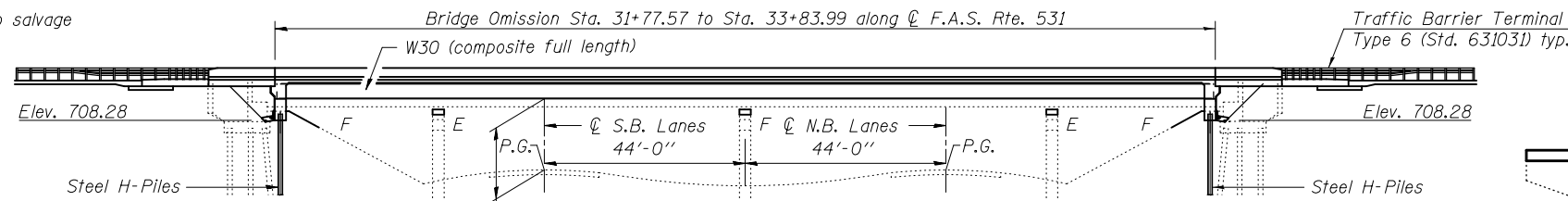


Bench Mark: Chiseled "□" in northwest corner of northeast wingwall S.N. 010-0128. Elev. 715.46

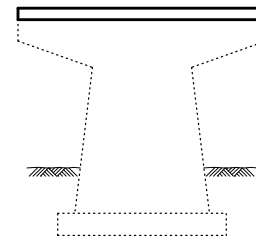
Existing Structure: S.N. 010-0128 Built in 1963 as F.A.I. Route 57, Section 10-32HB. The existing structure is a 4 span wide flange structure with pins & links in the two end spans supporting a RC slab on hammerhead piers & spill thru abutments. The abutments are on concrete piles & piers are on spread footings. The structure has an overall length of 218'-0" back to back of abutments and a width of 33'-8" out to out of deck. The contractor will remove and replace the existing superstructure and abutments. Traffic to be maintained utilizing stage construction.

No salvage

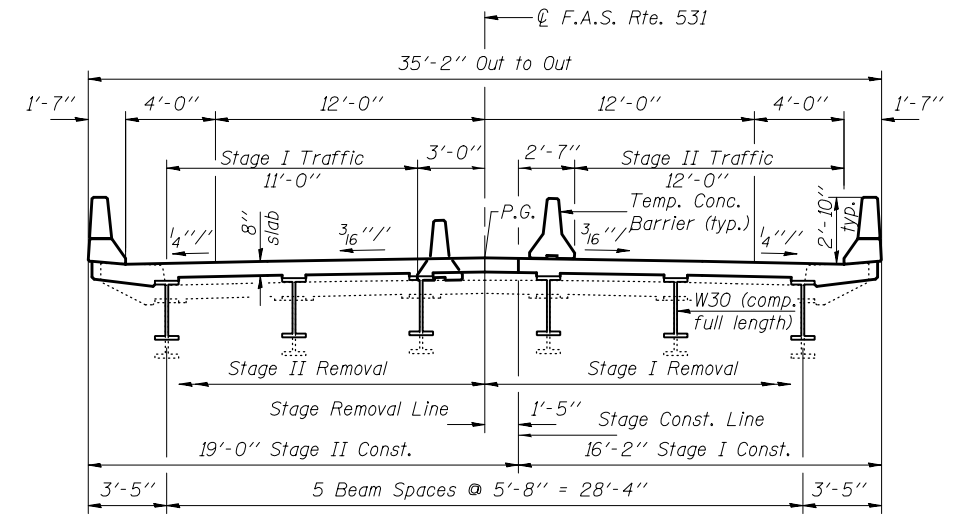


**ELEVATION**

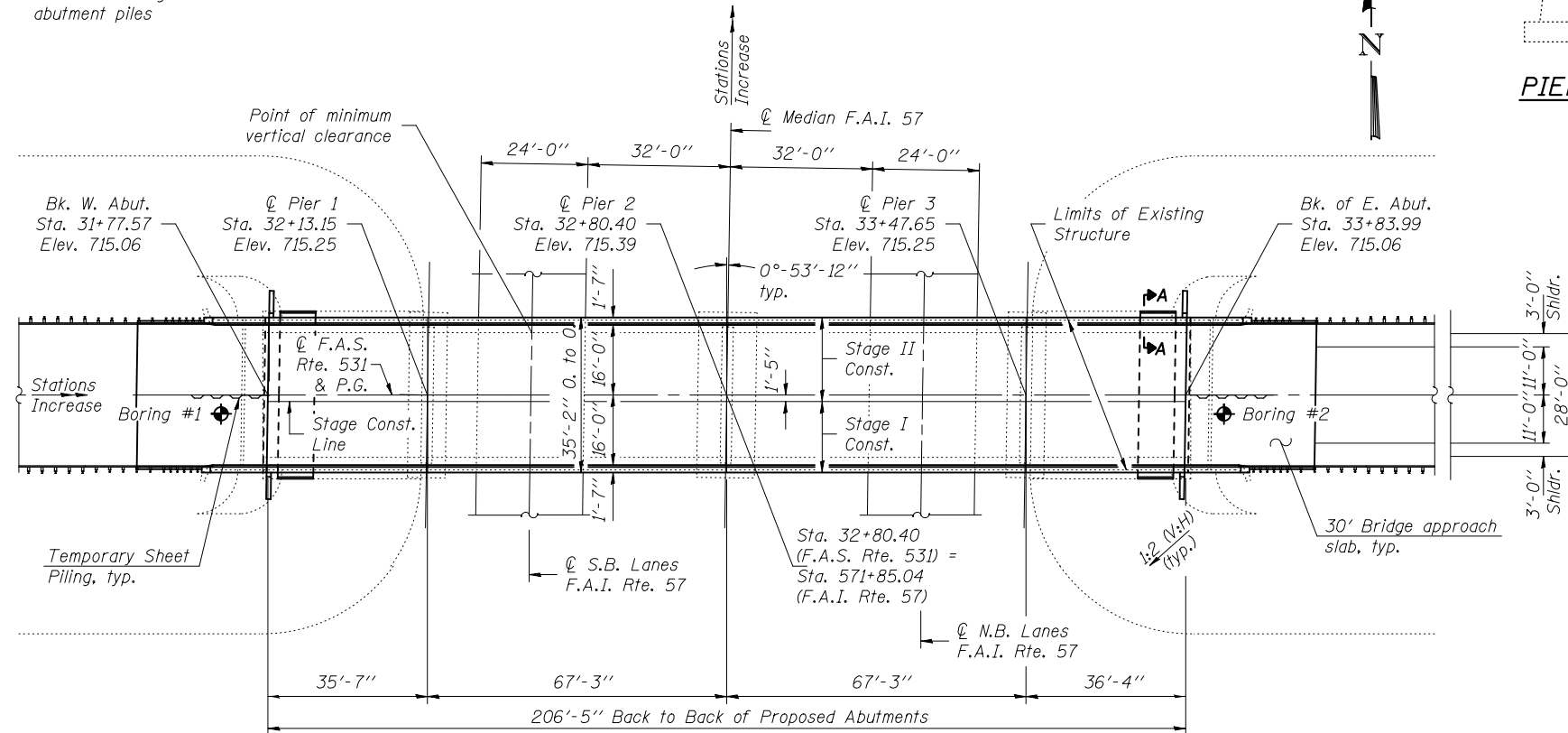
\*Space proposed piles to miss existing battered abutment piles



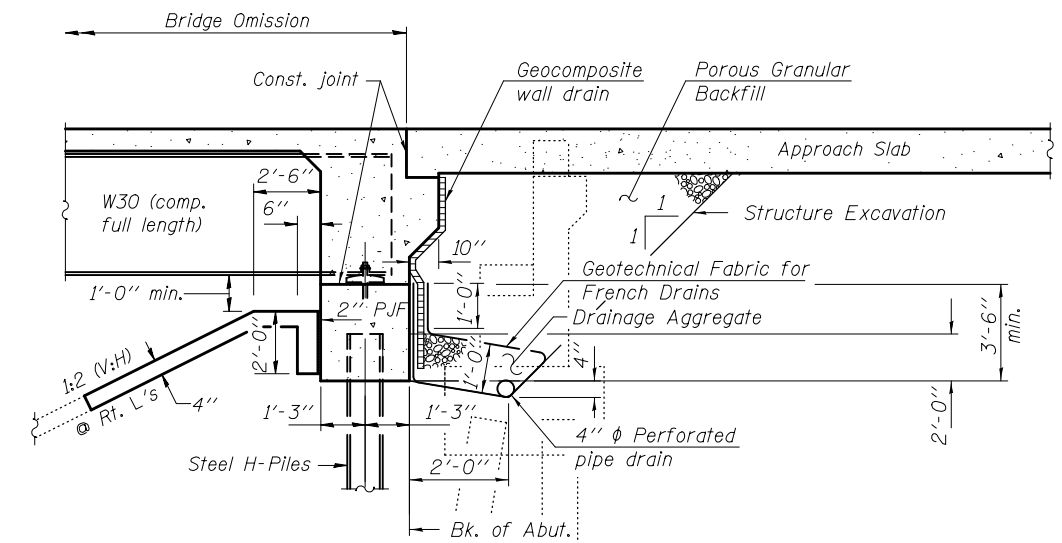
**PIER SKETCH**



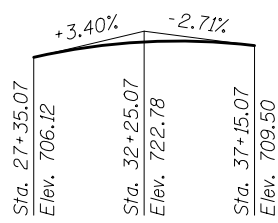
**CROSS SECTION**  
(Looking East)



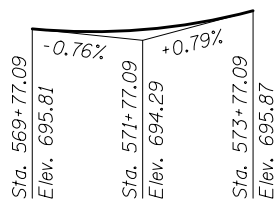
**PLAN**



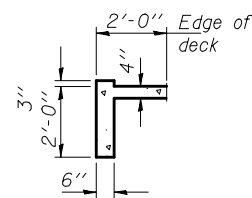
**SECTION THRU ABUTMENT**  
(Horizontal Dimensions @ Rt. L's)



**PROFILE GRADE**  
(along  $\varnothing$  F.A.S. Rte. 531)



**PROFILE GRADE**  
F.A.S. ROUTE 531  
(Existing P.G.)



**SECTION A-A**

**HIGHWAY CLASSIFICATION**

F.A.S. Rte. 531 - Monticello Rd. Functional Class: Rural Major Collector ADT: 3600 (2000); 4900 (2020) ADTT: 310 (2000); 420 (2020) DHV: 500 (2000) Speed: 55 m.p.h. (posted); 55 m.p.h. (design) Two-way traffic	F.A.I. Rte. 57 - I-57 Functional Class: Interstate ADT: 21,500 (1999); 29,500 (2020) ADTT: 5400 (2000); 7400 (2020) DHV: 1550 (2020) Speed: 55 m.p.h. (posted); 55 m.p.h. (design) One-way traffic
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**SEISMIC DATA**

New Construction:  
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.055g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.13g  
Soil Site Class = B

Existing Pier:  
Seismic Performance Category (SPC) = A  
Horizontal Bedrock Acceleration Coefficient = 0.045g  
Site Coefficient = 1.0

**LOADING HL 93**

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

**DESIGN SPECIFICATIONS**

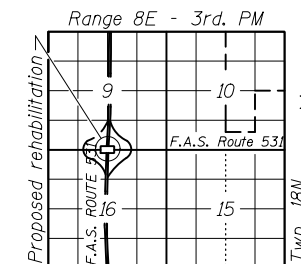
New Construction:  
2010 AASHTO LRFD Bridge Design Specifications

Existing Pier:  
1995 FHWA Seismic Retrofitting Manual for Highway Bridges

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**  
 $f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (reinforcement)  
 $f_y$  = 50,000 psi (structural steel)  
AASHTO M270 Grade 50

**FIELD UNITS (Existing Construction)**  
 $f'_c$  = 3,500 psi  
 $f_y$  = 40,000 psi (reinforcement)



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**  
**F.A.S. ROUTE 531 (MONTICELLO ROAD)**  
**OVER I-57**  
**F.A.S. RTE. 531 - SEC. 10-32HBR**  
**CHAMPAIGN COUNTY**  
**STATION 32+80.40**  
**STRUCTURE NO. 010-0128**

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

SHEET NO. 1 OF 1 SHEETS

F.A.S. RTE. 531	SECTION 10-32HBR	COUNTY CHAMPAIGN	TOTAL SHEETS	SHEET NO.
			CONTRACT NO. 90950	

ILLINOIS FED. AID PROJECT