Benchmark BM-24:
"Aluminum Disk" set in concrete, 0.50± mile east of Stearns Road and Dunham Road at the south side of Stearns Road. Elev. 762.678

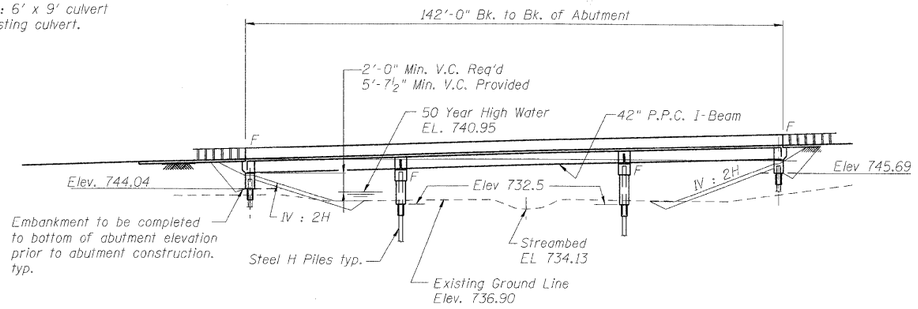
Existing Structure: 6' x 9' culvert
No Salvage of existing culvert.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

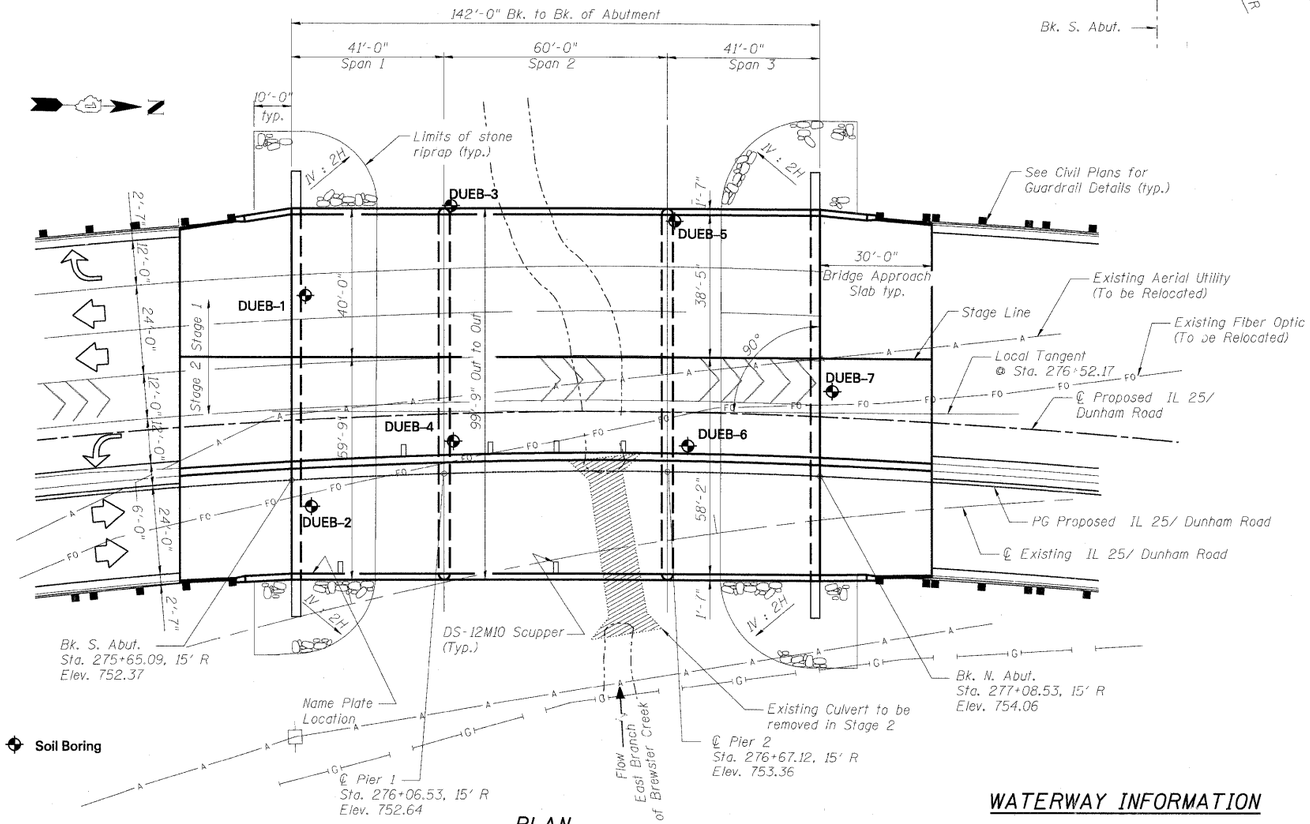
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	-	KANE	545	316
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET SD- 1
OF 34 SHEETS

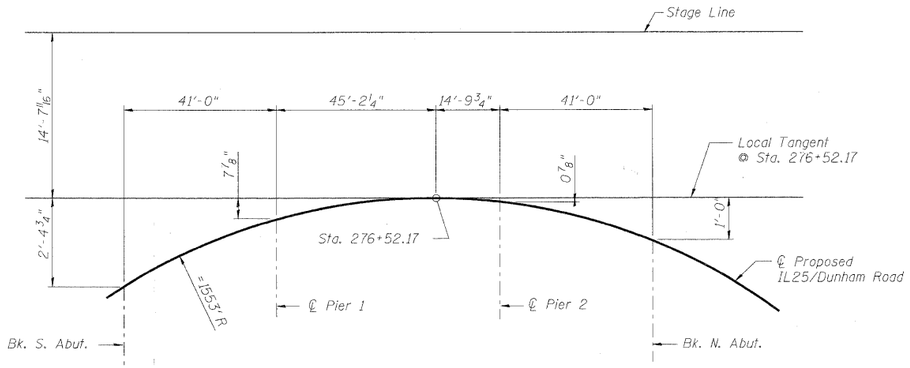
Contract # 63074



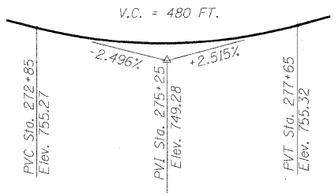
ELEVATION



PLAN



OFFSET SKETCH



PROFILE GRADE

IL25/Dunham Rd.

STATION 276+36.96
F.A.P. 360
SECTION 06-00214-15-BR
BUILT 201_ BY
STATE OF ILLINOIS
LOADING HL93
STRUCTURE NO.
045-2032

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications (4th ed.) with 2008 Interims

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

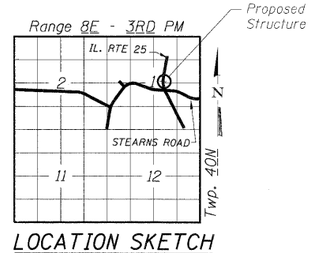
f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f_{pu} = 270,000 psi (½" ϕ low lax. strands)
f_{pbt} = 201,960 psi (½" ϕ low lax. strands)

CURVE DATA @ ℄ PROPOSED IL25/DUNHAM RD.

PI STA. = 273+80.87
Δ = 39° 29' 05" (RT)
D = 3° 41' 22"
R = 1,553.00'
T = 557.35'
L = 1,070.23'
E = 96.98'
S.E. = 0.02 '/'
P.C. STA. = 268+23.52
P.T. STA. = 278+93.75

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.08 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.14 g
Soil Site Class = D



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	741.04	727.75	727.75	742.69

WATERWAY INFORMATION

Drainage Area = 5.463 Sq. mi

Flood	Frequency (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.
Design	50	526	51.2	419.7	740.95	1.68	0.07	742.63	741.02
Base	100	674	51.2	495.1	741.45	1.56	0.13	743.01	741.58
Overtopping	<500**/>500***	457/>1050	51.2	1367.0	N/A	N/A	N/A	742.00	749.67
Max. Calc.	500*	1050	51.2	619.6	742.42	1.01	0.30	743.43	742.72

* 500-Year flowrate determined from analytical frequency curve-WSEL'S extrapolated
** Overtopping occurs under the 500-Year WSEL under existing conditions
*** Overtopping occurs above the 500-Year WSEL under proposed conditions

DESIGNED	AJK
CHECKED	AAY
DRAWN	VH
CHECKED	DMC

DIANE M. CAMPIONE 81-4827 CHICAGO, IL — STATE OF ILLINOIS — LICENSED STRUCTURAL ENGINEER
EXPIRATION DATE: 11-30-2010
DATE MARCH 31, 2009

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Rolph E. Anderson
Engineer of Bridges and Structures

benesch
alfred benesch & company
Engineers • Surveyors • Planners
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450
Job # 3944

GENERAL PLAN AND ELEVATION
IL 25/DUNHAM ROAD OVER THE EAST BRANCH OF BREWSTER CREEK
F.A.P. 360 - SEC. 06-00214-15-BR
KANE COUNTY
STATION 276+36.96
STRUCTURE NO. 045-2032

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