APPROVED

JAN 17 2002

AS A BASIS FOR PREPARATION OF DETAILED PLANS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 510	10-6 HB-5	CHAMPAIGN	2	3
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Bench Mark:

IDOT BM94 Iron Pin w/cap, North Approach West Shoulder, El. 700.61

Existing Structure:

Existing Structure No. 010-0153. The existing structure was built in 1960 as F.A.I. Route 74, Section 10-6HB-5 at station 592+57. The structure is a four-span bridge, 185'-6" long back to back abutments and 34'-6" out-to-out of deck, carrying two lanes of traffic. The superstructure is a 4 simple span P.P.C. beam structure with reinforced concrete deck. The substructure consists of reinforced concrete open and multi-column piers. The abutments are founded on a single row of piles and the piers on two rows of piles. The contractor shall remove and replace the existing superstructure with rolled steel beams and reinforced concrete deck. One lane of traffic will be maintained during construction. The existing minimum vertical clearance above F.A.I. Route 74 is approximately 14'-8" at the crown of westbound F.A.I. Route 74.

Scope of Work:

1. Remove all existing Traffic Barrier Terminals and replace with new Traffic Barrier Terminals.
2. Remove and replace superstructure.
3. Modify abutments to semi-integral type.
4. Extend abutments and piers to increase vertical clearance.
5. Place new Abutment Drains and backfill with Porous Granular Embankment.
6. Provide elastomeric expansion bearings at Piers 1 and 3 and at the abutments. Provide new low profile fixed bearings at Pier 2.
7. Place Bridge Approach Pavement.
8. Remove and reconstruct the cap of Pier 3.

No Salvage.

HIGHWAY CLASSIFICATION

FAS 510
Functional Class: Major Collector
ADT: 475 (1999)
DHV: 75 (2018)
Design Speed: 50 m.p.h.
Posted Speed: 55 m.p.h.

F.A.I. 74
CLASS: Interstate
ADT: 30,200 (1998)
Design Speed: 65mph
Posted Speed: 65 mph

LOADING HL93 (STRUCT. STEEL)
LOADING HS20 (REINF. CONC. & BRG.)

Allow 50 psf for future wearing surface.

DESIGN SPECIFICATIONS (NEW CONSTRUCTION)

STRUCT. STEEL

1998 AASHTO LRFD Bridge Design Specifications with 1999 and 2000 Interims.

REINF. CONC. & BRG.

1996 AASHTO with 1997 thru 2000 Interims.

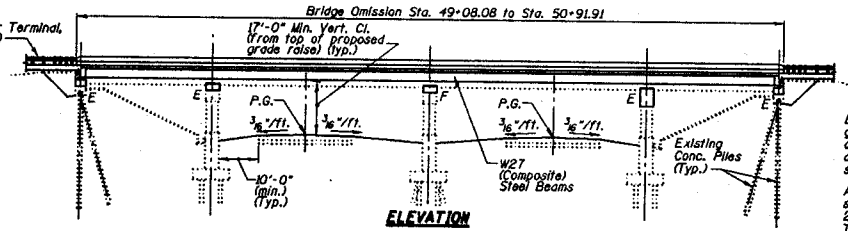
DESIGN STRESSES

FIELD UNITS (NEW CONSTRUCTION)

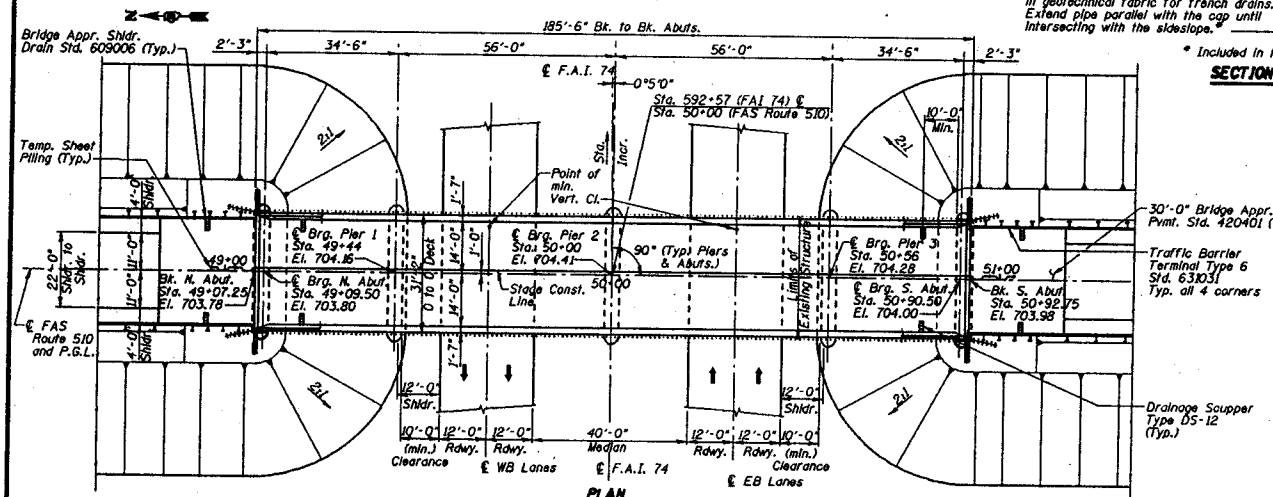
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel) (M270 Grade 50)

SEISMIC DATA

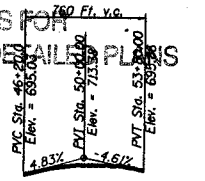
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.047g
Site Coefficient (S) = 1.0



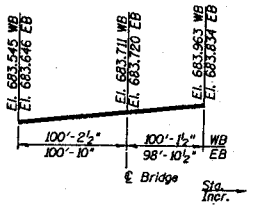
ELEVATION



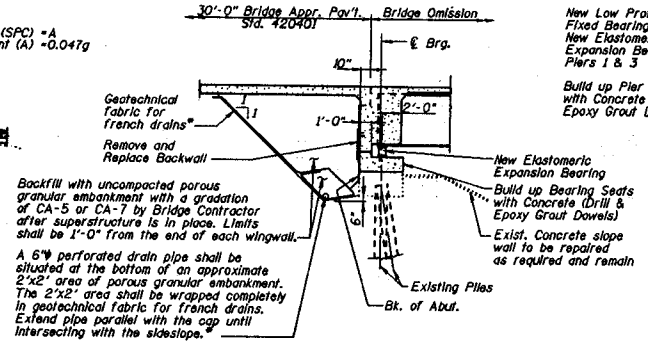
PLAN



PROFILE GRADE
Along ℄ of FAS Route 510

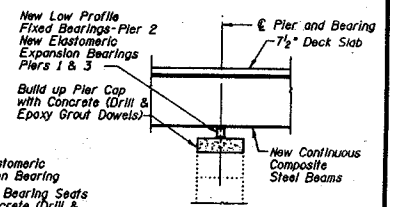


MAX. TOP OF PAVEMENT ELEVATIONS
I-74 Crown

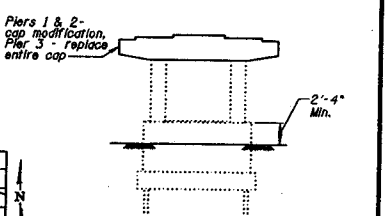


* Included in the cost of "Porous Granular Embankment".

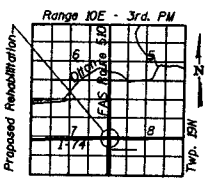
SECTION THRU SEMI-INTEGRAL ABUTMENT



SECTION THRU PIER



PIER SKETCH



LOCATION SKETCH

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

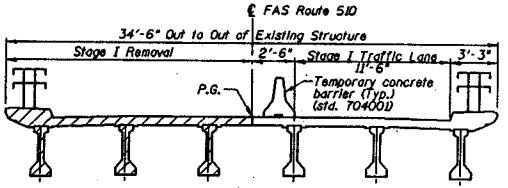
FAS Route 510 OVER FAI 74
SECTION (10-6HB-5) BR STATION 592+57
CHAMPAIGN COUNTY
SN 010-0153

REVISIONS NAME	DATE

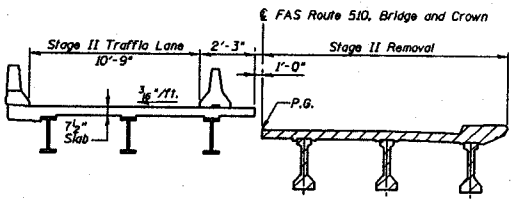
SCALE: VERT. 0ft=1 HORIZ. 0ft=1
DATE: 01/2002
DRAWN BY: YR
DESIGNED BY: YR
CHECKED BY: YEYS LP/RL

COMPUTER FILE NO. 0153fal_1.dgn
FILE NO. 19445-C-13-3

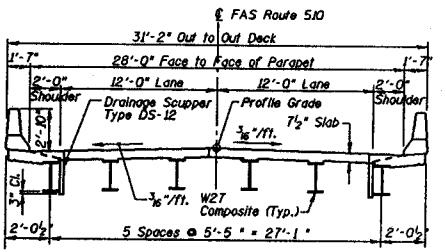
NAME	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 510	10-6 HB-5	CHAMPAIGN	2	2
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL



STAGE II REMOVAL & CONSTRUCTION



CROSS SECTION
(Looking North)

APPROVED

JAN 17 2002

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

ILLINOIS DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS & CONSTRUCTION STAGING

FAS Route 510 OVER FAI 74
SECTION (10-6HB-5) BR STATION 592+57
CHAMPAIGN COUNTY
SN 010-0153

REVISIONS	
NAME	DATE

SCALE: VERT. (NTS) HORIZ. (NTS)
DATE: 01/2002
DRAWN BY: YR
DESIGNED BY: YEVS
CHECKED BY: LP/BL

COMPUTER FILE NO. 0153+pL2.dgn
PROJECT 18446-C-13-3