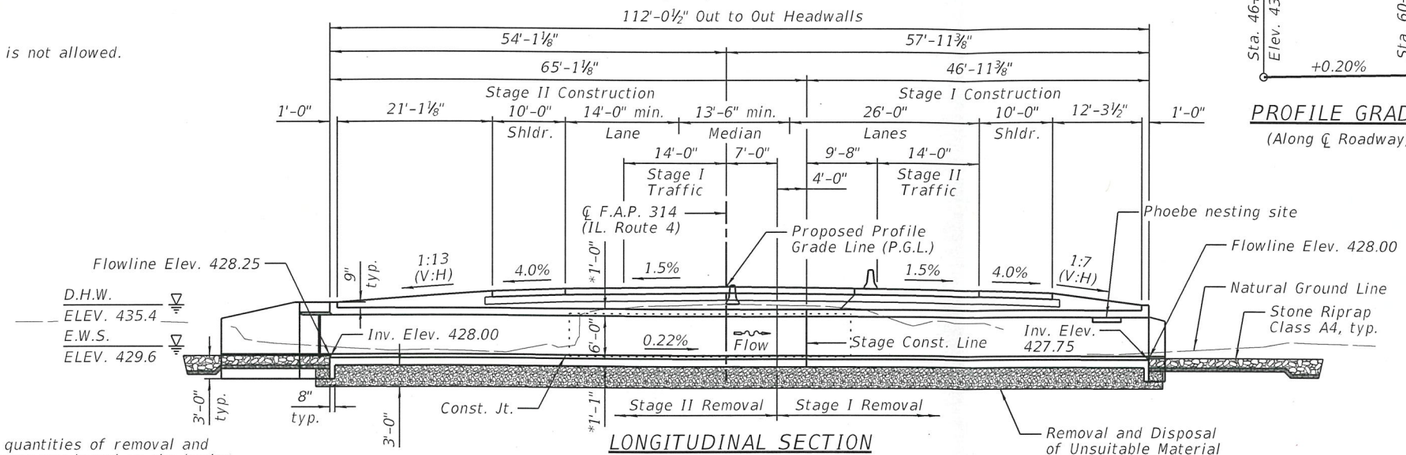
Benchmarks: LB 11, "▭" cut 1.25' north of south end of southeast wing wall of Str. No. 082-2448. Station 49+38.59, 21.38' RT, Elevation = 434.33.
TBM 3001, "X" cut on northeast side of top flange bolt of fire hydrant at southeast corner of Southern Dr. and IL Rte. 4. Station 60+83.55, 73.28' RT, Elevation = 442.41.

Existing Structure: Structure No. 082-2448 is a single barrel, 10' span by 6' rise cast-in-place box culvert. The culvert barrel is 42' long. The end sections of the culvert consist of horizontal cantilever wing walls parallel to the roadway. The depth of fill on the culvert is less than 2'. There is no skew. One lane of traffic will be maintained utilizing stage construction.

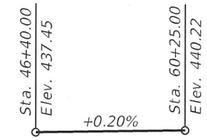
No Salvage.

Precast alternate is not allowed.



LONGITUDINAL SECTION

Looking North @ ℄ of Culvert
Dimensions @ Rt. L's to Roadway



PROFILE GRADE

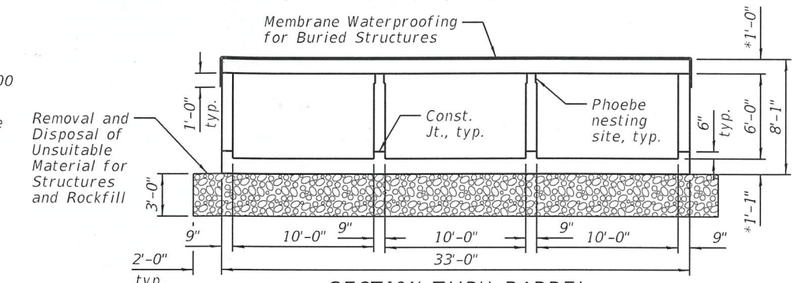
(Along ℄ Roadway)

WATERWAY INFORMATION

Drainage Area = 0.77 Sq. Mi.
Existing Overtopping Elev. 435.6 @ Sta. 50+00
Proposed Overtopping Elev. 437.4 @ Sta. 45+50

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.
Overtop (Ex)	5	385	49.2	180	434.6	1.3	0.0	435.9	434.6
	10	536	49.2	180	434.7	1.3	0.0	436.0	434.7
Design	50	914	49.2	180	435.4	0.9	0.3	436.3	435.7
Base	100	1,090	49.2	180	435.7	0.7	0.6	436.4	436.3
Overtop (Pr)	400	1,443	49.2	180	437.4	0.0	0.2	437.4	437.6
Max. Calc.	500	1,540	49.2	180	437.6	0.0	0.2	437.6	437.8

10 Yr. Outlet Velocity = 7.0 ft./sec. (Existing)
10 Yr. Outlet Velocity = 3.0 ft./sec. (Proposed)

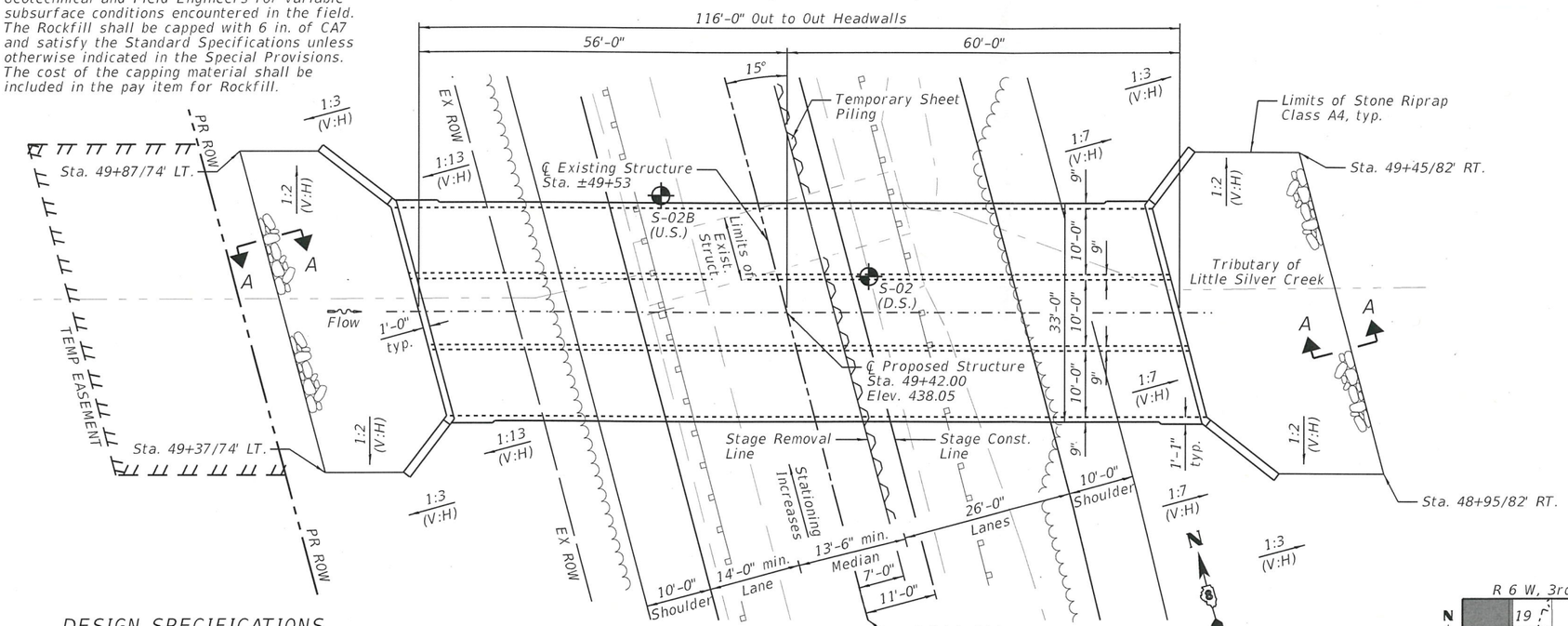


SECTION THRU BARREL

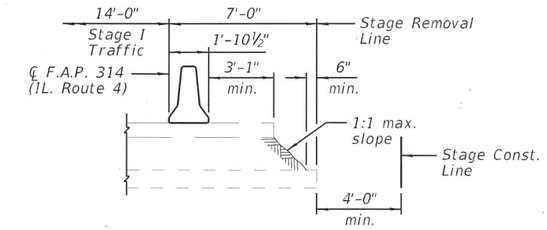
* Subject to refinement during final design.

Notes:

1) The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.
2) The Rockfill shall be capped with 6 in. of CA7 and satisfy the Standard Specifications unless otherwise indicated in the Special Provisions. The cost of the capping material shall be included in the pay item for Rockfill.

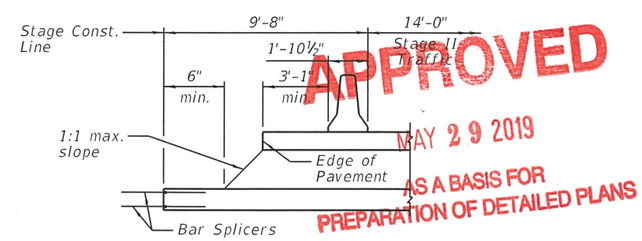


PLAN



STAGE I REMOVAL

Looking North
Dimensions @ Rt. L's to Roadway



APPROVED
MAY 29 2019
AS A BASIS FOR PREPARATION OF DETAILED PLANS

STAGE I CONSTRUCTION

Looking North
Dimensions @ Rt. L's to Roadway

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 8th Edition

DESIGN STRESSES

FIELD UNITS:

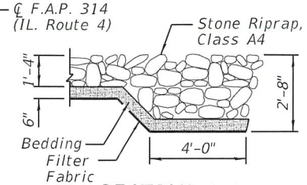
f'c = 3,500 psi (Cast-in-Place Concrete)
fy = 60,000 psi (Reinforcement)

LOADING HL-93

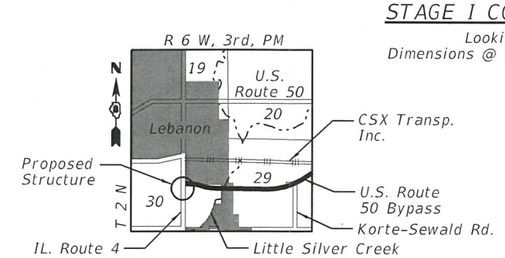
Allow 50#/sq. ft. for future wearing surface.

HIGHWAY CLASSIFICATION

F.A.P. Route 314 (IL. Route 4)
Functional Class: Other Principal Arterial
A.D.T.: 9,700 (2013), 12,550 (2039)
D.H.V.: 1,255 (2039)
A.D.T.T.: 2,231 (2013), 2,887 (2039)
Design Speed: 70 M.P.H.
Posted Speed: 55 M.P.H.
Two Way Traffic
Directional Distribution: 50/50



SECTION A-A



LOCATION SKETCH

IL ROUTE 4 OVER
TRIBUTARY OF LITTLE
SILVER CREEK
F.A.P. 314 - SECTION 30R-1
ST. CLAIR COUNTY
STATION 49+42.00
STRUCTURE NO. 082-2037

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

	DESIGNED - JCZ	REVISED
	CHECKED - JML	REVISED
	DRAWN - DJM	REVISED
DATE - 05/22/19	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 082-2037
SHEET NO. 1 OF 1 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
314	30R-1	ST. CLAIR	1	1

CONTRACT NO. -----
ILLINOIS FED. AID PROJECT