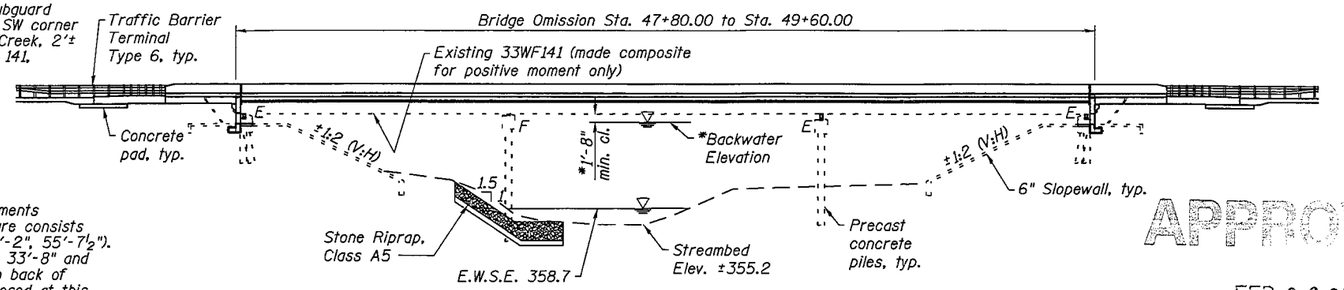
BENCHMARK:
Chiseled square on top of hubguard beside conc. barrier wall on SW corner of SN 097-0027 over Bear Creek, 2'± South of D7 BM 51 along IL 141.
Sta. 47+74±, 14'± Rt.
Elev. 382.75 (NAVD 88)

EXISTING STRUCTURE:
SN 097-0027 was originally built in 1957 as FA Rte. 113, Section 100-B. It is a non-composite steel beam superstructure on precast concrete pile supported abutments and piers. The superstructure consists of three spans (55'-7½", 65'-2", 55'-7½"). The out to out deck width is 33'-8" and the length is 180'-0" back to back of abutments. IL 141 will be closed at this location and traffic will be maintained using a detour route.

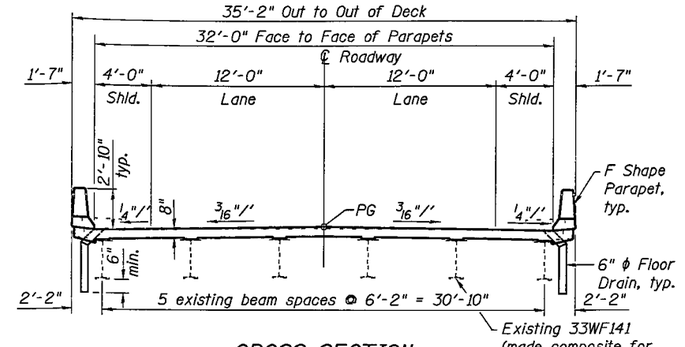
No salvage.



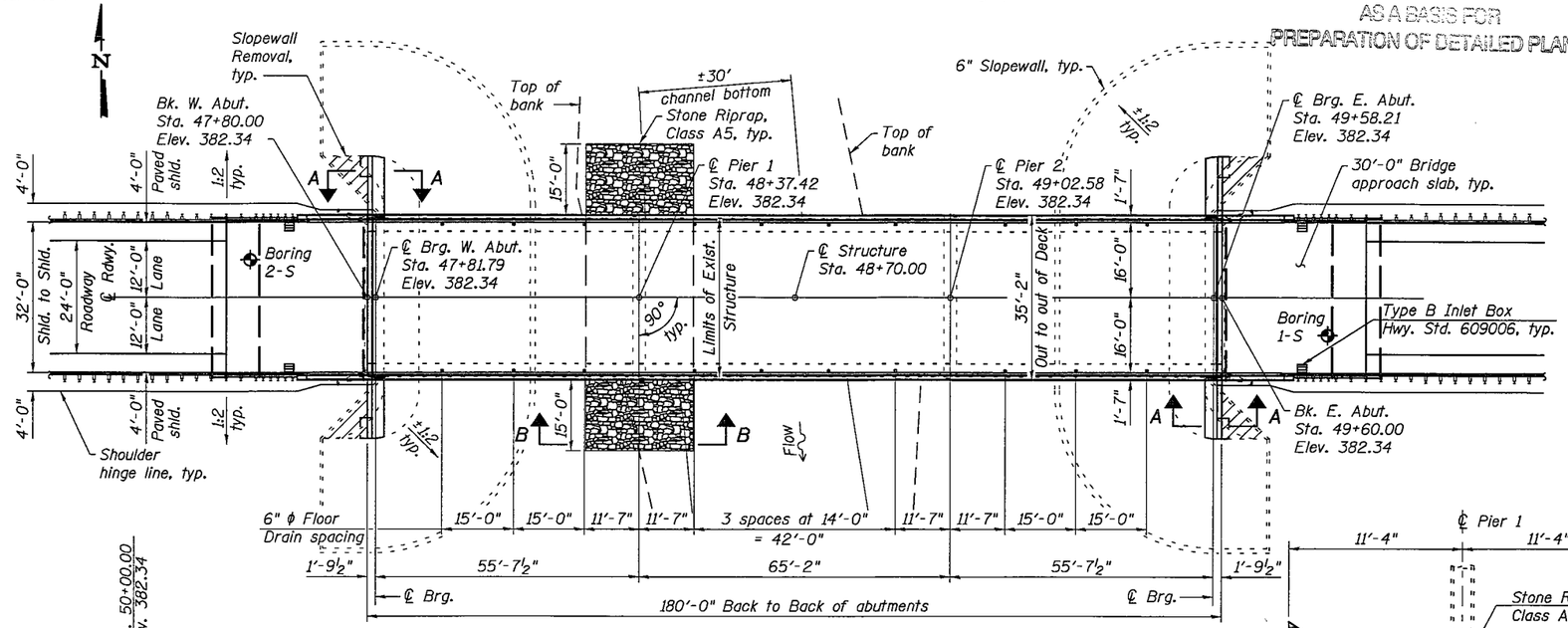
ELEVATION

* From existing bridge plans

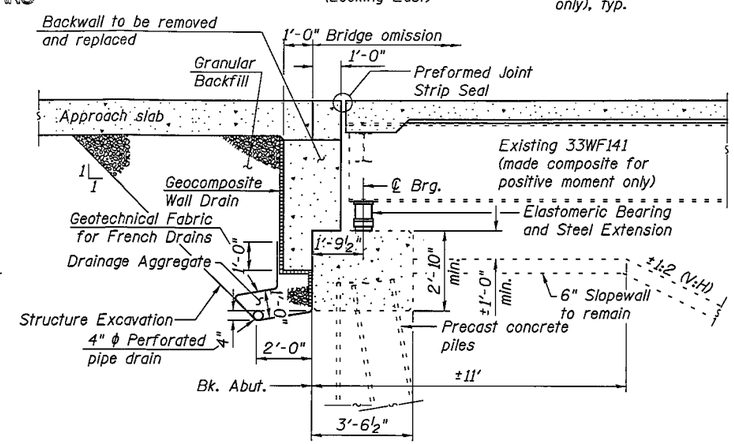
APPROVED
FEB 06 2013
AS A BASIS FOR PREPARATION OF DETAILED PLANS



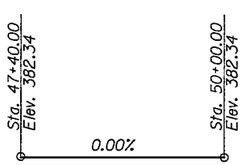
CROSS SECTION
(Looking East)



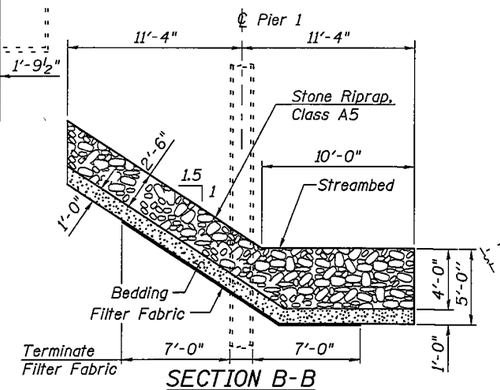
PLAN



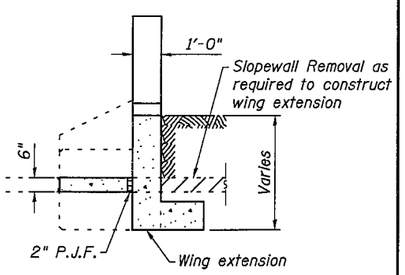
SECTION THRU PILE SUPPORTED STUB ABUTMENTS



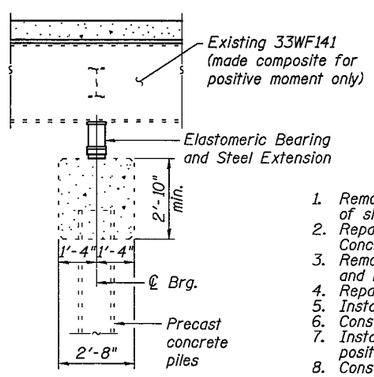
PROFILE GRADE
(Along ℄ Roadway)



SECTION B-B



SECTION A-A



SECTION THRU PIER 2

SCOPE OF WORK

1. Remove existing concrete deck, approach slabs, portions of slopewall and abutment backwalls and wingwalls.
2. Repair substructure units with Structural Repair of Concrete and Epoxy Crack Injection.
3. Remove and replace expansion bearings at abutments and Pier 2.
4. Repair existing concrete slopewalls.
5. Install scour countermeasures at Pier 1.
6. Construct new backwalls, wingwalls, and wing extensions.
7. Install shear studs to make new deck composite in positive moment regions.
8. Construct new deck and approach slabs and install deck expansion joints.
9. Clean and paint structural steel within 10 feet of beam ends.

HIGHWAY CLASSIFICATION

FAP Route 877 (IL 141)
Functional Class: Minor Arterial
ADT: 1480 (2011); 1800 (2031)
DHV: 180 (2031)
ADTT: 10.3%
Design Speed: 55 mph
Posted Speed: 55 mph
Two Way Traffic
Directional Distribution: 50:50

DESIGN SPECIFICATIONS (New Const.)

2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS20-44 (New Const.)

No allowance for future wearing surface.

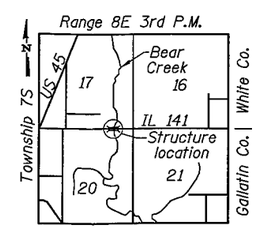
DESIGN STRESSES

FIELD UNITS (New Construction)
f'c = 3,500 psi
fy = 60,000 psi (reinforcement)

FIELD UNITS (Exist. Construction)
fc = 1,400 psi (superstructure)
fc = 800 psi (substructure)
fs = 20,000 psi (reinforcement)
fs = 18,000 psi (structural steel)

SEISMIC DATA

Seismic Performance Category (SPC) = B
Horizontal Bedrock Acceleration Coefficient (A) = 0.098g
Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN
IL 141 OVER BEAR CREEK
FAP ROUTE 877 - SECTION 100B-1
WHITE COUNTY
STATION 48+70.00
STRUCTURE NO. 097-0027

ESCA CONSULTANTS, INC.

USER NAME = KAH	DESIGNED - MTD	05/12	REVISED - MTD	01/13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
ESCA PROJECT NO. 988.06B	CHECKED - RDP	06/12	REVISED -		
	DRAWN - DWH/HAS	05/12	REVISED -		
PLOT DATE = 1/3/2013 2:05:18 PM	CHECKED - MTD	06/12	REVISED -		SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	100B-1	WHITE	-	-
		CONTRACT NO. 78231		
		ILLINOIS FED. AID PROJECT AID		