

04-27-2018 LETTING ITEM 092

AS-BUILT

RESIDENT ENGINEER:

JACK H. HARPER

CONTRACTOR:

HALVERSON CONSTRUCTION COMPANY, INCORPORATED
620 NORTH 19TH STREET
SPRINGFIELD, IL 62702

STARTED: AUGUST 27, 2018
COMPLETED: APRIL 16, 2019

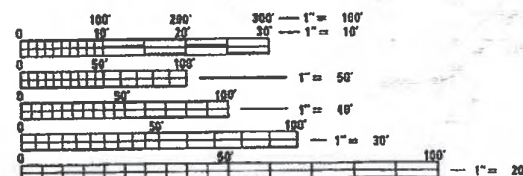
FINAL COST: \$ 743,892.69

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-5

CURRENT TRAFFIC DATA

F.A.P. 71 (IL 54)

2016	ADT	1,150
2026	ADT	1,200
2036	ADT	1,250
2036	DHV	115
	PU/PC%	77.4
	SU %	12.2
	MU %	10.4



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

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

PROJECT ENGINEER: TIM BRANDENBURG
PROJECT MANAGER: JEFF M. SHERER
(217) 465-4181

CONTRACT NO. 70B77

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

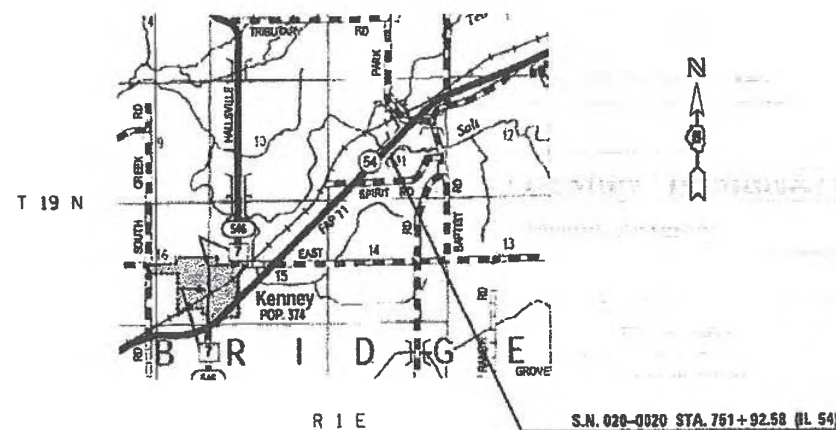
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 71 (IL 54)
SECTION 12BDR
PROJECT ST PL-VS00 (263)
BRIDGE DECK REPAIR
DEWITT COUNTY

SPECIAL
PROVISIONS
FOLLOW HIGHWAY
STANDARDS

C-95-018-18
SALT CREEK 2 MI E OF KENNEY



GROSS LENGTH = 500.55 FT. = 0.0948 MILE
NET LENGTH = 500.55 FT. = 0.0948 MILE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	12BDR	DEWITT	47	1
ILLINOIS CONTRACT NO. 70B77				

D-95-016-16



DESIGN DESIGNATION
MINOR ARTERIAL

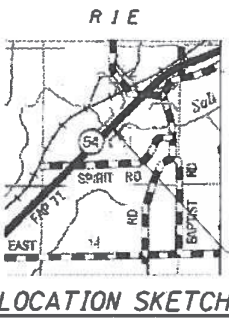
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUBMITTED January 9, 2018
Paul R. [Signature] REGIONAL ENGINEER
Mar 23, 2018 [Signature] ENGINEER OF DESIGN AND ENVIRONMENT
Mar 23, 2018 [Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

STRUCTURE 020-0020 WAS ORIGINALLY BUILT IN 1938 AS F.A. ROUTE 161, SECTION 12-B AT STATION 751+92.58 BY THE STATE OF ILLINOIS. THE STRUCTURE WAS RECONSTRUCTED IN 1984, SECTION 12BR, CONTRACT 35358. THE SUBSTRUCTURE WAS RECONSTRUCTED TO ACCOMMODATE A NEW WIDENED 40" WEB R GIRDER WITH A R.C. DECK.

THE EXISTING STRUCTURE IS A FOUR SPAN STEEL R GIRDER STRUCTURE WITH A BACK-TO-BACK ABUTMENT LENGTH OF 392'-11 1/2". THE STRUCTURE MEASURES 32'-0" FROM FACE-TO-FACE OF PARAPET AND HAS AN OUT-TO-OUT WIDTH OF 35'-2". THE SUPERSTRUCTURE CONSISTS OF 5 40" WEB R GIRDERS SUPPORTING A 7 1/2" REINFORCED CONCRETE DECK ON PILE SUPPORTED R.C. SPILL THRU ABUTMENTS AND R.C. PIERS. THE SLOPES ARE PROTECTED WITH RIPRAP.

METHOD OF CONSTRUCTION: STAGE CONSTRUCTION.



PROFILE GRADE F.A.P. 71

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

SEE SPECIAL PROVISION "DECK SLAB REPAIR" FOR ADDITIONAL REQUIREMENTS PERTAINING TO DECK SLAB REPAIR.

AREAS OF DECK REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.

FIBERS ARE INCLUDED IN BRIDGE DECK LATEX CONCRETE OVERLAYS.

INDEX OF SHEETS

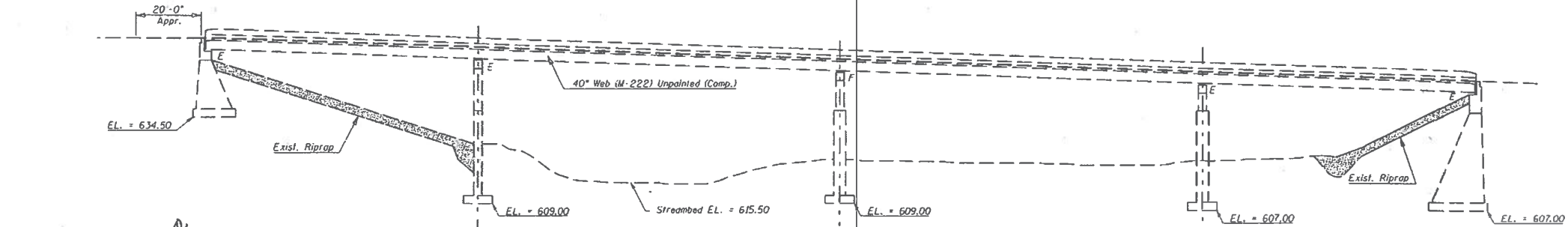
- General Plan and Elevation
- Deck Cross Sections
5. Staging Details
- Wearing Surface Plan
- Joint Details at Abutments
11. Bridge Approach Details
15. Bridge Deck Patching Details
- Schedule of Deck Slab Repair
- Detail of Inlet Adjust (Special)
- Temporary Concrete Barrier for Stage Construction
33. As-Built Plans (Information Only)

PROPOSED WORK

- Perform Bridge Deck Scarification 3/4"
- Perform Approach slab repair.
- Perform Concrete Removal.
- Remove Bridge Approach Shoulders.
- Remove and replace Diaphragms at abutments.
- Jack, remove, and replace Bearings at abutments.
- Place Latex Concrete Overlay 2 1/4".
- Place Concrete Super-Structures.
- Place Polymer Concrete
- Perform Bridge Deck Grinding.
- Perform Bridge Deck Grooving.
- Place HMA Surface Course.
- Place Silicone Joint Seal

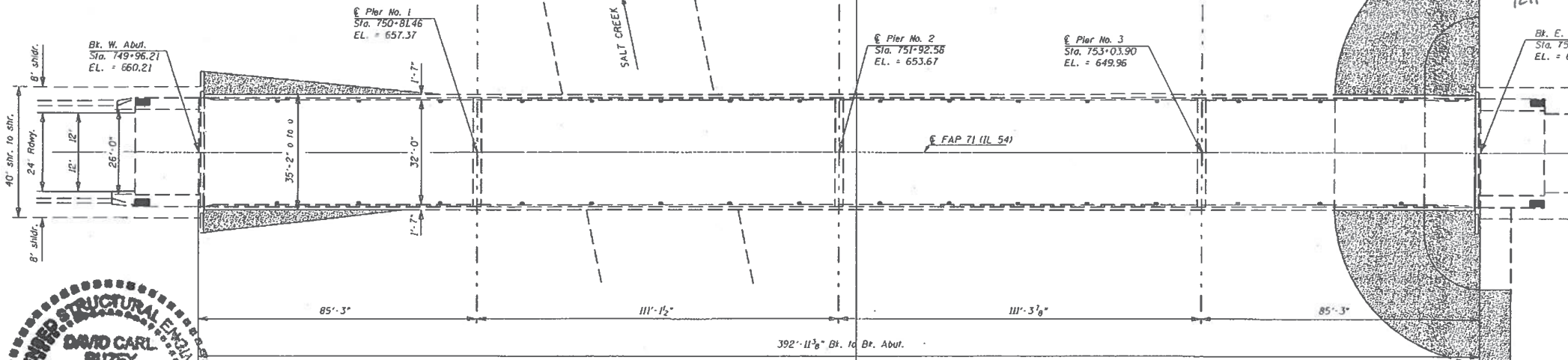
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	3.5
Concrete Superstructure	Cu. Yd.	3.4
Protective Coat	Sq. Yd.	1,513.0
Reinforcement Bars Epoxy Coated	Pound	267.0
Bar Splicers	Each	16.0
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1,155.0
Furnish & Erect Structural Steel	Pound	2,350.0
Elastomeric Bearing Assembly Type 2	Each	10.0
Anchor Bolts 1" d	Each	20.0
PCC Bridge Approach Pavement (Special)	Sq. Yd.	32.0
Bridge Approach Shoulder Removal	Sq. Yd.	32.0
Jack and Remove Existing Bearings	Each	10.0
Structural Steel Removal	Pound	2,190.0
Structural Steel Repair	Pound	490.0
Bridge Deck Latex Conc. Overlay 2 1/2"	Sq. Yd.	1,460.0
Bridge Deck Scarification 3/4"	Sq. Yd.	1,501.0
Deck Slab Repair (Full-Depth) Type 2	Sq. Yd.	103.0
Silicone Joint Sealer 2 1/2"	Foot	72.0
Diamond Grinding (Bridge Section)	Sq. Yd.	1,338.0
Polymer Concrete	Cu. Ft.	7.7



ELEVATION VIEW

ELEVATIONS TAKEN FROM AS-BUILT PLANS AND ARE SHOWN FOR PERSPECTIVE ONLY.



PLAN VIEW



David Carl Puzey 3/14/18
Expires 11/30/18

FILE NAME: p:\IL\084E010\INTG\Illinois.gov\PI001\Documents\1001\Office\District 5\Projects\0578\DRM\00Data\Struc\MSA\Plan-78877-FinalP	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		GENERAL PLAN & ELEVATION S.N. 020-0020		F.A.P. RTE. 71	SECTION 12BR	COUNTY DEWITT	TOTAL SHEETS 41	SHEET NO. 7
PLOT SCALE: 48.8808' / in.	CHECKED -	REVISED -	SCALE: 1" = 20'		SHEET NO. 1 OF 20 SHEETS	STA. TO STA.	CONTRACT NO. T0877				
PLOT DATE: 3/7/2018	DATE - 012915	REVISED -					ILLINOIS FED. AID PROJECT				

S.N. 020-0020

Technical drawing of a bridge cross-section showing a 32'-0" face-to-face parapet with four 7'-3" girder spaces. The drawing includes dimensions for parapet width, girder spacing, slopes, and structural details like bonded construction joints and slab thickness.

Key dimensions and features:

- Overall width: 32'-0" face-to-face parapets
- Girder spacing: 4 Girder spaces at 7'-3" = 29'-0"
- Parapet width: 1'-0" (each end)
- Girder width: 7'-3" (each)
- Parapet thickness: 7"
- Girder thickness: 7 1/2" slab
- Slopes:
 - Top parapet slopes: 1/4" per ft. (outer), 3/16" per ft. (inner)
 - Bottom parapet slopes: 3/16" per ft.
- Structural details:
 - Bonded Constr. Jt. (Typ.)
 - Symm. About C
 - Vertical dimensions: 1'-9", 11 1/2", 9", 3"

S.N. 020-0020

Technical drawing of a bridge deck cross-section and plan view.

Cross-Section Details:

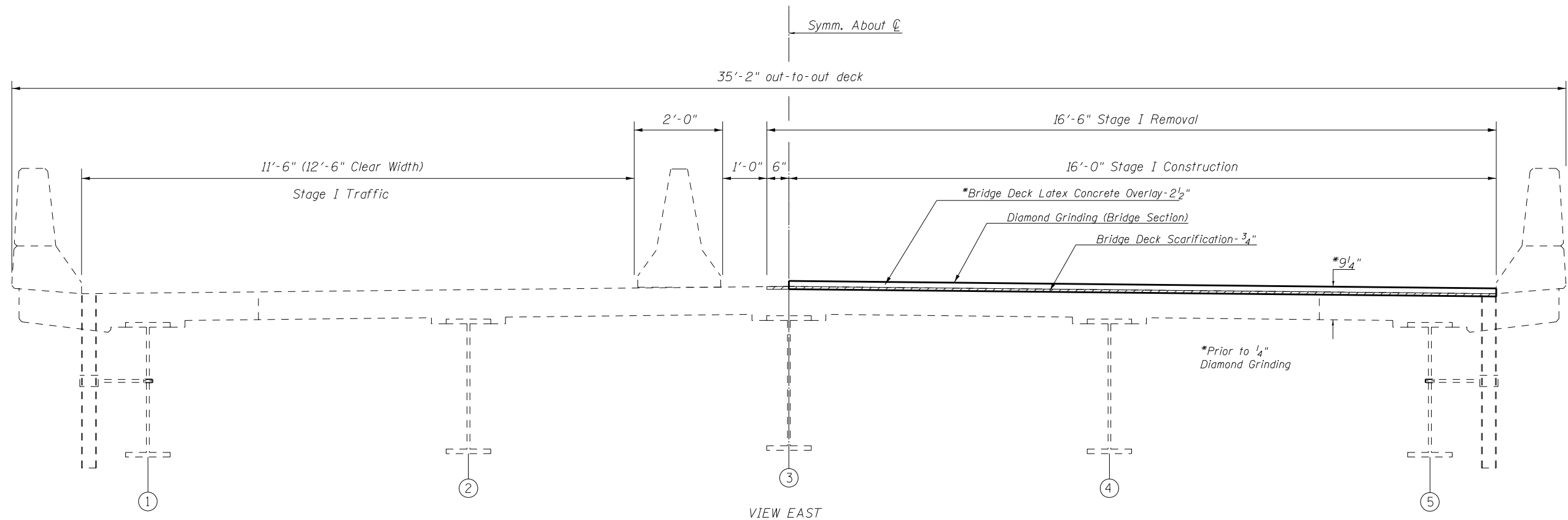
- Overall width: 32'-0" face-to-face parapets
- Left parapet: 1'-0" wide, 7" high
- Right parapet: 7" high, 1'-0" wide
- Deck slopes:
 - Left side: Slope $\frac{1}{4}$ " per ft.
 - Center: Slope $\frac{3}{16}$ " per ft.
 - Right side: Slope $\frac{3}{16}$ " per ft.
 - Far right: Slope $\frac{1}{4}$ " per ft.
- Deck thickness: 9 1/4"
- Bridge Deck Latex Concrete Overlay: 2 1/2"
- Bridge Deck Scarification: 3/4"
- Diamond Grinding (Bridge Section)
- Symm. About C
- *Prior to 1/4" Diamond Grinding
- Finished Deck Thickness 9"
- Slope 1 1/2" in 3"
- *9 1/4"

Plan View Details:

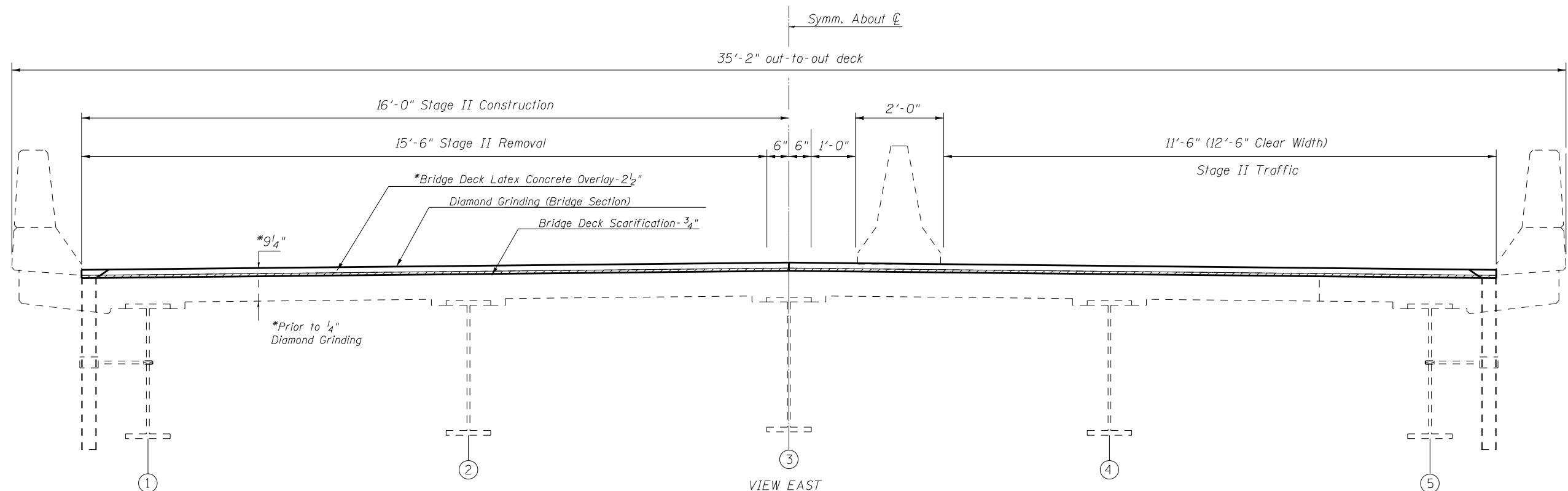
- 4 Girder spaces at 7'-3" = 29'-0"
- Dimensions: 3'-1", 3'-1", 3'-1"
- Labels: 1, 2, 3, 4, 5
- TOP PLAN
- SLOPE TO DRAIN
- EDGE OF PARAPET
- 9" width, 12" height detail

FILE NAME =	USER NAME = shererjm	DESIGNED - JMS	REVISED -	<div>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</div>	DECK CROSS SECTIONS S.N. 020-0020					F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\IL064EBID\INTEG.Illinois.gov\PID007\Documents\DOT Offices\District 5\Projects\0577\Drawings\0577\0577-Plan-70B77-Struct\0577-Plan-70B77-Struct.dwg		DATE = 012915	REVISED -		SCALE: None	SHEET NO. 2 OF 20 SHEETS	STA.	TO STA.	71	12BDR	DEWITT	47	8	
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -	REVISED -							CONTRACT NO. 70B77				
PLOT DATE = 6/21/2017	DATE = 012915	REVISED -	REVISED -							ILLINOIS FED. AID PROJECT				

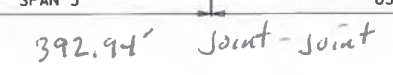
STAGE I CONSTRUCTION DETAIL



STAGE II CONSTRUCTION DETAIL



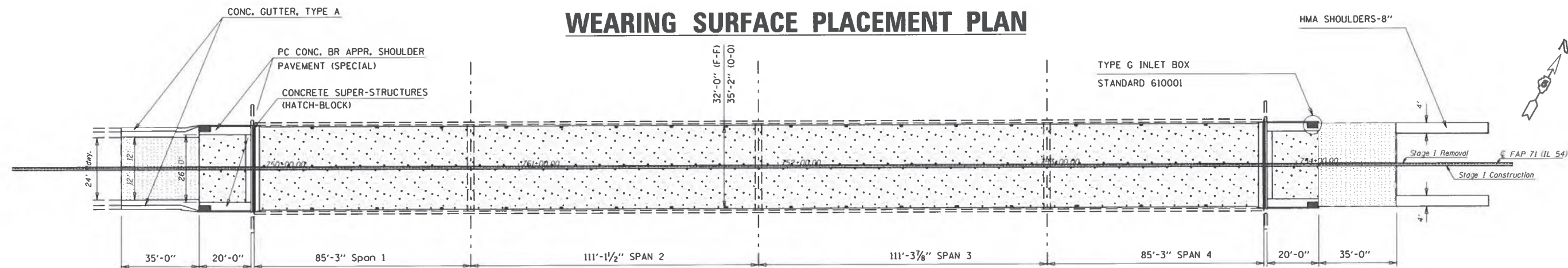
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PLOT DATE = 6/21/2017		DATE = 012915	REVISED -										
				SCALE: None	SHEET NO. 3 OF 20 SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT				



SEE BRIDGE APPROACH DETAILS)

CONCRETE REMOVAL (EXISTING HATCH-BLOCK)

ITEM	UNIT	TO
HMA SURF. REM. BUTT-JOINT	SQ YD	21
GUTTER REMOVAL	FOOT	70
CONCRETE REMOVAL	CU YD	3
BR. APPR. SHLD REMOVAL	SQ YD	32
BRIDGE DECK SCARIFICATION, ¾"	SQ YD	1,50
INLETS TO BE REMOVED	EACH	4

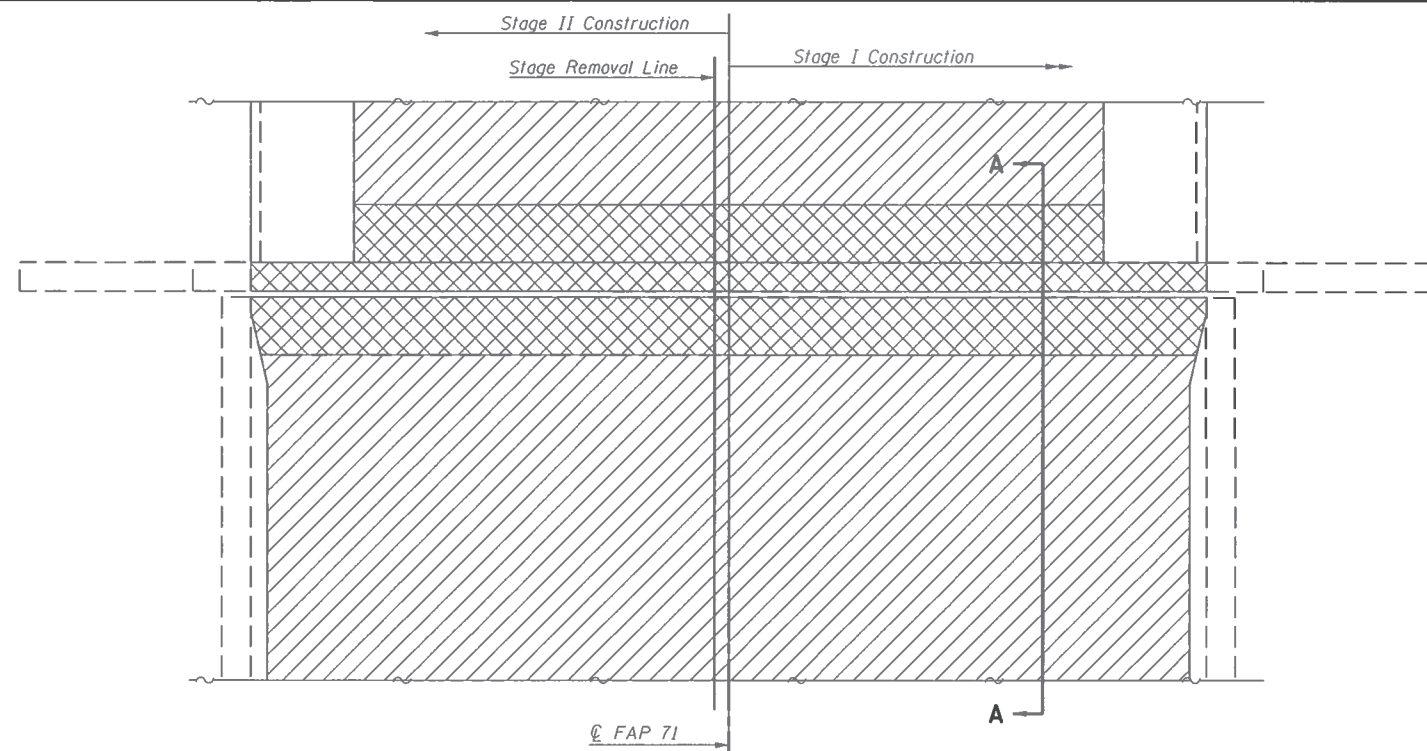


SEE BRIDGE APPROACH DETAILS

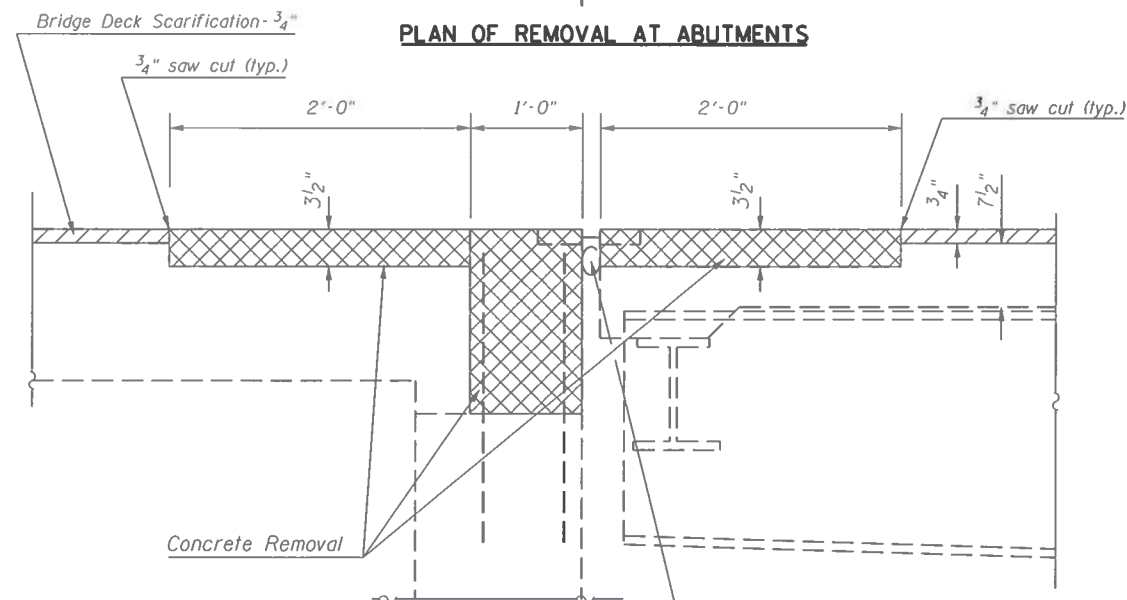
- INCLUDES HMA FOR TYPE A GUTTER

ITEM	UNIT	TOTAL
BIT. MATLS. TACK COAT	POUND	98
HMA SURF. CSE. MIX 'C" N50	TON	34
CONCRETE SUPER-STRUCTURE	CU YD	3.
BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	1,15
CONCRETE GUTTER, TYPE A	FOOT	70
BRIDGE DECK LATEX CONC. OVLY. - 2 1/2"	SQ YD	1,46
PC CONC. BR. APPR. SHLD. PVT (SP)	SQ YD	32
TYPE G INLET BOX, STND 610001	EACH	4.
DIAMOND GRINDING BR. DECK. SEC.	SQ YD	1,33

FILE NAME =	USER NAME = shor-jm	DESIGNED - JMS	REVISED -	<div style="text-align: center;"> STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION </div>	<div style="text-align: center;"> WEARING SURFACE PLANS S.N. 020-0020 </div>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
p:\IL084EBID\INTEG.Illinois.gov\PWIDOT\Documents\DOT Offices\District 5\Projects\0576\DRAMA Data\Structure\JMS\Plan-78877-Final		CHECKED -	REVISED -					71	I2BDR	DEWITT	47
PLOT SCALE = 40.8000' / in.		DATE - 012915	REVISED -		CONTRACT NO.						
PLOT DATE = 1/22/2018					ILLINOIS FED. AID PROJECT						
SCALE: None				SHEET NO. 6 OF 20 SHEETS		STA. _____ TO STA. _____					



PLAN OF REMOVAL AT ABUTMENTS



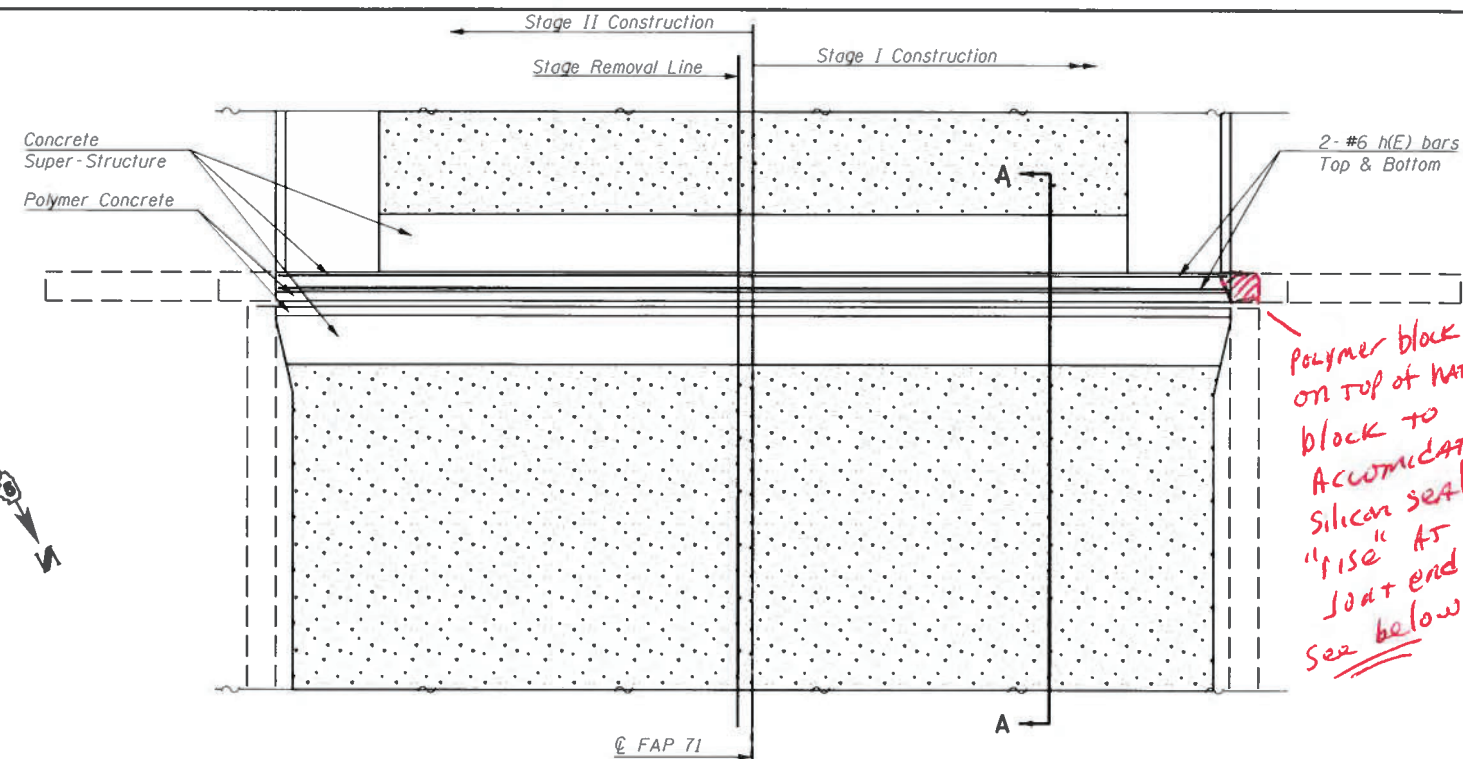
SECTION A-A ABUTMENTS

General Notes

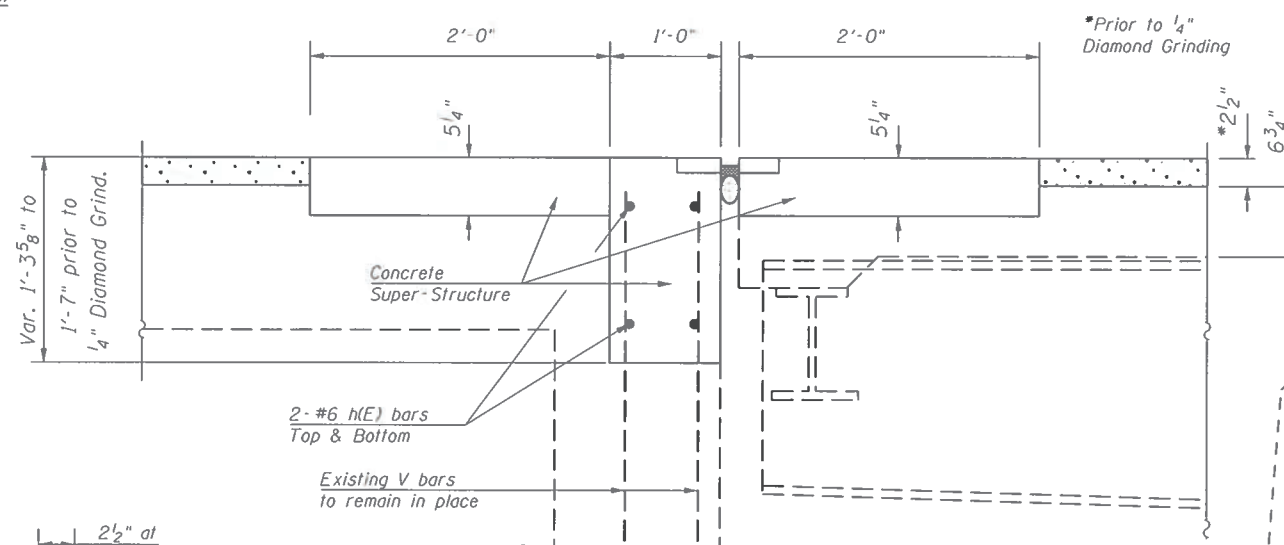
EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. COST INCLUDED WITH CONCRETE REMOVAL.

BILL OF MATERIALS (SILICONE JOINT)

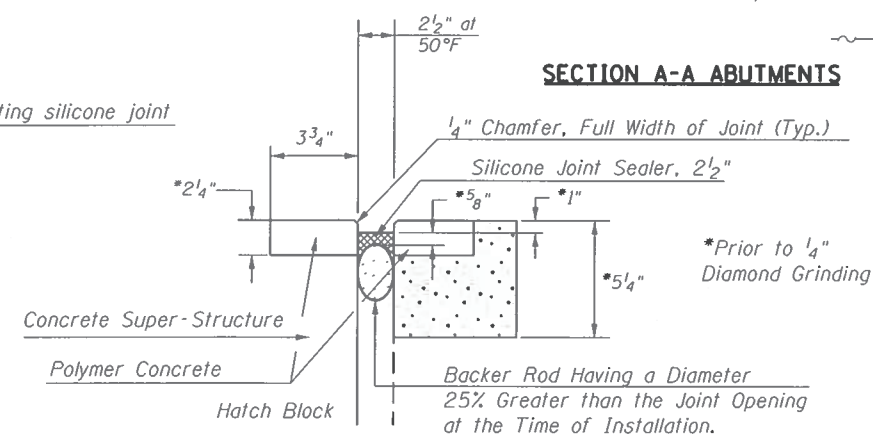
Bar	No.	Size	Length	Shape
h(E)	16	#5	16'-0"	
Item	Unit	Total		
Silicone Joint Sealer, 2 1/2"	Foot	72.0		
Polymer Concrete	Cu. Ft.	7.7		
Reinf. Bars Epoxy Coated	Pound	267.0		
Bar Splicers	Each	16.0		



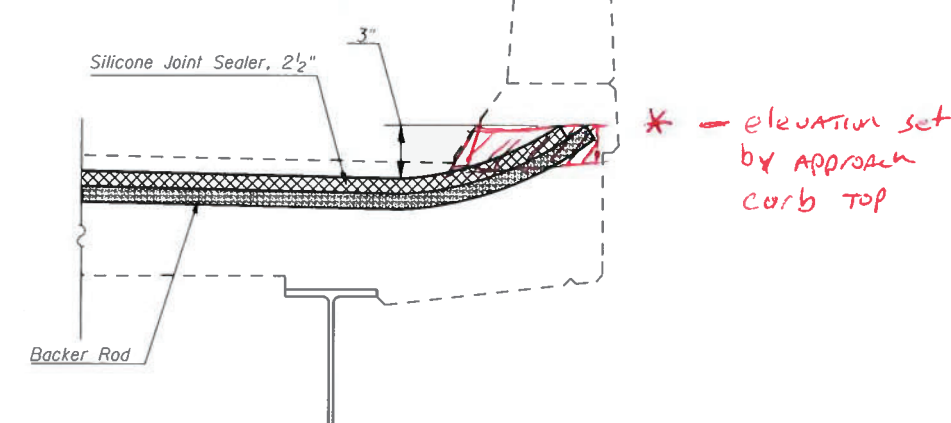
PLAN OF CONSTRUCTION AT ABUTMENTS



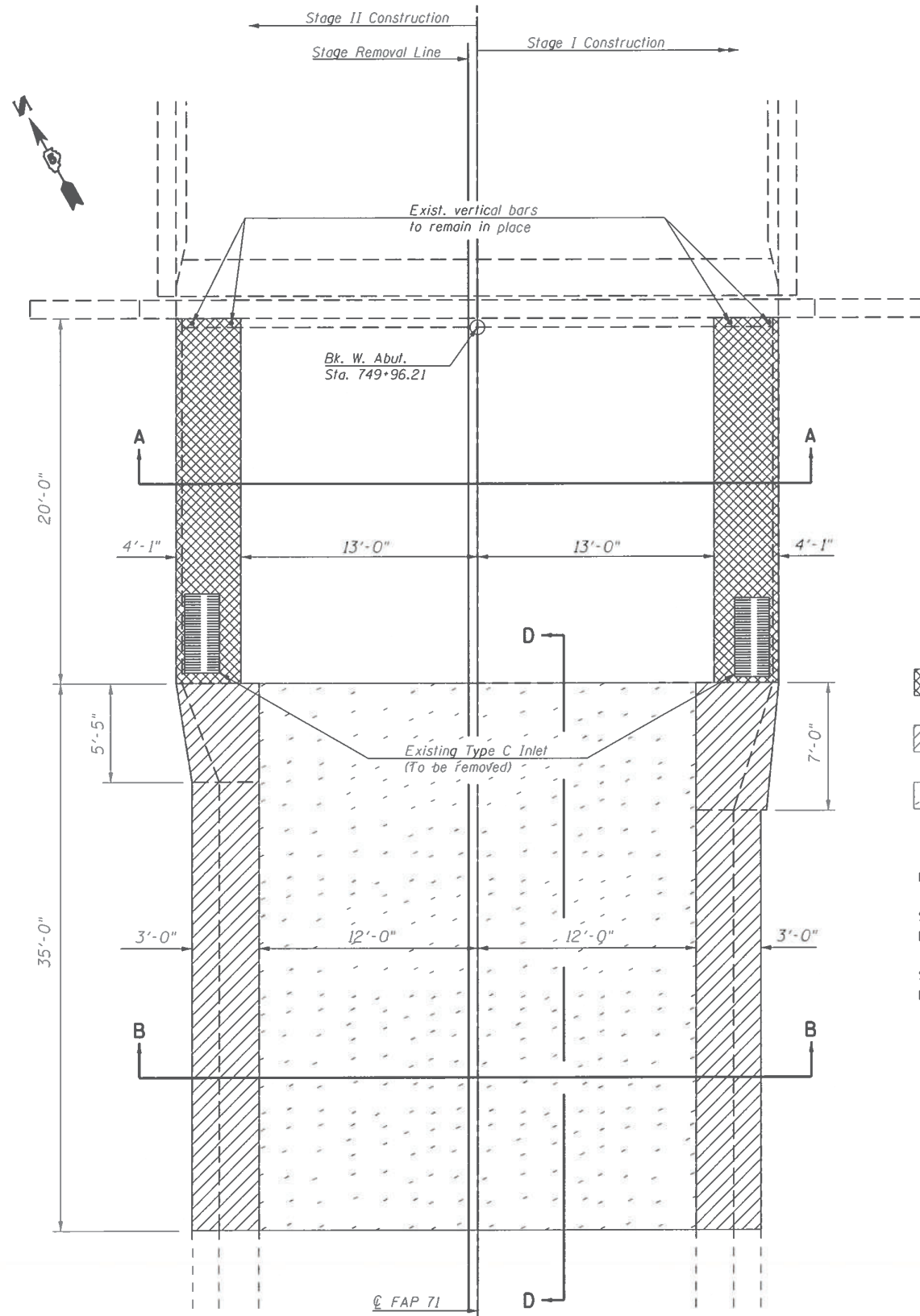
SECTION A-A ABUTMENTS






SILICONE JOINT SEALER DETAIL



SECTION AT PARAPET
SILICONE JOINT SEALER



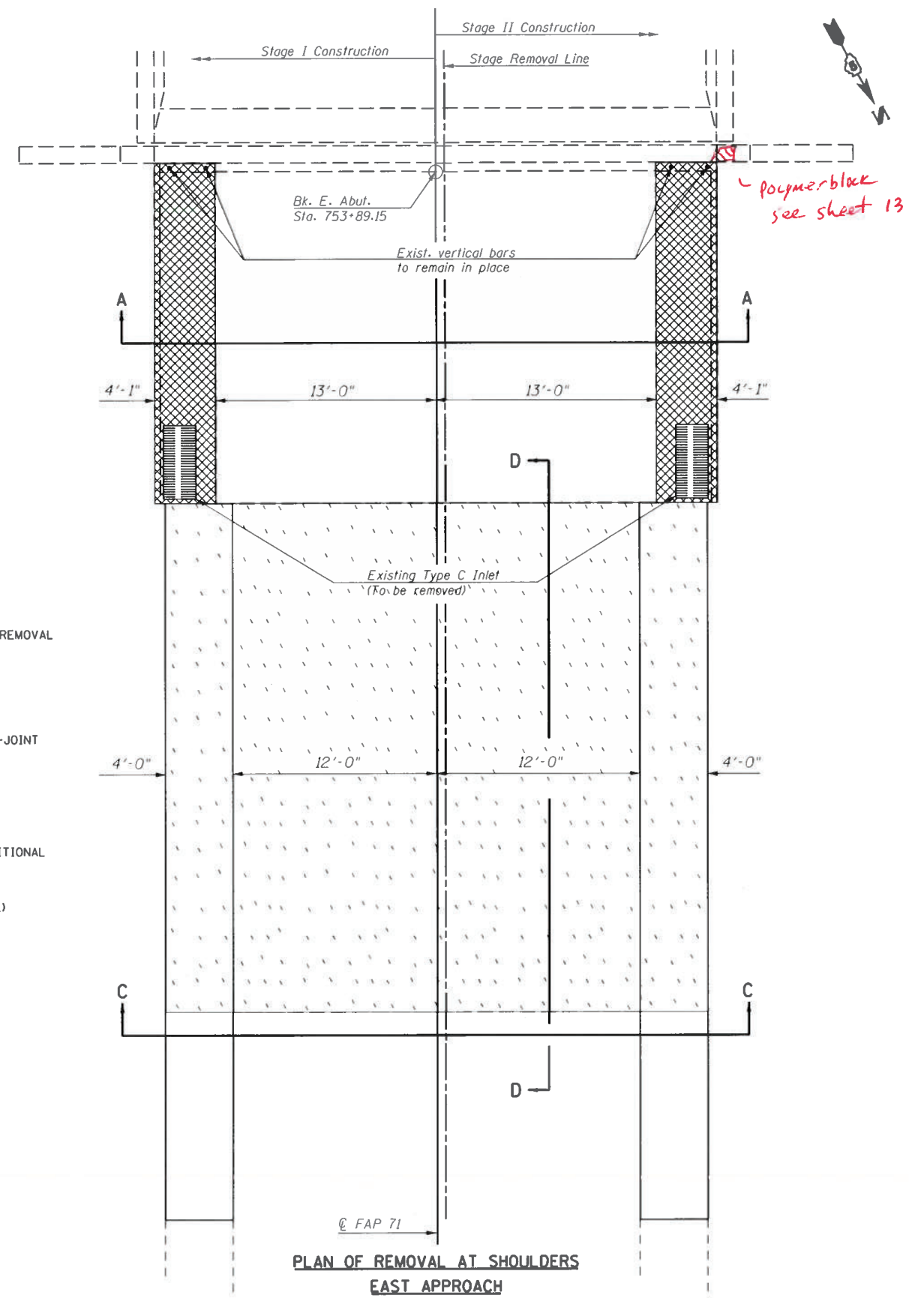
PLAN OF REMOVAL AT SHOULDERS
WEST APPROACH

-  BRIDGE APPROACH SHOULDER REMOVAL
-  GUTTER REMOVAL
-  HMA SURFACE REMOVAL BUTT-JOINT

NOTES:

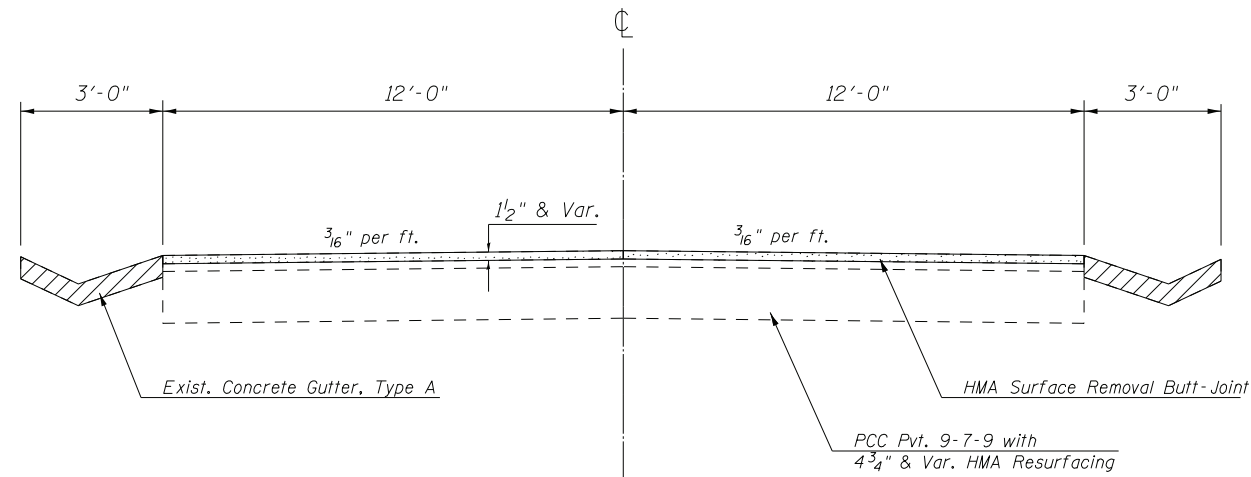
SEE WEARING SURFACE PLANS FOR ADDITIONAL DETAILS.

SEE DETAIL OF INLET ADJUST (SPECIAL) FOR ADDITIONAL DETAILS.

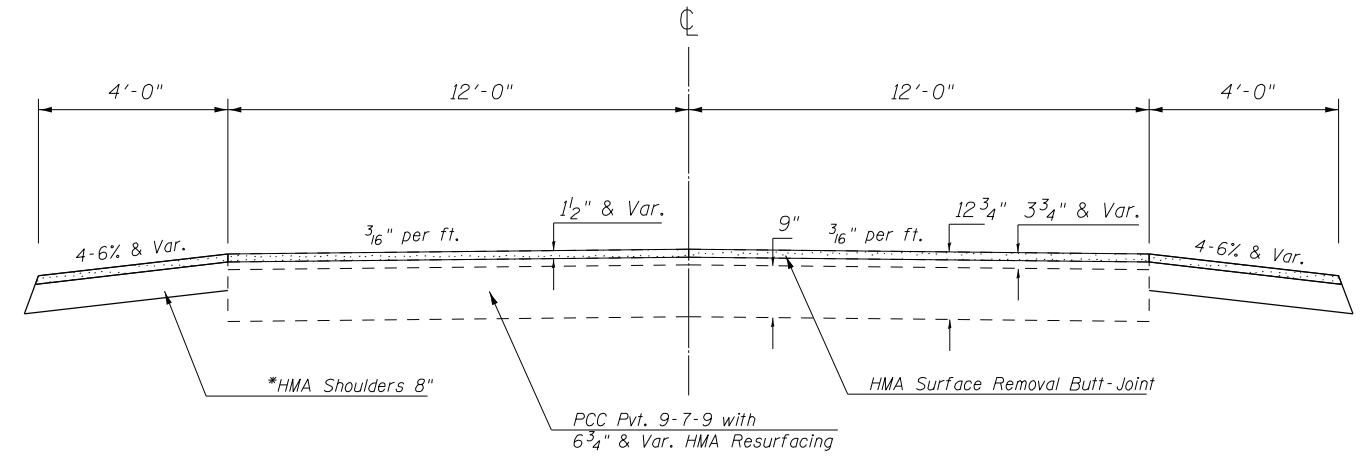


PLAN OF REMOVAL AT SHOULDERS
EAST APPROACH

FILE NAME =	USER NAME = sherer.jm	DESIGNED = JMS	REVISED =	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH DETAILS S.N. 020-0020			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
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PLOT SCALE = 40.0000' / 1".		DATE = 012915	REVISED =		CONTRACT NO.						
PLOT DATE = 6/21/2017					ILLINOIS FED. AID PROJECT						
					SCALE: None	SHEET NO. 8 OF 20 SHEETS	STA.	TO STA.			

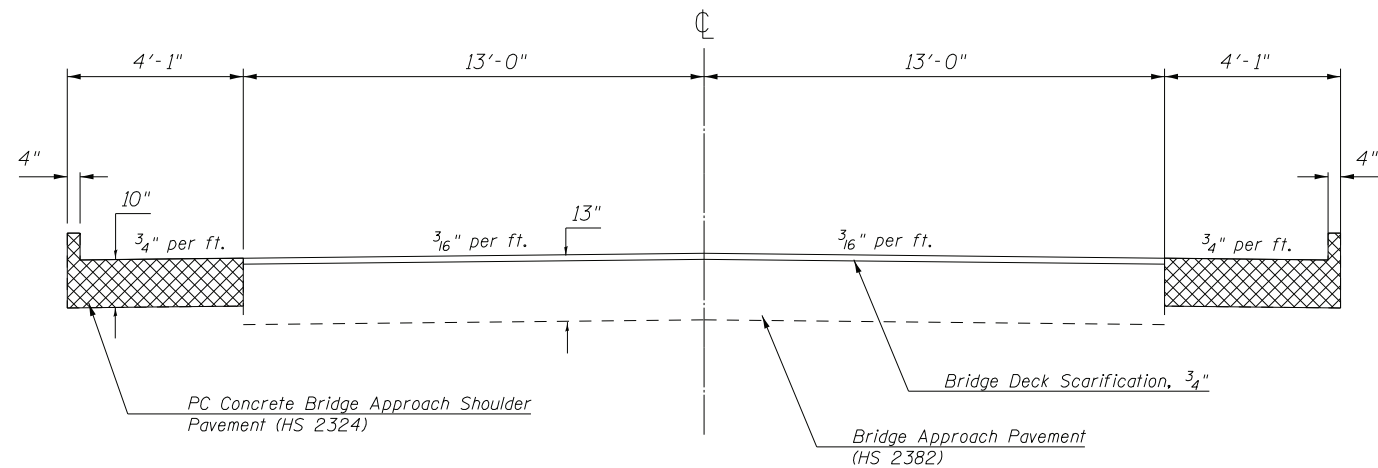


SECTION B-B APPROACH ROADWAY

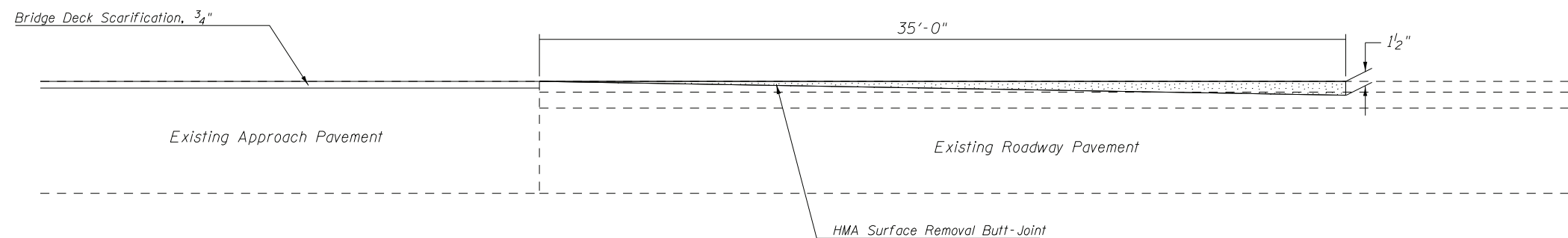


SECTION C-C APPROACH ROADWAY

*HMA Shoulders 8" to be placed prior to staging

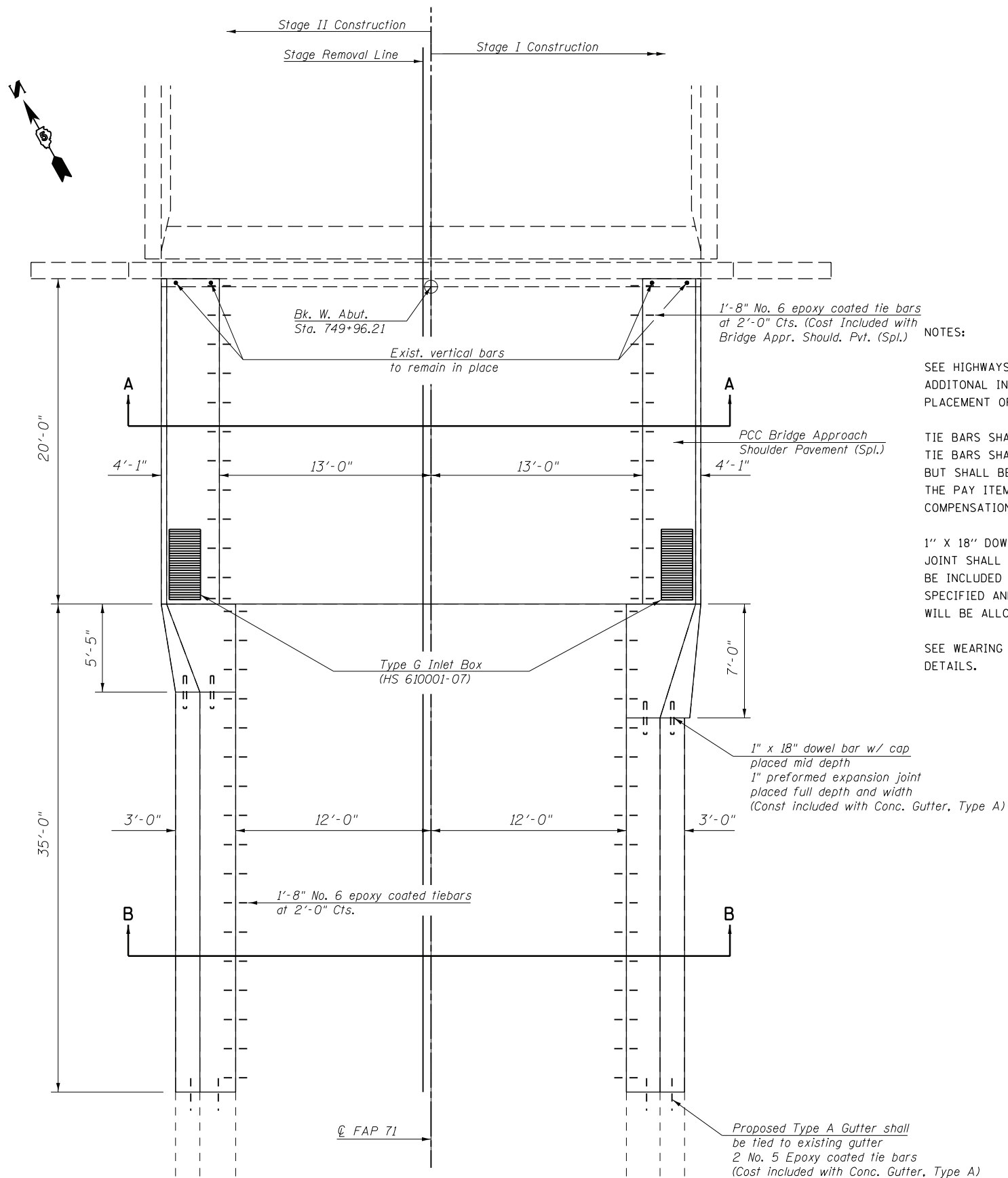


SECTION A-A BRIDGE APPROACH SHOULDERS

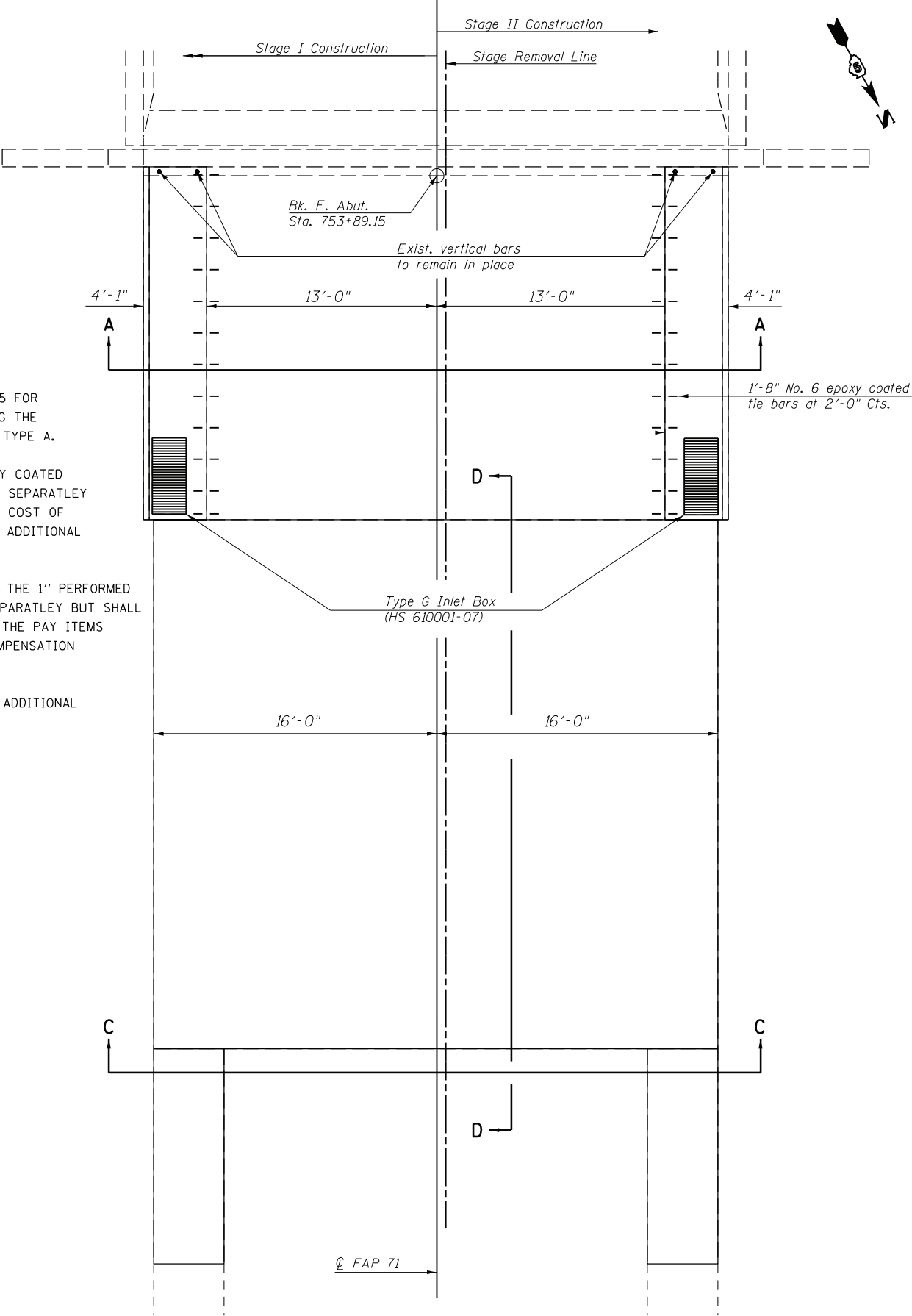


SECTION D-D HMA SURFACE REMOVAL BUTT-JOINT

FILE NAME =	USER NAME = shererjm	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH DETAILS S.N. 020-0020			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG\Illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Projects\0577\Drawings\Struct\MS\Plan-70B77-Struct\REVISED								71	12BDR	DEWITT	47	15
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISER -	REVISER -		CONTRACT NO. 70B77			ILLINOIS FED. AID PROJECT				
PLOT DATE = 6/21/2017	DATE - 012915	REVISER -	REVISER -		SCALE: None	SHEET NO. 9 OF 20 SHEETS	STA.	TO STA.				



PLAN OF CONSTRUCTION AT SHOULDERS
WEST APPROACH



PLAN OF CONSTRUCTION AT SHOULDERS
EAST APPROACH

NOTES:

SEE HIGHWAYS STANDARD 606101-05 FOR
ADDITIONAL INFORMATION REGARDING THE
PLACEMENT OF CONCRETE GUTTER, TYPE A.

TIE BARS SHALL BE EPOXY. EPOXY COATED
TIE BARS SHALL NOT BE PAID FOR SEPARATELY
BUT SHALL BE INCLUDED WITH THE COST OF
THE PAY ITEMS SPECIFIED AND NO ADDITIONAL
COMPENSATION WILL BE ALLOWED.

1" X 18" DOWEL BARS ALONG WITH THE 1" PERFORMED
JOINT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL
BE INCLUDED WITH THE COST OF THE PAY ITEMS
SPECIFIED AND NO ADDITIONAL COMPENSATION
WILL BE ALLOWED.

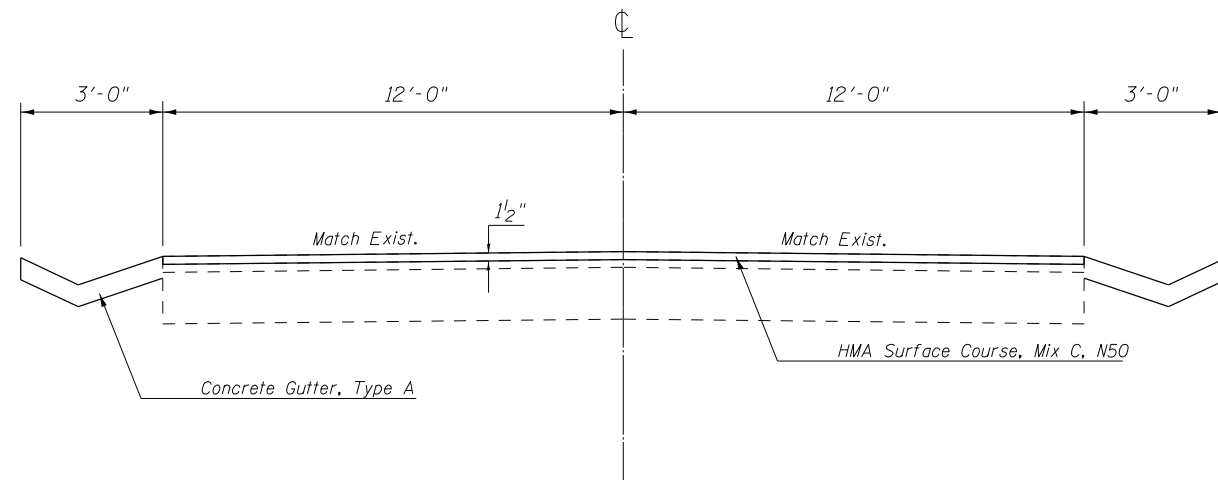
SEE WEARING SURFACE PLANS FOR ADDITIONAL
DETAILS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

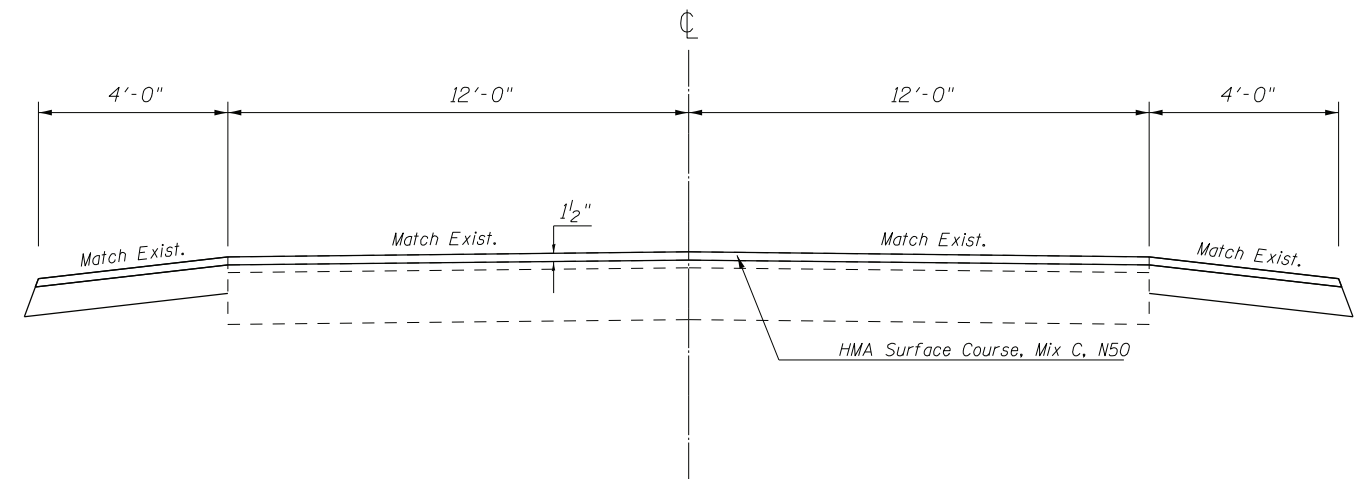
BRIDGE APPROACH DETAILS
S.N. 020-0020

SCALE: None SHEET NO. 10 OF 20 SHEETS STA. TO STA.

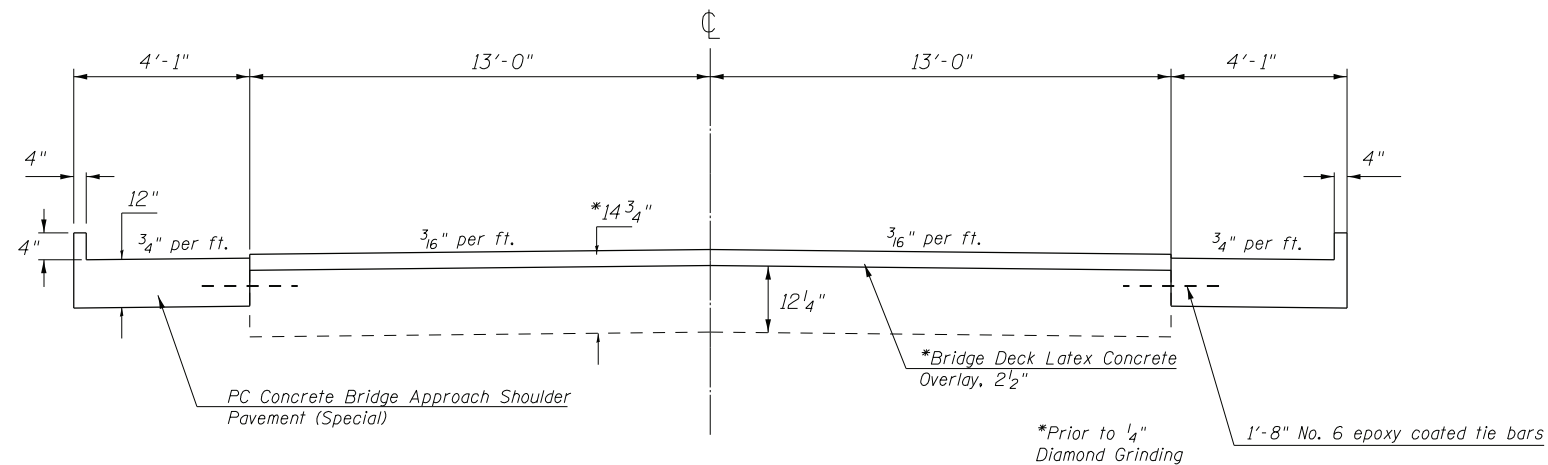
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	12BDR	DEWITT	47	16
CONTRACT NO. 70B77				
ILLINOIS FED. AID PROJECT				



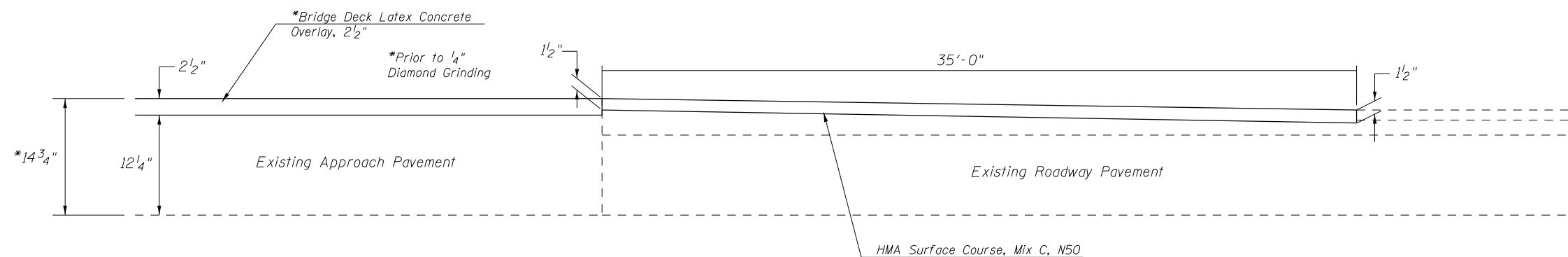
SECTION B-B APPROACH ROADWAY



SECTION C-C APPROACH ROADWAY



SECTION A-A BRIDGE APPROACH SHOULDERS



SECTION D-D HMA SURFACE REMOVAL BUTT-JOINT

FILE NAME =	USER NAME = sherer,jm	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11084EBIDINTEG\Illinois.gov\PIDOT\Documents\IDOT Offices\District 5\Projects\0579\Drawings\Struct\MS\Plan-70B77-Struct\REVISED		CHECKED -	REVISED -		S.N. 020-0020			71	12BDR	DEWITT	47	17
PLOT SCALE = 40.0000' / in.		DATE - 012915	REVISED -		SCALE: None			SHEET NO. 11 OF 20 SHEETS		CONTRACT NO. 70B77		
PLOT DATE = 6/21/2017					STA. TO STA.			ILLINOIS FED. AID PROJECT				

NOTES

All structural steel shall be AASHTO M 270 Grade 50. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $7/8"$ ϕ , holes $15/16"$ ϕ , unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

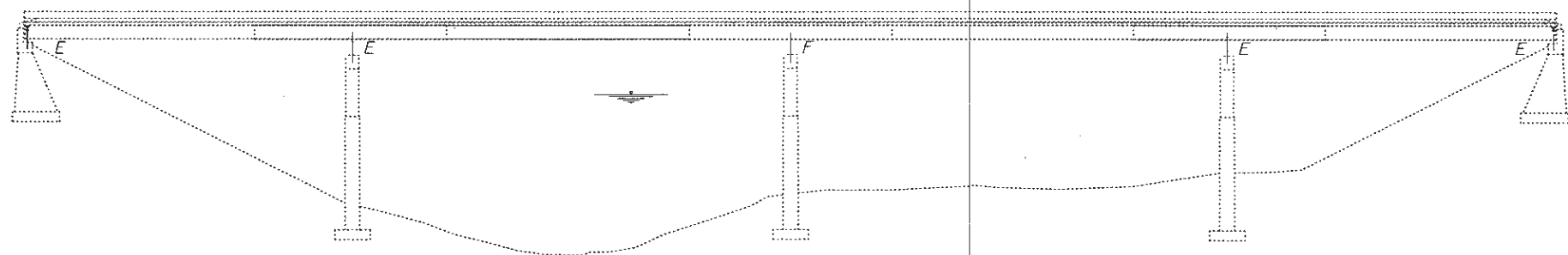
Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.

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

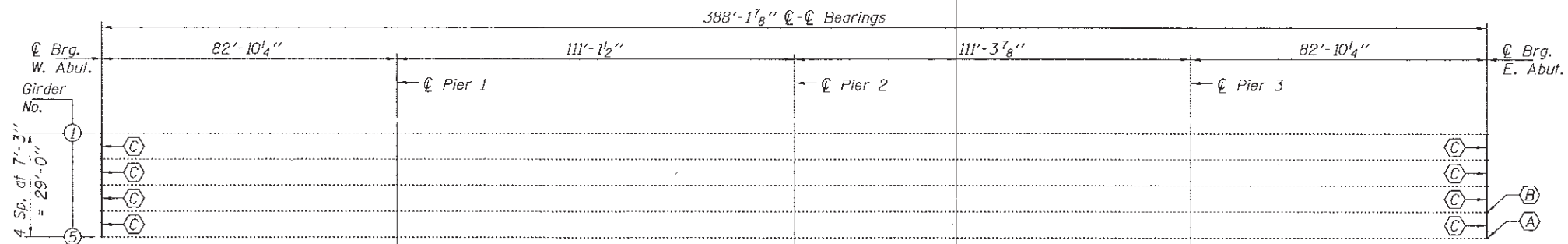
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All structural steel shall be galvanized. Cost included with Structural Steel Repair or Furnishing and Erecting Structural Steel.

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



ELEVATION

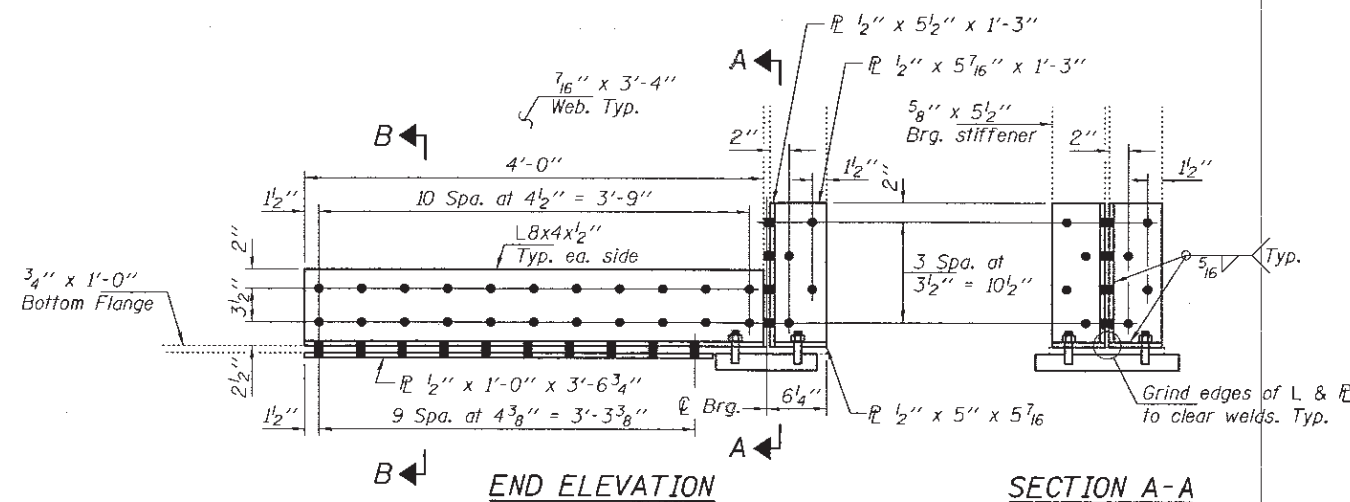


PLAN

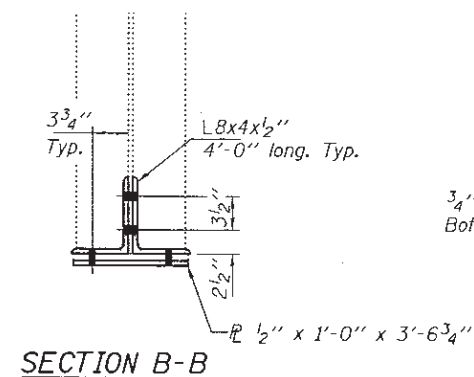
- (A) - Girder 5 end repair
 (B) - Girder 4 end repair
 (C) - Diaphragm replacement
 Bearing replacement, Typ. at abutments

Note:
For Total Bill of Material, see sheet 1 of 20.

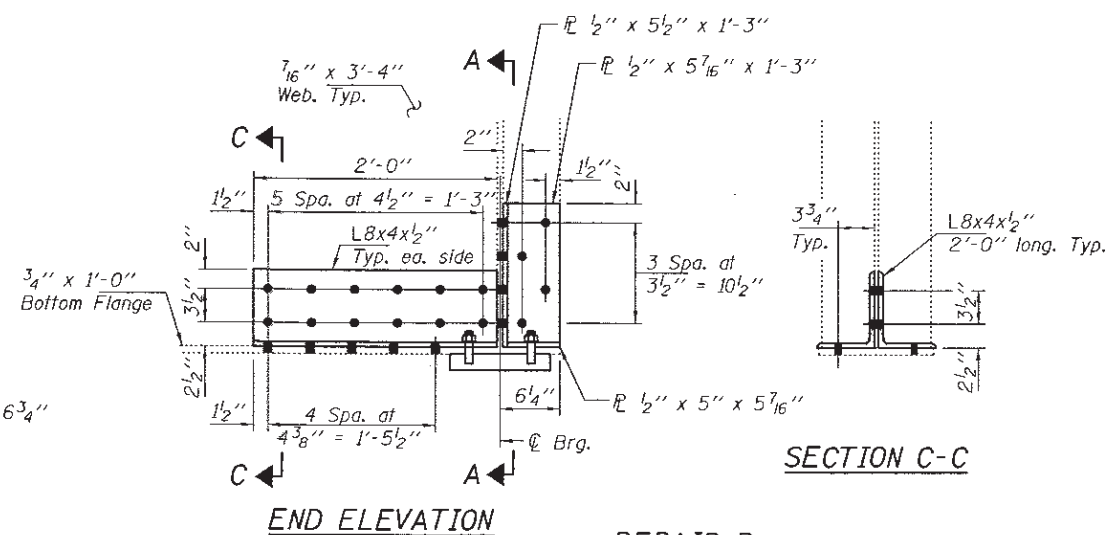
DESIGNED <i>JSB</i>	EXAMINED <i>Timothy A. Smith</i>	DATE <i>MARCH 7, 2018</i>	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER REPAIRS AND BEARING REPLACEMENT		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED <i>JGY</i>	ENGINEER OF STRUCTURAL SERVICES			FAP 71 OVER SALT CREEK		71	128DR	DeWITT	47	23
DRAWN <i>baliva</i>	PASSED <i>A. Carl Pinner</i>	REVISED		SN 020-0020		CONTRACT NO. 70877				
CHECKED <i>JSB JGY</i>	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 17 OF 20 SHEETS		ILLINOIS FED. AID PROJECT				



REPAIR A



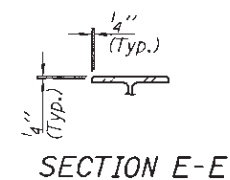
SECTION B-B



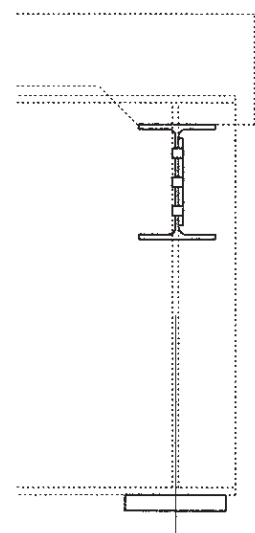
REPAIR B

For bearing replacement details, see sheet 19 of 20.

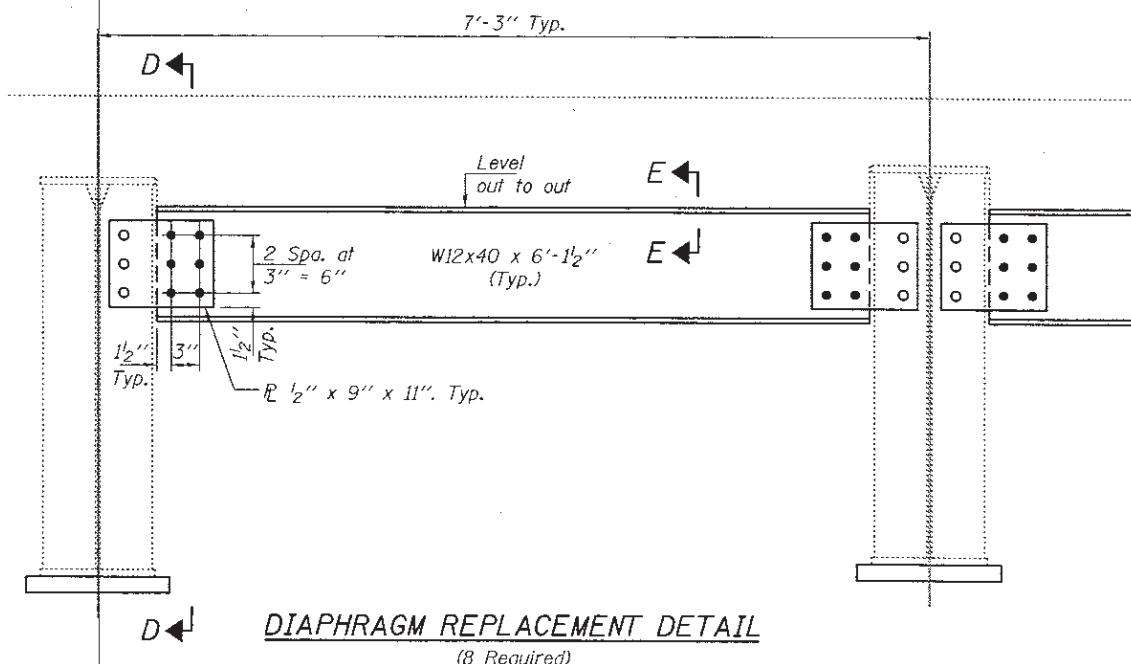
- Use holes in new steel as template for drilling holes in existing steel.
- Use holes in existing steel as template for drilling holes in new steel.



SECTION E-E



SECTION D-D



DIAPHRAGM REPLACEMENT DETAIL
(8 Required)

TYPICAL AT EXTERIOR GIRDER

TYPICAL AT INTERIOR GIRDER

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	2300
Structural Steel Removal	Pound	2190
Structural Steel Repair	Pound	490

* Repairs A & B only

DESIGNED JSB	EXAMINED <i>Timothy A. Smith</i>	DATE MARCH 7, 2018
CHECKED JGY	ENGINEER OF STRUCTURAL SERVICES	
DRAWN baliva	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB JGY		REVISED

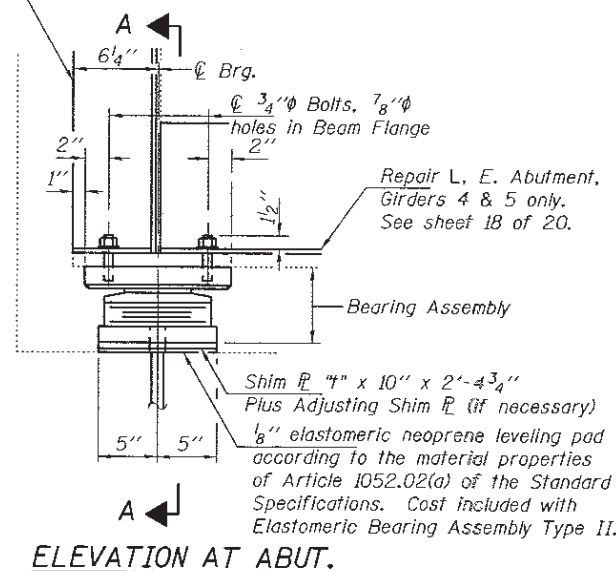
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER REPAIR DETAILS
SN 020-0020

SHEET NO. 18 OF 20 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	128DR	DEWITT	47	24
CONTRACT NO. 70B77				
ILLINOIS FED. AID PROJECT				

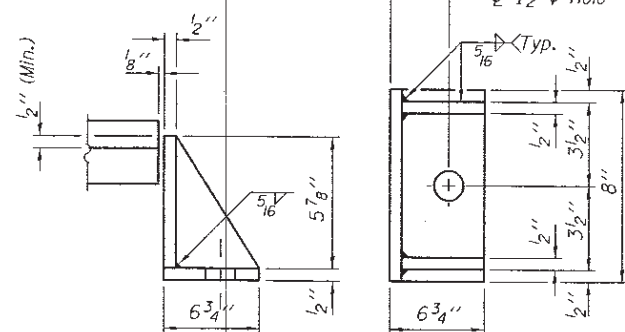
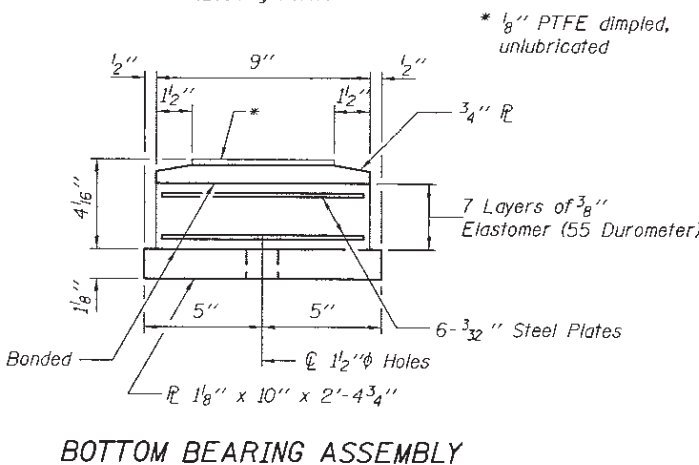
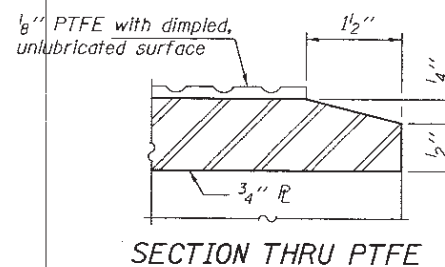
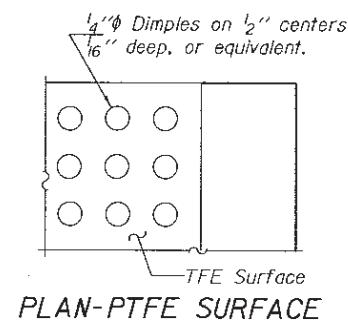
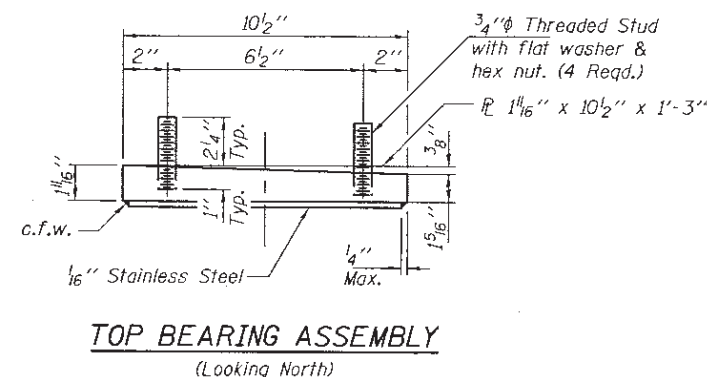
Repair R, E. Abutment,
Girders 4 & 5 only.
See sheet 18 of 20.



TYPE II ELASTOMERIC EXP. BRG.

SHIM PLATE "4"

Location	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5
W. Abut.	0	1/8"	0	0	0
E. Abut.	0	1/4"	1/4"	0	0



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

BEAM REACTIONS

R ₁	(K)	34.1
R ₂	(K)	41.1
Imp.	(K)	9.9
R (Total)	(K)	85.1

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Jack and Remove Existing Bearings

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 45 Tons.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.

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

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

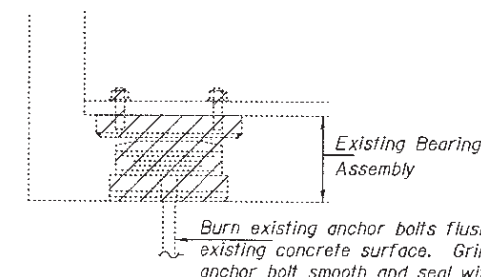
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

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

Shim plates are included with Furnishing and Erecting Structural Steel.

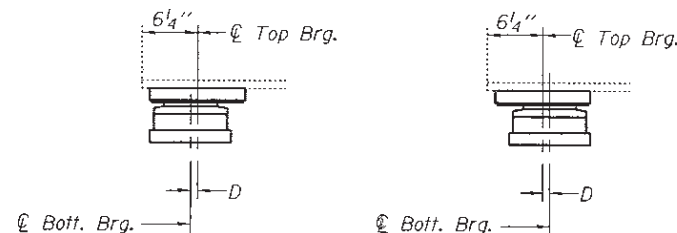
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



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

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

SETTING ANCHOR BOLTS AT EXP. BRG.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	10
Jack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	50
Anchor Bolts 1"φ	Each	20

TYII/REPS 12-03-2008

DESIGNED JSB	EXAMINED	DATE MARCH 7, 2018	STATE OF ILLINOIS	BEARING REPLACEMENT DETAILS	F.A.P. RTE.	SECTION 1280R	COUNTY DeWITT	TOTAL SHEETS 47	SHEET NO. 25
CHECKED JGY	PASSED	REVISOR	DEPARTMENT OF TRANSPORTATION	SN 020-0020	71				
DRAWN ballva		REVISOR							
CHECKED JSB JGY									

SHEET NO. 19 OF 20 SHEETS

CONTRACT NO. 70B77

ILLINOIS FED. AID PROJECT