STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK: CRA 18

South bolt on fire hydrant at Sta. 173+03.39, 92.89' Lt., Elev. 703.55

EXISTING STRUCTURE:

The structure was built as a single span reinforced concrete slab bridge on closed abutments. 14'-2 5/8" back to back abutments, 48'-8" out to out. Built in 1940 as F.A. Project 377, Section 39A. Structure to be removed and replaced.

Stage construction shall be utilized to maintain one lane of traffic during construction.

Salvage: none

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	694.40	694.06

GENERAL NOTES:

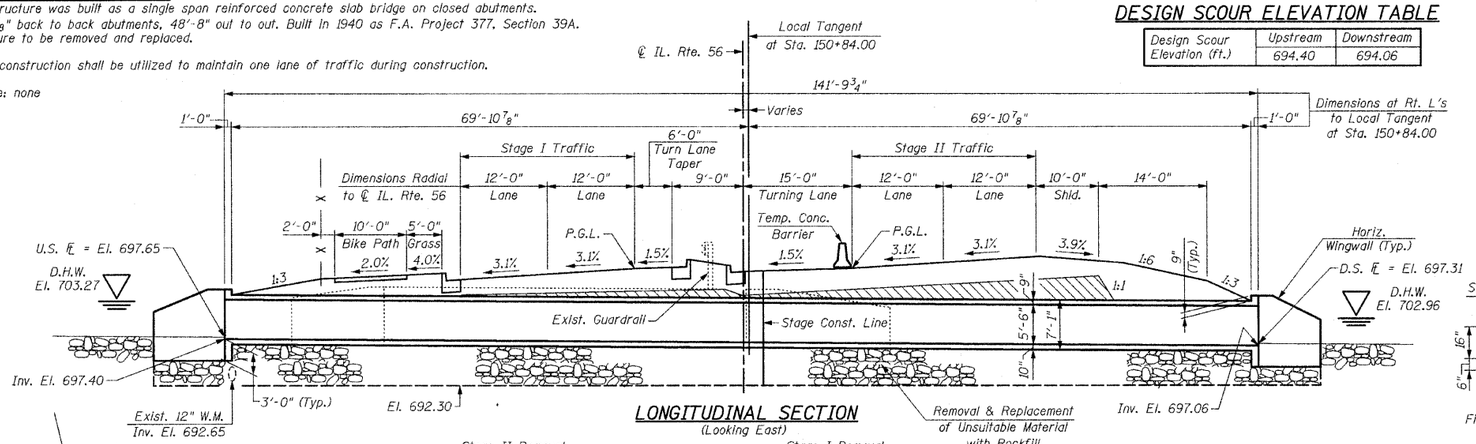
Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60, see Special Provisions.

Layout of Slope Protection System may be varied in the field to suit ground conditions as directed by the Engineer.

The material used to replace the unsuitable material removed below the bottom of the proposed cast-in-place reinforced concrete box culvert and wingwalls shall be paid for as "Rockfill".

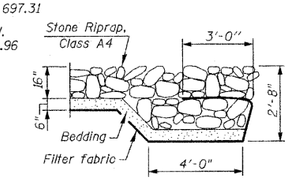
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before State I Removal to ensure the remaining portion will not be prematurely damaged.

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 varies subsurface conditions encountered in the field.



LONGITUDINAL SECTION

(Looking East)



SECTION A-A

PROP. CURVE 2

(IL. RTE. 56)

PI = Sta. 152+72.86
Δ = 29°-07"-26" (Lt.)
D = 1°-43'-14"
R = 3,330.00'
T = 865.04'
L = 1,692.66'
E = 110.52'
e = 3.14%
T.P. = 72.61'
S.E. RUN =114'
P.C. Sta. =144+07.82
P.T. Sta. =161+00.48

INDEX OF SHEETS

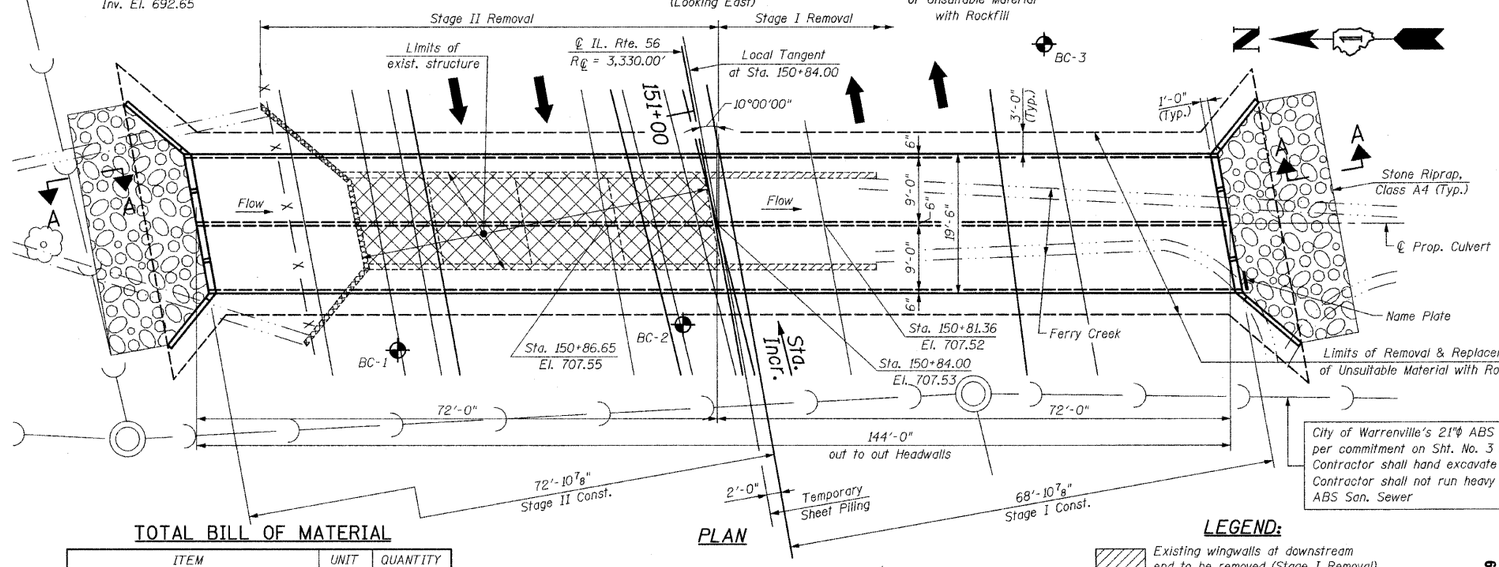
S1 GENERAL PLAN & ELEVATION
S2 STAGE CONSTRUCTION DETAILS
S3 REINFORCEMENT DETAILS-I
S4 REINFORCEMENT DETAILS-II
S5 BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
S6 TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
S7 SOIL BORING LOGS

WATERWAY INFORMATION

Drainage Area=4.27 Sq. Mi. Low Grade Elev. 706.68 @ Sta. 149+50 Max. Recorded H.W.E. = 703.4

Flood	Freq. Yr.	Q C.F.S.	Waterway Opening Existing	Waterway Opening Proposed	Natural H.W.E.	CreatedHead Existing	CreatedHead Proposed	Headwater Elevation Existing	Headwater Elevation Proposed
	10	160	49.3	81.9	702.19	0.15	0.00	702.34	702.19
Design	50	235	58.6	95.8	702.96	0.25	0.07	703.21	703.03
Base	100	265	63.0	99.0	703.33	0.28	0.10	703.61	703.43
Overtopping	>500	-	-	-	-	-	-	-	-
Max. Calc.	500	350	77.4	99.0	704.53	0.33	0.24	704.86	704.77

Comments:
1. NOTE: All elevations are in Highway Datum.
2. Datum Correlation: FIS Elevations = Highway Elevations+0.36'.
3. All elevations from cross section 2.09, 10 feet upstream of the upstream face of the proposed structure.



City of Warrenville's 21"ϕ ABS San. Sewer, Inv. El. 693.00± per commitment on Sht. No. 3 (see Roadway Plans). The Contractor shall hand excavate near this San. Sewer and the Contractor shall not run heavy equipment on top of this 21"ϕ ABS San. Sewer

PLAN

STATION 150+84
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. ROUTE 365
SECTION (58&59) WRS-3
LOADING HS-20
STRUCTURE NO. 022-2025

NAME PLATE

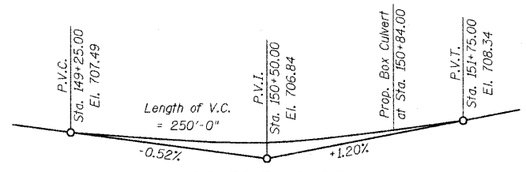
See Std. 515001

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson (TED)
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
BHADRESH N. SHAH
081-004476
LICENSED STRUCTURAL ENGINEER
CHICAGO

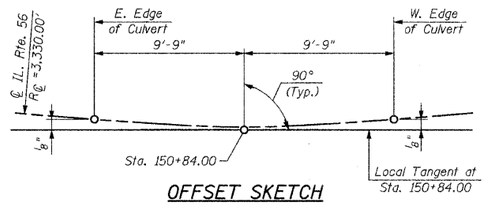
TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Stone Riprap, Class A4	Sq Yd	100
Filter Fabric	Sq Yd	117
Removal of Existing Structures No. 1	Each	1
Removal and Disposal of Unsuitable Material for Structures	Cu Yd	662
Reinforcement Bars	Pound	53,440
Concrete Box Culverts	Cu Yd	222.1
Temporary Sheet Piling	Sq Ft	700
Rockfill	Cu Yd	662
Bar Splicers	Each	98
Name Plates	Each	1



PROFILE GRADE

(along Proposed IL. Rte. 56)



OFFSET SKETCH

LEGEND:

Existing wingwalls at downstream end to be removed (Stage I Removal)

Existing Bridge & wingwalls at upstream end to be removed (Stage II Removal)

Porous Granular Embankment Subgrade between top of culvert and subgrade, see Roadway Plans

Indicates Boring Locations

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specifications for Highway Bridges, 17th Edition

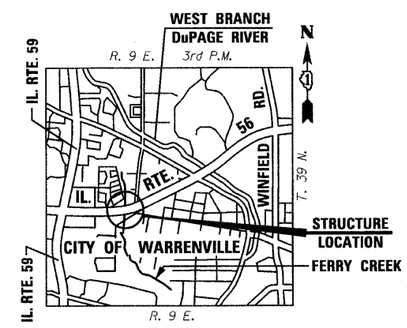
LOADING HS 20-44

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

DESIGN STRESSES

FIELD UNITS

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



LOCATION SKETCH

Bhadresh N. Shah 08/11/2010
BHADRESH N. SHAH
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS LIC. No. 081-004476
EXPIRES: 11-30-10

GENERAL PLAN & ELEVATION
IL. ROUTE 56 OVER
FERRY CREEK
F.A.P. RTE. 365
SECTION (58&59) WRS-3
DuPAGE COUNTY
STA. 150+84.00
STRUCTURE NO. 022-2025

DESIGNED	-
CHECKED	-
DRAWN	-
CHECKED	-

CHRISTIAN-ROGE & ASSOCIATES, INC.
ENGINEERS-PLANNERS-SURVEYORS
211 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60606
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S1	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S7 SHEETS	365	(58&59) WRS-3	DuPAGE	466	200
			CONTRACT NO. 62420		
		ILLINOIS	FED. AID PROJECT		

1-7-11