

PLAN

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LOADING HS-15 (EXIST.)

DESIGN STRESSES (PROP.)

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)

DESIGN SPECIFICATIONS

2012 AASHTO LRFD with all applicable Interims.

LOADING HL-93

50#/Sq. Ft. included in dead load for future wearing surface.

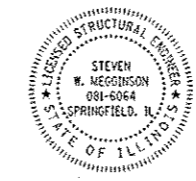
WATERWAY INFORMATION

Drainage Area = 7.26 Sq. Mi.		Existing Low Grade Elev. 700.3 @ Sta. 229+00		Proposed Low Grade Elev. 700.3 @ Sta. 229+00		
Flood	Freq. Yr.	0 C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	10	1430	160	694.26	0.05	694.31
Base	20	1770	190	295.03	0.12	695.15
Max. Calc.	100	2590	230	696.44	1.14	697.58
	500	3470	260	697.33	1.55	698.88

10 Year Velocity through Existing Bridge = 8.9 Tps

I certify that to the best of my knowledge, information and belief, this culvert 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 requirements of the current "AASHTO LRFD Specifications."

Steven W. Megginson 04/08/2013
 ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Ton			650
Filter Fabric	Sq. Yd.			640
Concrete Box Culverts	Cu. Yd.		3.7	3.7
Reinforcement Bars, Epoxy Coated	Pound		1,160	1,160
Permanent Steel Sheet Piling	Sq. Ft.	3,565		3,565
Porous Granular Embankment, Special	Ton		85	85
Epoxy Crack Injection	Foot			100
Structural Repair of Concrete < 5"	Sq. Ft.			200
Permanent Survey Marker	Each			1
Removal of Existing Structures, Special	Each			1

FILE NAME = 100001-shs-culvert.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
303 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761	PLOT SCALE =	DRAWN - D.A.B.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L3/PK/128 CORP. 184.000348	PLOT DATE = 4/8/2013	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
STARK COUNTY HIGHWAY DEPARTMENT

CULVERT DETAILS
STRUCTURE NO. 088-3203
 SHEET NO. 1 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3	10-00163-00-BR	STARK	29	6
SOUTH VALLEY ROAD			CONTRACT NO. 89621	
ILLINOIS FED. AID PROJECT				