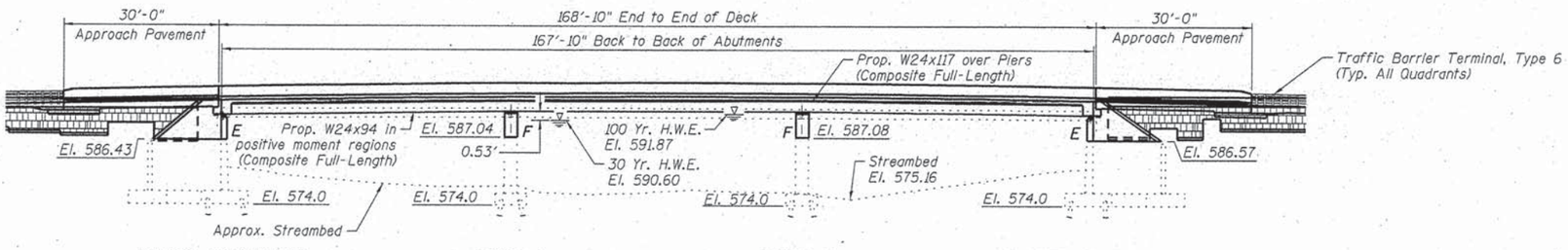
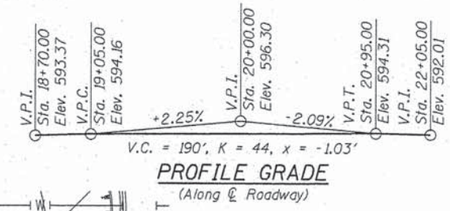
EXISTING STRUCTURE: S.N. 099-3323
Originally built in 1982 as F.A.S. 300. Section 78-00074-01-BR at Station 20+00. Structure consists of a 3 span (3 @ 56'-0") precast, prestressed, concrete deck beam bridge on reinforced, concrete solid piers and closed, reinforced concrete abutments. 167'-10" back to back of abutments. 51'-2" out to out of deck. Superstructure to be removed and replaced utilizing Stage Construction.

BENCH MARK #401: Chis. "□" on the Northeast wingwall of existing bridge, 26.91' Lt. of Sta. 20+84.70, El. 592.12

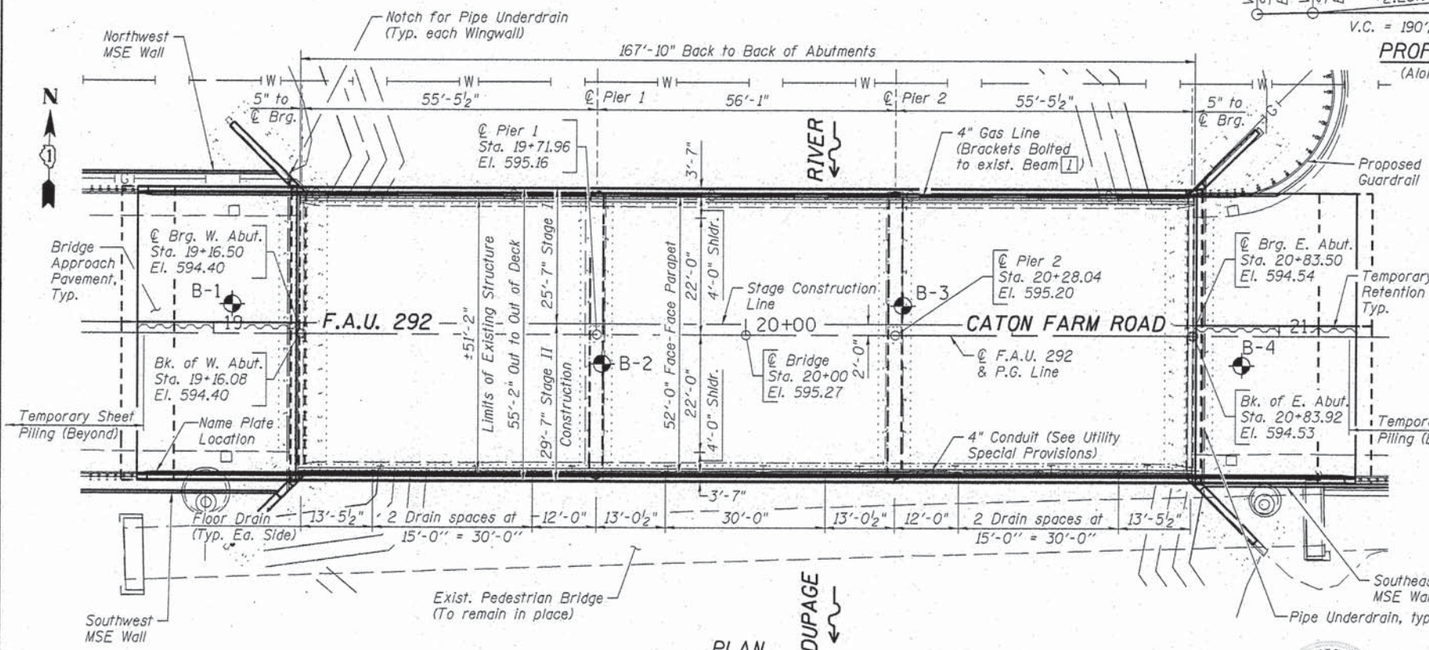


ELEVATION



PROFILE GRADE
(Along ℄ Roadway)

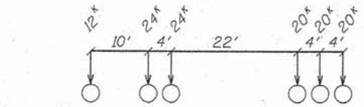
INDEX OF STRUCTURAL SHEETS



PLAN

DUPAGE RIVER
RE-BUILT 2016 BY
CITY OF JOLIET
SECTION 09-00425-00-BR
F.A.U. RTE. 292 STATION 20+00
STR. NO. 099-3323 LOADING HL-93

NAME PLATE LETTERING
Refer To Std. 515001
Existing Name ℄ shall be cleaned and relocated next to new Name Plate. Cost included with Name Plate's.



120K PERMIT TRUCK CONFIGURATION

LOADING HL-93 &
IDOT 120k PERMIT TRUCK

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
Design in accordance with AASHTO LRFD Bridge Design Specifications 6th Ed. with 2013 Interim Revisions

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.095 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.168 g
Soil Site Class = D

DESIGN STRESSES
FIELD UNITS (NEW CONSTRUCTION)
f'c = 3,500 psi
fy = 50,000 psi (Structural Steel)
fy = 60,000 psi (Reinforcement)
FIELD UNITS (EXIST. CONSTRUCTION)
f'c = 3,500 psi (Substructure)
fy = 60,000 psi (Reinforcement)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation - ft.	W. Abut.*	Pier 1*	Pier 2*	E. Abut.*
	556.6	556.4	554.9	556.5

*Top of Rock Elevation

WATERWAY INFORMATION

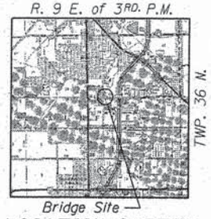
Drainage Area = 314 sq. mi. Prop. Low Grade El. 590.03 @ Sta. 24+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	8,313	1,948	1,948	589.84	0.53	0.42	590.37	590.26
Design	30	10,500	2,069	2,070	590.60	0.38	0.22	590.98	590.82
Base	100	13,449	2,093	2,249	591.87	0.33	0.26	592.20	592.13
Max	500	17,100	2,093	2,259	592.93	0.36	0.18	593.29	593.11

STATE OF ILLINOIS
BRIAN K. CONVERSE
081-005213
LICENSED STRUCTURAL ENGINEER
DIXON, IL

Brian K. Converse
DATE: 9/22/2015
EXPIRES 11/30/2016

"I Certify That To The Best Of My Knowledge, Information And Belief, This Bridge Design Is Structurally Adequate For The Design Loading Shown On The Plans. The Design Is An Economical One Complies With Requirements Of The Current 'AASHTO Standard Specifications For Highway Bridges'."



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
CATON FARM ROAD OVER DUPAGE RIVER
F.A.U. ROUTE 292
SEC. 09-00425-00-BR
CITY OF JOLIET STATION 20+00.00
STRUCTURE NO. 099-3323

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
509 EAST 2ND STREET, DIXON, IL 61021-0367
TEL 815-284-3381 DESIGN FIRM #184-000915

DESIGNED	- PETER PASCUA	REVISED -
CHECKED	- BRIAN CONVERSE	REVISED -
DRAWN	- RON ALLEN	REVISED -
CHECKED	- BRIAN CONVERSE	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL SHEET NO. 1 OF 37 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
292	09-00425-00-BR	WILL	78	24
	WHA# 1304D14	CONTRACT NO. 61B98		
	ILLINOIS FED. AID PROJECT BHM-9003(658)			

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GENERAL NOTES:

Fasteners shall be ASTM A325 Type 3, mechanically galvanized bolts. Bolts $^{7}/_{8}$" ϕ, holes $^{15}/_{16}$" ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 172,470 lbs.

All structural steel shall be AASHTO M 270 Grade 50.

All structural steel shall be galvanized per ASTM A123/A123M-13 and AASHTO M111. See Special Provisions for Hot-Dip Galvanizing for Structural Steel.

Painting of galvanized structural steel is NOT specified for this project.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$" (0.01'). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Existing vertical reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal. See Special Provisions

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.

The work governed by this contract includes no discharge or fill into the Waters of the United States and disturbs no wetlands. The Contractor shall obtain permit(s) for any work to be performed in-stream that is not included in these plans or special provisions.

Concrete Removal of the existing abutments and piers shall be executed with the use of defined saw cuts. The use of drilling or other means of pier splitting shall not be allowed. The Contractor's Structural Assessment Report for Means and Methods shall define the removal line appropriately and provide a method that employs the use of saw cutting.

The existing piers and abutments below the proposed removal lines shall remain in place during Stage I and II Construction. The Contractor may substitute a temporary support system to facilitate construction. The use of a temporary system shall be executed according to the General Bridge Specifications Standard Assessment Report for Contractors means and methods.

The Contractor is advised that the existing structure contains prestressed precast deck beams that are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal, or replacement of the structure. An Existing Structure Information Package is available upon request as noted in the Special Provisions.

The Contractor shall retain the services of an Engineering Firm, pre qualified in the IDOT consultant selection category of Highway Bridges (Advanced Typical), for preparation of the Structural Assessment Report. Contractor's pre-approval shall not be applicable for the project. See Special Provisions.

Current Ratings on File for Existing Structure
Inventory: HS 7.0
Operating: HS 11.7
Live Load Restrictions: 18 Tons
Inventory and Operating Ratings are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. The Ratings are not necessarily representative of capacities to support the Contractor's equipment.

BILL OF MATERIAL - BRIDGE

	ITEM	UNIT	SUPER.	SUB.	TOTAL
	Removal Of Existing Superstructures	Each	1	———	1
*	Concrete Removal	Cu. Yd.	76.0	———	76.0
	Structure Excavation	Cu. Yd.	———	341.4	341.4
	Floor Drains	Each	16	———	16
*	Concrete Structures	Cu. Yd.	———	133.2	133.2
	Concrete Superstructure	Cu. Yd.	469.3	———	469.3
	Bridge Deck Grooving	Sq. Yd.	1,273	———	1,273
	Protective Coat	Sq. Yd.	1,465	———	1,465
	Furnishing And Erecting Structural Steel	L. Sum	1	———	1
	Stud Shear Connectors	Each	4,992	———	4,992
	Reinforcement Bars, Epoxy Coated	Pound	118,040	17,620	135,660
	Bar Splicers	Each	702	152	854
	Name Plates	Each	1	———	1
	Elastomeric Bearing Assembly, Type I	Each	16	———	16
	Anchor Bolts, $^{3}/_{4}$"	Each	64	———	64
	Epoxy Crack Injection	Foot	———	131	131
	Geocomposite Wall Drain	Sq. Yd.	———	76	76
*	Granular Backfill For Structures	Cu. Yd.	———	151.5	151.5
*	Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq. Ft.	———	537.0	537.0
*	Temporary Sheet Piling	Sq. Ft.	———	1,150	1,150
*	Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	———	1,075	1,075
*	Pipe Underdrains For Structures 4"	Foot	———	118	118
*	Temporary Soil Retention System	Sq. Ft.	———	120	120

*See Special Provisions

GENERAL DATA
CATON FARM ROAD OVER DUPAGE RIVER
F.A.U. ROUTE 292
SEC. 09-00425-00-BR
CITY OF JOLIET STATION 20+00.00
STRUCTURE NO. 099-3323

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED -	PETER PASCUA	REVISED -
CHECKED -	BRIAN CONVERSE	REVISED -
DRAWN -	RON ALLEN	REVISED -
CHECKED -	BRIAN CONVERSE	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL SHEET NO. 2 OF 37 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
292	09-00425-00-BR	WILL	78	25
	WHA* 1304D14	CONTRACT NO. 61B98		
	ILLINOIS FED. AID PROJECT BHM-9003(658)			

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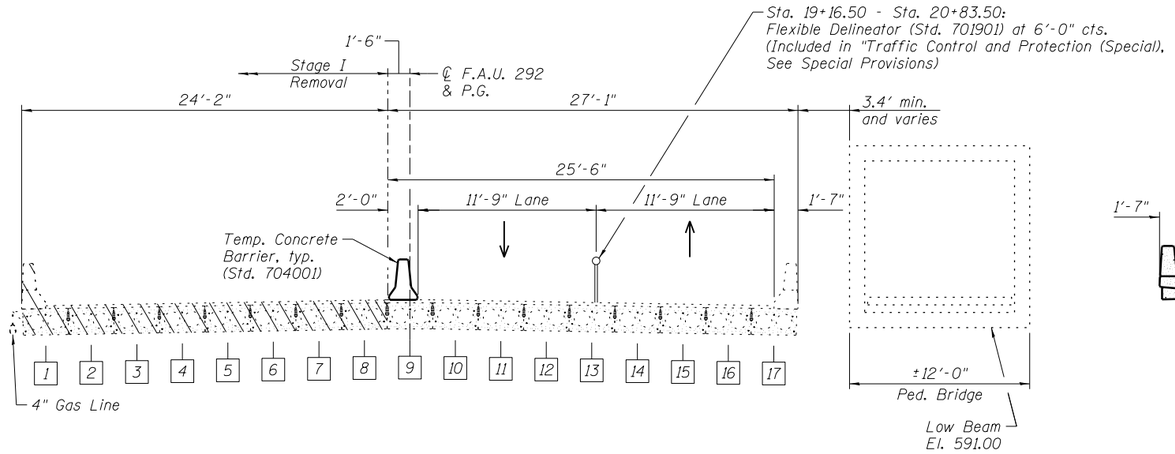
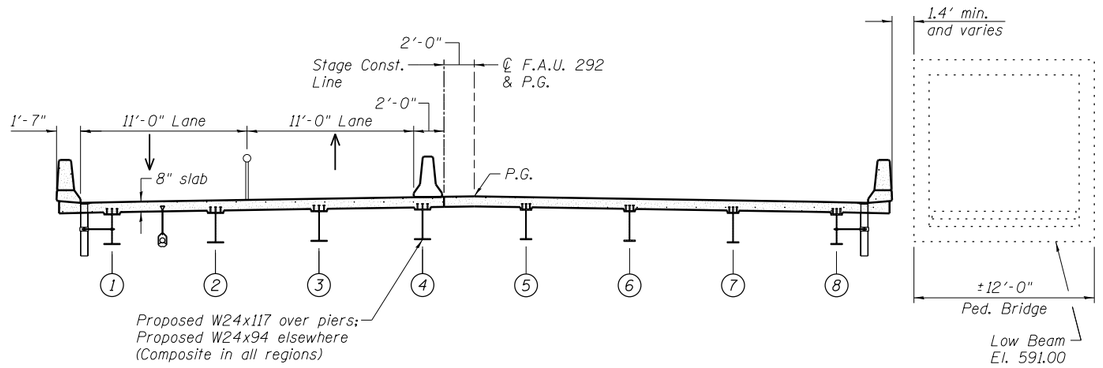
GENERAL CONSTRUCTION SEQUENCE

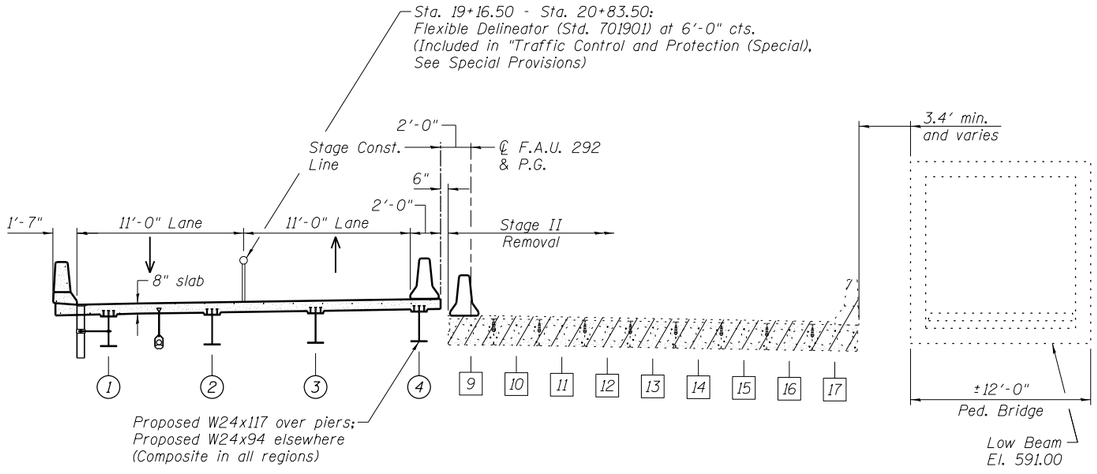
1. Execute Stage I Traffic Plan & Relocate/Brace Utilities as required
2. Install Temporary Sheet Piling and Temporary Soil Retention System
3. Remove Existing PPC Deck Beams [1]-[8] ,North Parapet, and Portions of Existing Wingwalls/Abutments/Piers
4. Repair Spalled Vertical Faces of Abutments and Piers
5. Construct Proposed Abutments, Piers, MSE Walls, and Install Proposed Bearings at Piers and Abutments
6. Erect Proposed Steel Superstructure (Beams (1)-(4) and Deck & Parapet) and Construct Stage I Roadway Items
7. Repeat 1-6 for Stage II, including Existing Beams [9]-[17], Proposed Beams (5)-(8), and South Parapet



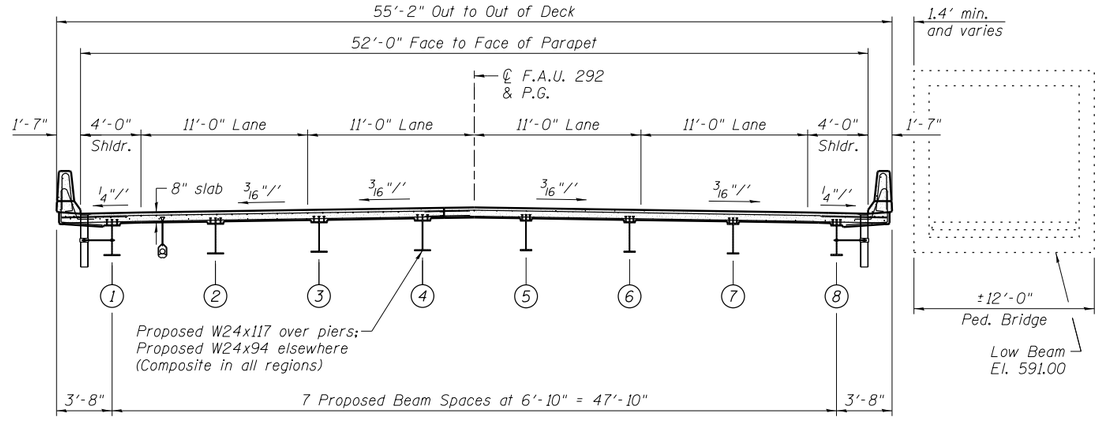
STAGE I REMOVAL
(Looking East)



STAGE II CONSTRUCTION
(Looking East)



STAGE I CONSTRUCTION & STAGE II REMOVAL
(Looking East)



PROPOSED STRUCTURE
(Looking East)

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WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
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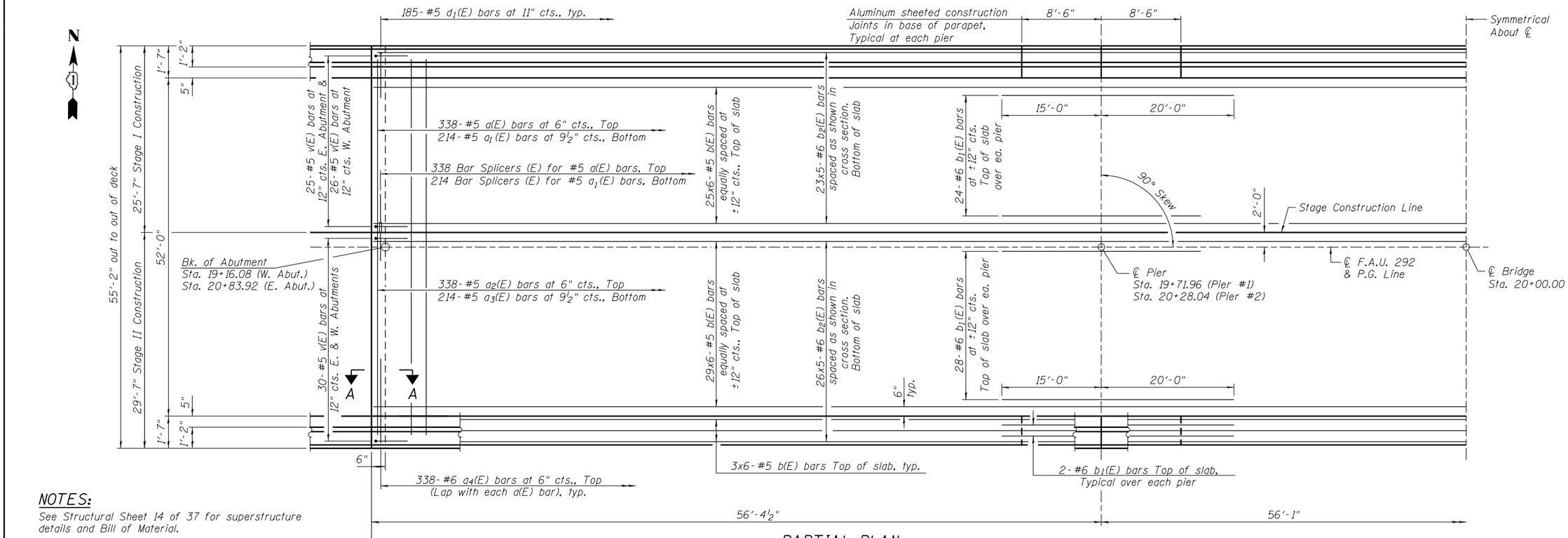
DESIGNED - PETER PASCUA	REVISED -	
CHECKED - BRIAN CONVERSE	REVISED -	
DRAWN - RON ALLEN	REVISED -	
CHECKED - BRIAN CONVERSE	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING DETAILS
STRUCTURE NO. 099-3323
STRUCTURAL SHEET NO. 3 OF 37 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
292	09-00425-00-BR	WILL	78	26
	WHA* 1304D14	CONTRACT NO. 61B98		
	ILLINOIS FED. AID PROJECT BHM-9003(658)			



PARTIAL PLAN

(West half shown, East half similar)

MINIMUM BAR LAP

#5 Bar = 3'-3"
#6 Bar = 3'-10"

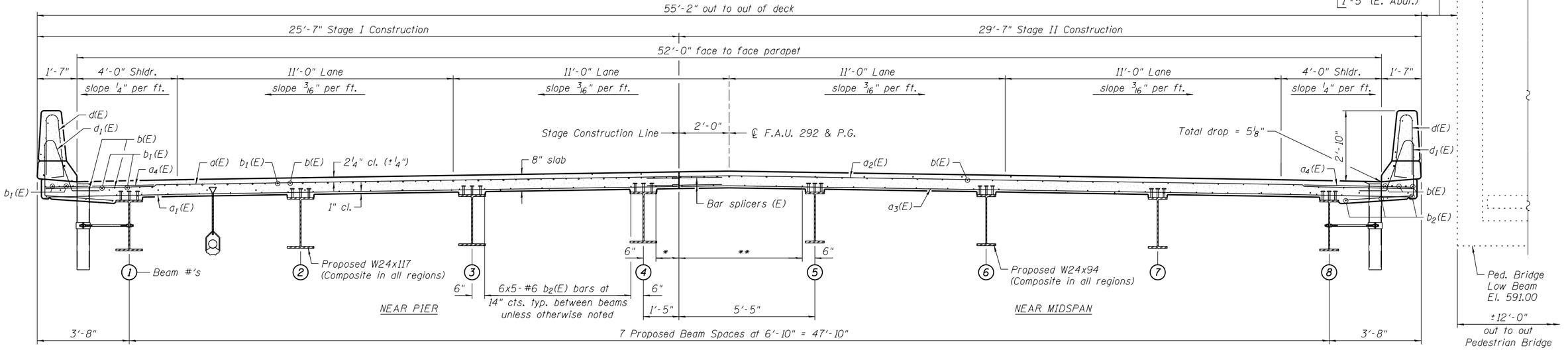
NOTES:

See Structural Sheet 14 of 37 for superstructure details and Bill of Material.

Bars indicated thus 26x5- #5 etc. indicates 26 lines of bars with 5 lengths per line.

See Structural Sheet 14 of 37 for parapet reinforcement.

See Structural Sheet 15 of 37 for Section A-A.



CROSS SECTION

(Looking East)

* 2x5- #6 b_2(E) bars at Stage I
** 5x5- #6 b_2(E) bars at Stage II
*** Contractor verify prior to construction. See Structural Sheet 25 thru 27 of 37 for coordination with MSE Walls.

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - PETER PASCUA	REVISED -	
CHECKED - BRIAN CONVERSE	REVISED -	
DRAWN - RON ALLEN	REVISED -	
CHECKED - BRIAN CONVERSE	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 099-3323
STRUCTURAL SHEET NO. 13 OF 37 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
292	09-00425-00-BR	WILL	78	36
	WHA* 1304D14	CONTRACT NO. 61B98		
	ILLINOIS FED. AID PROJECT BHM-9003(658)			

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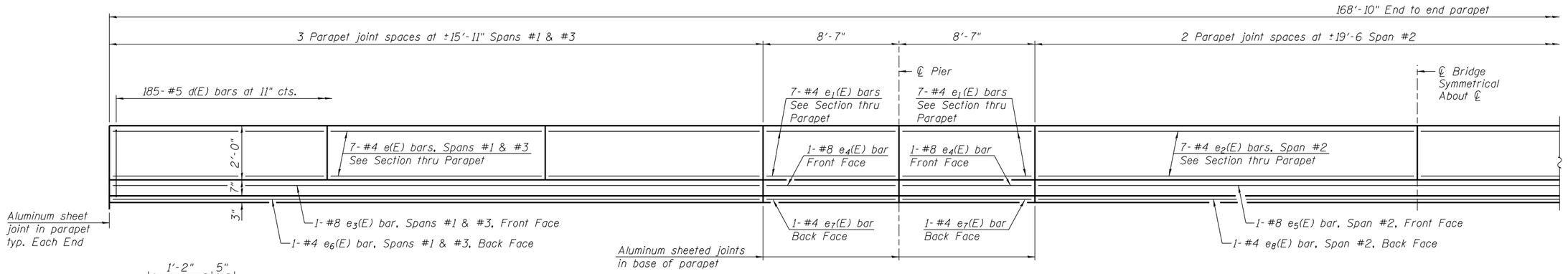
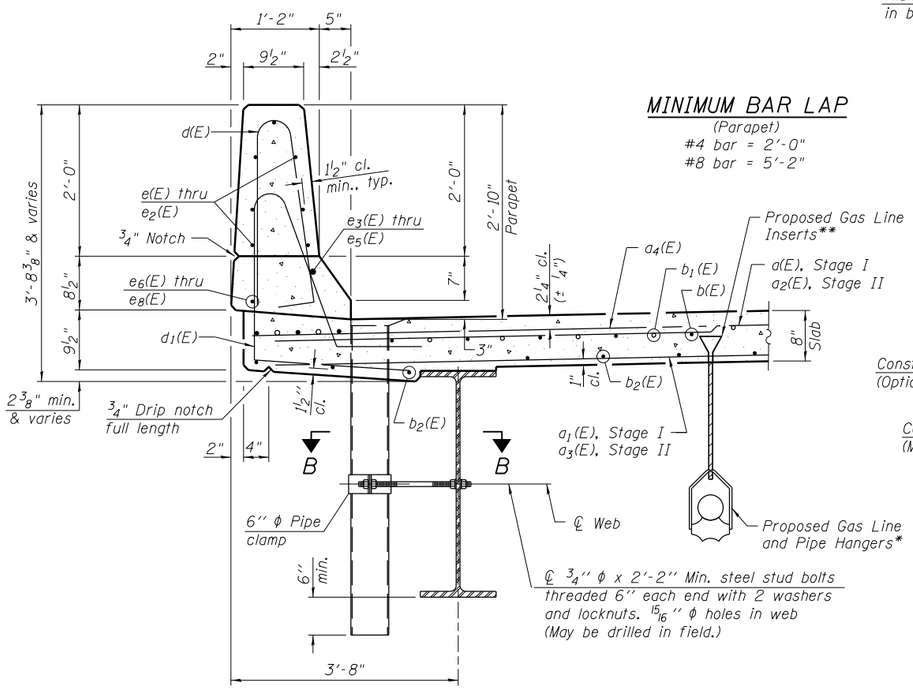


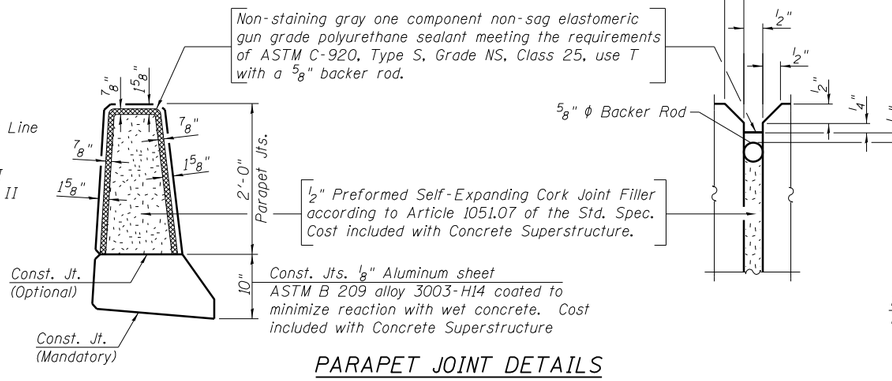
INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



PARAPET JOINT DETAILS

NOTES:

*Furnished and installed by others

**Furnished by others & installed by Contractor. Installation of inserts included in cost with concrete superstructure.

See Structural Sheet 30 of 37 for bar splicer assembly.

All exposed edges shall have ¾" chamfer, except as noted.

Slip forming of parapets will not be allowed.

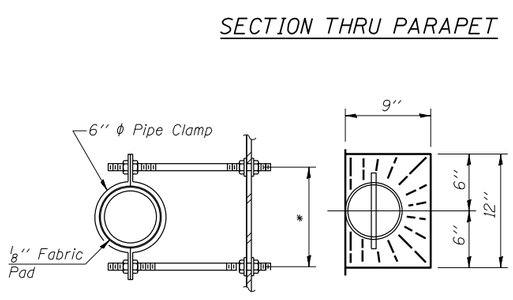
Drains shall be located clear of all diaphragms.

Drains shall not be aluminum tube.

When painting of structural steel is specified, the exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

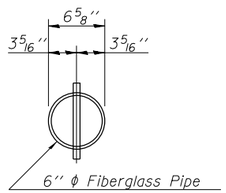
Galvanize clamping device, bolts, washers and nuts according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.



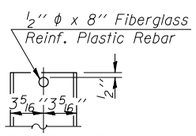
SECTION B-B

* Dimension as required by Pipe Clamp

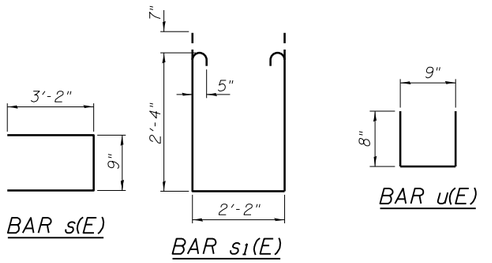
TOP PLAN

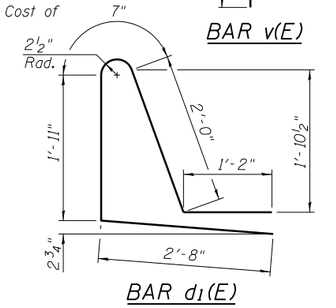


TOP PLAN



FIBERGLASS PIPE





SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	338	#5	25'-1"	
a1(E)	214	#5	25'-1"	
a2(E)	338	#5	29'-3"	
a3(E)	214	#5	29'-3"	
a4(E)	676	#6	6'-6"	
b(E)	360	#5	30'-10"	
b1(E)	112	#6	35'-0"	
b2(E)	245	#6	36'-10"	
d(E)	370	#5	5'-7"	
d1(E)	370	#5	8'-4"	
e(E)	84	#4	15'-7"	
e1(E)	56	#4	8'-3"	
e2(E)	28	#4	19'-2"	
e3(E)	4	#8	47'-6"	
e4(E)	8	#8	8'-4"	
e5(E)	2	#8	38'-8"	
e6(E)	4	#4	47'-6"	
e7(E)	8	#4	8'-4"	
e8(E)	2	#4	38'-8"	
m(E)	12	#6	25'-3"	
m1(E)	12	#6	29'-3"	
m2(E)	28	#6	6'-6"	
m3(E)	8	#6	3'-4"	
m4(E)	32	#5	4'-0"	
s(E)	116	#5	7'-1"	⊔
s1(E)	116	#5	8'-0"	⊔
u(E)	112	#4	2'-1"	⊔
v(E)	111	#5	2'-10"	⊓
Floor Drains			Each	16
Concrete Superstructure			Cu. Yd.	306.9
Bridge Deck Grooving			Sq. Yd.	938
Protective Coat			Sq. Yd.	1,087
Reinforcement Bars, Epoxy Coated			Pound	80,670
Bar Splicers			Each	560

WILLETT HOFMANN & ASSOCIATES INC
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CHECKED - BRIAN CONVERSE	REVISED -	
DRAWN - RON ALLEN	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 099-3323
STRUCTURAL SHEET NO. 14 OF 37 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
292	09-00425-00-BR	WILL	78	37
	WHA* 1304D14	CONTRACT NO. 61B98		
	ILLINOIS FED. AID PROJECT BHM-9003(658)			

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