

BENCHMARK: BM#2 Top of R.R. Spike set in top concrete wingwall STA. 1462+76, 22' LT. ELEV. = 915.67

EXISTING STRUCTURE: SN 045-0023 was constructed in 1934 as a single span reinforced concrete slab superstructure on closed abutments support on concrete piles. In 1978 the superstructure was removed and replaced with a single span precast, 11" x 52" prestressed concrete (PPC) deck beam superstructure with a bituminous overlay. The substructure was modified and widened. The widened abutment and new wingwalls are also supported on concrete piles. In 2005, six of the 10 PPC deck beams were removed and replaced in kind. The bituminous overlay was replaced with a 5" reinforced concrete overlay. The out-to-out width of the structure is 43'-2" with a 40'-0" clear roadway width over the bridge.

TRAFFIC CONTROL METHOD: Staged Construction

SALVAGE: None

DESIGN SPECIFICATIONS
AASHTO LRFD Bridge Design Specifications
5th Edition with 2010 Interim Revisions

DESIGN STRESSES

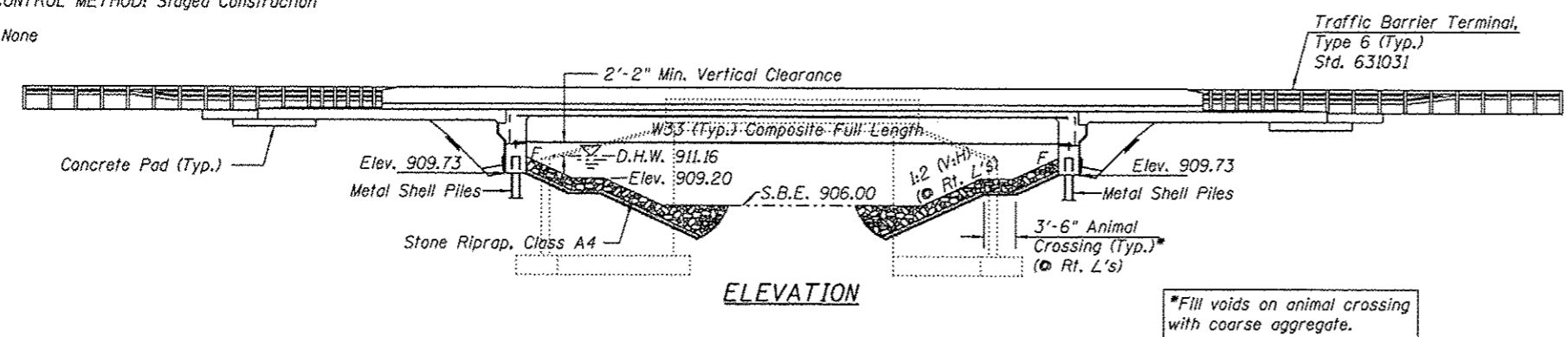
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

LOADING HL-93

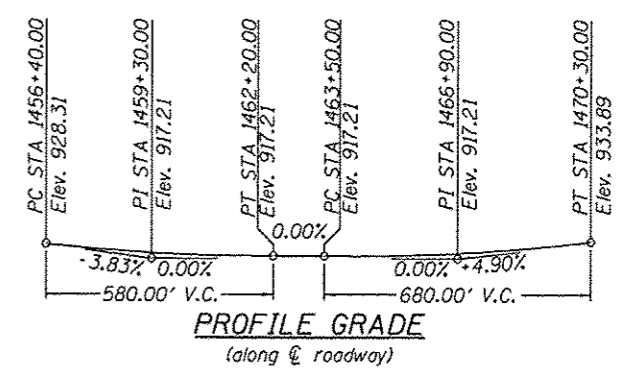
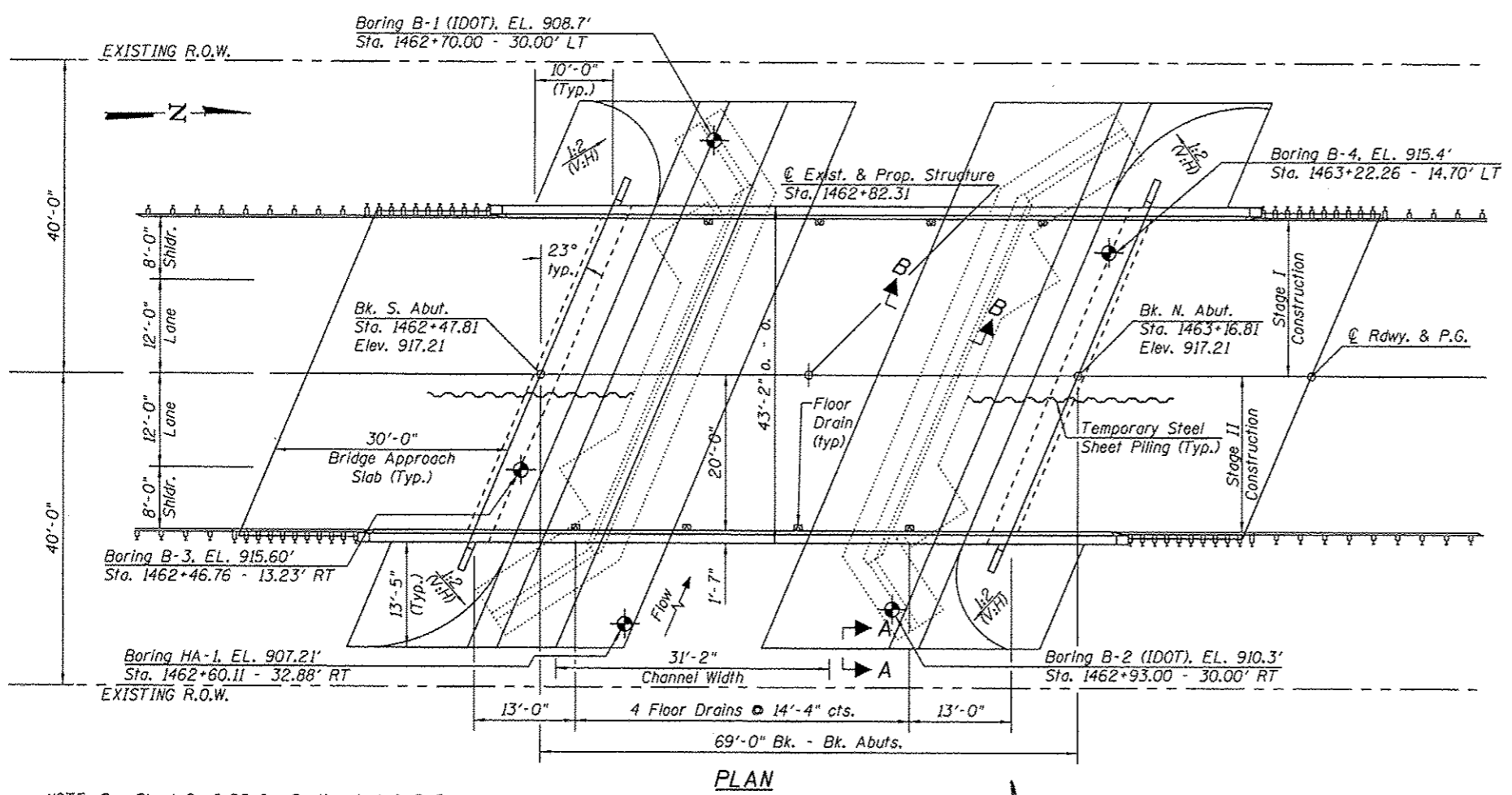
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = .086g
Design Spectral Acceleration at 0.2 sec. (SDS) = .155g
Soil Site Class = D



*Fill voids on animal crossing with coarse aggregate.



DESIGN SCOUR ELEVATION TABLE

| | | |
|------------------------------|----------|----------|
| Design Scour Elevation (ft.) | N. Abut. | S. Abut. |
| | 909.7 | 909.7 |

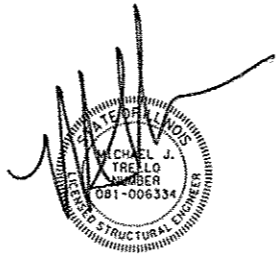
WATERWAY INFORMATION

Drainage Area = 4.22 Sq. MI Low Grade Elev. 917.21 ft @ Sta. 1463+70

| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. | | Head - Ft. | | Headwater El. | | |
|-------------|-----------|----------|-----------------|-------|---------------|-------|---------------|--------|--------|
| | | | Exist. | Prop. | H.W.E. Exist. | Prop. | Exist. | Prop. | |
| Design | 10 | 629 | 119.8 | 212.2 | 910.69 | 1.07 | .46 | 911.76 | 911.15 |
| Base | 50 | 873 | 132.0 | 239.8 | 911.16 | 1.59 | .62 | 912.75 | 911.78 |
| Overtopping | 100 | 959 | 135.7 | 248.0 | 911.30 | 1.76 | .67 | 913.06 | 911.97 |
| Max. Calc. | >500 | | | | | | | | |
| | 500 | 1226 | 145.5 | 270.3 | 911.68 | 2.89 | .84 | 914.57 | 912.52 |

NOTE: See Sheet 2 of 22 for Section A-A & B-B

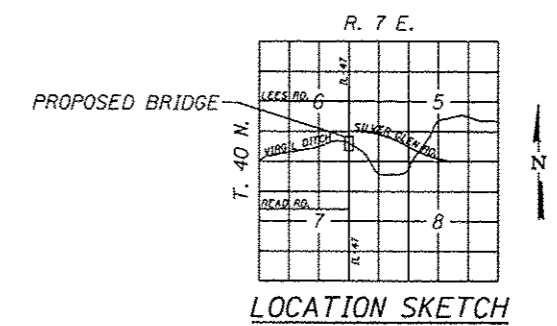
APPROVED
For Structural Adequacy Only
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Engineer of Bridges & Structures



Expires: 11/30/12

STATION 1462+82.31
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT 326 SEC. 106X-B
LOADING HL-93
STRUCTURE NO. 045-0078

NAME PLATE
See Std. 515001



GENERAL PLAN
IL ROUTE 47
OVER VIRGIL DITCH #2
FAP ROUTE 326
SECTION 106X-B
KANE COUNTY
STATION 1462+82.31
STRUCTURE NO. 045-0078