

Bench Mark: Chiseled "□" on abutment at NW corner of bridge. Elev. 619.17.

Existing Structure: S.N. 050-0045 was originally constructed in 1959 as F.A. Route 24 (S.B.I. Route 23), Section 3BR-1. The existing structure consists of 3-span continuous steel beams supported by pile bent abutments and hammerhead piers on spread footings. The structure is 151'-0" back-to-back of abutments and 35'-8" wide out-to-out of the deck (30'-0" clear width between the curbs). The structure is to be removed and replaced. Traffic to be maintained using stage construction.

No salvage.

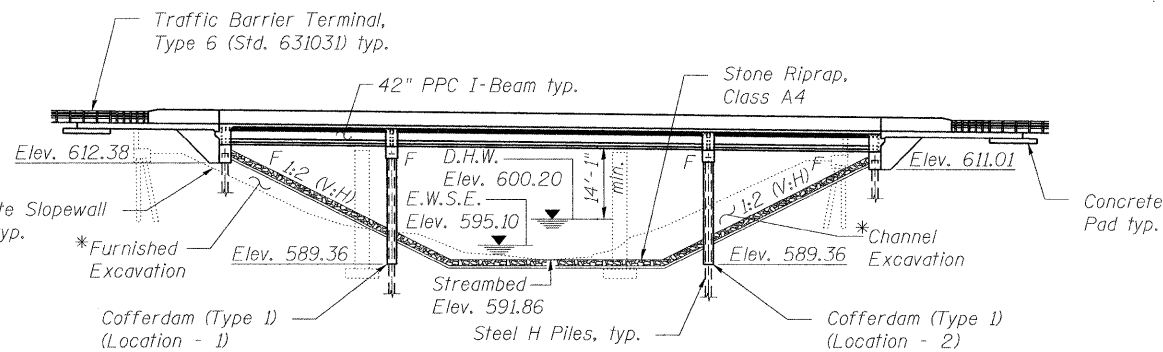
WATERWAY INFORMATION

Drainage Area = 32.9 sq. mi. Low Grade Elev. 617.60 @ Sta. 244+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.
Design	10	1,240	277	482	599.5	0.2	0.4	599.7	599.9
Base	100	1,790	321	535	600.2	0.2	0.5	600.4	600.7
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	2,480	372	595	601.0	0.3	0.5	601.3	601.5

10 Year Velocity Existing 4.5 fps
10 Year Velocity Proposed 3.4 fps

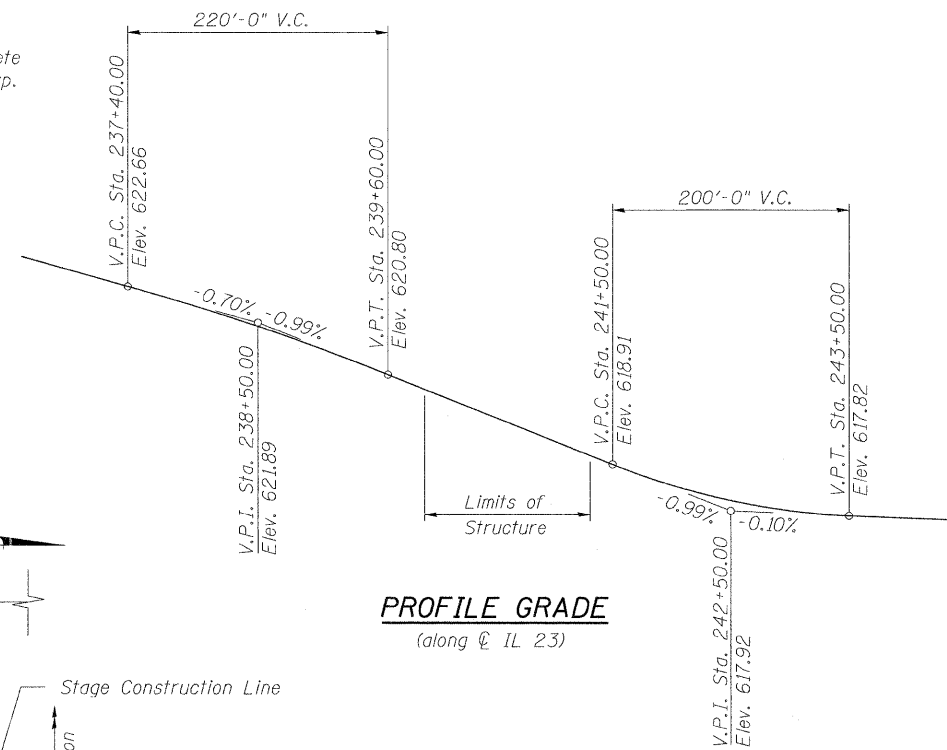
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	612.38	587.67	587.67	611.01



ELEVATION

*See Roadway Plans



PROFILE GRADE
(along C IL 23)

STATION 240+61
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 68 SEC. (3)BR-3
LOADING HL-93
STR. NO. 050-0255

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 5th Edition

DESIGN STRESSES

FIELD UNITS

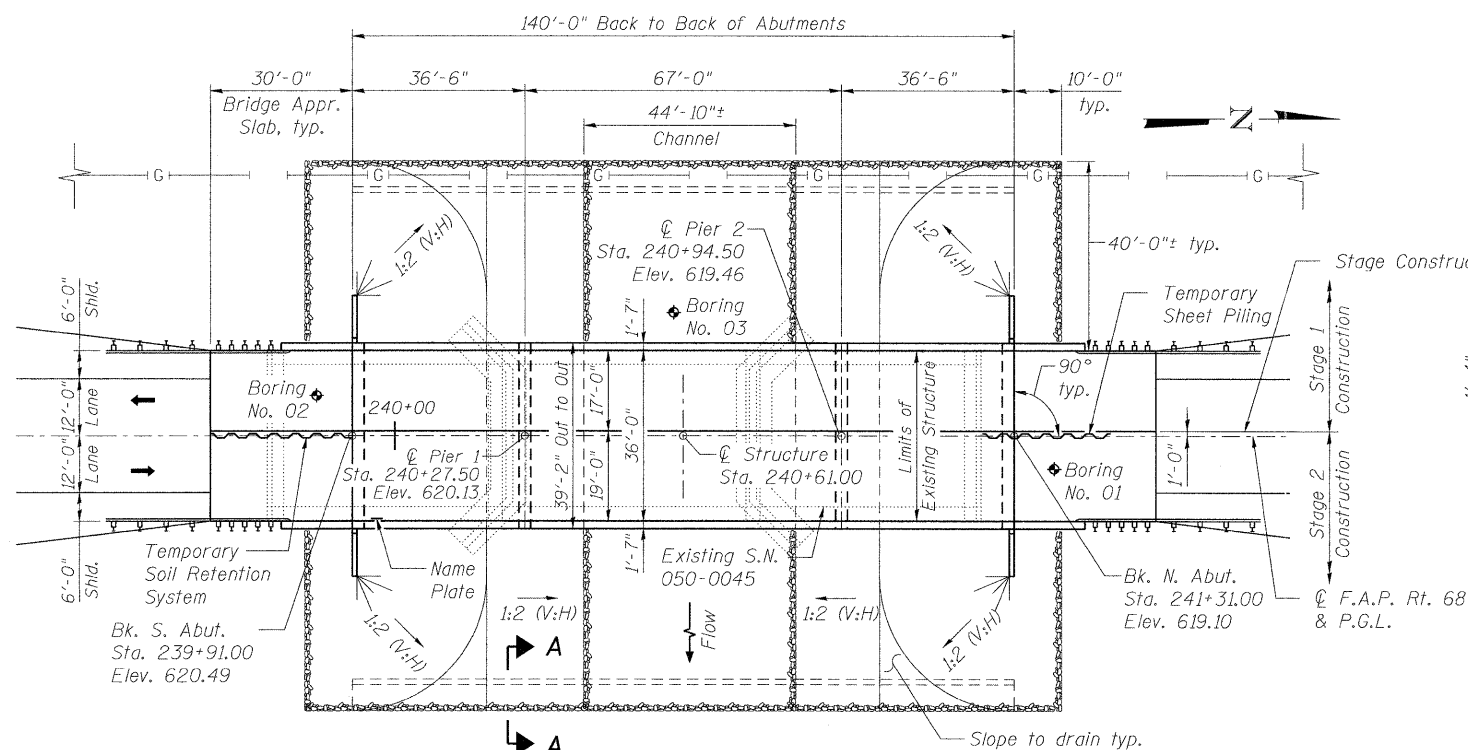
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

PRECAST PRESTRESSED UNITS

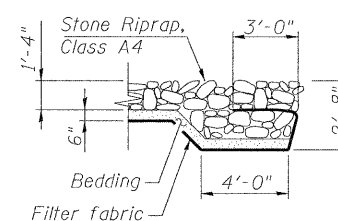
$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f_{pu} = 270,000$ psi (1/2" ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi (1/2" ϕ low lax. strands)

SEISMIC DATA

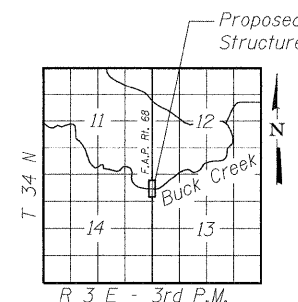
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.069g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.125g
Soil Site Class = C



PLAN



SECTION A-A



LOCATION SKETCH



EXPIRATION DATE 11-30-12
DATE OCTOBER 21, 2011

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN AND ELEVATION

IL 23 OVER BUCK CREEK

F.A.P. 68 - SEC. (3)BR-3

LASALLE COUNTY

STATION 240+61.00

STRUCTURE NO. 050-0255

benesch
engineers • scientists • planners

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-685-0450 Job No. 3938.11

FILE NAME = 050225_66A20_001_GPE.dgn
USER NAME = akeaschal
DESIGNED - JLS
CHECKED - AJK
DRAWN - RMG
CHECKED - HMA

REVISIONS:
REVISOR: -
REVISION: -
REVISOR: -
REVISION: -
REVISOR: -
REVISION: -

PLOT SCALE =
PLOT DATE = 10/20/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S1 OF S35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	(3)BR-3	LASALLE	61	14
CONTRACT NO. 66A20			ILLINOIS FED. AID PROJECT	