

Benchmark: Chiseled Square on Top N.E. Headwall of 4'x3' Box Culvert, 500'+/- South of Str. # 059-0030. Station 2134+29.69; Offset = 15.39' Lt.; Elev. 627.95

Existing Structure: Single-Span, Concrete Slab Structure with Closed Abutments. Overall Length 30' Bk.-Bk. Abuts. with a Roadway Width of 20.2 Ft. Roadway to be Closed during Construction.

No Salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
SBI 4	F(B-3)	MACOUPIN	27	17	6 SHEETS
ILLINOIS		REG. AND PROJECT			

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M 31, M 42 or M 53 Grade 60.

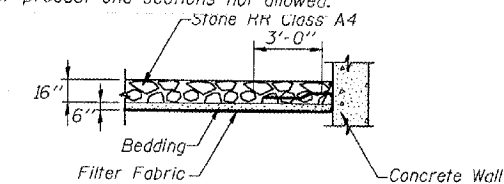
All Construction joints shall be bonded.

For backfilling and embankment see Standard Specifications.

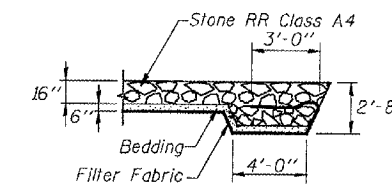
Layout of Riprap may be varied in the field to suit ground conditions as directed by the Engineer.

It shall be the responsibility of the Contractor to divert the stream flow during construction in order to keep the construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer and the cost shall be incidental to "Precast Concrete Box Culvert 8'x6'".

This box culvert has a design fill height of 3.0 feet. The Precast Concrete Box Culvert sections shall conform to the requirements of AASHTO M 259. Substitution of precast end sections not allowed.



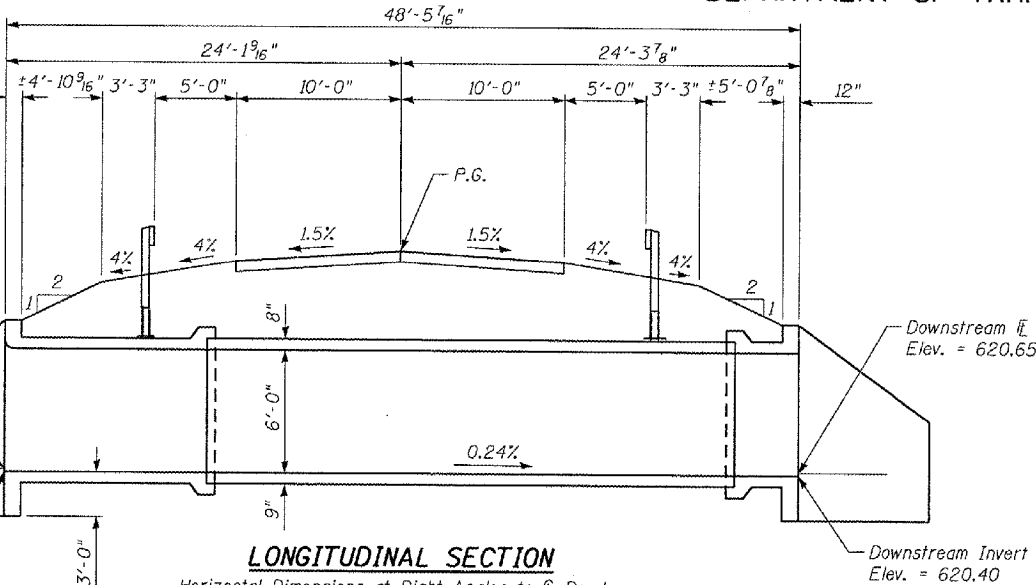
STONE RIPRAP ANCHOR DETAIL
(Typical where riprap abuts concrete)



STONE RIPRAP ANCHOR DETAIL
(Typical where riprap abuts soil)

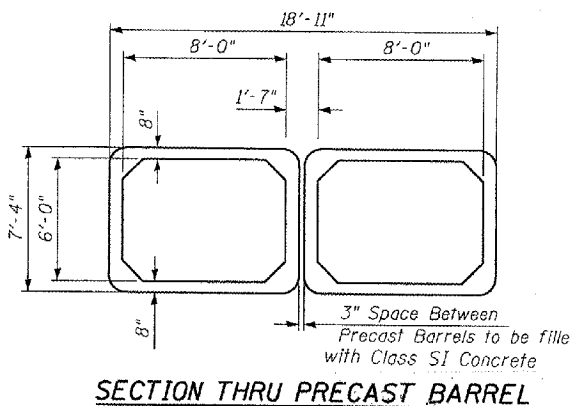
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Precast Concrete Box Culvert 8'x6'	Foot	84
Name Plates	Each	1
Box Culvert End Sections	Each	2
Stone Riprap, Class A4	Sq. Yd.	640
Filter Fabric	Sq. Yd.	640
Granular Culvert Backfill	Cu. Yd.	250



LONGITUDINAL SECTION

Horizontal Dimensions at Right Angles to C Roadway



SECTION THRU PRECAST BARREL

STATION 2126+25.00
BUILT 200 BY
STATE OF ILLINOIS
SBI RT. 4 SECTION F(B-3)

LOADING HS20

STR. NO. 059-2503

NAME PLATE

See Std. 515001

HIGHWAY CLASSIFICATION

SBI Rte. 4 - Old IL 4
Functional Class: Local Road
ADT: 50 (2003); 75 (2025)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.

LOADING HS20-44

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

DESIGN SPECIFICATIONS

1996 AASHTO with 1997 thru 2002 Interims

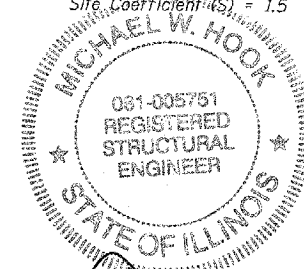
DESIGN STRESSES

FIELD UNITS

f_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

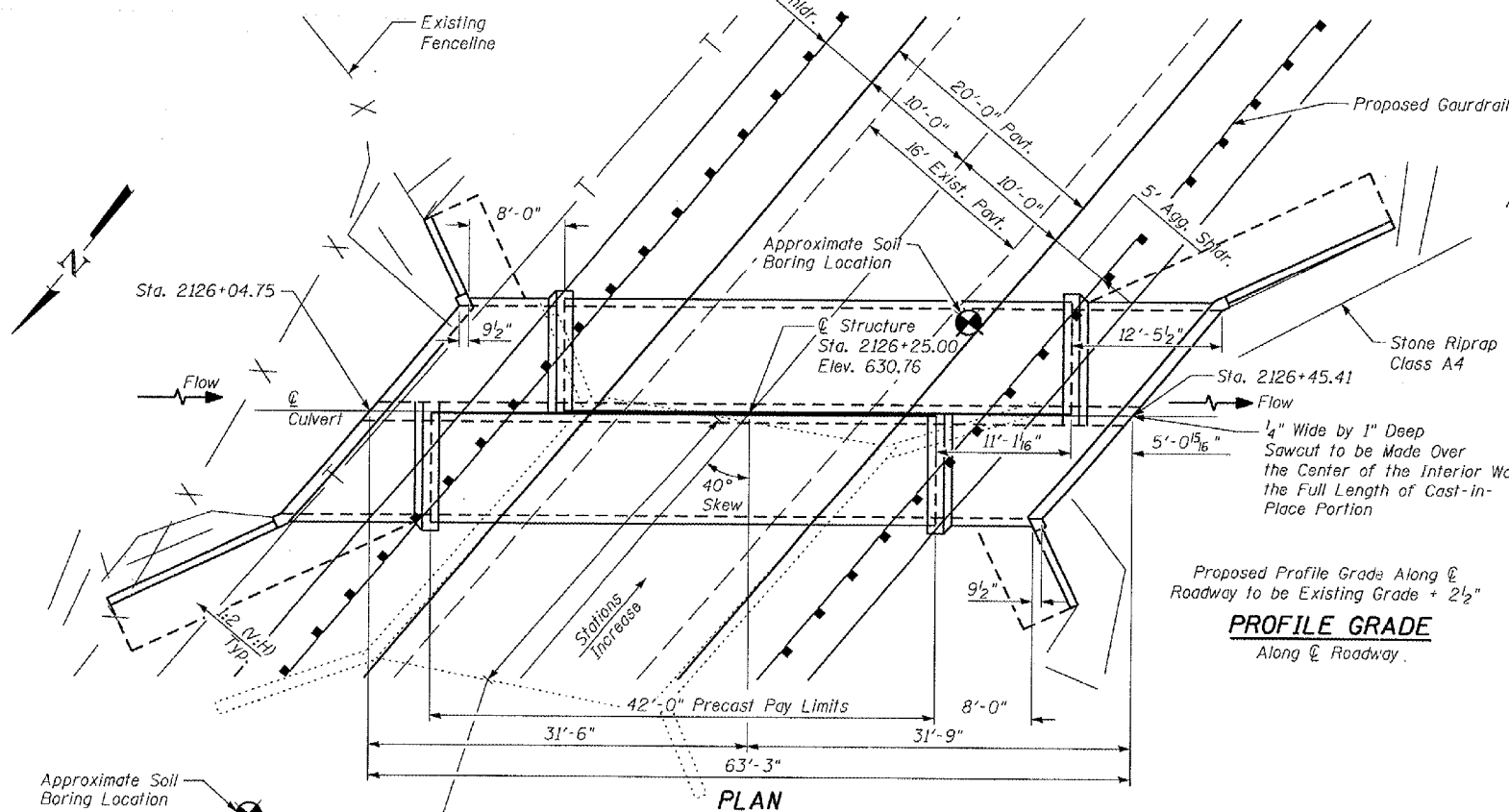
SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04
Site Coefficient (S) = 1.5



DATE: JAN 30, 2007
EXPIRES: 11/30/2008

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing structure.



PLAN

WATERWAY INFORMATION

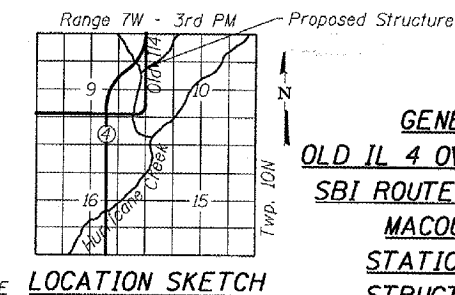
Drainage Area = 0.57 sq. mi. Low Grade Elev. 630.57 @ Sta. 2126+25.00

Flood Yr.	Freq.	Q	Opening	Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
		C.F.S.	Exist.	Prop.	Exist.	Exist.	Prop.
Design	10	199	70	96	626.34	0	625.97
Design	50	306	94	96	627.64	0	627.19
Design	100	351	102	96	627.98	0	627.54
Base	500	458	120	96	628.60	0	628.25
Overtopping	500	458	120	96	628.60	0	628.25

DESIGNED N. KAMPMAN
CHECKED M. HOOK
DRAWN N. KAMPMAN
CHECKED M. HOOK

EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH THE REQUIREMENTS OF THE 2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND THE 2003 EDITION OF THE ILLINOIS PRESTRESSED CONCRETE MANUAL.



LOCATION SKETCH

GENERAL PLAN
OLD IL 4 OVER HURRICANE CREEK
SBI ROUTE 4 SECTION F(B-3)
MACOUPIN COUNTY
STATION 2126+25.00
STRUCTURE 059-2503