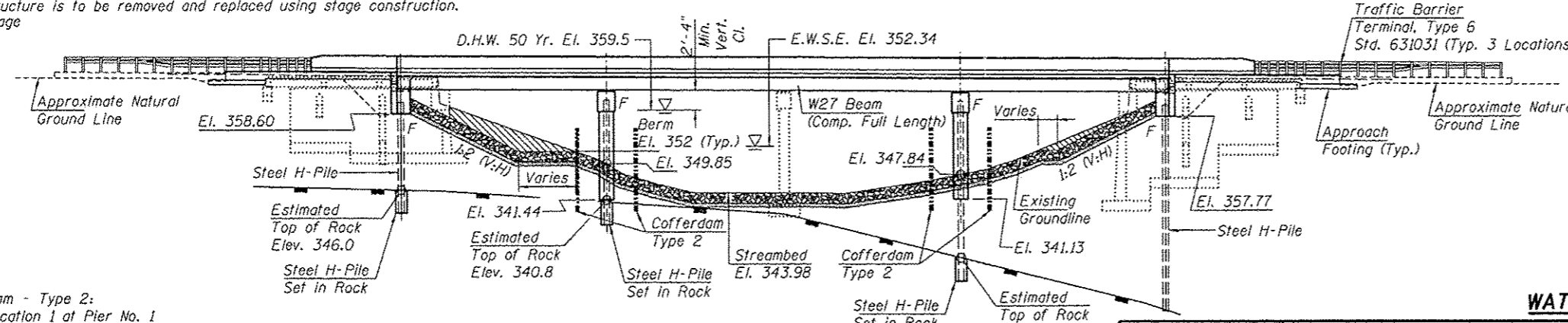
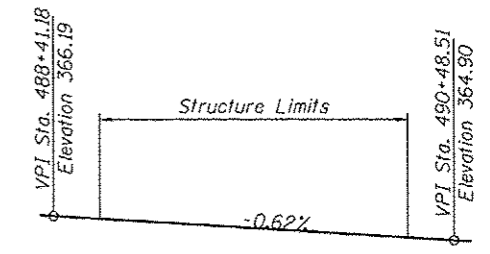


B.M. #45: Chiseled "C" North side of Il. 146 in center of Bridge Pier - Elev. 362.161 (NAVD 88).
 Existing Structure (No. 044-0020):
 Existing Abutments were built in 1928 as S.B.I Rte. 146, Section 111B and reconstructed in 1976. A new abutment cap was constructed on top of the existing abutment wall and also added a pier in the channel. The existing superstructure was removed and replaced with 27" PPC Deck Beams and a 2 1/2" wearing surface. The existing approach slabs were also widened.
 The wearing surface was milled and overlaid in 1989. The present structure is a two span structure. Total structure length is 123'-3 3/4" Bk. to Bk. of Abutments.
 The structure is to be removed and replaced using stage construction.
 No salvage



Note:
 Cofferdam - Type 2:
 Location 1 at Pier No. 1
 Location 2 at Pier No. 2

Note:
 Precure the H-Piles at the West Abutment and backfill with Bentonite to increase flexibility of the piles.

Channel Excavation
 See Roadway Plans

ELEVATION

LEGEND

Indicates Boring Location

DESIGN SCOUR ELEVATION TABLE

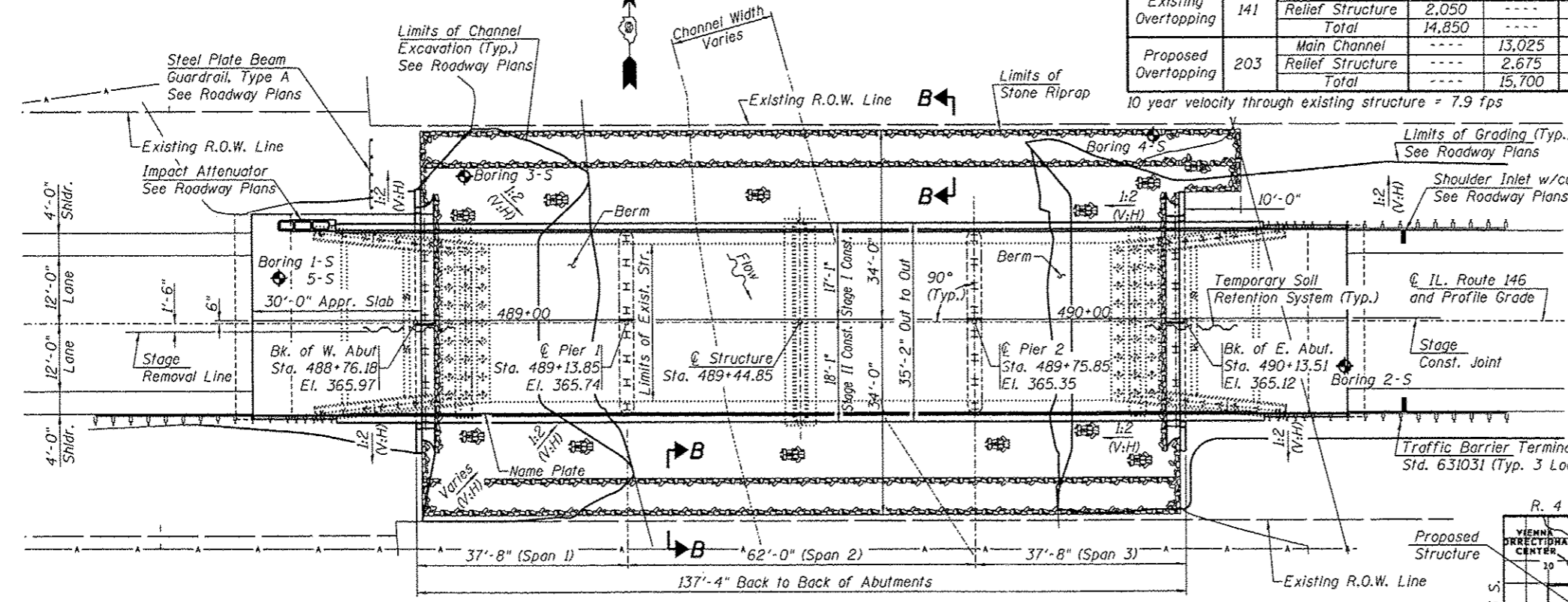
Design Scour Elevations (ft.)				
	W. Abut.	Pier 1	Pier 2	E. Abut.
Q100	358.6	340.0	327.0	357.8

WATERWAY INFORMATION

Flood	Type	Discharge (cfs)		Waterway Opening (Sq. Ft.)		Natural H.W.E.	Head (Ft.)		Headwater Elevation (Ft.)	
		Existing	Proposed	Existing	Proposed		Existing	Proposed	Existing	Proposed
Ten-Year	Main Channel	7,753	7,563	976.3	991.9	358.3	1.7	1.6	360.0	359.9
	Relief Structure	957	1,147	405.0	405					
	Total	8,710	8,710	1,381.3	1,396.9					
Design	Main Channel	10,579	10,366	1,099.9	1,124.1	359.5	2.4	2.2	361.9	361.7
	Relief Structure	1,821	2,034	477.0	477.0					
	Total	12,400	12,400	1,576.9	1,601.1					
Base	Main Channel	11,685	11,488	1,152.9	1,180.3	360.0	2.6	2.4	362.6	362.4
	Relief Structure	2,215	2,412	507.0	507.0					
	Total	13,900	13,900	1,659.9	1,687.3					
Existing Overtopping	Main Channel	12,800	----	1,185.2	1,214.3	360.3	2.7	----	363.0	----
	Relief Structure	2,050	----	525.0	525.0					
	Total	14,850	----	1,710.2	1,739.3					
Proposed Overtopping	Main Channel	----	13,025	1,201.6	1,248.5	360.6	----	2.4	----	363.0
	Relief Structure	----	2,675	543.0	543.0					
	Total	----	15,700	1,744.6	1,791.5					

10 year velocity through existing structure = 7.9 fps

10 year velocity through proposed structure = 7.6 fps



APPROVED
 For Structural Adequacy Only
 Thomas E. Havenar
 Engineer of Bridges & Structures



SIGNATURE
 DATE: 03-06-2014
 LIC. EXP. DATE: 11-30-2014

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.369
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.964
 Soil Site Class = C

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

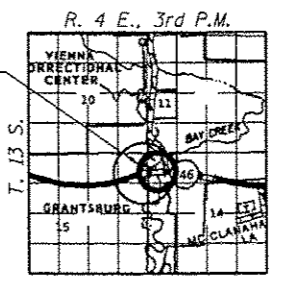
PLAN

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (M270 Grade 50W)



GENERAL PLAN and ELEVATION
IL. ROUTE 146 over BAY CREEK
F.A.P. ROUTE 885 - SECTION 110B-1
JOHNSON COUNTY
STATION 489+44.85
STRUCTURE NO. 044-0061

c:\working\dms24853\0978279-sh-bridge.dgn



USER NAME	DESIGNED	REVISIONS
pp00836	JGT	
	TEH	
	Rod	
	JGT	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN and ELEVATION
 STRUCTURE NO. 044-0061
 SHEET NO. 01 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	24
				CONTRACT NO. 78279
ILLINOIS FED. AID PROJECT				