APPROVED
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

FEB 24 2005

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(15,21-25HB-2)BR	DOUGLAS	2	1
FED. ROAD DIST. NO. 5	ILLINOIS	PROJECT		

B.M. #4343-1 Chiseled Square on the Northwest Corner of the Southwest Wingwall of the bridge Elev. 698.155

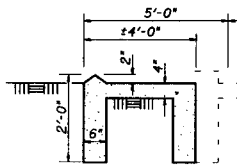
Existing Structure: S.N. 021-0024, Built in 1968 as Section 21-25HB-2 at Station 1492+76.53 (I-57). The existing structure is a Four Span Continuous Wide Flange Beam Bridge supporting a R.C. Slab on multiple column hammerhead piers on timber piles and pile bent abutments on concrete piles. Overall length is 223'-9" back to back of abutments. Bridge width is 55'-8" out to out of deck with two 18'-3" traffic lanes and a 16'-0" median measured face to face. The existing deck has a $1\frac{3}{4}$" bituminous surface overlay with waterproofing membrane. The contractor will remove and replace the existing concrete deck and complete other work as described in the scope of work.

Trafffic shall be maintained at all times utilizing Stage Construction.

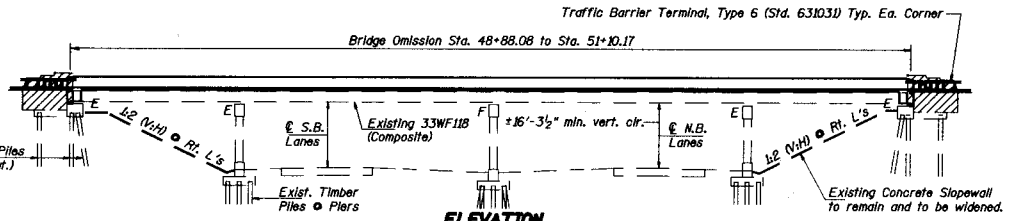
No Salvage.

SCOPE OF WORK

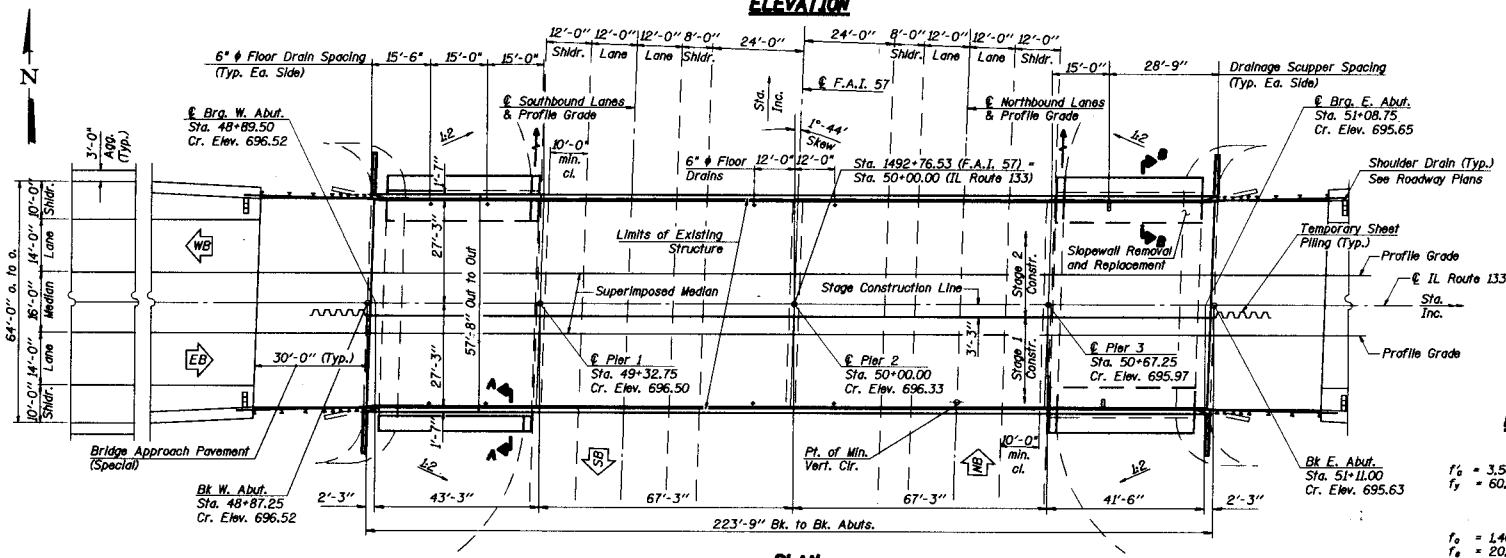
1. Remove and replace existing deck and approach pavements.
2. Place new elastomeric bearings with extensions at the abutments.
3. Install stud shear connectors in positive moment areas of existing beam lines.
4. Remove existing abutment backwalls and wingwalls. Install new semi-integral abutments with new dog-ear wingwall configuration.
5. Install abutment drains as shown in Section thru Abutment.
6. Remove existing slopewall at the locations shown and extend outside the limits of the new bridge deck.



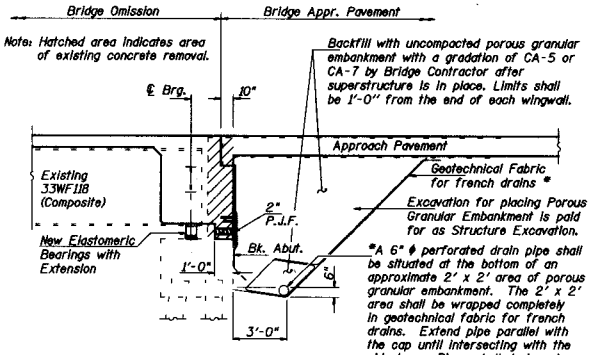
SECTION A-A



ELEVATION



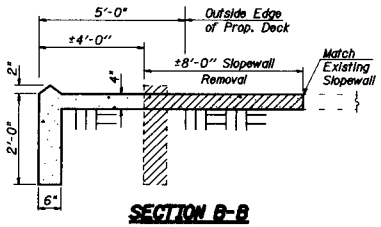
PLAN



* Included in the cost of Porous Granular Embankment.

SECTION THRU SEMI-INTEGRAL ABUTMENT

(Dimensions at Rt. ∡'s)



SECTION B-B

DESIGN STRESSES

New Construction

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

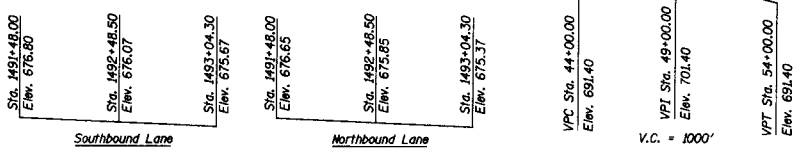
Existing Structure

f_c = 1,400 psi
f_s = 20,000 psi (Reinforcement)
f_y = 36,000 psi (Structural Steel A-36)

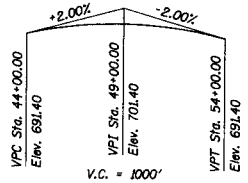
HIGHWAY CLASSIFICATION

FAP Route 749 - IL Route 133
Functional Class: Minor Arterial
ADT: 5,500 (2004); 6,700 (2024)
ADTT: 633 (2004); 771 (2024)
DHV: 600 (2024)
Design Speed: 50 mph
Posted Speed: 50 mph

F.A.I. Route I-57
Functional Class: Interstate
ADT: 18,000 (2004); 27,000 (2024)
DHV: 1,650 (2024)
Design Speed: 70 mph
Posted Speed: 65 mph



PROFILE GRADE F.A.I. 57



PROFILE GRADE
(Along median edge of roadway)

SEISMIC DATA

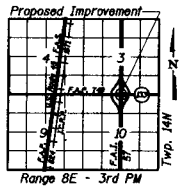
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05g
Site Coefficient (S) = 1.5

DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS20-44

Allow 25#/Sq. Ft. for future wearing surface



LOCATION SKETCH

DESIGNED	T.S.H.
CHECKED	R.V.B.
DRAWN	T.S.H.
CHECKED	M.D.C.

GENERAL PLAN & ELEVATION

IL ROUTE 133 OVER I-57
F.A.I. ROUTE 57 SECTION (15,21-25HB-2)BR
DOUGLAS COUNTY
STA. 1492+76.53
S.N. 021-0024

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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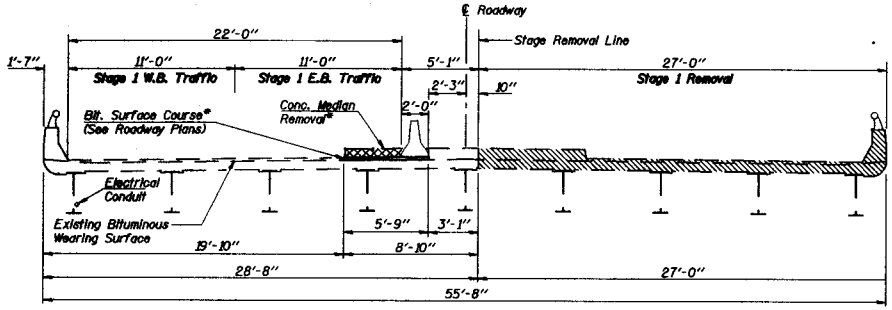
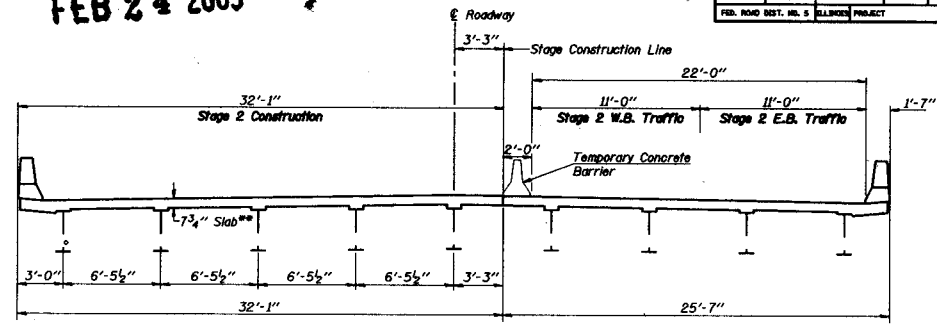
FED. ROAD DIST. NO. 5	ILLINOIS	PROJECT		



STAGE 1 REMOVAL

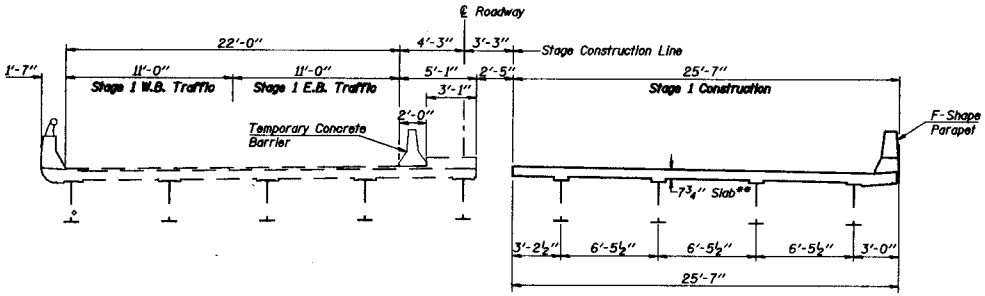
(Looking East)

*Prior to Stage 1 Removal



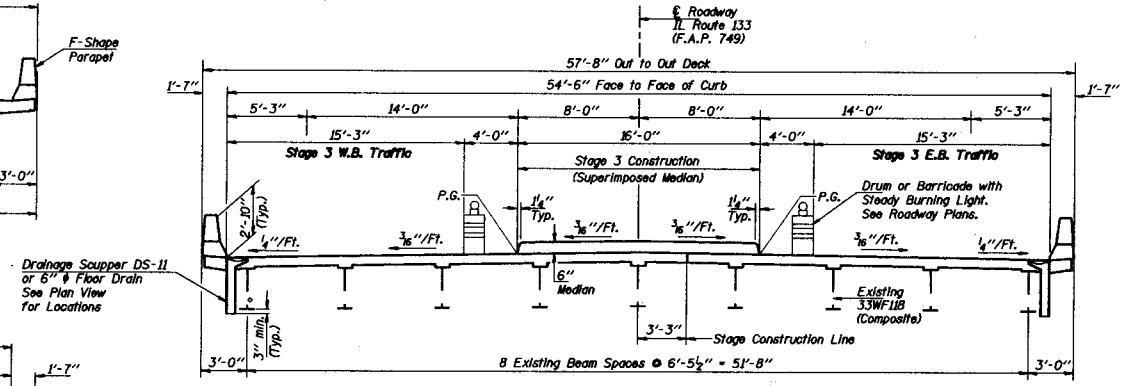
STAGE 2 CONSTRUCTION

(Looking East)



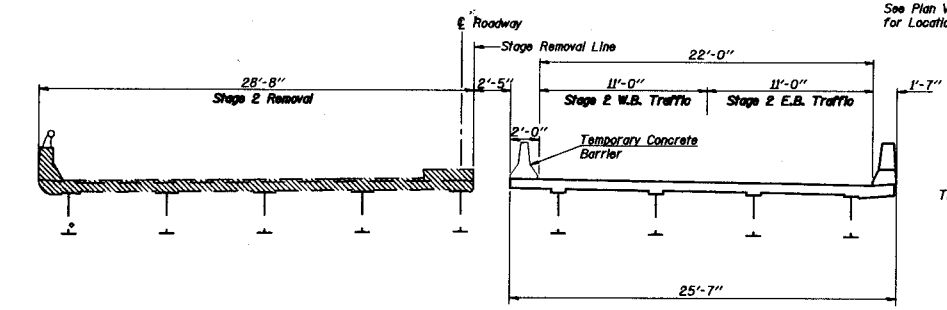
STAGE 1 CONSTRUCTION

(Looking East)



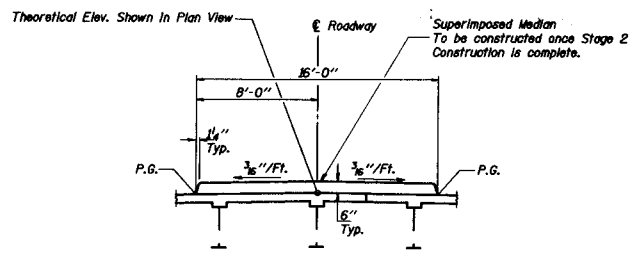
CROSS SECTION

(Looking East)



STAGE 2 REMOVAL

(Looking East)



STAGE 3 CONSTRUCTION

(Looking East)

**Use bridge smoothness specification.

DESIGNED	T.S.H.
CHECKED	R.V.B.
DRAWN	T.S.H.
CHECKED	M.D.C.

CROSS SECTION &
STAGE CONSTRUCTION DETAILS

IL ROUTE 133 OVER I-57
F.A.I. ROUTE 57 SECTION (25,21-25HB-2)BR
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