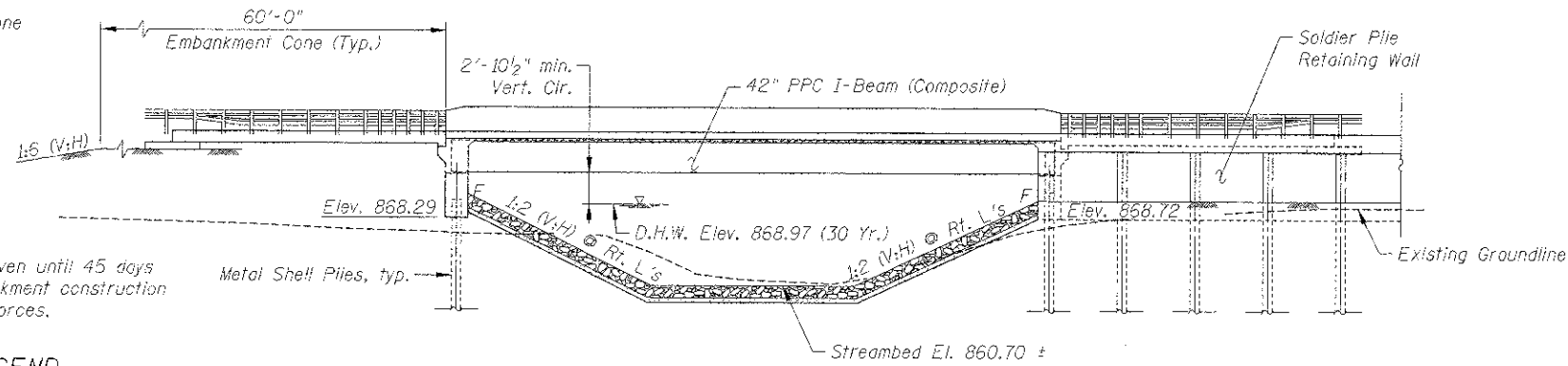


Bench Mark: TBM #2, cross cut (Set) in South edge of rim of sanitary manhole N.A.V.D. '88 Elev. 873.44, Sta. 22+90; Offset 125' Right

Existing Structure: None

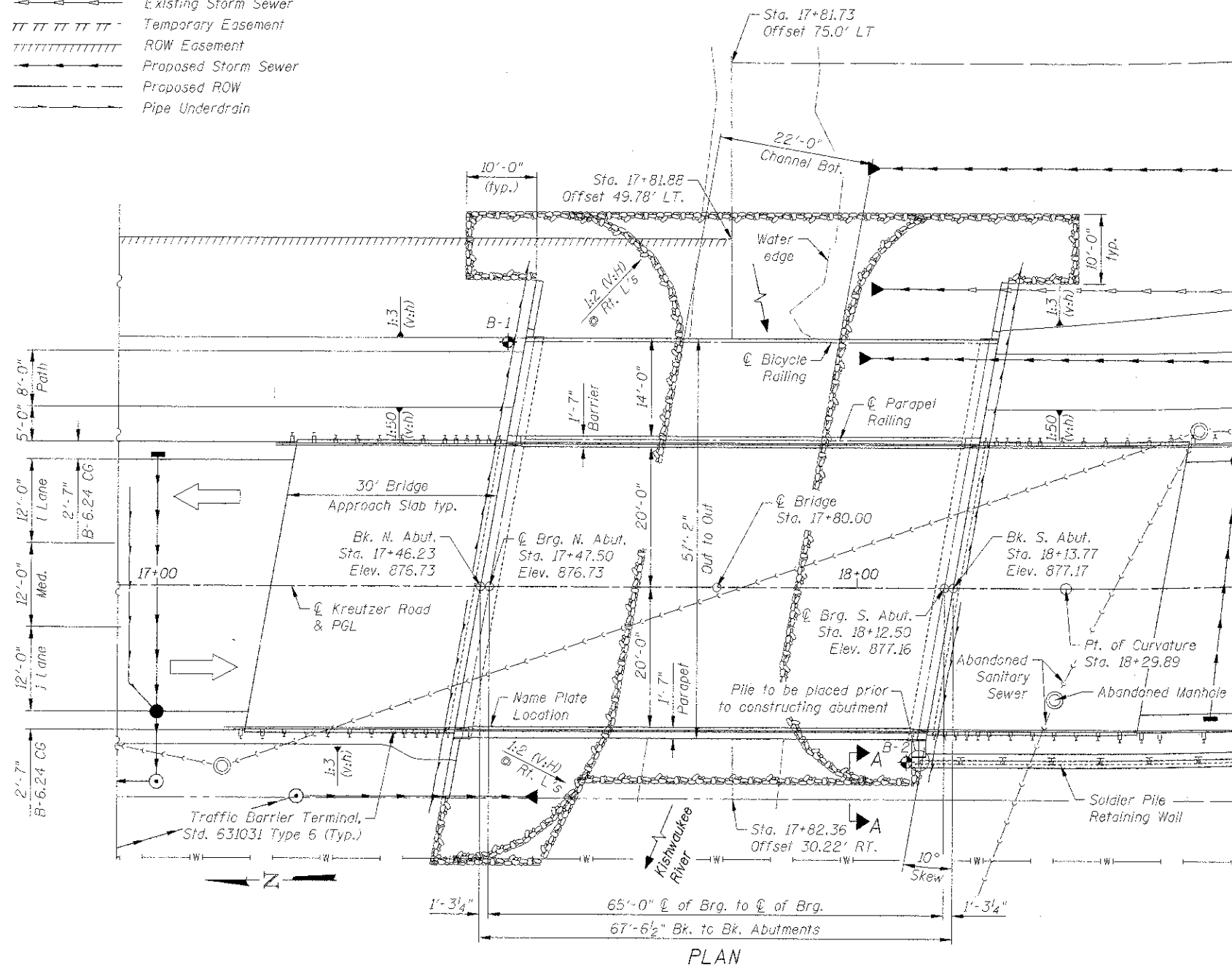


Note:  
 Piles shall not be driven until 45 days after the final embankment construction to avoid down drag forces.

**LEGEND**

- ◆ Soil Boring
- Watermain
- Existing Sanitary Sewer
- Existing Storm Sewer
- Temporary Easement
- ROW Easement
- Proposed Storm Sewer
- Proposed ROW
- Pipe Underdrain

**ELEVATION**



**PLAN**

**WATERWAY INFORMATION**

Drainage Area = 6.138 acres		Low Grade Elev. 873.21 @ Sta. 25+86.11					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	
Base	10	500	N/A	259.6	867.67	N/A	867.63
Design	30	806	N/A	319.8	868.97	N/A	868.99
Overtopping	100	1150	N/A	387.6	870.00	N/A	870.03
Max. Calc.	500	1,590	N/A	456.0	871.24	N/A	871.35

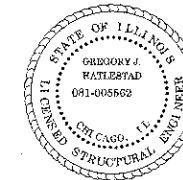
**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	N. Abut.	S. Abut.
	868.00	868.00

STATION 17+80.00  
 BUILT 201\_ BY  
 STATE OF ILLINOIS  
 F.A.U. 4068  
 SEC. 07-00031-00-PV  
 LOADING HL-93  
 STRUCTURE NO. 056-6010

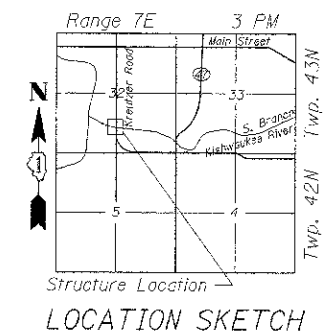
**NAME PLATE**  
 See Std. 515001

CIVILTECH ENGINEERING, INC.  
 GREGORY J. HATLESTAD, S.E.



*Gregory J. Hatlestad*  
 GREGORY J. HATLESTAD, S.E.  
 # 081-005562  
 EXP 11/30/2012  
 DATE 11/21/2012

I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications for Highway Bridges.



**CURVE DATA**

Δ = 90° 17' 41" (L.I.)  
 D = 8° 44' 51"  
 T = 658.38'  
 L = 1,032.24'  
 E = 273.70'  
 R = 655.00'  
 P.C. = Sta. 18+29.89  
 P.T. = Sta. 28+62.13  
 P.I. = Sta. 24+88.26

**DESIGN STRESSES**

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

**PRECAST PRESTRESSED UNITS**

f'c = 7,000 psi  
 f'ci = 6,000 psi  
 f's = 270,000 psi (1/2" low lax. strands)  
 fsl = 201,960 psi (1/2" low lax. strands)

**DESIGN SPECIFICATIONS**

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

**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<sub>01</sub>) = 0.090g  
 Design Spectral Acceleration at 0.2 sec. (S<sub>05</sub>) = 0.176g  
 Soil Site Class = D

**GENERAL PLAN & ELEVATION**  
**KREUTZER ROAD OVER**  
**S. BR. KISHWAUKEE RIVER**  
 F.A.U. 4068 SECTION 07-00031-00-PV  
 McHENRY COUNTY  
 STATION 17+80  
 STRUCTURE NO. 056-6010