

Bench Mark: Chiseled square on West end of the South headwall S.N. 016-2007 Elev: 638.22

Existing Structure: S.N. 016-2007, built in 1928 as a triple cell 12' wide x 5' high cast-in-place concrete box culvert skewed at 45 degrees. The original structure was later lengthened on both ends. The middle cell was also lowered to 9'. Structure is to be removed and replaced. Traffic to be maintained utilizing stage construction.

No Salvage.

Precast alternate is not allowed.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WATERWAY INFORMATION

Drainage Area = 4.06 sq. mile		Exist. Low Grade Elev. 634.34 @ Sta. 114+20		Prop. Low Grade Elev. 634.34 @ Sta. 114+20		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Nat. H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Ten-Year	10	494	204.0 237.9	634.4 634.4	0.14 0.06	634.6 634.5
Design	50	774	204.0 249.4	635.7 635.7	0.42 0.21	636.1 635.9
Base	100	863	204.0 249.4	636.1 636.1	0.57 0.30	636.7 636.4
Max. Calc.	500	1060	204.0 249.4	637.0 637.0	0.59 0.47	637.6 637.5

10 year velocity through Exist. Culvert = 1.36 fps
10 year velocity through Prop. Culvert = 2.25 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	622.28	622.28

LOADING HS20-44

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

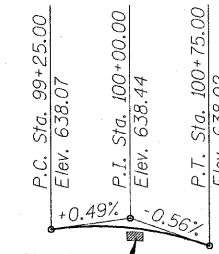
DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

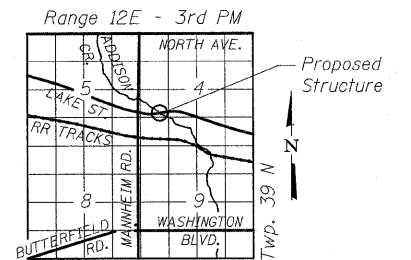
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 (Soldier Piles)



PROFILE GRADE
(along Lake St.)



LOCATION SKETCH

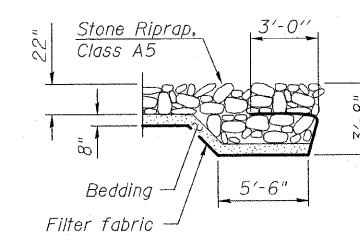


Expires 11-3-2012

Brian J. Malone

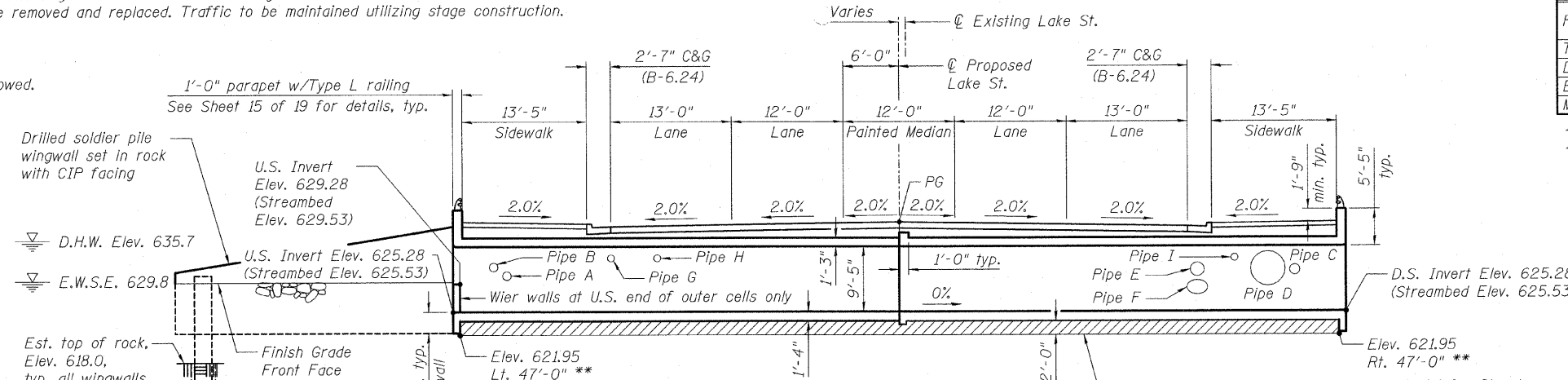
APPROVED FOR STRUCTURAL ADEQUACY ONLY

ENGINEER OF BRIDGES AND STRUCTURES



SECTION A-A

GENERAL PLAN
LAKE STREET OVER ADDISON CREEK
F.A.U. RT. 3537 - SEC. 3264-T
COOK COUNTY
STATION 100+06.27
STRUCTURE NO. 016-2630



LONGITUDINAL SECTION

(Looking East, Horiz. Dim. at Rt. L's to Lake St.)

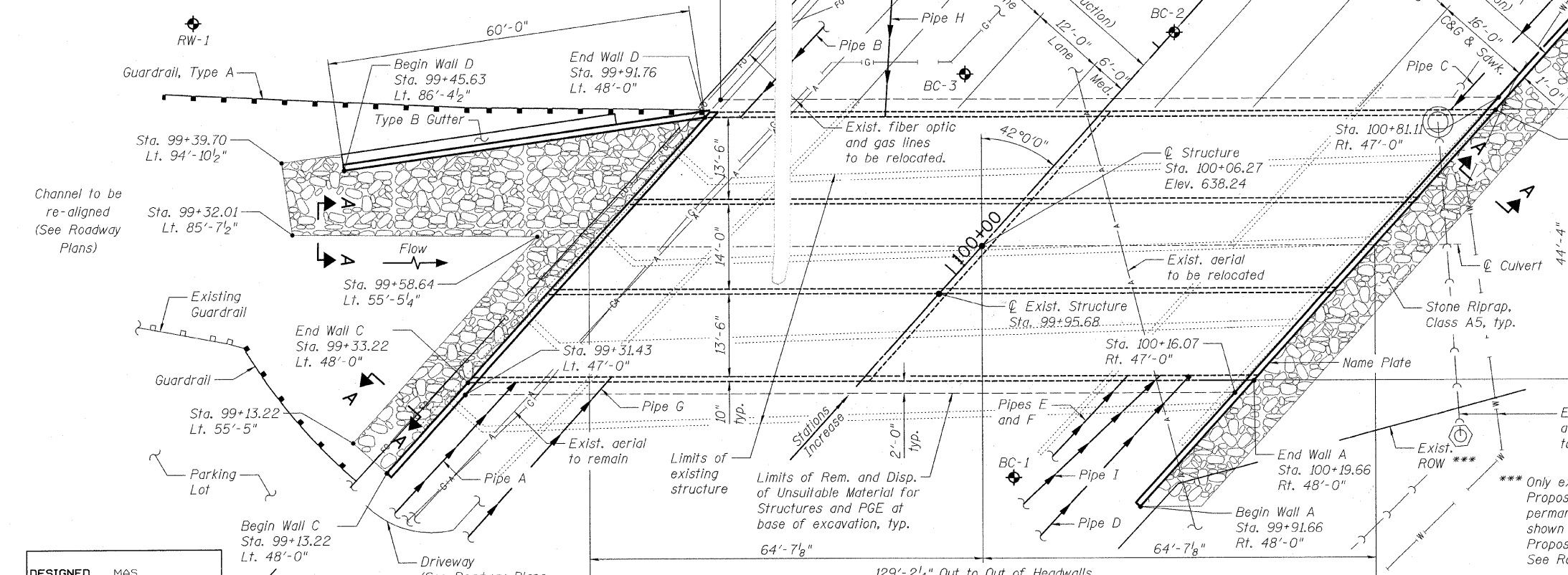
Removal and Disposal of Unsuitable Material for Structures, to be replaced with Porous Granular Embankment. Material shall be coarse aggregate with a gradation of either CA 5 or CA 7. See Plan below for limits. The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

PIPE SCHEDULE

Location	Size	Shape	Invert
Existing Pipe			
Pipe A	15"	Circular	629.81
Pipe B	15"	Circular	631.08
Pipe C	18"	Circular	630.48
Pipe D	60"	Circular	628.90
Pipe E	24"	Circular	630.28
Pipe F	30"x19"	Elliptical	627.70
Proposed Pipe			
Pipe G	12"	Circular	632.53
Pipe H	12"	Circular	632.52
Pipe I	12"	Circular	632.50

Pipes A through F shall be reconnected to the proposed culvert. Inverts listed for these existing pipes are the approximate existing inverts. The proposed inverts shall be determined in the field in order to maintain the grade of the existing pipes. The Contractor shall also verify existing pipe sizes.

** Bottom of Removal of Unsuitable Material



PLAN



Wight & Company
2500 North Frontage Road, Darien, IL 60561
630.969.7000 630.969.7979 fax
Design Firm Registration 184-000451

SHEET NO. 1	F.A.U. RTE. 3537	SECTION 3264-T	COUNTY COOK	TOTAL SHEETS 110	SHEET NO. 45
19 SHEETS			CONTRACT NO. 60H44		
ILLINOIS FED. AID PROJECT					

3/17/2011 10:22:22 AM Default G:\ENR\06-6790-17 Lake St. Triple Box Culvert\CAD\Structures\Sh-0162630-60H44-001-gre.dgn