

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	135BR-2BP	BUREAU	12	1
		CONTRACT NO. 66H79		

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3-4 SUMMARY OF QUANTITIES
- 5 TYPICAL SECTIONS
- 6 STAGING DETAILS
- 7 DETAILS
- 8-12 EXISTING STRUCTURE DETAILS

STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 701001-02 OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 15' (4.5 m) AWAY
- 701006-05 OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS \geq 45 MPH
- 701206-04 LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS \geq 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701321-17 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701901-07 TRAFFIC CONTROL DEVICES
- 704001-08 TEMPORARY CONCRETE BARRIER
- 701101-05 OFF-RD OPERATIONS, MULTILANE, 15' (4.5m) TO 24" (600mm) FROM PAVEMENT EDGE
- 701106-02 OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' (4.5m) AWAY
- 701311-03 LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY

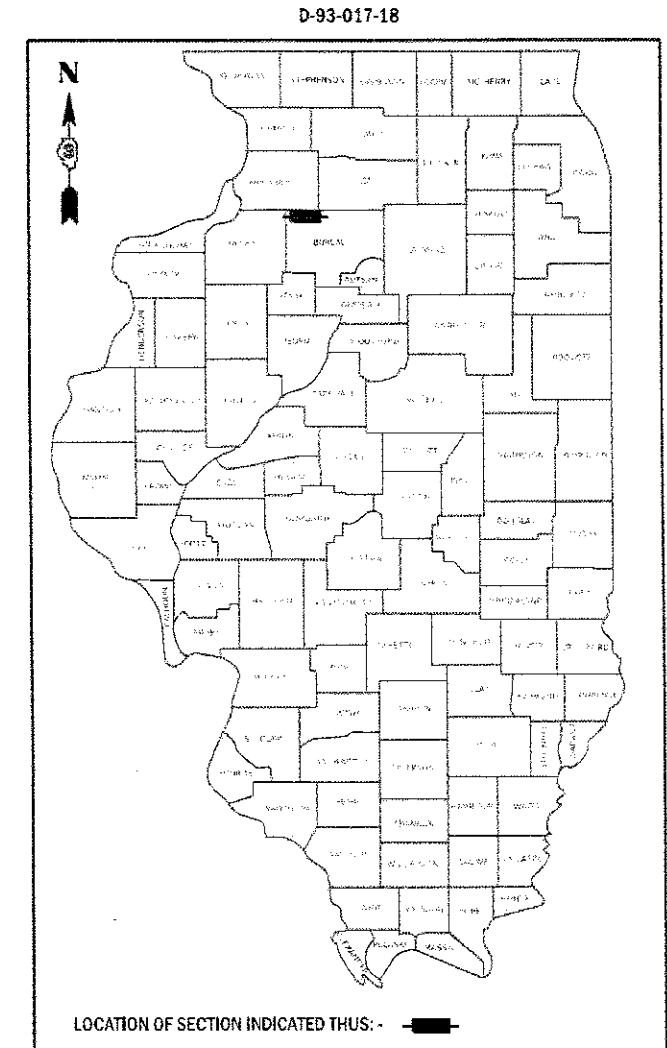
PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 587 (IL 92)
SECTION (135BR-2)BP
PROJECT STP- HRQC(432)
BRIDGE PAINTING
BUREAU COUNTY

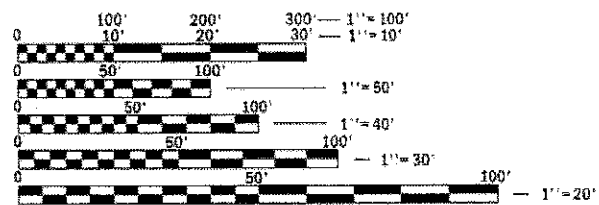
C-93-016-18

PROJECT LOCATION

STRUCTURE NO. 006-0097
STA. 385+95.5
CARRYING F.A.P. 587 (IL 92)
OVER GREEN RIVER
1.40 MILES WEST OF IL 40



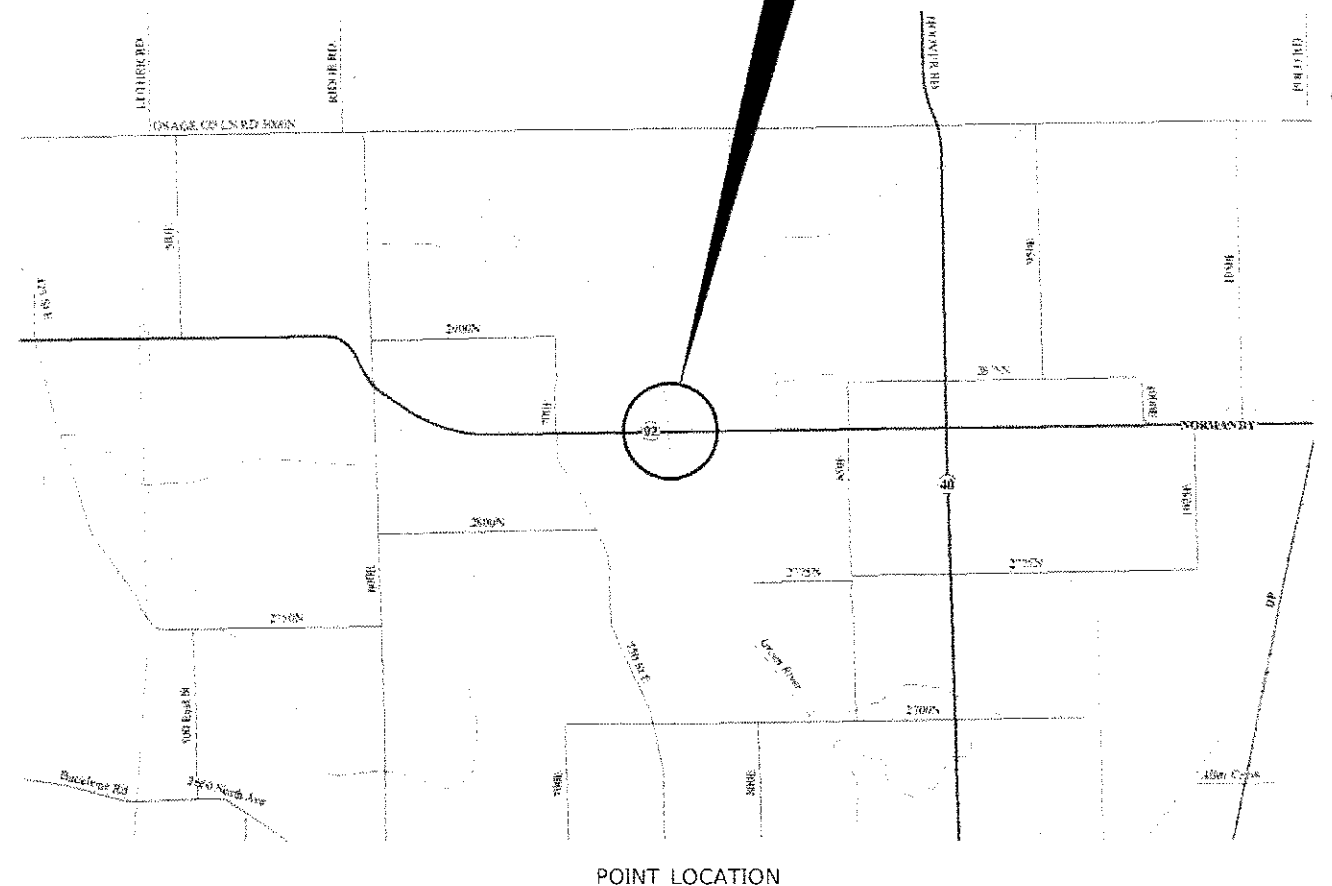
RURAL	
MINOR ARTERIAL	
F.A.P. 587 (IL 92)	
2015	
ADT	675
P.V.	77.8%
S.U.	17.8%
M.U.	4.4%



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: JOE KANNEL, P.E.
PROJECT MANAGER: RON WOODSHANK
DISTRICT 3 NO. (815) 434-6131
CONTRACT NO. 66H79



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED *Oct 17 2017*
Mauch
REGIONAL ENGINEER

NOV 30 2017
Maureen M. Addis
ENGINEER OF DESIGN AND ENVIRONMENT

NOV 30 2017
Amel
DIRECTOR OF PROGRAM DEVELOPMENT

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OF THE STATE OF ILLINOIS

GENERAL NOTES

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
2. STRUCTURE NO. 006-0097 SHALL BE DESIGNATED AS "LOCATION 1".
3. THE SSPC-QP1 AND SSPC-QP2 "PAINTING CONTRACTOR CERTIFICATIONS" WILL BE REQUIRED FOR THIS PROJECT
4. A MINIMUM OF TWO AIR MONITORS SHALL BE REQUIRED FOR EACH STRUCTURE. THE CONTRACTOR SHALL FURNISH AND INSTALL THE MONITORS AS SHOWN ON PLAN DETAILS. (SEE THE SPECIAL PROVISION FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".)
5. CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND AS SPECIFIED BELOW.
 - a) ALL EXISTING STRUCTURAL STEEL, (INCLUDING BEAMS, DIAPHRAGMS, CROSS/LATERAL FRAMING WHEN PRESENT, BEARING ASSEMBLIES AND ALL OTHER ASSOCIATED STEEL COMPONENTS SHALL BE CLEANED PER THE REQUIREMENTS OF "NEAR WHITE BLAST CLEANING - SSPC-SP-10.
 - b) ALL EXISTING STRUCTURAL STEEL, (INCLUDING BEAMS, DIAPHRAGMS, CROSS/LATERAL FRAMING WHEN PRESENT, BEARING ASSEMBLIES AND ALL OTHER ASSOCIATED STEEL COMPONENTS SHALL BE PAINTED PER THE REQUIREMENTS OF "PAINT SYSTEM 1 - OZ/E/U"
 - 1) THE FINAL FINISH COAT FOR ALL INTERIOR STRUCTURAL STEEL SHALL BE "GRAY, MUNSELL NO. 5B 7/1".
 - 2) FINISH COAT FOR EXTERIOR FACE, BOTTOM FLANGE AND BEARING ASSEMBLIES OF THE FASCIA BEAMS SHALL BE "GREEN, MUNSELL NO. 7.5G 1/2.
6. THE CONTRACTOR SHALL BE REQUIRED TO SECURE WASTE CONTAINERS THAT REMAIN ON THE JOB SITE. THIS WILL ENTAIL THAT ALL WASTE CONTAINERS CAN NOT BE MOVED OR OPENED DURING NON-WORKING HOURS.
7. WORKING DAYS SHALL BE CHARGED UNTIL THE CONTRACTOR/SUBCONTRACTOR LISCENSED TO DISPOSE OF LEAD PAINT RESIDUES HAS REMOVED THE WASTE MATERIAL FROM THE JOB SITE ACCORDING TO ALL FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES. IF THE LISCENSED CONTRACTOR OR SUBCONTRACTOR FAILS TO DISPOSE OF THE LEAD PAINT RESIDUES ON OR BEFORE THE SPECIFIED COMPLETION DATE, LIQUIDATED DAMAGES SHALL BE CHARGED PER CALENDAR DAY ACCORDING TO ARTICLE 108.09 OF THE STANDARD SPECIFICATIONS UNTIL SUCH TIME THAT ALL PAINT RESIDUE MATERIALS HAVE BEEN PROPERLY REMOVED AND DISPOSED OF.

COMMITMENTS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
AS BUILT INFORMATION

DATE: 10/17/17

SUPERVISING CONSTRUCTION FIELD ENGINEER

PREPARED BY: David Brorick
DISTRICT STUDIES & PLANS ENGINEER

RESIDENT ENGINEER / TECHNICIAN

EXAMINED BY: [Signature]
DISTRICT CONSTRUCTION ENGINEER

START & END DATES
OF CONSTRUCTION:

Michael A. Slat
DISTRICT MATERIALS ENGINEER

INSPECTORS:

Tom H. [Signature]
DISTRICT OPERATIONS ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

F.A.P. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	2
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

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

PROJECT: 66H79
 FILE: 66H79-2
 DRAWING: 66H79-2-ASBUILT-GENERAL NOTES
 DATE: 10/17/2017
 USER: woodruff@illinois.gov
 PLOT DATE: 10/17/2017

REV

CONSTR. CODE
 B. P. O.
 80%FED 20%STATE
 BRIDGE
 0047
 S.N. 006-0097

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	LSUM	1	1
67100100	MOBILIZATION	LSUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1	1
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	LSUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	2	2
70400100	TEMPORARY CONCRETE BARRIER	FOOT	350	350
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	120	120
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
* 78009006	MODIFIED URETHANE PAVEMENT MARKING - LINE 6"	FOOT	180	180
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	90	90
X5067501	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 1	LSUM	1	1

14

*SPECIALTY ITEM

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DRAWN - TP	REVISIONS -	
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PLOT DATE = 10/11/2017	DATE - 7/6/2017	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.P. RTE. 587	SECTION (135BR-2)BP	COUNTY BUREAU	TOTAL SHEETS 12	SHEET NO. 3
CONTRACT NO. 66H79			ILLINOIS FED. AID PROJECT	

CONSTR. CODE
B. P. O.
80%FED 20%STATE
BRIDGE
0047
S.N. 006-0097

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	LSUM	1	1
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	42	42

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PLOT DATE = 10/11/2017	DATE - 7/6/2017	REVISED - _____

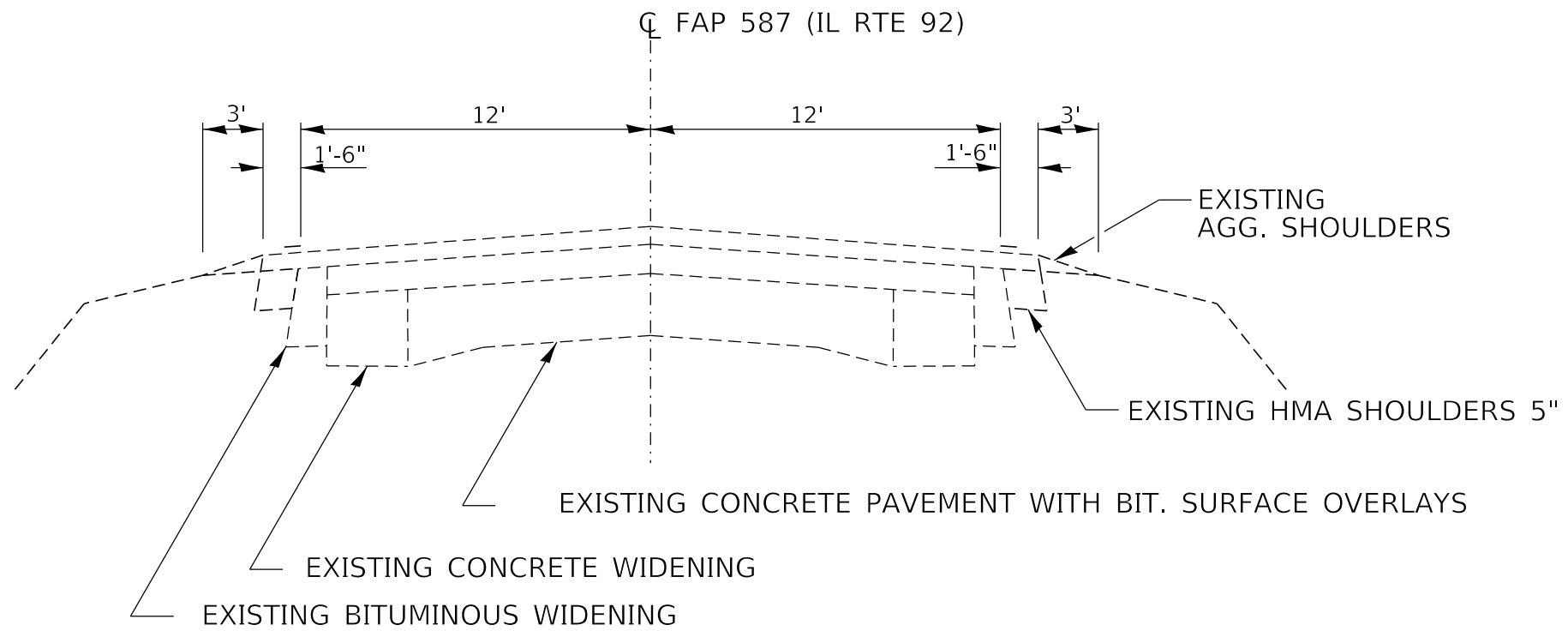
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	4
CONTRACT NO. 66H79			ILLINOIS FED. AID PROJECT	

REV



TYPICAL SECTION

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PLOT DATE = 10/11/2017	DATE - 7/6/2017	REVISED - _____

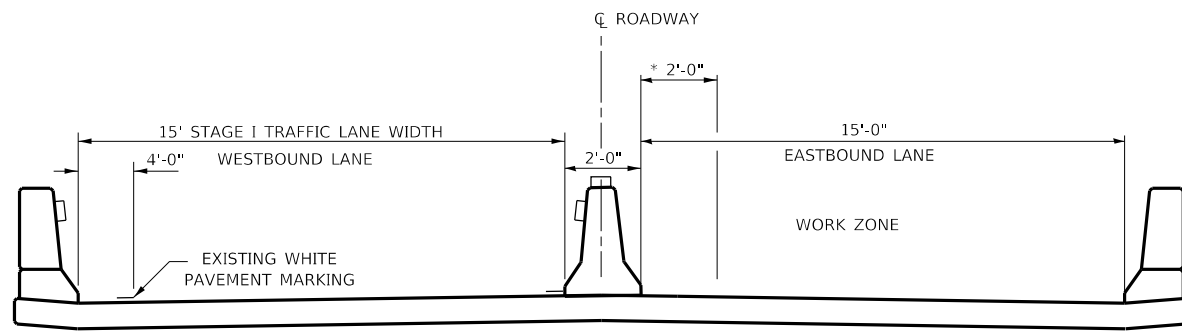
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS

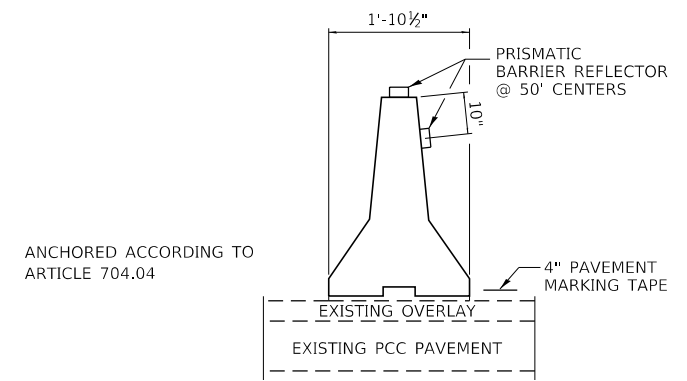
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	5
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

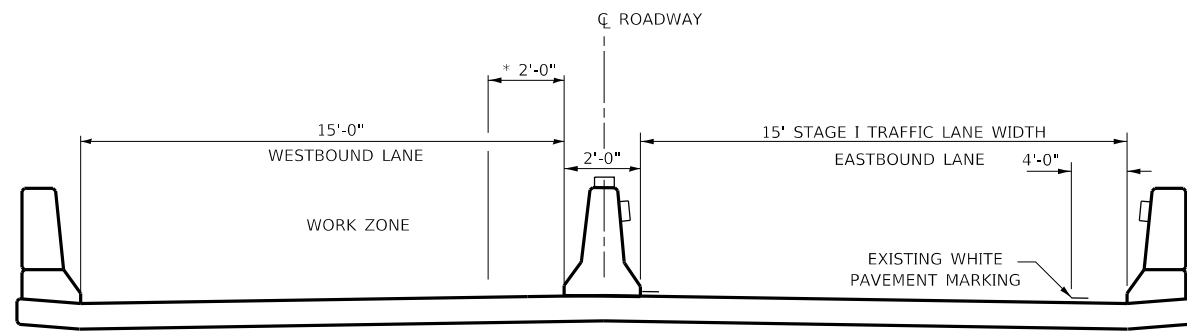
* NO EQUIPMENT OR MATERIALS SHALL ENCROACH WITHIN A 2'-0" DISTANCE MEASURED FROM THE BASE OF THE TEMPORARY CONCRETE BARRIER.



CROSS SECTION STAGE I
LOOKING EAST



TEMPORARY CONCRETE BARRIER



CROSS SECTION STAGE II
LOOKING EAST

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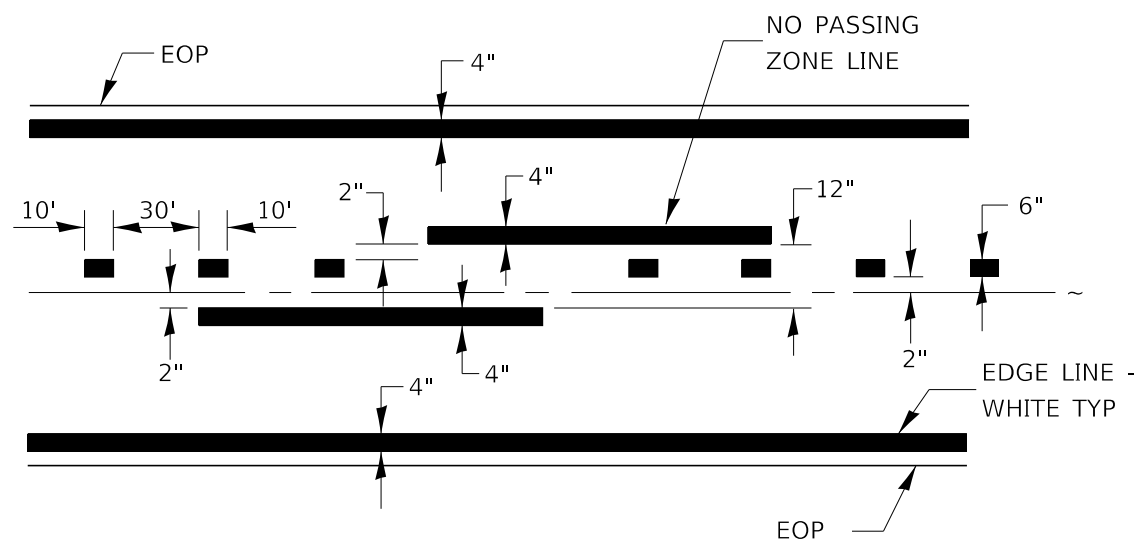
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PLOT DATE = 10/11/2017	DATE - 7/6/2017	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGING DETAILS

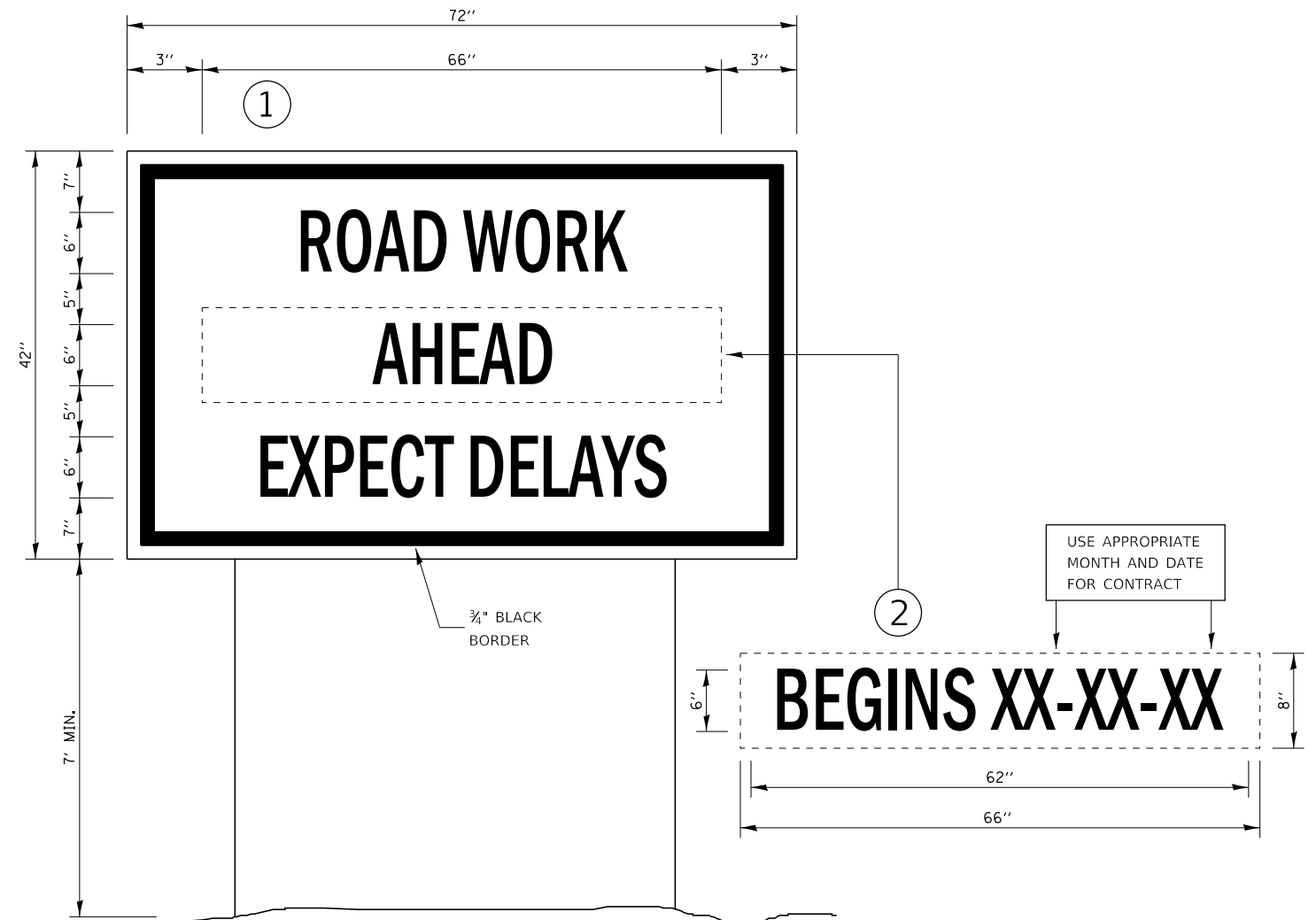
SCALE: _____ SHEET 1 OF 1 SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	6
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				



CENTERLINE & NO PASSING ZONE LINES - YELLOW

PAVEMENT MARKING



TEMPORARY INFORMATION SIGNING

NOTES:

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

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	DRAWN - TP	REVISED - _____
PLOT SCALE = 100,0000' / in.	CHECKED - RW	REVISED - _____
PLOT DATE = 10/11/2017	DATE - 7/6/2017	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	7
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

BENCHMARK: PK Nail on South side of existing bridge, Sta. 12+591.435, 4.226 m RT., Elevation = 195.490.

EXISTING STRUCTURE: Sta. 12+600.155, SBI 92, Section BR built in 1959, Str. No. 006-0097. Three span continuous R.C. deck slab on steel I-beam stringers. R.C. spill-thru abutments and solid shaft piers. Spans 1 15.5 m, 19.5 m, 15.5 m. Existing deck to be replaced and abutments and wingwalls modified. Traffic to be maintained by detour.

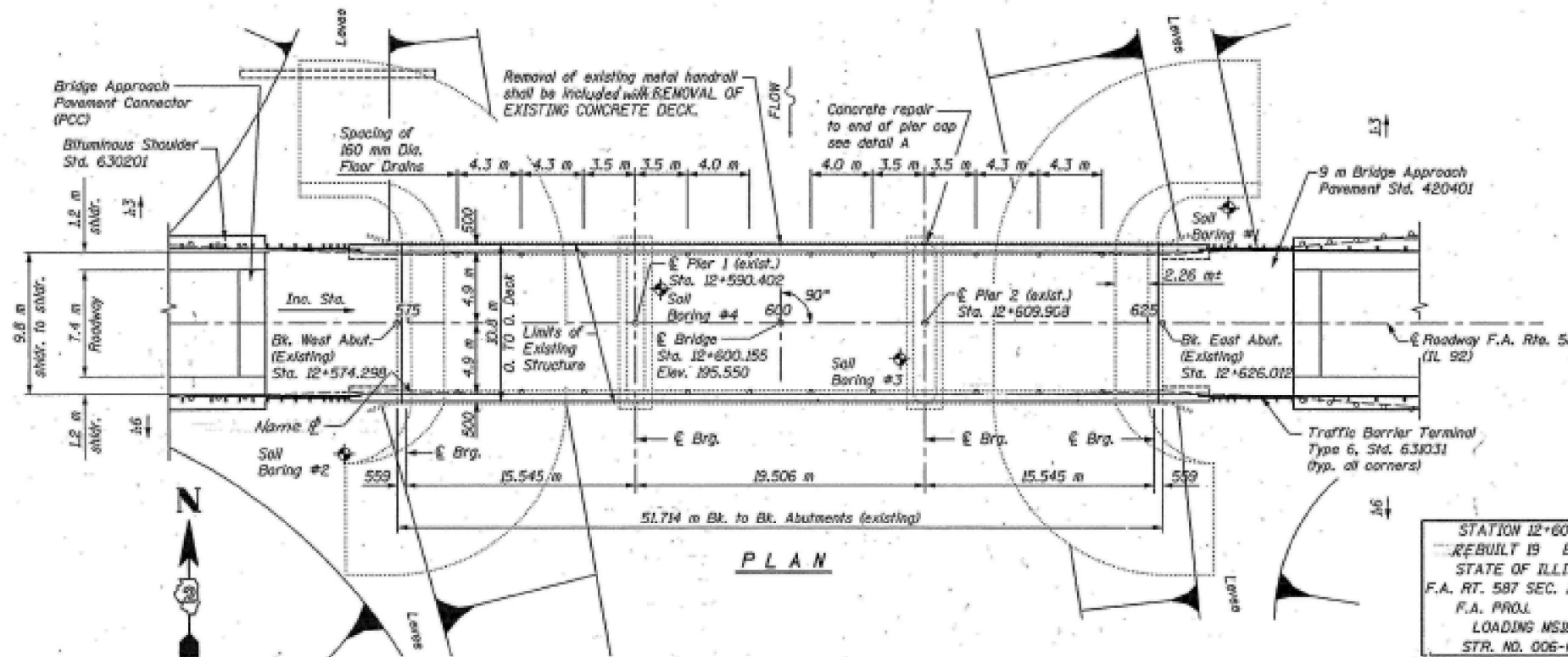
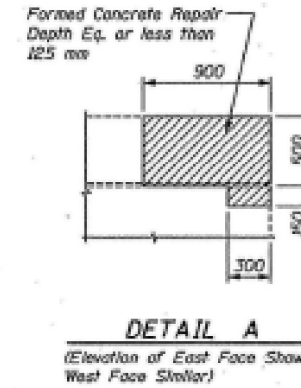
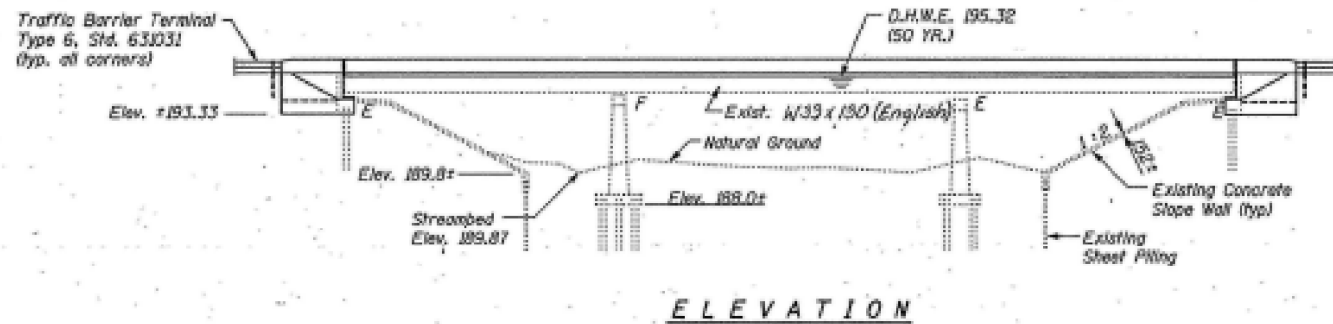
Note:
Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other loose, detrimental foreign material shall be removed from the portions of flanges of stringers in contact with concrete. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-3 for power tool cleaning or SP-2 for hand tool cleaning. Cost shall be incidental to Contract.

NO.	SECTION	COUNTY	DATE	BY
587	135 BR-2	BUREAU	81	6
STA. 12+485		TO STA. 12+100		
F.A. RT. NO.		SECTION	NO. OF SHEETS	
			SHEET 1 OF 12 SHEETS	

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	m ³		70	70
Protective Coat	m ²	421		421
Concrete Removal	m ³		11	11
Removal of Existing Concrete Deck	Each	1		1
Structural Steel Removal	kg	1320		1320
Furnishing and Erecting Structural Steel	kg	3450		3450
Stud Shear Connectors	Each	2718		2718
Jack and Remove Existing Bearings	Each	12		12
Elastomeric Bearing Assembly, Type I	Each	6		6
Elastomeric Bearing Assembly, Type II	Each	6		6
Form Conc Rep (Depth eq or less than 125 mm)	m ²		2	2
Concrete Structures	m ³		23.4	23.4
Concrete Superstructure	m ³	141.3		141.3
Reinforcement Bars, Epoxy Coated	kg	20200	1920	22120
Floor Drains	Each	20		20
Preformed Joint Seal 64 mm	m	10.8		10.8
Preformed Joint Seal 102 mm	m	10.8		10.8
Name Plates	Each	1		1
Bridge Deck Grooving	m ²	500		500

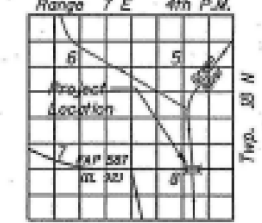
* Top and inside face of parapet and deck.



STATION 12+600
REBUILT BY
STATE OF ILLINOIS
F.A. RT. 587 SEC. 135 BR-1
F.A. PROJ.
LOADING MS18
STR. NO. 006-0097

NAME PLATE

(See Std. 515000)
Clean and relocate existing name plate next to new name plate. Cost included with "Name Plates".
Range 7 E 4th P.M.



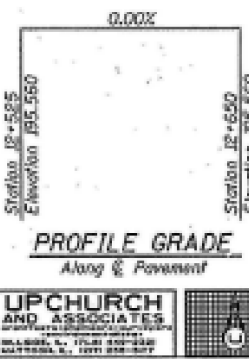
GENERAL NOTES

- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M Grade 400.
- Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
- All dimensions are in millimeters (mm) except as noted.
- Shoulder transition to wingwall shall be shaped with broken concrete. Cost included with Concrete Superstructure \$.
- Fasteners shall be high strength bolts Bolts M20, open holes 22mm unless otherwise noted.
- The existing structural steel shall be painted under separate contract. The existing structural steel coating contains lead. The contractor should take appropriate precautions to deal with the presence of lead on this project. All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M 300, TYPE I.
- Anchor bolts shall be set before bolting diaphragms over support.
- The structural steel plates of the elastomeric bearing assemblies shall conform to the requirements of AASHTO M 270 Grade 345 structural steel.
- For Bonded Construction Joints, see Special Provisions.

APPROVED FOR STRUCTURAL AGENCY ONLY
Robert E. Anderson
REGISTERED MECHANICAL AND STRUCTURAL ENGINEER

MARTIN J. SILVESTER
STRUCTURAL ENGINEER
LICENSE EXP. DATE 11-30-98

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 92 OVER GREEN RIVER
F.A. RTE. 587 SECTION 135 BR-2
STA. 12+600.155
BUREAU COUNTY STR. NO. 006-0097
SCALE: VERT. 1:200 HORIZ. 1:200
DRAWN BY S. ENNO
CHECKED BY JWS



WATERWAY INFORMATION

Drainage Area = 1026 km² Low Grade Elev. 195.56 m @ Sta. 12+600

Flood	Freq. Yr.	Q cms	Opening Sz. m		Nat. H.W.E. m	Head - m		Headwater Elev. - m	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	134	159.6	159.6	195.32	0.03	0.03	195.35	195.35
Base	100	134	159.6	159.6	195.32	0.03	0.03	195.35	195.35
Overlapping Max. Conc.	500	134	159.6	159.6	195.32	0.03	0.03	195.35	195.35

DESIGN SPECIFICATIONS

AASHTO 1992 with 1993, 1994 and 1995 Interim Specifications

LOADING MS 18

Allow 1.2 kN/m² for future wearing surface.

DESIGN STRESSES

Field Units

Exist. Construction		New Construction	
f _c = 5.52 MPa	f _s = 24 MPa	f _c = 5.52 MPa	f _s = 24 MPa
f _r = 138 MPa (Reinf.)	f _r = 400 MPa (Reinf.)	f _r = 138 MPa (Reinf.)	f _r = 400 MPa (Reinf.)
f _y = 227 MPa (Str. STL)	f _y = 250 MPa (Str. STL)	f _y = 227 MPa (Str. STL)	f _y = 250 MPa (Str. STL)

SEISMIC DATA

FOR INFORMATION ONLY

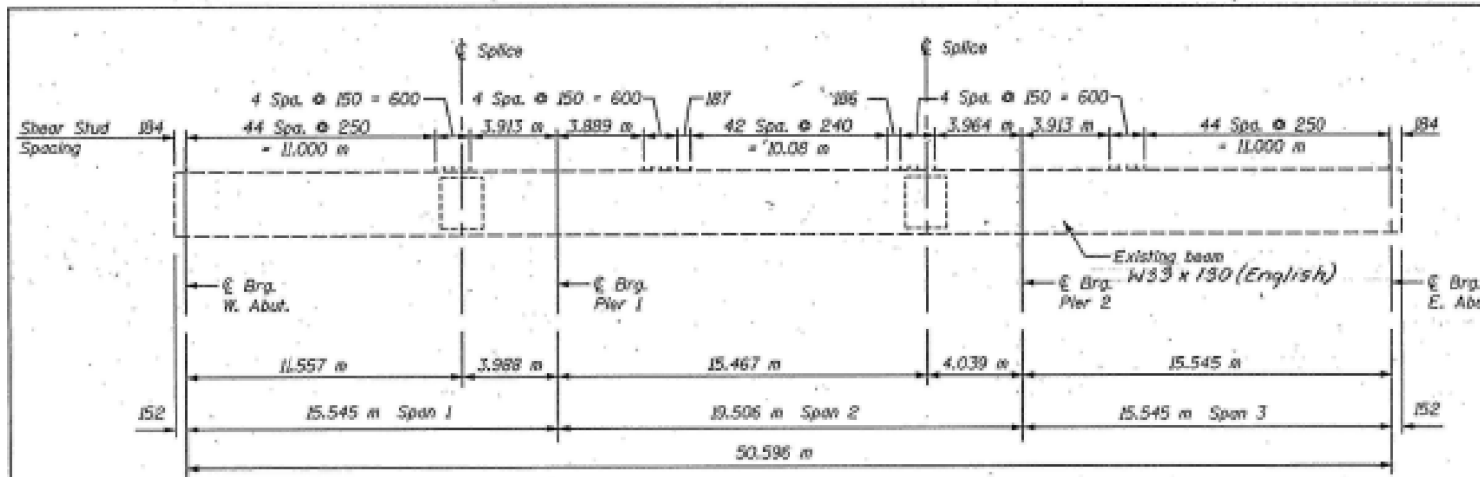
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DRAWN - TP	CHECKED - RW	REVISED -
PLOT SCALE = 100,000' / in.	DATE - 7/6/2017	REVISED -
PLOT DATE = 10/11/2017		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

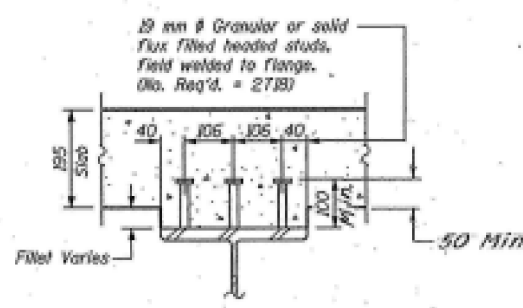
EXISTING STRUCTURE DETAILS
FOR INFORMATION ONLY

SCALE:	SHEET 1 OF 5 SHEETS	STA. _____ TO STA. _____
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	8
			CONTRACT NO. 66H79	
			ILLINOIS / FED. AID PROJECT	



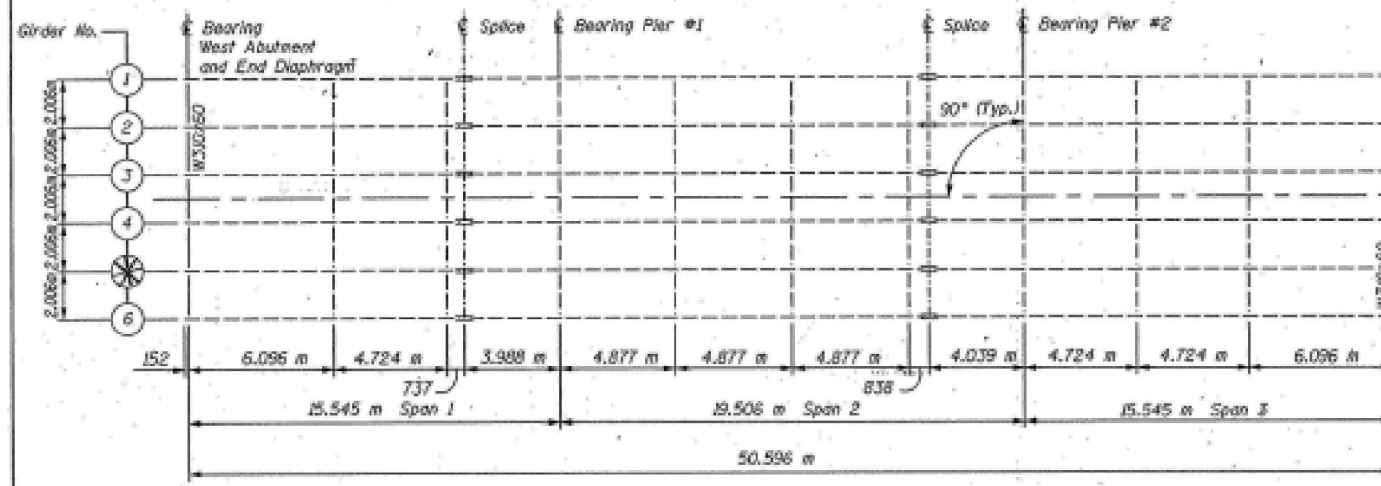
ELEVATION



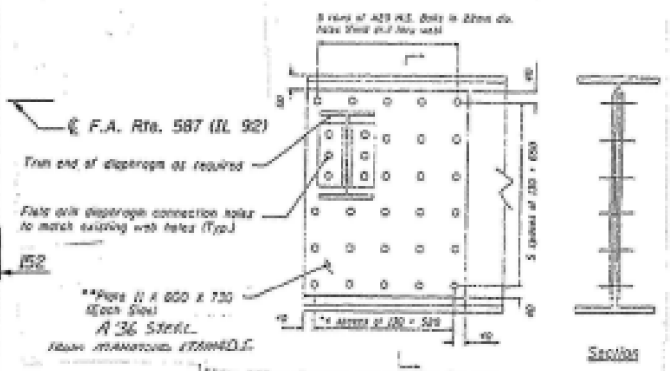
COMPOSITE BEAM DETAIL

INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1	Pier	0.5 Sp. 2
I_s (10^6 mm^4)	2793	2793	2793
I_c (in) (10^6 mm^4)	7475	7475	7475
I_c (in) (10^6 mm^4)	5482	5482	5482
S_x (10^3 mm^3)	6653	6653	6653
S_y (in) (10^3 mm^3)	9799	9799	9799
S_z (in) (10^3 mm^3)	8849	8849	8849
M (kN-m)	11.53	15.64	11.53
M_E (kN-m)	200	472	186
M_I (kN-m)	4.11	4.11	4.11
M_{sR} (kN-m)	81	94	94
M_L (kN-m)	456	263	505
M (Imp)	129	72	134
$S_x(M_s + M_{Imp})$ (kN-m)	975	558	1065
M_p (kN-m)	1633	1339	1749
M_y (kN-m)	3113		3113
$f_s E$ (non-comp) (MPa)	30	71	28
$f_s E$ (comp) (MPa)	9		11
$f_s^2 (s + Imp)$ (MPa)	100	84	109
f_s (Overload) (MPa)	139	155	148
f_s (Total) (MPa)		202	
VR (kN)	201		216



FRAMING PLAN



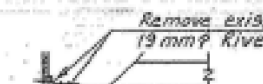
Beam End Repair Detail



EXISTING END DIAPHRAGM

Existing W11x40 (English) and 1/2 x 4 x 1/2 (English) Angle Cleaf to be removed.

M20 H.S. bolts to existing holes Reaming of existing holes required.



NEW END DIAPHRAGM

Note: Two hardened washers shall be required over all oversize holes for diaphragms.

NOTES:

- Cleaning and painting of the existing structural steel shall be as specified in the Special Provision for "Cleaning and Painting Existing Steel Structures". All existing structural steel within 1.5 m of either side of expansion joints shall be cleaned by Method 1. The remaining portions of existing structural steel do not require any washing, cleaning or painting. The Lead and Chromate Free Alkyd Paint System shall be used for painting existing structural steel. The prime and intermediate coats shall be applied as specified in the special provision, followed by a full final finish coat over all designated steel surfaces. The color of the final finish coat shall be BLUE, Munsell No. 10B 3/6.
- All dimensions are in millimeters (mm) except as noted.

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
RE (kN)	94	306
RL (kN)	172	210
Imp. (kN)	49	44
R (Total) (kN)	315	560

I_s and S_x are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_{cs} and S_{cs} are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_{csw} and S_{csw} are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (See AASHTO 10.38).
 VR is the maximum Live Load + Impact shear range in span.
 M_a (Applied Moment) = $1.3CM_E + M_s E + 5/8 M_L + M_{Imp}$.
 The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 and 10.50.1.1.
 f_s (Overload) is the sum of the stresses due to $M_E + M_s E + 5/8 M_L + M_{Imp}$.
 f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3CM_E + M_s E + 5/8 M_L + M_{Imp}$.

REVISIONS

NO.	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN
 ILLINOIS ROUTE 92 OVER GREEN RIVER
 F.A. RTE. 587 SECTION 135 BR-2
 STA. 12+600.155
 BUREAU COUNTY STR. NO. 006-0097
 SCALE: _____ DRAWN BY T. BLANK
 DATE _____ CHECKED BY MS

FOR INFORMATION ONLY



USER NAME = woodshankr	DESIGNED - TP	REVISED - _____
	DRAWN - TP	REVISED - _____
PLOT SCALE = 100,0000' / in.	CHECKED - RW	REVISED - _____
PLOT DATE = 10/11/2017	DATE - 7/6/2017	REVISED - _____

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

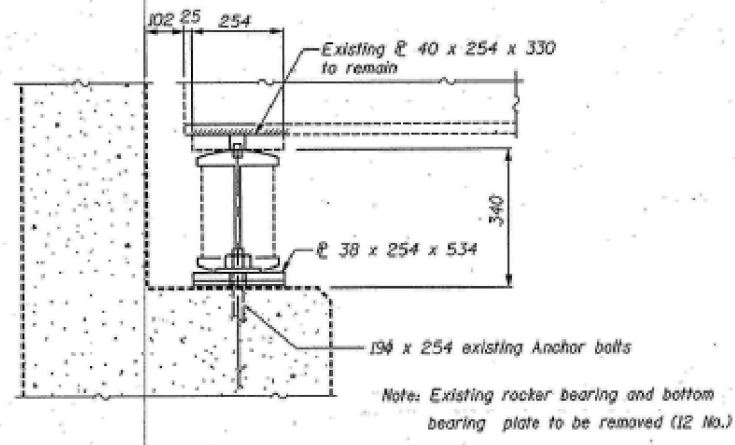
EXISTING STRUCTURE DETAILS
 FOR INFORMATION ONLY

SCALE: _____ SHEET 2 OF 5 SHEETS STA. _____ TO STA. _____

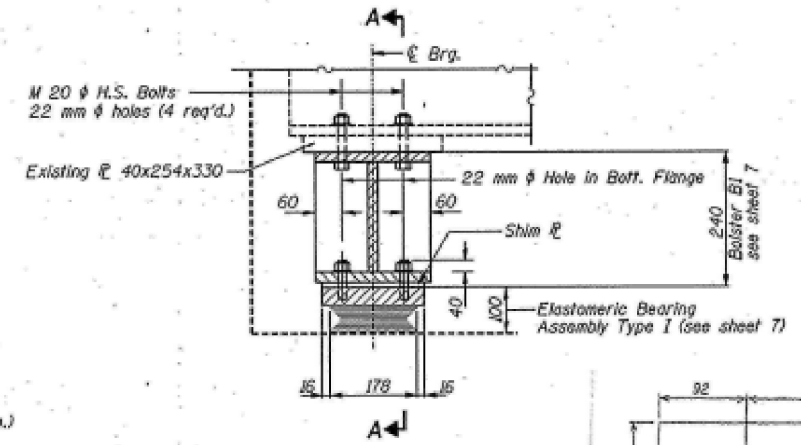
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	9
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

FILE NO.	SECTION	COUNTY	SHEET NO.	SHEET OF
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STA. 12+485		TO STA. 12+700		
FED. ROAD DIST. NO.	ALIAS	FED. AID PROJECT		

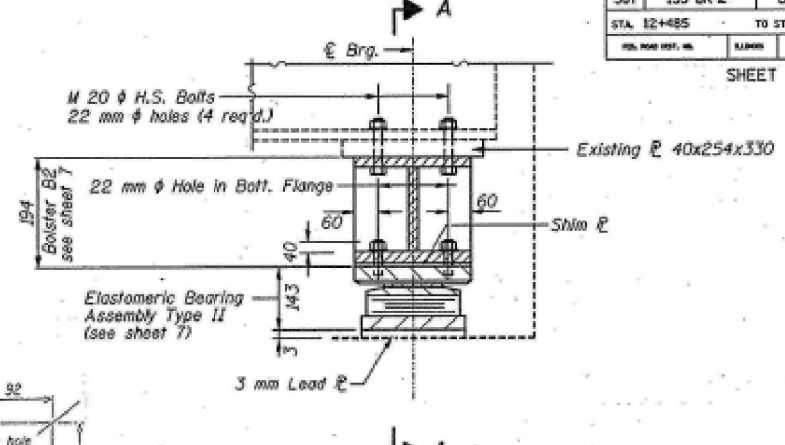
SHEET 6 OF 12 SHEETS



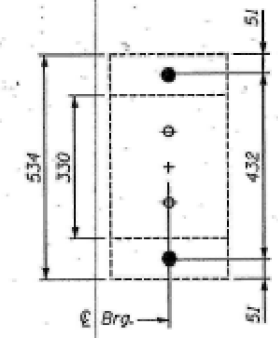
EXISTING BEARING AT ABUTMENT



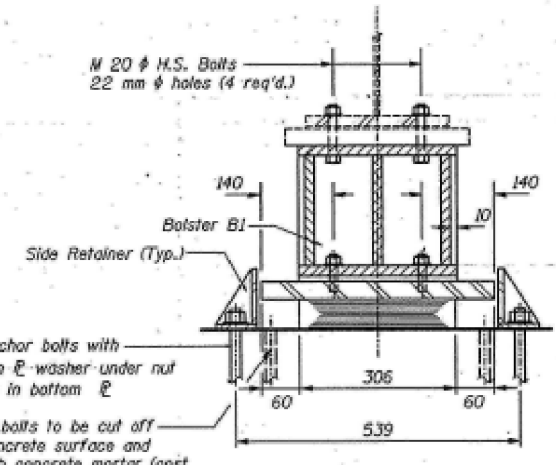
ELEVATION AT WEST ABUT.



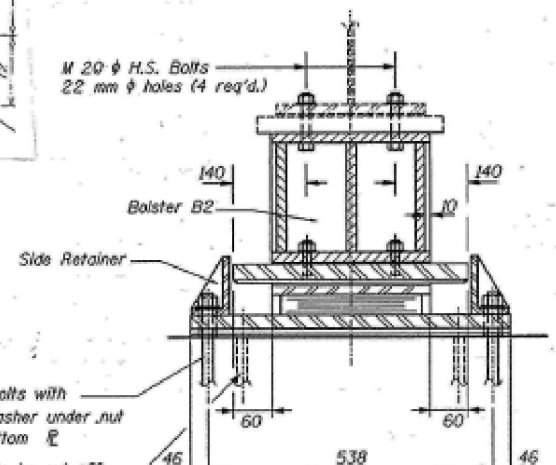
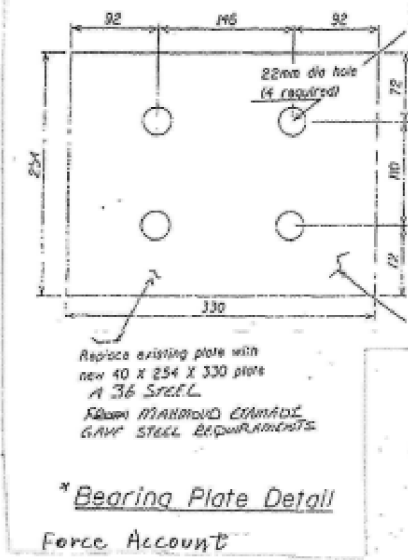
ELEVATION AT EAST ABUT.



PLAN OF EXISTING BEARING PLATES



SECTION A-A (WEST ABUT.)



SECTION A-A (EAST ABUT.)

NOTES:

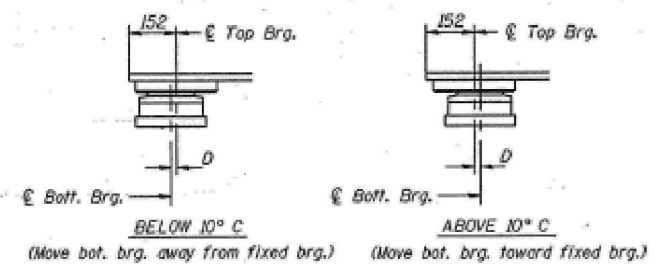
GENERAL

- See sheet 7 for details of Type I and Type II elastomeric bearing, and steel bolsters.
- The clearance between existing abutment bearing seat surfaces and the bottom of existing steel beams shall be maintained within a tolerance of 2mm. Adjustment shall be made by shimming the bearing as necessary. Two 3mm adjusting steel shims shall be provided for each bearing.
- The 3mm steel shims and 3mm lead plates shall have the same plan dimensions as the component above, complete with holes to accommodate the anchor bolts. Cost of steel shim plates, lead plates, retainer angles and anchor bolts are to be included in FURNISHING AND ERECTING STRUCTURAL STEEL.

BEARING REPLACEMENT

- The existing steel expansion bearings to all girders at both abutments shall be removed and replaced with elastomeric bearing complete with steel bolsters.
- The position and size of the existing bearings shall be verified on site prior to fabrication of the bearings and the steel bolsters.
- The bearings shall be replaced after the existing concrete deck slab has been removed and before the new deck slab is cast.
- Field drilling is included with FURNISHING AND ERECTING STRUCTURAL STEEL.

- The girder ends shall be jacked up to provide the existing clearance between the bottom of the girder and the concrete bearing seat plus 1mm. The estimated jacking load is 15KN. The girder ends may be jacked up to provide an additional clearance of not more than 2mm in order to fit 3mm shim. The vertical position of the girder end shall be measured accurately on both sides of the girder using a vernier caliper or similar approved device. The jacking system shall be capable of maintaining the required position for the entire time required to replace the bearings. The contractor shall submit full details of his proposed method for jacking and replacement of bearings to the engineer for approval.
- After the existing bearing has been removed the bottom of the girder shall be cleaned by sandblasting and primed, the bolster bolted to the existing girder top bearing plate, and the elastomeric bearing assembly installed.
- The record of jacking loads and vertical measurements shall be kept and submitted to the engineer for approval. The vertical measurement of the girder shall be recorded before jacking, after jacking, at time of installation, and after removal of jacking load.
- The replacement bearings shall be installed to a tolerance of 3mm individually and collectively.
- All dimensions are in millimeters (mm) except as noted.
- All Beams at all supports shall be lifted simultaneously such that the relative elevation between adjacent beams does not vary by more than 3 mm from their original relative elevations, and such that the relative elevations between adjacent substructure units does not vary more than 6 mm during or after jacking operations.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1 mm per each 10 m of expansion for every 8° C temp. change from the normal temp. of 10° C.

FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING INSTALLATION DETAILS
ILLINOIS ROUTE 92 OVER GREEN RIVER
F.A. RTE. 587 SECTION 135 BR-2
STA. 12+600.155
BUREAU COUNTY STR. NO. 006-0097

SCALE: _____ DRAWN BY PT
DATE APRIL 1995 CHECKED BY MUS

UPCHURCH AND ASSOCIATES
INCORPORATED
1001 E. WASHINGTON ST.
MATTSON, IL 61752-0117
TEL: (815) 431-4141
FAX: (815) 431-4142

USER NAME = woodshankr	DESIGNED - TP	REVISED - _____
PLOT SCALE = 100,0000' / in.	DRAWN - TP	REVISED - _____
PLOT DATE = 10/11/2017	CHECKED - RW	REVISED - _____
	DATE - 7/6/2017	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

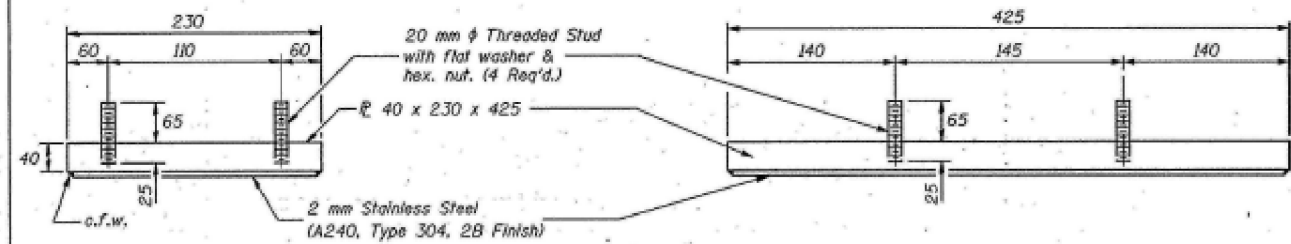
EXISTING STRUCTURE DETAILS FOR INFORMATION ONLY		
SCALE: _____	SHEET 3 OF 5 SHEETS	STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	10
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

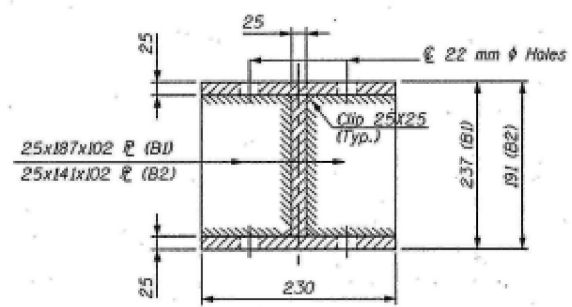
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FW NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	135 BR-2	BUREAU	31	12
STA. 12+455	TO STA. 12+700			
FED. AID PROJ. NO.	ROUTE	FED. AID PROJECT		

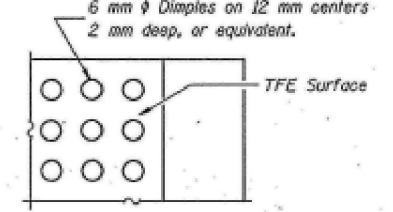
SHEET 7 OF 12 SHEETS



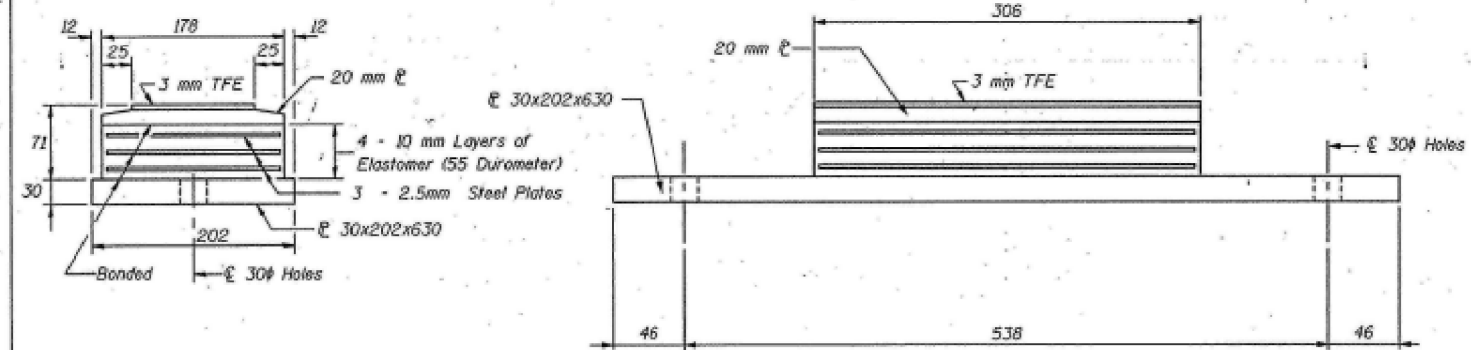
TOP BEARING ASSEMBLY (TYPE II)



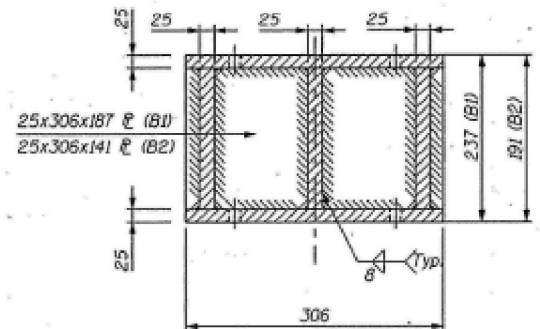
TYPICAL SECTION THRU BOLSTER



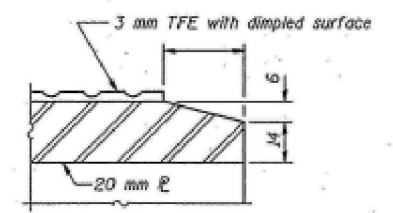
PLAN-TFE SURFACE



BOTTOM BEARING ASSEMBLY (TYPE II)



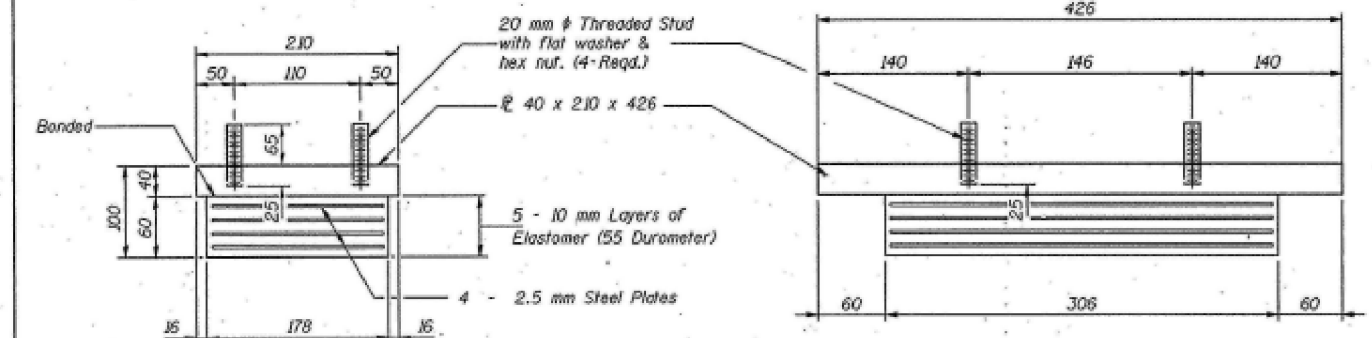
BOLSTER ELEVATION



SECTION THRU TFE

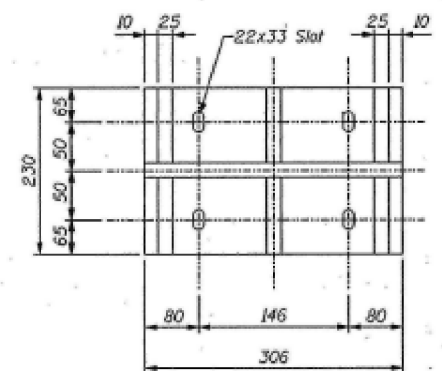
Note: The 3 mm TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 3 mm TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

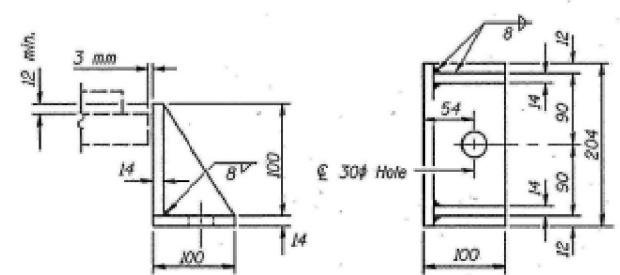


BEARING ASSEMBLY (TYPE I)

Note: Shim plates shall not be placed under Bearing Assembly.



BOLSTER PLAN



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

All dimensions are in millimeters (mm) except as noted.

ILLINOIS DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARINGS
ILLINOIS ROUTE 92 OVER GREEN RIVER
F.A. RTE. 587 SECTION 135 BR-2
STA. 12+600.155
BUREAU COUNTY STR. NO. 006-0097

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Elastomeric Bearing Assembly Type II	Each	6

REVISIONS	
NAME	DATE

SCALE: _____ DRAWN BY: FT
DATE: _____ CHECKED BY: MJS

FOR INFORMATION ONLY

UPCHURCH AND ASSOCIATES
STRUCTURAL ENGINEERS
1100 N. WASHINGTON ST., SUITE 204-205
MATTSON, IL 62451-2045

USER NAME = woodshankr	DESIGNED - TP	REVISED - _____
PLOT SCALE = 100,0000' / in.	DRAWN - TP	REVISED - _____
PLOT DATE = 10/11/2017	CHECKED - RW	REVISED - _____
	DATE - 7/6/2017	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE DETAILS
FOR INFORMATION ONLY

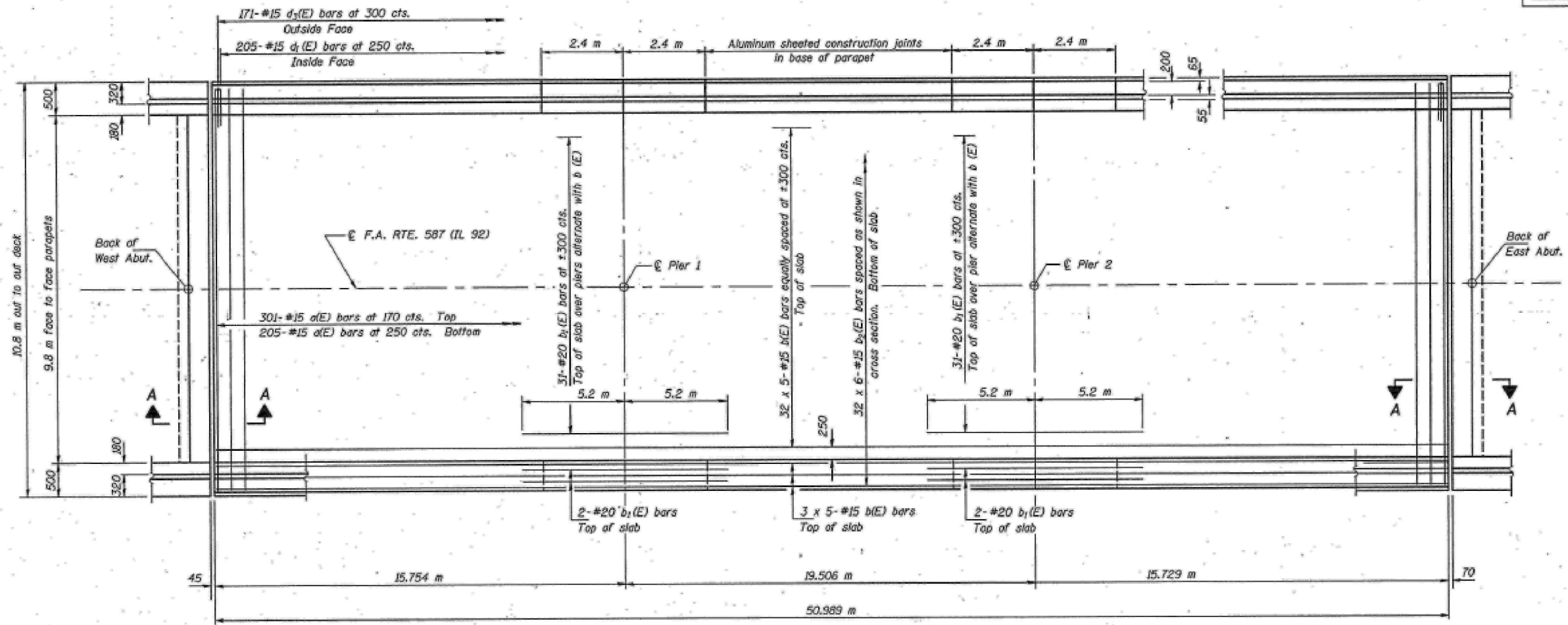
SCALE: _____ SHEET 4 OF 5 SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	11
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

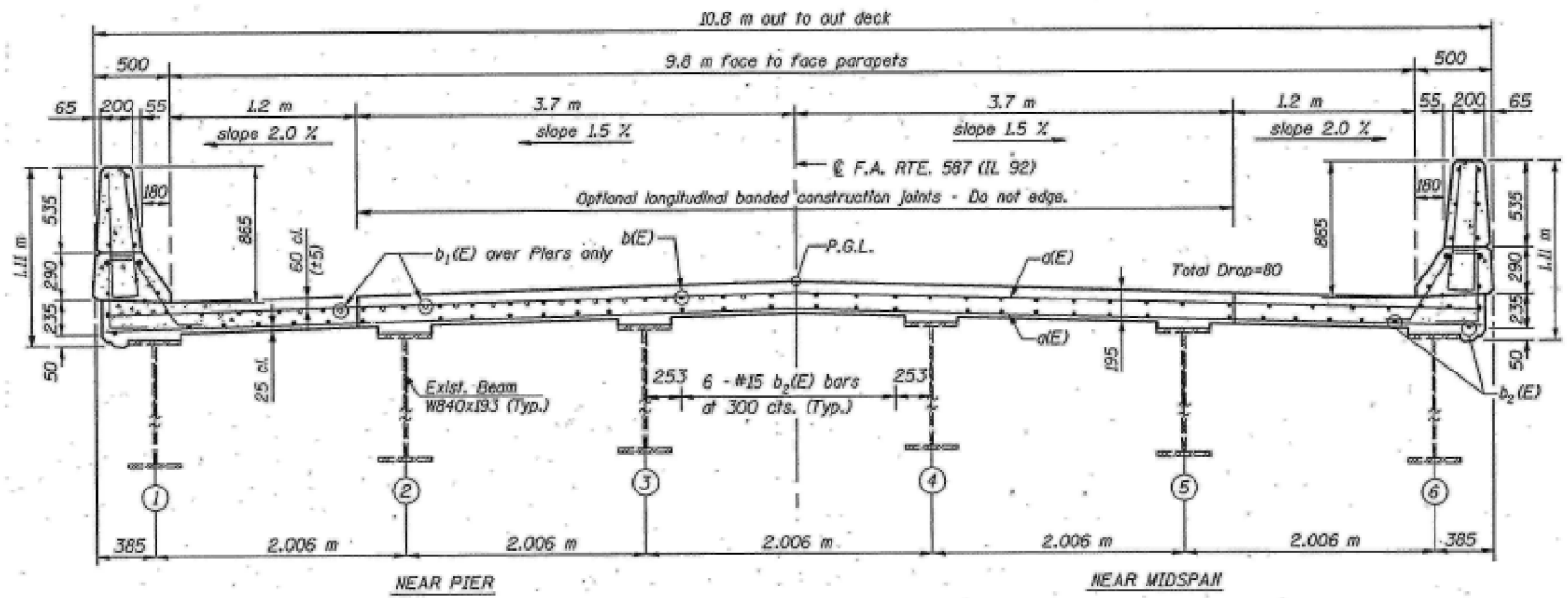
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PROJECT: 135 BR-2

FILE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
587	135 BR-2	BUREAU	31	6
STA. 12+485		TO STA. 12+700		
FED. AID PROJ. NO.		FED. PROJ. NO.		

SHEET 3 OF 12 SHEETS



PLAN



CROSS SECTION
(Looking East)

LAP	
#15	640
#20	790

Notes: See Sheet # 4 of 12 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet # 4 of 12 for parapet reinforcement.
All dimensions are in millimeters (mm) except as noted.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK REINFORCEMENT
ILLINOIS ROUTE 92 OVER GREEN RIVER
F.A. RTE. 587 SECTION 135 BR-2
STA. 12+600.155
BUREAU COUNTY STR. NO. 006-0097

SCALE: _____ DRAWN BY T. BLANK
DATE: _____ CHECKED BY MAS

FOR INFORMATION ONLY

USER NAME = woodshankr	DESIGNED - TP	REVISED - _____
PLOT SCALE = 100,0000' / in.	DRAWN - TP	REVISED - _____
PLOT DATE = 10/11/2017	CHECKED - RW	REVISED - _____
	DATE - 7/6/2017	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE DETAILS
FOR INFORMATION ONLY

SCALE: _____ SHEET 5 OF 5 SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(135BR-2)BP	BUREAU	12	12
CONTRACT NO. 66H79				
ILLINOIS FED. AID PROJECT				

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 PROJECT: ILLINOIS DEPARTMENT OF TRANSPORTATION
 OFFICE: BUREAU COUNTY
 DRAWN BY: T. BLANK
 CHECKED BY: MAS
 DATE: 7/6/2017
 PLOT DATE: 10/11/2017

UPCHURCH AND ASSOCIATES
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SPRINGFIELD, IL 62761-3301
TEL: 217.244.1111 FAX: 217.244.1112