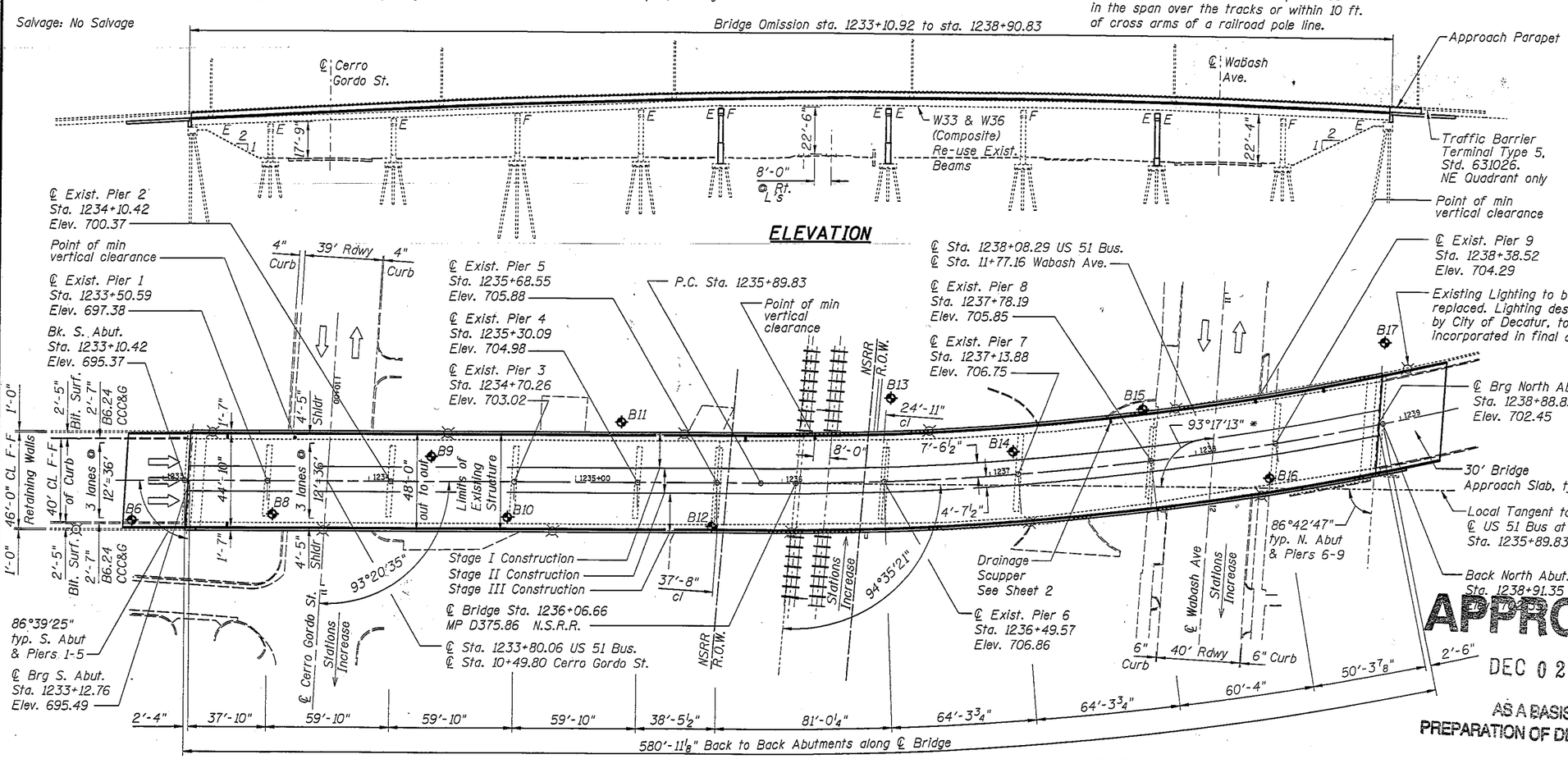
Bench Mark: Chiseled Square on top of Southeast Wingwall on Overhead Bridge carrying US 51 BUS over NSRR approx. 70' North of US 36, Sta. 1230+50.71, 23.88' Rt.
Existing Structure: S.N. 058-0014 built 1966 as F.A. Route 2, Section 50Z-VB at Station 1236+06.66. Ten span, 508'-11⅛" back to back of abutments, 48'-0" out to out. Superstructure consists of a partially curved R.C. deck on straight WF beams supported on three-column piers on timber piles, and pile bent abutments. Deck to be removed and replaced. Piers 5, 6, & 8 to be removed and replaced above the footings.

Staging: Traffic to be maintained during the rehabilitation by staged construction. 2 lanes to remain open, 3 stages.

Salvage: No Salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

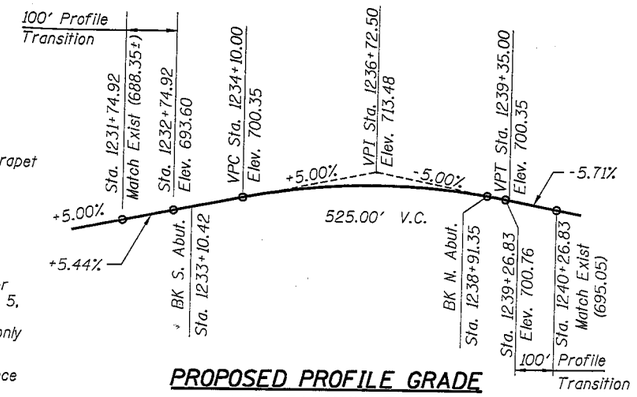
Note:
No freefall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of a railroad pole line.



ELEVATION

PLAN

Horizontal Geometry from 1963 plans.



PROPOSED PROFILE GRADE U.S. 51 BUSINESS

SCOPE OF WORK

Remove & Replace Existing Bridge Deck & Piers 5, 6, & 8. Salvage Existing Steel Beams. Clean & Repaint.

Remove Existing Expansion Bearings and Replace with Type 1 Elastomeric Bearings at the Abutments and at Piers 5, 6, & 8.

Refurbish & Reset all other Bearings, except Replace Fixed Bearings at Pier 5

Remove & Replace Existing Abutment Backwalls & Diaphragms at the Expansion Joints.

Remove & Replace Approach Slabs.

Remove & Replace Lighting Fixtures (Design by City of Decatur).

Remove Aluminum Rail on top of Retaining Walls and construct Concrete Cap.

Structural Repair of Substructure as needed.

Beams to be Composite In Positive Moment Regions.

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DEC 0 2 2008
AS A BASIS FOR PREPARATION OF DETAILED PLANS

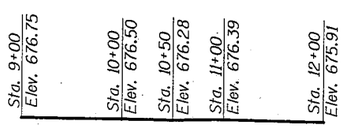
DESIGN STRESSES

FIELD UNITS

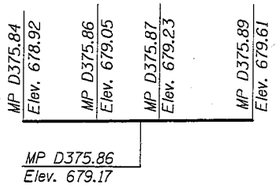
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

EXISTING CONSTRUCTION

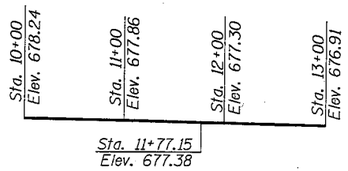
fc = 1,400 psi (Concrete w/o earth pressure)
fs = 20,000 psi (Reinforcement)
fs = 20,000 psi (Structural Steel A36)
vc = 75 psi (Footings)
n = 10



EXISTING PROFILE GRADE CERRO GORDO ST.



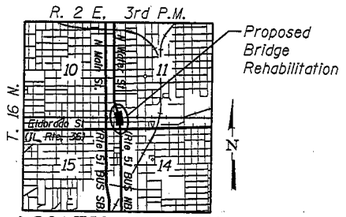
TOP OF RAIL ELEVATIONS SOUTH RAIL SOUTH TRACK N.S.R.R.



EXISTING PROFILE GRADE WABASH AVENUE

CURVE DATA

Δ = 16° 00' 00"
D = 4° 00' 00"
T = 201.31'
L = 400.00'
E = 14.08'
R = 1432.39'
S.E. = 0.04'/FT
P.C. = Sta. 1235+89.83
Begin S.E. Transition = Sta. 1235+17.83
End S.E. Transition = Sta. 1236+12.83
P.T. = Sta. 1239+89.83
P.I. = Sta. 1237+91.14



LOCATION SKETCH

CITY OF DECATUR

HIGHWAY CLASSIFICATION

F.A.P. Route 710
Functional Class: Other Principal Arterial
ADT: 15,556 (2011); 19,334 (2031)
ADTT: 1,151 (2011); 1,430 (2031)
DHV: 1,400 (2011); 1,740 (2031)
Design Speed: 35 m.p.h.
Posted Speed: 35 m.p.h.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specificatons

LOADING HS20-44

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

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.045
Site Coefficient (S) = 1.2

CERRO GORDO ST.

Functional Class: Local
ADT: 1,500 (2011); 1,800 (2031)
Design Speed: 30 m.p.h.
DHV: 158 (2011); 189 (2031)

WABASH AVENUE

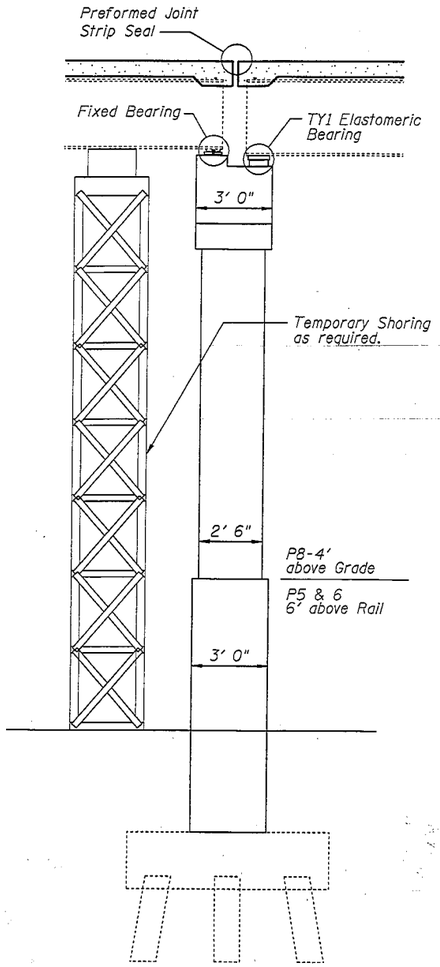
Functional Class: Local
ADT: 950 (2011); 1,200 (2031)
Design Speed: 30 m.p.h.
DHV: 104 (2011); 132 (2031)

DESIGNED	MJB
CHECKED	MAJ
DRAWN	MSJ
CHECKED	MJB

GENERAL PLAN
U.S. 51 BUSINESS OVER CERRO GORDO ST., N.S.R.R. & WABASH AVE.
F.A.P. ROUTE 710 SECTION (50Z-VB)BR
MACON COUNTY
STATION 1236+06.66
STRUCTURE NO. 058-0014

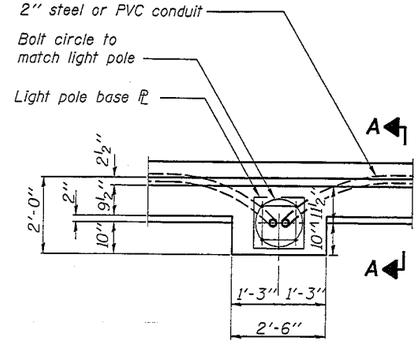
SHEET NO. 1	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3 SHEETS	710	(50Z-VB)BR	MACON	.	.
	SN 058-0014		CONTRACT NO.		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

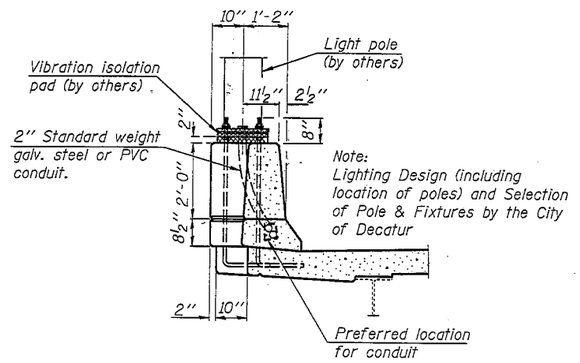


SECTION THRU PIERS 5, 6, & 8

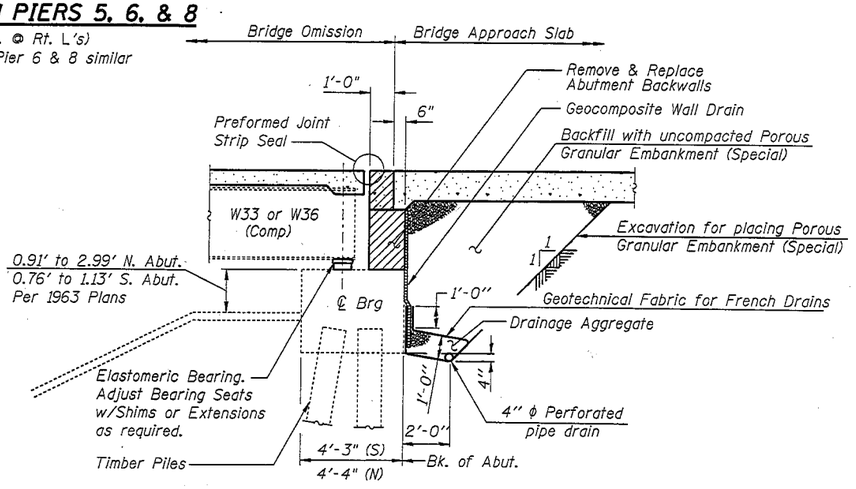
(Horiz. dim. @ Rt. L's)
Pier 5 shown, Pier 6 & 8 similar



PLAN

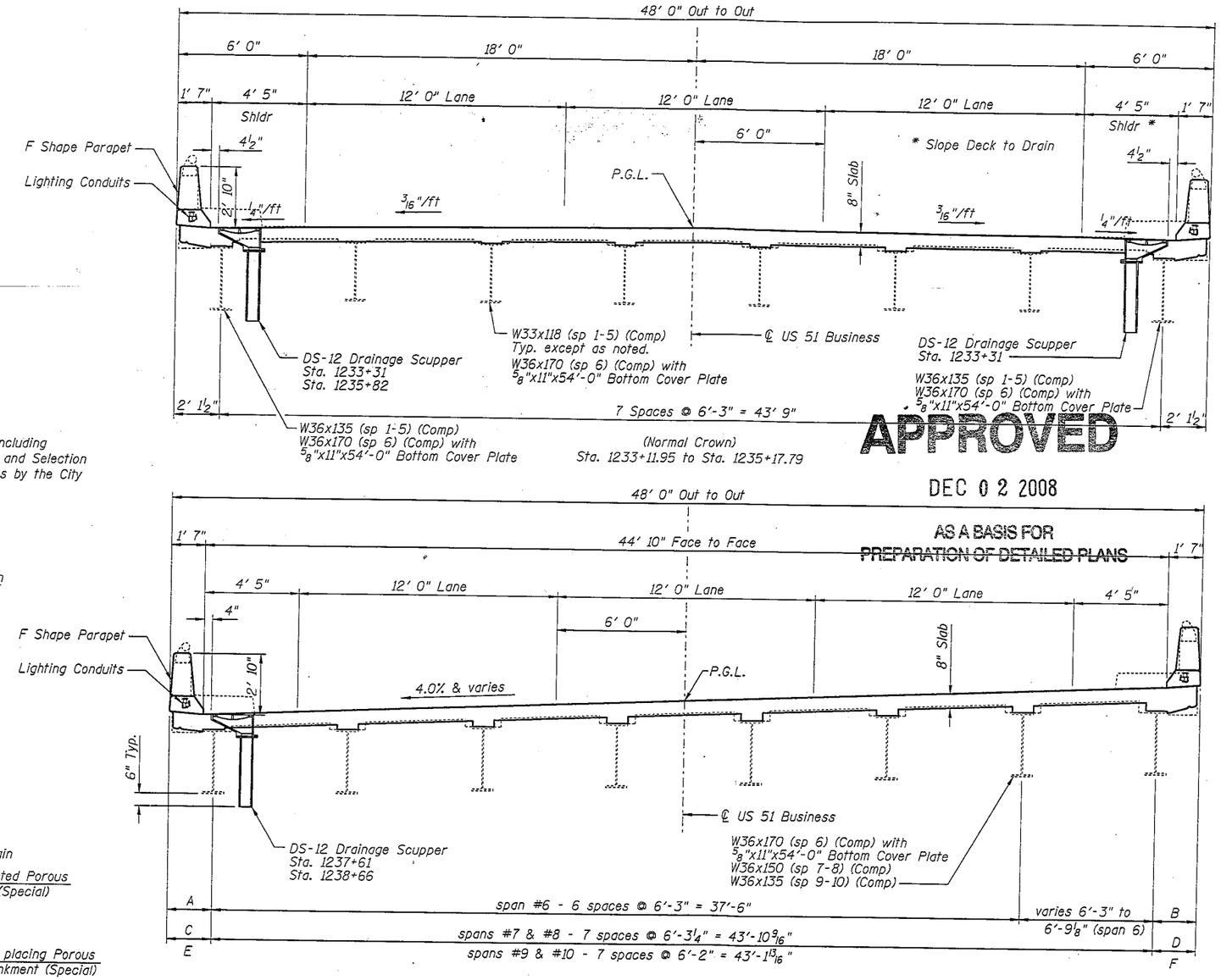


SECTION A-A
LIGHT POLE DETAILS



SECTION THRU ABUTMENTS

(Horiz. dim. @ Rt. L's)



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AS A BASIS FOR
PREPARATION OF DETAILED PLANS

(All Dimensions Measured Radially)
S.E. Transition Sta. 1235+17.79 to Sta. 1236+12.79
Full S.E. : Sta. 1236+12.79 to Sta. 1238+89.63

CROSS SECTION

(Looking North)

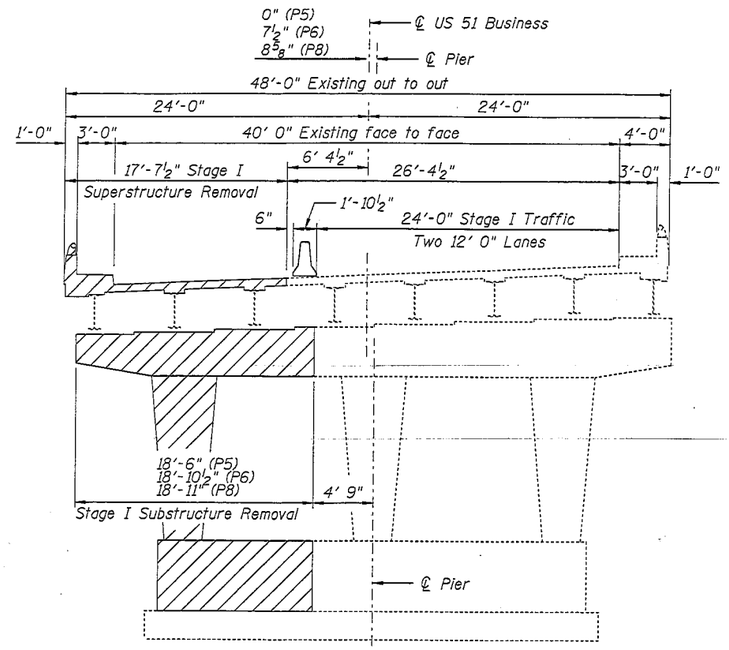
	span #6		spans #7 & #8		spans #9 & #10	
Dimension	A	B	C	D	E	F
Maximum	2'-6½"	2'-3⅛"	2'-10⅞"	2'-10⅛"	2'-10⅞"	2'-11⅞"
Minimum	1'-9¼"	1'-4⅛"	1'-3½"	1'-4¼"	1'-9⅞"	1'-6⅜"

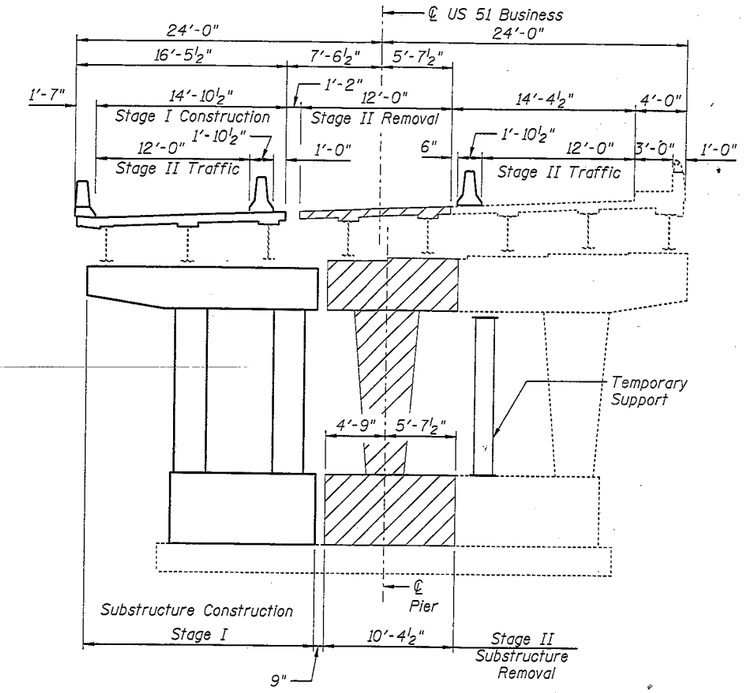
GENERAL PLAN
U.S. 51 BUSINESS OVER CERRO GORDO ST., N.S.R.R. & WABASH AVE.
F.A.P. ROUTE 710 SECTION (50Z-VB)BR
MACON COUNTY
STATION 1236+06.66
STRUCTURE NO. 058-0014

DESIGNED	MJB
CHECKED	MAJ
DRAWN	MSJ
CHECKED	MJB

SHEET NO. 2	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3 SHEETS	710	(50Z-VB)BR	MACON	.	
	SN 085-0014		CONTRACT NO.		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

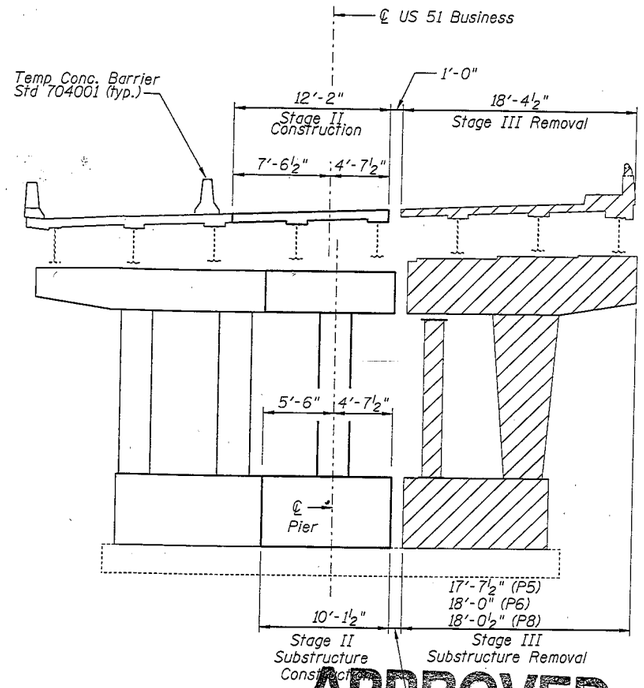
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





STAGING CROSS SECTIONS

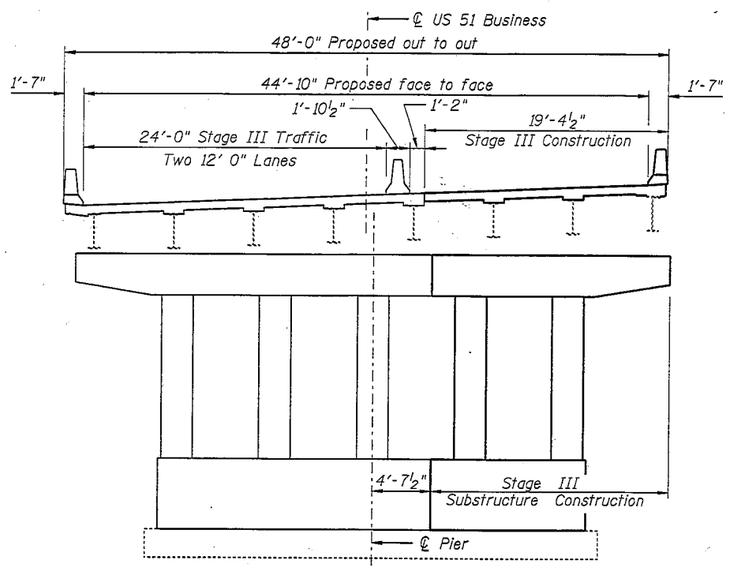
(Looking North)

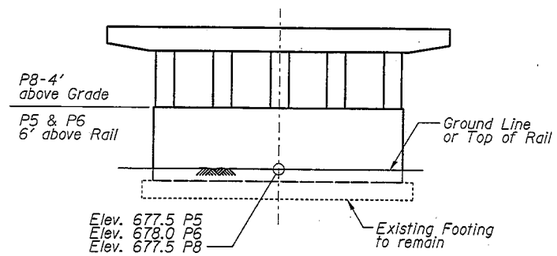


APPROVED

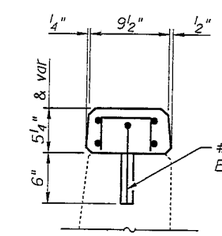
DEC 0 2 2008

AS A BASIS FOR
PREPARATION OF DETAILED PLANS



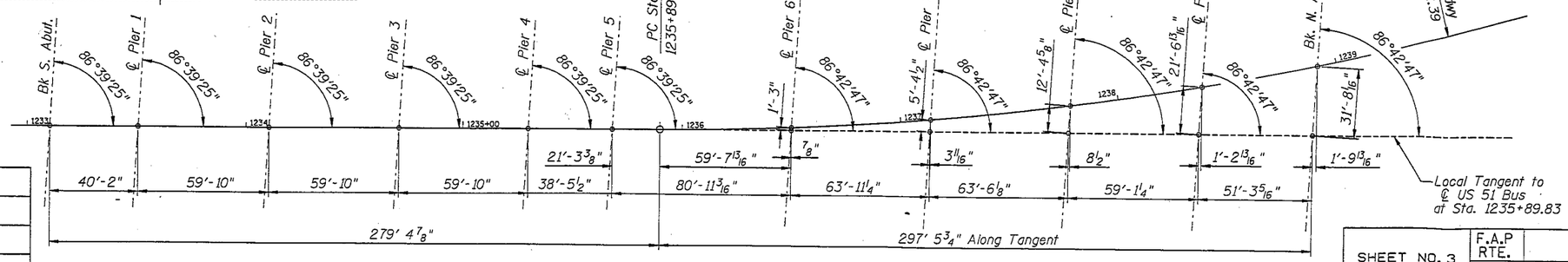


REPLACEMENT PIER SKETCH



RETAINING WALL MODIFICATION DETAIL

(On Full Length of NW, SW, & SE Retaining Walls)
Sta. 1230+45.71 to Sta. 1233+11.73 LT.
Sta. 1230+45.71 to Sta. 1233+08.93 RT
Sta. 1239+01.17 to Sta. 1240+35.91 LT



OFFSET SKETCH

Skew angles from 1963 plans

DESIGNED	MJB
CHECKED	MAJ
DRAWN	MSJ
CHECKED	MJB

GENERAL PLAN
U.S. 51 BUSINESS OVER CERRO GORDO ST., N.S.R.R. & WABASH AVE.
F.A.P. ROUTE 710 SECTION (50Z-VB)BR
MACON COUNTY
STATION 1236+06.66
STRUCTURE NO. 058-0014

SHEET NO. 3	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3 SHEETS	710	(50Z-VB)BR	MACON	.	
		SN 058-0014	CONTRACT NO.		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		