

STATE OF NEBRASKA

DEPARTMENT OF TRANSPORTATION

PLANS FOR CONSTRUCTION

UTICA INTERCHANGE

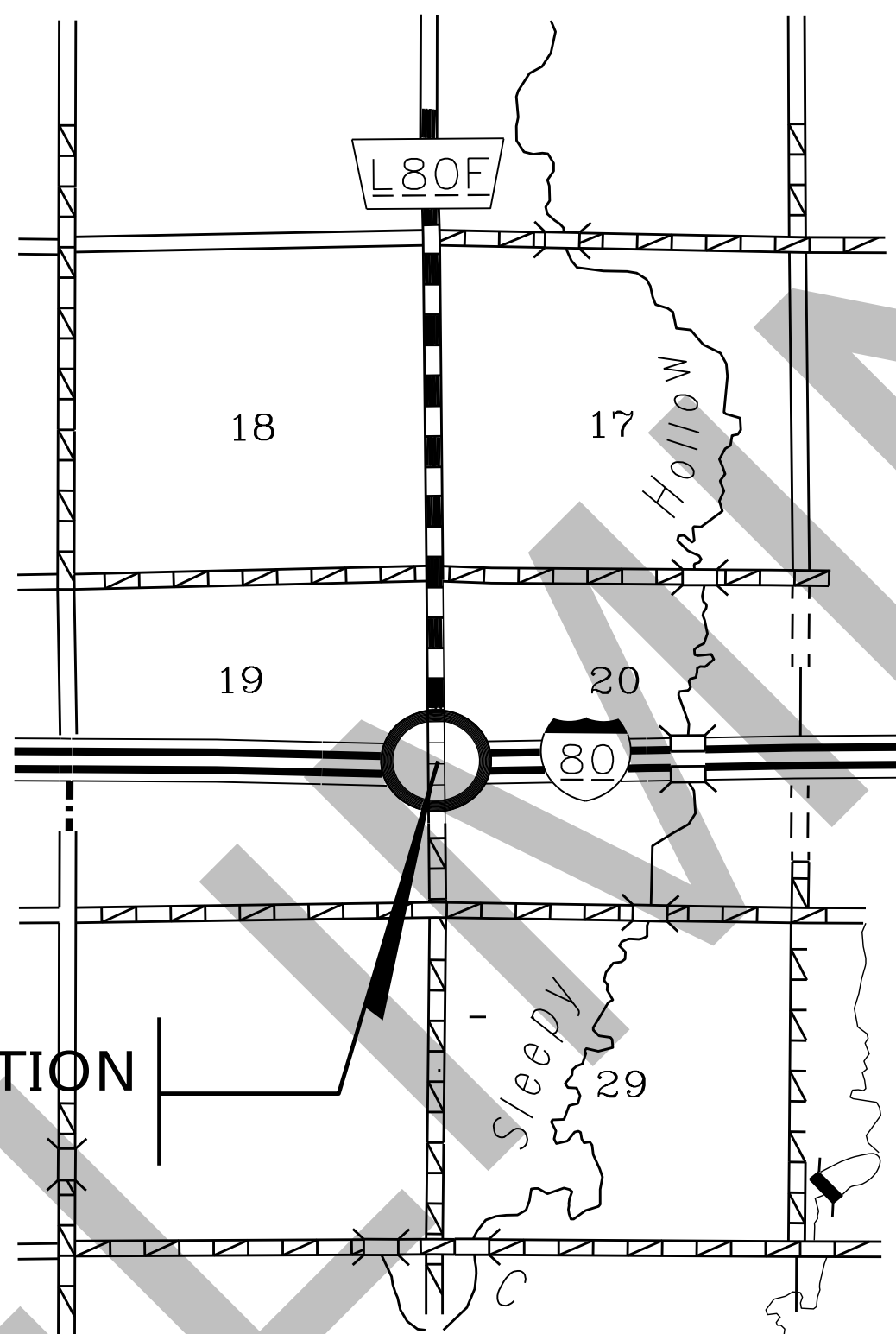
SEWARD COUNTY

SHEET NO.

A1	TITLE PAGE
C1	SUMMARY OF QUANTITIES
G1	GENERAL INFORMATION
M1	TYPICAL TRAFFIC SIGNAL CONTROL PLAN--ONE LANE, TWO-WAY OPERATION WITH BARRIERS
M2	TYPICAL TRAFFIC SIGNAL CONTROL PLAN--TEMPORARY TRAFFIC SIGNAL DETAILS
S1 - S4	SPECIAL PLAN 1 BRIDGE REPAIR STA. 15+00.00

STANDARD PLANS

870	(2 SHEETS) CONCRETE PROTECTION BARRIER
920-R7	(3 SHEETS) TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE
921-R8	(2 SHEETS) TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE
941-R1	(2 SHEETS) PAVEMENT MARKING
943	(4 SHEETS) TEMPORARY PAVEMENT MARKING



M.M. 366.16
PROJECT LOCATION

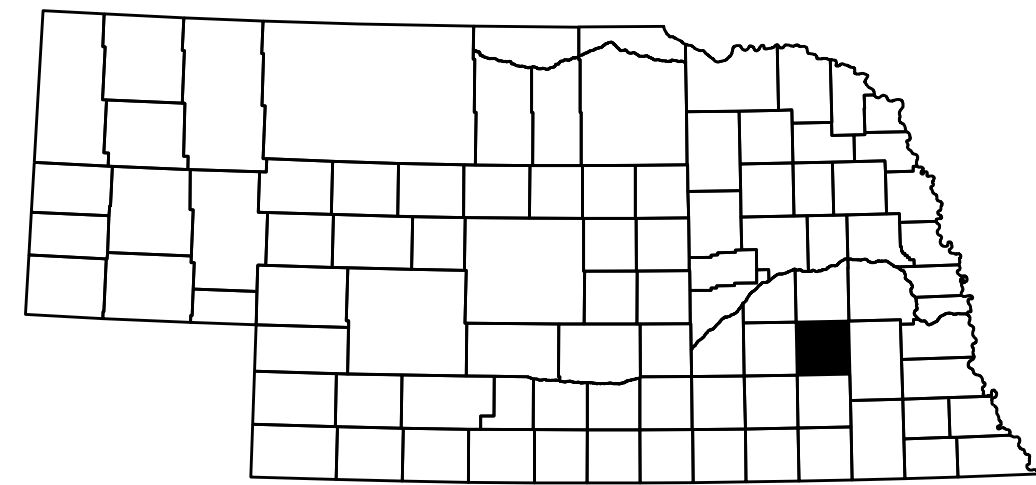
THE WORK ON THIS PROJECT CONSISTS OF GROUPS 1 - GRADING, 3 - CONCRETE PAVEMENT, 4 - CULVERTS, 5 - SEEDING, 6 - BRIDGE, 7 - GUARDRAIL, 8 - MISCELLANEOUS, 9 - BITUMINOUS & 10 - GENERAL	
▲ GROUPS 1, 3, 4, 5, 6, 7, 8, 9 & 10 ARE INCLUDED IN THE LETTING OF _____ OCTOBER 19, 2023	
▲ GROUPS _____ ARE INCLUDED IN THE LETTING OF _____	
■ GROUPS _____ ARE INCLUDED IN THE LETTING OF _____	

THE 2017 EDITION OF THE NEBRASKA STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS APPLY TO THIS PROJECT.

DESIGN DESIGNATION
MAINTENANCE
TRAFFIC
YEAR: 2024
ADT: 1010

A1
Project Number S-L80F(1011)
C.N. 13532
▲ C.N.
▲ C.N.
■ C.N.

REFERENCE POST NO. _____ TO REFERENCE POST NO. _____	FEET _____ MILES _____
TOTAL NET LENGTH OF PROJECT: _____ FEET _____ MILES	



PRELIMINARY

COMPUTER: BG0419MS37

DATE: 13-JUN-2023 08:34

FILE: 13532_NDOT_Title_and_Index.dgn

NEBRASKA
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DEPARTMENT OF TRANSPORTATION

I, Mick Syslo, am the Coordinating Professional on the Utica Interchange Repair project.

NOTES

- The locations of all aerial and underground utility facilities may not be indicated in these plans. Underground utilities, whether indicated or not will be located and flagged by the Utilities at the request of the Contractor.

No excavation will be permitted in the area of underground utility facilities until all such facilities have been located and identified to the satisfaction of all parties. The excavation must be accomplished with extreme care in order to avoid any possibility of damage to the utility facility.

PRELIMINARY

LEGEND

---	G---	GAS LINE
---	E---	ELECTRICAL SERVICE
---	P---	POWER LINE
---	OP---	OVERHEAD POWER LINE
---	SAN---	SANITARY SEWER
---	SS---	STORM SEWER
---	T---	TELEPHONE LINE
---	TFO---	FIBER OPTIC TELE. LINE
---	OT---	OVERHEAD TELEPHONE LINE
---	TV---	CABLE TV LINE
---	OTV---	OVERHEAD CABLE TV LINE
---	W---	WATER LINE
---	o---	FENCE - CHAIN LINK
---	x---	FENCE - R.O.W. OR WIRE
---	□---	FENCE - WOOD
---	---	FLOWLINE
---	---	CENTER LINE DRIVE
⊕		BENCH MARK
⊙		CENTER PIVOT
⊙		CONTROL POINT
⌈		CULVERT
XXXXXX		DIKE
⊙		GAS METER
⊗		GAS VALVE
+		GRID TICK
⌈		GUARDRAIL
•		GUARD POST
•		GUY POLE
┆		GUY WIRE
⊙		LIGHT POLE
⊙		MAILBOX
⊙		MANHOLE
⌈		MARSH
⊙		OIL WELL
⊙		PHOTO CODE POINT
⊙		POWER BOX
⊙		POWER POLE
⊙		POWER PULL BOX
⊙		PROPANE TANK
⊙		R.O.W. MARKER
⊙		ADVANCED R.R. WARNING SIGN
⊙		RAILROAD WARNING
⊙		RAILROAD TRACKS
⊙		RETAINING WALL
⊙		SATELLITE DISH
⊙		SIGN
⊙		TRAFFIC SIGNAL
⊙		TRAFFIC SIGNAL/ST. LIGHT
⊙		TELEPHONE BOX
⊙		TELE. FIBER OPTICS BOX
⊙		TELEPHONE PULL BOX
⊙		TELEPHONE POLE
⊙		TELEVISION BOX
⊙		TRAVELED WAY
⊙		TREE - CONIFEROUS
⊙		TREE - DECIDUOUS
⊙		TREE STUMP
⊙		WATER (FIRE) HYDRANT
⊙		WATER VALVE
⊙		WATER METER
⊙		WELL
⊙		WINDMILL

G1

Project Number
L80F(1011)

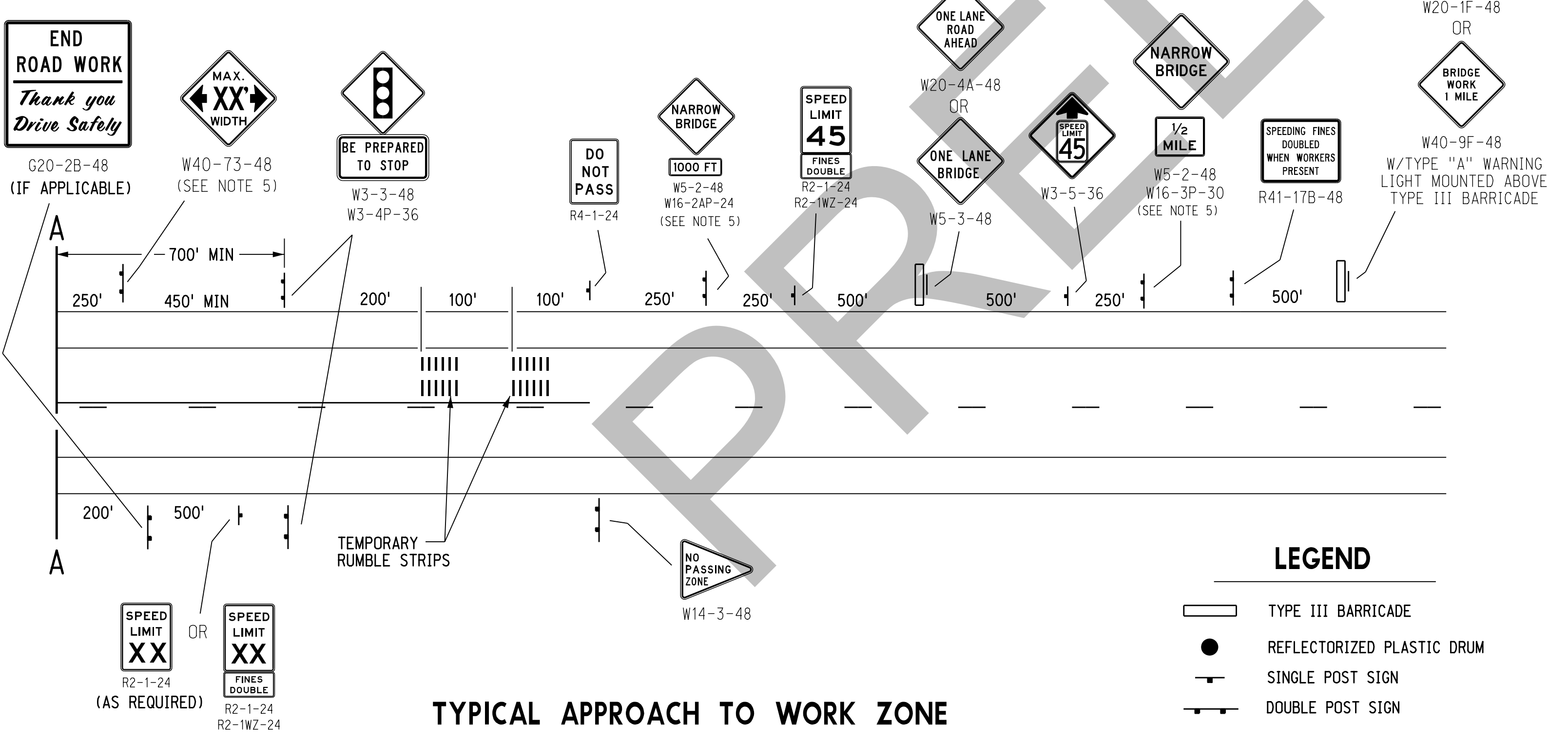
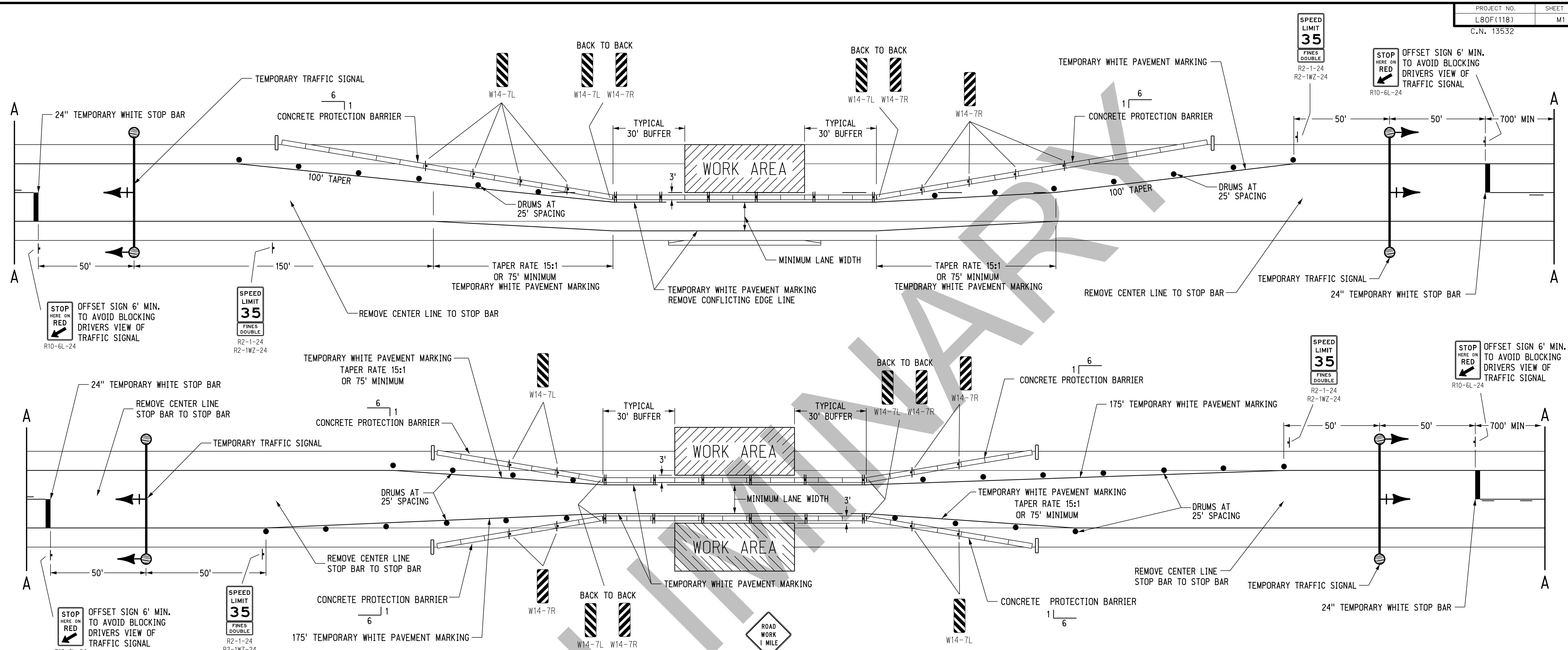
C.N. 13532

GENERAL INFORMATION

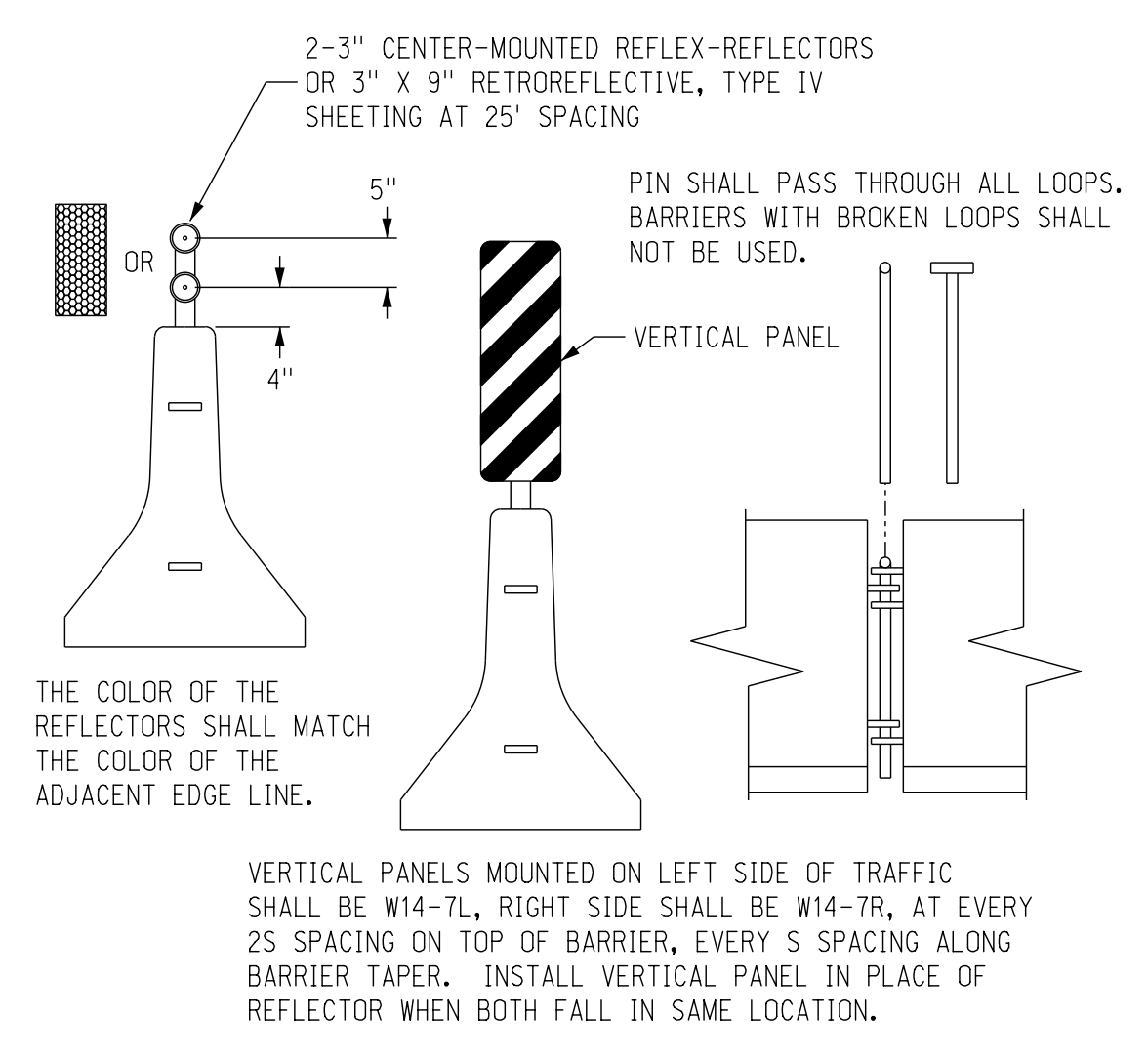
NEBRASKA
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DEPARTMENT OF TRANSPORTATION

Roadway
Design
Division

TRAFFIC ENGINEERING DIVISION
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Date: 24-MAR-2023 09:50
File: wz111e-1 r8.dgn



CONCRETE PROTECTION BARRIER DETAIL



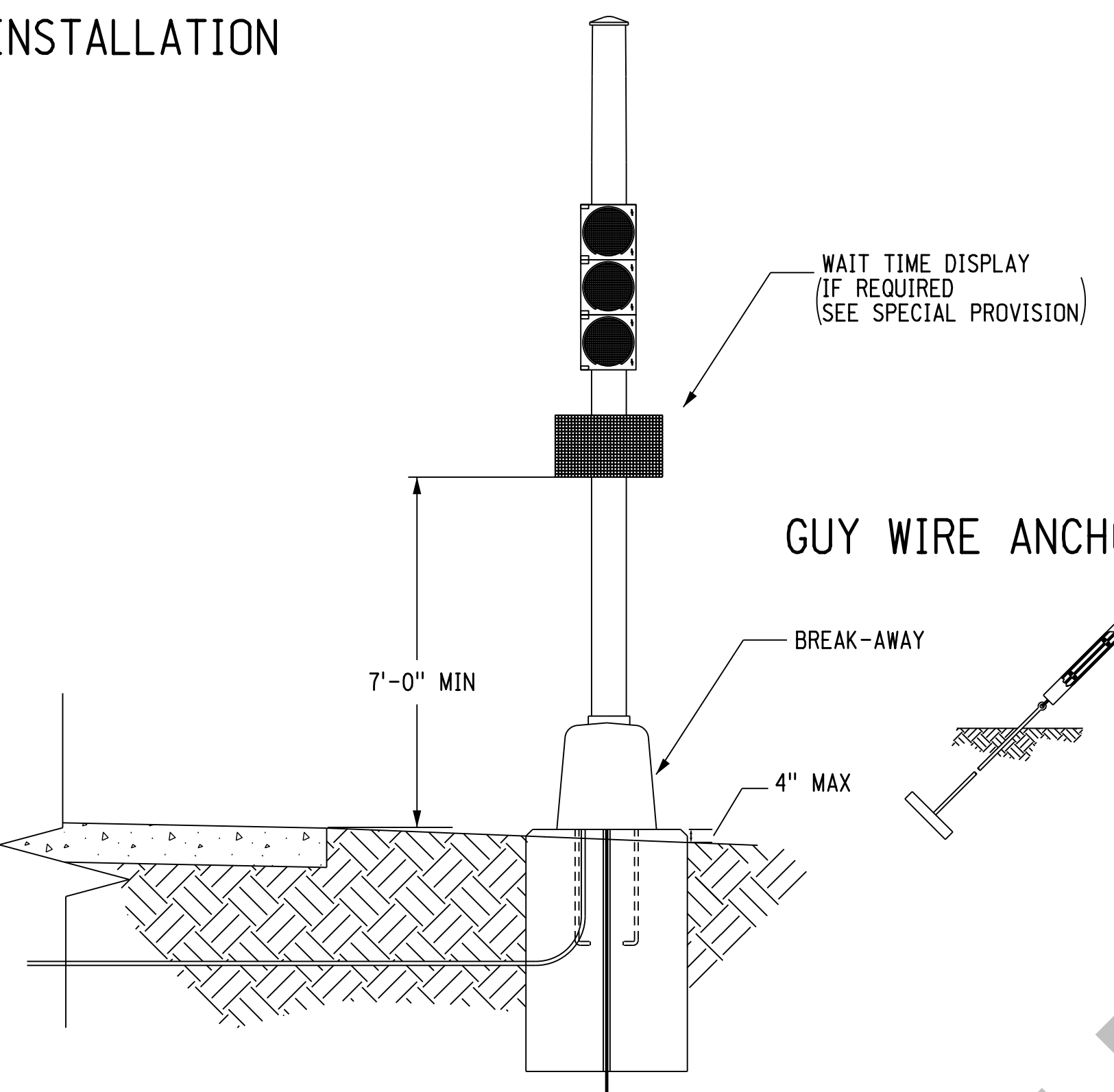
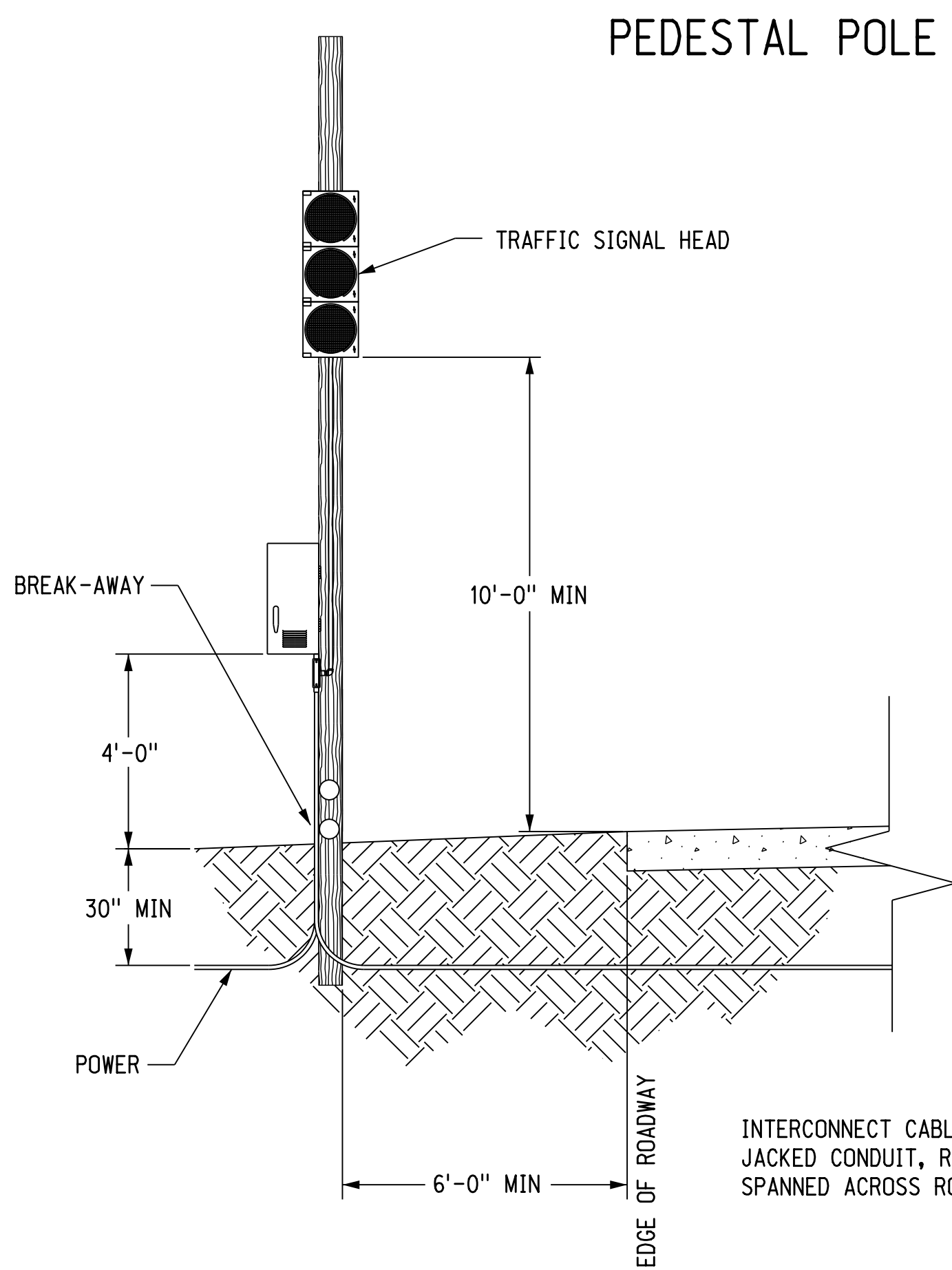
NOTES

1. THE CONTRACTOR SHALL FURNISH REFLECTORS, VERTICAL PANELS AND A BRACKET TO SUPPORT THEM IN A STABLE POSITION ON THE CONCRETE BARRIERS. THE BRACKET SHALL BE CONSTRUCTED OF MATERIAL THAT MAY BEND, BUT NOT COME LOOSE IF STRUCK BY A PASSING VEHICLE.
2. CONCRETE PROTECTION BARRIERS SHOULD EXTEND TO EDGE OF PAVEMENT. NO EQUIPMENT OR CONSTRUCTION MATERIAL IS TO BE PLACED IN FRONT OF THE PROTECTION BARRIERS AT ANY TIME. IF BARRIERS ARE REQUIRED TO BE MOVED FOR WORK ACCESS THEY SHALL BE REPOSITIONED BACK EACH NIGHT. AT NO TIME WILL A BLUNT END OF THE BARRIER BE ALLOWED IN THE TRAVEL LANE OF APPROACHING TRAFFIC.
3. REFLECTORS USED FOR WORK ZONE TRAFFIC CONTROL SHALL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL DEVICES.
4. MINIMUM WIDTH OF TRAVELED LANE SHALL BE DETERMINED BY THE ENGINEER.
5. INSTALL WHEN LANE WIDTH ACROSS IS LESS THAN APPROACH LANE WIDTH.
6. SIGNS R41-17B-48, W20-1F-48 AND W40-9F-48 ARE NOT REQUIRED IF INSTALLED ON THE PROJECT IN ADVANCE OF THIS WORK SITE.

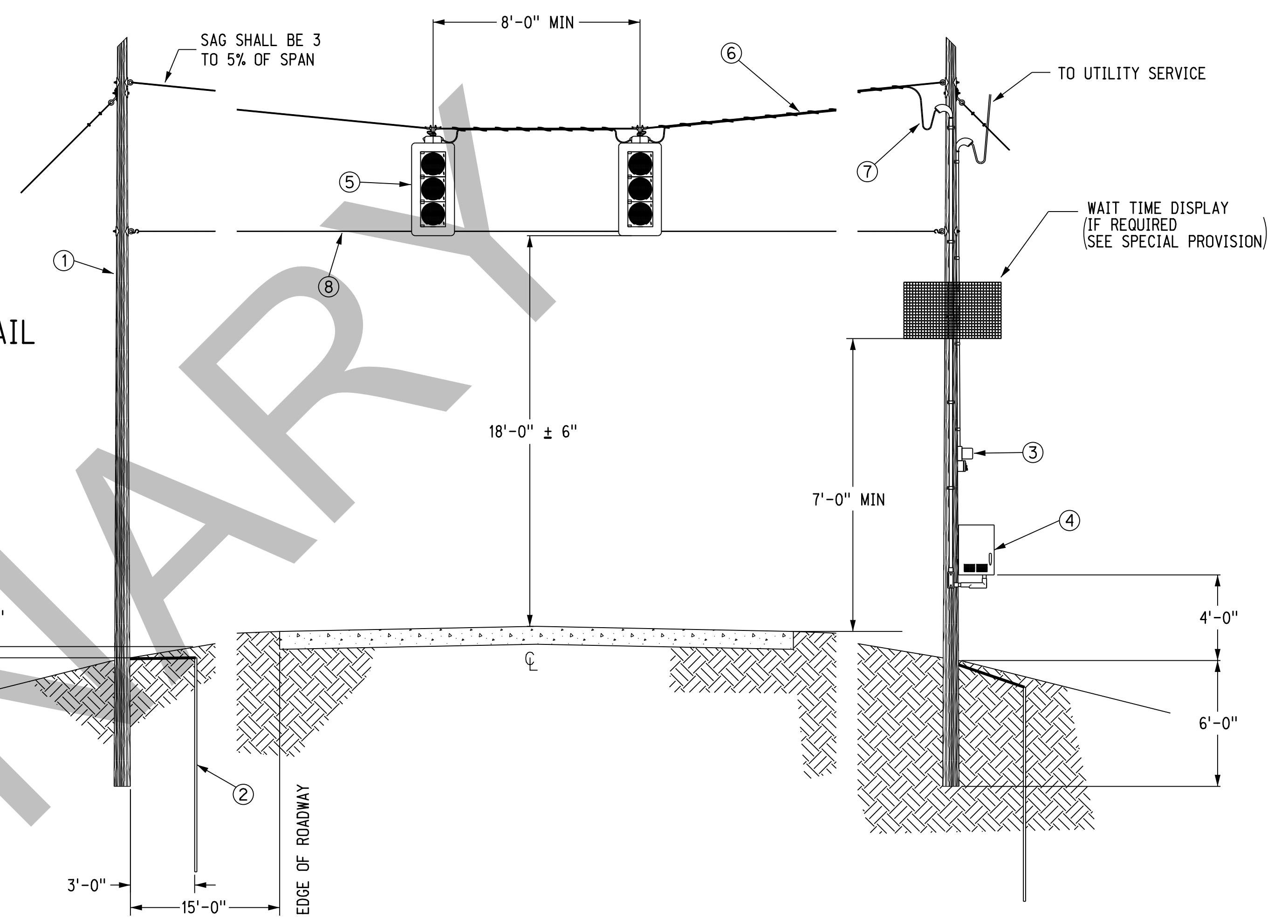
NEBRASKA DEPARTMENT OF TRANSPORTATION			
TRAFFIC ENGINEERING DIVISION			
TYPICAL TRAFFIC SIGNAL CONTROL PLAN			
DESIGNED	KSF	ONE LANE, TWO-WAY OPERATION WITH BARRIERS	
REVIEWED			
APPROVED	DATE DRAWN	TRAFFIC ENGINEER	DATE
	04/19		

TYPICAL APPROACH TO WORK ZONE

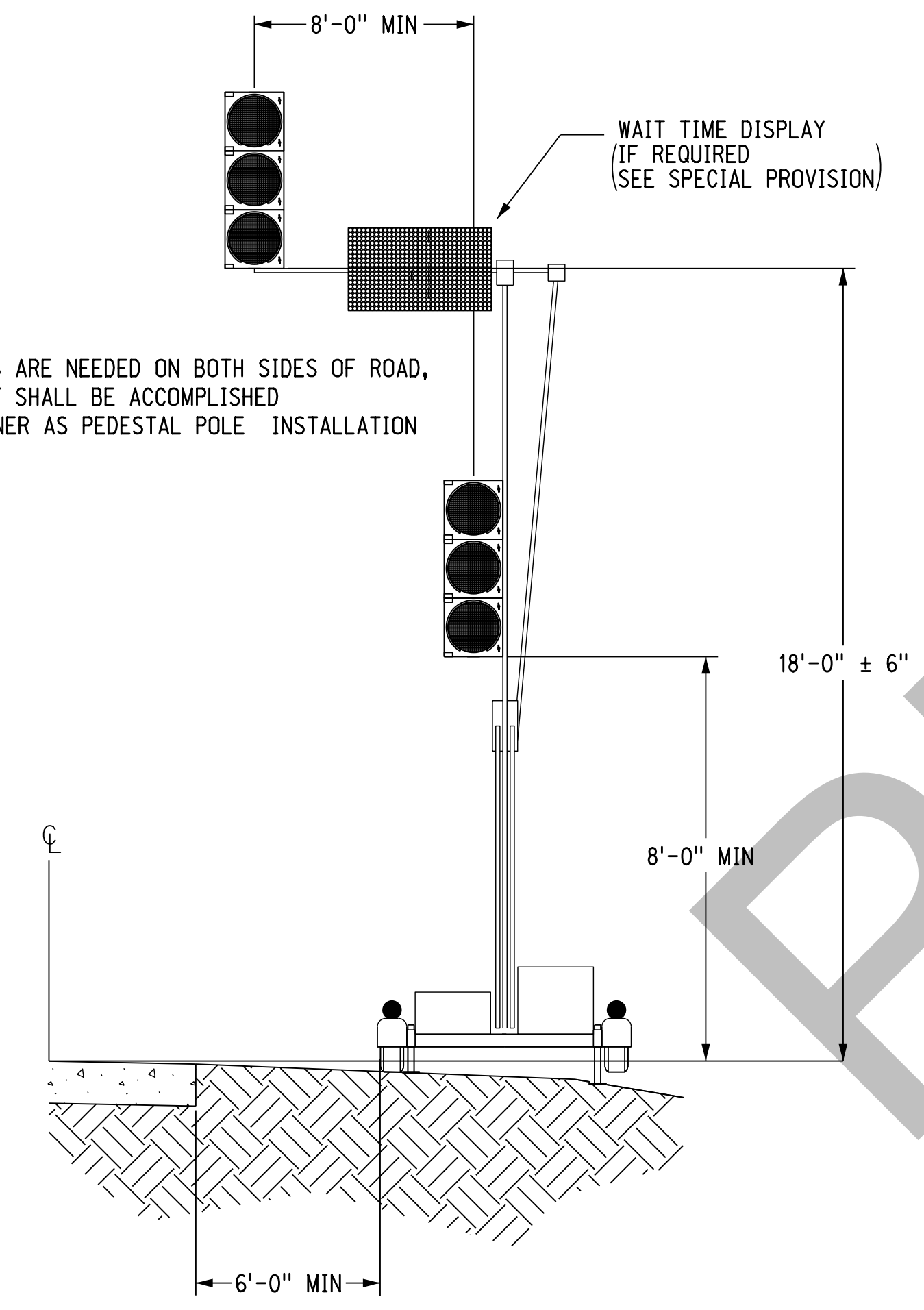
PEDESTAL POLE INSTALLATION



SPAN WIRE INSTALLATION



PORTABLE SIGNAL



NOTES

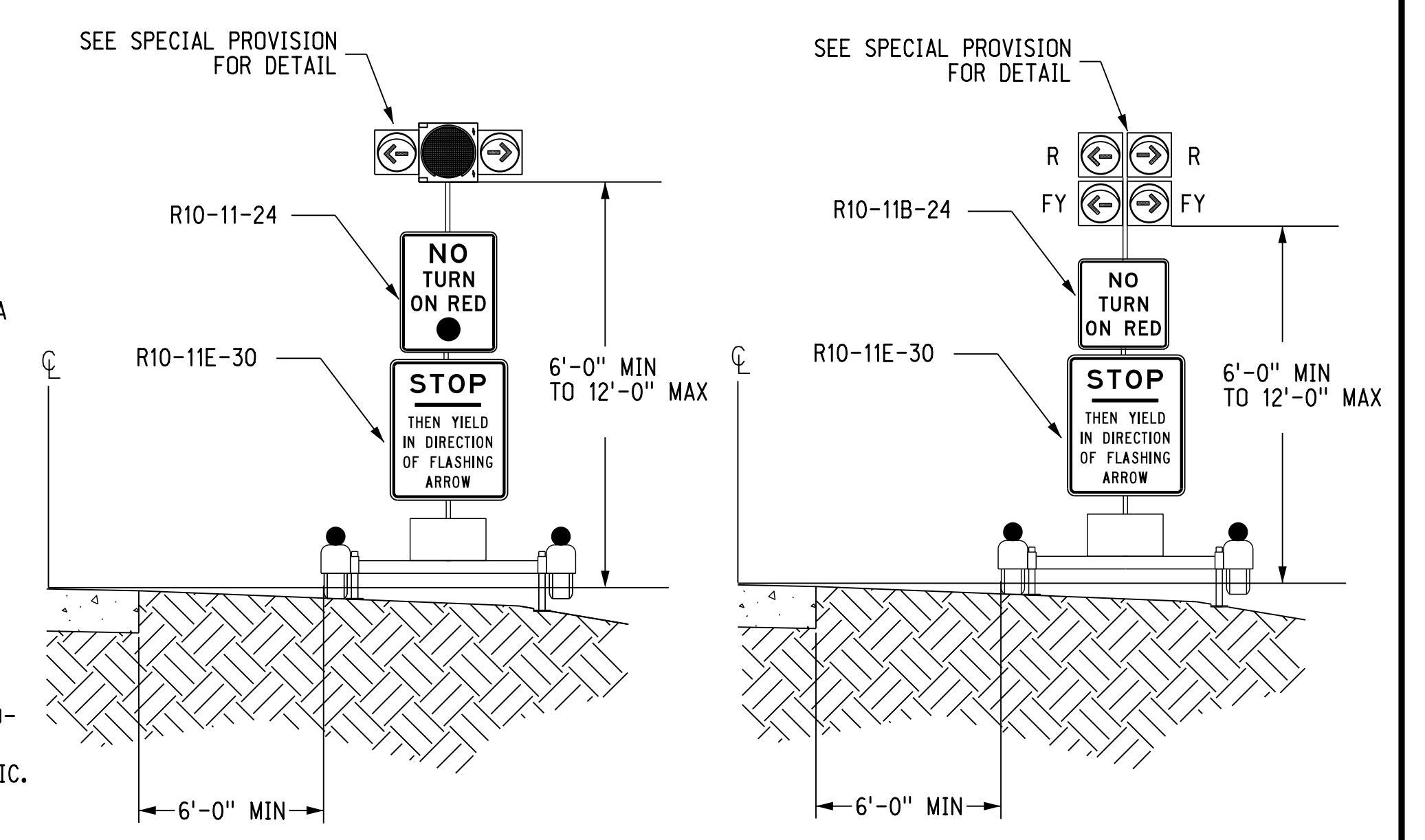
1. THE LOCATIONS OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED IN THESE PLANS, UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL AERIAL AND UNDERGROUND UTILITIES AND CONSTRUCTIONS.
2. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE TEMPORARY SIGNAL UNLESS OTHERWISE SPECIFIED. ALL EQUIPMENT AND MATERIAL FURNISHED BY THE CONTRACTOR SHALL REMAIN HIS PROPERTY.
3. ANY STATE SUPPLIED EQUIPMENT OR MATERIAL SHALL REMAIN THE PROPERTY OF THE STATE OF NEBRASKA.
4. THE SIGNAL HEAD LENSES SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.
5. ALL SIGNAL LAMPS SHALL BE EXTENDED ANGLE LED.
6. MAINTENANCE OF THE TEMPORARY SIGNAL SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
7. TRAFFIC SIGNALS POWERED BY MEANS OF A PORTABLE GENERATOR SHALL HAVE STANDBY BATTERY POWER CAPABLE OF OPERATING THE SIGNAL NOT LESS THAN 26 HOURS. PORTABLE TRAFFIC SIGNALS SHALL BE CHECKED EVERY 24 HOURS TO INSURE PROPER OPERATION.
8. SIGNAL POLE LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER UNLESS THE EXACT PLACEMENT IS NOTED IN THE PLANS.
9. THE TIMING OF THE SIGNAL CYCLE SHALL BE DETERMINED BY THE NDOT TRAFFIC ENGINEERING DIVISION. FOR THE SPECIFIC INSTALLATION, CALL TRAFFIC ENGINEERING DIVISION AT 402-479-4594. HAVE THE FOLLOWING INFORMATION READY WHEN YOU CALL. PROJECT NAME, CONTROL NUMBER, DISTANCE BETWEEN STOP BARS, NUMBER OF SIDE STREET SIGNALS AND ADT FOR HIGHWAYS. TIMING SHOULD BE REQUESTED ONE WEEK PRIOR TO INSTALLATION TO AVOID UNEXPECTED PROJECT DELAYS.

ITEM NO.	DESCRIPTION
1	CLASS IV BUTT TREATED WOOD POLE W/DOWN GUYS
2	5/8" X 10' COPPERWELD GROUND ROD
3	METER SOCKET (IF REQ'D BY UTILITY)
4	CONTROLLER CABINET *
5	TRAFFIC SIGNAL W/BACKPLATE
6	3/8" HIGH STRENGTH 7 STRAND WIRE ROPE
7	600 VOLT NO. 12 AWG 5/C TRAFFIC SIGNAL CABLE
8	1/4" SIEMANS MARTIN 7 STRAND WIRE ROPE

* CONTRACTOR SHALL FURNISH A SOLID STATE DIGITAL CONTROLLER WITH A PROGRAMMING MANUAL.

SIGNAL	APPROXIMATE LOCATION OF TEMP TRAFFIC SIGNAL
1	BRIDGE S080 36616
2	
3	
4	
5	

DRIVEWAY ASSISTANCE DEVICE



NEBRASKA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

TYPICAL TRAFFIC SIGNAL CONTROL PLAN

DESIGNED	TJF	TEMPORARY TRAFFIC SIGNAL	1/1
REVIEWED		DETAILS	
APPROVED		DATE DRAWN	DATE
		05/19	

TRAFFIC ENGINEERING DIVISION

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Date: 24-MAR-2023 09:50

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BRIDGE DIVISION.

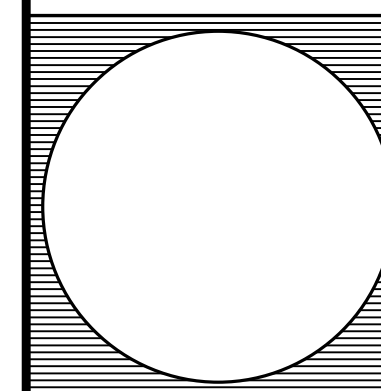
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File: S080 36616.dgn

PROJECT NUMBER	SHEET NO.
S-L80F (1011)	S1

C.N. 13532
STRUCTURE NUMBER
S080 36616



BRIDGE ENGINEER

= UTICA INTERCHANGE =

= NOTES =

Before ordering any materials, the Contractor shall make a detailed field inspection of the structure verifying all dimensions and reporting to the Engineer any discrepancies between the field measurements and those shown on the plans.

All materials removed shall become the property of the Contractor and shall be removed from the project site.

All dimensions shown are in horizontal plane only. No allowances have been made for vertical curve or roadway cross slope.

As-Built Plans for the existing structure are available from the Bridge Division upon request.

The State does not guarantee that these repair plans or the As-built plans depict the actual site conditions and shall not be liable for any discrepancies.

Stations and dimensions shown are obtained from the existing As-built Plans. The engineer shall establish control points from the existing structure as needed.

All materials, equipment, tools, labor and incidentals necessary to complete the work, that are not paid for directly, shall be considered subsidiary to other items for which payment is made.

The Contractor shall place a 1" deep saw cut at the limits of concrete removal to facilitate a clean, smooth line when breaking back existing concrete.

The Contractor shall take all necessary precautions, during construction, to prevent debris from falling on the Roadway below.

Concrete shall be Class "47BD", with a 28-day strength of 4000 psi.

Chamfer all exposed edges of concrete.

All existing concrete surfaces to be in contact with the new construction shall be thoroughly roughened and cleaned before placing any new concrete.

The minimum clearance, measured from the face of the concrete to the surface of any reinforcing bar, shall be 2", except where otherwise noted.

All reinforcing steel shall be epoxy coated and conform to the requirements of ASTM A615/A615M, Grade 60 steel.

Field bend and/or clip reinforcing bars to maintain minimum clearance. Touch-up clipped ends or damaged areas of epoxy bars with epoxy coating.

Actual field conditions may require more or less repair than what is depicted in the plans. The final areas to be repaired shall be determined by the Engineer. The Bridge Office shall be notified when field conditions impede the implementation of these plans or vary significantly from what is shown.

Damage to existing structures, consequent to the Contractor's operations, shall be repaired at the Contractor's expense, under the direction of the Engineer.

= QUANTITIES =

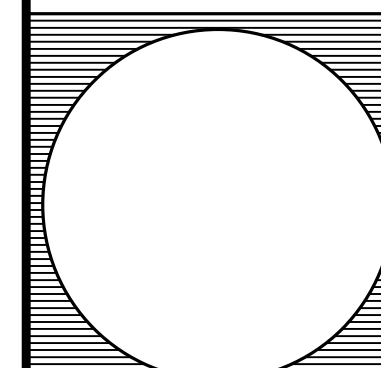
GROUP 6

PREPARATION OF BRIDGE AT STATION 15+00.00 _____	1 EA
CONCRETE BRIDGE DECK REPAIR _____	170 SY
BRIDGE APPROACH REPAIR _____	55 SY
CONCRETE PATCHING _____	35 SF
CLASS 47BD-4000 CONCRETE FOR BRIDGE _____	15.3 CY
SLAB _____	14.4 CY
APPROACH SLAB _____	.9 CY
EPOXY COATED REINFORCING STEEL _____	3,226 LB
SLAB _____	3,154 LB
APPROACH SLAB _____	72 LB
PRECOMPRESSED POLYURETHANE FOAM JOINT, TYPE A _____	56.0 LF

GENERAL NOTES, QUANTITIES, & INDEX _____	1
DECK REPAIR LOCATIONS _____	2
EXPANSION JOINT & END OF FLOOR DETAIL _____	3
CONCRETE PATCHING DETAILS _____	4

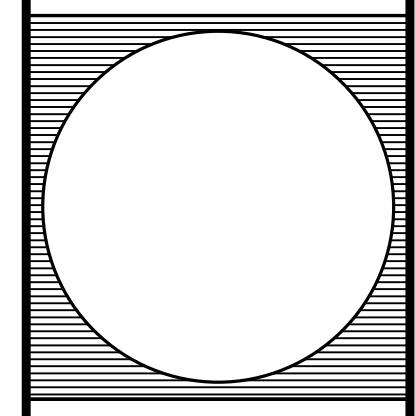
BRIDGE DECK REPAIR
GENERAL NOTES, QUANTITIES, & INDEX
DATE: APRIL 2023
CHECKED BY LGV
DESIGNED BY CRP
DETAILED BY CRP
NEBRASKA DEPARTMENT OF TRANSPORTATION - BRIDGE DIVISION

NEBRASKA
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DEPARTMENT OF TRANSPORTATION



SPECIAL PLAN NO. 1/4

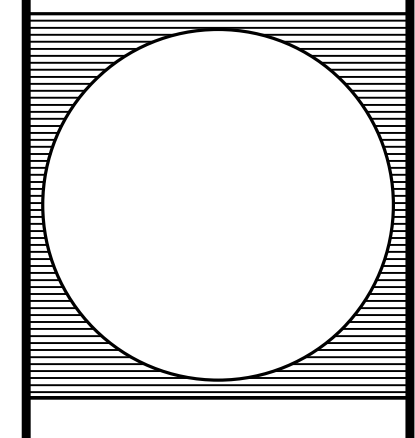
DESIGN HISTORY		
PROJ. NO.	YEAR	TYPE OF WORK
I-80-8(23)	1963	Original Construction
L80G (108)	1995	Remodel Bridge Curb
80-8(145)	2012	Deck Overlay and Repair
80-8(145)	2013	Approach Slab Repair



BRIDGE ENGINEER

BRIDGE DECK REPAIR
 DECK REPAIR LOCATIONS
 DATE: APRIL 2023
 CHECKED BY: LGV
 COUNTY Seward
 HWY. NO. I-80
 REF. POST. 366.16
 STA. 15+00.00
 LOCATION: Utica Interchange
 SKEW: 0°
 ROADWAY: 28'-0"
 DESIGN LIVE LOAD: H20-S16-44
 DETAILED BY: CRP
 DESIGNED BY: CRP
 NEBRASKA DEPARTMENT OF TRANSPORTATION - BRIDGE DIVISION

NEBRASKA
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 DEPARTMENT OF TRANSPORTATION



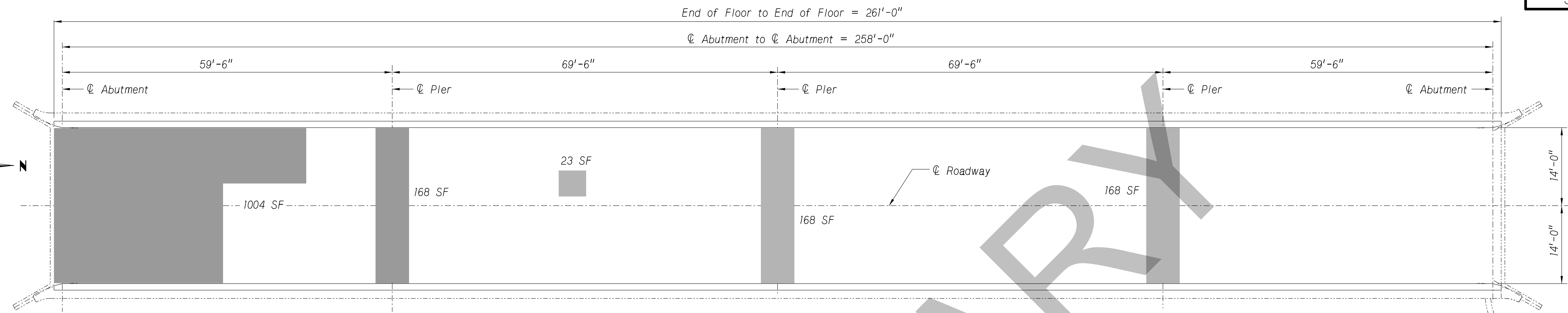
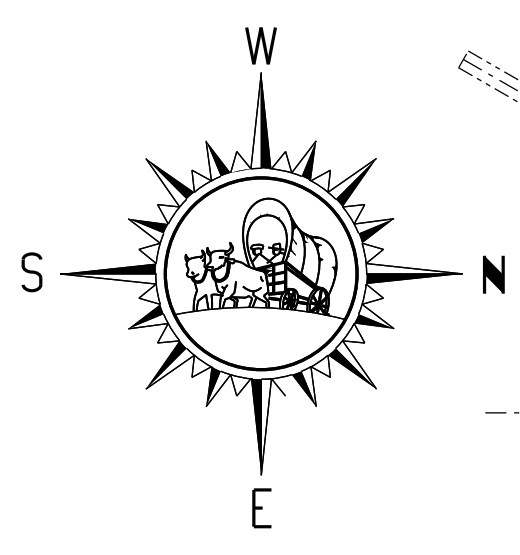
SPECIAL PLAN NO.	2
	4

BRIDGE DIVISION.

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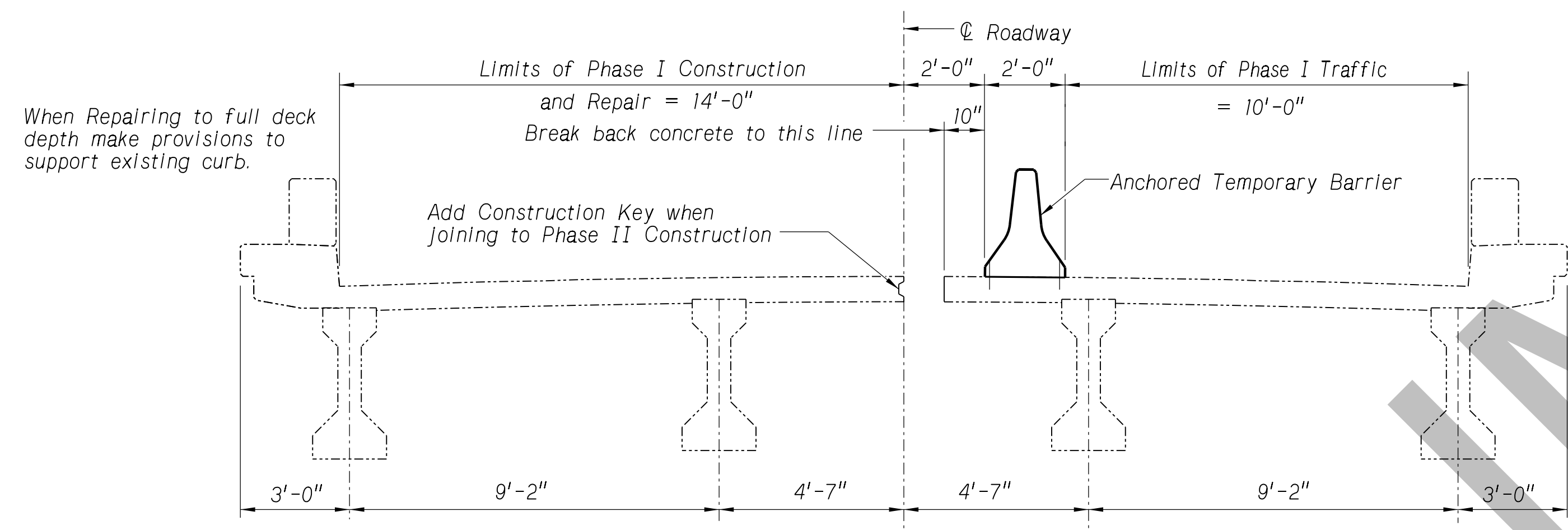
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GENERAL PLAN OF BRIDGE DECK SHOWING PARTIAL REPAIR AREAS

170 SY (Min Repair)



CROSS SECTION FOR PHASE I CONSTRUCTION

When Repairing to full deck depth make provisions to support existing curb.

Add Construction Key when Joining to Phase II Construction

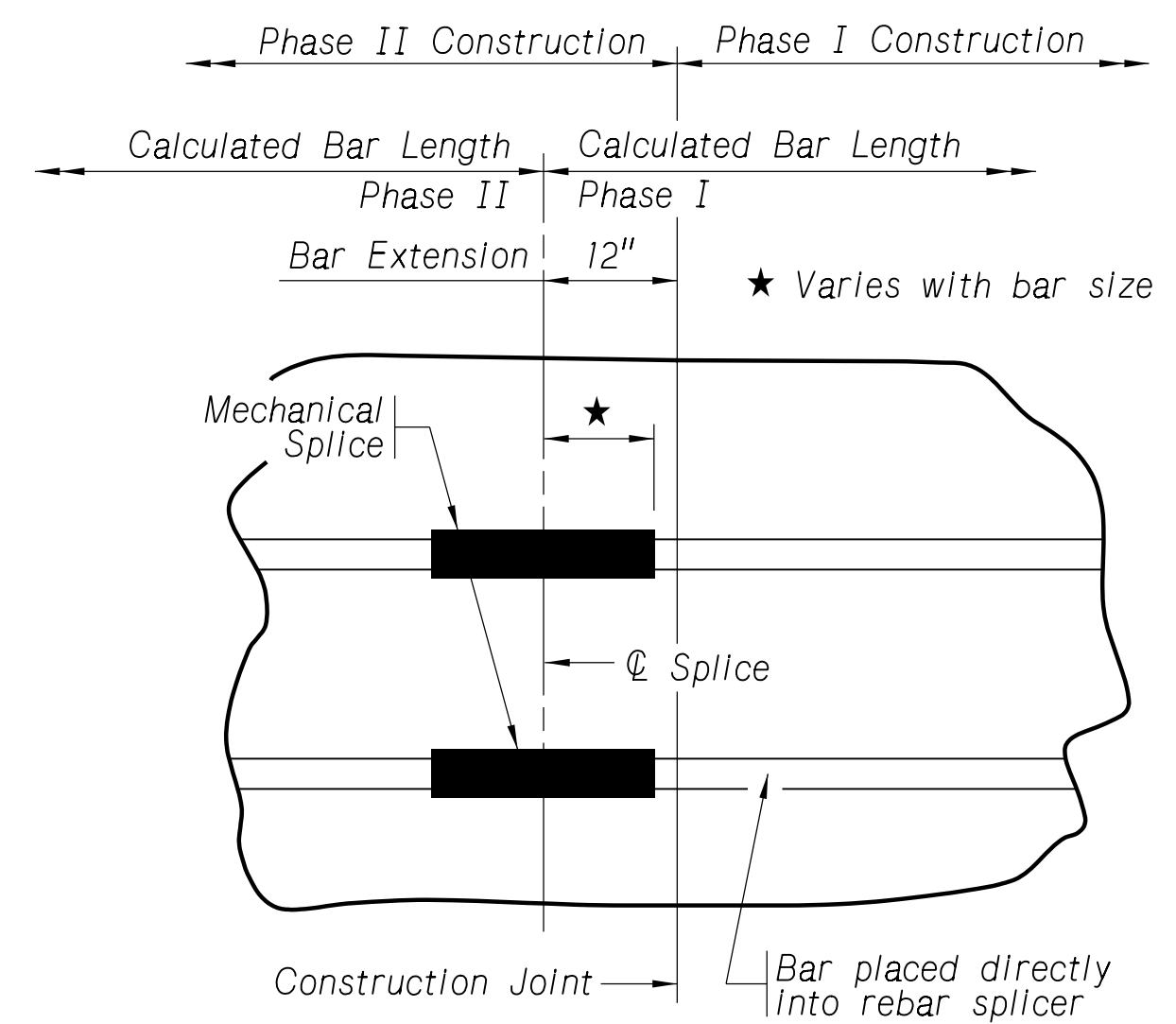
MECHANICAL BAR SPLICE NOTES

All mechanical splices shall be epoxy coated couplers utilizing shear set screws. They shall develop a minimum of 125 percent of the ASTM specified yield strength of the bar. Splices shall be D250SCA Bar Lock (MBT) couplers as manufactured by Dayton/Richmond of Miamisburg, Ohio, Zap Screwlock couplers as manufactured by BarSplice Products, Inc. of Dayton, Ohio or an approved equal.

Mechanical splices shall be submitted to the Materials and Research Division for testing in accordance with the NDOT Materials Sampling Guide.

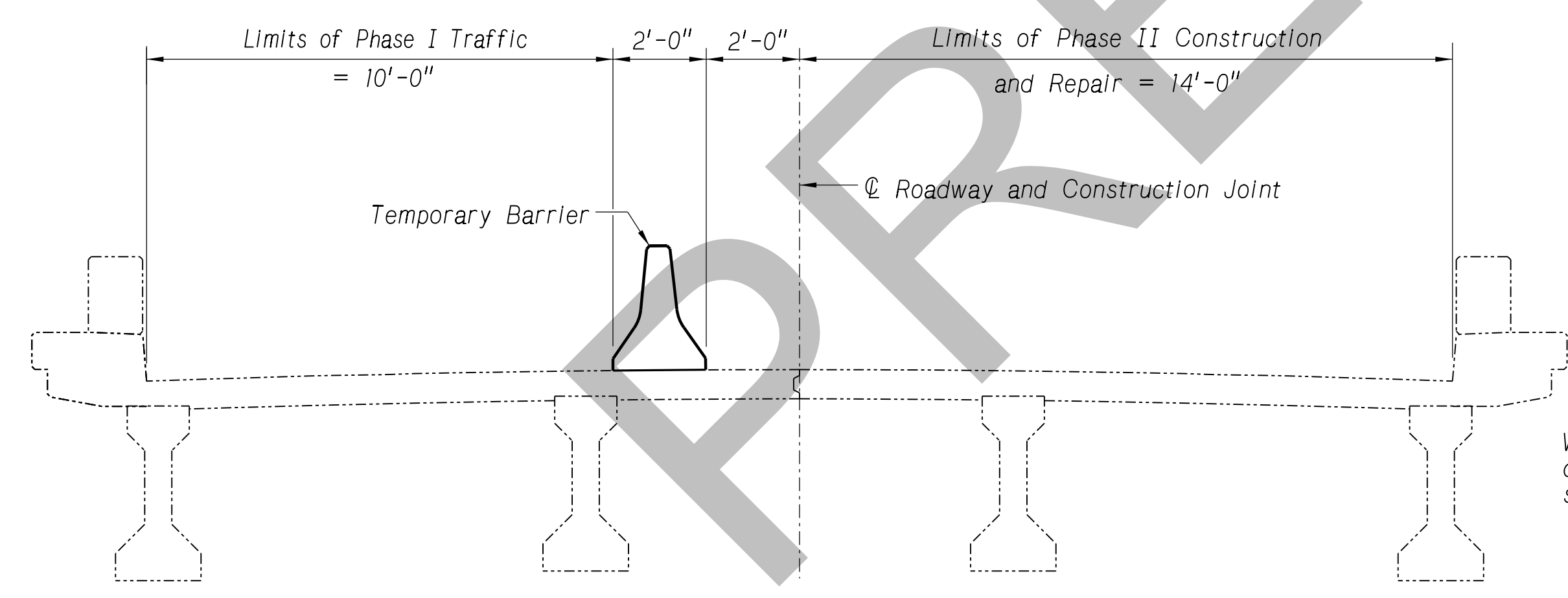
Splices shall be installed in accordance with the manufacturer's recommendations. Mechanical splices will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel".

No adjustment in the pay quantity shown for "EPOXY COATED REINFORCING STEEL" will be made for the actual lengths of reinforcing bars required based on the mechanical bar splicer system selected by the contractor.



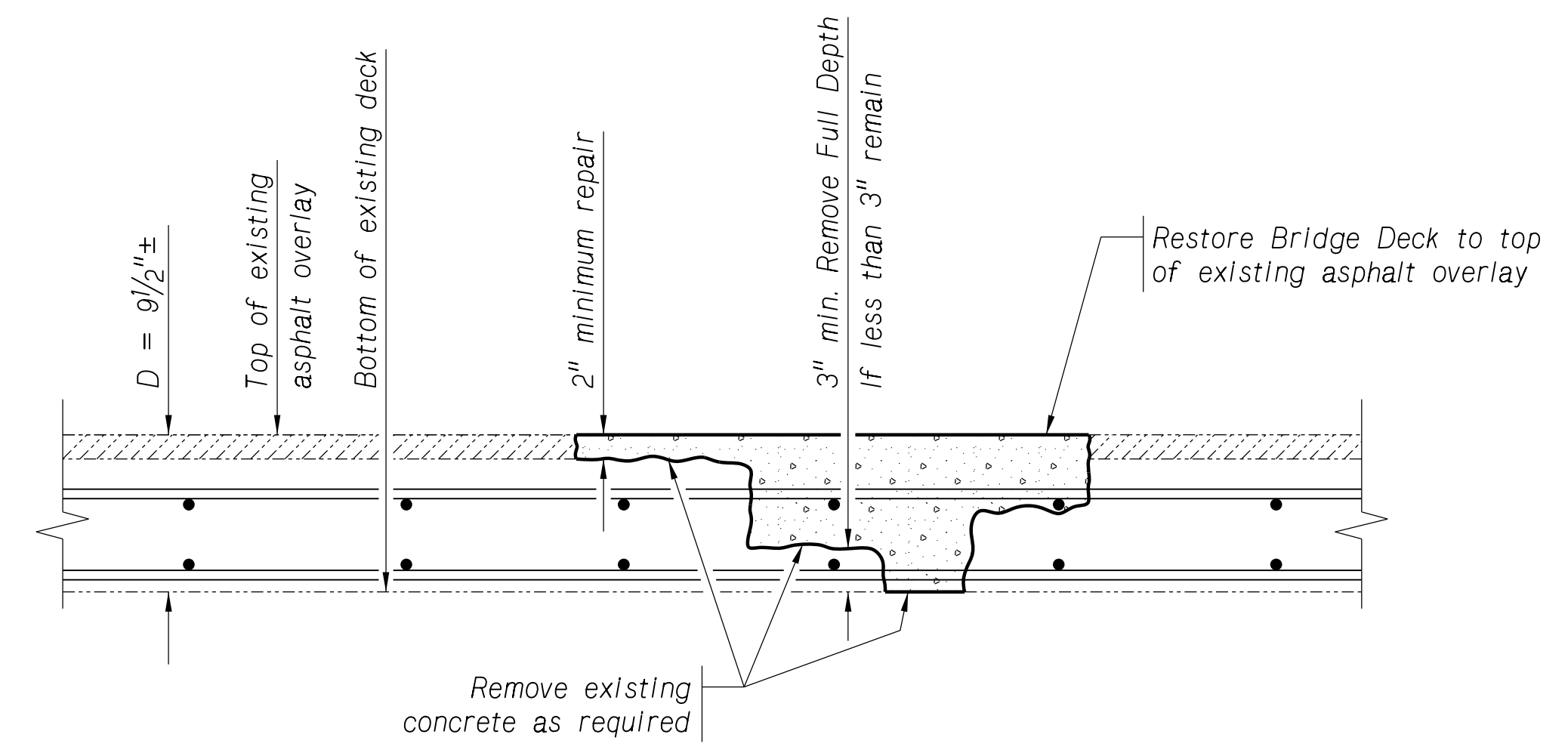
BAR SPLICE DETAIL

Not to Scale



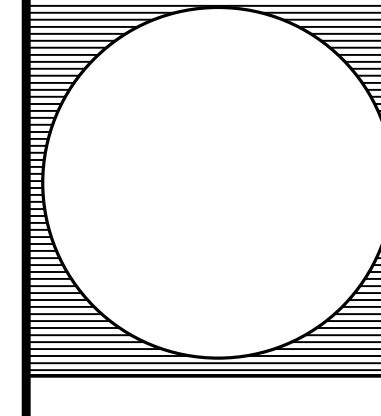
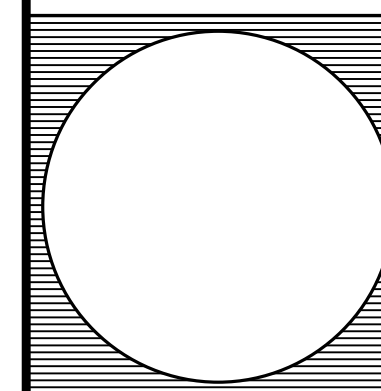
CROSS SECTION FOR PHASE II CONSTRUCTION

When Repairing to full deck depth make provisions to support existing curb.



LIMITS OF CONCRETE BRIDGE DECK REPAIR

Not to Scale

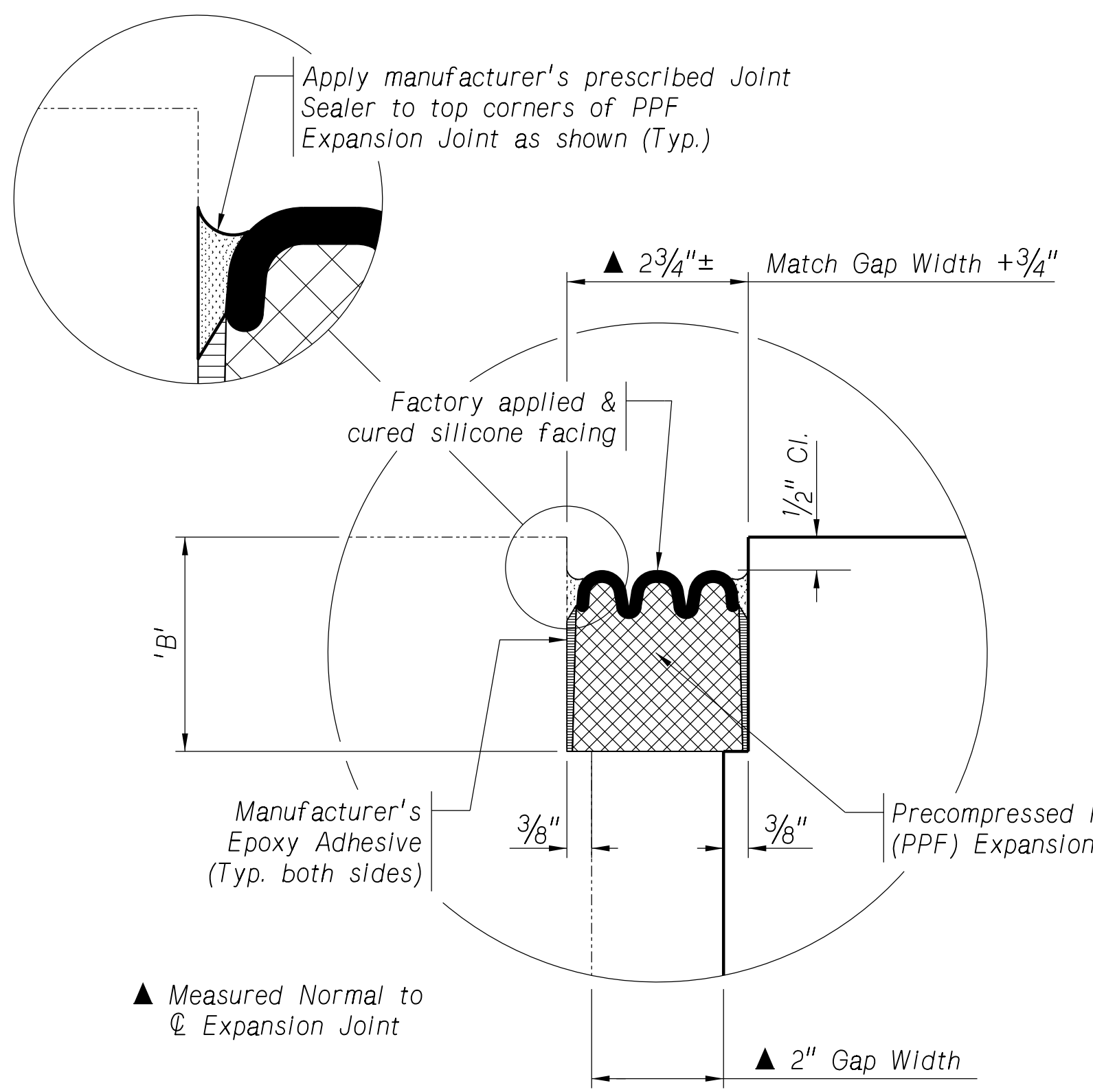


BRIDGE DIVISION.

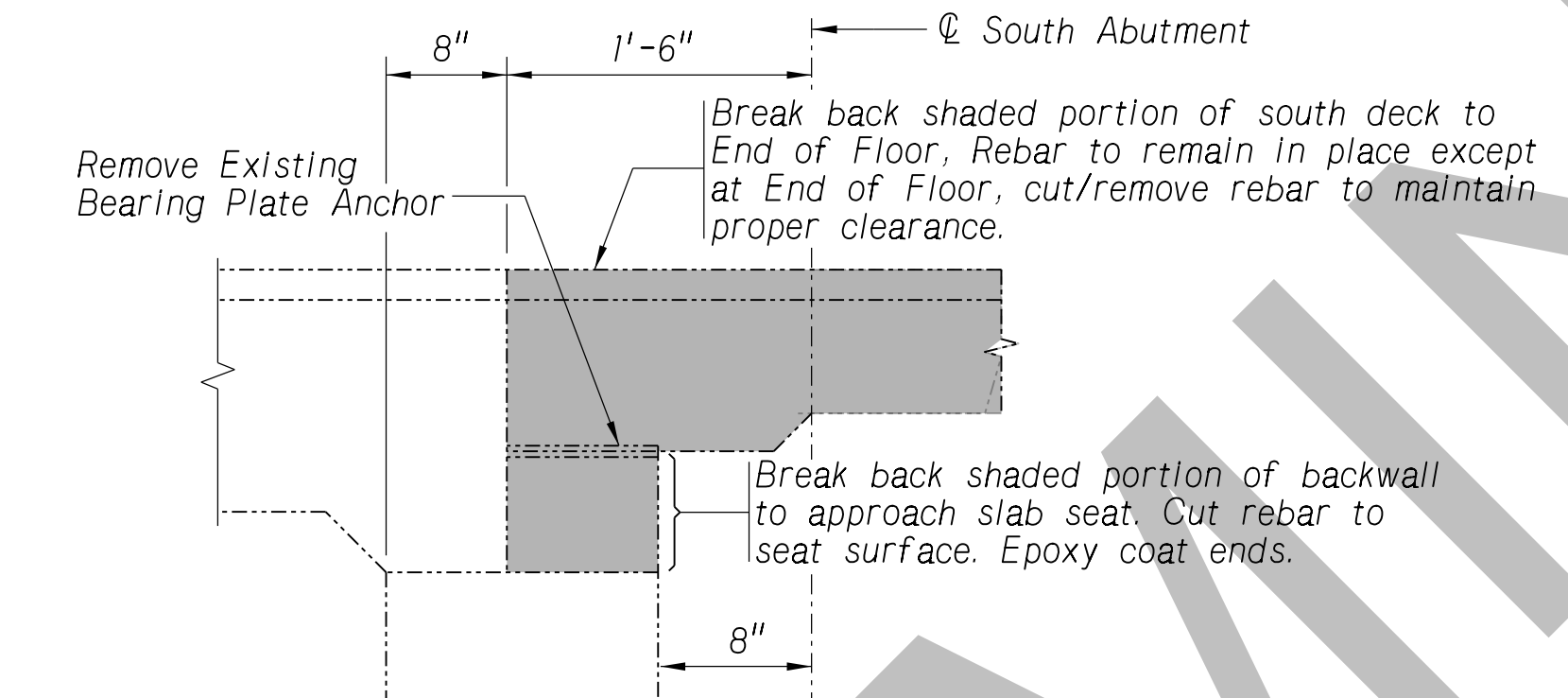
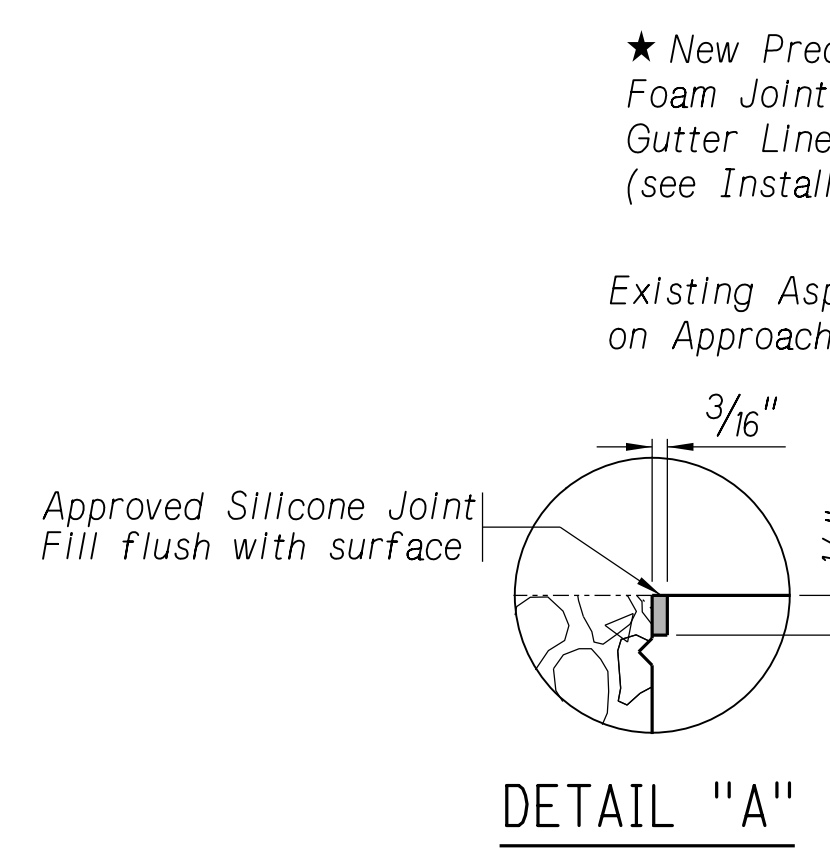
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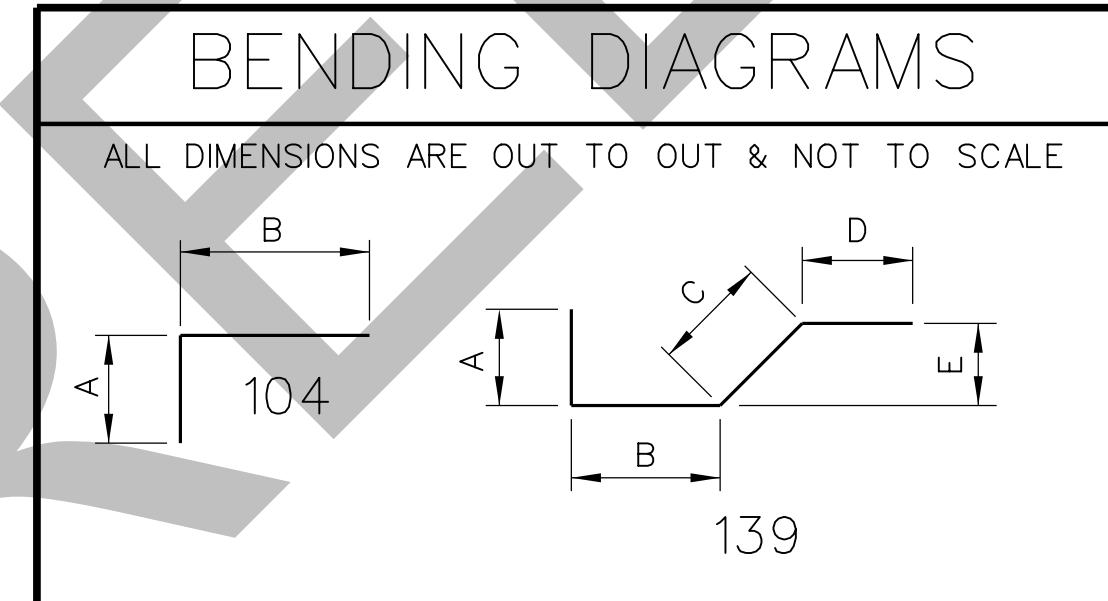
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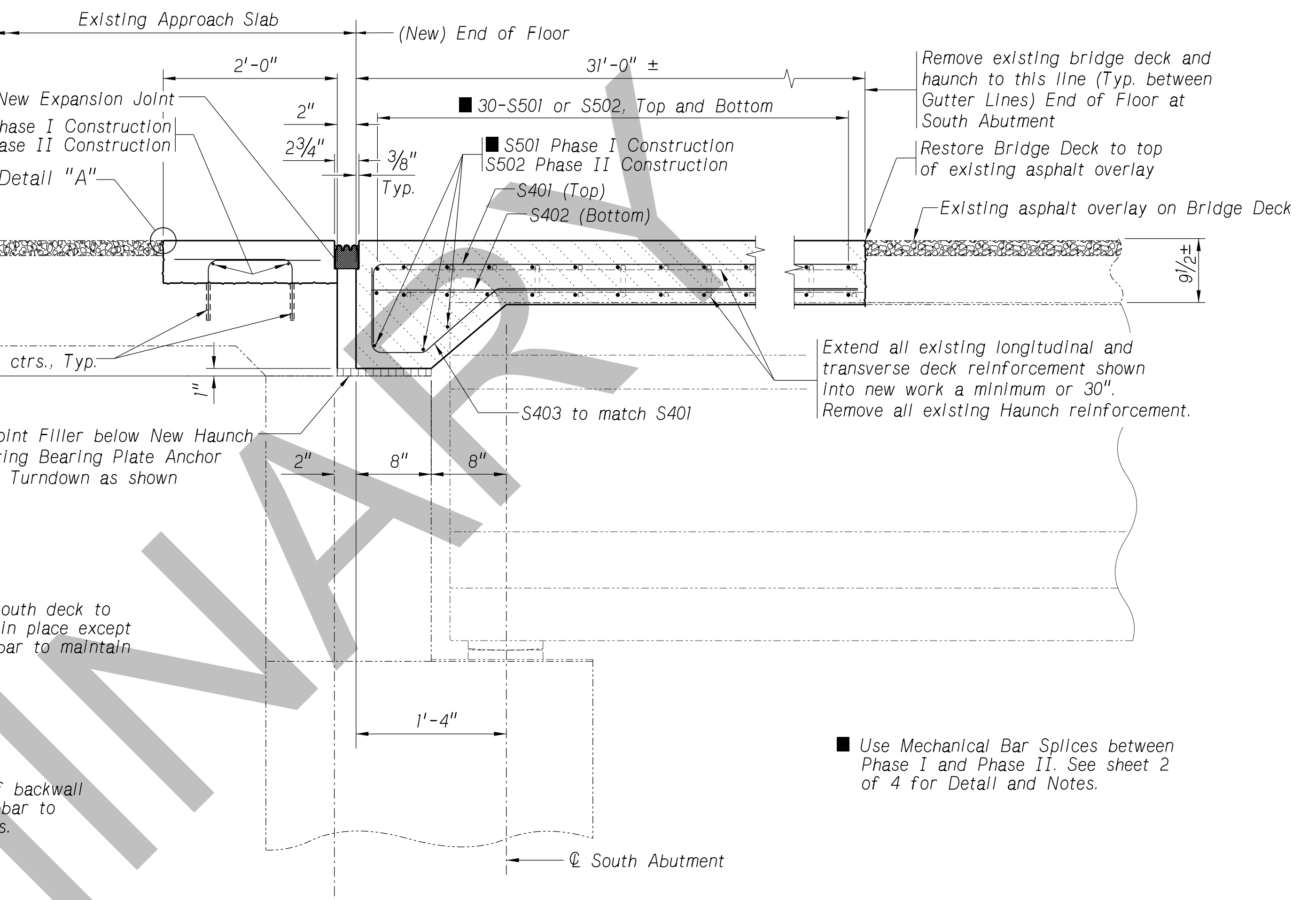
EXPANSION JOINT INSTALLATION DETAIL
Not to Scale



CONCRETE REMOVAL AT END OF FLOOR
Scale: 1" = 1'-0"



PIN DIAMETER			
PRIMARY STRESS		STIRRUPS & TIES	
BAR SIZE	Dp	BAR SIZE	Dp
4	3"	3	1 1/2"
5	3 3/4"	4	2"



END OF FLOOR REPAIR DETAIL
Scale: 1" = 1'-0"

INSTRUCTIONS

1. Correctly form and cure or saw cut the expansion joint gap.
2. Sandblast gap surfaces to clean and prepare.
3. Thoroughly clean gap with compressed air and solvent-dampened rags to remove all dust and contaminants.
4. Apply manufacturer's epoxy adhesive to gap surfaces, as instructed. Make sure to install joint before epoxy adhesive begins to cure.
5. Push first section of PPF Joint down into place, working a few feet at a time. Leave end to be spliced sticking out of gap.
6. Install next section of PPF, working towards previously installed section. Push spliced ends tightly together, and set splice in place. Connect silicone facings together per manufacturer's instructions.
7. Repeat process for additional sections of PPF Joint. Measure and cut final section of PPF Joint as needed.
8. Once seal is fully placed, apply silicone sealer to top corners of joint. Force tip of caulking gun into corner to completely fill as shown in the detail.

GENERAL EXPANSION JOINT NOTES:

- Expansion joints that are incorrectly installed shall be replaced at the expense of the Contractor.
- Installation shall be as instructed by the manufacturer.
- The manufacturer's instructions shall govern in the event of a conflict.
- Only use materials prescribed by the manufacturer.

Gap width dimension measured Normal to ϕ Expansion Joint. Follow manufacturer's recommendations for order size if Gap Widths are significantly different from what is shown in these plans.

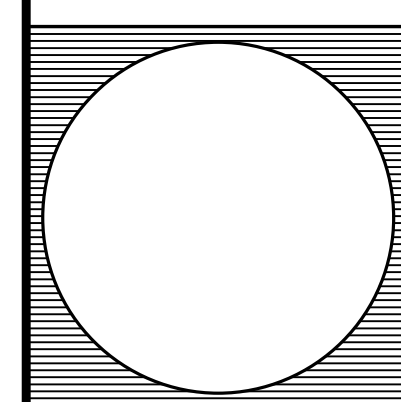
Dimension 'B' provided by Expansion Joint manufacturer.

BILL OF BARS

APPROACH SLAB	MARK	NUMBER OF BARS		LENGTH	TYPE	"A"	"B"	"C"	"D"	"E"	PIN	HOOK	WEIGHT (LB)		
		PHASE I	PHASE II										PHASE III	PHASE IV	
	N301	2		15'-0"	STR.								12		
	N302		2	13'-0"	STR.									10	
	N303	30	28	2'-4"	104	8"	1'-6"				2"		26	24	
TOTALS (LB) =													38	34	
DECK & TURNDOWN		S501	63	--	15'-0"	STR.								986	--
		S502	--	63	13'-0"	STR.								--	854
		S401	15	14	31'-8"	104	1'-1"	30'-7"				2"		317	296
		S402	15	14	30'-6"	STR.								306	285
		S403	15	14	5'-8"	139	1'-1"	5"	1'-0"	3'-2"	9"	2"		57	53
TOTALS (LB) =													1,666	1,488	

PROJECT NUMBER	SHEET NO.
S-L80F (1011)	S4

C.N. 13532
STRUCTURE NUMBER
S080 36616



BRIDGE ENGINEER



C1 Repair bottom of Curb as required



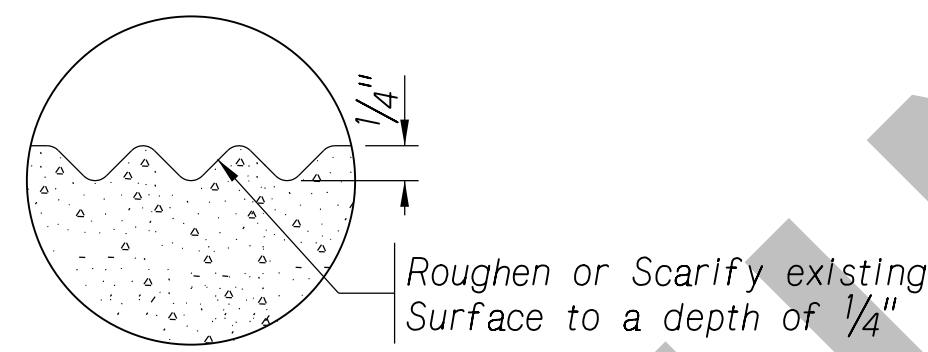
C2 Repair bottom of Curb as required



W1 Repair Backwall and Wing as Required

REPAIR STEPS

1. The contractor shall work with the project manager to determine the areas requiring repair.
2. Remove unsound concrete.
3. Blast clean existing concrete and reinforcing if exposed.
4. Thoroughly remove all blast cleaning material from the repair area.
5. Tape off the area to be repaired.
6. Apply the manufacturers approved bonding agent or primer, if required.
7. Patch damaged areas with an approved "Concrete Repair" product.

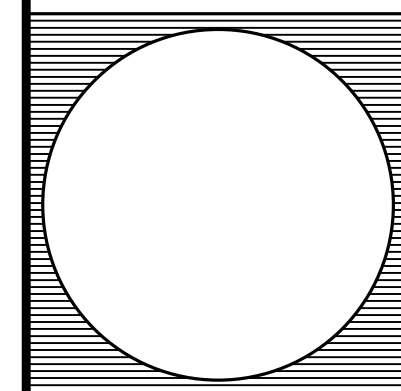


EXISTING CONCRETE

PRELIMINARY

BRIDGE DECK REPAIR
BRIDGE REPAIR
DATE APRIL 2023
CHECKED BY LGV
DESIGNED BY CRP
DETAILED BY CRP
DESIGN LIVE LOAD H20-S16-44
ROADWAY 28'-0"
SKEW 0°
LOCATION Utica Interchange
COUNTY Seward
HWY. NO. I-80
REF. POST. 366.16
STA. 15+00.00

NEBRASKA
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DEPARTMENT OF TRANSPORTATION



SPECIAL PLAN NO.	4
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