Benchmark: RR Spike in N. Face of first power pole west of culvert under Stuenkel Rd., east of I-57, south side of Stuenkel, Elev. = 760.034

Existing Structure: Existing SN 099-6751, originally built in 1940 is a double 12.5'X4' R.C. box culvert with a culvert length of 35'. Existing plan data not available. Stuenkel Road is currently closed with a detour.

Salvage: None.

STATE OF ILLINOIS
SPIROS PANTAZIS
081-006448
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Signed _____
Spiros Pantazis, S.E., IL. Lic. No. 081-006448
Expires 11-30-2014
Date 1/3/14

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

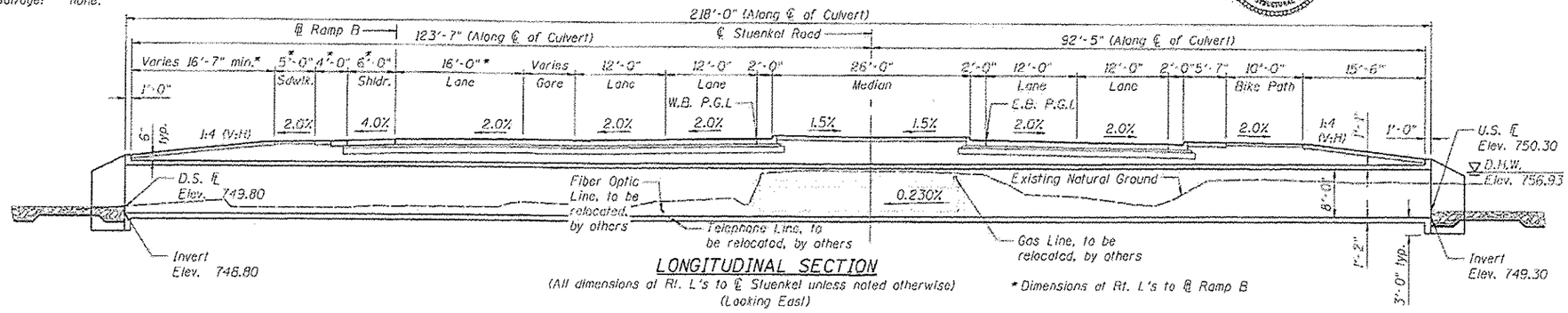
LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 50,000 psi (Structural Steel)
fy = 60,000 psi (Reinforcement)



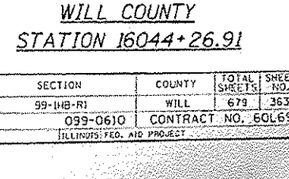
LONGITUDINAL SECTION

(All dimensions at Rt. L's to ℄ Stuenkel unless noted otherwise)
(Looking East)

* Dimensions at Rt. L's to ℄ Ramp B

PROFILE GRADE LINE

(Along Ramp B)



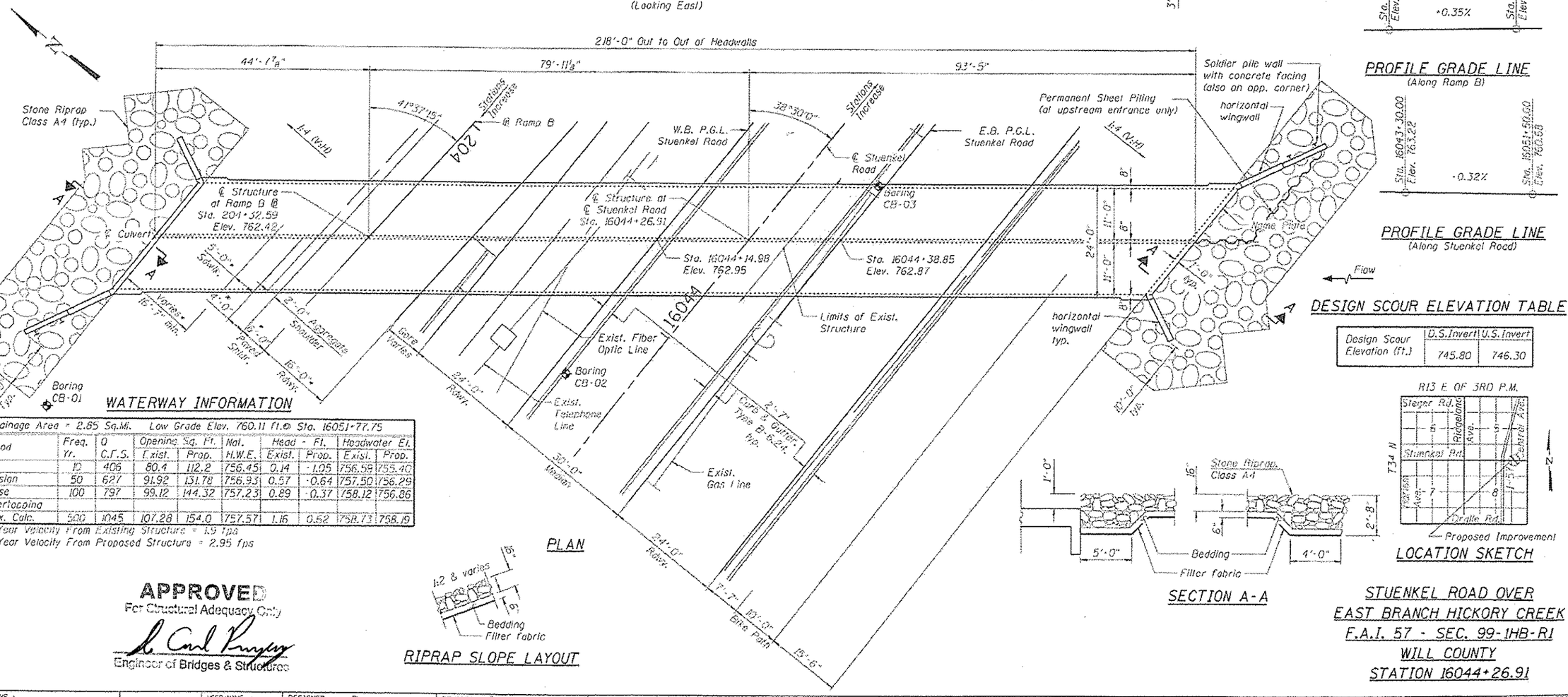
PROFILE GRADE LINE

(Along Stuenkel Road)

Flow

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	U.S. Invert
	745.80	746.30



PLAN

WATERWAY INFORMATION

Drainage Area = 2.85 Sq.Mi. Low Grade Elev. 760.11 ft.℄ Sta. 16051+77.75

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.
	10	406	80.4	112.2	756.45	0.14	-1.05	756.59	755.40
Design	50	627	91.92	131.78	756.93	0.57	-0.64	757.50	756.29
Base	100	797	99.12	144.32	757.23	0.89	-0.37	758.12	756.86
Overtopping									
Max. Calc.	500	1045	107.28	154.0	757.571	1.16	0.52	758.73	758.19

10-Year Velocity From Existing Structure = 1.9 fps
10-Year Velocity From Proposed Structure = 2.95 fps

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

RIPRAP SLOPE LAYOUT

SECTION A-A

LOCATION SKETCH

STUENKEL ROAD OVER EAST BRANCH HICKORY CREEK

F.A.I. 57 - SEC. 99-1HB-R1
WILL COUNTY
STATION 16044+26.91

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - RH	REVISED
	PLOT SCALE =	DRAWN - DC/RH	REVISED
	PLOT DATE =	CHECKED - TCC	REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 099-0610
SHEET NO. SB-1 OF SB-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	353
	099-0610	CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

4/3/56 PM
4/2014