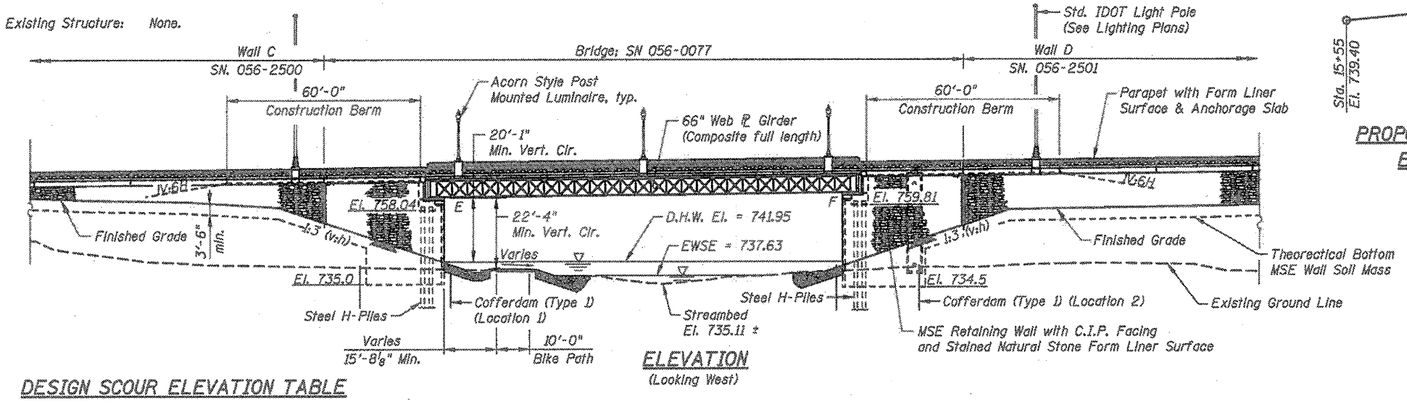
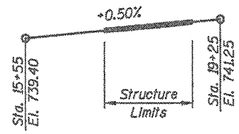
Benchmark: Iron Rod in gravel lot, IL Rte 31 Bypass Station 130+65.81, offset 223.58 feet Right; Elev. 746.15.

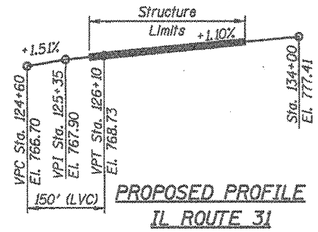
Existing Structure: None.



ELEVATION
(Looking West)



PROPOSED PROFILE
BIKE PATH



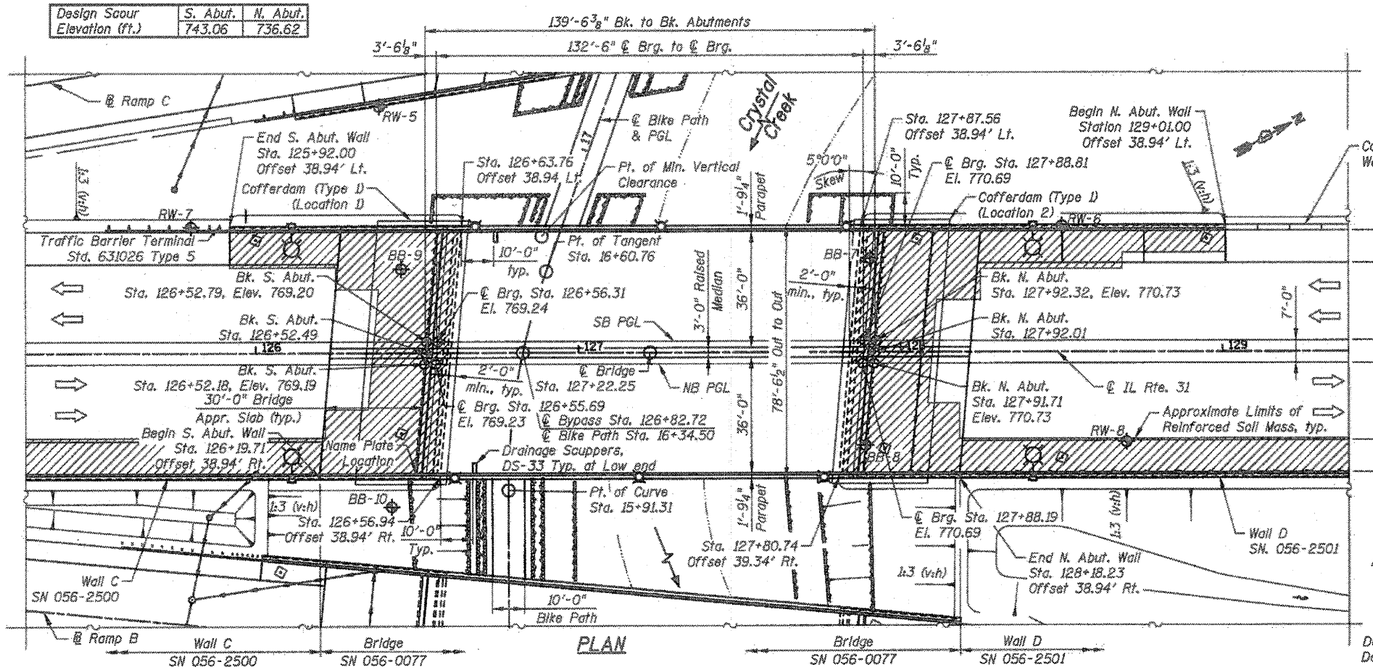
PROPOSED PROFILE
IL ROUTE 31

CURVE DATA
Bike Path
Δ = 19°53'40.97" (Rt.)
D = 28°38'52.40"
T = 35.08'
L = 69.45'
E = 3.05'
R = 200.0'
S.E. = 2.0%
P.C. = Sta. 15+91.31
P.T. = Sta. 16+60.76
P.I. = Sta. 16+26.39

CURVE DATA
Bypass Mainline
Δ = 45°06'40"
D = 8°07'36"
T = 292.84'
L = 555.10'
E = 58.40'
R = 705.04'
P.C. = Sta. 119+58.42
P.T. = Sta. 125+13.52
P.I. = Sta. 122+51.26
S.E. = 4.0%
End S.E. = Sta. 124+47.00 (SB)
Sta. 124+70.00 (NB)
N.C. = Sta. 126+50.00 (SB)
Sta. 125+34.00 (NB)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	N. Abut.
	743.06	736.62



PLAN

WATERWAY INFORMATION

Drainage Area = 26.5 Square Miles Low Grade Elev. 765.75 @ Sta. 13+17.53

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1469	-	329.0	740.99	-	0.00	740.99	740.99
Design	50	2647	-	436.2	741.95	-	0.17	741.95	742.12
Base	100	3518	-	504.5	742.55	-	0.37	742.55	742.92
Overtopping									
Max. Calc.	500	5209	-	611.3	743.48	-	0.82	743.48	744.30

⚠ Settlement Platforms
Sta. 128+95, 35-ft. Left
Sta. 128+05, 35-ft. Left
Sta. 127+95, 30-ft. Right
Sta. 126+00, 35-ft. Left
Sta. 126+45, 25-ft. Right

Settlement platforms shall be erected in accordance with article 204.06 except that the platforms shall be placed at the bottom of the MSE soil mass. Cost shall be included in the cost of Mechanically Stabilized Earth Retaining Wall.

Note:
MSE Abutment wall offsets are measured to the front face of the MSE wall from the ℄ IL Rte 31.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

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

STATE OF ILLINOIS
GREGORY J. HATLESTAD
081-005562
LICENSED STRUCTURAL ENGINEER

GREGORY J. HATLESTAD, S.E.
081-005562
EXP 11/30/12
DATE 3/15/12

STATION 127+22.25
BUILT 201.. BY
STATE OF ILLINOIS
O.R. 0003 SEC. 18A-2
LOADING HL-93
STRUCTURE NO. 056-0077

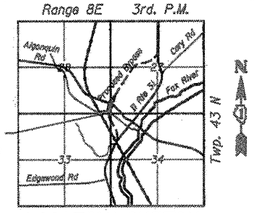
NAME PLATE
See Std. 515001

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications
with 2010 Interims

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Gr. 50 - Main Girders)
fy = 36,000 psi (AASHTO M270 Gr. 36 - Secondary)

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}) = 0.142
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.081
Soil Site Class = D



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL RTE 31 OVER CRYSTAL CREEK
O.R. 0003 SECTION 18A-2
McHENRY COUNTY
STATION 127+22.25
STRUCTURE NO. 056-0077

CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3976
www.civiltechinc.com

DRAWN	- M. LANGE	REVISED	-
DESIGNED	- D. ATKINS	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 3/23/2012	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 31 OVER CRYSTAL CREEK
STRUCTURE NO. 056-0077
SHEET NO. 5A1 OF 5A33 SHEETS

O.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0003	18A-2	MCHENRY	825	461
		CONTRACT NO. 60F72		
		ILLINOIS FED. AID PROJECT		

dgn 3/15/2012
J:\95\Woodstream\Woodway\2d-Structures & Walls\GA_SN 056-0077\056D077-60F72-GA-GPE.dgn 3:46:45 PM