

Benchmark: Chiseled Square on S.W. corner of wingwall on S.N. 054-0055, 78.9' Rt. Sta. 555+51, Elev. 576.18  
 Existing Structure: S.N. 054-0055 & 054-0056, originally built in 1973 as F.A.I. 55, Section 54-4B-2 at Sta. 559+00.00. The existing structure is a Ten Span Precast, Pre-Stressed Concrete I-Beam bridge on stub abutments and solid wall piers. The existing structure had a Microsilica overlay done in 1997 to replace the previous waterproofing membrane and class I surface. The overall length is 611'-3", back to back of abutments on an 11° 00' 00" left forward skew. The out to out bridge width is 42'-0", with a clear roadway width of 38'-6", measured face to face of curbs. The superstructure will be replaced utilizing crossovers.

Salvage: The aluminum railing end sections at all four corners of both structures shall be salvaged in accordance with section 501.02 of the Standard Specifications for reuse by IDOT. The end sections shall be removed, delivered to the Springfield West Maintenance Yard, and unloaded by the Contractor.

Traffic Barrier Terminal  
 Type 6 Std. 631031 (Appr. Ends)

Remove Exist. Wingwall to bottom of Approach slab. (Typ.)

### DESIGN STRESSES

#### FIELD UNITS (New Construction)

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (Structural Steel AASHTO M270 Grade 50W)

#### FIELD UNITS (Old Construction)

$f'_c = 1,200$  psi (Deck Slab)  
 $f'_c = 1,400$  psi (Curb, Parapet, Substructure)  
 $f_s = 20,000$  psi (Reinforcement & Structural Steel)

### LOADING HL-93

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

### DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

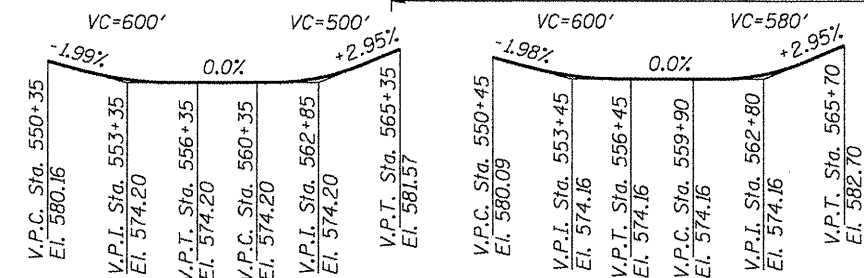
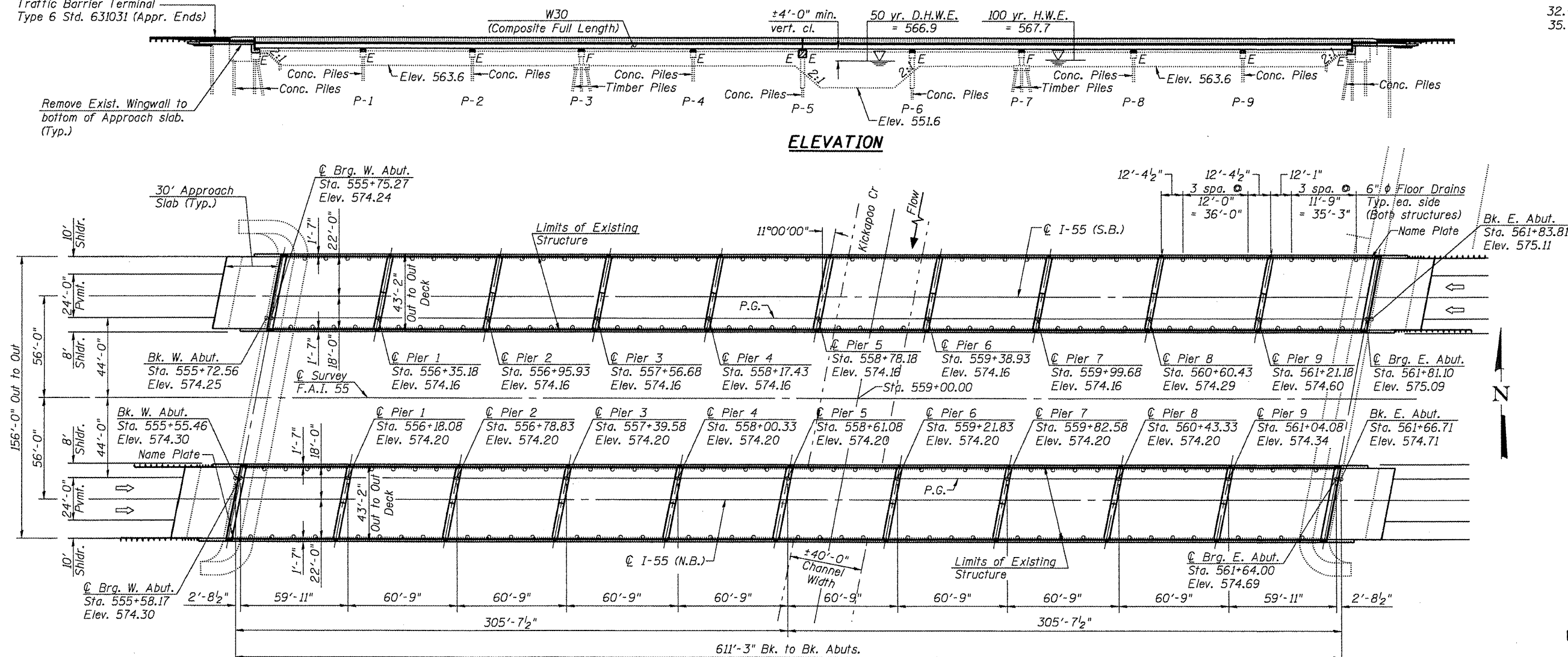
Existing Construction:  
 1969 AASHTO Bridge Design Specifications

### SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.133  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.223  
 Soil Site Class = D

### INDEX OF SHEETS

1. General Plan & Elevation
2. General Data
- 3.-4. Scour Countermeasure Details
- 5.-12. Top of Slab Elevations
- 13.-16. Top of Approach Slab Elevations
- 17.-18. Superstructure
- 19.-20. Superstructure Details
- 21.-22. Bridge Approach Slab Details
23. Strip Seal Expansion Joint
24. Structural Steel
- 25.-26. Structural Steel Details
- 27.-28. Bearing Details
- 29.-30. Abutment Concrete Removal
31. Pier 5 Removal
- 32.-34. Abutment Details
- 35.-38. Pier Details
39. Bar Splicer Details



### PROFILE GRADE

N.B. S.N. 054-0055  
 Along median edge of pavement

### PROFILE GRADE

S.B. S.N. 054-0056  
 Along median edge of pavement

The profile grade depicts the final elevations after grinding. Up to 1/4" will be ground off the bridge deck, approach slabs & bridge approach connector pavement.

STATION 559+00.00  
 RE-BUILT 20\_\_ BY  
 STATE OF ILLINOIS  
 F.A.I. RT. 55  
 SEC. D6 LOGAN CO BR 2011  
 LOADING HL-93  
 STRUCTURE NO. 054-0055

STATION 559+00.00  
 RE-BUILT 20\_\_ BY  
 STATE OF ILLINOIS  
 F.A.I. RT. 55  
 SEC. D6 LOGAN CO BR 2011  
 LOADING HL-93  
 STRUCTURE NO. 054-0056

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

### NAME PLATE

See Std. 515001

### DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Structure No.	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	E. Abut.
	054-0055	565.37	560.61	560.61	558.99	560.61	548.86	548.81	558.99	560.61	560.61	565.70
	054-0056	565.36	560.61	560.61	558.99	560.61	548.86	548.81	558.99	560.61	560.61	565.92



Michael D. Cummins 9/9/11  
 (Expires 11/30/2012)

**APPROVED**  
 For Structural Adequacy Only

*S. Carl Pappas (RD)*  
 Engineer of Bridges & Structures

**GENERAL PLAN**  
**I-55 OVER KICKAPOO CREEK**  
**F.A.I. RTE. 55**  
**SECTION D6 LOGAN CO BR 2011**  
**LOGAN COUNTY**  
**STATION 559+00.00**  
**STRUCTURE NO. 054-0055 (NB)**  
**STRUCTURE NO. 054-0056 (SB)**



JOB = 2265.1	DESIGNED - ZTB	REVISED -
FILE = 0540055_0056-72E10-01-GPE.dgn	CHECKED - MDC	REVISED -
DATE = 9/9/2011	DRAWN - TJD	REVISED -
	CHECKED - ZTB	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN  
 STRUCTURE NO. 054-0055 (NB) & STRUCTURE NO. 054-0056 (SB)

SHEET NO. 1 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011	LOGAN	224	162
CONTRACT NO. 72E10			ILLINOIS FED. AID PROJECT	