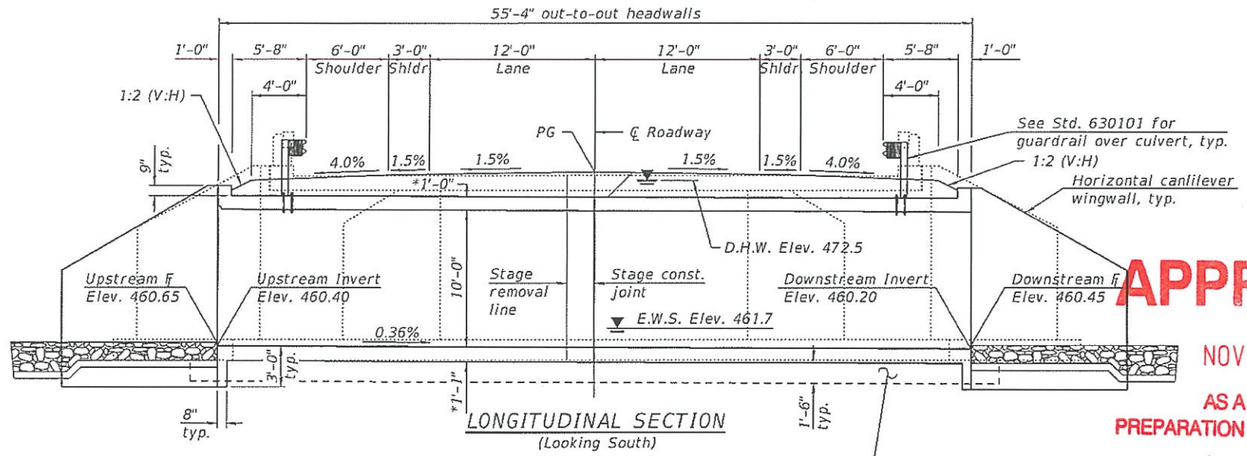
Benchmark: Chiseled square on Southeast corner of structure 026-0088, Sta. 174+43, 22' Lt., Elev. 472.67

Existing Structure: Structure number 026-0088 built in 1920 as State Bond Issue Route 2, Section 23C as a single span reinforced concrete slab bridge on closed abutments and spread footings; 21'-6" back-to-back of abutments and 22'-0" out-to-out. Widened in 1964 as SBI Route 2, Section 23BY-4 to 46'-4" out-to-out. The existing structure is to be removed and replaced with a cast-in-place double box culvert. Traffic will be maintained utilizing stage construction.

No Salvage

Precast alternate is not allowed.



LONGITUDINAL SECTION
(Looking South)

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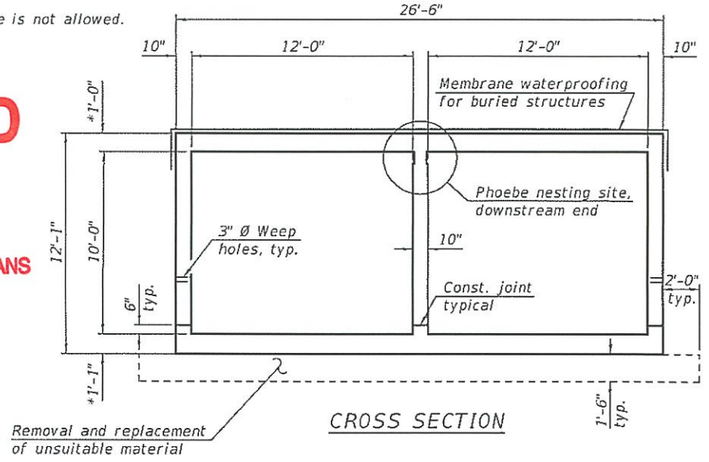
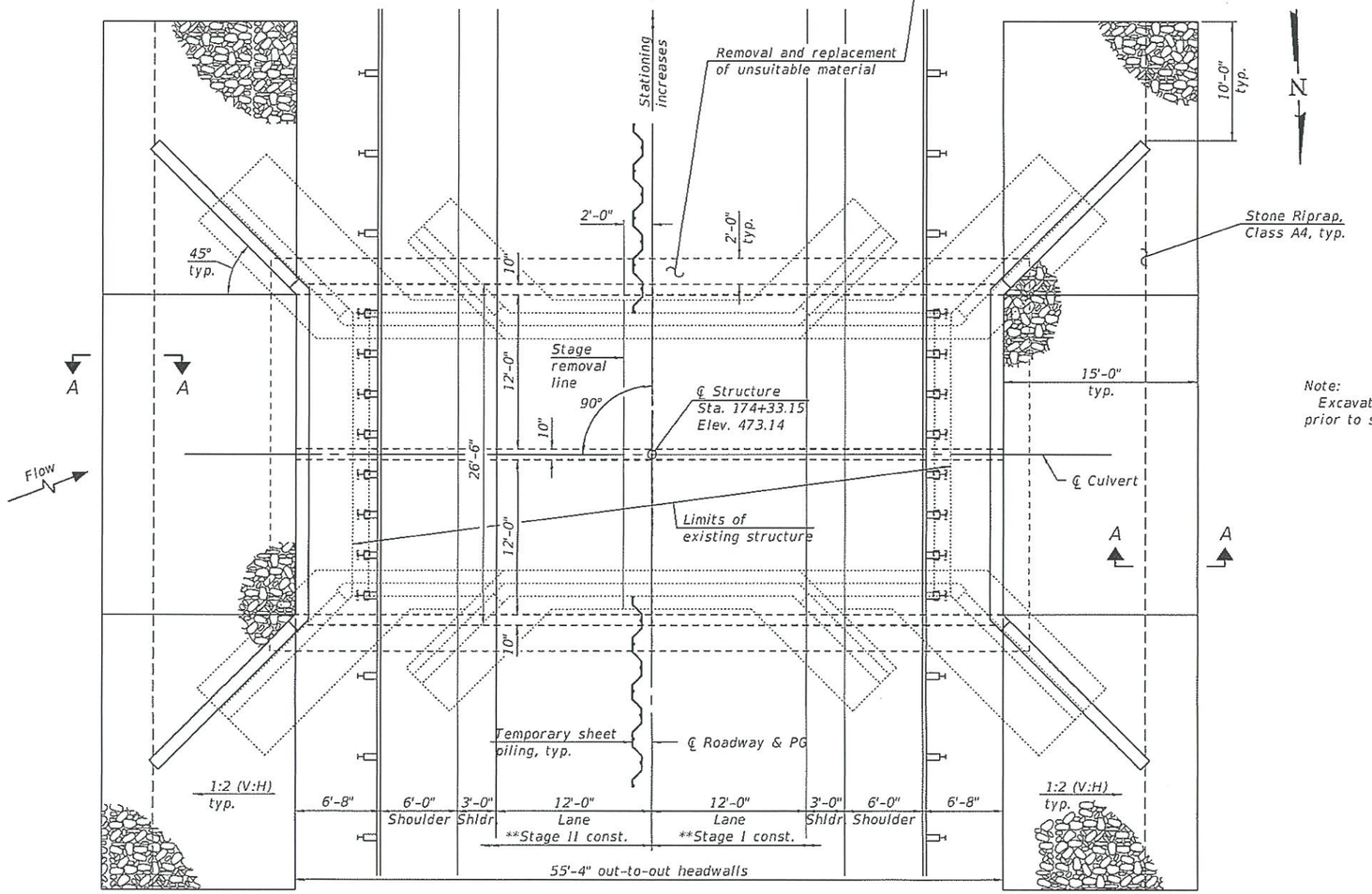
AS A BASIS FOR PREPARATION OF DETAILED PLANS



CROSS SECTION



PLAN

* Slab thickness may be refined during final design.

** See sheet 2 of 2 for stage construction detail.

Note:
Excavate behind the existing abutments prior to superstructure removal.

PROFILE GRADE
(Along ℄ roadway)

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

FIELD UNITS

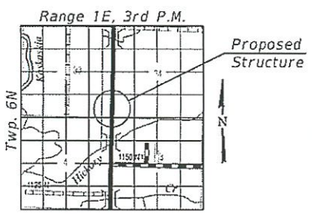
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

HIGHWAY CLASSIFICATION

F.A.P. Rte. 322 - U.S. Rte. 51
Functional Class: Other Principal Arterial
ADT: 3,900 (2019); 4,750 (2039)
ADTT: 800 (2019); 974 (2039)
DHV: 429 (2019); 523 (2039)
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 51:49

LOADING HL-93

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



LOCATION SKETCH

GENERAL PLAN & ELEVATION
U.S. ROUTE 51 OVER UNNAMED STREAM
F.A.P. ROUTE 322 - SEC. (23-3)B
FAYETTE COUNTY
STATION 174+33.15
STRUCTURE NO. 026-2022

DESIGNED -	NICHOLAS R. BARNETT
CHECKED -	HAREEM I. DAR
DRAWN -	MICHAEL B. MOSSMAN
CHECKED -	N.R.B. / H.I.D.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	(23-3)B	FAYETTE	—	—
		CONTRACT NO. 94519		
		ILLINOIS	FED. AID PROJECT	

SHEET 1 OF 2 SHEETS

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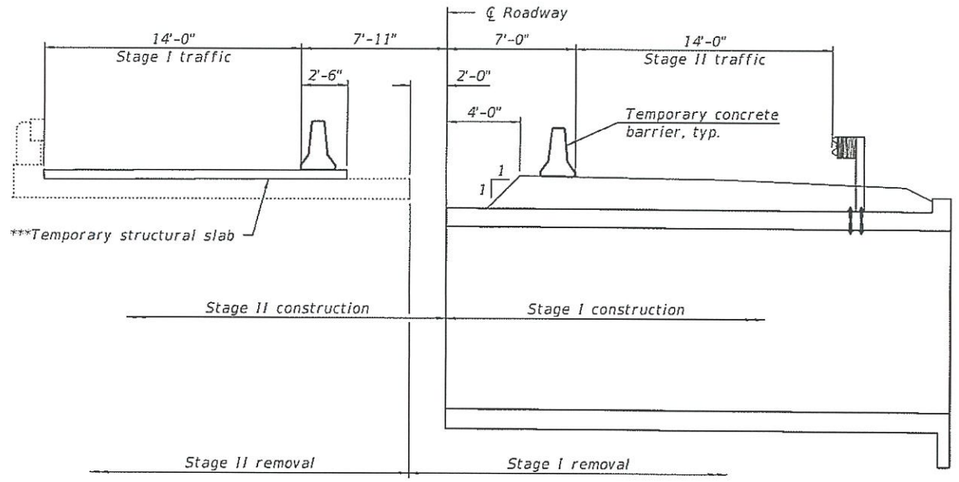
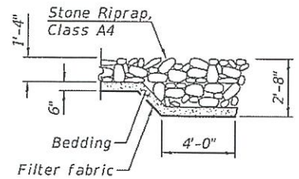


STAGE CONSTRUCTION
(Looking South)

*** Temporary structural slab shall be designed to carry 100% of the dead and live load of stage I traffic. Thickness to be determined during final design.



SECTION A-A

WATERWAY INFORMATION

Drainage Area = 1.83 Sq. Mi.
Existing Overtopping Elev. 472.81 ft. at Sta. 174+00
Proposed Overtopping Elev. 472.81 ft. at Sta. 174+00

Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	296	168	234	470.6	0.1	0.0	470.7	470.6
Design	50	461	172	234	472.5	0.2	0.0	472.7	472.5
Overtopping (Exist.)	60	483	172	-	472.6	0.2	-	472.8	-
Overtopping (Prop.)	70	499	-	234	472.8	-	0.1	-	472.9
Base	100	534	172	234	473.2	0.0	0.1	473.2	473.3
Scour Design Check	200	609	172	234	473.5	0.1	0.0	473.6	473.5
Max. Calc.	500	707	172	234	473.9	0.1	0.0	474.0	473.9

10-Year outlet velocity from existing structure = 1.7 fps
10-Year outlet velocity from proposed structure = 1.3 fps

APPROVED

NOV 0 1 2018

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

DETAILS
U.S. ROUTE 51 OVER UNNAMED STREAM
F.A.P. ROUTE 322 - SEC. (23-3)B
FAYETTE COUNTY
STATION 174+33.15
STRUCTURE NO. 026-2022

DESIGNED	-	NICHOLAS R. BARNETT
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DRAWN	-	MICHAEL B. MOSSMAN
CHECKED	-	N.R.B. / H.I.D.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	(23-3)B	FAYETTE		
		CONTRACT NO. 94519		
	ILLINOIS	FED. AID PROJECT		

MODEL: 0262022-94519-TSL-002
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