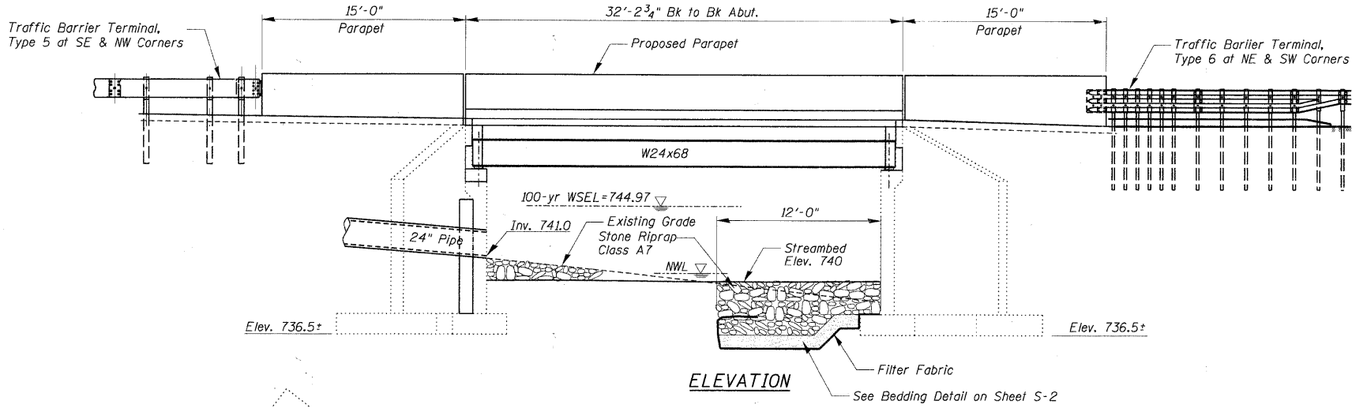
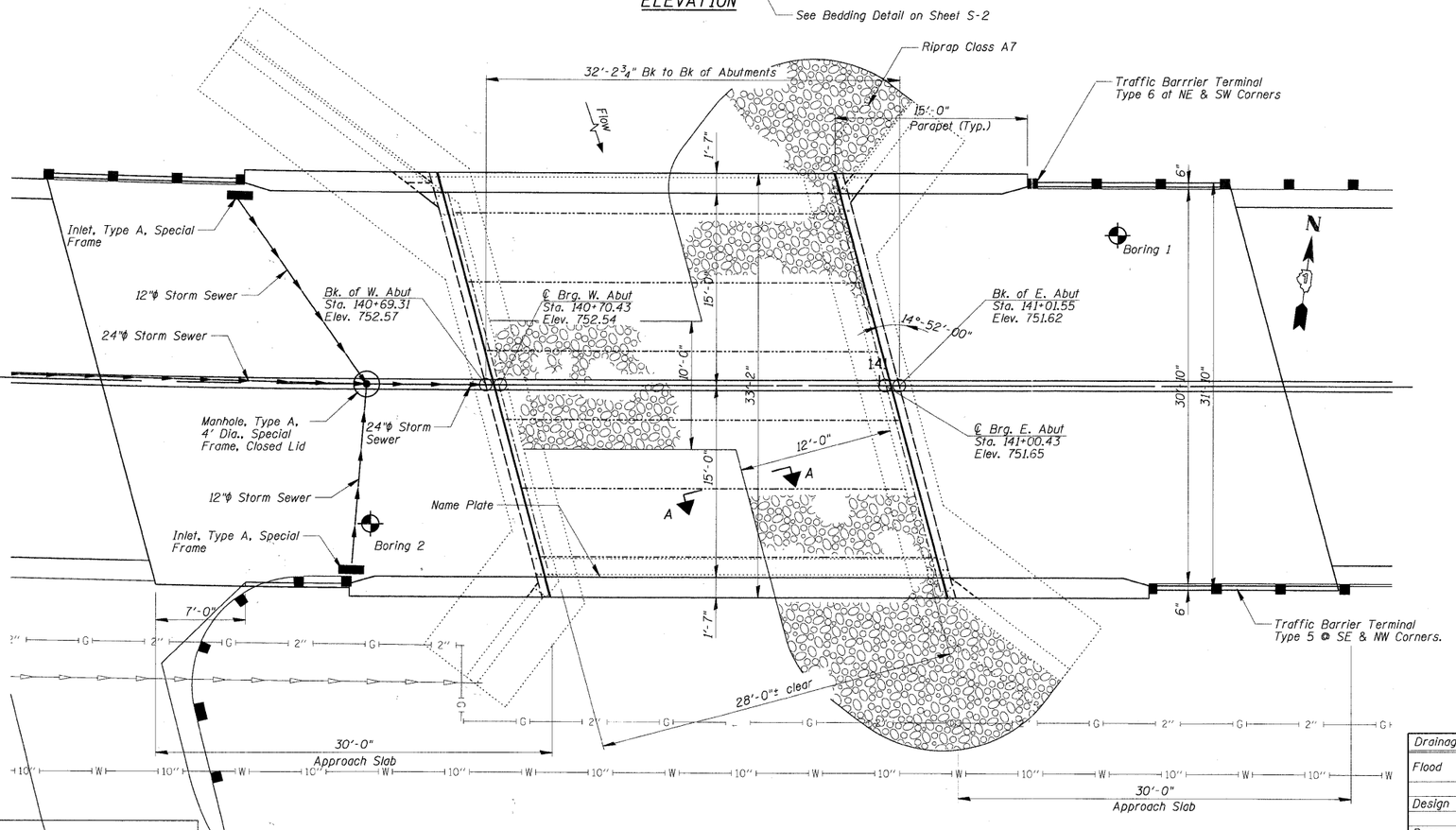
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

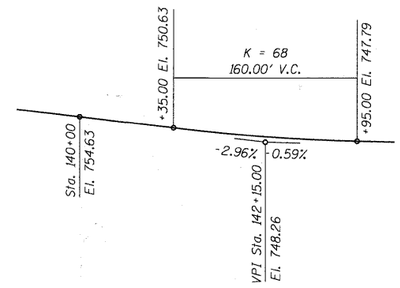
Benchmark: OSBM 07-1 Square Cut On The NE Corner Of The Southeast Headwall At Harper Drive And Edgewood Drive. Elev. 758.78

Existing Structure: SN 56-3101. The existing structure is a simple span Bridge with a span length of 32'-2¾" bk to bk of abutments and 30'-2" C to C of bearings. The structure built in 1954 and the deck was widened in 1996 by adding another beam at the top of north wingwalls. The superstructure provides 28'-6" roadway with 15" curbs and type SM steel railing on both sides. The superstructure consists of an 8" slab supported by W24x84 steel beams. The abutments are pinned at top and bottom, but wingwalls are cantilever type wingwalls.

Roadway will be closed during construction and traffic will be detoured.

Salvage: None.

INDEX OF SHEETS



PROFILE GRADE

RATT CREEK
BUILT BY
VILLAGE OF ALGONQUIN
SEC. 09-00078-00-WR
F.A.U. RT. 4010 STA. 140+85.43
STR. NO. 056-3101 LOADING HS-20

NAME PLATE

I Certify That To The Best Of My Knowledge, Information And Belief, This Bridge Design Is Structurally Adequate For The Design Loading Shown On The Plans. The Design Is An Economical One For The Syle Of Structure And Complies With Requirements Of The Current "AASHTO Standard Specification For Highway And Bridges".

STATE OF ILLINOIS
MAJID MOBASSERI
081-005058
CHAMPAIGN, ILLINOIS
LICENSED STRUCTURAL ENGINEER

11/30/2011

MAJID MOBASSERI
ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/12

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS

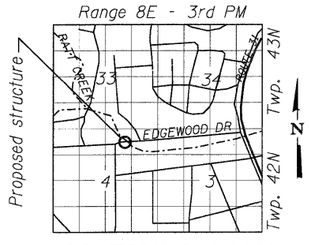
f'c = 3,500 psi (New)
f'c = 2,000 psi (Exist.)
fy = 60,000 psi (New))
fy = 40,000 psi (Exist.)

LOADING HS20-44

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = A
Horizontal Bedrock Acceleration Coefficient (A) = 0.033g
Site Coefficient (S) = 1.25



LOCATION SKETCH

GENERAL PLAN
EDGEWOOD DRIVE OVER
RATT CREEK
F.A.U. RTE. 4010
SECTION 09-00078-00-WR
MCHENRY COUNTY
STRUCTURE No. 056-3101
STA. 140+85.43

WATERWAY INFORMATION

Drainage Area = 3.53 Sq. M Low Grade Elev. 751.32 @ Sta. 141+02.19

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	408	52.5	52.5	743.42	0.42	0.31	743.84	743.73
Design	30	604	62.0	62.0	744.23	0.39	0.29	744.62	744.52
	50	687	66.5	66.5	744.54	0.35	0.26	744.89	744.80
Base	100	847	73.4	73.4	745.06	0.36	0.27	745.42	745.33
Max. Calc.	500	1007	79.5	79.5	745.52	0.43	0.41	745.95	745.93

DESIGN SCOUR ELEVATION TABLE

Design Scour Elev. (ft.)	E. Abut.	W. Abut.
	738.1	738.1

DESIGNED	-
CHECKED	-
DRAWN	
CHECKED	-

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S-1 SHEETS	4010	09-00078-00-WR	McHENRY	128	59
			CONTRACT NO. 63655		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

N:\ALGONQUIN\070273.00026\Struct\070273.00026-SI.SHT