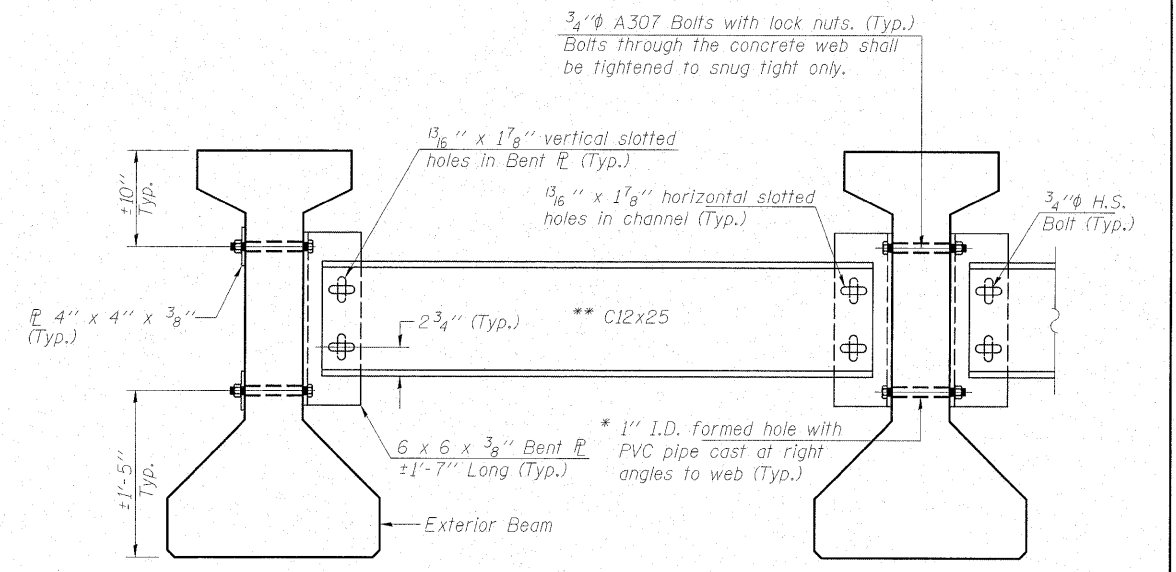
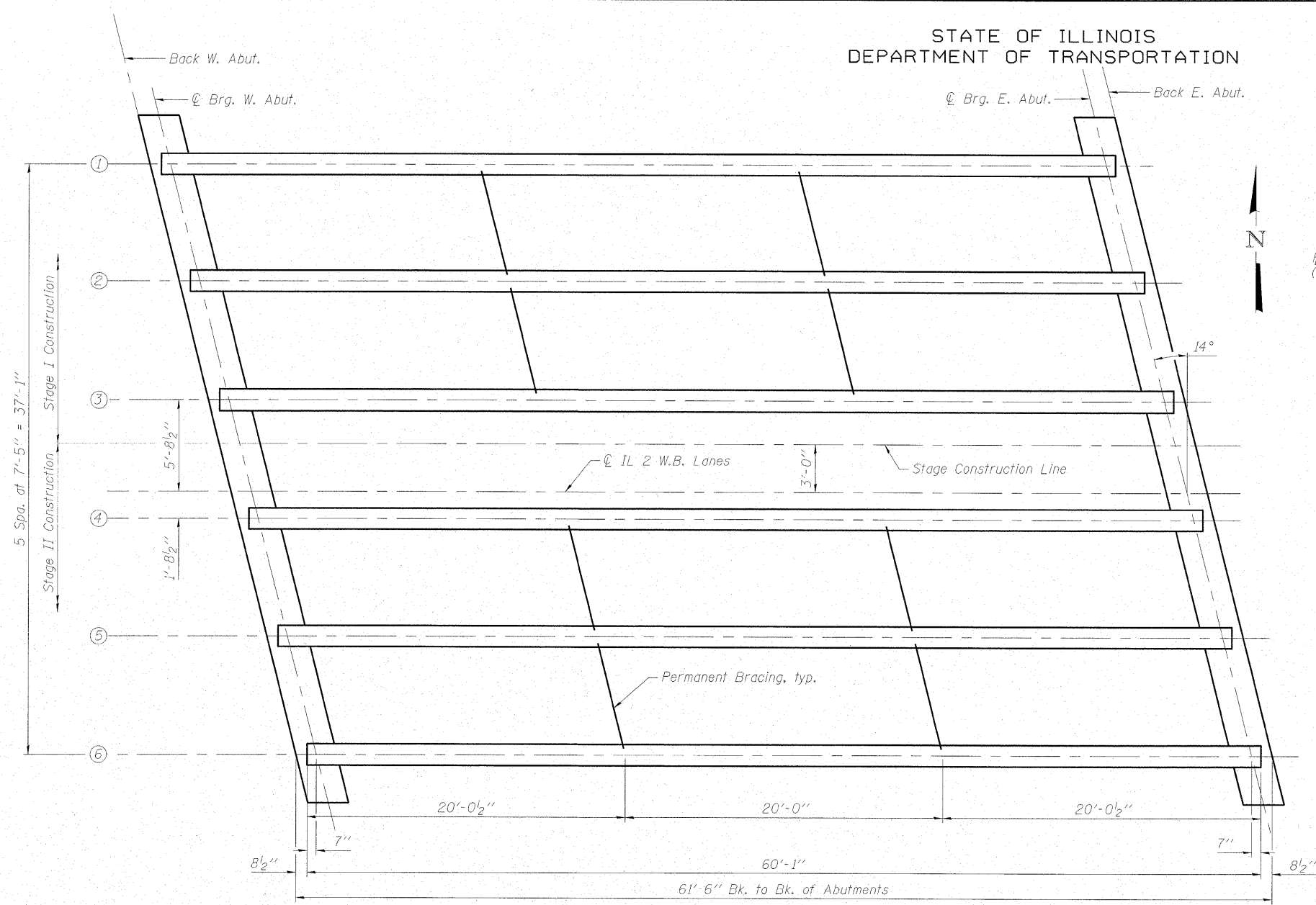


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



NOTES:  
 All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.  
 Two hardened washers are required for each set of oversized holes.  
 All holes shall be 1/16 inch unless otherwise noted.  
 5/16 inch x 3 inch x 3 inch plate washers are required over all slotted holes.  
 All bolts shall be galvanized according to AASHTO M232.  
 Bracing shall be installed as beams are erected and tightened as soon as possible during erection.  
 Cost of Permanent Bracing is included with Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42".

\* Fabricator shall locate to miss strands within permissible tolerances.  
 \*\* Alternate C12x30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

PERMANENT BRACING DETAILS FOR  
42" PPC I-BEAMS

FRAMING PLAN

| INTERIOR BEAM MOMENT TABLE |                    | 0.5 Sp. 1 |
|----------------------------|--------------------|-----------|
| $I$                        | (in <sup>4</sup> ) | 90956     |
| $I'$                       | (in <sup>4</sup> ) | 294700    |
| $S_b$                      | (in <sup>3</sup> ) | 5153      |
| $S_b'$                     | (in <sup>3</sup> ) | 8955      |
| $S_t$                      | (in <sup>3</sup> ) | 3736      |
| $S_t'$                     | (in <sup>3</sup> ) | 32420     |
| $DC1$                      | (k/ft)             | 1.248     |
| $M_{DC1}$                  | (k)                | 541.6     |
| $DC2$                      | (k/ft)             | 0.150     |
| $M_{DC2}$                  | (k)                | 65.1      |
| $DW$                       | (k/ft)             | 0.333     |
| $M_{DW}$                   | (k)                | 144.5     |
| $M_L + IM$                 | (k)                | 922.4     |

$I$ : Non-composite moment of inertia of beam section (in<sup>4</sup>).  
 $I'$ : Composite moment of inertia of beam section (in<sup>4</sup>).  
 $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 $S_t'$ : Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 $DC1$ : Un-factored non-composite dead load (kips/ft.).  
 $M_{DC1}$ : Un-factored moment due to non-composite dead load (kip-ft.).  
 $DC2$ : Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 $M_{DC2}$ : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 $DW$ : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 $M_{DW}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 $M_L + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

| INTERIOR BEAM REACTION TABLE |     | Abut. |
|------------------------------|-----|-------|
| $R_{DC1}$                    | (k) | 36.8  |
| $R_{DC2}$                    | (k) | 4.4   |
| $R_{DW}$                     | (k) | 9.8   |
| $R_L + IM$                   | (k) | 80.6  |
| $R_{Total}$                  | (k) | 131.6 |

FRAMING PLAN  
IL RTE. 2 WB OVER LITTLE CREEK  
STATION 66+52.00

**MAUREN STUTZ, INC.**  
ENGINEERS SURVEYORS

DESIGNED - BAS  
 CHECKED - KEF  
 DRAWN - SGM  
 CHECKED - RJA/KEF

| SHEET NO. | F.A.P. RTE. | SECTION                                       | COUNTY | TOTAL SHEETS       | SHEET NO. |
|-----------|-------------|---|--------|--------------------|-----------|
| 12        | 561         | 31-1BR-1                                      | LEE    | 92                 | 45        |
| 20 SHEETS |             | STRUCTURE NO. 052-0078                        |        | CONTRACT NO. 64B05 |           |
|           |             | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |        |                    |           |