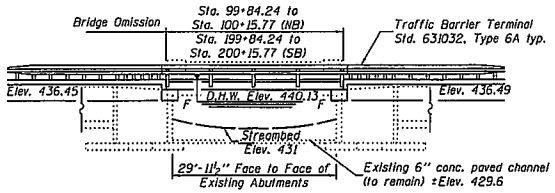
Bench Mark: Cut square on north headwall in middle of 2 bridges. Elevation 440.71.
Existing Structure: S.N. 082-0096 & 082-0097. 1-span reinforced concrete T-beams. Built in 1952 at Station 7+62.8 by Corps of Engineers, U.S. Army. Closed abutments supported on spread footings. The existing superstructure is to be removed and replaced. Traffic to be maintained utilizing stage construction.
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

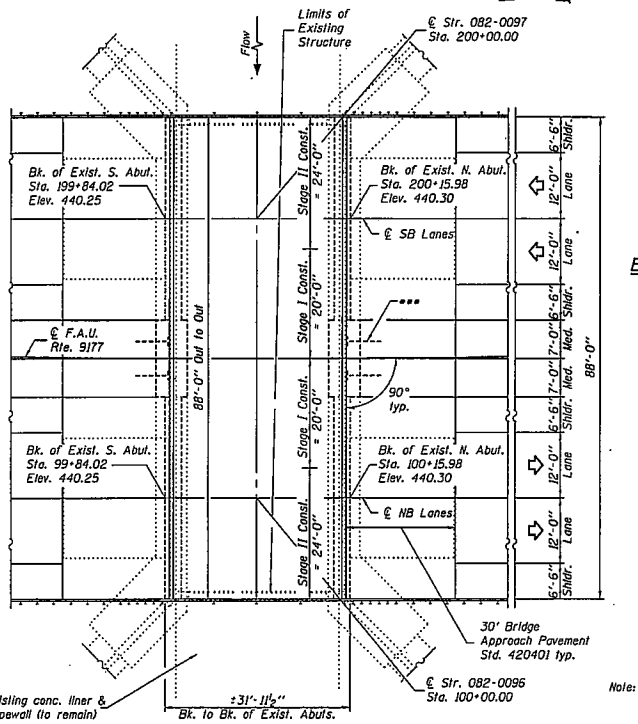
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

SHEET NO. 1
2 SHEETS

Contract #

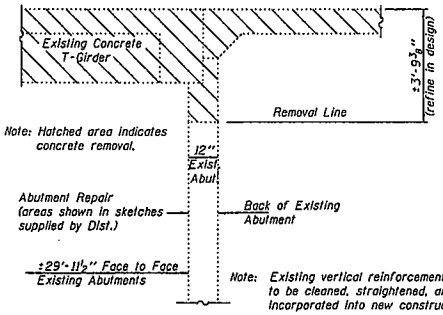


ELEVATION

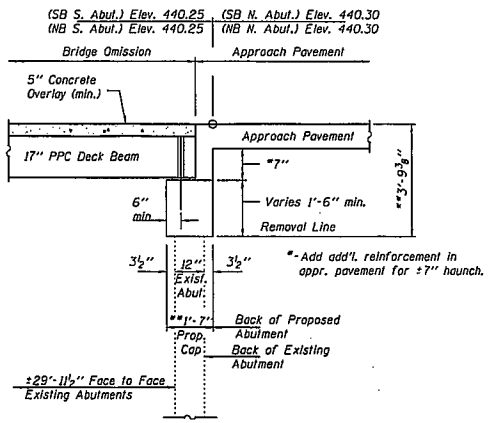


PLAN

*** 2-Helical anchors with steel channel section at midpoint of median abutment cantilever (refine in design).



SECTION THRU ABUTMENTS (Removal)



SECTION THRU ABUTMENTS (Proposed)
**Increase if required in design phase.

Note: Existing vertical reinforcement to be cleaned, straightened, and incorporated into new construction.

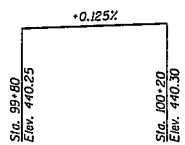
Existing abutment repair areas per District sketches.

EXISTING CURVE DATA (NB)

PI Sta. = 100+35.68
Δ = 4°-08'-56" (LT)
D = 2°-06'-51"
R = 2,710.00'
T = 98.16'
L = 195.24'
E = 1.78'
e = Normal Crown
P.C. Sta. = 99+37.52
P.T. Sta. = 101+33.76

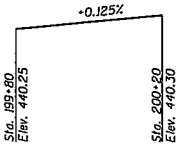
EXISTING CURVE DATA (SB)

PI Sta. = 200+00.20
Δ = 5°-02'-39" (LT)
D = 1°-53'-05"
R = 3,040.00'
T = 133.90'
L = 267.63'
E = 2.95'
e = Normal Crown
P.C. Sta. = 198+66.30
P.T. Sta. = 201+33.93



PROFILE GRADE
S.N. 082-0096 (NB)

Note: Proposed grade is the same as existing grade of this bridge site (per field survey).



PROFILE GRADE
S.N. 082-0097 (SB)

HIGHWAY CLASSIFICATION

F.A.U. Rte. 9177 - Scott Road
Functional Class - Collector (Urban)
A.D.T.: 5,300 (2004) 6,900 (2006)
D.H.V.: 636
Design Speed : 45 mph
Posted Speed : 45 mph

LOADING HS20-44

DESIGN SPECIFICATIONS

2002 AASHTO
Seismic Retrofitting Manual for Highway Bridges
FHWA-RD-94-052 May 1995

DESIGN STRESSES

PRECAST PRESTRESSED UNITS
f'_c = 5,000 psi
f'_{ci} = 4,000 psi
f'_s = 270,000 psi
f_s = 201,960 psi (½" low lax strands)

FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

EXISTING UNITS
f'_c = 1,200 psi
f_s = 20,000 psi (reinforcement)

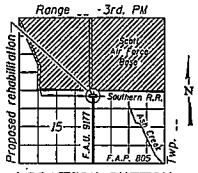
WATERWAY INFORMATION

Drainage Area = 2.08 sq. mi. Low Grade Elev. 440.19 @ Sta. 99+75

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	50	1,604	132	132	440.13	2.13	2.13	442.26	442.26
Base	100	1,866	132	132	440.54	2.35	2.35	442.89	442.89
Overlopping	11	1,040	132	132	439.30	0.89	0.89	440.19	440.19
Scour	10	1,002	132	132	439.21	0.78	0.78	439.99	439.99

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.11g
Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN
SCOTT ROAD OVER ASH CREEK
F.A.U. ROUTE 9177 - SECTION 44-1BR
St. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED	R.J. Chaput
CHECKED	
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

200

EXAMINED
ENGINEER OF BRIDGE DESIGN

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

4-10-06

D-98-024-02

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APPROVED

APR 10 2006

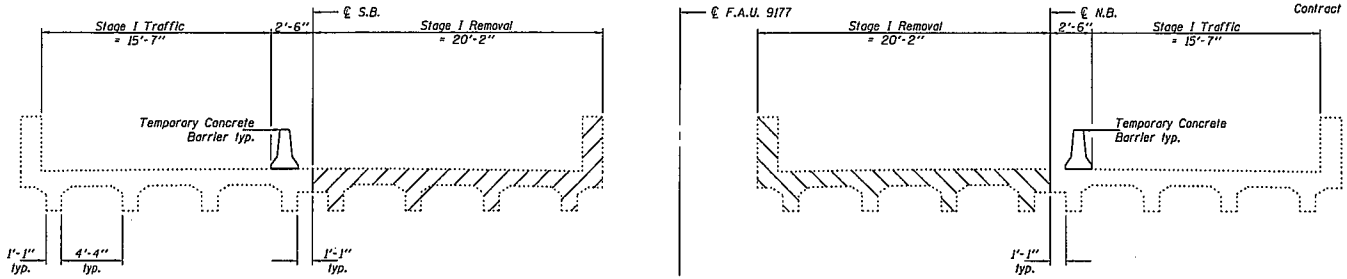
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

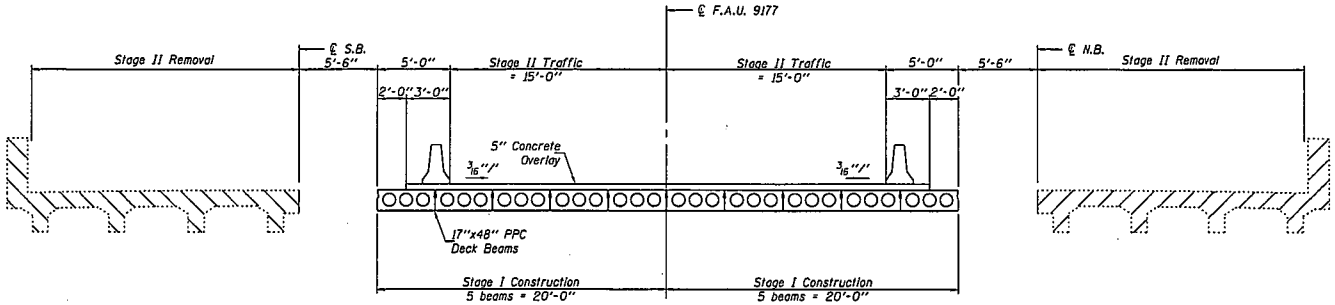
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
2 SHEETS

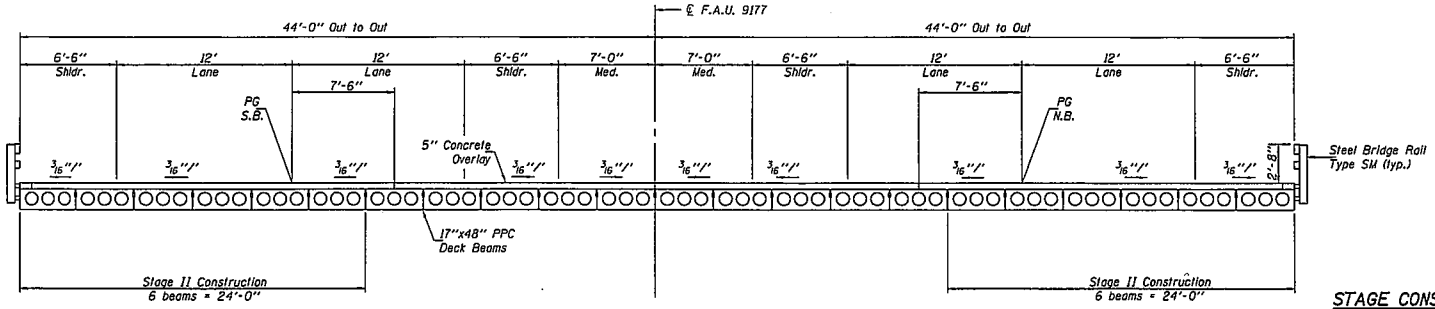
Contract #



STAGE I REMOVAL & STAGE I TRAFFIC



STAGE I CONSTRUCTION & STAGE II TRAFFIC



STAGE II CONSTRUCTION & FINAL TRAFFIC

STAGE CONSTRUCTION
SCOTT ROAD OVER ASH CREEK
F.A.U. ROUTE 9177 - SECTION 44-1BR
St. CLAIR COUNTY
STATION 100+00.00 (NB)
STATION 200+00.00 (SB)
S.N. 082-0096 (NB) & 082-0097 (SB)

DESIGNED	R.J. Chaput
CHECKED	
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

200

EXAMINED
ENGINEER OF BRIDGE DESIGN

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

4-10-06

D-98-024-02

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APPROVED

APR 1 0 2006

AS A BASIS FOR
PREPARATION OF DETAILED PLANS