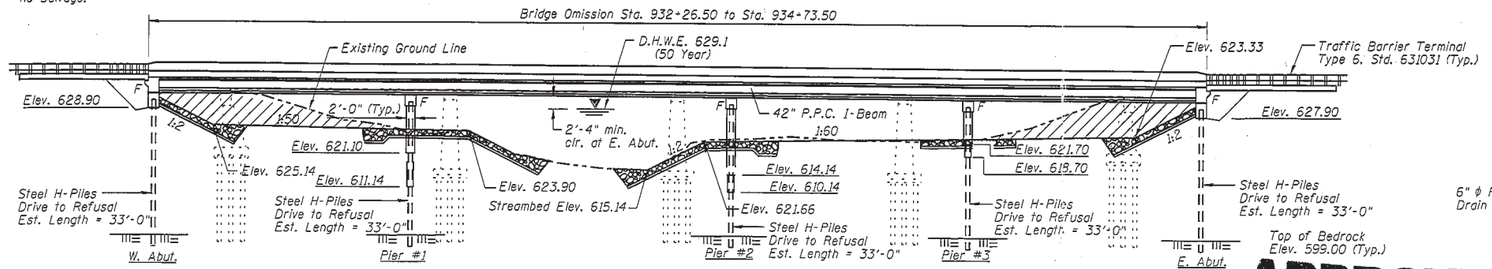
CONTRACT NO. 74146

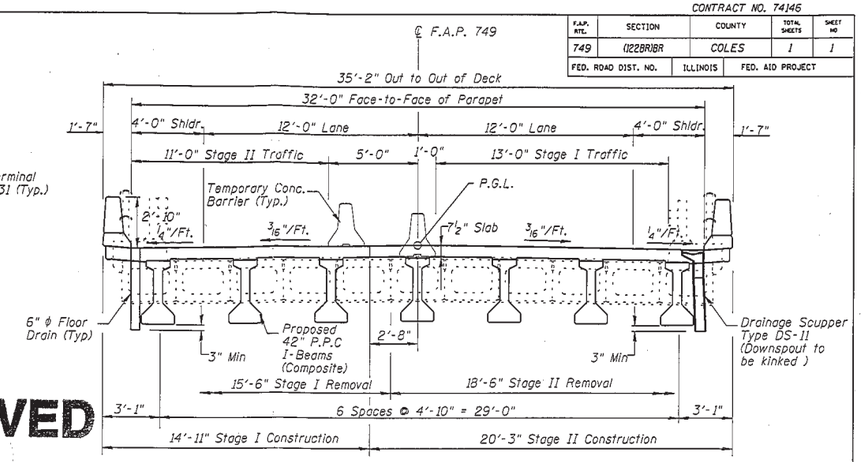
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
749	(122BR)BR	COLES	1	1
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Benchmarks: 4672-1 Chisled "□" on top of S.W. Wingwall Bridge S.N. 015-0031 Elev. 636.85
4672-3 Chisled "□" on top of S.E. Wingwall Bridge S.N. 015-0031 Elev. 636.17

Existing structure: Structure number 015-0031 was built in 1931 as Section 122-B IL 133 over Brush Creek Sta. 933+50.00. The superstructure was replaced and substructure was widened in 1964 as Section 122-BR. The existing structure is 34'-0" Out to Out of Deck, 212'-0" Back to Back of Abutments. It has 4-spans at 53'-0" each with 27" Precast Concrete Deck Beams with spill thru counterfort abutments on timber piling and solid piers on timber pile supported footings. The existing structure shall be removed and replaced using staged construction. No Salvage.

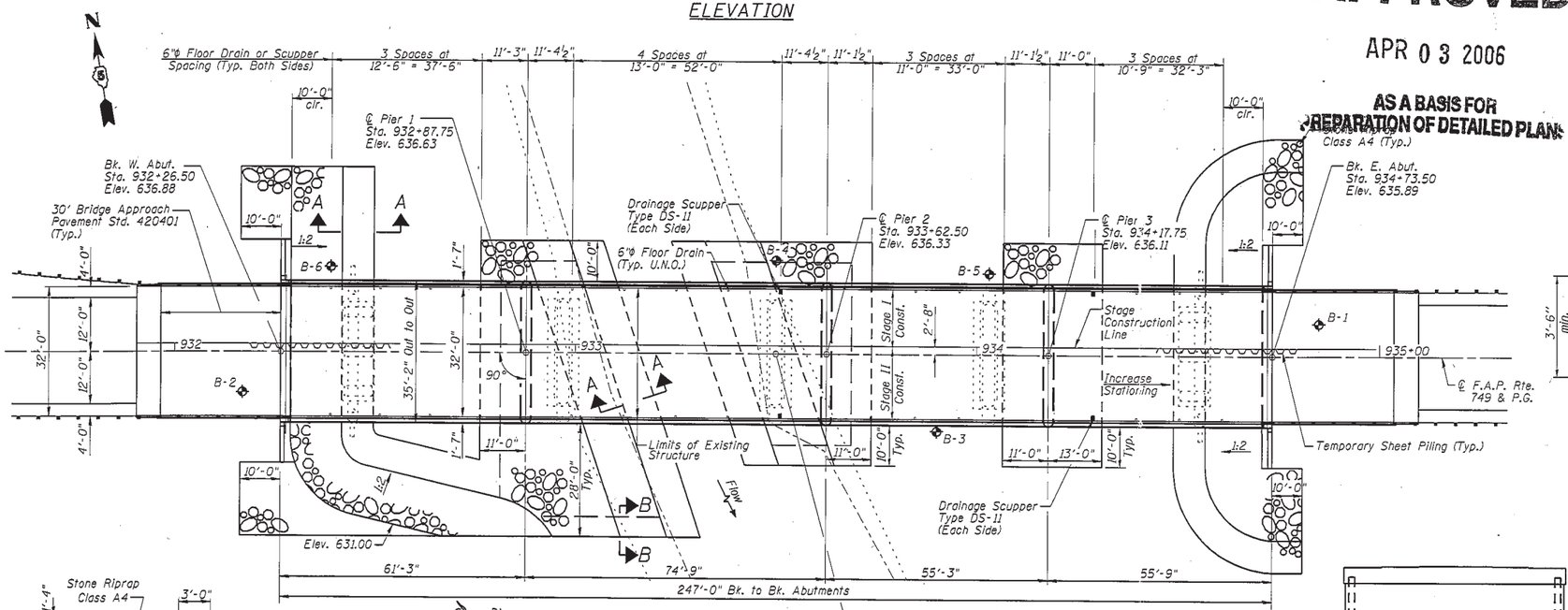


ELEVATION

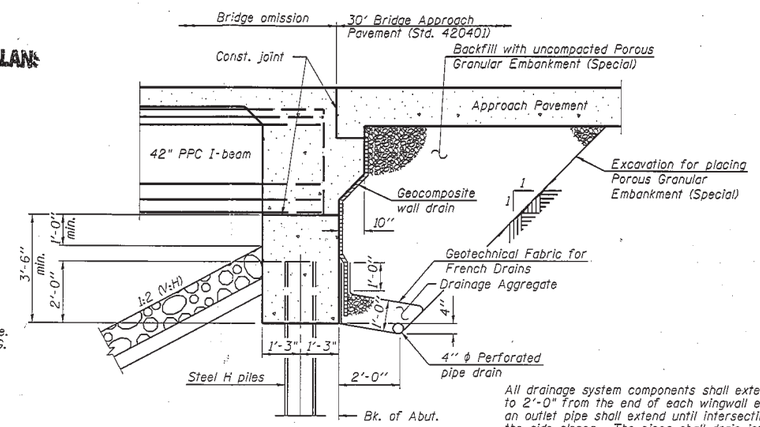


CROSS SECTION
(Looking East)

APPROVED
APR 03 2006
AS A BASIS FOR PREPARATION OF DETAILED PLANS

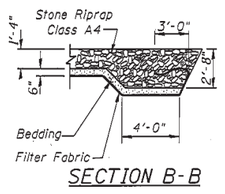


PLAN

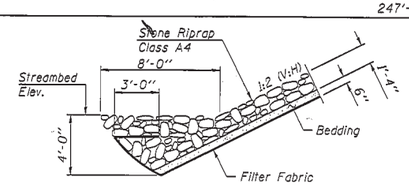


All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

SECTION THRU INTEGRAL ABUTMENT



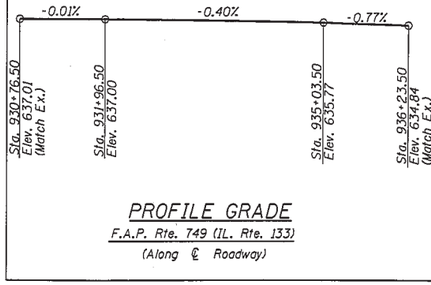
SECTION B-B



SECTION A-A

	*W. Abut.	Pier 1	Pier 2	Pier 3	*E. Abut.
Design Scour Elevation	628.90	611.14	610.14	618.70	627.90

*Bottom of Abutment Elevations

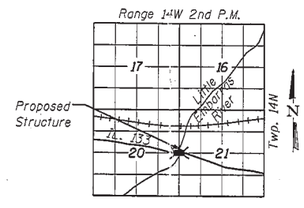


PROFILE GRADE
F.A.P. Rte. 749 (IL. Rte. 133)
(Along ℄ Roadway)

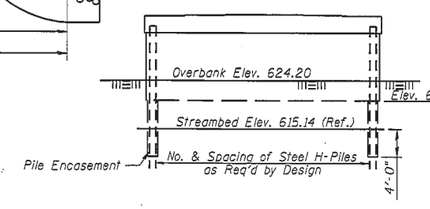
WATERWAY INFORMATION

Drainage Area = 75.95 sq.mi. Low Grade Elev. = 634.22 @ Sta. 938+99.94

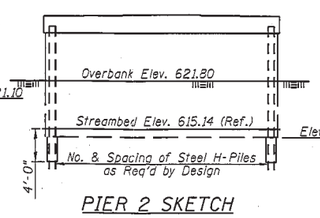
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E. Ft.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater Elev. - Ft. Exist.	Headwater Elev. - Ft. Prop.
	10	3469	1042	1033	628.2	0.5	0.5	628.7	628.7
Design	50	5046	1192	1299	629.1	0.8	0.7	629.9	629.8
Base	100	5687	1243	1388	629.4	0.9	0.8	630.3	630.2
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	7178	1347	1569	630.0	1.2	1.1	631.2	631.1



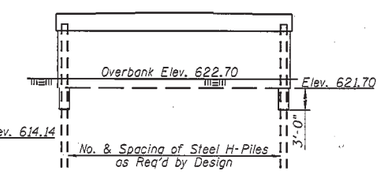
LOCATION SKETCH



PIER 1 SKETCH



PIER 2 SKETCH



PIER 3 SKETCH

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.051g
Site Coefficient (S) = 1.0

HIGHWAY CLASSIFICATION

F.A.P. Route 749	(IL. Route 133)
Class	Minor Arterial
D.H.V.	175
A.D.T.	1600 (2004); 2100 (2024)
A.D.T.T.	335 (2004); 439 (2024)
Design Speed	60 mph
Posted Speed	55 mph

DESIGN SPECIFICATIONS
2002 AASHTO

LOADING HS20-44
Allow 50#/sq. ft. for Future Wearing Surface.

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
PRECAST PRESTRESSED UNITS
f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f'_s = 270,000 psi (1/2" ϕ Low Relax. Strands)
f_{si} = 201,960 psi (1/2" ϕ Low Relax. Strands)

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN
IL. 133 OVER THE
LITTLE EMBARRAS RIVER
F.A.P. RTE. 749
SECTION (122BR)BR
COLES COUNTY
Sta. 933+50.00
STRUCTURE NUMBER 015-0074

DATE: 01/06
REVISED:
DRAWN BY: MLO
CHECKED BY: PBB