

Benchmark:  
 BM 2: Railroad spike in the south face of powerpole at the northeast corner  
 of Charles J. Miller Road and McHenry Avenue. Sta. 580+50(±), 40' Lt. (±) Elev. 745.83

BM 3: Railroad spike in the west face of powerpole at the east side of  
 River Road and the centerline of Charles J. Miller Road extended. Sta. 606+30(±), 30' R(±) Elev. 748.38

Existing Structure:  
 S.N. 056-3149 was constructed in 1989 by McHenry County. The existing structure is 5 spans, concrete deck on continuous steel superstructure on concrete hammerhead piers and stub abutments supported by steel H-piles. Back to Back Abutments is 658'-6 3/4". Two way traffic to be maintained on existing structure until newstructure is placed in service. Structure will then be converted to two lanes, EB. Deck joint replacements-structure to remain in service.

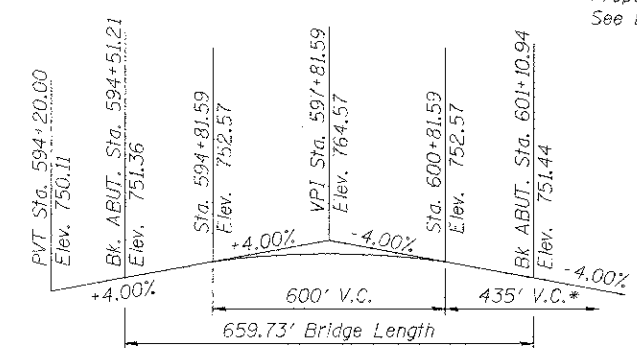
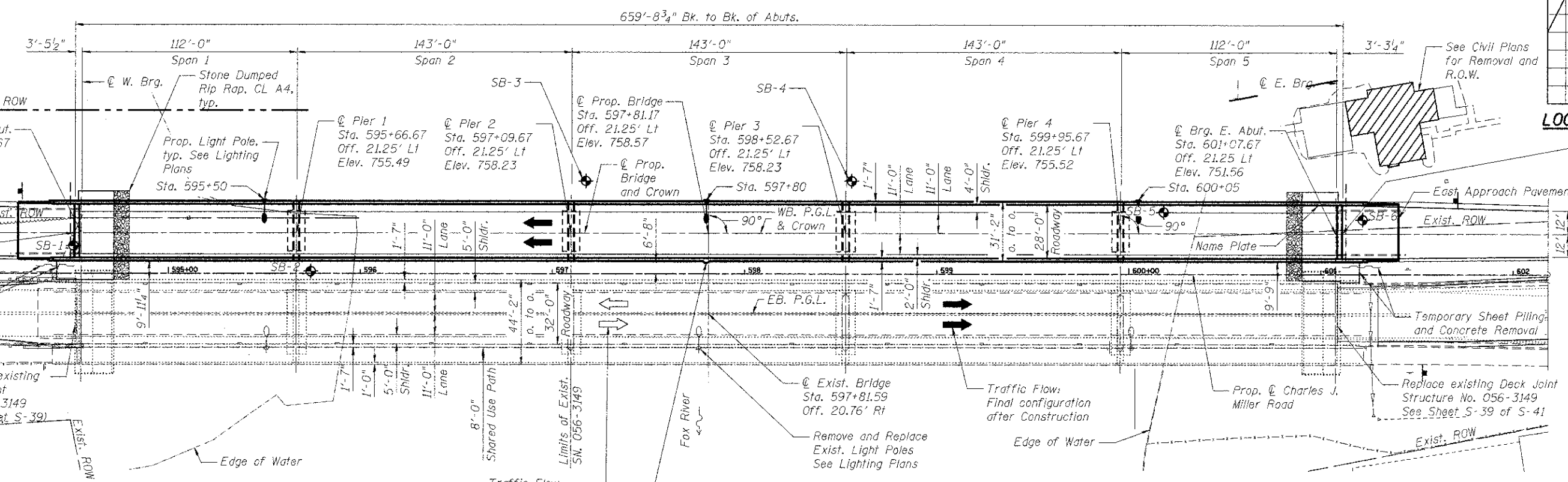
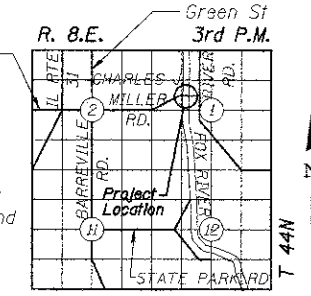
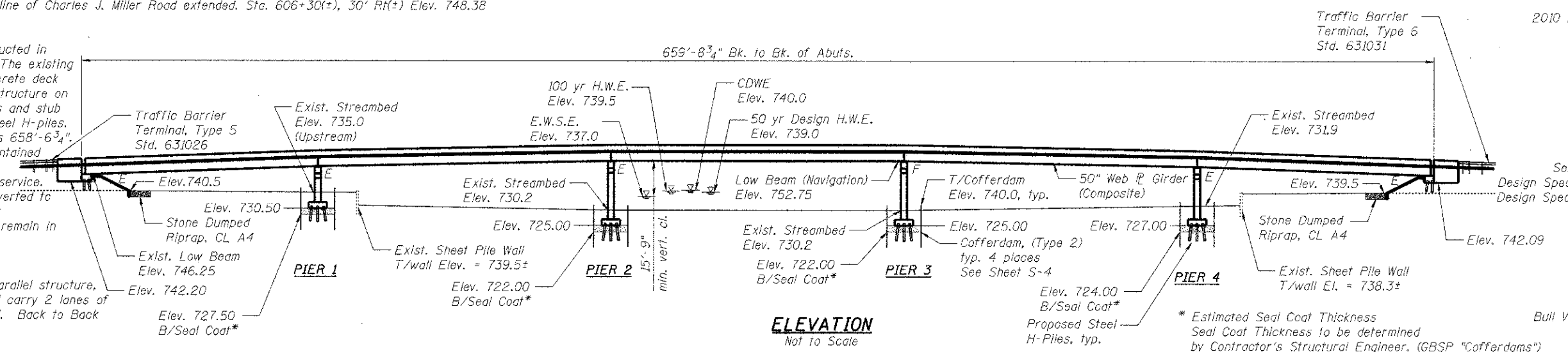
Proposed Structure:  
 S.N. 056-3190 will be a parallel structure, of similar construction and carry 2 lanes of WB traffic when completed. Back to Back Abutments is 659' - 8 3/4".

**LOADING HL-93**  
 Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
 2010 AASHTO LRFD Bridge Design Specifications

**DESIGN STRESSES**  
**FIELD UNITS**  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)  
 fy = 50,000 psi (M270 Grade 50)

**SEISMIC DATA**  
 Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (S<sub>1</sub>) = 0.078  
 Design Spectral Acceleration at 0.2 sec. (S<sub>0.2</sub>) = 0.132  
 Soil Site Class = D



To the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. This design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".

Structural Engineer  
 HR Green, Inc. Expires 11/30/2012



**GENERAL PLAN AND ELEVATION**  
**WB. CHARLES J. MILLER ROAD**  
**OVER FOX RIVER**  
**PUBLIC WATERS**  
**SECTION NO. 09-00372-00-PW**  
**McHENRY COUNTY**  
**STA. 597+81.17**  
**STRUCTURE NO. 056-3190 (PROPOSED)**  
**STRUCTURE NO. 056-3149 (EXISTING)**

DESIGNED	SSM
CHECKED	RGD
DRAWN	WJH
CHECKED	RGD

SHEET NO. S-01	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	3860	09-00372-00-PW	McHENRY	252	124
S-41 SHEETS	CONTRACT NO.			63633	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					