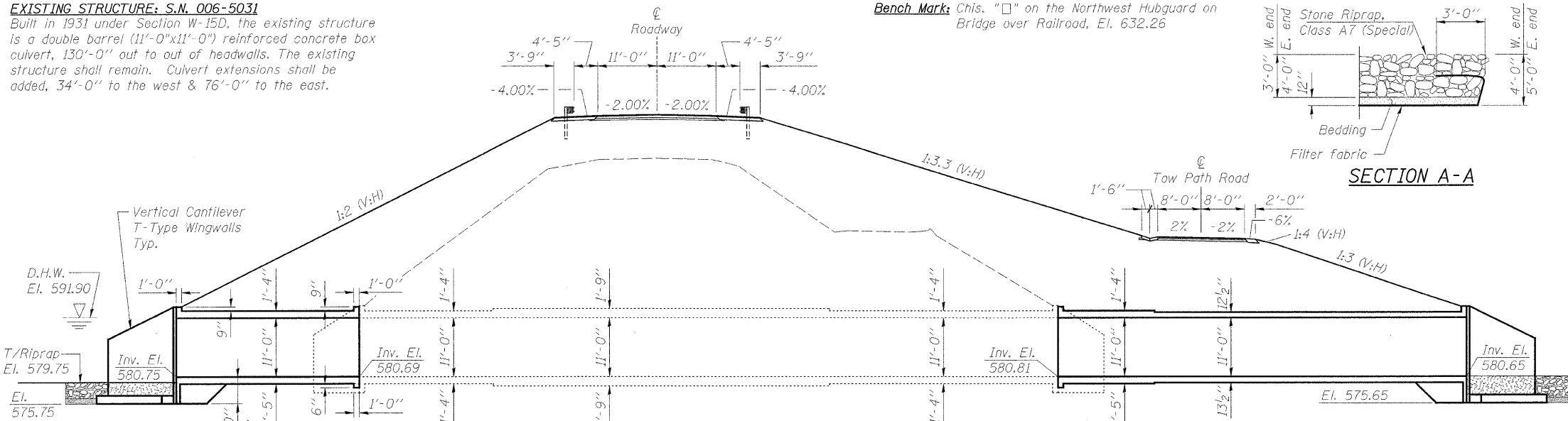


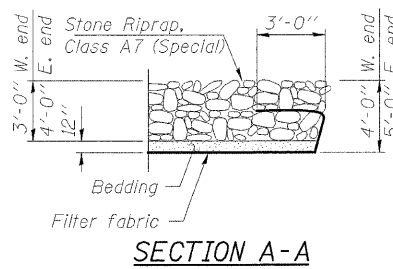
EXISTING STRUCTURE: S.N. 006-5031

Built in 1931 under Section W-15D, the existing structure is a double barrel (11'-0"x11'-0") reinforced concrete box culvert, 130'-0" out to out of headwalls. The existing structure shall remain. Culvert extensions shall be added, 34'-0" to the west & 76'-0" to the east.

Bench Mark: Chis. "□" on the Northwest Hubguard on Bridge over Railroad, El. 632.26



ELEVATION VIEW



BILL OF MATERIAL - CULVERT

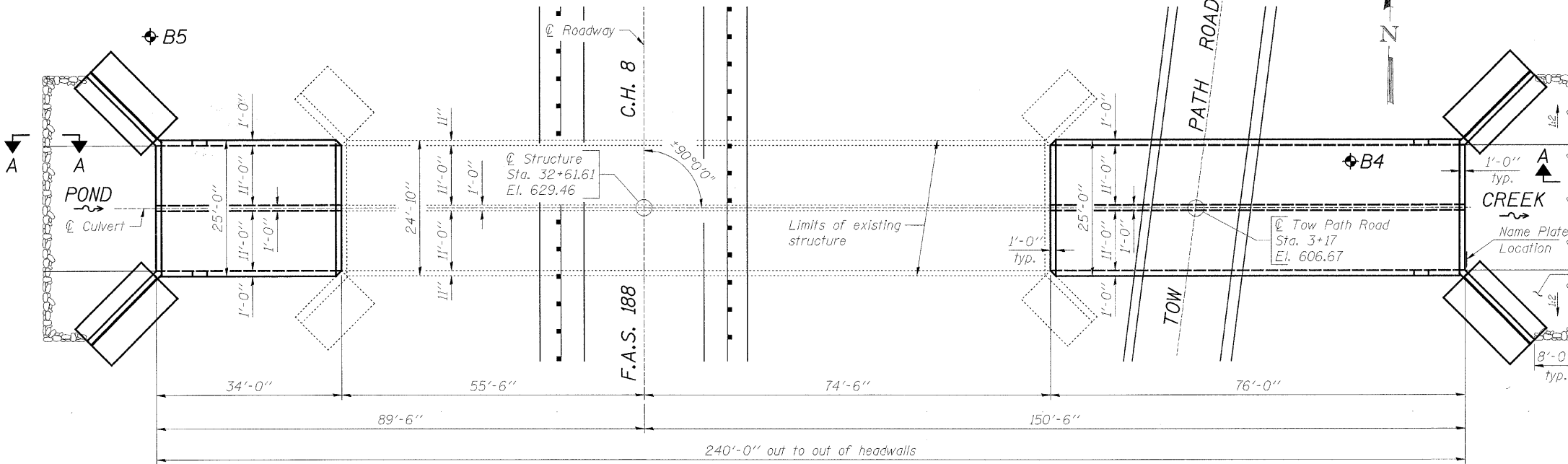
ITEM	UNIT	SUB	SUPER	TOTAL
Porous Granular Embankment	Ton	100		100
Reinforcement Bars	Pound	90,100		90,100
Name Plates	Each	1		1
Expansion Bolts 3/4 Inch	Each	94		94
Concrete Box Culverts	Cu. Yd.	494.4		494.4
Epoxy Crack Injection	Foot	87		87
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq. Ft.	123		123
Stone Riprap, Class A7 (Special)	Ton	344		344
Breaker-Run Crushed Stone	Ton	409		409

*See Special Provisions

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 Certified proof load of expansion bolts shall be 3,500 pounds.
 Epoxy Crack Injection and Structural Repair of Concrete shall be performed at various locations in the existing culvert barrels as marked out by Field Engineer.
 The quantities for Epoxy Crack Injection and Structural Repair of Concrete were determined from the following approximations made on a field visit:

- Epoxy Crack Injection:
- South Barrel: South Wall = 20 ft. North Wall = 21 ft. Top Slab = 6 ft.
 - North Barrel: South Wall = 19 ft. North Wall = 14 ft. Top Slab = 7 ft.
- Structural Repair of Concrete:
- South Barrel: South Wall = 0 North Wall = 11 sq. ft. Top Slab = 51 sq. ft.
 - North Barrel: South Wall = 29 sq. ft. North Wall = 1 sq. ft. Top Slab = 31 sq. ft.



PLAN VIEW

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	575.75	575.65

DESIGN STRESSES

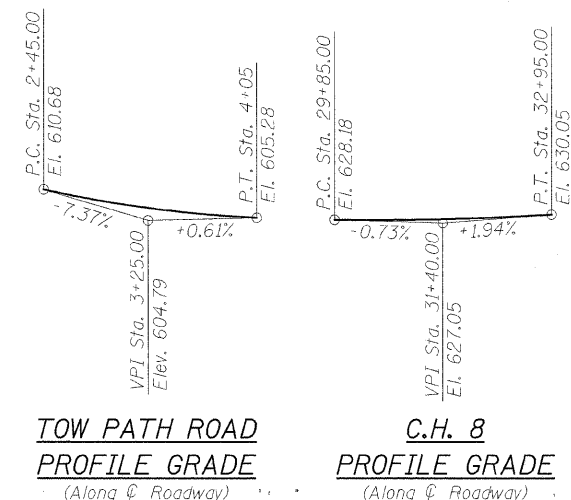
FIELD UNITS
 $f'_c = 3,500$ psi (Exist. & Prop.)
 $f_y = 60,000$ psi (Proposed Reinforcement)
 $f_y = 33,000$ psi (Existing Reinforcement)
 Net Allowable Bearing Pressure = 6,000 psf

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
LOADING HS20
 Allow 50#/sq. ft. for future wearing surface.

WATERWAY INFORMATION

Flood	Freq. Yr.	Q	Opening Sq. Ft.		*Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	20	5,300	242	242	593.33	10.24	10.24	603.57	603.57
Base	100	8,120	242	242	595.43	11.07	11.07	606.50	606.50
Overtopping									



TOW PATH ROAD PROFILE GRADE
 (Along & Roadway)

C.H. 8 PROFILE GRADE
 (Along & Roadway)

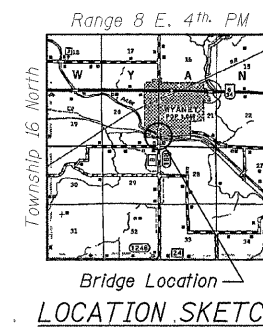
INDEX OF SHEETS

- 1A General Plan and Elevation
- 2A West Culvert Extension Details
- 3A East Culvert Extension Details
- 4A-5A Boring Logs
- 6A Existing Culvert Plans



Brian K. Converse
 DATE: March 26, 2010
 EXPIRES 11/30/10

"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 Complies With Requirements Of The Current 'AASHTO Standard Specifications For Highway Bridges.'"



BRIDGE LOCATION LOCATION SKETCH

POND CREEK
 EXTENSION BUILT 2010 BY
 BUREAU COUNTY
 SECTION 05-00195-00-BR
 FAS RT. 188 STA. 32+61.61
 STR. NO. 006-5031 LOADING HS20

NAME PLATE LETTERING
 Refer To Std. 515001-03

GENERAL PLAN AND ELEVATION
C.H. 8 OVER POND CREEK
F.A.S. RTE. 188 - SEC. 05-00195-00-BR
BUREAU COUNTY
STATION 32+62
S.N. 006-5031

WHA JOB NUMBER: 1066D05

Designed By: M. A. Small Date: 4/09
 Checked By: B. K. Converse Date: 4/09
 Drawn By: F. D. Lachat Date: 1/10

WILLET, HOFMANN & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 Land Surveying - Transportation - Structural
 Environmental - Architecture
 809 East Second Street Dixon, Illinois 61021
 Phone: 815-294-3351 Fax: 815-294-3355
 Design Firm #154-000916 www.willetthofmann.com

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
188	05-00195-00-BR	BUREAU	127	61

CONTRACT NO. 87380
 FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-0188(118)