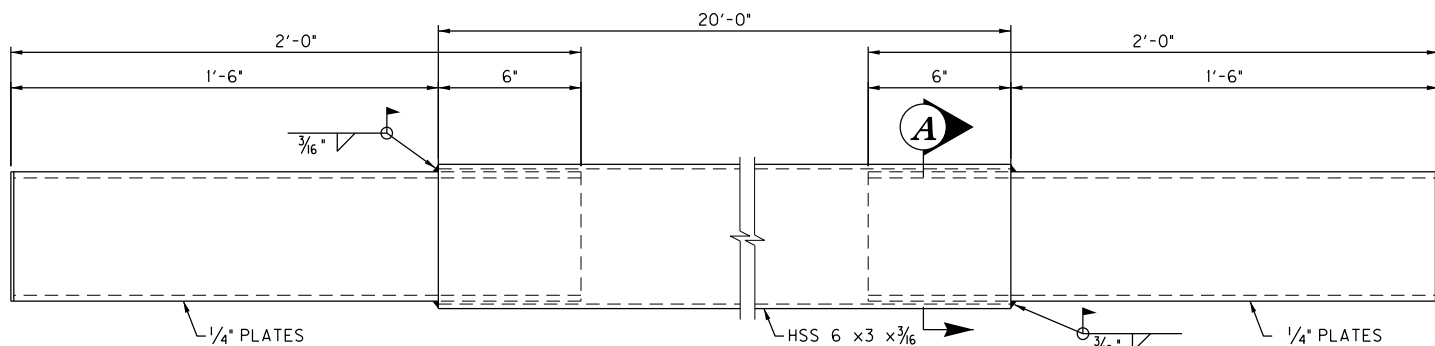
SECTION B



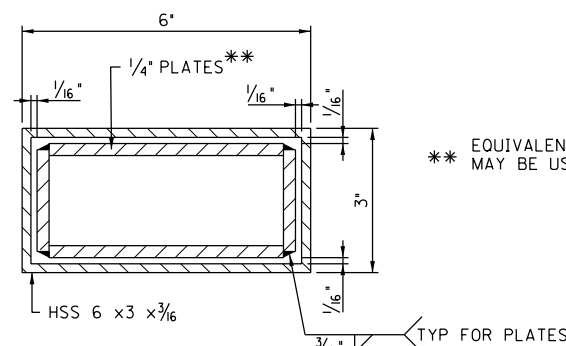
SECTION C



SECTION D



REPLACEMENT RAIL DETAIL



SECTION A

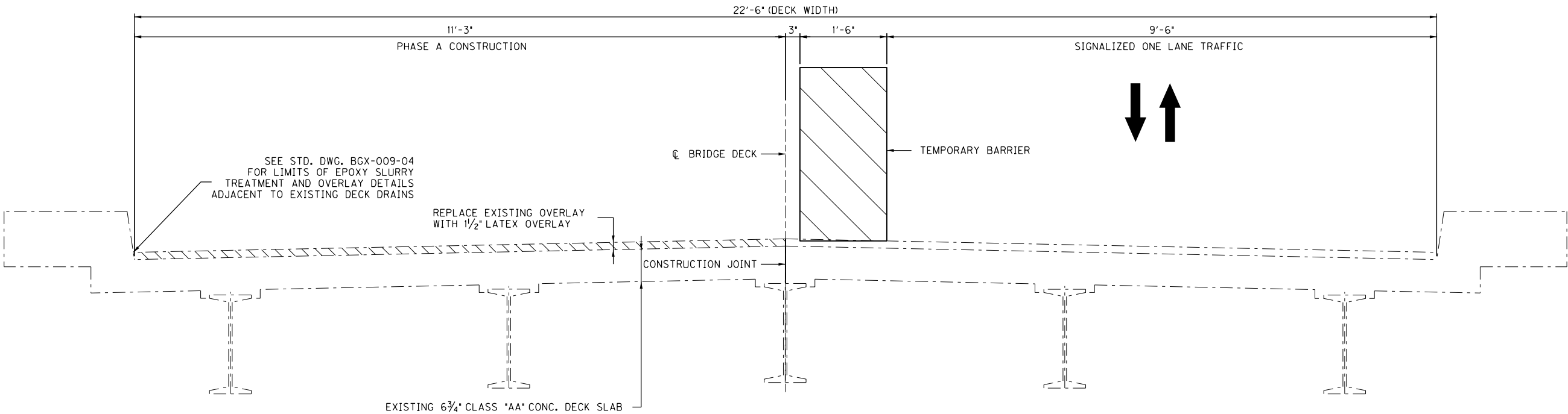
\*\* EQUIVALENT ROLLED SECTION MAY BE USED

BRIDGE NUMBER		SHEET NO.	
004B00021N		S09	
PREPARED BY		DRAWING NO.	
PALMER ENGINEERING CO.		28288	

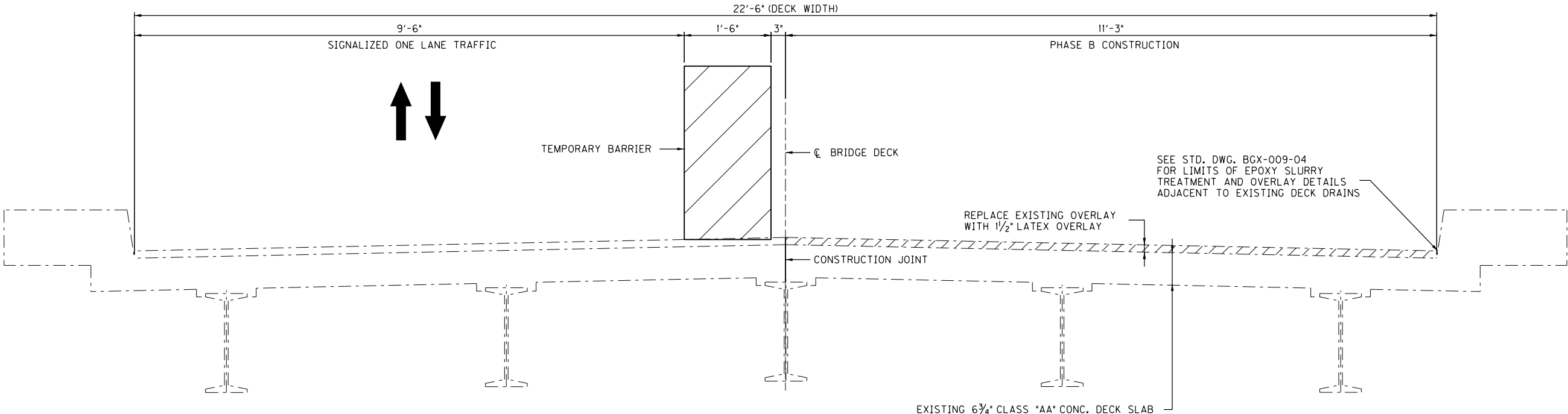
SEE "SPECIAL NOTE FOR STEEL BRIDGE RAILING REPAIRS" FOR ADDITIONAL INFORMATION

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: L.M. SALLEE		D.H. DEITZ	
DETAILED BY: J.A. ROSE		L.M. SALLEE	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
STEEL BRIDGE RAIL REPAIR			
PREPARED BY		SHEET NO. S09	
PALMER ENGINEERING CO.		DRAWING NO. 28288	





**PHASE A CONSTRUCTION**  
(MOT ZONES 1-3 SHOWING OVERLAY LIMITS)



**PHASE B CONSTRUCTION**  
(MOT ZONES 1-3 SHOWING OVERLAY LIMITS)

**OVERLAY NOTES**

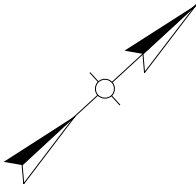
1. LIMITS OF OVERLAY REPLACEMENT ARE FROM BEGINNING OF BRIDGE AT ILLINOIS ABUTMENT TO END OF BRIDGE AT KENTUCKY ABUTMENT.
2. SEE "SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS" AND "SPECIAL NOTE FOR USE OF THE HYDRODEMOLITION METHOD" FOR ADDITIONAL INFORMATION.
3. SEE SHEETS S06-S09 FOR DETAILS OF OVERLAY PLACEMENT AT NEW JOINTS.
4. THE CONTRACTOR SHALL PROTECT EXPANSION JOINTS DURING OVERLAY REPLACEMENT.
5. LONGITUDINAL CONSTRUCTION JOINTS SHALL COMPLY WITH SECTION 606.03.08 OF THE SPECIFICATIONS.

**MAINTENANCE OF TRAFFIC NOTES**

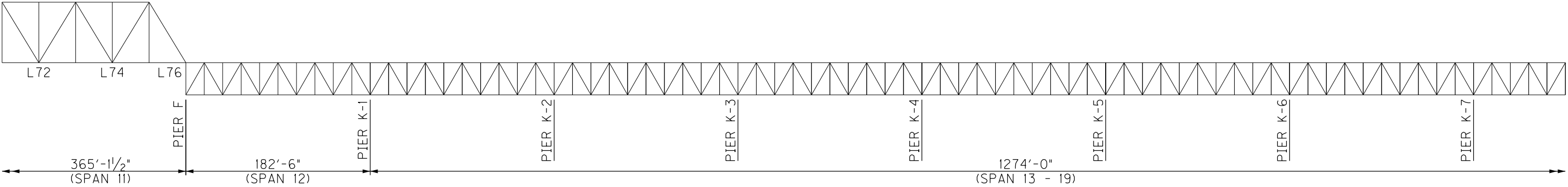
1. THE MOT TYPICAL SECTION SHOWN UTILIZES ArmorZone PORTABLE WATER FILLED BARRIERS. ALTERNATE BARRIER SYSTEMS MAY BE USED PROVIDED THEY MEET MASH TL-2 TESTING CRITERIA AND THE 9'-6" MINIMUM LANE WIDTH IS MAINTAINED.
2. SEE SHEETS M01-M19 FOR MAINTENANCE OF TRAFFIC SIGNING PLANS AND SHEETS M20-M33 FOR PHASED CONSTRUCTION TRAFFIC CONTROL.
3. SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.

BRIDGE NUMBER	PREPARED BY  <i>PALMER ENGINEERING CO.</i>	SHEET NO. <i>S11</i>
004B00021N		DRAWING NO. <i>28288</i>

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: A.C. THOMAS	D.E. RUST	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
DECK OVERLAY & MOT TYPICAL		
PREPARED BY		SHEET NO. S11
PALMER ENGINEERING CO.		DRAWING NO. 28288



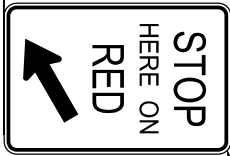
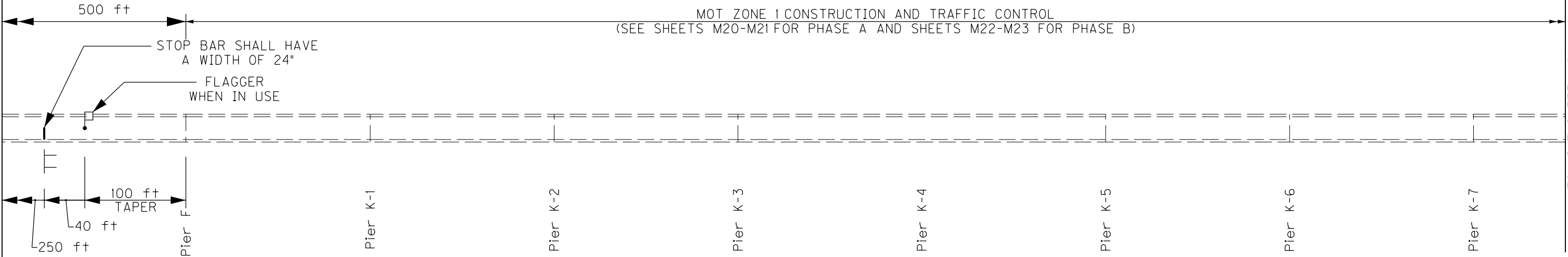
KENTUCKY



MOT ZONE I CONSTRUCTION AND TRAFFIC CONTROL  
(SEE SHEETS M20-M21 FOR PHASE A AND SHEETS M22-M23 FOR PHASE B)

MATCHLINE SHEET M02

MATCHLINE SHEET M04



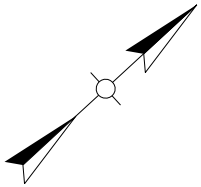
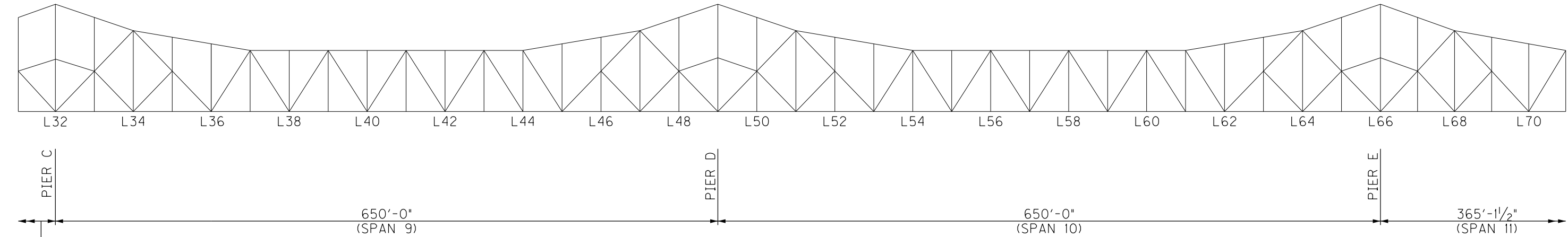
R10-6  
24x36

COVER SIGN  
WHEN SIGNALS  
ARE NOT IN USE

THROUGH TRUSS SIGNING

BRIDGE NUMBER		SHEET NO.	
004B00021N		M01	
		DRAWING NO.	
		28288	

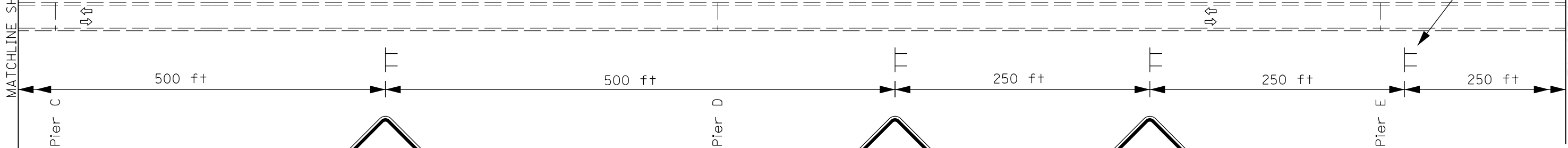
REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 1 SIGNING		
PREPARED BY		SHEET NO. M01
PALMER ENGINEERING CO.		DRAWING NO. 28288



OHIO  
RIVER

MATCHLINE SHEET M03

MATCHLINE SHEET M01

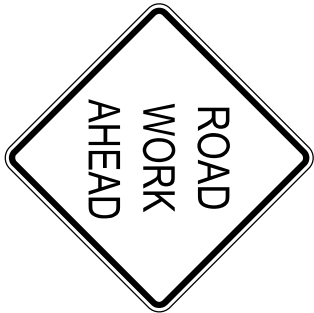


**THROUGH TRUSS SIGNING**

BRIDGE NUMBER
004B00021N

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 1 SIGNING		
PREPARED BY PALMER ENGINEERING CO.		SHEET NO. M02 DRAWING NO. 28288

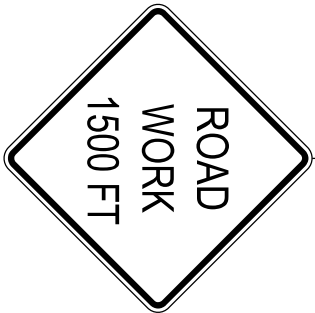
THROUGH TRUSS SIGNING



W20-1  
36x36



W13-1P  
24x24

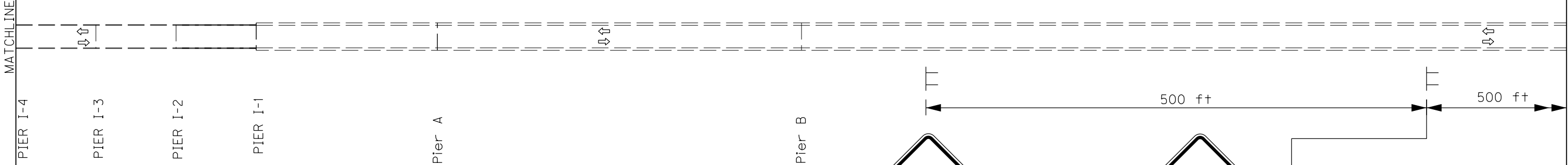
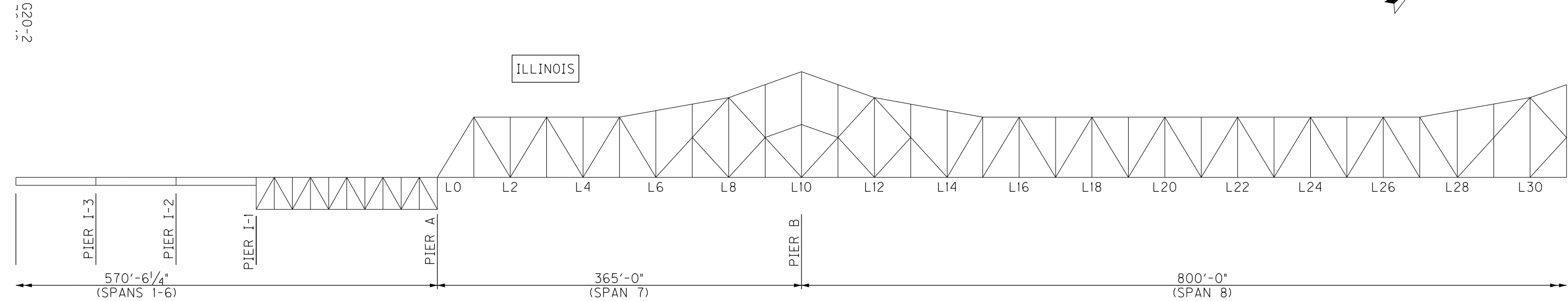


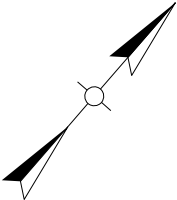
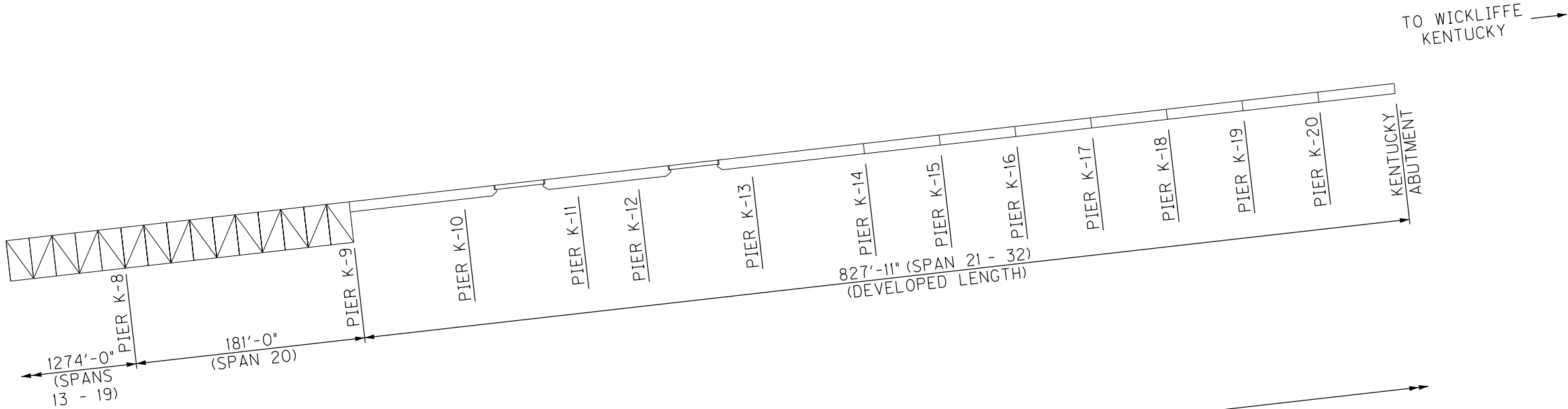
W20-1  
36x36

BRIDGE NUMBER

004B00021N

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 1 SIGNING		
PREPARED BY		SHEET NO. M03
PALMER ENGINEERING CO.		DRAWING NO. 28288





MOT ZONE 1 CONSTRUCTION AND TRAFFIC CONTROL  
(SEE SHEETS M20-M21 FOR PHASE A AND SHEETS M22-M23 FOR PHASE B)

MATCHLINE SHEET M01

Pier K-8

Pier K-9

Pier K-10

Pier K-11

Pier K-12

Pier K-13

P.C.

Pier K-14

Pier K-15

Pier K-16

Pier K-17

Pier K-18

Pier K-19

Pier K-20

E. CAIRO-HOLLOWAY RD.

FLAGGER  
WHEN IN USE

KY ABUT  
P.T.



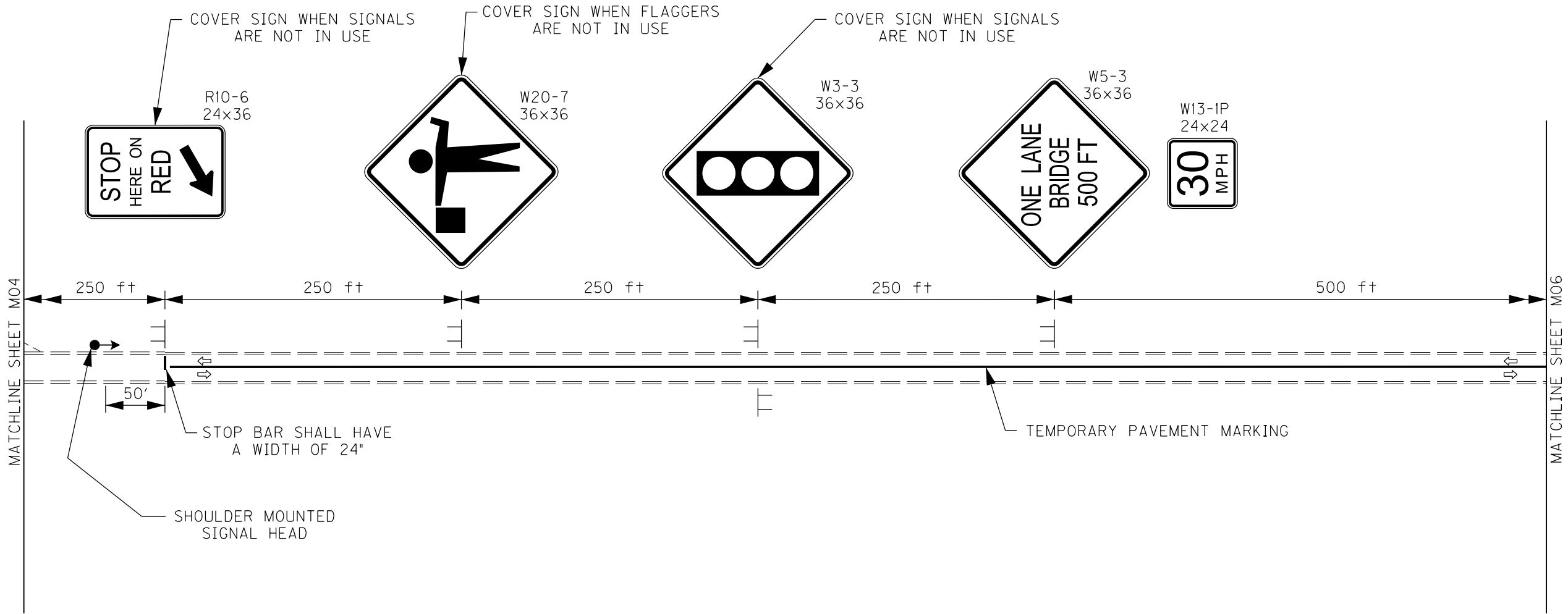
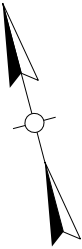
MATCHLINE SHEET M05

KENTUCKY APPROACH SIGNING

BRIDGE NUMBER	PREPARED BY	SHEET NO. M04
004B00021N	PALMER ENGINEERING CO.	DRAWING NO. 28288

REVISION		DATE	
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DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT ZONE 1 SIGNING			
PREPARED BY		SHEET NO. M04	
PALMER ENGINEERING CO.		DRAWING NO. 28288	



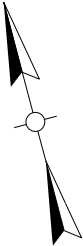
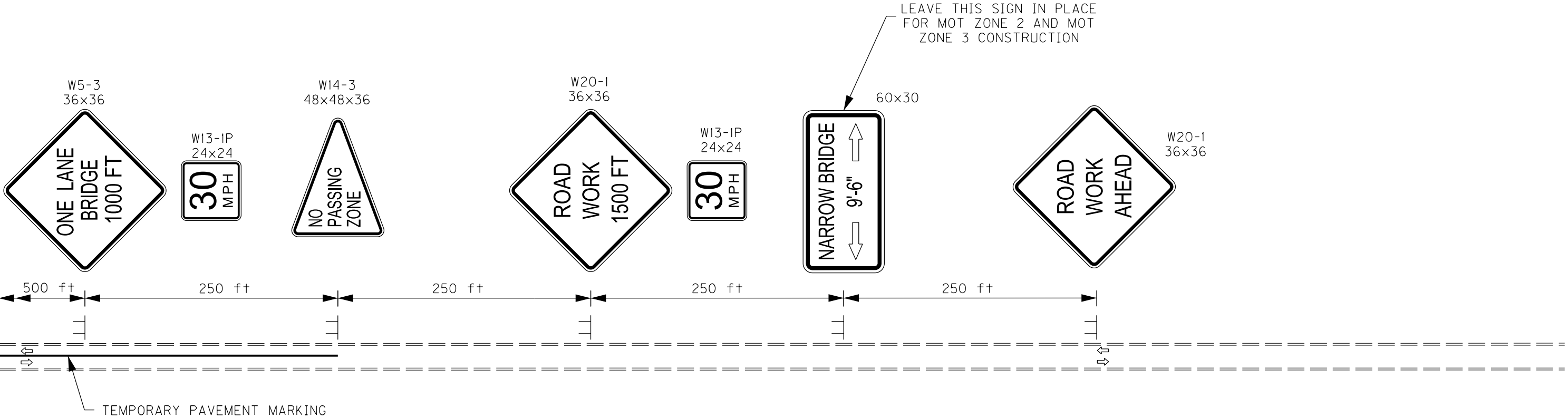


**KENTUCKY APPROACH SIGNING**

BRIDGE NUMBER
004B00021N

REVISION		DATE
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DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 1 SIGNING		
PREPARED BY		SHEET NO. M05
PALMER ENGINEERING CO.		DRAWING NO. 28288

MATCHLINE SHEET M05



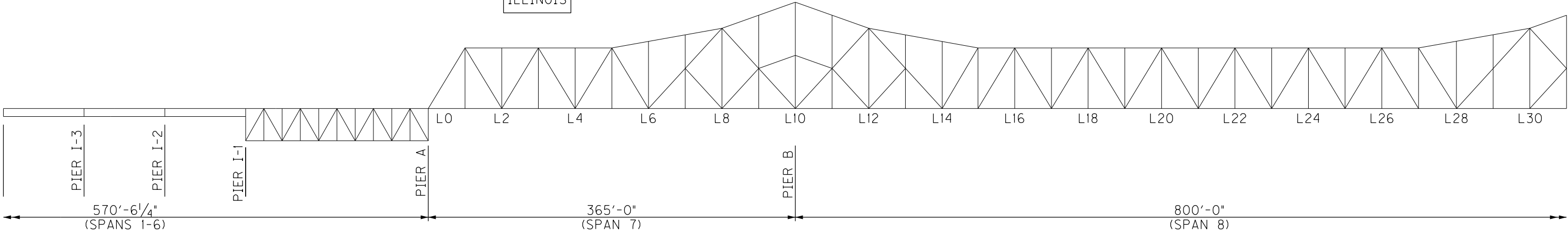
**KENTUCKY APPROACH SIGNING**

BRIDGE NUMBER
004B00021N

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 1 SIGNING		
PREPARED BY		SHEET NO. M06
PALMER ENGINEERING CO.		DRAWING NO. 28288

2-029

ILLINOIS



MOT ZONE 2 CONSTRUCTION AND TRAFFIC CONTROL  
(SEE SHEETS M24-M26 FOR PHASE A AND SHEETS M27-M29 FOR PHASE B)

MATCHLINE SHEET M08

PIER I-4

PIER I-3

PIER I-2

PIER I-1

STOP BAR SHALL HAVE  
A WIDTH OF 24"

FLAGGER  
WHEN IN USE



40 ft

100 ft  
TAPER

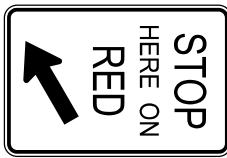
Pier A

50 ft  
BUFFER

Pier B

OHIO  
RIVER

MATCHLINE



R10-6  
24x36

COVER SIGN  
WHEN SIGNALS  
ARE NOT IN USE

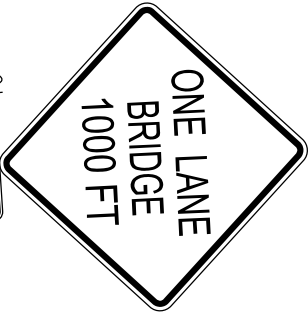
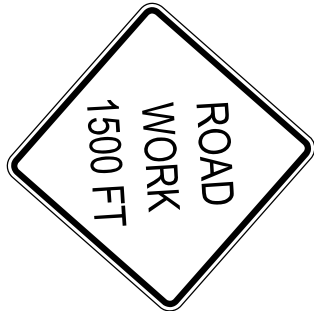
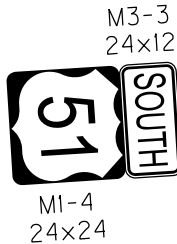
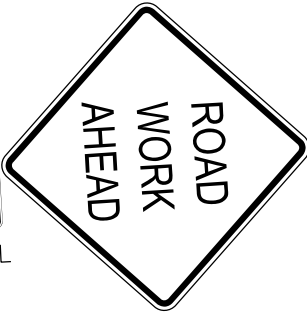
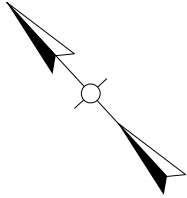
### ILLINOIS APPROACH SIGNING

BRIDGE NUMBER

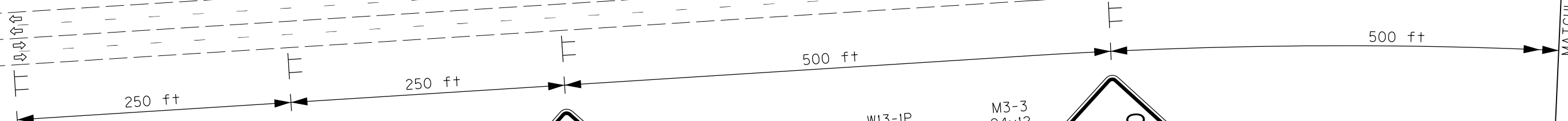
004B00021N

REVISION		DATE	
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DESIGNED BY: D.E. RUST		J. J. COBURN	
DETAILED BY: J. A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY			
BALLARD			
ROUTE		CROSSING	
US 51		OHIO RIVER	
MOT ZONE 2 SIGNING			
PREPARED BY		SHEET NO.	
PALMER ENGINEERING CO.		M07	
		DRAWING NO.	
		28288	

BRIDGE NUMBER	PREPARED BY	SHEET NO.
004B00021N	PALMER ENGINEERING CO.	M08
		DRAWING NO.
		28288



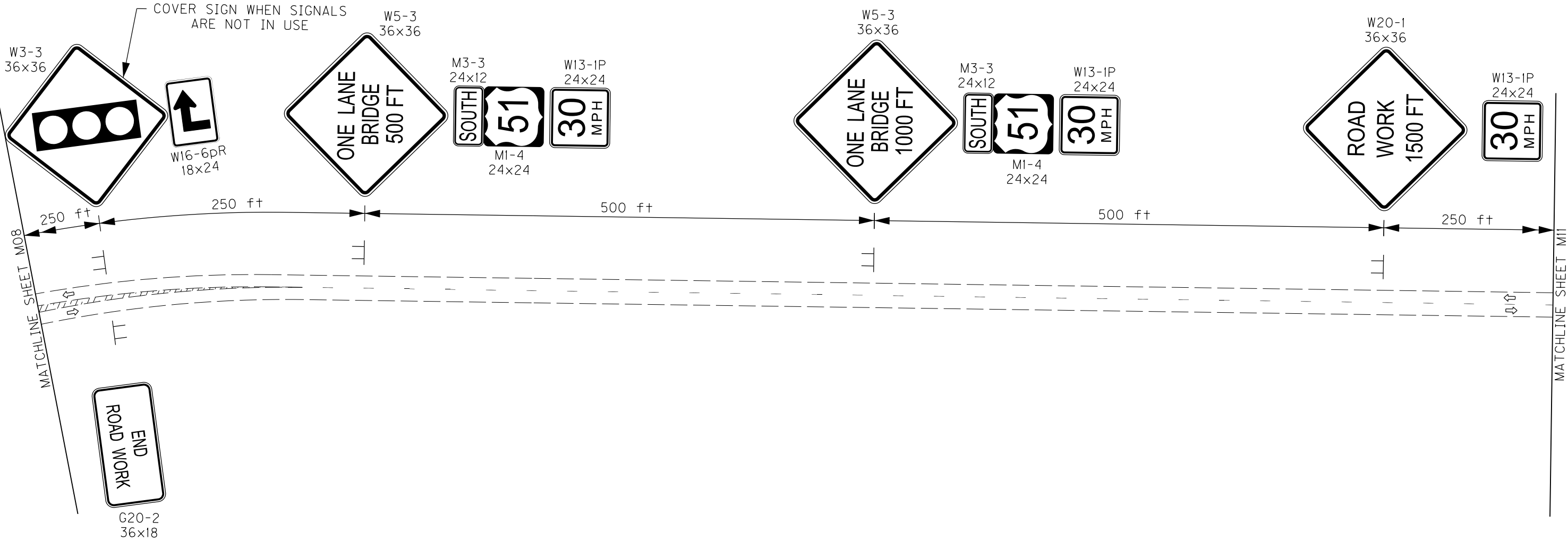
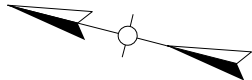
ILLINOIS APPROACH SIGNING



MATCHLINE SHEET M08

REVISION		DATE
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DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 2 SIGNING		
PREPARED BY		SHEET NO. M09
PALMER ENGINEERING CO.		DRAWING NO. 28288

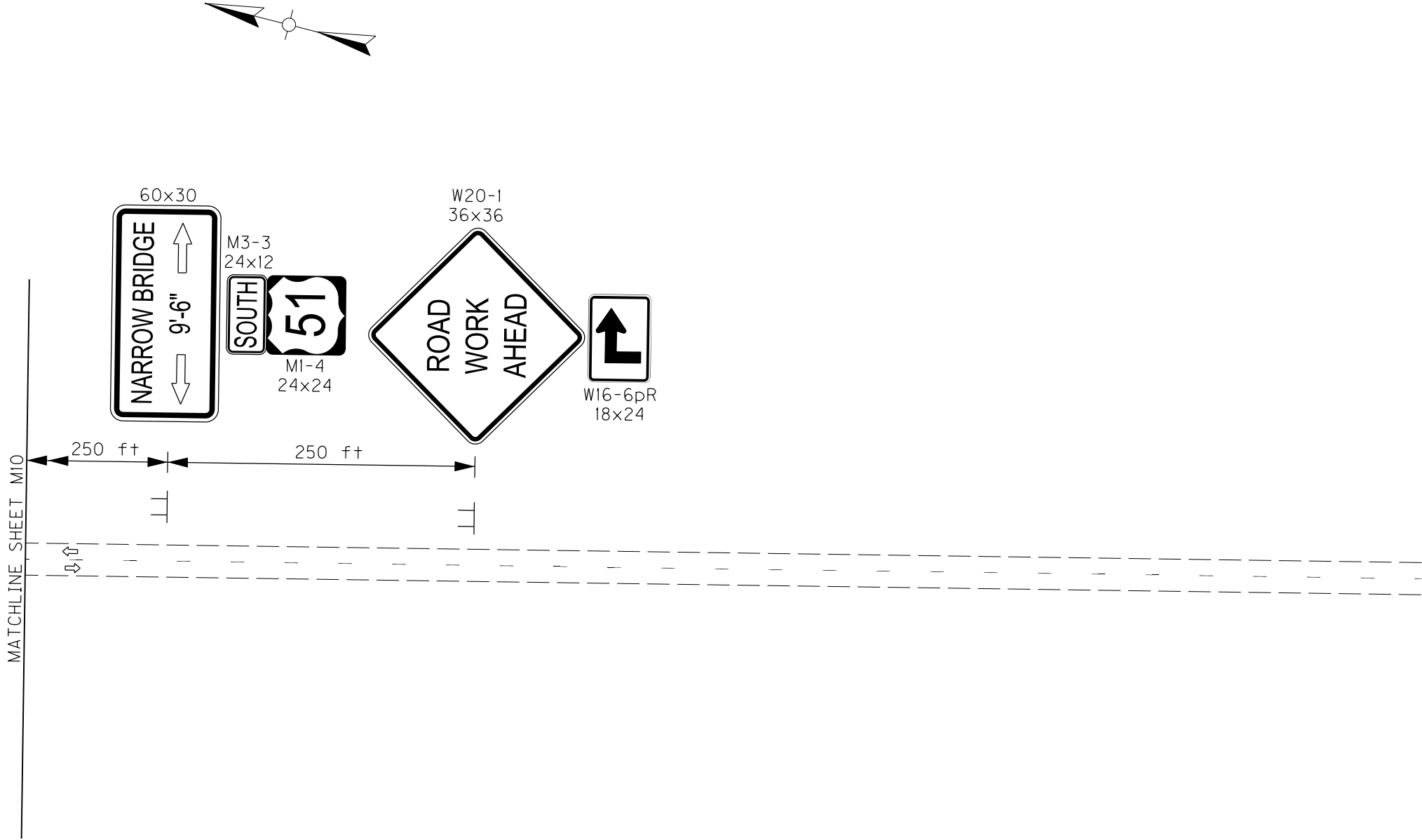
BRIDGE NUMBER
004B00021N



**ILLINOIS APPROACH SIGNING**

BRIDGE NUMBER		SHEET NO.	
004B00021N		M10	
		DRAWING NO.	
		28288	

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT ZONE 2 SIGNING			
PREPARED BY		SHEET NO. M10	
PALMER ENGINEERING CO.		DRAWING NO. 28288	

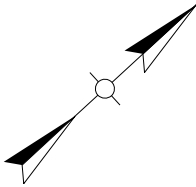


ILLINOIS APPROACH SIGNING

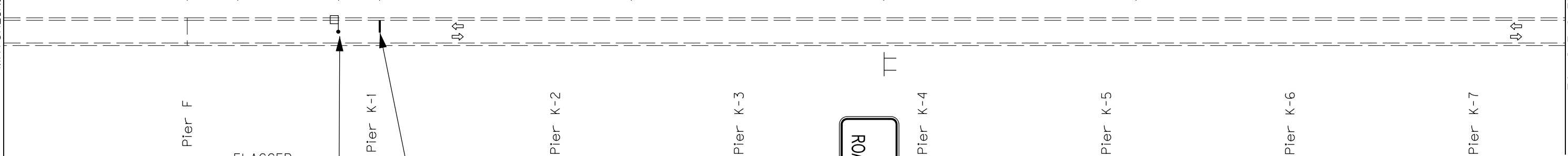
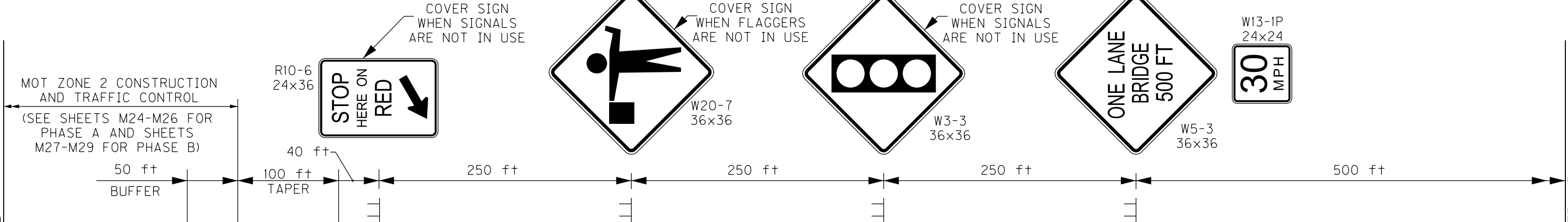
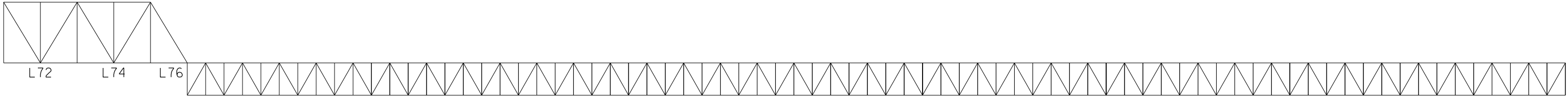
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004B00021N		PALMER ENGINEERING CO.	M11
			DRAWING NO.
			28288

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT ZONE 2 SIGNING		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		M11
		DRAWING NO.
		28288





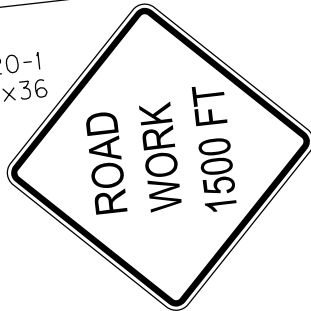
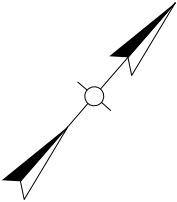
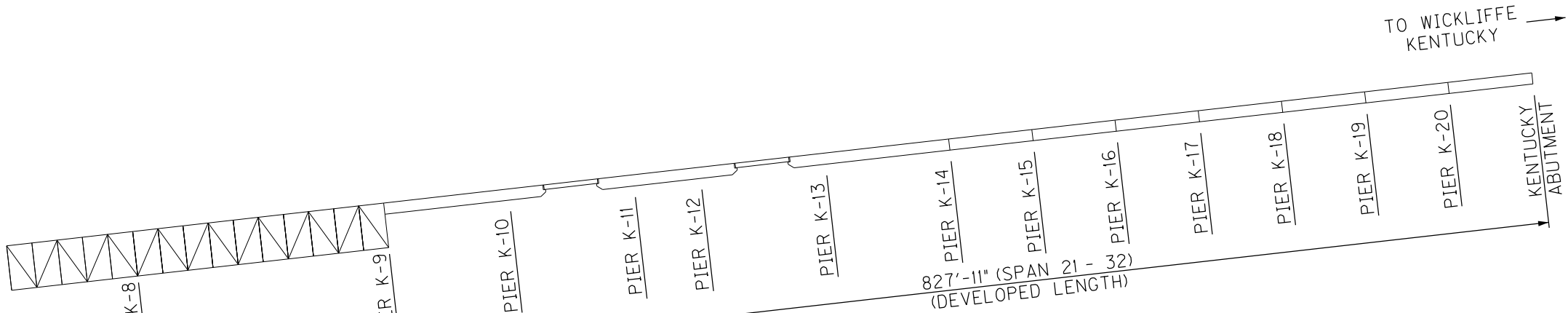
KENTUCKY



KENTUCKY APPROACH SIGNING

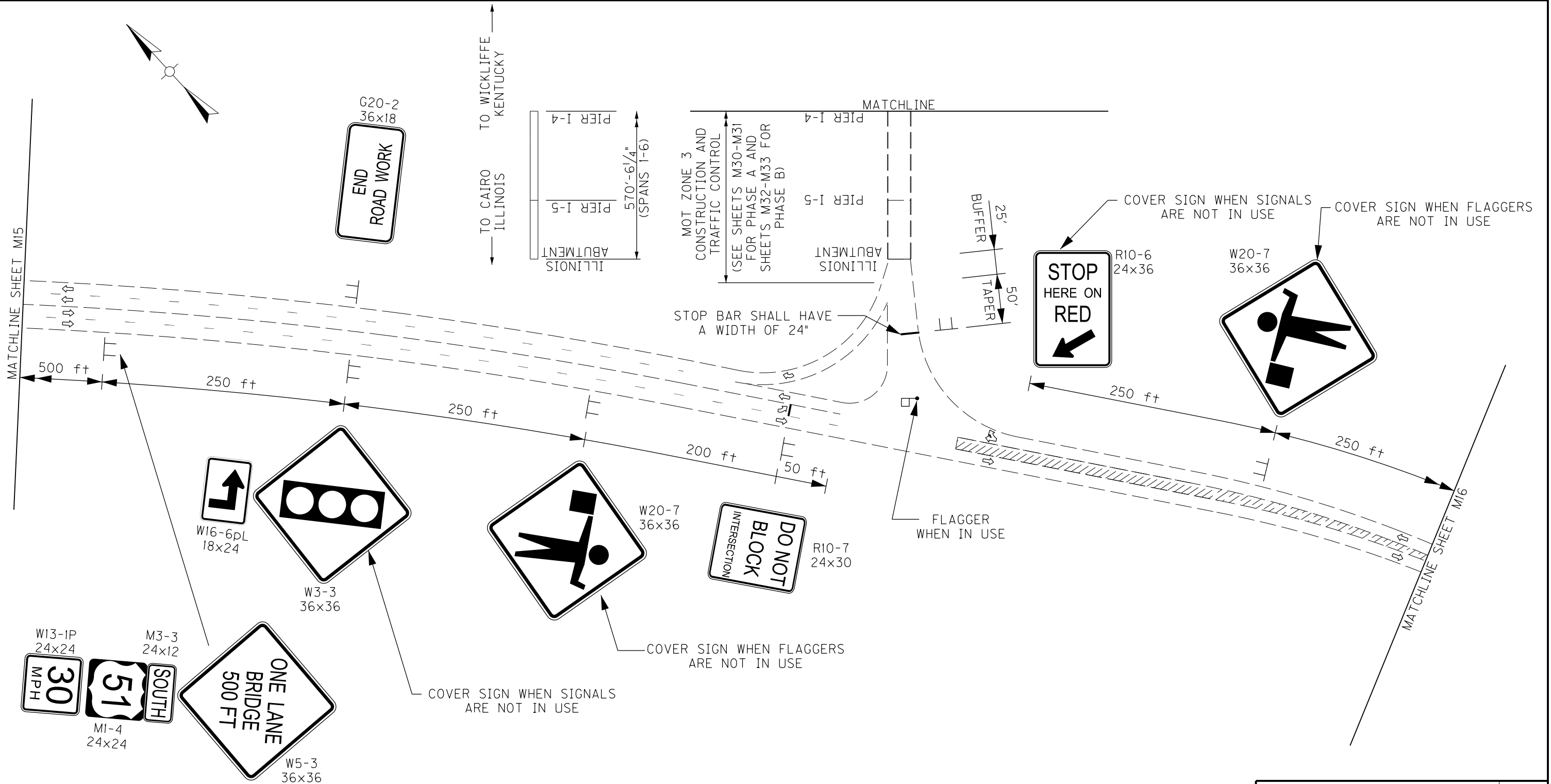
BRIDGE NUMBER
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REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 2 SIGNING		
PREPARED BY		SHEET NO. M12
PALMER ENGINEERING CO.		DRAWING NO. 28288



**KENTUCKY APPROACH SIGNING**

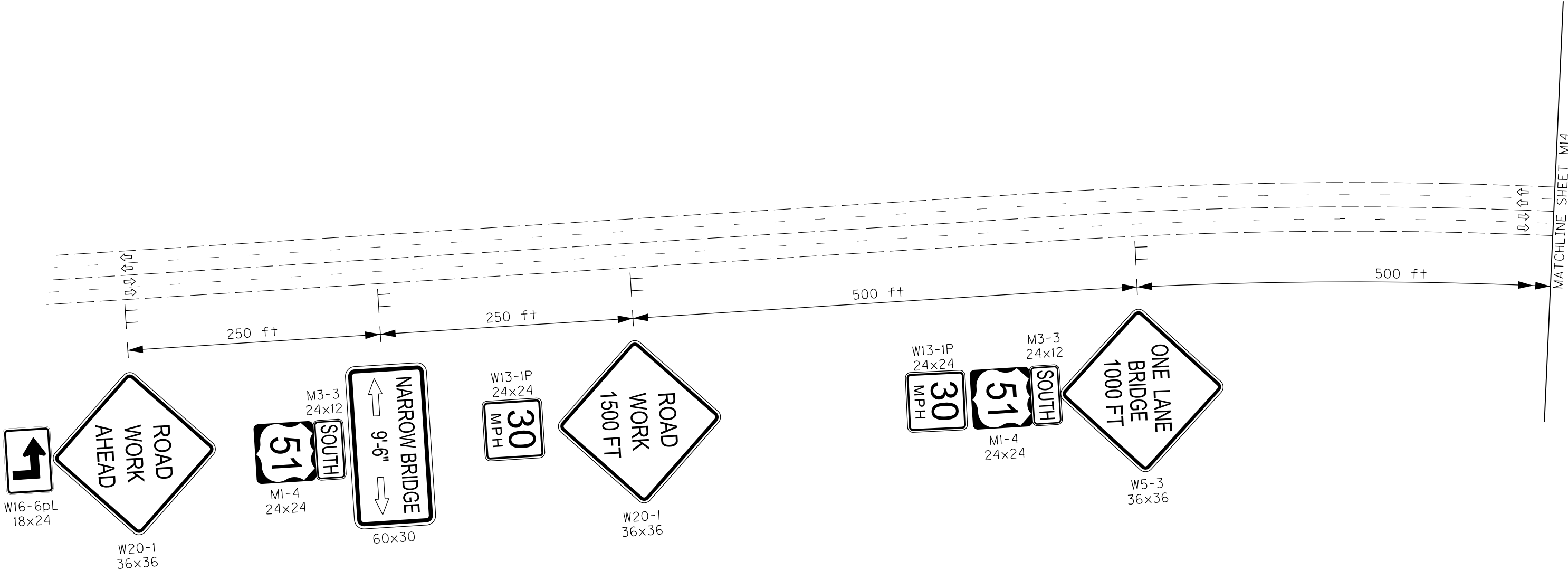
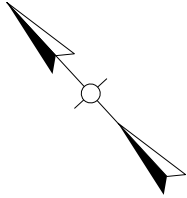
REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 2 SIGNING		
PREPARED BY		SHEET NO. M13
PALMER ENGINEERING CO.		DRAWING NO. 28288



**ILLINOIS APPROACH SIGNING**

BRIDGE NUMBER	PREPARED BY	SHEET NO.
004B00021N	PALMER ENGINEERING CO.	M14
		DRAWING NO.
		28288

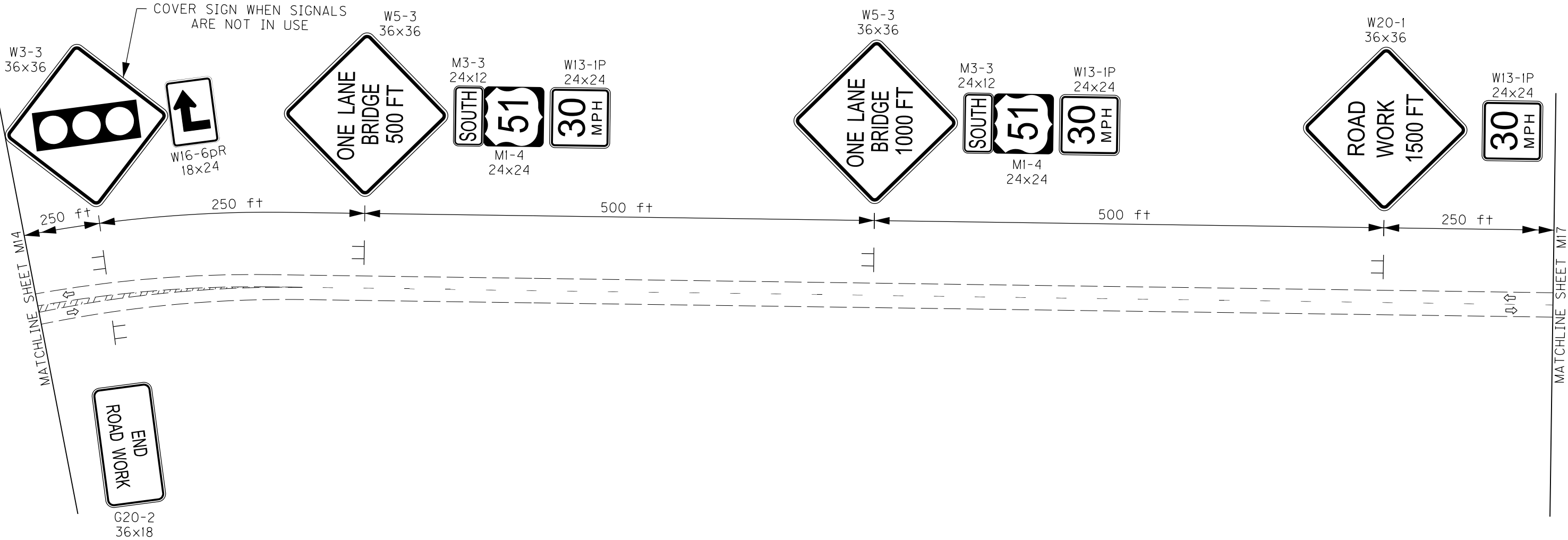
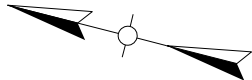
REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT ZONE 3 SIGNING		
PREPARED BY		SHEET NO. M14
PALMER ENGINEERING CO.		DRAWING NO. 28288



**ILLINOIS APPROACH SIGNING**

BRIDGE NUMBER	PREPARED BY	SHEET NO.
004B00021N	PALMER ENGINEERING CO.	M15
		DRAWING NO.
		28288

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J. J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY			
BALLARD			
ROUTE		CROSSING	
US 51		OHIO RIVER	
MOT ZONE 3 SIGNING			

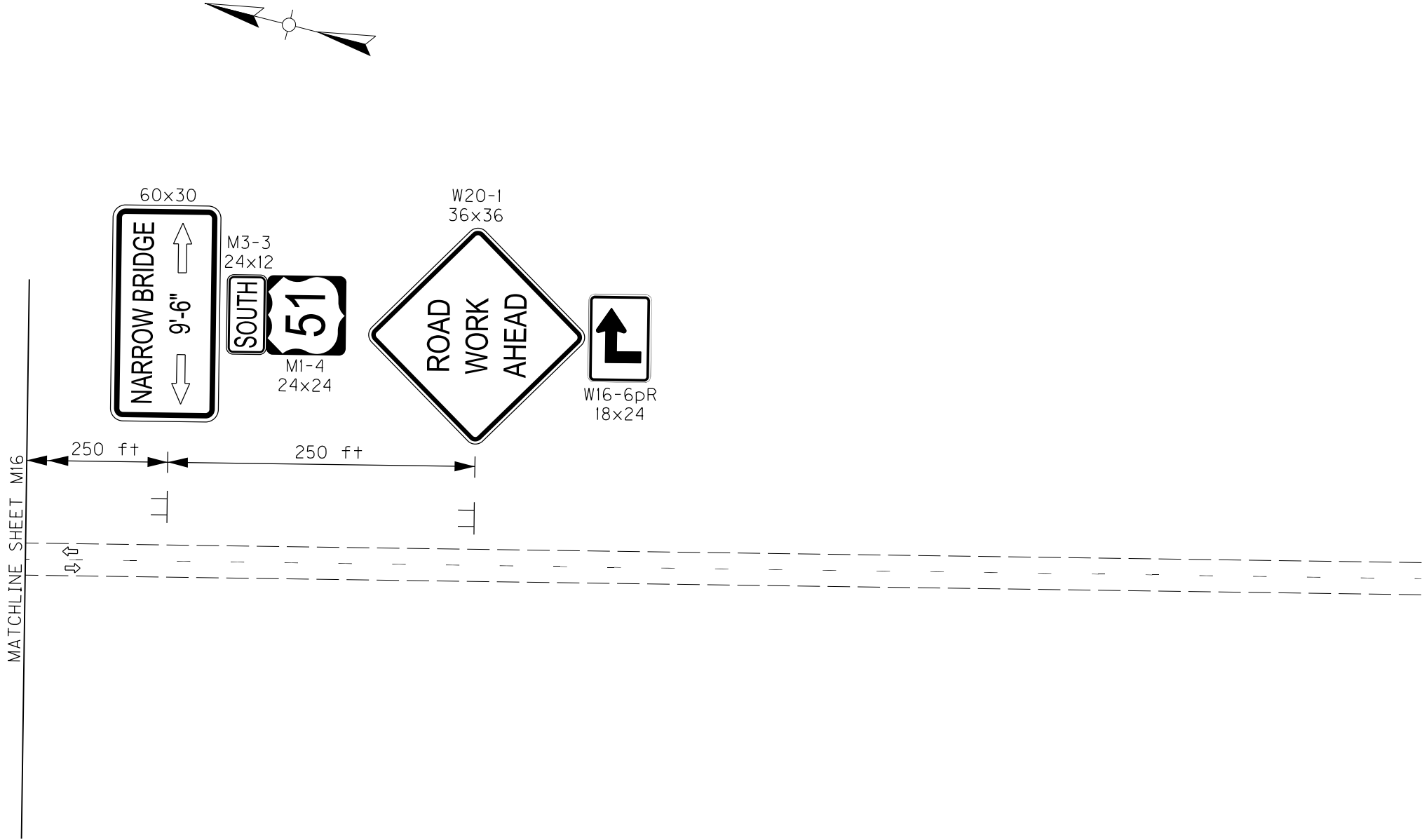


ILLINOIS APPROACH SIGNING

BRIDGE NUMBER	PREPARED BY	SHEET NO.
004B00021N	PALMER ENGINEERING CO.	M16
		DRAWING NO.
		28288

REVISION		DATE
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DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT ZONE 3 SIGNING		

ILLINOIS APPROACH SIGNING



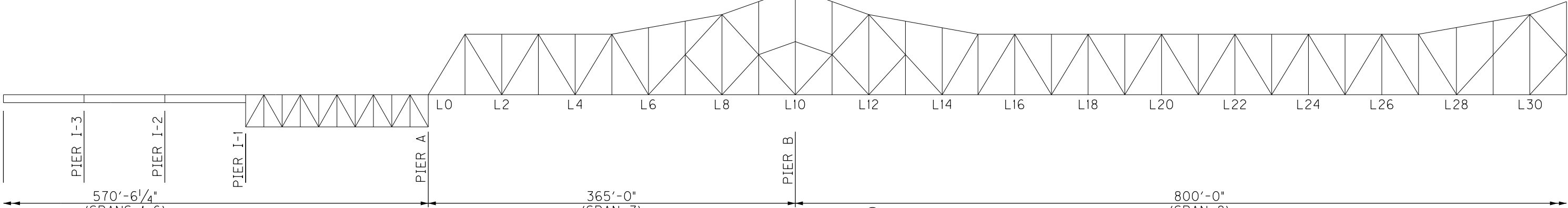
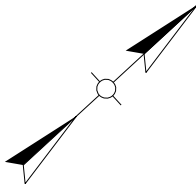
BRIDGE NUMBER			
004B00021N			

PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		M17
		DRAWING NO.
		28288

REVISION		DATE
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DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT ZONE 3 SIGNING		

G20-2

ILLINOIS



570'-6 1/4" (SPANS 1-6) 365'-0" (SPAN 7) 800'-0" (SPAN 8)

MOT ZONE 3 CONSTRUCTION AND TRAFFIC CONTROL  
(SEE SHEETS M30-M31 FOR PHASE A  
AND SHEETS M32-M33 FOR PHASE B)

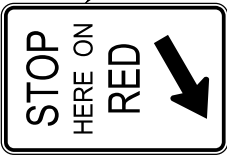
50 ft  
BUFFER

R10-6  
24x36

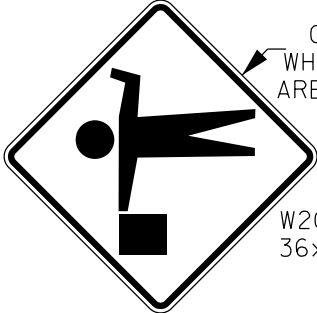
40 ft  
TAPER

FLAGGER  
WHEN IN USE

STOP BAR SHALL HAVE  
A WIDTH OF 24"

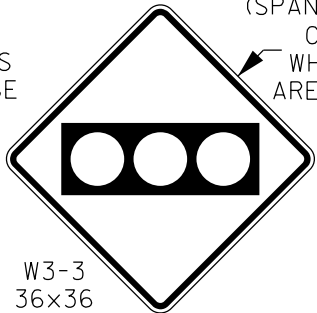


COVER SIGN  
WHEN SIGNALS  
ARE NOT IN USE



COVER SIGN  
WHEN FLAGGERS  
ARE NOT IN USE

W20-7  
36x36



W3-3  
36x36

COVER SIGN  
WHEN SIGNALS  
ARE NOT IN USE



W5-3  
36x36



W13-1P  
24x24

OHIO  
RIVER



G20-2  
36x18

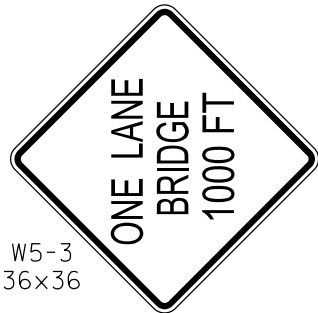
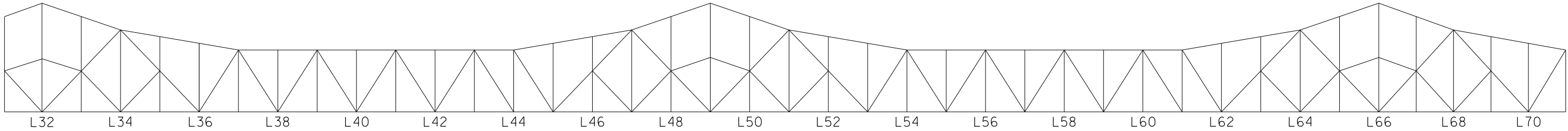
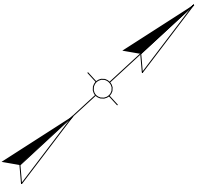
THROUGH TRUSS SIGNING

BRIDGE NUMBER

004B00021N

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DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT ZONE 3 SIGNING		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		M18
		DRAWING NO.
		28288





W5-3  
36x36



W13-1P  
24x24



W20-1  
36x36



W13-1P  
24x24



W20-1  
36x36

MATCHLINE SHEET M18

MATCHLINE

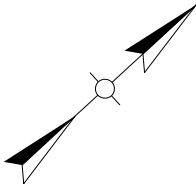
OHIO  
RIVER

Pier E

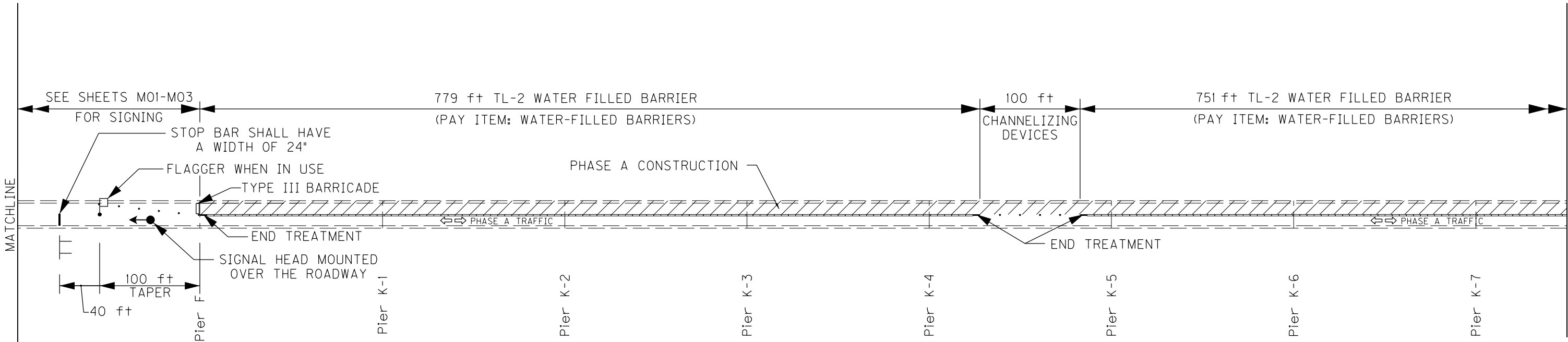
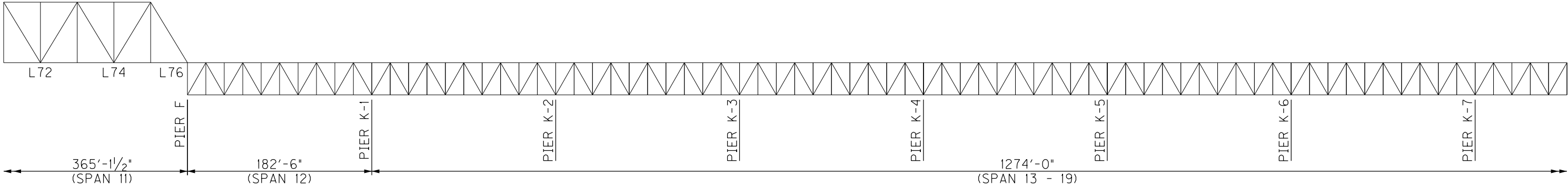
THROUGH TRUSS SIGNING

BRIDGE NUMBER		SHEET NO.	
004B00021N		M19	
		DRAWING NO.	
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REVISION		DATE
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DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT ZONE 3 SIGNING		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		M19
		DRAWING NO.
		28288



KENTUCKY

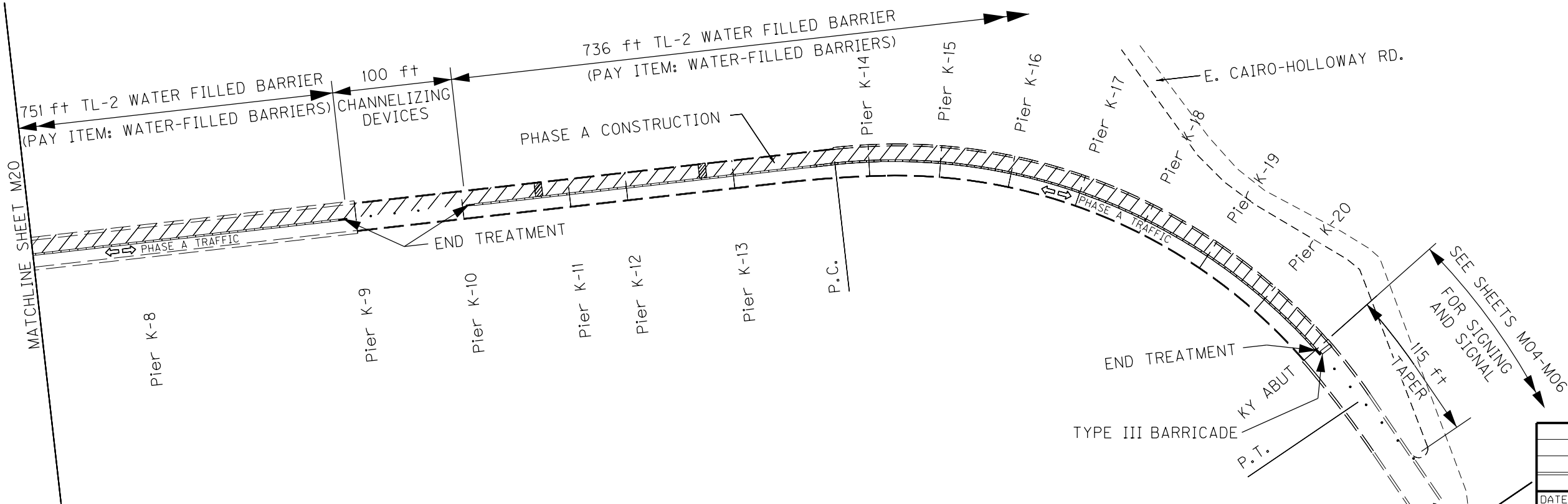
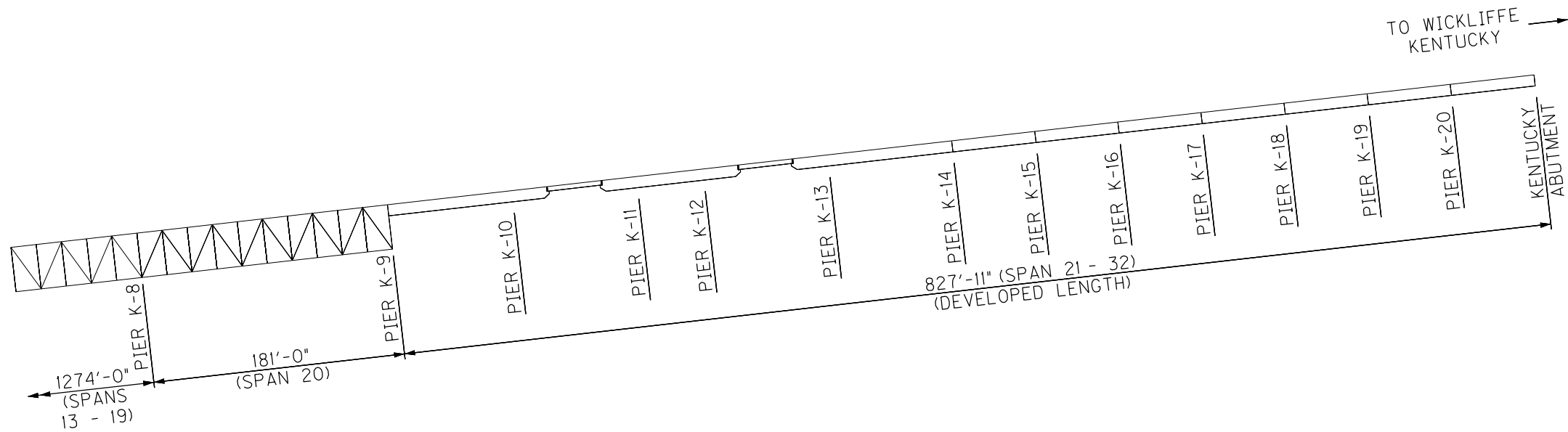


**ZONE 1 PHASE A CONSTRUCTION AND TRAFFIC CONTROL**

**NOTES:**

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY			
BALLARD			
ROUTE		CROSSING	
US 51		OHIO RIVER	
MOT PHASE 1A CONSTRUCTION			
PREPARED BY		SHEET NO.	
PALMER ENGINEERING CO.		M20	
		DRAWING NO.	
		28288	



## NOTES:

1. MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
2. SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
3. SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
4. CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

## ZONE 1 PHASE A CONSTRUCTION AND TRAFFIC CONTROL

BRIDGE NUMBER

004B00021N

REVISION

DATE

DATE: FEBRUARY, 2020

CHECKED BY

DESIGNED BY: D.E. RUST

J.J. COBURN

DETAILED BY: J.A. ROSE

D.E. RUST

Commonwealth of Kentucky  
DEPARTMENT OF HIGHWAYS

COUNTY

BALLARD

ROUTE  
US 51CROSSING  
OHIO RIVER

MOT PHASE 1A CONSTRUCTION

PREPARED BY

PALMER ENGINEERING CO.

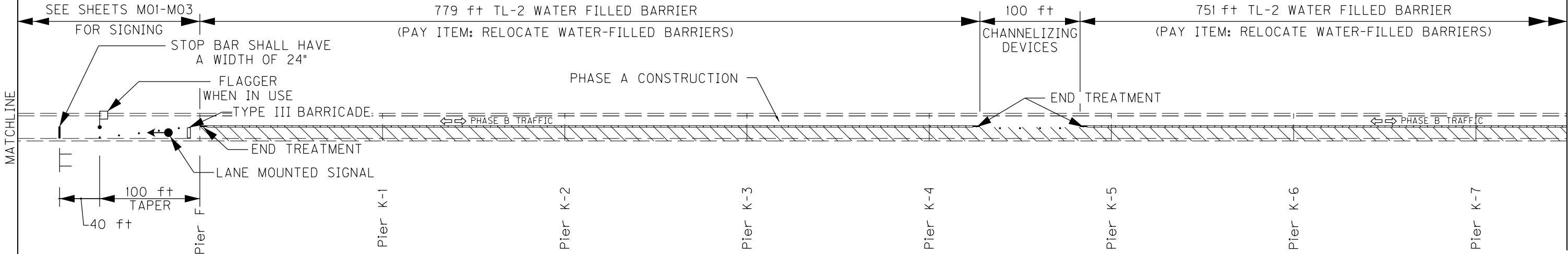
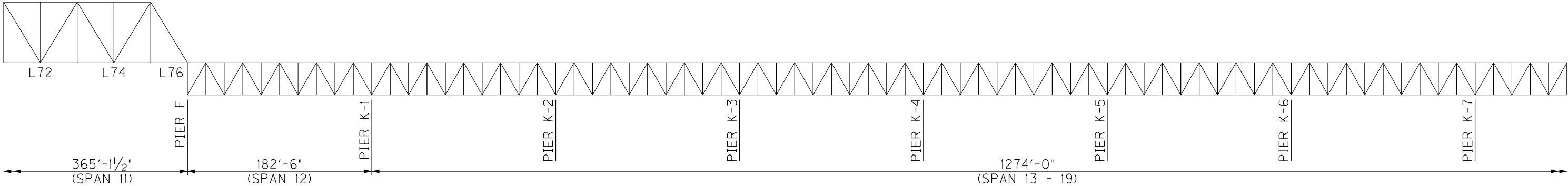
SHEET NO.

M21

DRAWING NO.

28288

KENTUCKY



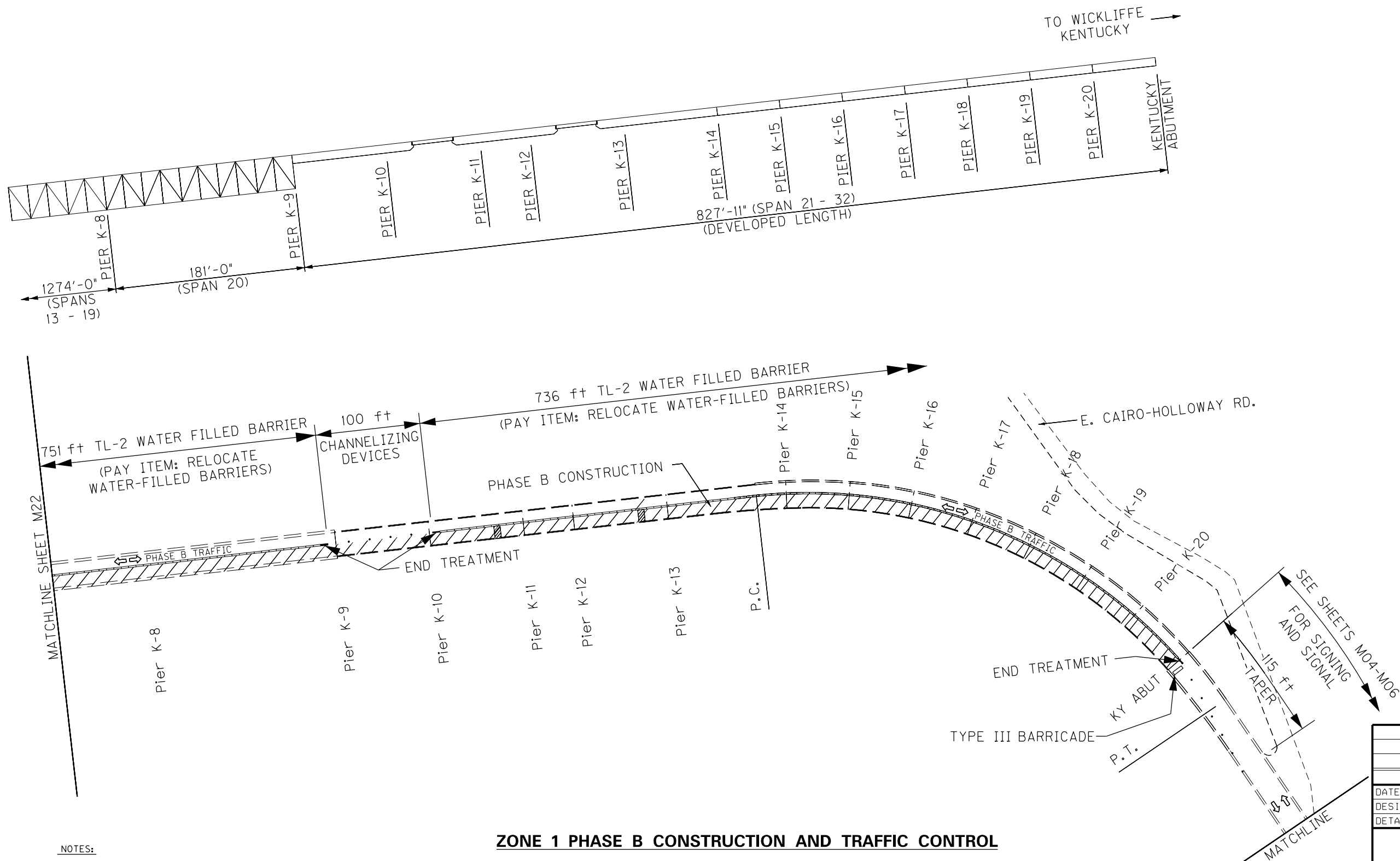
**ZONE 1 PHASE B CONSTRUCTION AND TRAFFIC CONTROL**

**NOTES:**

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER		SHEET NO.	
004B00021N		M22	
		DRAWING NO.	
		28288	

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY			
BALLARD			
ROUTE		CROSSING	
US 51		OHIO RIVER	
MOT PHASE 1B CONSTRUCTION			
PREPARED BY		SHEET NO.	
PALMER ENGINEERING CO.		M22	
		DRAWING NO.	
		28288	



## NOTES:

1. MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
2. SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
3. SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
4. CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

## ZONE 1 PHASE B CONSTRUCTION AND TRAFFIC CONTROL

BRIDGE NUMBER

004B00021N

REVISION

DATE

DATE: FEBRUARY, 2020

CHECKED BY

DESIGNED BY: D.E. RUST

J.J. COBURN

DETAILED BY: J.A. ROSE

D.E. RUST

Commonwealth of Kentucky  
DEPARTMENT OF HIGHWAYS

COUNTY

BALLARD

ROUTE  
US 51CROSSING  
OHIO RIVER

MOT PHASE 1B CONSTRUCTION

PREPARED BY

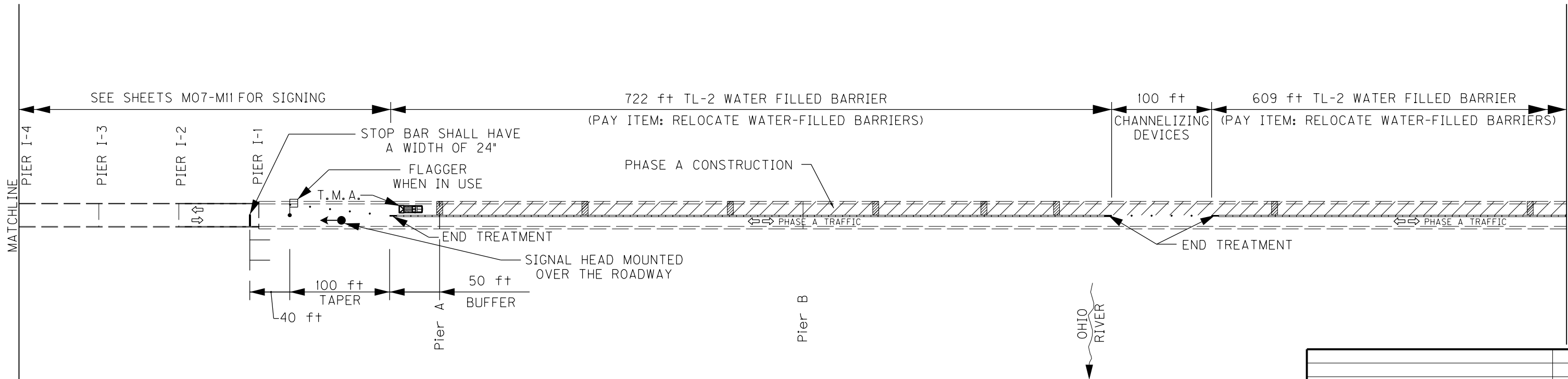
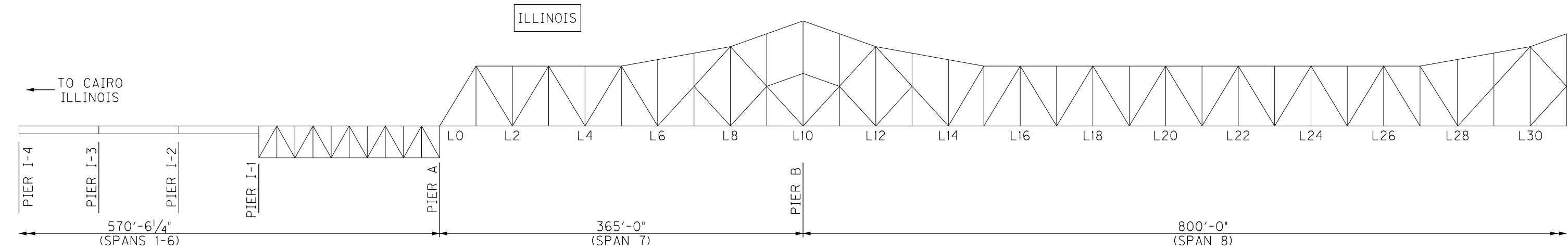
PALMER ENGINEERING CO.

SHEET NO.

M23

DRAWING NO.

28288

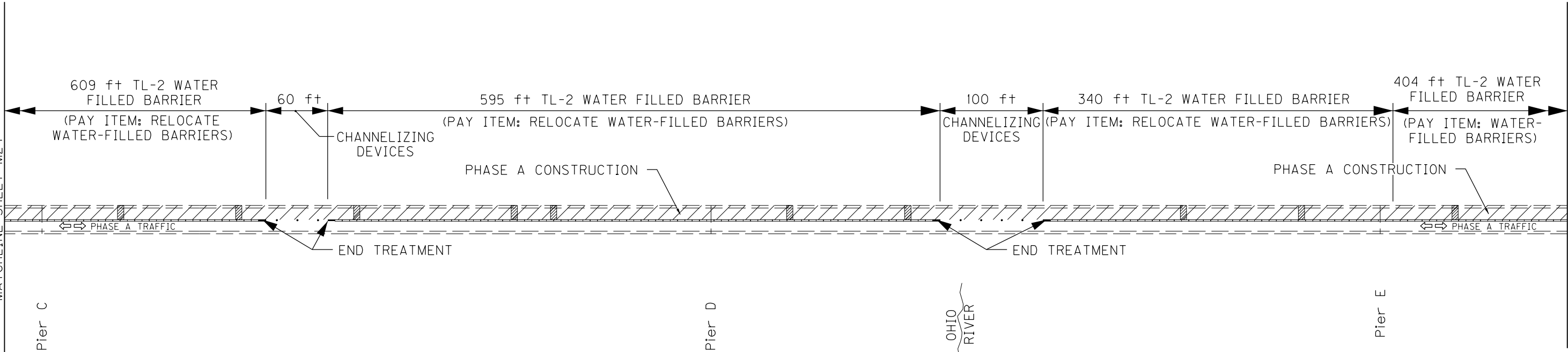
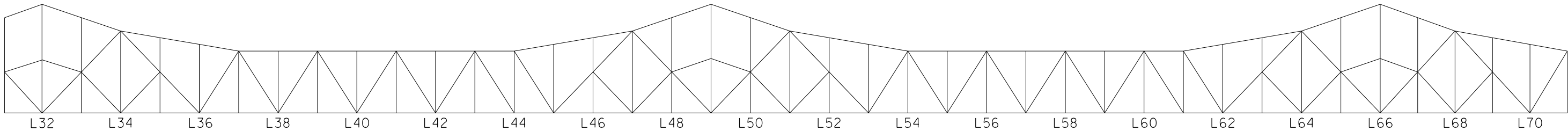
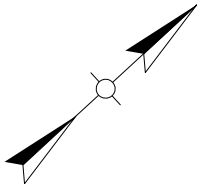
**ZONE 2 PHASE A CONSTRUCTION AND TRAFFIC CONTROL****NOTES:**

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER

004B00021N

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT PHASE 2A CONSTRUCTION		
PREPARED BY PALMER ENGINEERING CO.		SHEET NO. M24 DRAWING NO. 28288



**ZONE 2 PHASE A CONSTRUCTION AND TRAFFIC CONTROL**

**NOTES:**

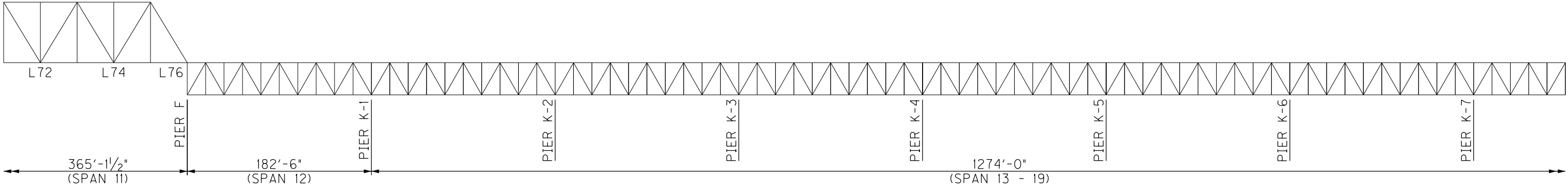
- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER		PREPARED BY	SHEET NO. M25 DRAWING NO. 28288
004B00021N			

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT PHASE 2A CONSTRUCTION		
PREPARED BY PALMER ENGINEERING CO.		SHEET NO. M25 DRAWING NO. 28288



KENTUCKY



404 ft TL-2 WATER  
FILLED BARRIER  
(PAY ITEM: WATER-  
FILLED BARRIERS)

50 ft  
BUFFER

40 ft  
TAPER

STOP BAR SHALL HAVE  
A WIDTH OF 24"

SEE SHEETS M12-M13 FOR SIGNING

MATCHLINE SHEET M25

MATCHLINE

PHASE A CONSTRUCTION  
T.M.A.  
PHASE A TRAFFIC  
END TREATMENT  
LANE MOUNTED SIGNAL  
FLAGGER  
WHEN IN USE

**ZONE 2 PHASE A CONSTRUCTION AND TRAFFIC CONTROL**

**NOTES:**

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT PHASE 2A CONSTRUCTION		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		M26
		DRAWING NO.
		28288

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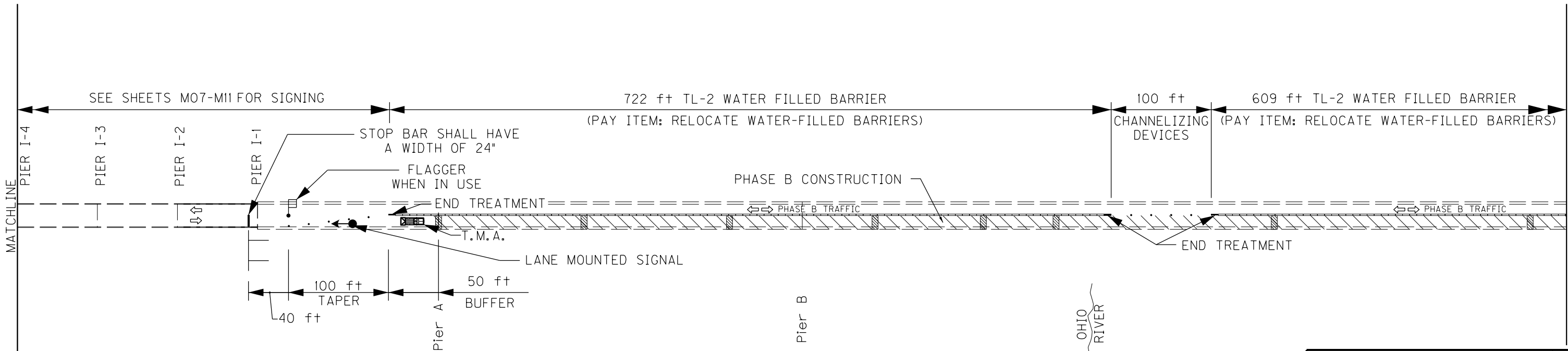
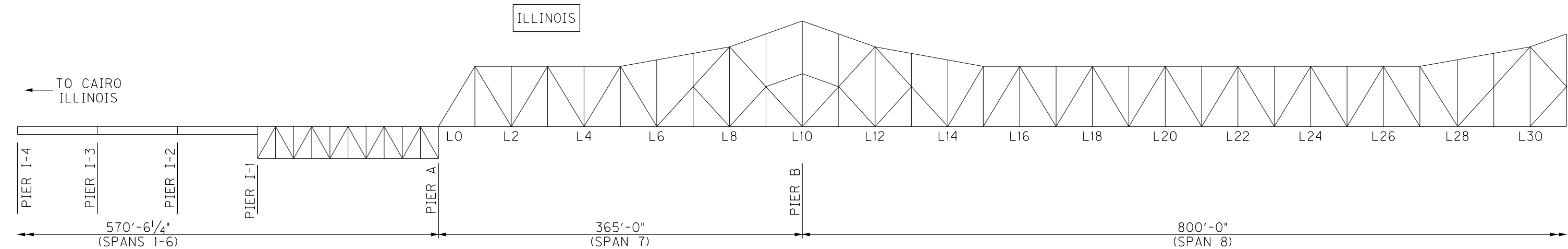
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Power InRoads v8.11.9.397

USER: david-r  
DATE PLOTTED: January 24, 2020  
E-SHEET NAME:

FILE NAME: J:\XDOT\OHIO RIVER BRIDGE INSPECTIONS 18-19\2. CAIRO\REPAIR PLANS\DCN\M27\_Cairo\MOTPH2B\_BR-01.dgn



### ZONE 2 PHASE B CONSTRUCTION AND TRAFFIC CONTROL

#### NOTES:

1. MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
2. SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
3. SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
4. CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER		SHEET NO.	
004B00021N		M27	
		DRAWING NO.	
		28288	

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
BALLARD		
ROUTE	CROSSING	
US 51	OHIO RIVER	
MOT PHASE 2B CONSTRUCTION		
PREPARED BY		SHEET NO.
PALMER ENGINEERING CO.		M27
		DRAWING NO.
		28288

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2/21/2020

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Power InRoads v8.11.9.397

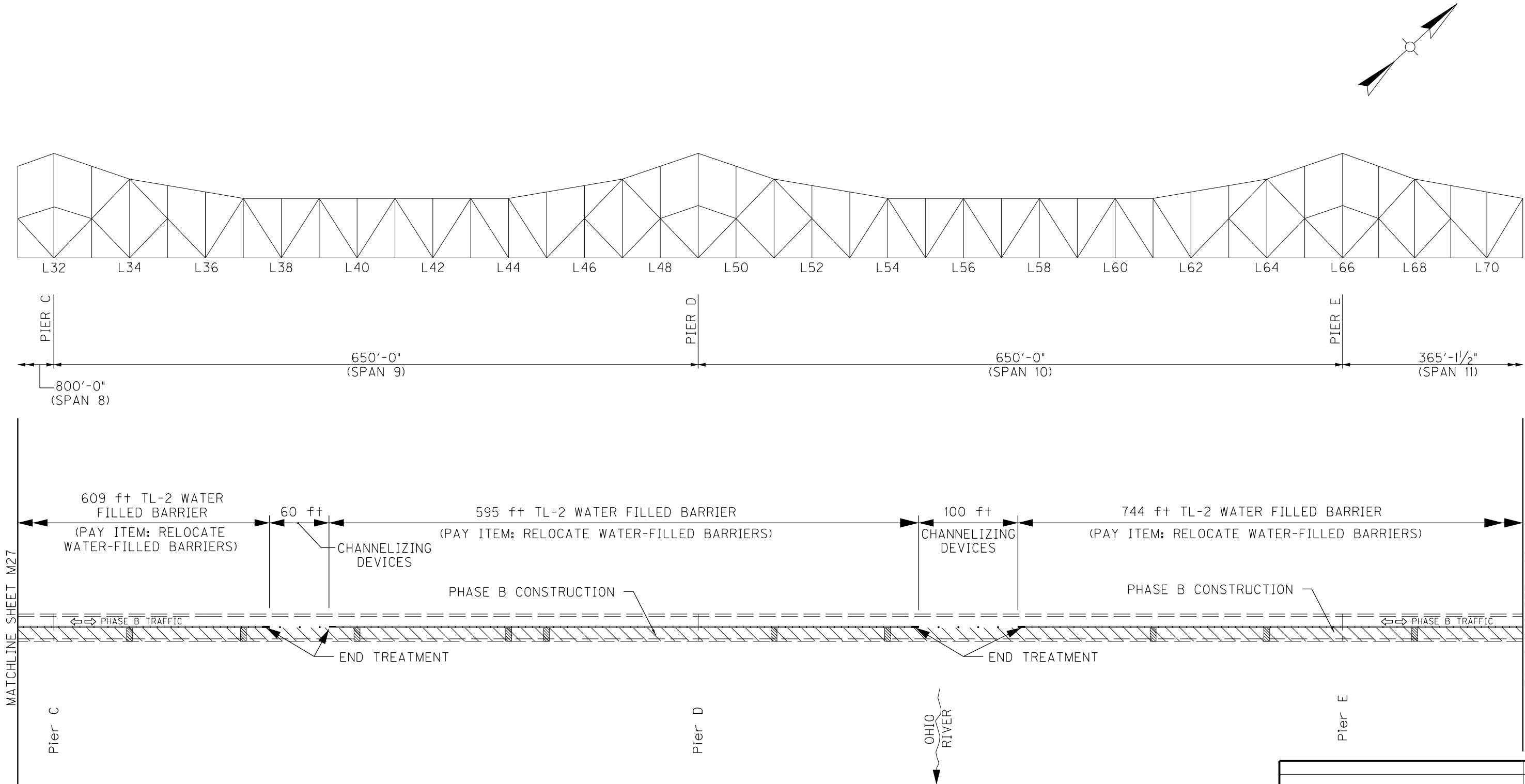
USER: jeff-r  
DATE PLOTTED: September 18, 2012

FILE NAME: J:\XDOT\OHIO RIVER BRIDGE INSPECTIONS 18-19\2. CAIRO\REPAIR PLANS\DON\CAIRO\_SFBDORDER.DGN

E-SHEET NAME:

28

28288



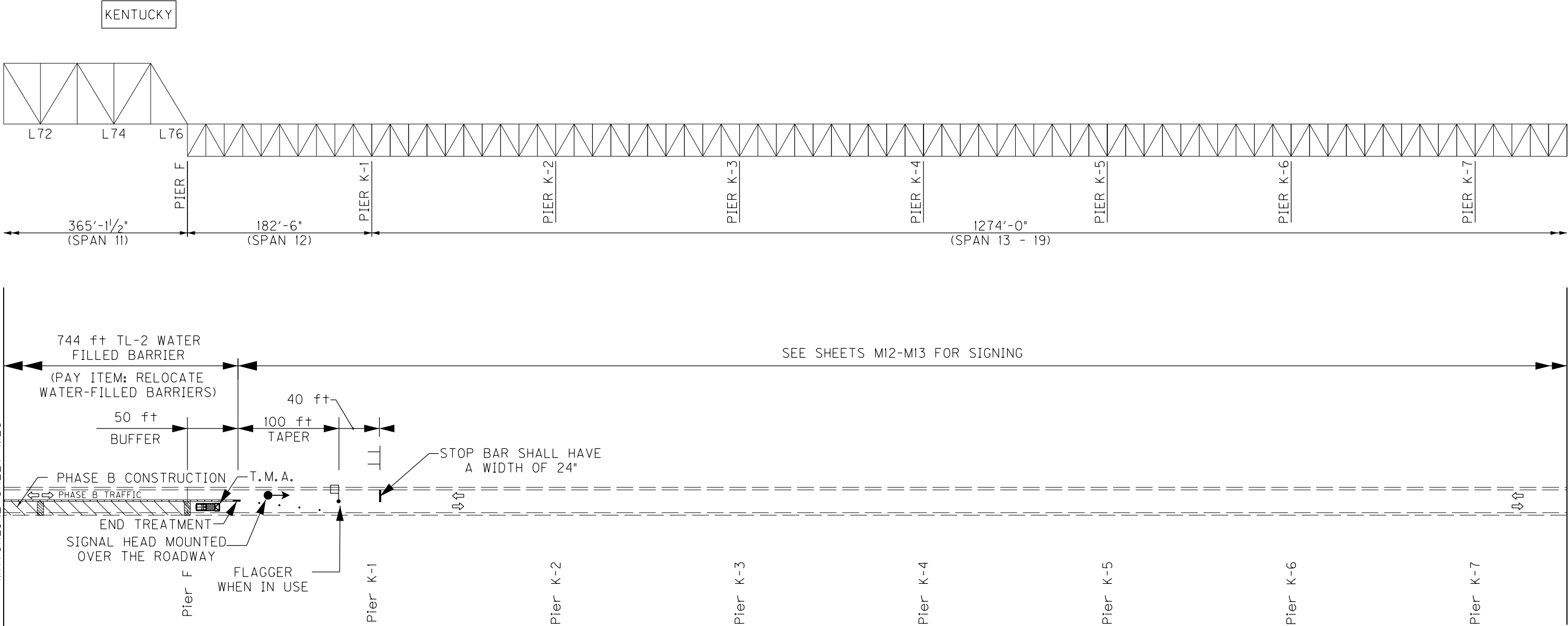
**ZONE 2 PHASE B CONSTRUCTION AND TRAFFIC CONTROL**

**NOTES:**

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER		SHEET NO.	
004B00021N		M28	
DRAWING NO.		28288	

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT PHASE 2B CONSTRUCTION			
PREPARED BY		SHEET NO. M28 DRAWING NO. 28288	
PALMER ENGINEERING CO.			

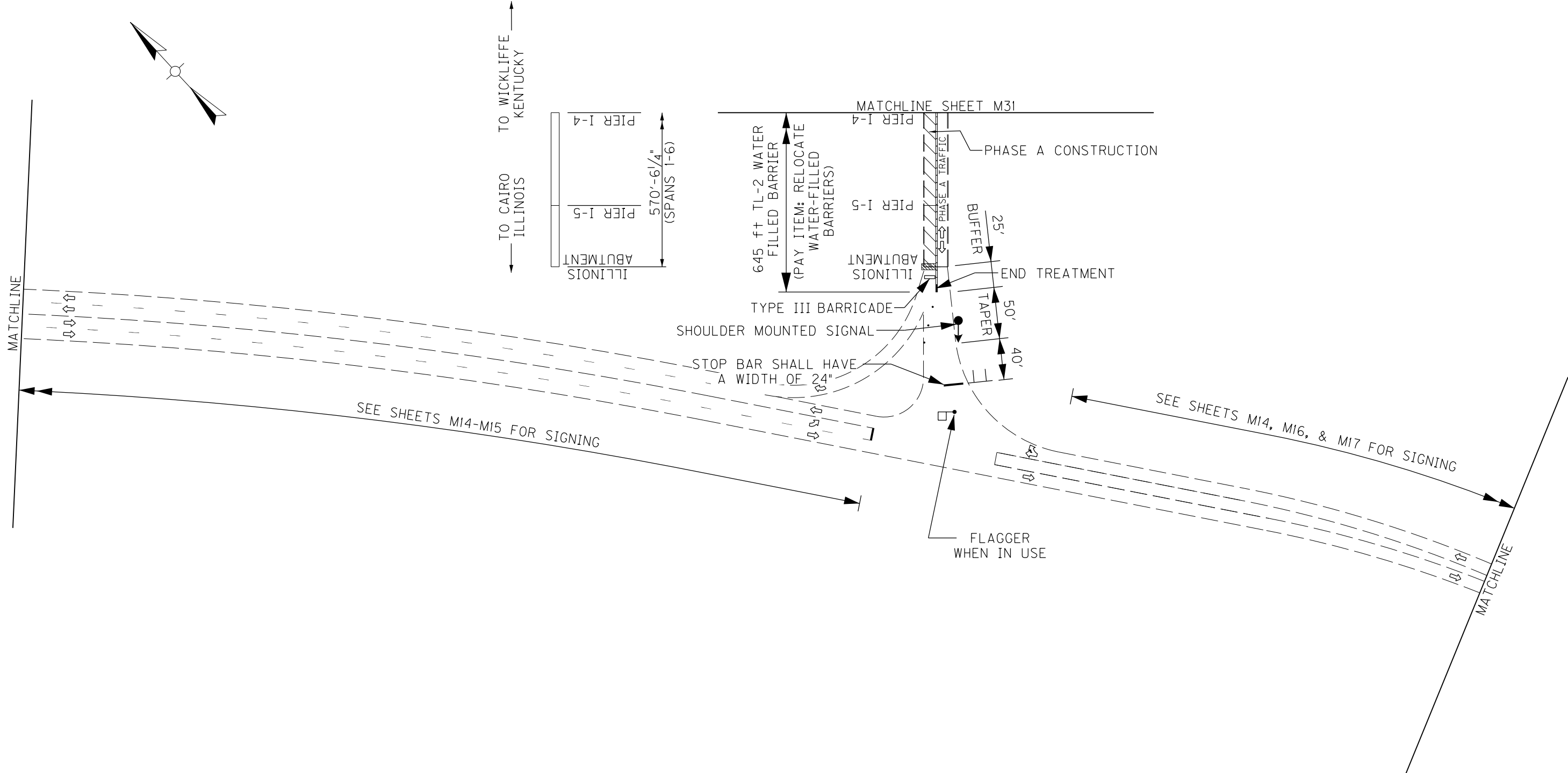


ZONE 2 PHASE B CONSTRUCTION AND TRAFFIC CONTROL

- NOTES:
- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
  - SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
  - SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
  - CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER		SHEET NO.	
004B00021N		M29	
		DRAWING NO.	
		28288	

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT PHASE 2B CONSTRUCTION			
PREPARED BY		SHEET NO. M29	
PALMER ENGINEERING CO.		DRAWING NO. 28288	



### ZONE 3 PHASE A CONSTRUCTION AND TRAFFIC CONTROL

#### NOTES:

1. MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
2. SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
3. SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
4. CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J. J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT PHASE 3A CONSTRUCTION			
PREPARED BY		SHEET NO.	
PALMER ENGINEERING CO.		M30	
		DRAWING NO.	
		28288	

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2/21/2020

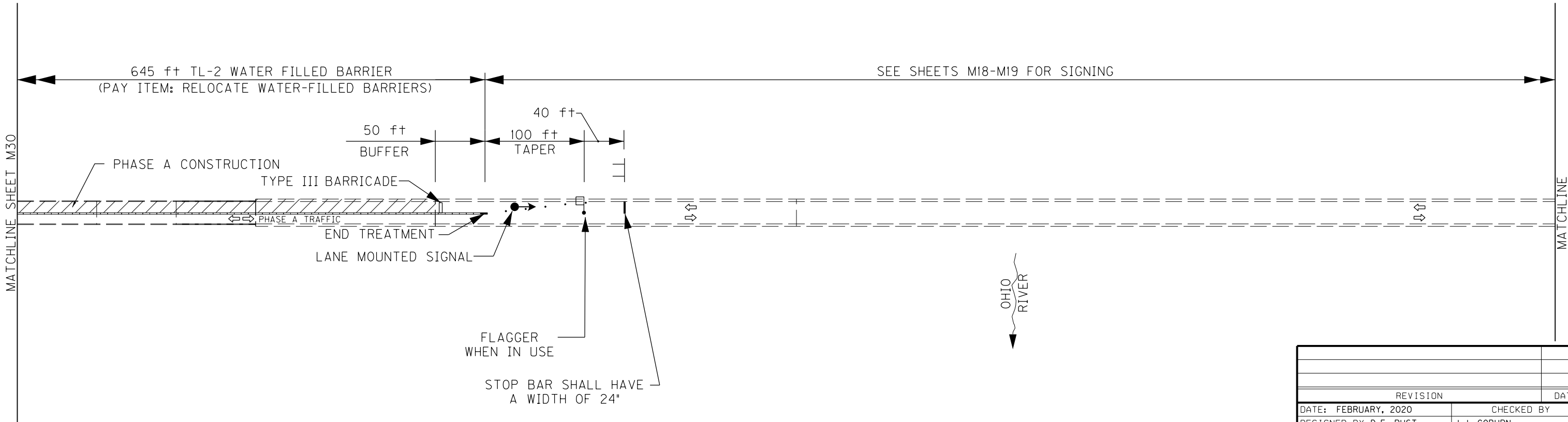
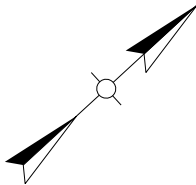
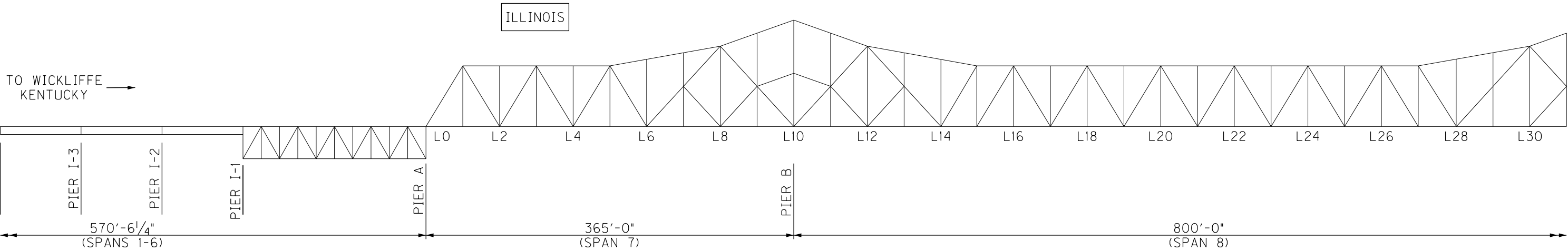
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Power InRoads v8.11.9.397

FILE NAME: J:\XDOT\OHIO RIVER BRIDGE INSPECTIONS 18-19\2. CAIRO\REPAIR PLANS\DON\CAIRO\_SFORDER.DGN

USER: jeff-r  
DATE PLOTTED: September 18, 2012

E-SHEET NAME:

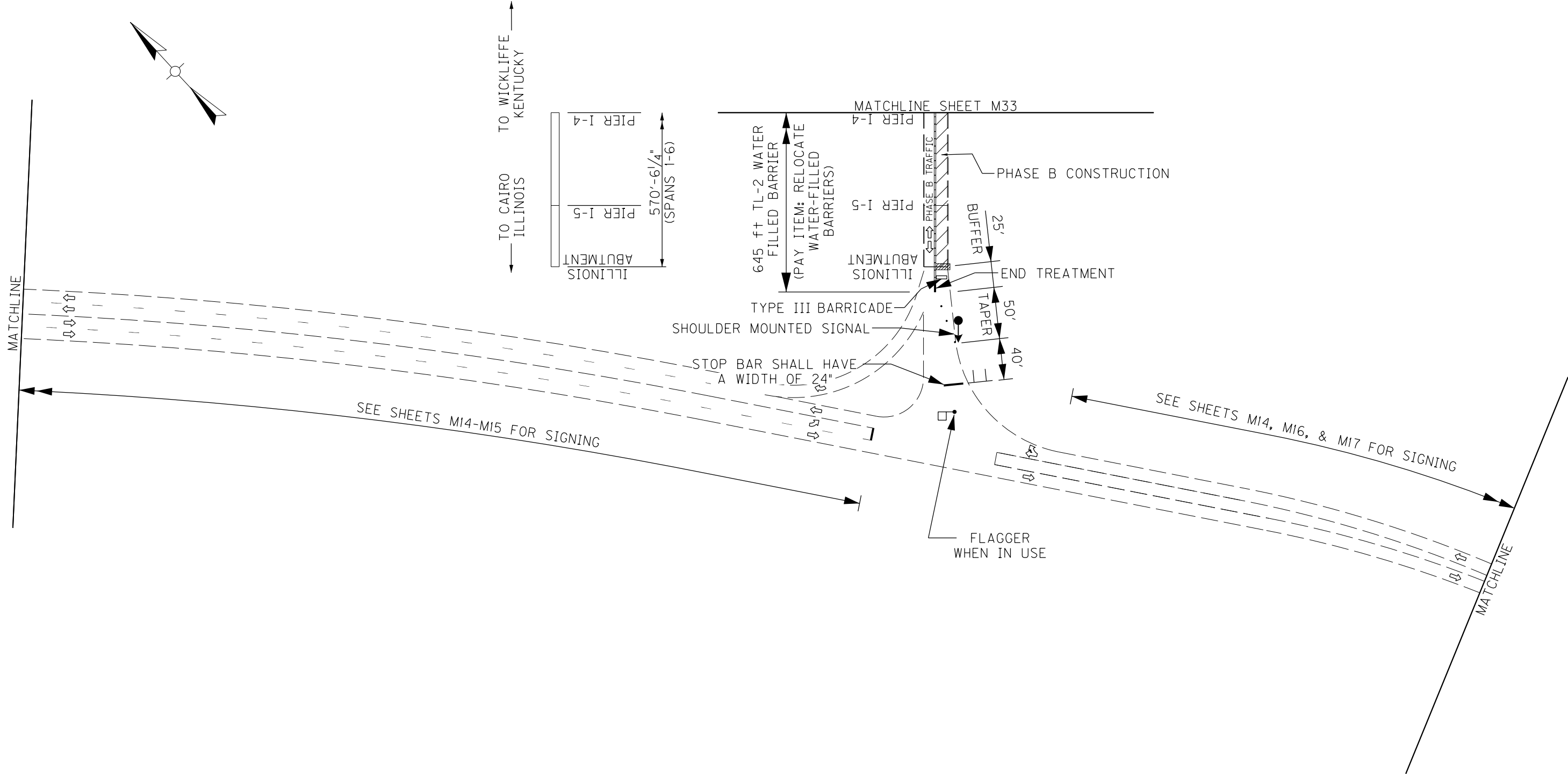


NOTES:

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
- CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BRIDGE NUMBER	PREPARED BY	SHEET NO.
004B00021N	PALMER ENGINEERING CO.	M31
		DRAWING NO.
		28288

REVISION		DATE
DATE: FEBRUARY, 2020	CHECKED BY	
DESIGNED BY: D.E. RUST	J.J. COBURN	
DETAILED BY: J.A. ROSE	D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BALLARD		
ROUTE US 51	CROSSING OHIO RIVER	
MOT PHASE 3A CONSTRUCTION		
PREPARED BY		SHEET NO. M31
PALMER ENGINEERING CO.		DRAWING NO. 28288



### ZONE 3 PHASE B CONSTRUCTION AND TRAFFIC CONTROL

#### NOTES:

1. MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
2. SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
3. SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
4. CHANNELIZING DEVICES SHALL ONLY BE USED AT LOCATIONS SHOWN IN THESE PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT PHASE 3B CONSTRUCTION			
PREPARED BY		SHEET NO. M32	
PALMER ENGINEERING CO.		DRAWING NO. 28288	

2/28/15 PM

2/21/2020

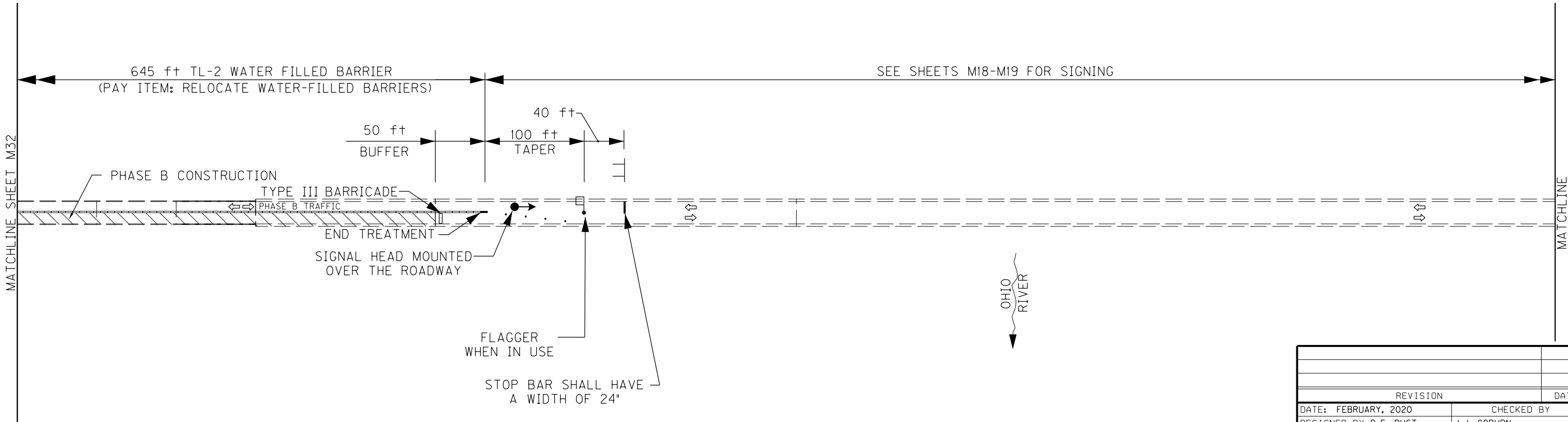
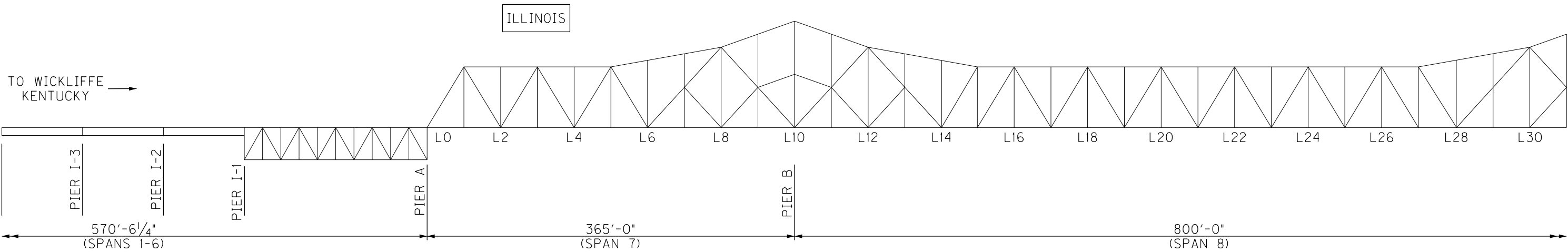
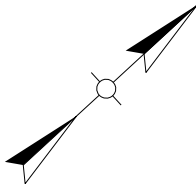
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E-SHEET NAME:

Power InRoads v8.11.9.397

FILE NAME: J:\XDOT\OHIO RIVER BRIDGE INSPECTIONS 18-19\2. CAIRO\REPAIR PLANS\DON\M33-CAIRO\MOTPH3B-BR-01.DGN

USER: david-r  
DATE PLOTTED: February 12, 2020



NOTES:

- MOT TYPICAL SECTION IS SHOWN ON SHEET S11.
- SEE "SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS" FOR ADDITIONAL INFORMATION.
- SEE STD. DWG. TTC-110, RBE-100, RBM-115, AND RBM-120 FOR NOTES AND ADDITIONAL DETAILS.
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BRIDGE NUMBER		SHEET NO.	
004B00021N		M33	
		DRAWING NO.	
		28288	

REVISION		DATE	
DATE: FEBRUARY, 2020		CHECKED BY	
DESIGNED BY: D.E. RUST		J.J. COBURN	
DETAILED BY: J.A. ROSE		D.E. RUST	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BALLARD			
ROUTE US 51		CROSSING OHIO RIVER	
MOT PHASE 3B CONSTRUCTION			
PREPARED BY		SHEET NO. M33	
PALMER ENGINEERING CO.		DRAWING NO. 28288	