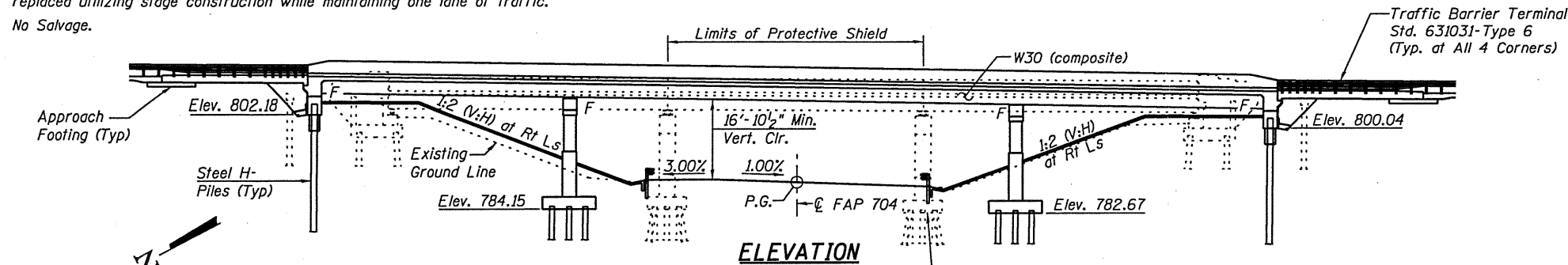


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Benchmark: Chiseled square on southeast wingwall of S.N. 057-0004, Elev. 807.35.

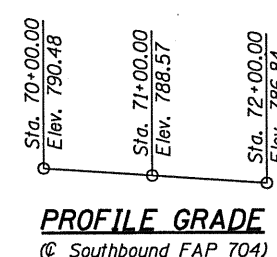
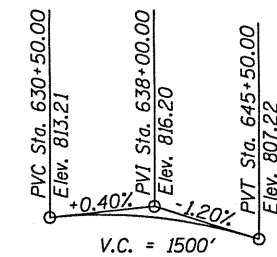
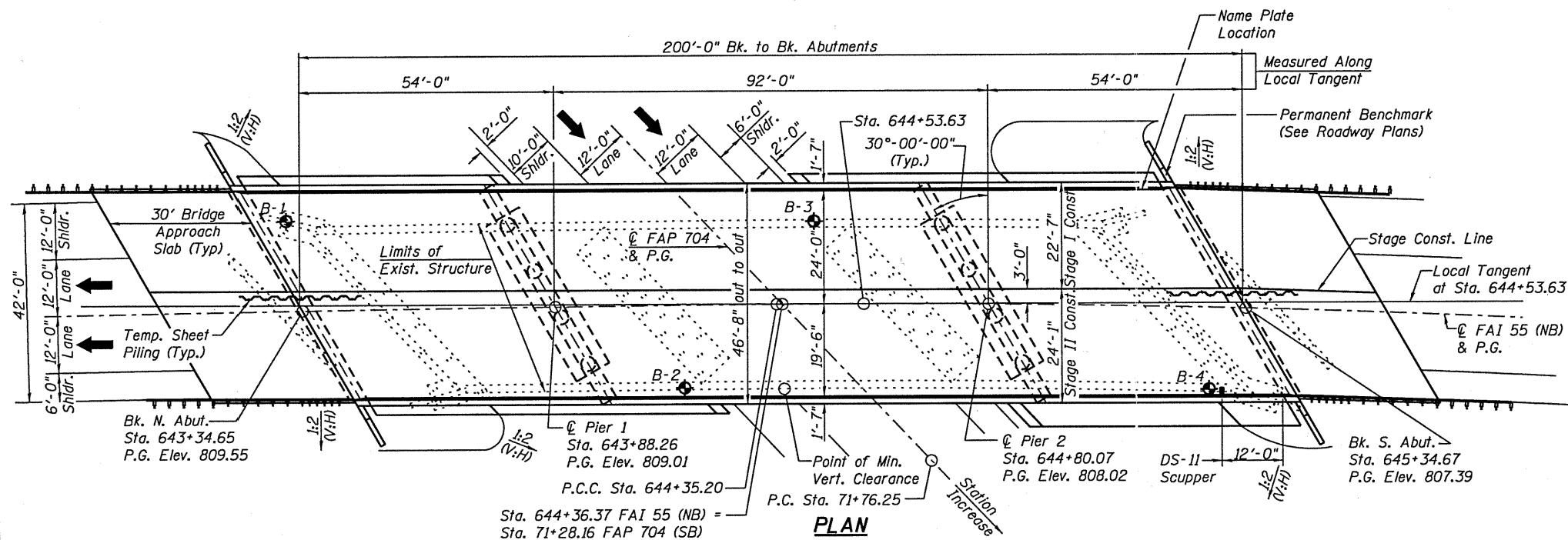
Existing Structure: S.N. 057-0004, originally constructed in 1963 as FAI 55, Section 57-7HBR-2 at Sta. 644+38.15. The existing structure consists of 3 simple spans with 7" concrete slab on steel beams, supported by pile bent abutments on concrete piles and multi-column piers on timber piles. The structure is 166'-8 1/16" back to back abutments, 35'-8" out to out width and a 43°-08'-52.76" right forward skew. In 1991 the bridge was rehabilitated as FAI 55, Section 57-7HBR-2 where the bridge deck was replaced and the substructure was repaired. The structure is to be removed and replaced utilizing stage construction while maintaining one lane of traffic.

No Salvage.



Protective shield shall be provided for the full width of the existing bridge deck and for the length shown in the elevation view.

Existing pier footing shall be partially or completely removed to allow for proper embedment of proposed guardrail posts. (Typ)



- INDEX OF SHEETS**
1. General Plan & Elevation
  2. General Notes & Details
  3. Slope Wall Details
  4. Stage Construction Details
  5. Modified Temporary Concrete Barrier For Stage Construction
  6. Top of Slab Elevations-1
  7. Top of Slab Elevations-2
  8. Top of Approach Slab Elevations
  9. Superstructure
  10. Superstructure Details
  11. Concrete End Diaphragms
  12. Bridge Approach Slab Details-1
  13. Bridge Approach Slab Details-2
  14. Bridge Approach Slab Details-3
  15. Framing Plan & Steel Details
  16. Bearing Details
  17. North Abutment
  18. South Abutment
  19. Pier 1 Details
  20. Pier 2 Details
  21. Bar Splicer Assembly & Mechanical Splicer Details
  22. HP Pile Details
  23. Drainage Scupper, DS-11
  24. Soil Boring Data (1 of 3)
  25. Soil Boring Data (2 of 3)
  26. Soil Boring Data (3 of 3)

**CURVE DATA**

| FAI 55-NB<br>(Existing Curve 37)  | FAI 55-NB<br>(Existing Curve 39)   | FAP 704-SB<br>(Existing Curve 46)  |
|-----------------------------------|------------------------------------|------------------------------------|
| $\Delta = 7^{\circ}-51'-26"$ (RT) | $\Delta = 25^{\circ}-22'-57"$ (RT) | $\Delta = 34^{\circ}-00'-46"$ (LT) |
| $D = 0^{\circ}-30'-00"$           | $D = 2^{\circ}-00'-21"$            | $D = 2^{\circ}-31'-02"$            |
| $T = 786.96'$                     | $T = 643.31'$                      | $T = 696.18'$                      |
| $L = 1,571.45'$                   | $L = 1,265.51'$                    | $L = 1,351.23'$                    |
| $E = 26.99'$                      | $E = 71.54'$                       | $E = 104.08'$                      |
| $R = 11,459.22'$                  | $R = 2,856.61'$                    | $R = 2,276.20'$                    |
| $S.E. = 2.00\%$                   | $S.E. = 2.00\%$                    | $S.E. = 1.00\%$                    |
| $P.C. = Sta. 628+63.75$           | $P.C. = Sta. 644+35.20$            | $P.C. = Sta. 71+76.25$             |
| $P.T. = Sta. 644+35.20$           | $P.T. = Sta. 657+00.71$            | $P.T. = Sta. 85+27.48$             |
| $P.I. = Sta. 636+50.71$           | $P.I. = Sta. 650+78.51$            | $P.I. = Sta. 78+72.43$             |

**DESIGN SPECIFICATIONS**  
2007 AASHTO LRFD Bridge Design Specifications  
with 2008 & 2009 Interims

**DESIGN STRESSES**  
**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50)  
 $f_y = 36,000$  psi (M270 Grade 36)

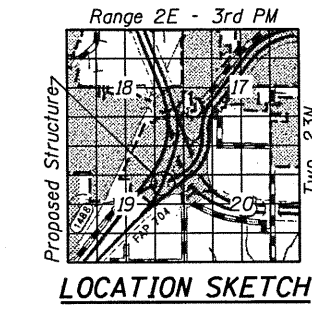
**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.

**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.13g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.21g  
Soil Site Class = D



Michael T. Haley 8-5-2010  
Date  
Michael T. Haley  
Licensed Structural Engineer  
State of Illinois No. 81-5991  
Expires 11/30/2010

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



**GENERAL PLAN & ELEVATION**  
**N.B. I-55 OVER S.B. FAP 704 (BUS. 55)**  
**FAI RTE 55 - SECTION (57-7HB-2)BR**  
**McLEAN COUNTY**  
**STATION 644+36.37**  
**STRUCTURE NO. 057-0249**

|  |             |                    |                      |                           |                  |              |
|--|-------------|--------------------|----------------------|---------------------------|------------------|--------------|
| <b>LIN ENGINEERING, LTD.</b><br>Consulting Engineers<br>Chatham, Illinois<br>Designed By AOB Checked By MTH Drawn By AAF<br>Date: April, 2010 File: 057-0249.dgn | SHEET NO. 1 | F.A.I. RTE. 55     | SECTION (57-7HB-2)BR | COUNTY MCLEAN             | TOTAL SHEETS 153 | SHEET NO. 78 |
|  | 26 SHEETS   | CONTRACT NO. 70520 |                      | ILLINOIS FED. AID PROJECT |                  |              |