

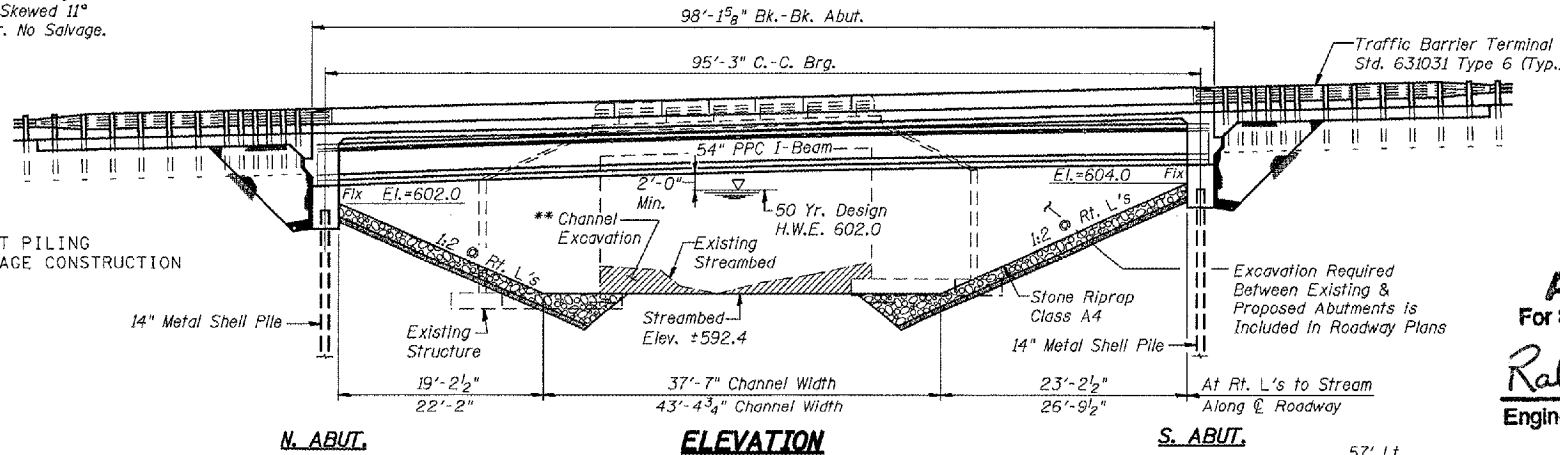
**EXISTING STRUCTURE:** S.N. 055-0018  
 A Single Span (1 @ 32'-6") Reinforced Concrete T-Beam Bridge on Closed Concrete Abutments, 29'-7" F.-F. of Abut. Skewed 11° Left Ahead. Sta. 454+15 To be Removed by Contractor. No Salvage.  
 Traffic shall be Maintained by Stage Construction.

**BENCH MARK:** Chiseled "□" on Northeast Wingwall of S.N. 055-0018 Elev. 609.74

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 310	(41A)BR-1	MCDONOUGH	66	18
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT	CONTRACT # 28677	

**INDEX OF STRUCTURAL SHEETS**

- 1 GENERAL PLAN & ELEVATION
- 2 CONSTRUCTION STAGING & TEMP. SHEET PILING
- 3 TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
- 4 TOP OF SLAB ELEVATIONS
- 5 SUPERSTRUCTURE
- 6 FRAMING & DIAPHRAGM DETAILS
- 7 PARAPET DETAILS
- 8-9 PRESTRESSED BEAM DETAILS
- 10 NORTH ABUTMENT
- 11 SOUTH ABUTMENT
- 12 BAR SPLICER (COUPLER DETAILS)
- 13 PILING DETAILS
- 14 BORING LOGS



**APPROVED**  
 For Structural Adequacy Only  
*Ralph Anderson*  
 Engineer of Bridges & Structures (P.E.)

**BILL OF MATERIAL - BRIDGE**

ITEM	UNIT	SUB	SUPER	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.	277	---	277
Stone Riprap, Class A4	Sq. Yd.	832	---	832
Filter Fabric	Sq. Yd.	832	---	832
Protective Coat	Sq. Yd.	---	451	451
Removal of Existing Structures	Each	---	1	1
Structure Excavation	Cu. Yd.	412	---	412
Concrete Structures	Cu. Yd.	43.9	---	43.9
Concrete Superstructure	Cu. Yd.	---	167.4	167.4
Bridge Deck Grooving	Sq. Yd.	---	349	349
Furnishing & Erecting Precast, Prestressed Concrete I-Beams, 54"	Foot	---	673.8	673.8
Reinforcement Bars, Epoxy Coated	Pound	7,400	26,600	34,000
Furnishing Metal Shell Piles, 14"x4"	Foot	908	---	908
Driving Piles	Foot	908	---	908
Test Pile, Metal Shells	Each	1	---	1
Temporary Sheet Piling	Sq. Ft.	2774	---	2774
Name Plates	Each	---	1	1
Bar Splacers	Each	20	367	387
Geocomposite Wall Drain	Sq. Yd.	41	---	41
Pipe Underdrains for Structures 4"	Foot	198	---	198

**GENERAL NOTES**

- Layout of Slope Protection System may be varied in the field to suit ground conditions as directed by the Engineer.
- Reinforcement bars shall conform to the requirements of AASHTO M322 Grade 60.
- The Contractor shall drive Test Piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of Piles.
- Excavation behind existing abutment wall shall be done before removing the existing Superstructure. The Contractor shall Sawcut the existing Abutment at the Stage Removal Line before Stage 1 Removal.
- \* Cost Included with Pipe Underdrains for Structures.
- \*\* Channel Excavation Included in Roadway Plans.
- \*\*\* Quantity is for the Deck, Top & Inside Face of Parapet Only.

STATION 454+20  
 BUILT 200. BY  
 STATE OF ILLINOIS  
 F.A.P. RT. 310 SEC (41A)BR-1  
 LOADING HS20  
 STR. NO. 055-0049

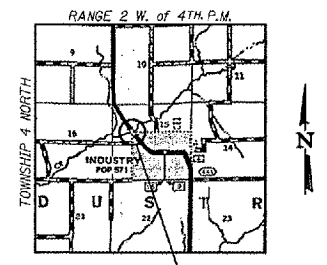
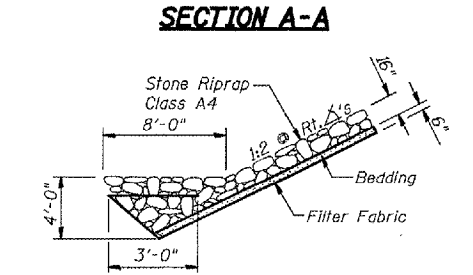
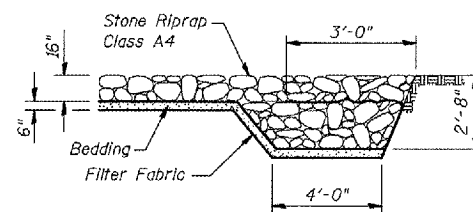
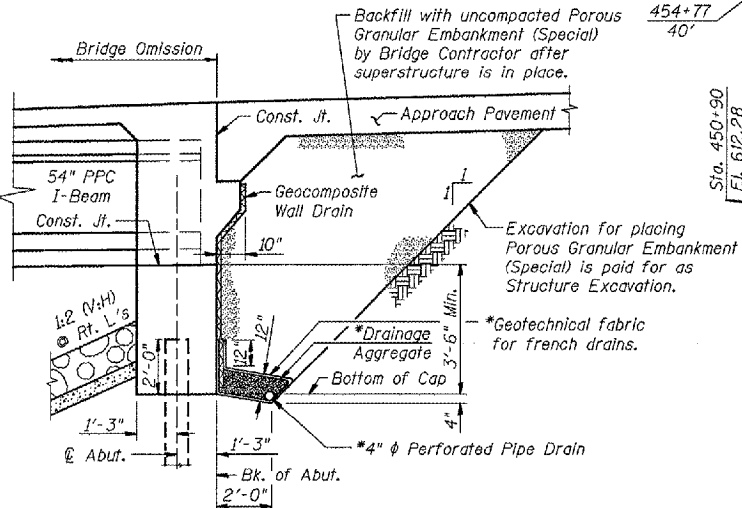
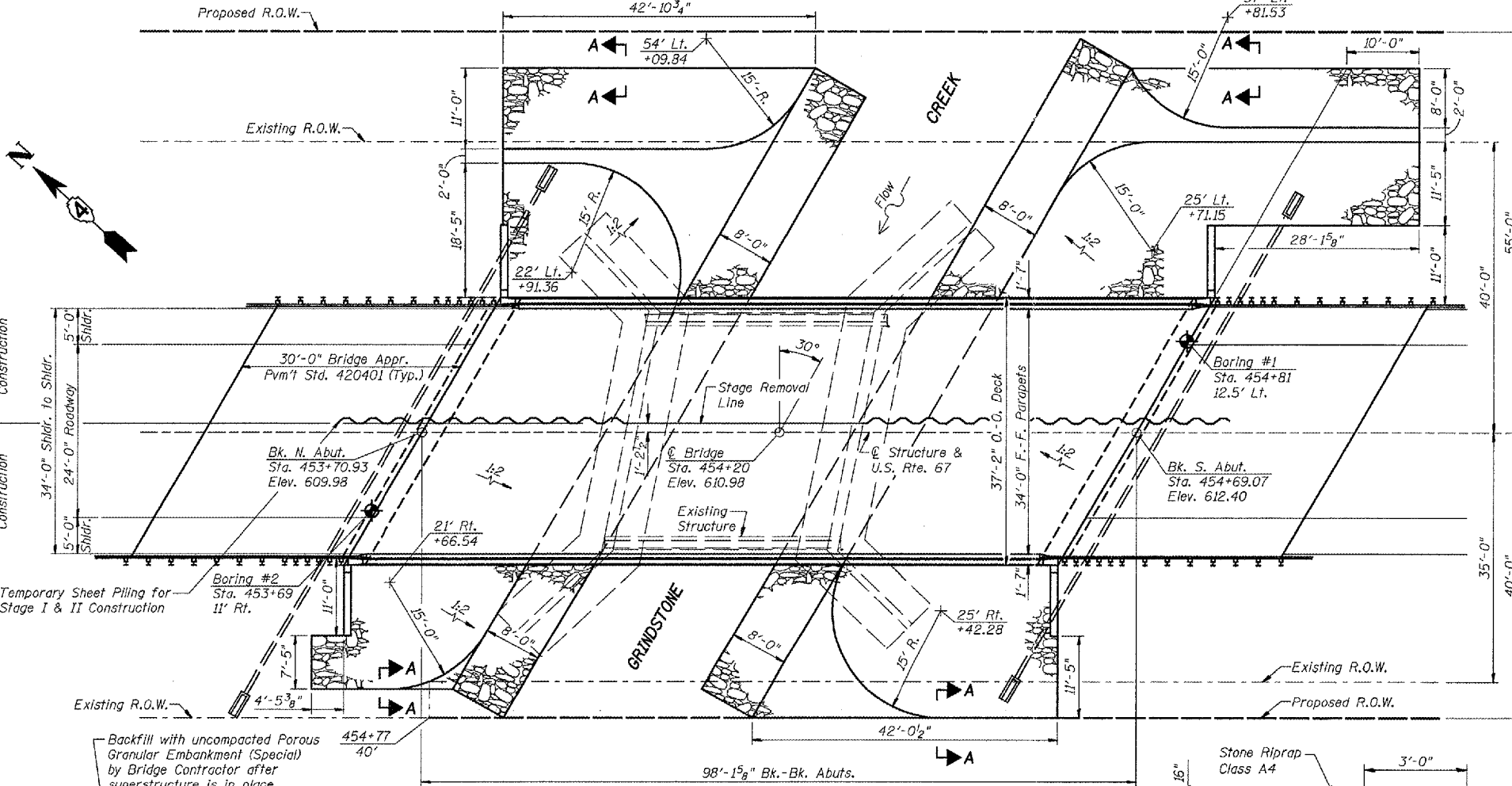
**NAME PLATE LETTERING**

Refer To Std. 515001

**WATERWAY INFORMATION**

Drainage Area = 12.48 Sq. Mi. Low Grade Elev. = 608.01 @ Sta. 453+00

Flood	Freq. Yr.	Q c.f.s.	Opening Sq. Ft.		Nat. H.W.E.		Head-ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	1412	219	534	601.4	1.0	0.5	602.4	601.9	
Base	50	2175	236	580	602.0	1.8	1.0	603.8	603.0	
Overtopping	100	2499	242	598	602.2	2.3	1.1	604.5	603.3	
Max. Calc.	500	3293	256	636	602.7	3.3	1.6	606.0	604.3	



**SECTION THRU INTEGRAL ABUTMENT**  
 @ RT. ANGLES

**PROFILE GRADE**  
 (Along @ Roadway)  
 P.I. Sta. = 453+10  
 v.c. = 440  
 Elev. = 605.13  
 x = 4.19'

**DESIGN SPECIFICATIONS**  
 Design in accordance with AASHTO Specs. Dated 2002.

**LOADING HS20-44**  
 Allow 50#/Sq. Ft. for Future Wearing Surface.

**DESIGN STRESSES**  
 FIELD UNITS  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 PRECAST PRESTRESSED UNITS  
 $f'_c = 6,000$  psi  
 $f_{ci} = 5,000$  psi  
 $f'_s = 270,000$  psi ( $1/2$ "  $\phi$  Low Lax Strands)  
 $f_{si} = 201,960$  psi ( $1/2$ "  $\phi$  Low Lax Strands)  
**SEISMIC DATA**  
 Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.035  
 Site Coefficient (S) = 1.2

**GENERAL PLAN & ELEVATION**  
 F.A.P. 310 SECTION (41A)BR-1  
 U.S. ROUTE 67 OVER GRINDSTONE CREEK  
 MCDONOUGH COUNTY  
 STA. 454+20 (S.N. 055-0049)

Designed By: B.K. Converse  
 Date: 4/06  
 Checked By: M.R. Leslie  
 Date: 4/06  
 Drawn By: R.D. Allen  
 Date: 4/06

WILLET, HOFMANN & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 Land Surveying - Transportation - Structural  
 Environmental - Architecture  
 WHA # 1050003

Expires 11/30/08