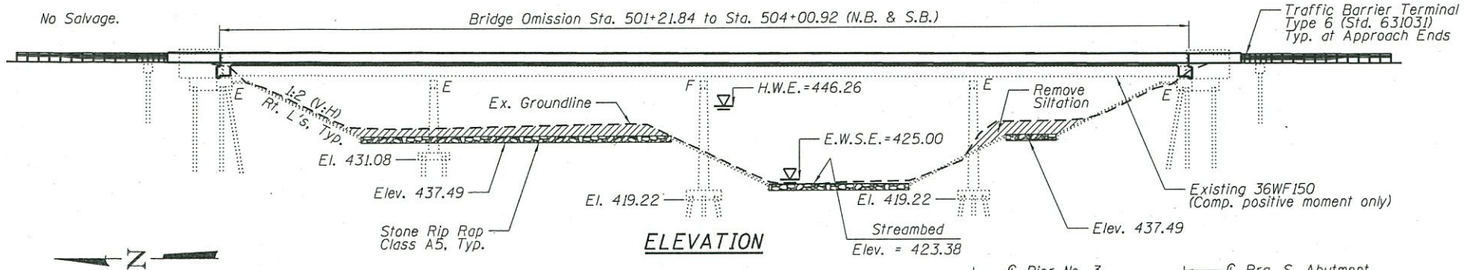
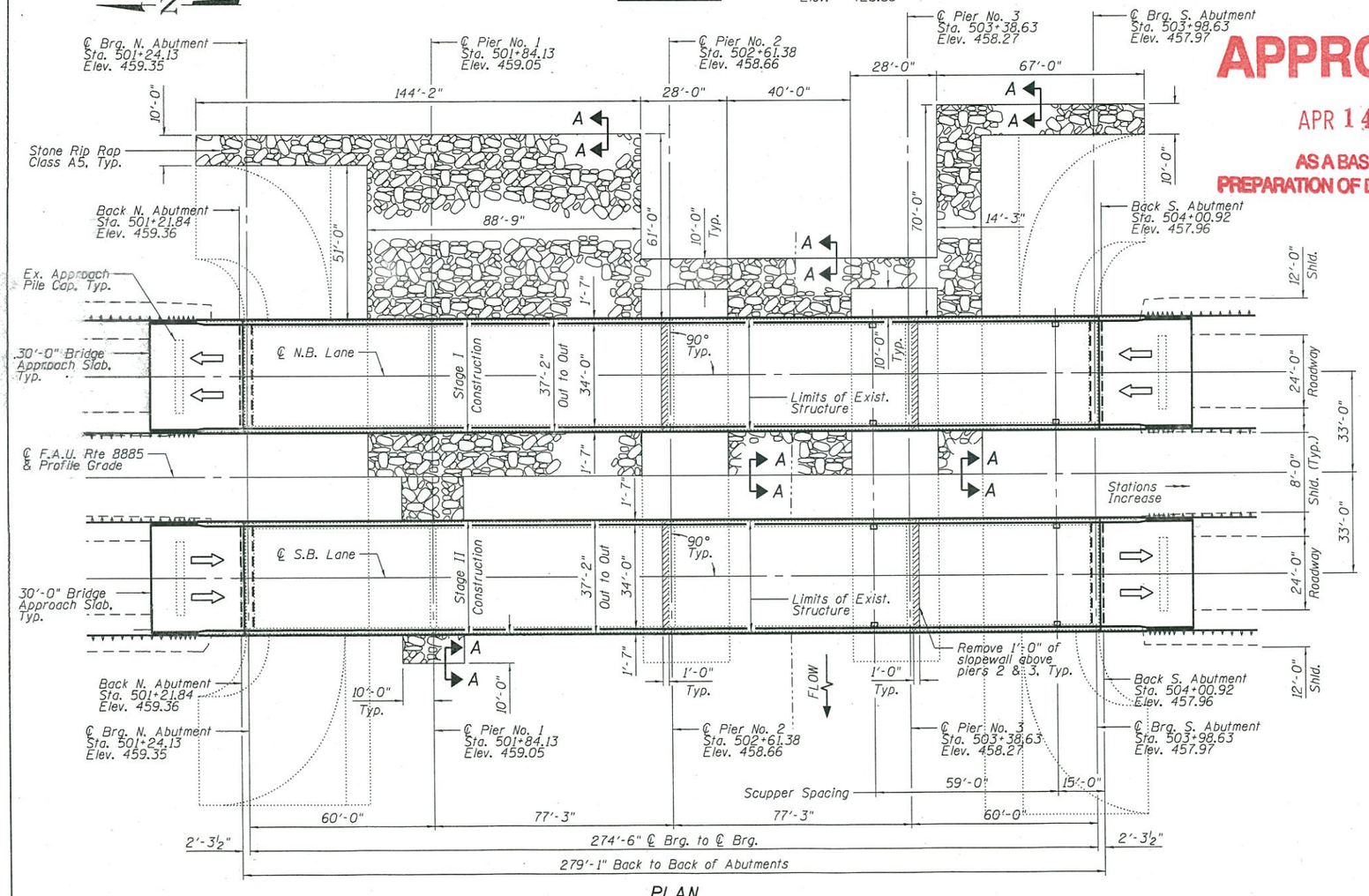
Bench Marks:
BM SIUE-1: Cut □ on top of the Northwest corner of the Northwest wing wall of the Southbound SIU-E North entrance bridge (S.N. 060-0141) over Cahokia Creek. Elev. = 462.241.

BM SIUE-2: Cut □ on top of the Northwest corner of the Southwest wing wall of the Northbound SIU-E North entrance bridge (S.N. 060-0140) over Cahokia Creek. Elev. = 460.834.

Existing Structures: S.N. 060-0140 (NB) and S.N. 060-0141 (SB) built in 1967 as F.A.S. Route 770, Section 1-B at Station 502+61.38. Structures consist of 4 span reinforced concrete deck on steel WF beams supported on stub abutments supported by concrete piles and 3 reinforced concrete solid wall piers supported by pile footings with untreated timber piles. The superstructure length is 279'-1" back-to-back abutments and 36'-0" out-to-out of deck. Both structures were painted in 1994. Concrete deck to be removed and replaced using cross-overs.



ELEVATION



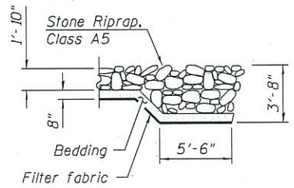
PLAN

SCOPE OF WORK

** 1. Repair existing bridge deck on south bound bridge (Stage I only).
2. Apply asphalt overlay to south bound bridge (Stage I only).
* 3. Remove existing concrete deck.
4. Clean and paint existing structural steel.
5. Repair steel beam ends as necessary.
6. Reconfigure existing abutments to semi-integral configuration.
7. Remove and replace bearings at abutments.
8. Clean, paint and reuse fixed and expansion bearings at the piers.
9. Remove existing abutment diaphragms and replace with new diaphragms.
10. Make new deck composite in positive moment regions.
* 11. Remove 1'-0" of slopewall above piers 2 & 3 and remove accumulated silt at pier 3 at both structures.

* Contractor shall measure the tilt of Pier 3 and rotation of Pier 3 bearings before and after deck removal and sediment removal. If bearings continue to rotate out of plumb up to an additional ½", contact the bridge office.

** Final quantity to be determined by Resident Engineer.



SECTION A-A

APPROVED
APR 14 2016
AS A BASIS FOR PREPARATION OF DETAILED PLANS

HIGHWAY CLASSIFICATION

F.A.U. Rte. 8885
Functional Class: Minor Arterial
ADT: 5800 (2012); 7000 (2032)
ADTT: 168 (2012); 203 (2032)
DVH: 710
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.

LOADING HS20-44 (NEW CONST.)

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS (NEW CONST.)

2002 AASHTO Bridge Design Specifications
1995 FHWA Seismic Retrofitting Manual for Highway Bridges

DESIGN STRESSES

FIELD UNITS (NEW CONSTRUCTION)

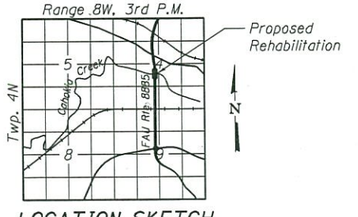
f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (EXISTING CONSTRUCTION)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC) = B
Horizontal Bedrock Acceleration Coefficient (A) = 0.097g
Site Coefficient (S) = 2.0



LOCATION SKETCH

GENERAL PLAN & ELEVATION
SIUE NORTH ACCESS ROAD
OVER CAHOKIA CREEK
F.A.U. ROUTE 8885 - SEC. 1BR
MADISON COUNTY
STATION 502+61.38
STRUCTURE NO. 060-0140 (N.B.)
STRUCTURE NO. 060-0141 (S.B.)

TranSystems

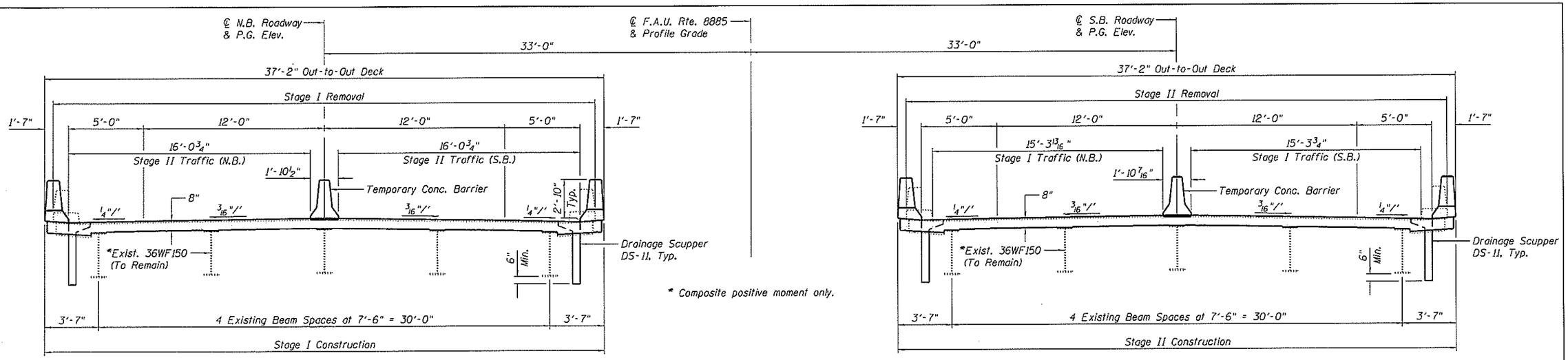
USER NAME = mjraker	DESIGNED - SDY	REVISED -	
	CHECKED - DJG	REVISED -	
PLOT DATE = 4/13/2016	DRAWN - MJR	REVISED -	
PLOT TIME = 11:06:59 AM	CHECKED - SDY	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8885	1BR	MADISON	2	1
		CONTRACT NO. 76481		
	ILLINOIS	FED. AID PROJECT		

D-98-057-01



NORTHBOUND LANES

SOUTHBOUND LANES

WATERWAY INFORMATION - S.N. 060-0140

Drainage Area = 217.24 Sq. Mi. Ex. Overtopping Elev. 455.53 ℄ Sta. 507+75.6

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	9,340	2,216		445.06	1.25		446.31	
Design	50	12,521	2,489		446.26	1.71		447.97	
Base	100	13,702	2,577		446.64	1.88		448.52	
Overtopping									
Max. Calc.	500	17,746	2,928		448.14	2.23		450.37	

WATERWAY INFORMATION - S.N. 060-0141

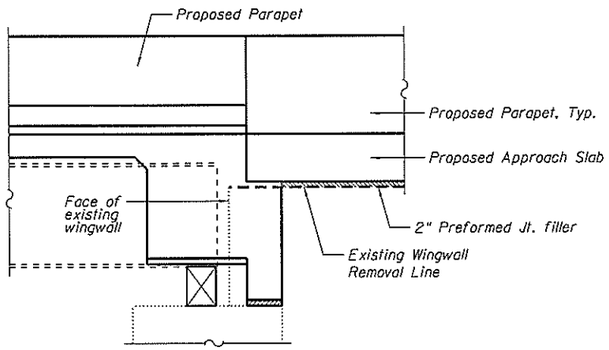
Drainage Area = 217.24 Sq. Mi. Ex. Overtopping Elev. 455.53 ℄ Sta. 507+75.6

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	9,340	2,126		445.00	1.25		446.25	
Design	50	12,521	2,399		446.22	1.71		447.93	
Base	100	13,702	2,485		446.60	1.88		448.48	
Overtopping									
Max. Calc.	500	17,746	2,832		448.10	2.23		450.33	

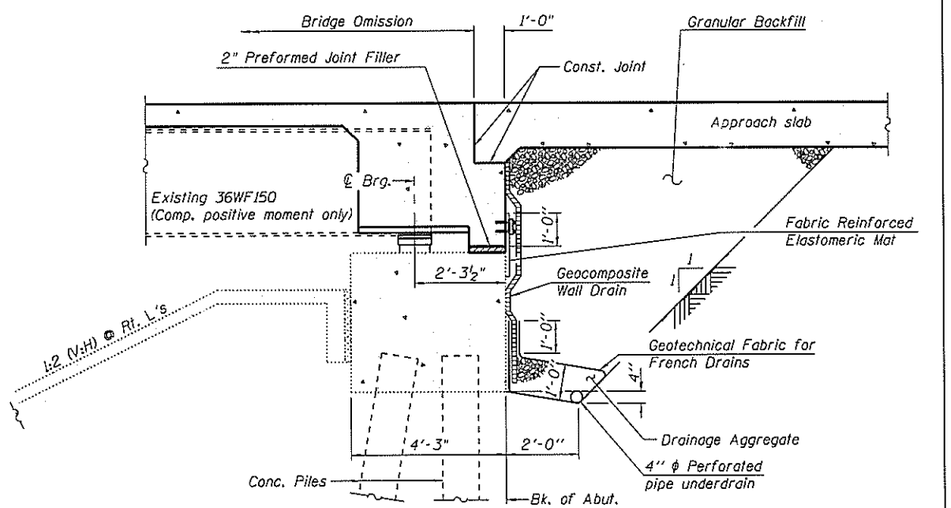
DESIGN SCOUR TABLE

Event/Limit State	Design Scour Elevations (ft.) N. Abut.	Pier 1	Pier 2	Pier 3	S. Abut.	Item 113
0100	450.68	423.41	417.41	417.91	449.31	5
0200	450.68	423.41	417.41	417.91	449.31	
Design	450.68	423.41	417.41	417.91	449.31	

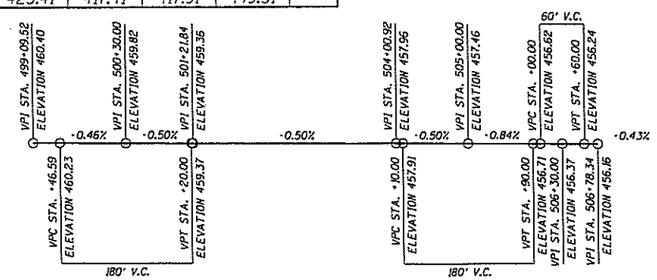
CROSS SECTION
(Looking South)



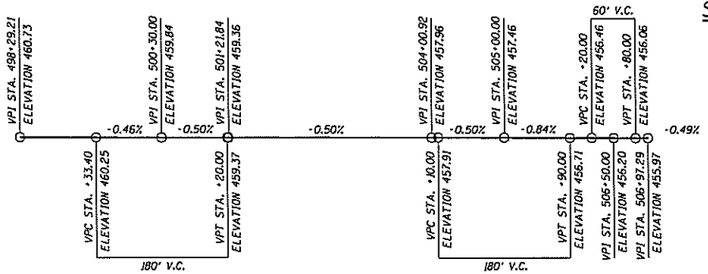
WINGWALL ISOLATION DETAIL



SECTION THRU SEMI-INTEGRAL ABUTMENT
(Horiz. dim. ℄ Rt. L's)



PROPOSED NB PROFILE GRADE
(along ℄ roadway)



PROPOSED SB PROFILE GRADE
(along ℄ roadway)

GENERAL PLAN & ELEVATION
SIUE NORTH ACCESS ROAD
OVER CAHOKIA CREEK
F.A.U. ROUTE 8885 - SEC. 1BR
MADISON COUNTY
STATION 502+61.38
STRUCTURE NO. 060-0140 (N.B.)
STRUCTURE NO. 060-0141 (S.B.)

TranSystems

USER NAME = mjreker	DESIGNED - SDY	REVISED -	
	CHECKED - DJG	REVISED -	
PLOT DATE = 4/13/2016	DRAWN - MJR	REVISED -	
PLOT TIME = 11:07:28 AM	CHECKED - SDY	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 2 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8885	1BR	MADISON	2	2
		CONTRACT NO. 76481		
	ILLINOIS FED. AID PROJECT			

D-98-057-01