F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	104RB-R	LAKE		
STA. ----------		TO STA. ----------		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

D-91-008-01

Bench Mark #1: ☐ cut center Head South of Deerfield Road Bridge and North of exit ramp West of US 41 South bound lanes. Taken from US 41 Book #7 pg. 60 Elev. = 636.39

#4: Cut ☐ in the top of Southeast Wing Wall, Deerfield Road Bridge over East Skokie Ditch
Elev= 638.84

Existing Structures: S.N. 049-0088 is a two equal spans continuous R.C. slab bridge, built in 1962. The structure is 72.42 feet back to back of abutments and is skewed 24° right forward, with respect to Deerfield Road. The existing slab is 16 inch thick with 2 inch thick microsilica concrete overlay, with 2 thru lanes in each direction. The width of the structure various from 38'-8½" to 88'-7". The substructure consists of pile bent type abutments and pier. The contractor shall remove existing superstructure and portions of substructure as required and replace with 2-span continuous R.C. slab bridge. All approach slabs will be removed and replaced. Repair deteriorated portion of slope wall and construct scour protection measures at the pier. Utilize stage construction, keeping one lane of traffic open in each direction at all times.

Salvage: None

DESIGN STRESSES

EXISTING STRUCTURE

fc = 1400 psi (Superstructure and Substructure)
fs = 20,000 psi (Reinf.)
fs = 18,000 psi (Struct. Stl)

NEW CONSTRUCTION

f'c = 3500 psi
fy = 60,000 psi (Reinf.)

HIGHWAY CLASSIFICATION

ROUTE DESIGNATION F.A.U. 1257
FUNCTIONAL CLASSIFICATION: Minor Arterial
ADT: 26200 (1996); ADT: 30840 (2015)
DHV = 2620
Design Speed: 35 m.p.h.

SEISMIC DATA

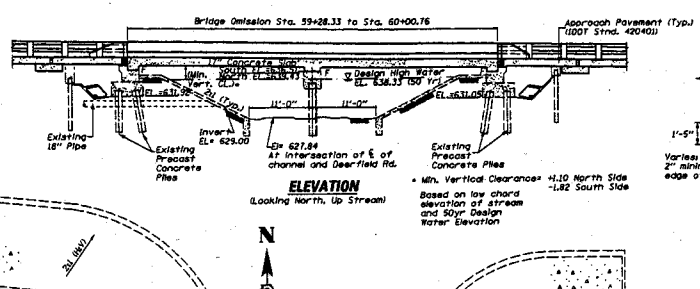
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = .04g
Site Coefficient (S) = 1.5

DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS20-44

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

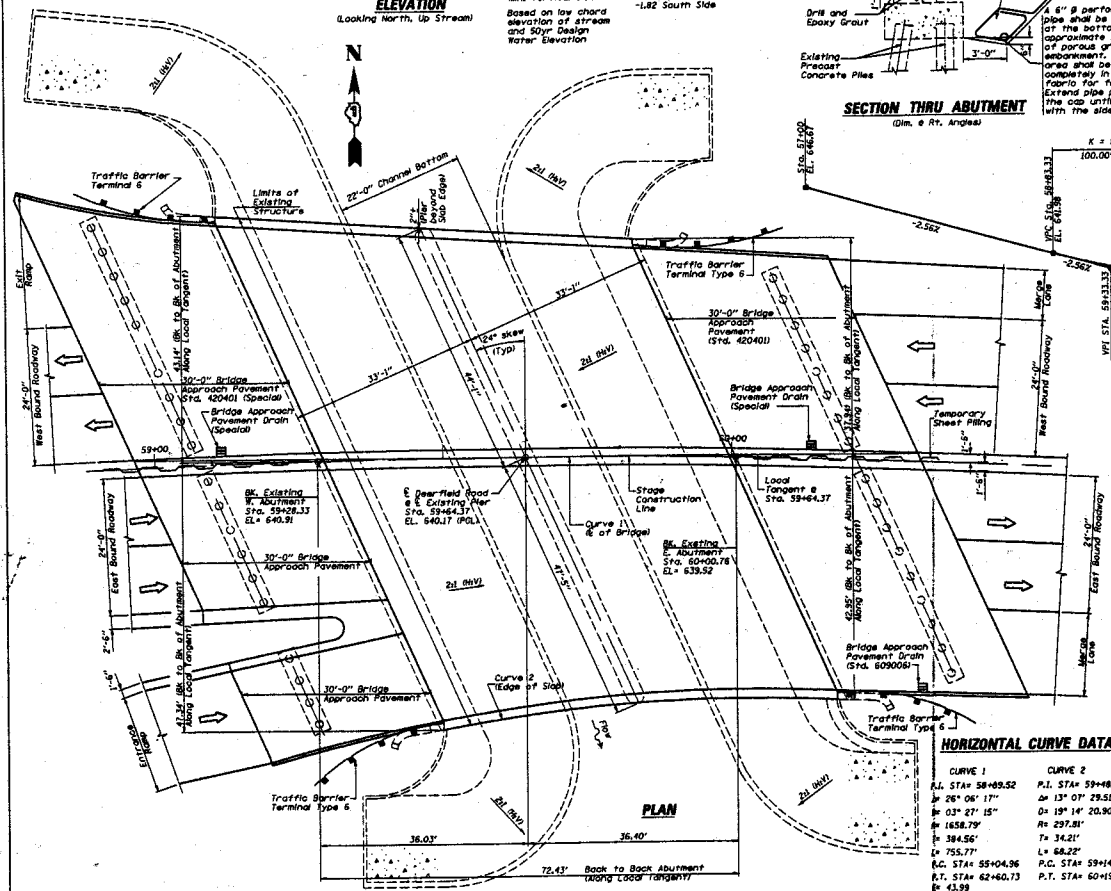


ELEVATION

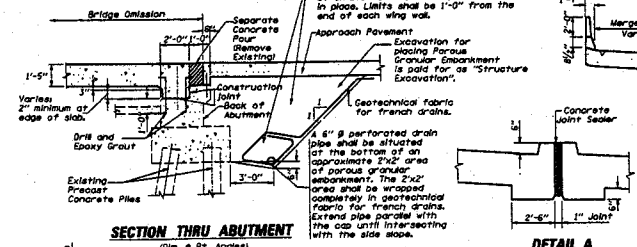
(Looking North, Up Stream)

* Min. Vertical Clearance= +1.10 North Side
-1.82 South Side

Based on low chord elevation of stream and 50yr Design Water Elevation



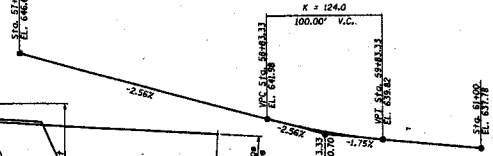
PLAN



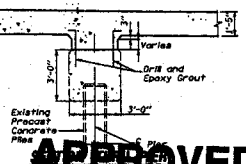
SECTION THRU ABUTMENT

(Dim. ⊥ Rt. Angles)

DETAIL A



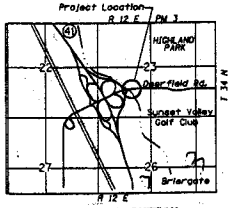
PROFILE GRADE



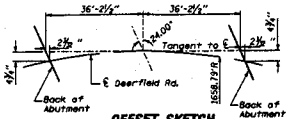
APPROVED
JUN 04 2003
AS A BASIS FOR PREPARATION OF DETAILED PLANS

HORIZONTAL CURVE DATA

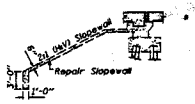
CURVE 1	CURVE 2
P.I. STA= 58+69.52	P.I. STA= 59+48.87, 41.21' RT
Δ= 26° 06' 17"	Δ= 13° 07' 29.51"
D= 03° 27' 15"	D= 19° 14' 20.90"
R= 1658.79'	R= 297.81'
T= 384.56'	T= 34.21'
L= 755.77'	L= 68.22'
P.C. STA= 55+04.96	P.C. STA= 59+14.66, 35.34' RT
P.T. STA= 62+60.73	P.T. STA= 60+19.43, 42.01' RT
E= 43.99	



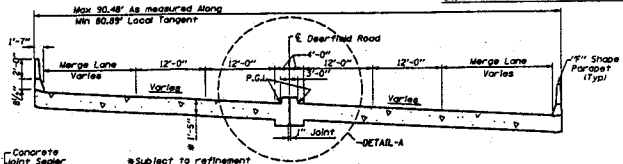
LOCATION SKETCH



OFFSET SKETCH



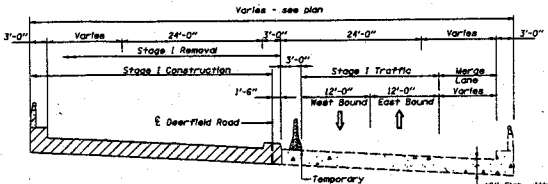
SECTION THRU SLOPE WALL



*Subject to refinement during Final Design.

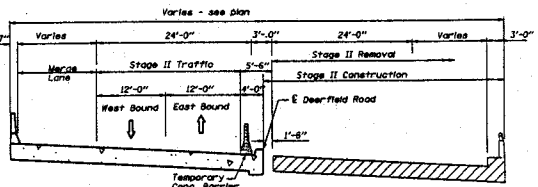
PROPOSED CROSS SECTION

LOOKING EAST



STAGE I REMOVAL

(LOOKING EAST)



STAGE II CONSTRUCTION AND REMOVAL

(LOOKING EAST)

WATERWAY INFORMATION

Drainage Area = 16.6 sq.mi. Low Grade Elev. = 640.70 at Station 60+12 Max. Recorded H.W.E. = 638.2

Flood	Frequency (Yr.)	Disc. cfs.	Waterway Opening sqft		Natural H.W.E. (Ft.)	Created Head Ft.		Headwater Elev. (ft)	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
	10	923	349	349	637.14	0.00	0.00	637.14	637.14
Design	50	1498	430	430	638.33	0.24	0.24	638.57	638.57
Base	100	1798	461	461	638.81	0.39	0.39	639.20	639.20
Max Calc	500	2742	537	537	640.26	0.84	0.84	641.10	641.10

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

DEERFIELD RD. OVER EAST SKOKIE DITCH
F.A.U. ROUTE 1257
SECTION 104RB-R
LAKE COUNTY
STA. 59+64.37
SN 049-0088

SCALE:
DATE 05/19/03
DRAWN BY T. CHURCH
CHECKED BY J. ZHAO