

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Benchmark: Old chiseled square on northeast abutment Elev. 661.80

Existing Structure: S/N. 049-6151 was originally built in 1963 by Deerfield Township. It consists of a single span 17" deep precast prestressed concrete deck beam superstructure. The superstructure is supported on closed concrete abutments founded on spread footings. The structure length measures 33'-11" from back-to-back of abutments and the roadway width measures 32'-0" from face-to-face of curb. The existing superstructure will be removed and replaced. Temp bracing is required to support the abutments during superstructure removal. The roadway will be closed during construction. Traffic will utilize a detour.

Salvage: Remove portions of the existing fence at each quadrant of the bridge to facilitate removal and replacement operations. The fence shall be reinstalled by the Contractor after all work is completed.

WATERWAY INFORMATION

Drainage Area = 3603 Ac.		Low Grade Elev. 660.40		Sta. 78+28.96		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.		Exist. Prop.	Exist. Prop.
Design	10	121	158	158		654.92 654.92
Base	30	220	189	189		656.05 656.05
Overtopping	100	533	243	243		658.72 658.72
Max. Calc.	500	892	243	243		660.62 660.62

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	L Sum	1		1
Concrete Removal	Cu. Yd.		1.0	1.0
Concrete Superstructure	Cu. Yd.	21.6		21.6
Bridge Deck Grooving	Sq. Yd.	109		109
Protective Coat	Sq. Yd.	190		190
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,383		1,383
Reinforcement Bars, Epoxy Coated	Pound	3,150	210	3,360
Name Plates	Each	1		1
Concrete Sealer	Sq. Ft.		142	142
Structural Repair of Concrete (Depth less than or equal to 5")	Sq. Ft.		151.9	151.9
Concrete Bridge Rail, Sidewalk Mounted	Foot	66		66
Concrete Wearing Surface, 5"	Sq. Yd.	117		117
Temporary Wall Bracing System	L Sum		1	1

* See Special Provisions

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The existing superstructure has a ±4.0" bituminous concrete overlay that will be removed. Cost included with Removal of Existing Superstructure.
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.
Contractor shall install two Village of Deerfield Emblems provided by the Village at the locations shown. Cost included with Name Plates.

SCOPE OF WORK

Remove the existing superstructure and replace with new 17" PPC deck beams and a new 5" R.C. wearing surface.
Incorporate new sidewalks and decorative bridge railings.
Repair deteriorated concrete with Structural Repair of Concrete at each abutment.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
f's = 270,000 psi (1/2" φ low lax strands)
f'si = 201,960 psi (1/2" φ low lax strands)
FIELD UNITS (EXISTING)
f'c = 1,400 psi (Super)
f'c = 1,000 psi (Sub)
vc = 75 psi (Ftg)
fs = 20,000 psi (Reinforcement)

SUPERSTRUCTURE LOADING HS 25

SUBSTRUCTURE LOADING HS 20

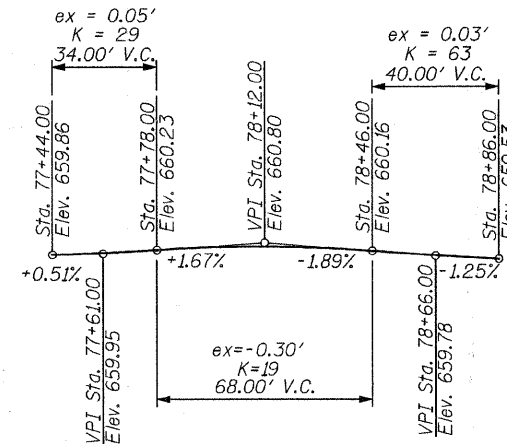
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.040g
Site Coefficient (S) = 1.0

GENERAL PLAN & ELEVATION

STRUCTURE NO. 049-6151



PROFILE GRADE LINE-WILMOT ROAD

RE-BUILT 2009 BY
VILLAGE OF DEERFIELD
SEC. 08-00081-00-BR
STATION 78+12.00
STR. NO. 049-6151 LOADING HS20

NAME PLATE

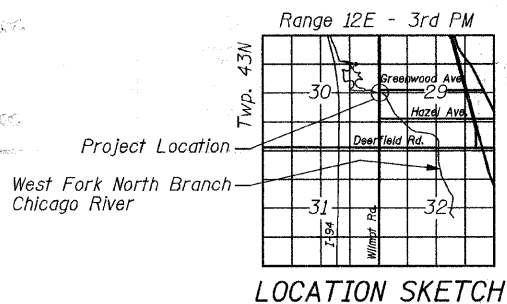
See Std. 515001

INDEX OF SHEETS

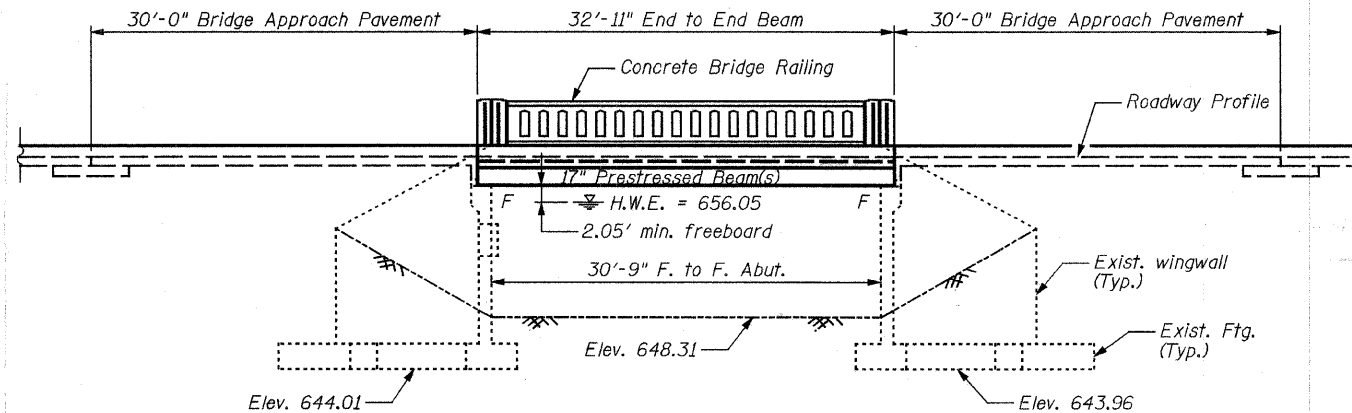
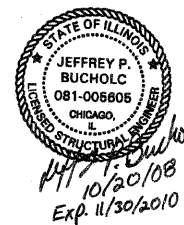
- 1 General Plan & Elevation
- 2 Top of Approach Slab Elevations
- 3 Deck Plan & Section
- 4 Superstructure & Railing Details
- 5-6 PPC Deck Beam Details
- 7 Substructure Repairs & Details

Exist. Boring #1

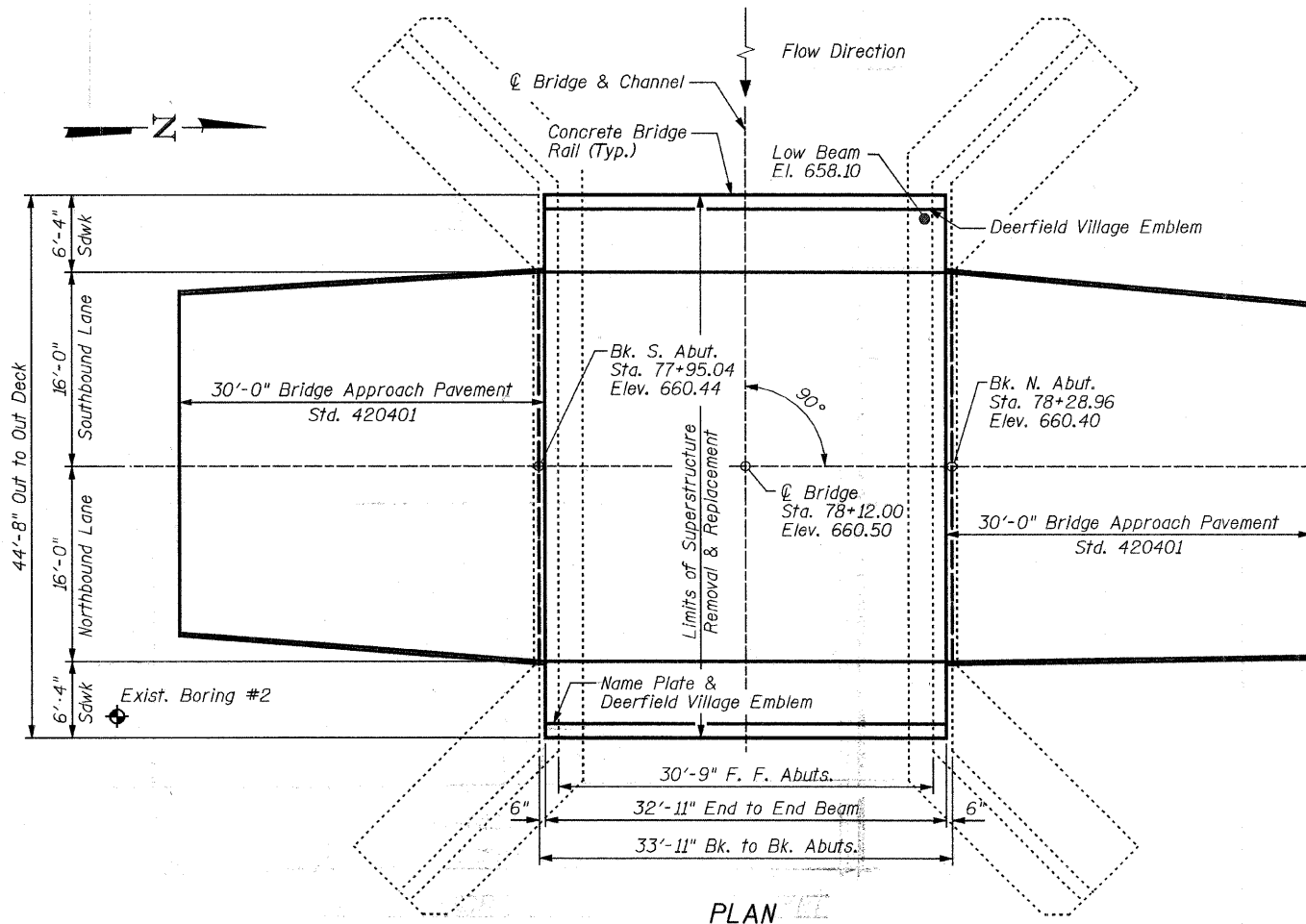
Wilmot Rd. & P.G.L.



LOCATION SKETCH



ELEVATION



PLAN

DESIGNED	SCHSELBIAN
CHECKED	JBUCHOLC
DRAWN	SCHSELBIAN
CHECKED	JBUCHOLC

LEGEND

Existing Boring Location

SHEET NO. 1 7 SHEETS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2718	08-00081-00-BR	LAKE	26	12
FED. ROAD DIST. NO. - ILLINOIS			FED. AID PROJECT		
			CONTRACT NO. 63085		