

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
704	22W, RS&TS, 2BR	Mc LEAN	404	1
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

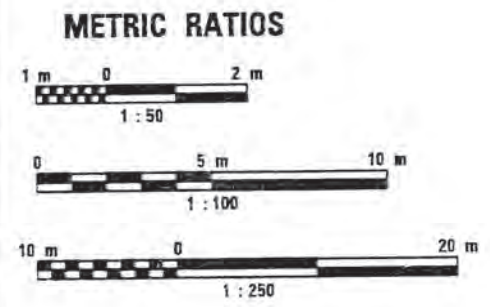
SCALES { PLAN 1:250
PROFILE 1:50
CROSS SECTIONS HORIZ. 1:100
CROSS SECTIONS VERT. 1:50

FAP ROUTE 704 (I-55 BL) (VETERANS PARKWAY)
SECTION (2) W, RS&TS, 2BR
PROJECT ACSTPF-BRF-704(9)
McLEAN COUNTY

C-9-030-96



MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS _____

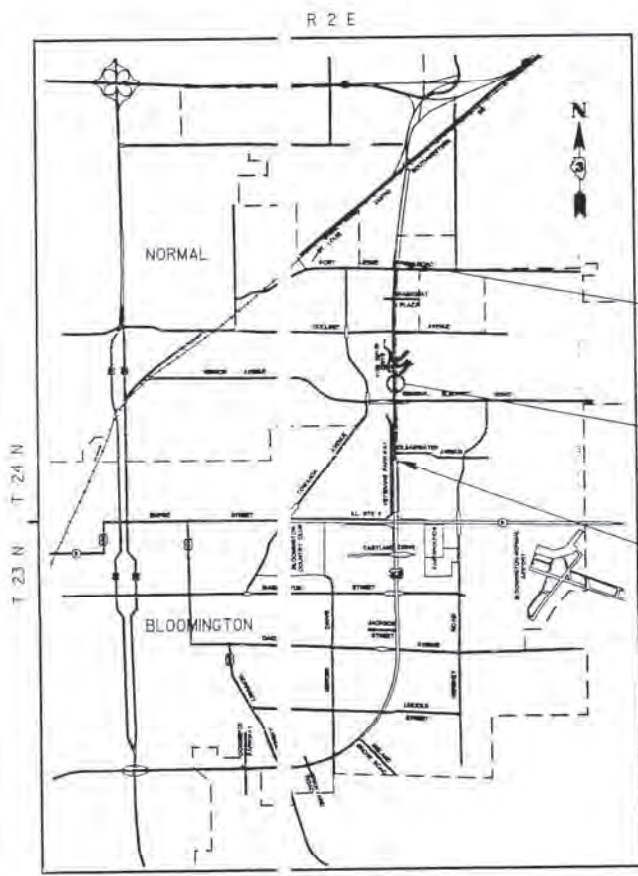


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
BLOOMINGTON CITY TOWNSHIP : SECTIONS 26 AND 35
NORMAL TOWNSHIP : SECTIONS 23 AND 26

DISTRICT 3 - OTTAWA, ILLINOIS (815) 434-6131
PROJECT ENGINEER : RAY MULHOLLAND
UNIT CHIEF : MARK JONES

CONTRACT NO. 86687



LOCATION MAP

GROSS AND NET LENGTH OF PROJECT = 2.545 km

PROJECT ENDS
STATION 14 + 015.174

SECTION 2BR
INCLUDES A THREE SPAN P.P.C. I BEAM BRIDGE
(SPANS 2 AT 15.0 m AND 1 AT 23.5 m) CARRYING
VETERANS PARKWAY OVER SUGAR CREEK ON PILE
BENT PIERS AND ABUTMENTS AT STA. 12+445.451
STRUCTURE NO. 051-0228
TOTAL LENGTH 155.810 m

PROJECT BEGINS
STATION 11 + 474.000

DESIGN DESIGNATION
6,400(17) REGIONAL ARTERIAL 5.67(B-20)
43.750 (1997) P.V. = 57.5% S.U. = 1.4% M.U. = 1.1%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED JUL 13 19 98

[Signature]
DISTRICT ENGINEER

19

ENGINEER OF PROJECT DEVELOPMENT AND IMPLEMENTATION
August 14, 19 98
Bill Burles
ENGINEER OF DESIGN AND ENVIRONMENT

August 14, 19 98
James R. Sizer
DIRECTOR, DIVISION OF HIGHWAYS



6/29/98
Kevin L. Moran, P.E.
Exp. 11/30/99

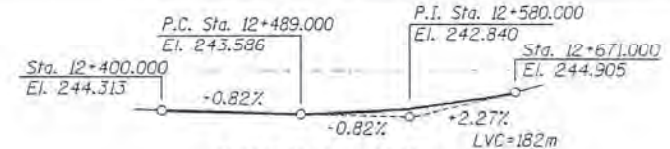
SEAL

MISSMAN, STANLEY & ASSOCIATES, P.C.

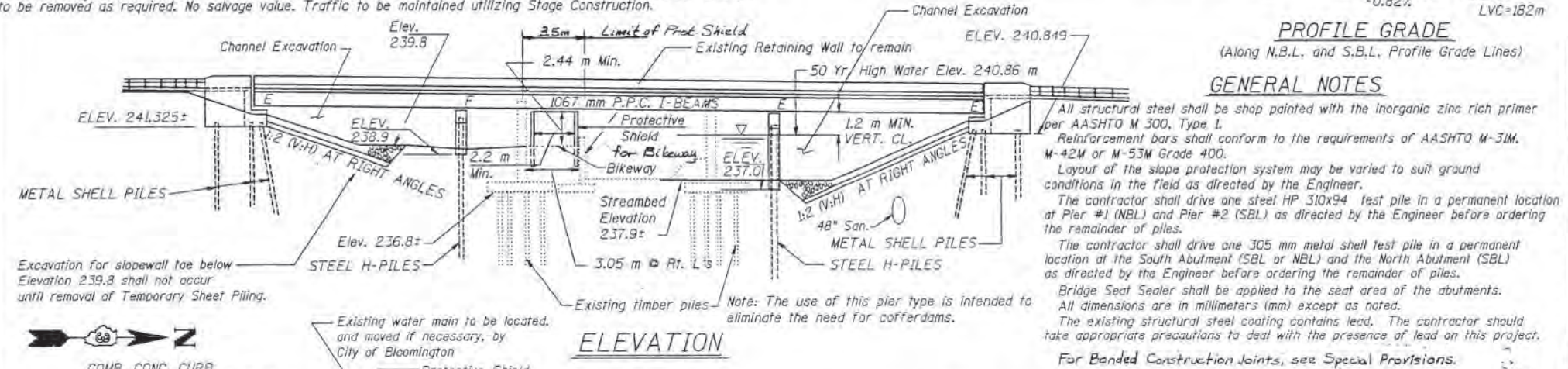
PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

BM Bridge : Chiseled "□" at S.E. Corner of Northbound Structure Sta. 12+450
Elev. 243.789

Exist. Structures : Sta. 12+449.451 (306+50-English) F.A.P. Rte. 5, Section 2B, SN 057-0067 (SB) and SN 057-0068 (NB), built in 1940.
The existing structures have closed concrete abutments and wingwalls supported on timber piles. The existing structures are single span and have a 178 mm thick reinforced concrete slab on five wide flange beams each. The total structure length, back to back of abutments is 16.091 m. Both structures are 9.398 m wide, skewed 38° and are to be removed as required. No salvage value. Traffic to be maintained utilizing Stage Construction.

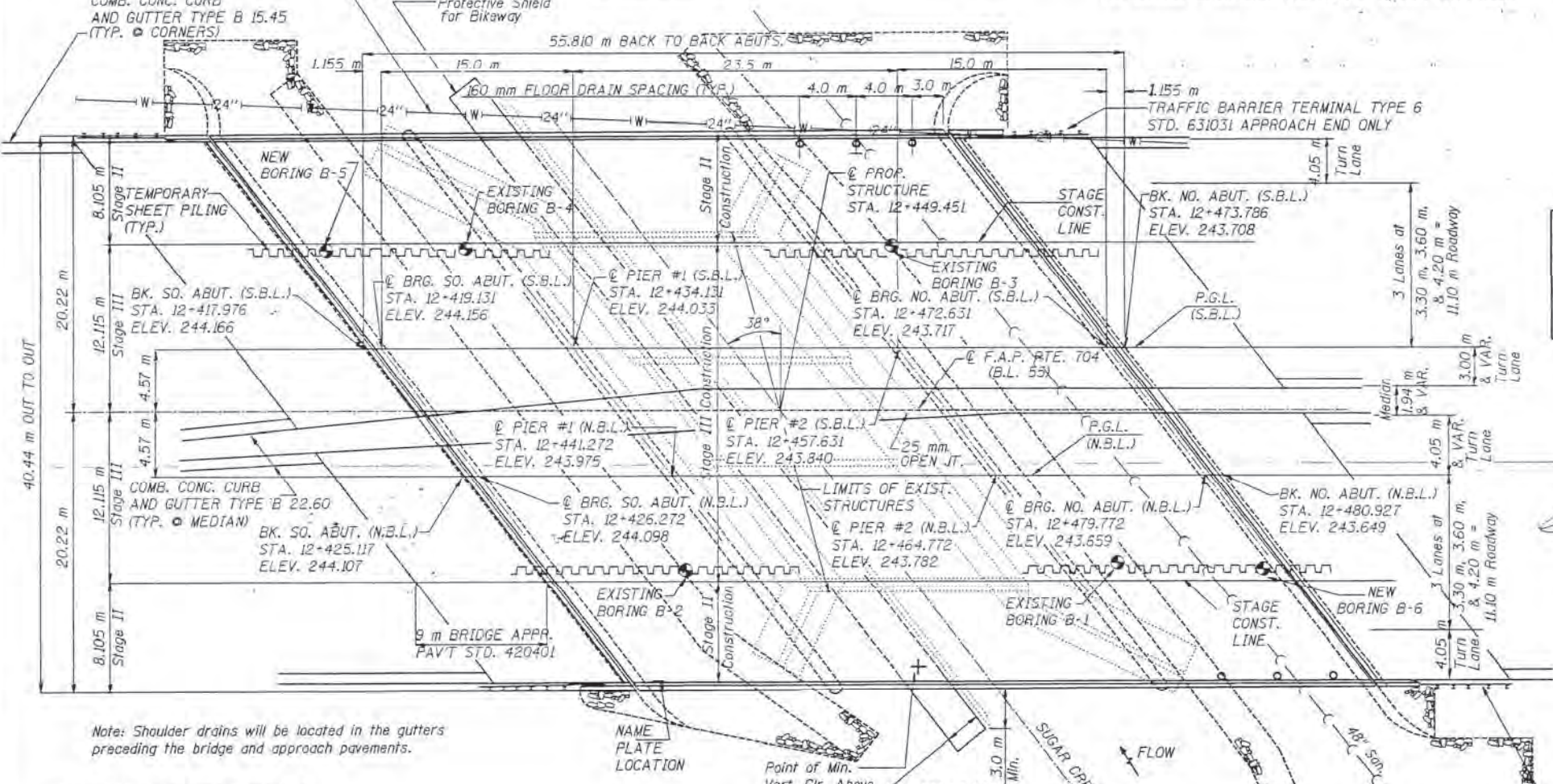


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
704	2BR	McLEAN	404	286
STA. TO STA.				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
SHEET NO. 1 OF 34				

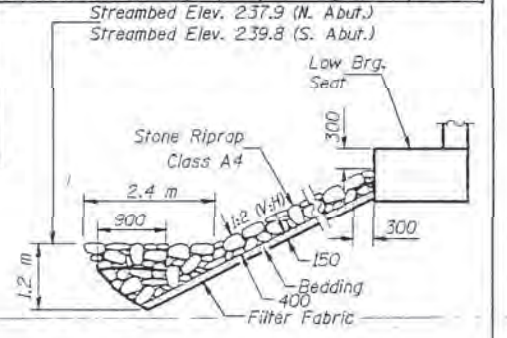


TOTAL BILL OF MATERIAL

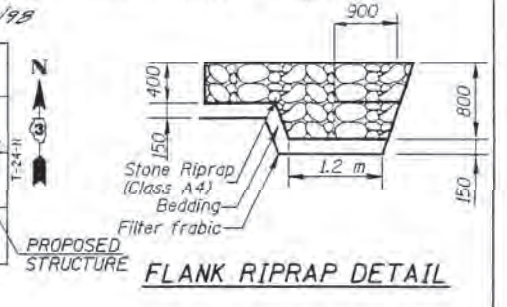
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			2
Structure Excavation	m ³		32.3	32.3
Concrete Superstructure	m ³	619.0		619.0
Concrete Structures	m ³		336.0	336.0
Furnish & Erecting Precast Prestressed Concrete Beams, 1067 mm	m	1,072		1,072
Elastomeric Bearing Assembly Type I	Each		80	80
Reinforcement Bars, Epoxy Coated	kg	74,150	25,260	99,410
Test Pile Steel HP 310 x 94	Each		2	2
Furnishing Steel Piles HP 310 x 94	m		1,176	1,176
Driving Steel Piles	m		1,176	1,176
Test Pile Metal Shells	Each		2	2
Furnishing Metal Pile Shells (305 mm #)	m		847.5	847.5
Driving and Filling Shells	m		847.5	847.5
Furnishing & Erecting Structural Steel	kg		7,850	7,850
Temporary Sheet Piling	m ²		864	864
Temporary Bridge Rail	m	31.5		31.5
Name Plates	Each	1		1
Protective Coat	m ²	2,291		2,291
Stone Riprap Class A4	m ²		1,628	1,628
Filter Fabric for use with Riprap	m ²		1,628	1,628
Bridge Deck Grooving	m ²		1,985	1,985
Bar Splicers	Each	1,004	131	1,135
Bridge Seat Sealer	m ²		88	88
Floor Drains	Each	6		6
Preformed Joint Seal 64 mm	m	51.5		51.5
Preformed Joint Seal 102 mm	m	51.5		51.5
Protective Shield	m ²		34	34
Rubbed Finish (Modified)	m ²	234	76	310
Protective Shield for Bikeway	m ²			272
Class S1 Concrete Encement	m ³		83.8	83.8



STATION 12+449.451
 BUILT IN BY
 STATE OF ILLINOIS
 F.A.P. RT. 704 SEC. 2BR
 F.A. PROJ.
 LOADING MS18
 STR. NO. 057-0228
NAME PLATE
 See Std. 515001



STONE RIPRAP ANCHOR DETAIL
 (Dimensions at Rt. Angles)



DESIGN SPECIFICATIONS
 AASHTO (1996)
LOADING MS18
 Allow 1.2 kN/m² for future wearing surface.

DESIGN STRESSES
 FIELD UNITS
 f_c = 24 MPa
 f_y = 400 MPa (Reinf.)
 PRECAST PRESTRESSED UNITS
 f_c = 42 MPa
 f_{ci} = 35 MPa
 f_s = 1860 MPa (12.70 mm φ low relaxation strands)
 f_{si} = 1395 MPa (12.70 mm φ low relaxation strands)

WATERWAY INFORMATION

Drainage Area = 17.84 km² Low Grade Elev. 243.39 Sta. 12+537

Flood	Freq. Yr.	Q m ³ /s	Opening m ²		Nat. H.W.E.		Head - m		Headwater Elev. - m	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	50	44.9	21.8	58.0	240.86	0.19	0.00	241.05	240.86	
Base	100	52.0	23.1	61.5	240.97	0.17	0.00	241.16	240.97	
Overtopping										
Max. Calc.	500	69.3	28.8	78.4	241.49	0.15	0.00	241.65	241.49	

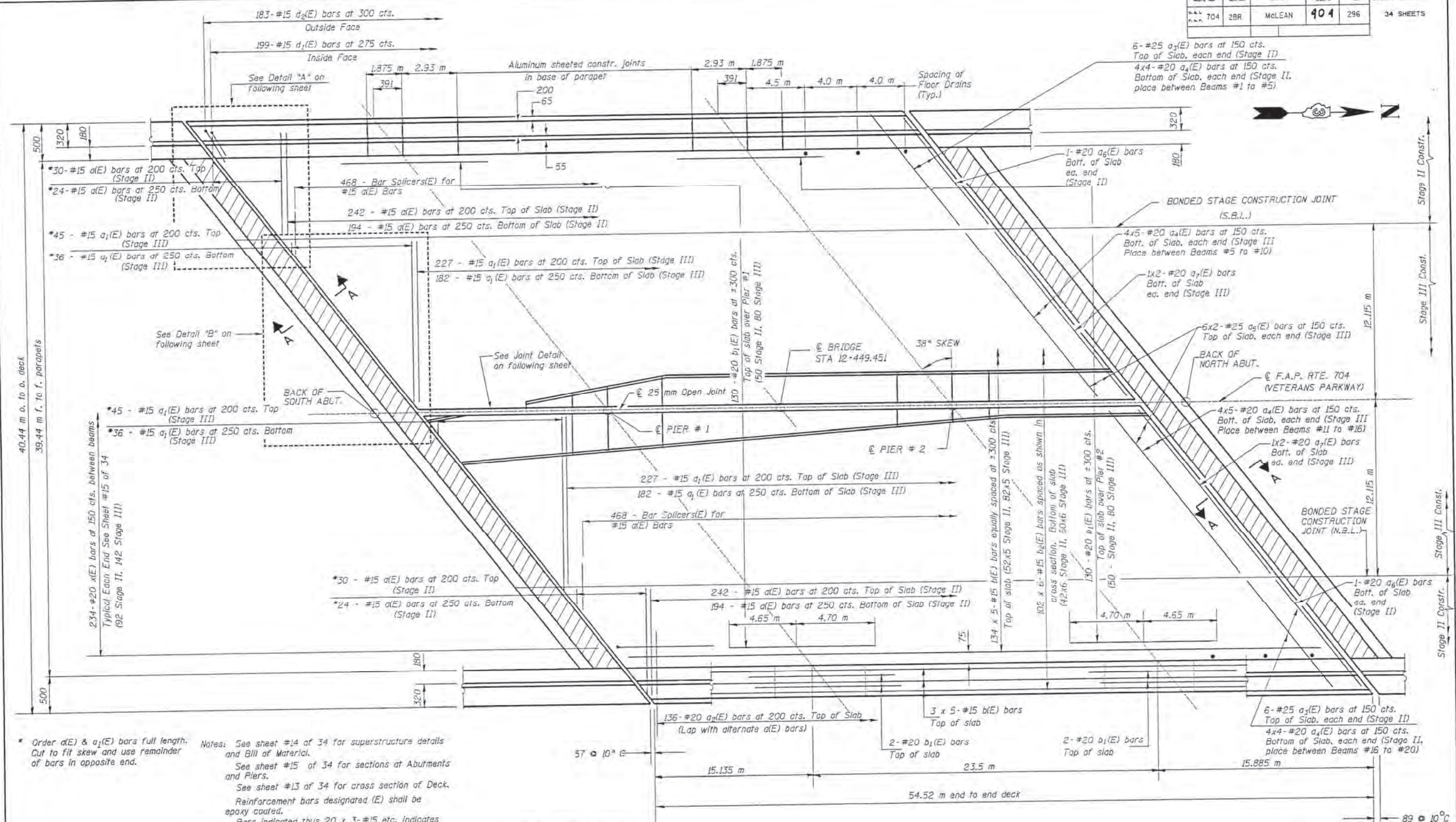
SEISMIC DATA
 SPC = "A"
 A = 4.5 %g
 S = I

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
 Prepared by:
 MISSMAN, STANLEY & ASSOC.
 CIVIL ENGINEERS - SURVEYORS
 ROCK ISLAND, ILLINOIS

GENERAL PLAN
 BUSINESS LOOP 55 (Veteran's Parkway)
 OVER SUGAR CREEK
 F.A.P. RTE. 704 SECTION 2BR
 STA. 12+449.451
 McLEAN COUNTY
 S.N. 057-0228

ROUTE NO.	SECTION	DATE	NO.	SHEET NO.
704	2BR	McLEAN	404	296

34 SHEETS



* Order a(E) & a₁(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

Notes: See sheet #14 of 34 for superstructure details and Bill of Material.
 See sheet #15 of 34 for sections at Abutments and Piers.
 See sheet #13 of 34 for cross section of Deck.
 Reinforcement bars designated (E) shall be epoxy coated.
 Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.
 All dimensions are in millimeters (mm) except as noted.
 Hatched area indicates portion of abutment backwall to be poured after superstructure falsework has been removed.

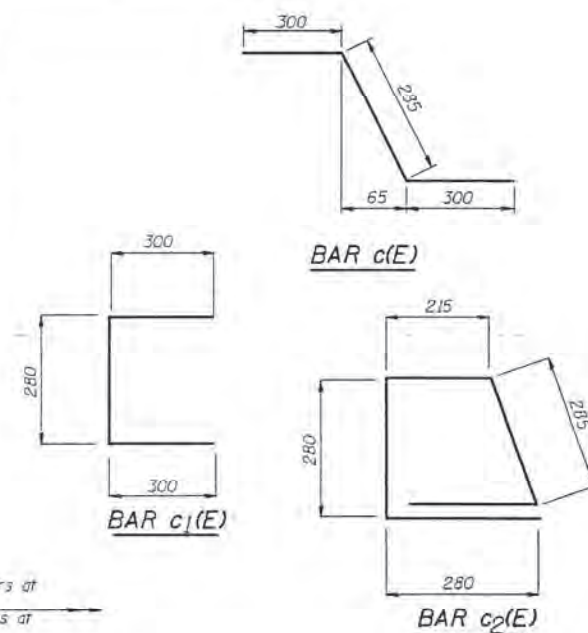
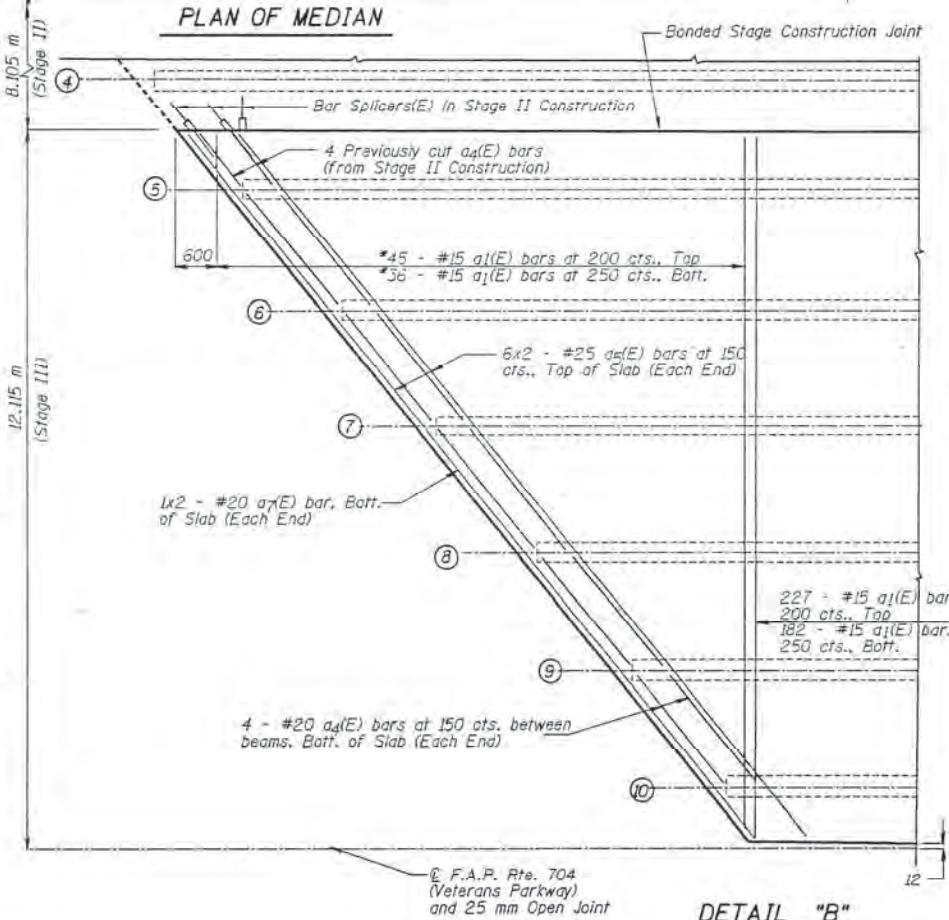
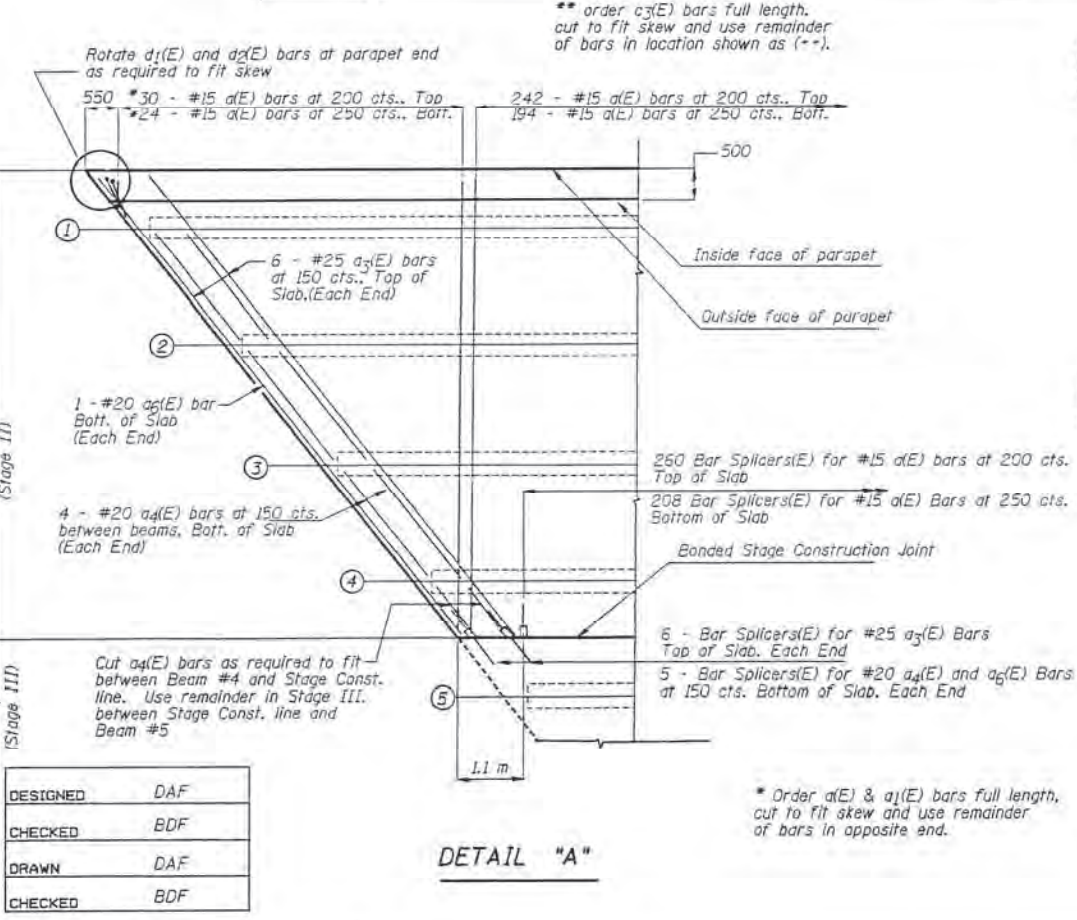
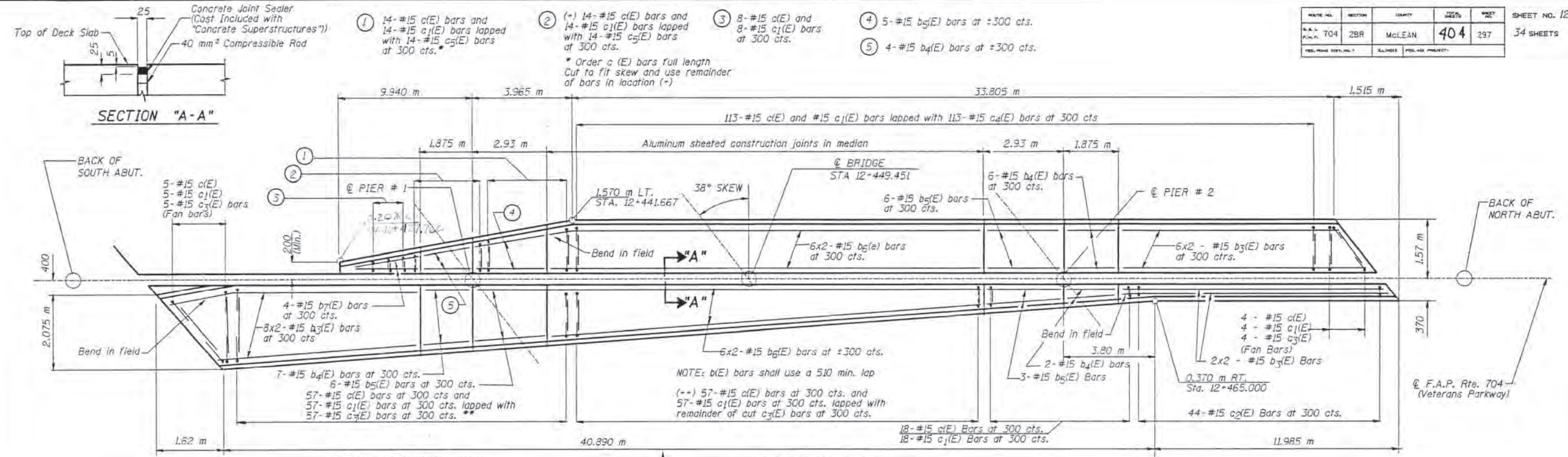
Min. Bar Laps
 #15 = 510
 #20 = 640
 #25 = 1060

DESIGNED	DAF
CHECKED	BDF
DRAWN	DAF
CHECKED	BDF

PLAN

SUPERSTRUCTURE PLAN
 F.A.P. RTE. 704 SECTION 2BR
 McLEAN COUNTY
 STA. 12+449.451

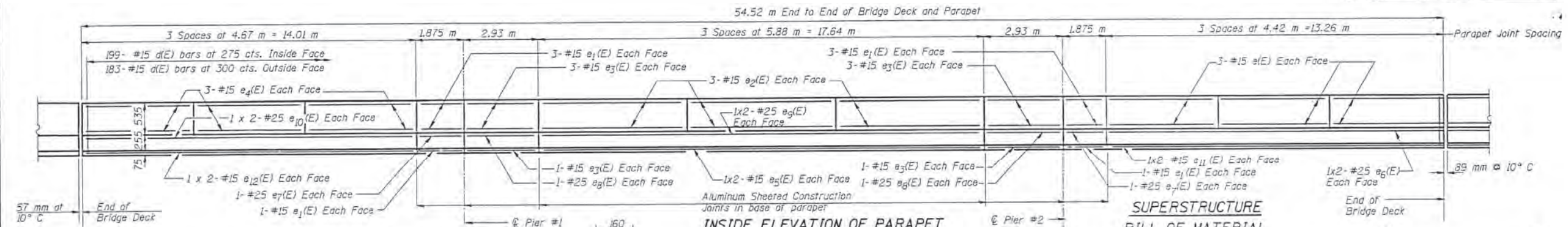
ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 12 34 SHEETS
F.A.P. 704	2BR	McLEAN	404	297	
DESIGNED BY: DAF				DATE: 12/15/09	



DESIGNED	DAF
CHECKED	BDF
DRAWN	DAF
CHECKED	BDF

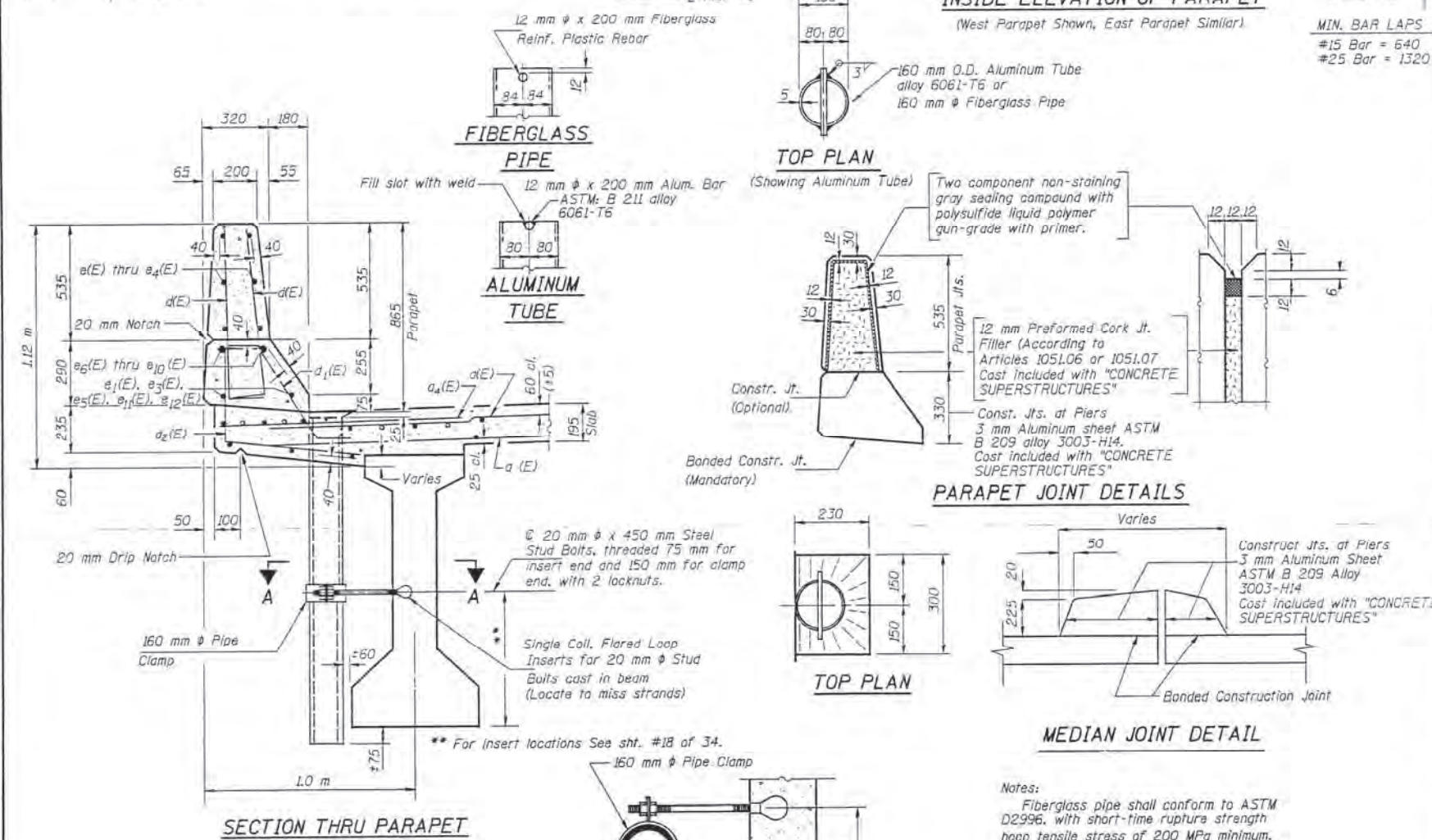
SUPERSTRUCTURE DETAILS
 F.A.P. RTE. 704 SECTION 2BR
 McLEAN COUNTY
 STA. 12+449.451

ROUTE NO.	SECTION	QUANTITY	DATE	SHEET NO.
F.A.P. 704	2BR	McLEAN	404	299
SHEET NO. 14				34 SHEETS

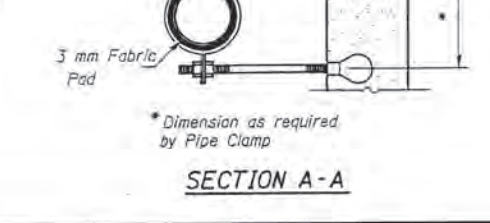
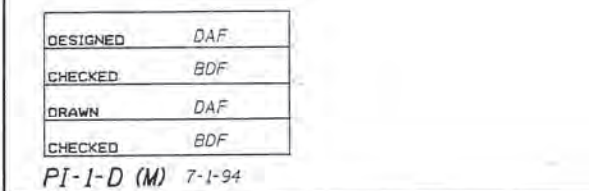


SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
a1(E)	980	#15	7.8	—
a2(E)	980	#15	11.99	—
a3(E)	272	#20	1.2	—
a4(E)	24	#25	10.1	—
a5(E)	144	#20	2.24	—
a6(E)	48	#25	8.14	—
a7(E)	4	#20	8.30	—
a8(E)	8	#20	7.40	—
a9(E)	700	#15	11.30	—
a10(E)	268	#20	9.35	—
a11(E)	612	#15	9.50	—
a12(E)	32	#15	7.1	—
b1(E)	19	#15	1.78	—
b2(E)	20	#15	2.23	—
b3(E)	24	#15	9.1	—
b4(E)	4	#15	7.3	—
c1(E)	290	#15	0.885	—
c2(E)	290	#15	0.88	—
c3(E)	45	#15	1.34	—
c4(E)	57	#15	2.7	—
c5(E)	113	#15	1.4	—
c6(E)	14	#15	1.9	—
d1(E)	764	#15	0.91	—
d2(E)	398	#15	0.80	—
d3(E)	366	#15	1.22	—
e1(E)	36	#15	4.3	—
e2(E)	32	#15	1.77	—
e3(E)	36	#15	5.8	—
e4(E)	32	#15	2.86	—
e5(E)	36	#15	4.57	—
e6(E)	8	#15	9.1	—
e7(E)	8	#25	7.43	—
e8(E)	8	#25	1.77	—
e9(E)	8	#25	2.86	—
e10(E)	8	#25	9.5	—
e11(E)	8	#25	7.81	—
e12(E)	8	#15	7.1	—
e13(E)	8	#15	7.47	—
f1(E)	144	#15	2.24	—
f2(E)	72	#20	1.73	—
f3(E)	20	#25	1.86	—
g1(E)	90	#15	3.15	J
g2(E)	90	#15	3.05	J
h(E)	112	#25	1.25	J
i(E)	462	#20	2.49	—
Reinforcement Bars Epoxy Coated	kg		74,150	
Concrete Superstructure	m ³		619.0	
Rubbed Finish (Modified)	m ²		234	



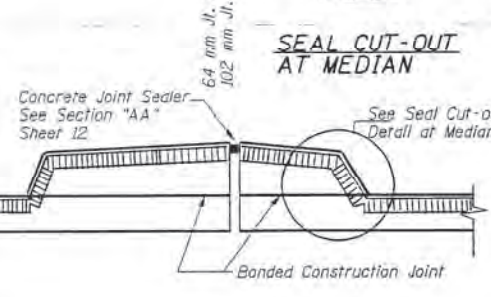
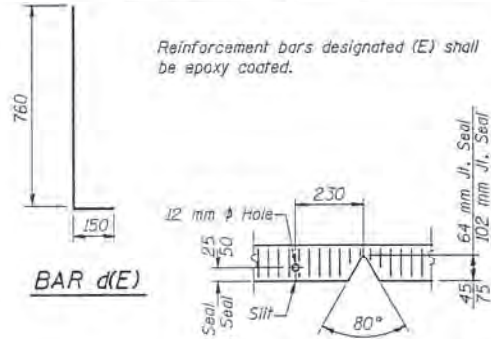
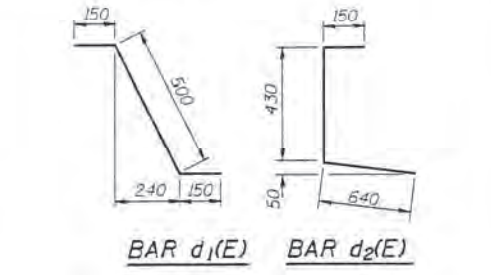
SECTION THRU PARAPET



DESIGNED	DAF
CHECKED	BDF
DRAWN	DAF
CHECKED	BDF

PI-1-D (M) 7-1-94

Notes:
 Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 200 MPa minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.
 The exterior surfaces of the floor drains shall be coated by the manufacturer with a pigment that matches the color of the concrete.
 The clamping device and inserts shall be galvanized according to AASHTO M 232.
 All dimensions are in millimeters (mm) except as noted.
 Rubbed Finish (Modified) includes both sides and top of parapets.



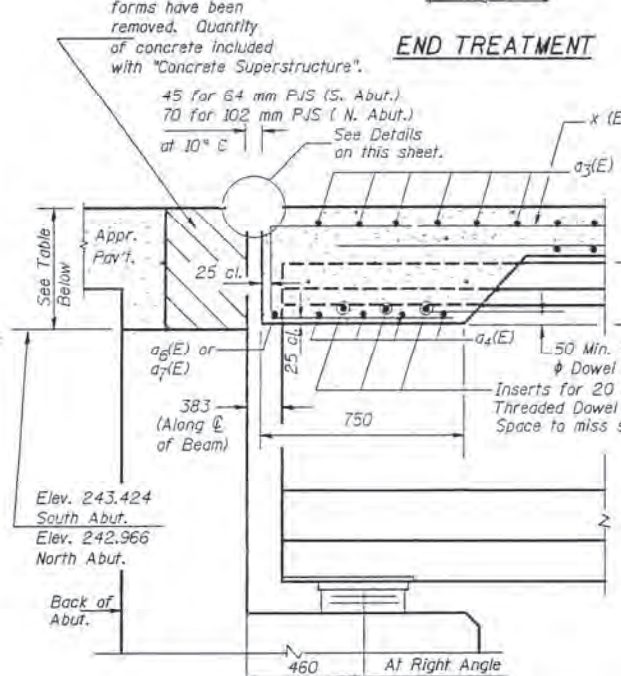
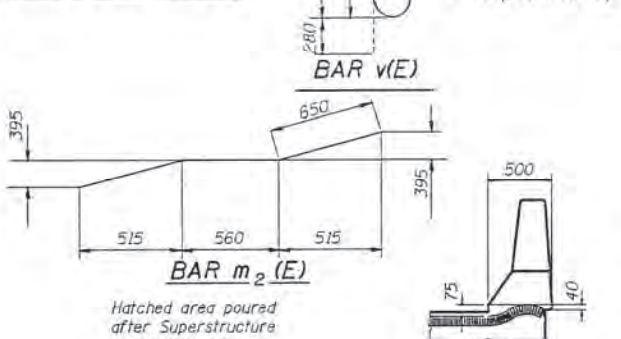
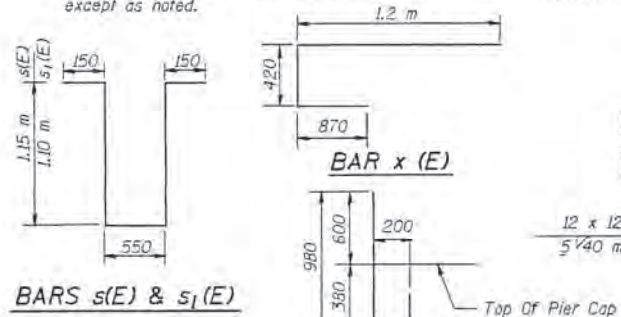
TYPICAL SEAL TREATMENTS AT MEDIAN



SUPERSTRUCTURE DETAILS
 F.A.P. RTE. 704 SECTION 2BR
 McLEAN COUNTY
 STA. 12+449.451

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET	SHEET NO. 15
704	2BR	MCLEAN	404	300	34 SHEETS

Notes: Reinforcement bars shown on this sheet are included in Bill of Material on Sheet #14 of 34. All dimensions are in millimeters (mm) except as noted.

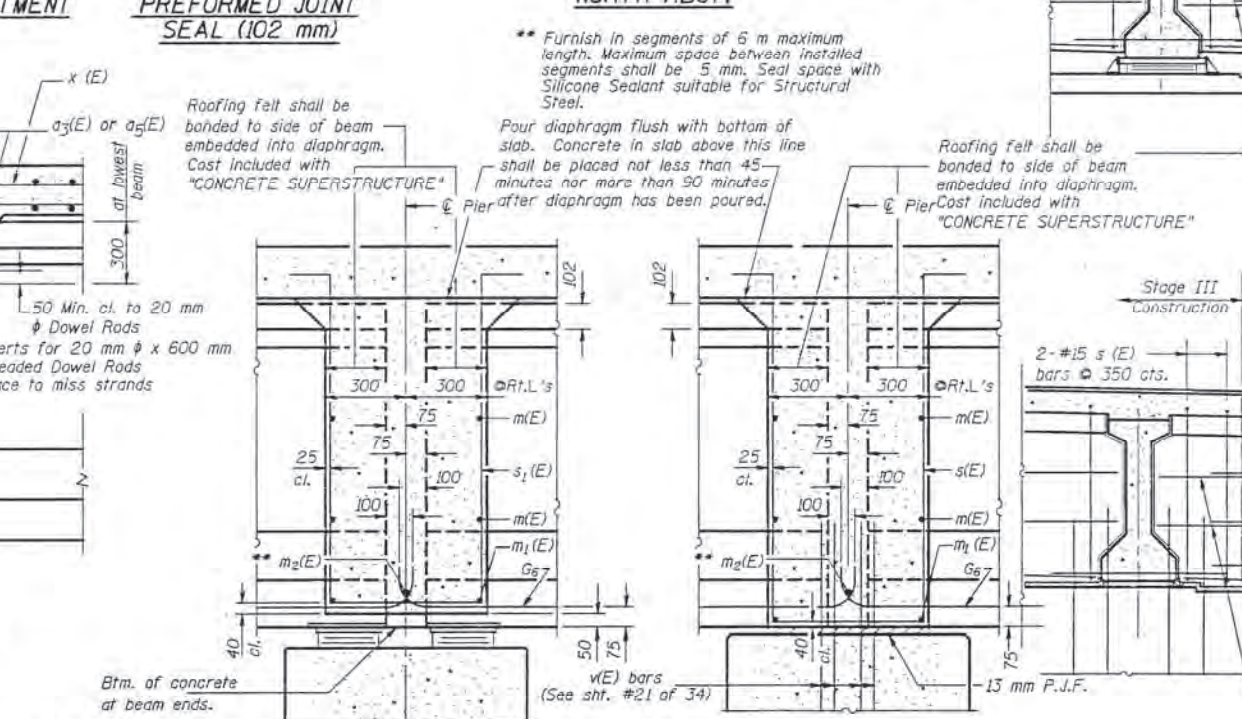
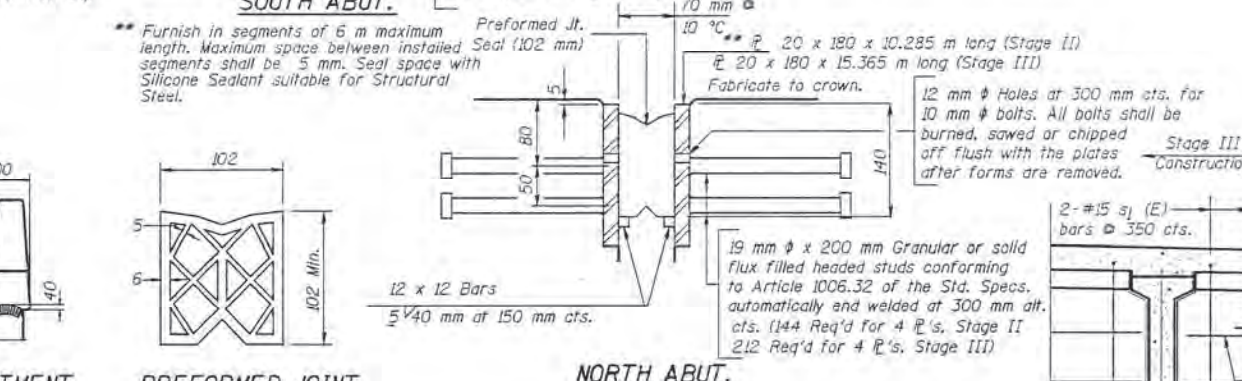
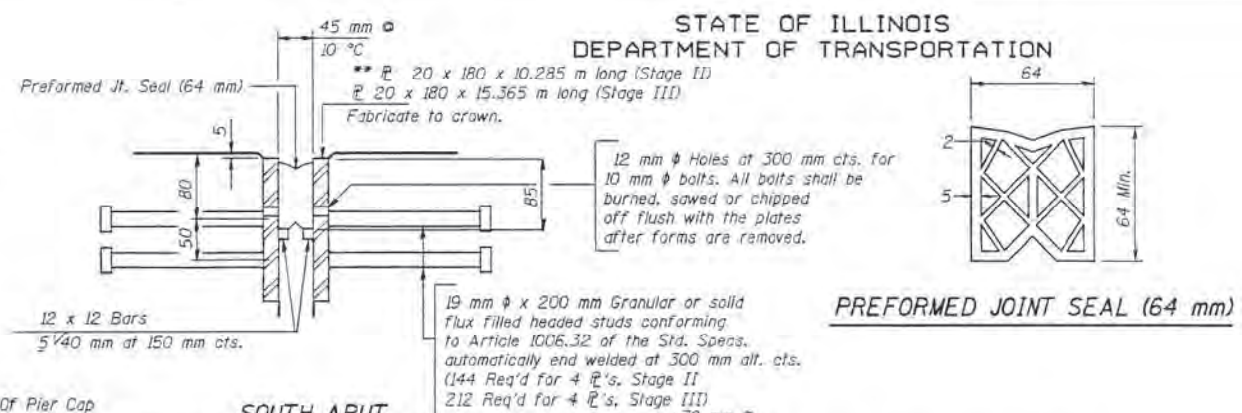


DESIGNED	DAF
CHECKED	BDF
DRAWN	DAF
CHECKED	BDF

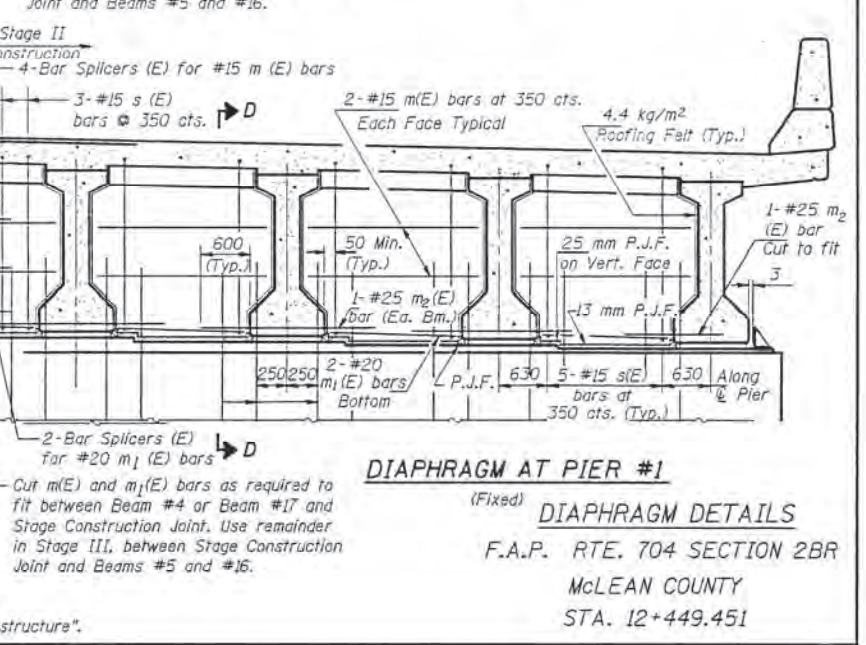
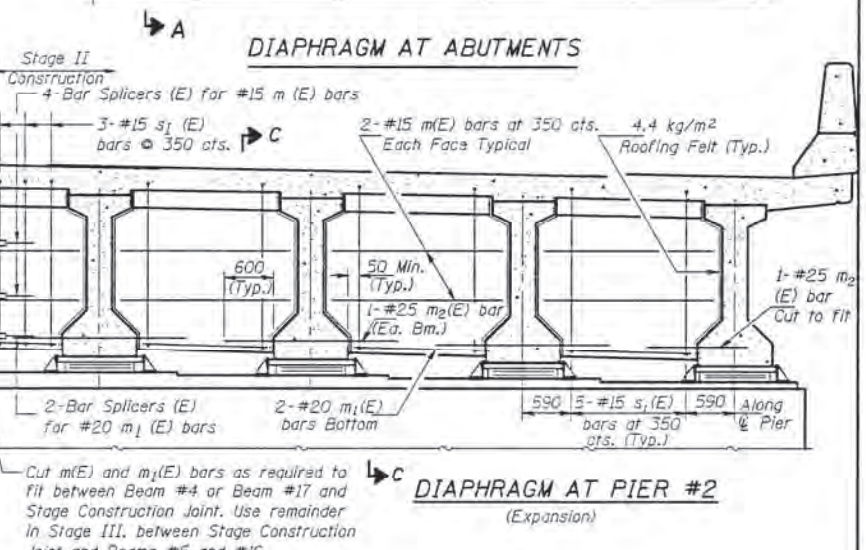
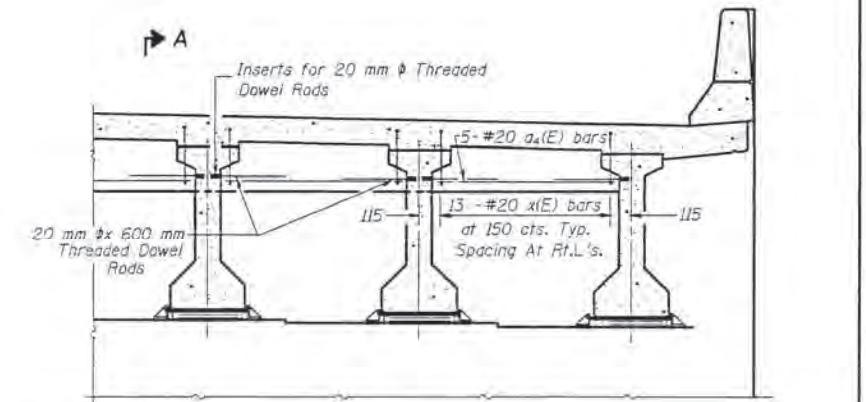
PI-2J (M) 7-1-94

ABUTMENT	APPROACH PAVEMENT DIMENSIONS			
	INSIDE FACE WEST WINGWALL	MAX. CROWN S.B.L.	MAX. CROWN N.B.L.	INSIDE FACE EAST WINGWALL
South	666	812	711	420
North	666	812	711	420

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

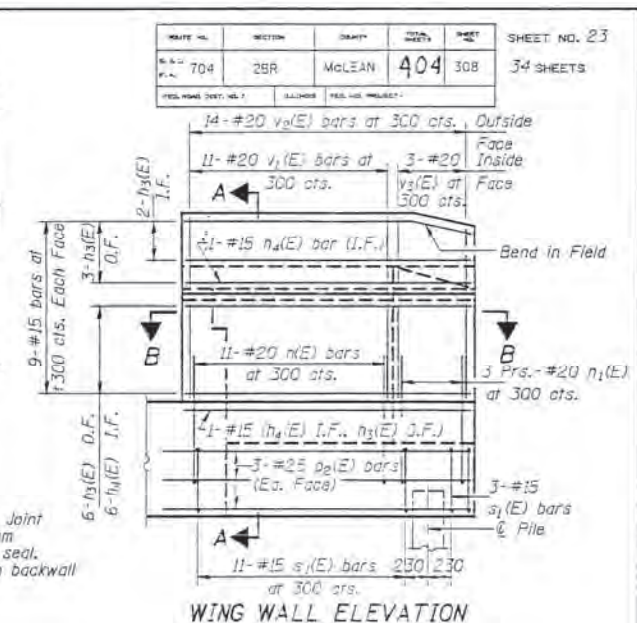
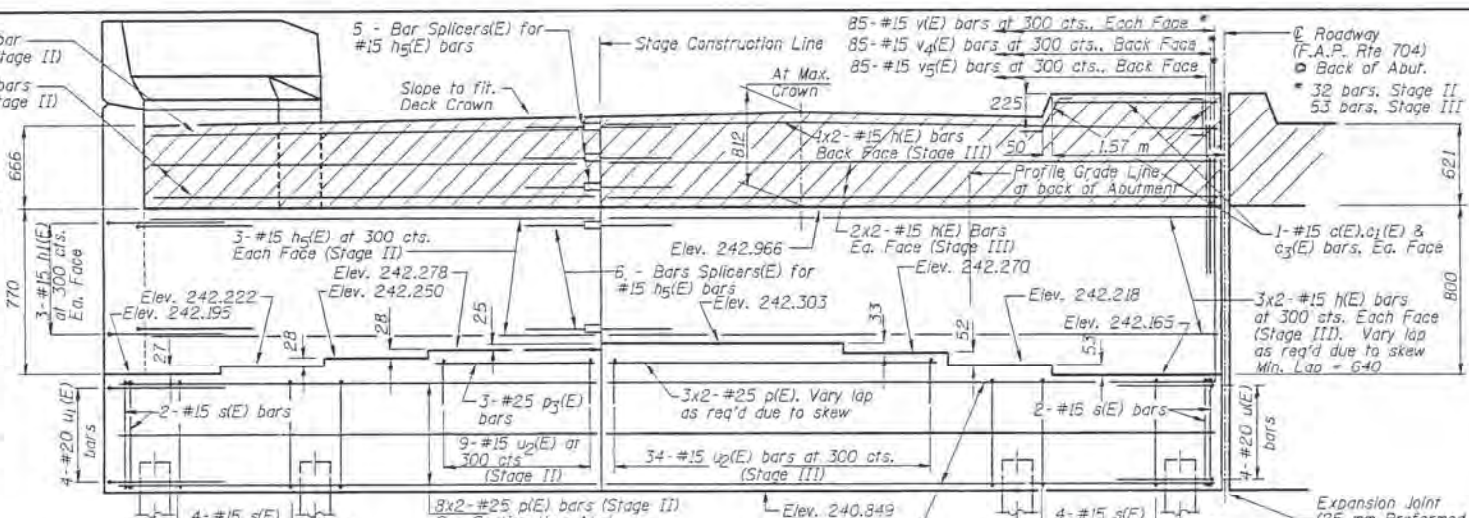
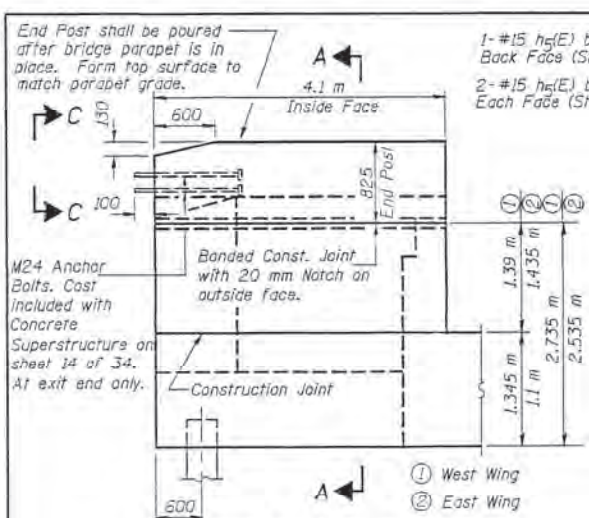


SECTION C-C AT PIER #2 (Expansion)
SECTION D-D AT PIER #1 (Fixed)
Note: Horizontal dimensions for Sec. C-C and Sec. D-D are along centerline of beam unless otherwise noted.
** Tightly fasten the #25 bars together with 3.8 mm wire ties. Cost of 4.4 kg/m² roofing felt is included with "Concrete Superstructure".



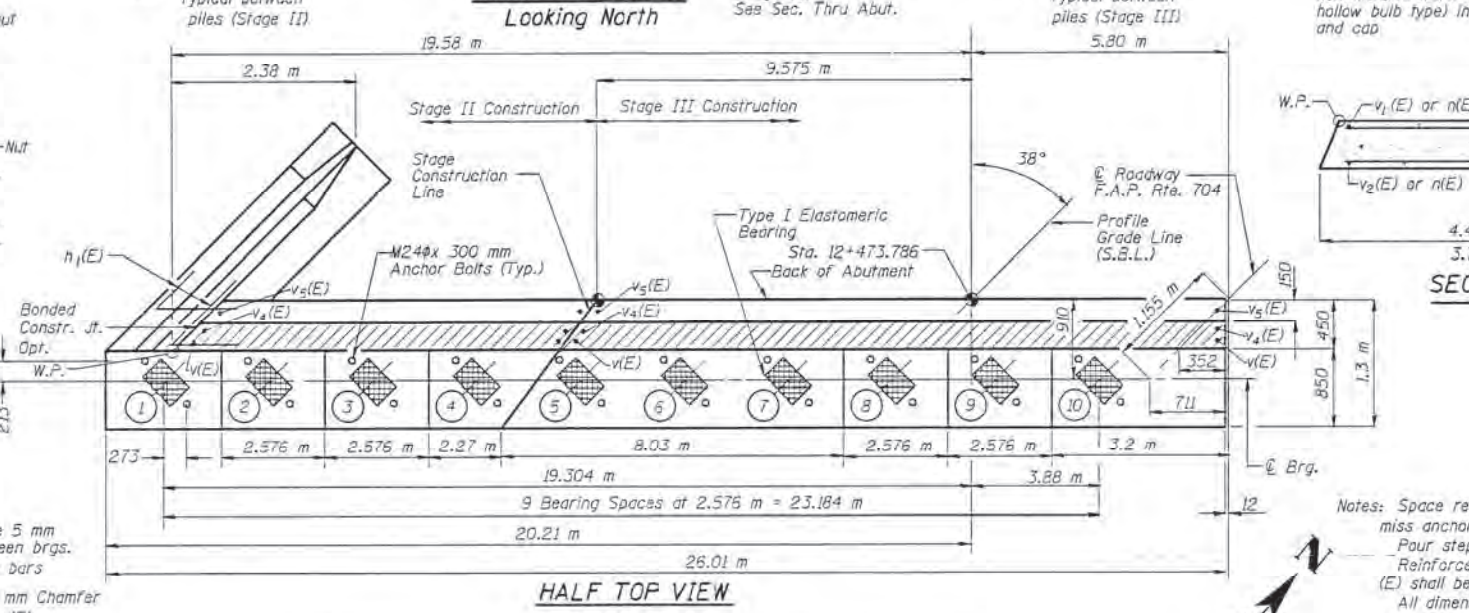
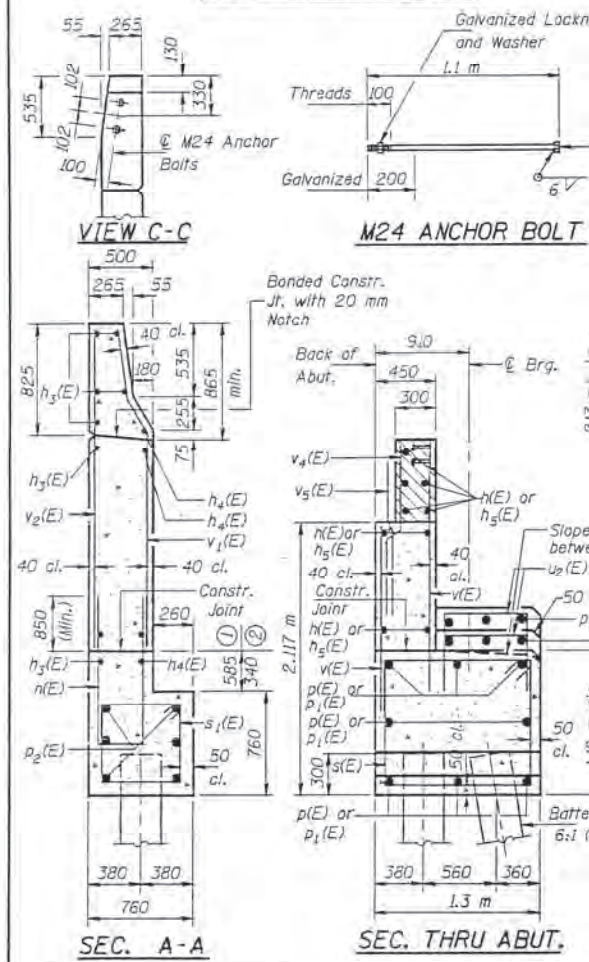
DIAPHRAGM DETAILS
(Fixed)
F.A.P. RTE. 704 SECTION 2BR
MCLEAN COUNTY
STA. 12+449.451

ROUTE NO.	SECTION	DRAWN	DATE	SHEET NO.
F.A.P. 704	2BR	McLEAN	404	308
PROJECT NO.				34 SHEETS



NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
v ₁ (E)	2	#15	0.885	┌───┐
v ₂ (E)	2	#15	0.88	┌───┐
v ₃ (E)	2	#15	1.34	┌───┐
v ₄ (E)	2	#15	2.7	┌───┐
n(E)	44	#15	8.15	┌───┐
n ₁ (E)	8	#15	2.0	┌───┐
n ₂ (E)	6	#15	2.3	┌───┐
n ₃ (E)	24	#15	4.39	┌───┐
n ₄ (E)	16	#15	3.92	┌───┐
n ₅ (E)	22	#15	9.55	┌───┐
n ₆ (E)	22	#20	4.18	┌───┐
n ₇ (E)	12	#20	2.06	┌───┐
p ₁ (E)	38	#25	5.93	┌───┐
p ₂ (E)	38	#25	8.65	┌───┐
p ₃ (E)	12	#25	4.0	┌───┐
p ₄ (E)	3	#25	2.80	┌───┐
p ₅ (E)	3	#25	5.30	┌───┐
p ₆ (E)	6	#25	7.1	┌───┐
s ₁ (E)	44	#15	4.68	┌───┐
s ₂ (E)	28	#15	2.92	┌───┐
u ₁ (E)	12	#20	3.67	┌───┐
u ₂ (E)	4	#20	3.25	┌───┐
u ₃ (E)	156	#15	1.55	┌───┐
v ₁ (E)	340	#15	1.9	┌───┐
v ₂ (E)	22	#20	2.29	┌───┐
v ₃ (E)	28	#20	2.15	┌───┐
v ₄ (E)	6	#20	2.23	┌───┐
v ₅ (E)	170	#15	2.02	┌───┐
v ₆ (E)	170	#15	1.40	┌───┐
Structure Excavation	m ²		164	
Concrete Structures	m ³		118.4	
Reinforcement Bars, Epoxy Coated	kg		7,980	
Metal Shell Piles, 305 mm	m		457.5	
Test Piles, Metal Shells	Each		1	
Bridge Seat Scales	m ²		44	
Driving and Filling Shells	m		457.5	



Notes: Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.
 All dimensions are in millimeters (mm) except as noted.
 Quantity of concrete in end post included with "Concrete Superstructure" on sheet #14 of 34.
 Hatched area to be poured after Superstructure falsework has been removed. Quantity of concrete included with "Concrete Superstructure".

PILE DATA

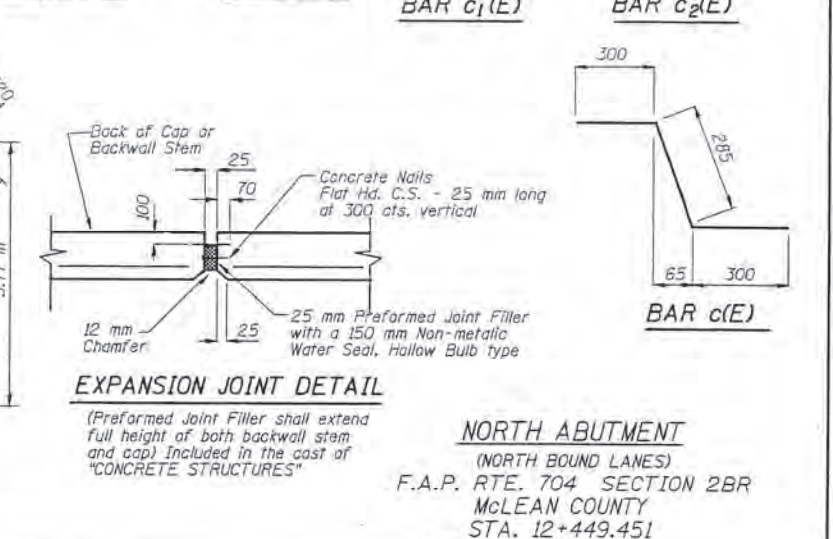
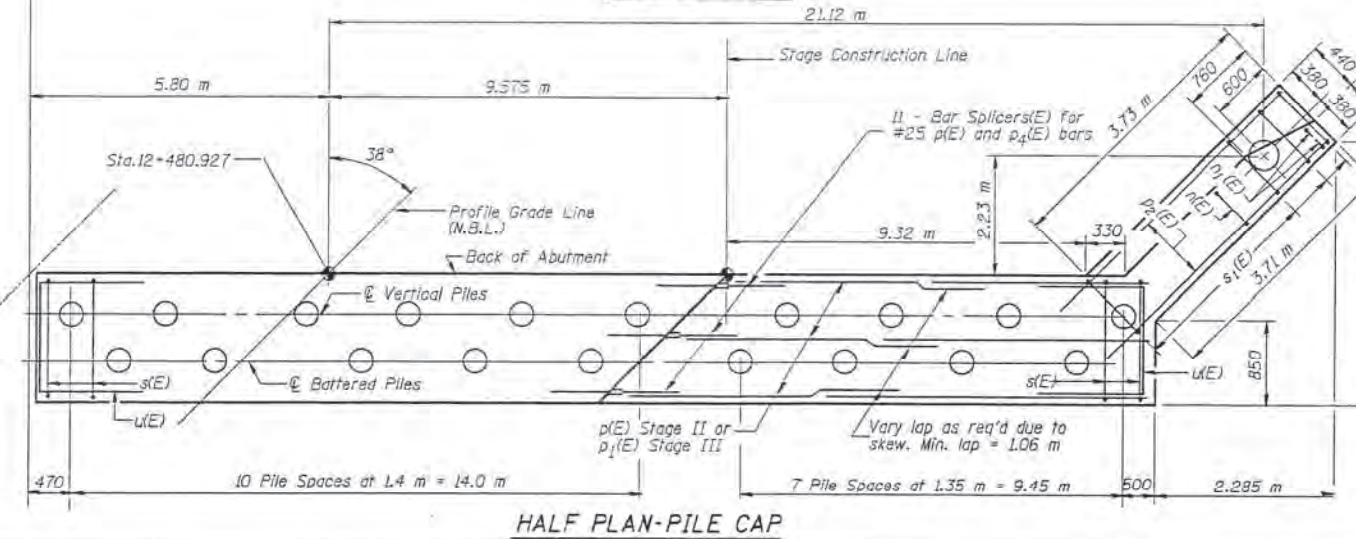
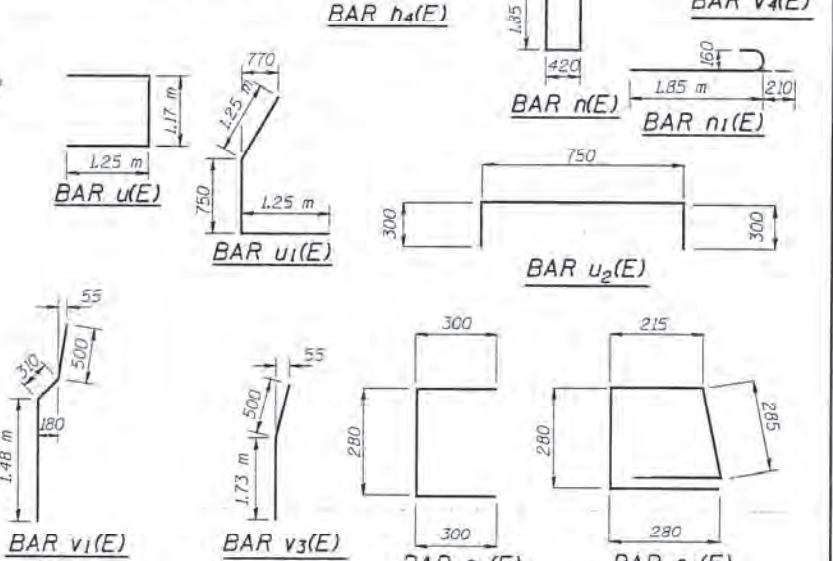
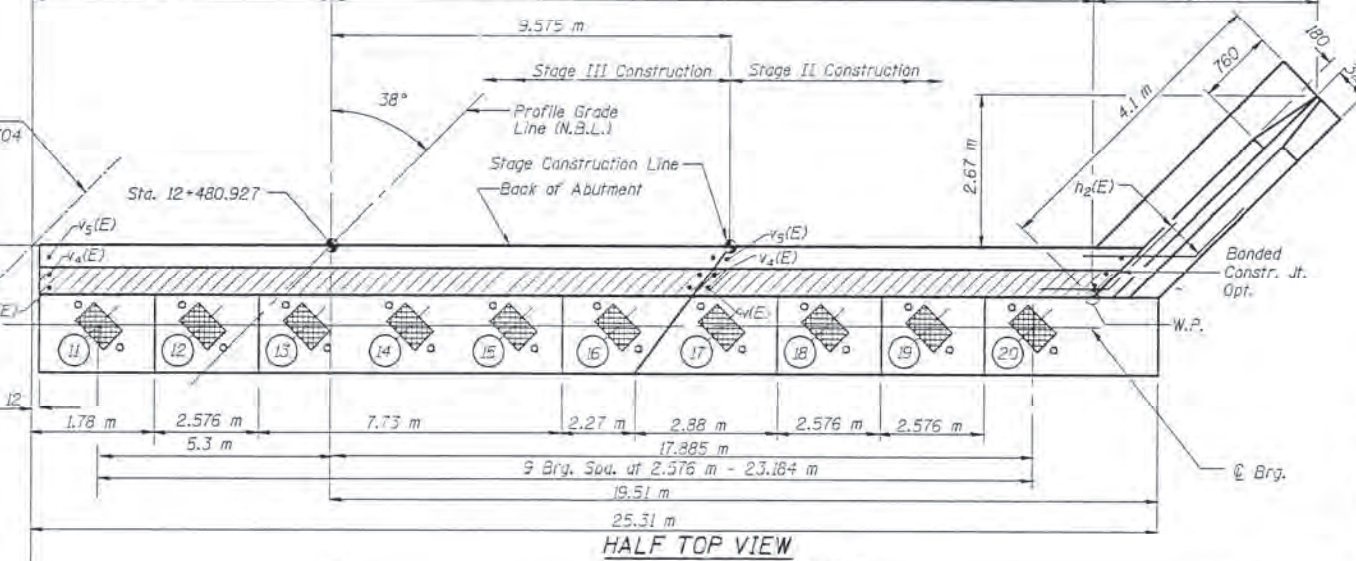
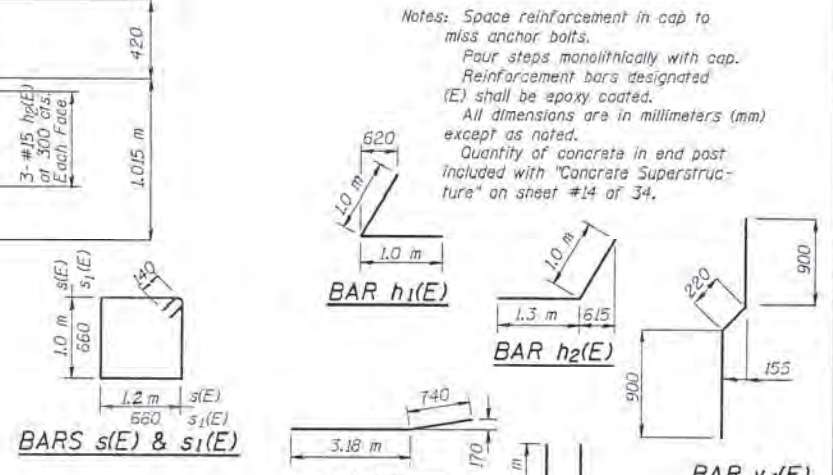
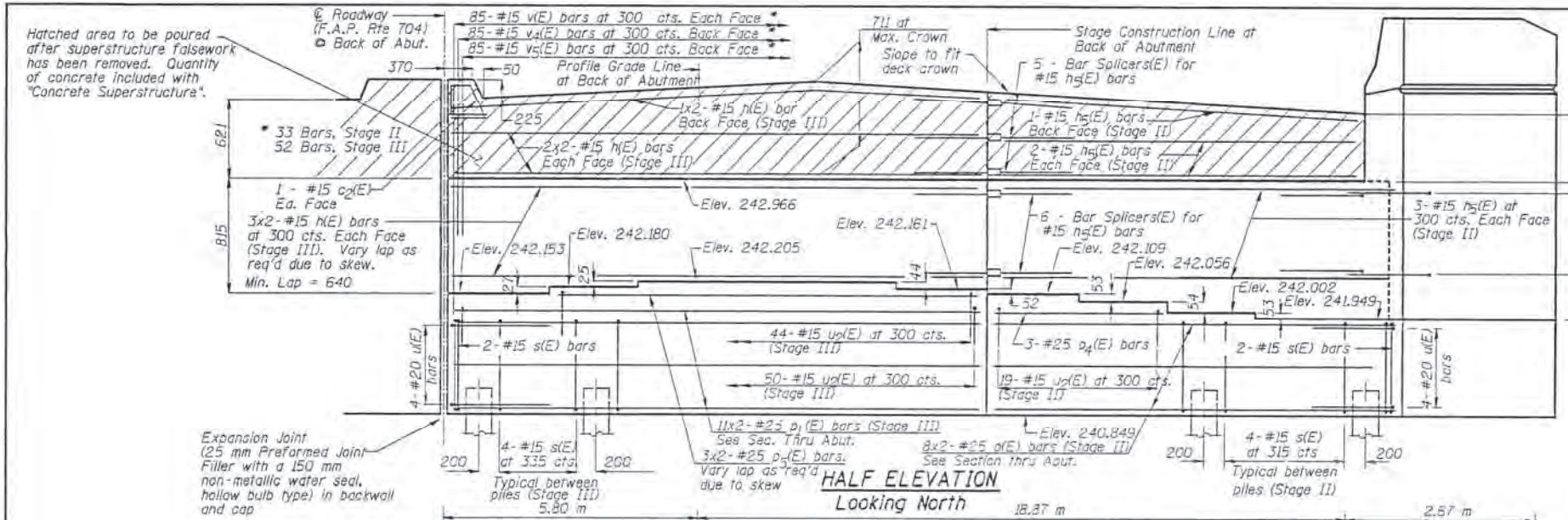
Type: 305 mm Metal Shell Piles
 Capacity: 400 kN
 Est. Length: 12.5 m (S.B.L.)
 11.0 m (N.B.L.)
 No. Required: 39 - 1 Test Pile
 In a permanent location of the south bound lanes

DESIGNED	DAF
CHECKED	BDF
DRAWN	RAP
CHECKED	BDF

A-1-R (35°-60°) (M) 4-30-97

NORTH ABUTMENT
 (SOUTH BOUND LANES)
 F.A.P. RTE. 704 SECTION 2BR
 McLEAN COUNTY
 STA. 12+449.451

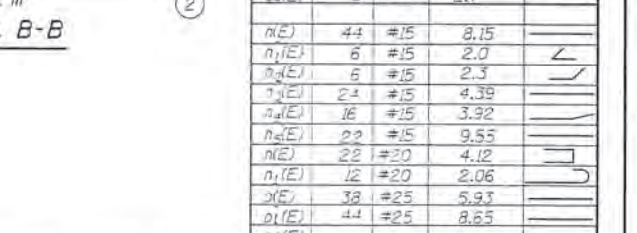
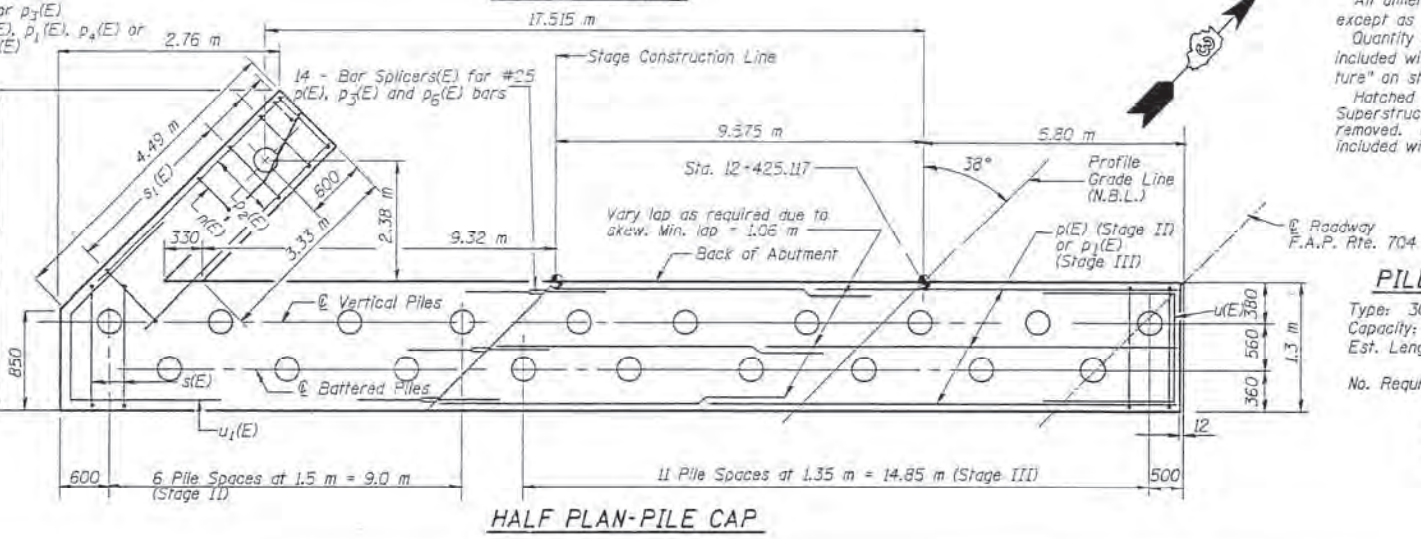
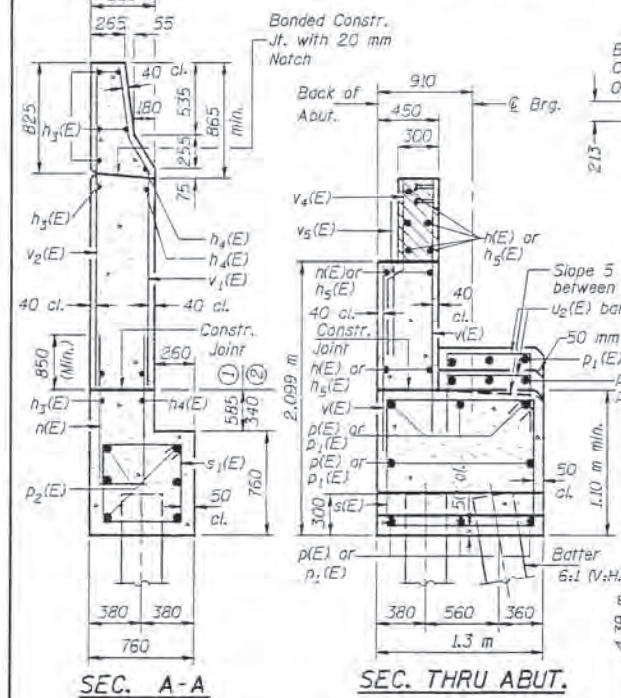
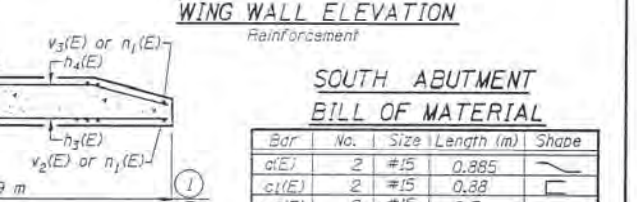
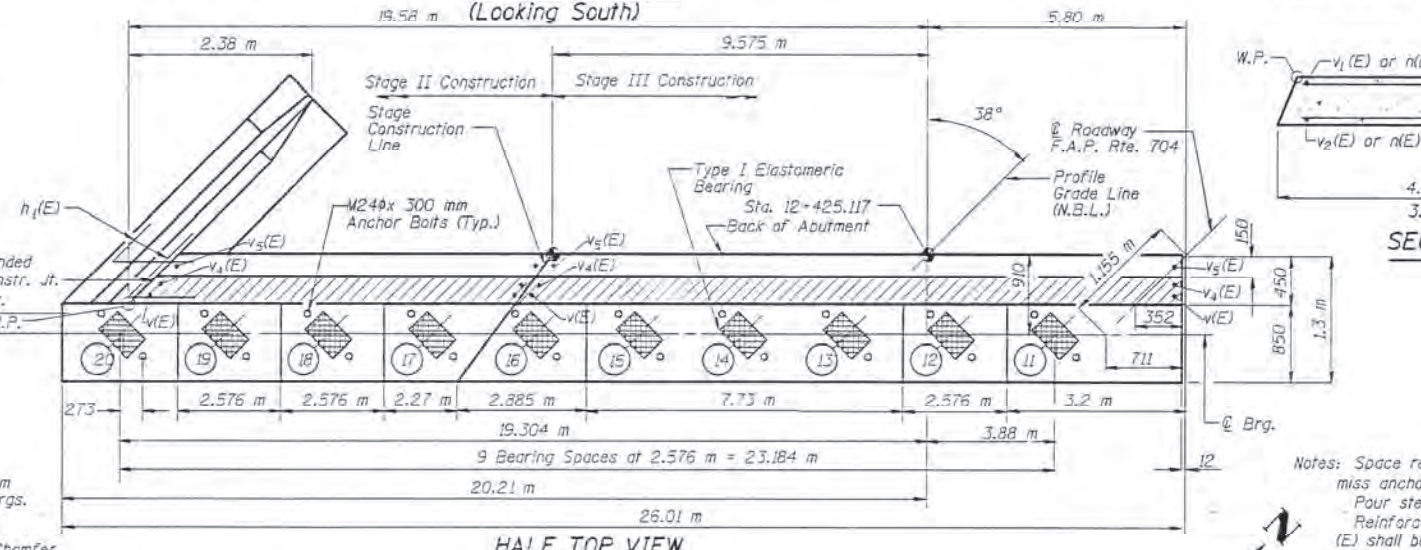
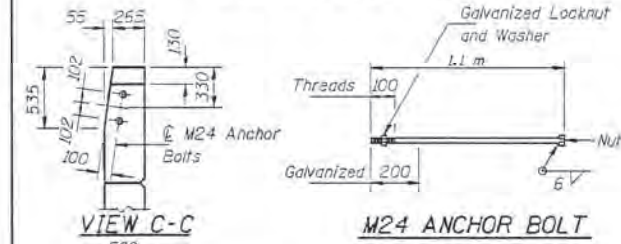
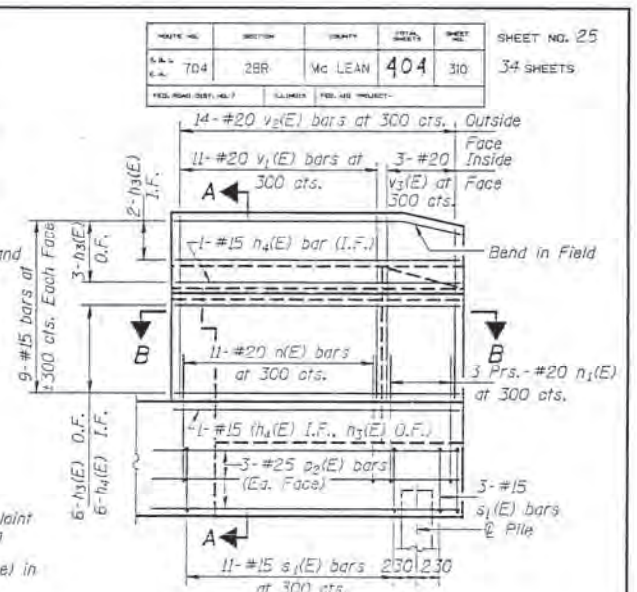
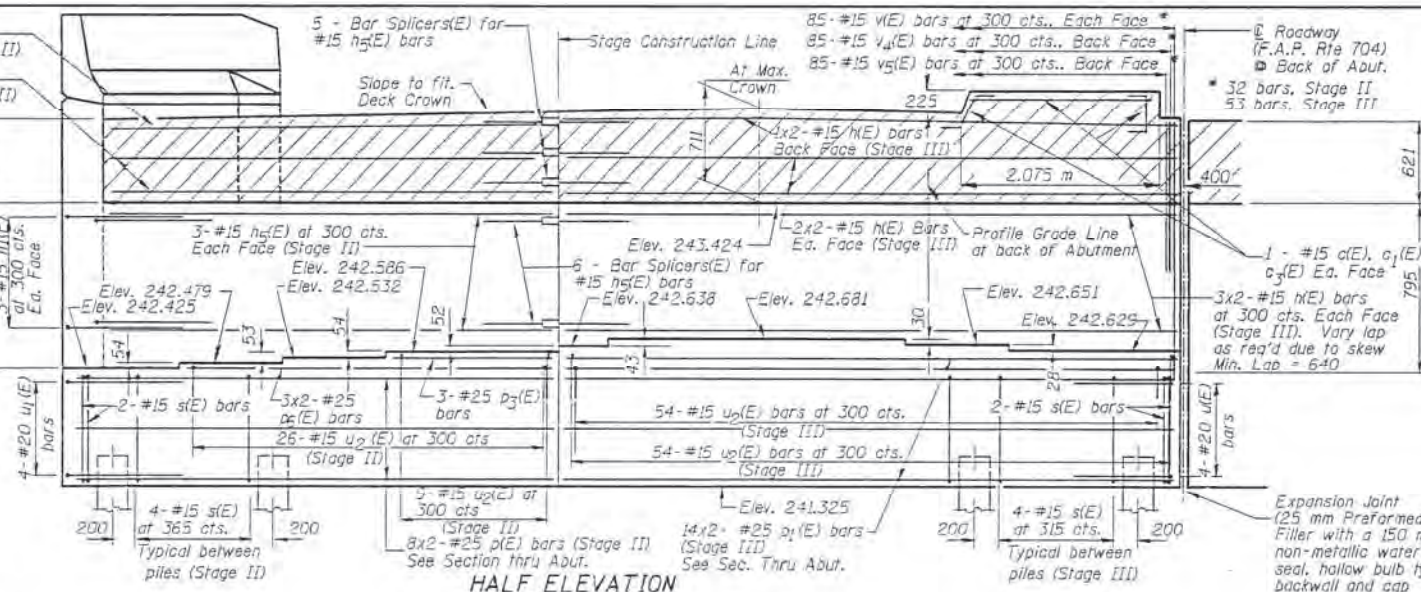
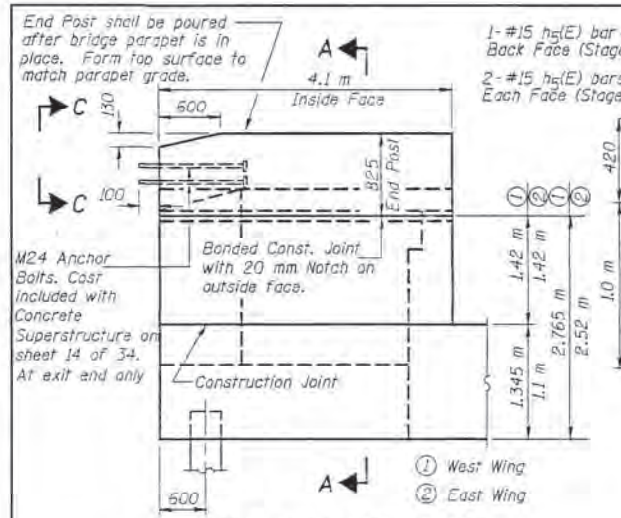
DATE	REVISION	DESIGNER	CHECKER	SHEET NO.
704	2BR	McLEAN	404	309
SHEET NO. 24				34 SHEETS



DESIGNED	DAF
CHECKED	BDF
DRAWN	RAP
CHECKED	BDF

A-1-R (35°-60°) (M) 4-30-97

NORTH ABUTMENT
(NORTH BOUND LANES)
F.A.P. RTE. 704 SECTION 2BR
McLEAN COUNTY
STA. 12+449.451



A-1-R (35°-60°) (M) 4-30-97

DESIGNED	DAF
CHECKED	BDF
DRAWN	RAP
CHECKED	BDF

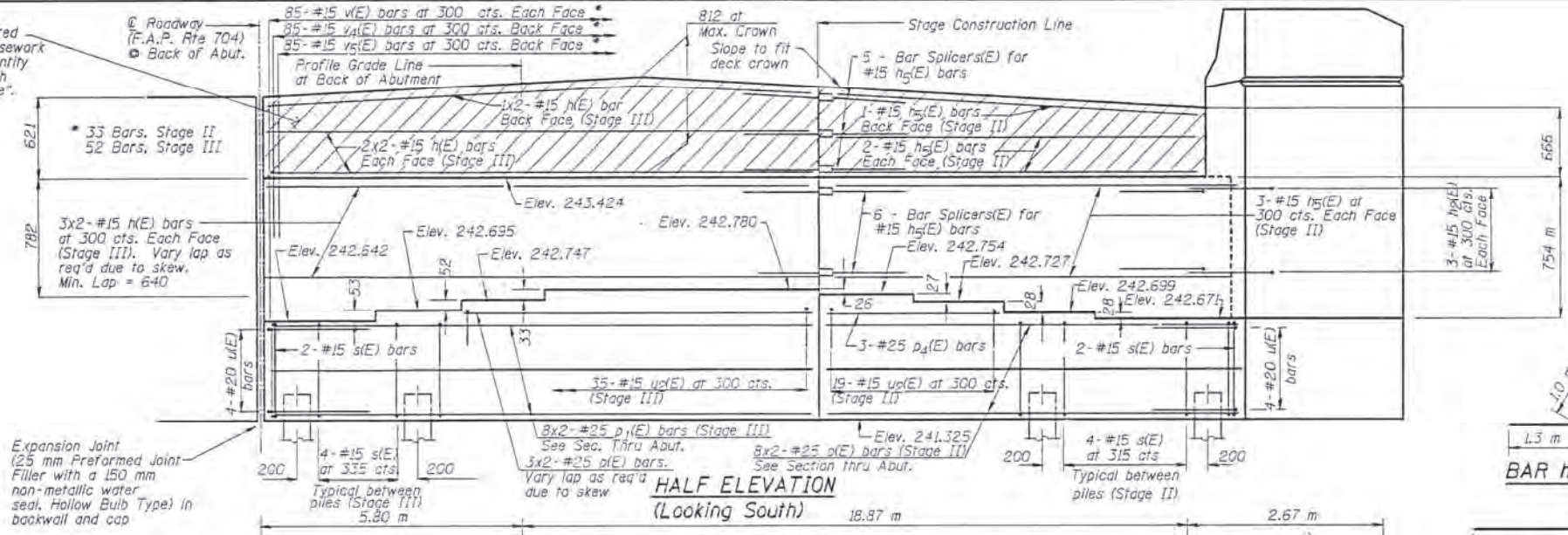
Notes: Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
All dimensions are in millimeters (mm) except as noted.
Quantity of concrete in end past included with "Concrete Superstructure" on sheet #14 of 34.
Hatched area to be poured after Superstructure falsework has been removed. Quantity of concrete included with "Concrete Superstructure".

PILE DATA
Type: 305 mm Metal Shell Piles
Capacity: 400 kn
Est. Length: 10.0 m (S.B.L.)
10.0 m (N.B.L.)
No. Required: 39 + 1 Test Pile
In a permanent location of either the south bound lanes or the north bound lanes.

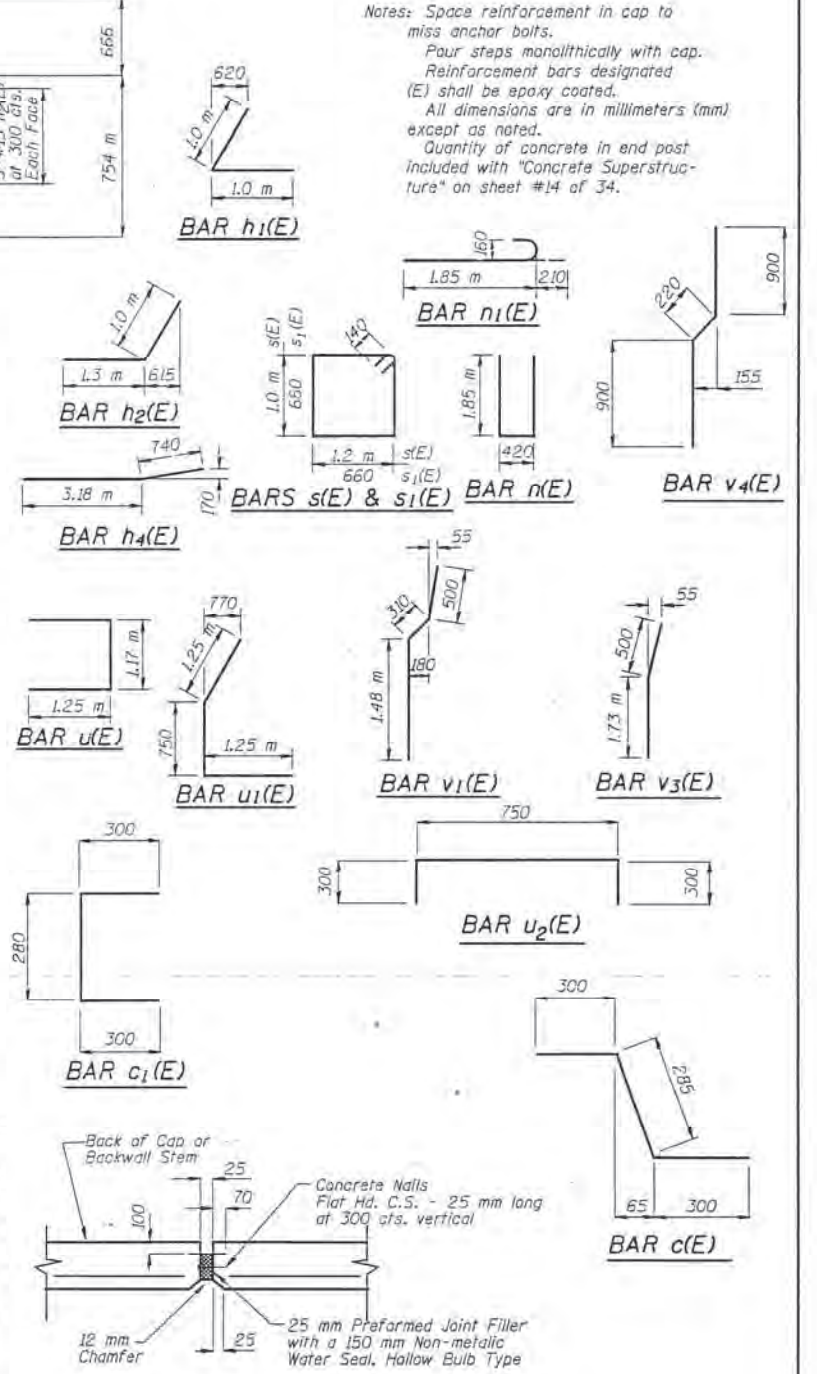
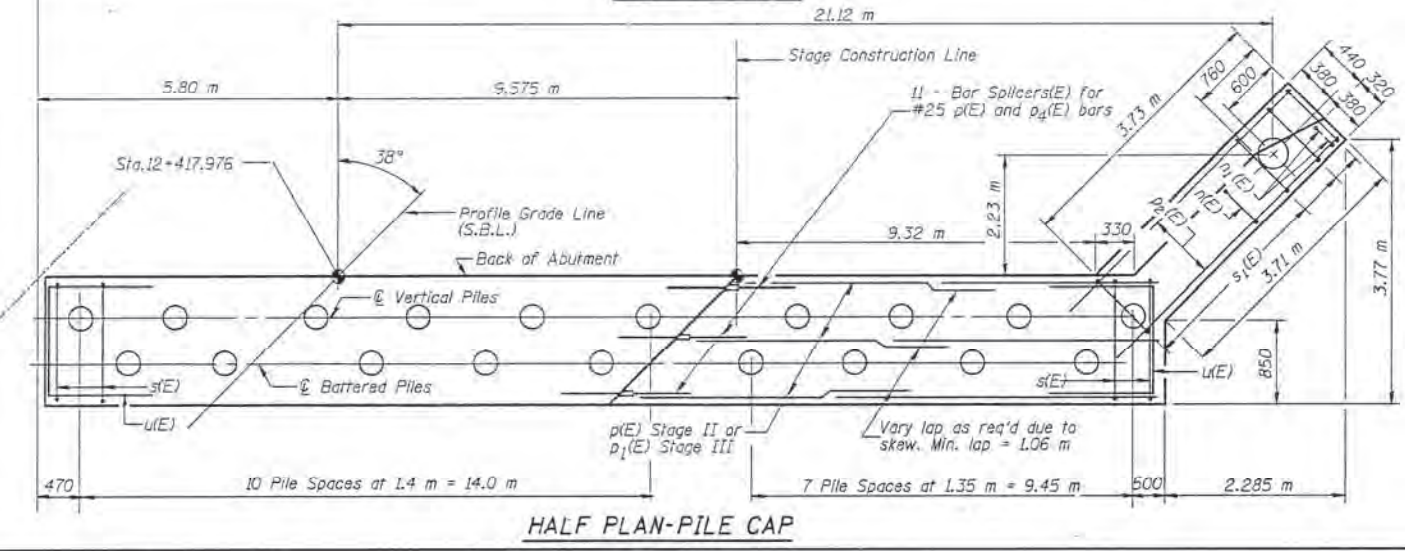
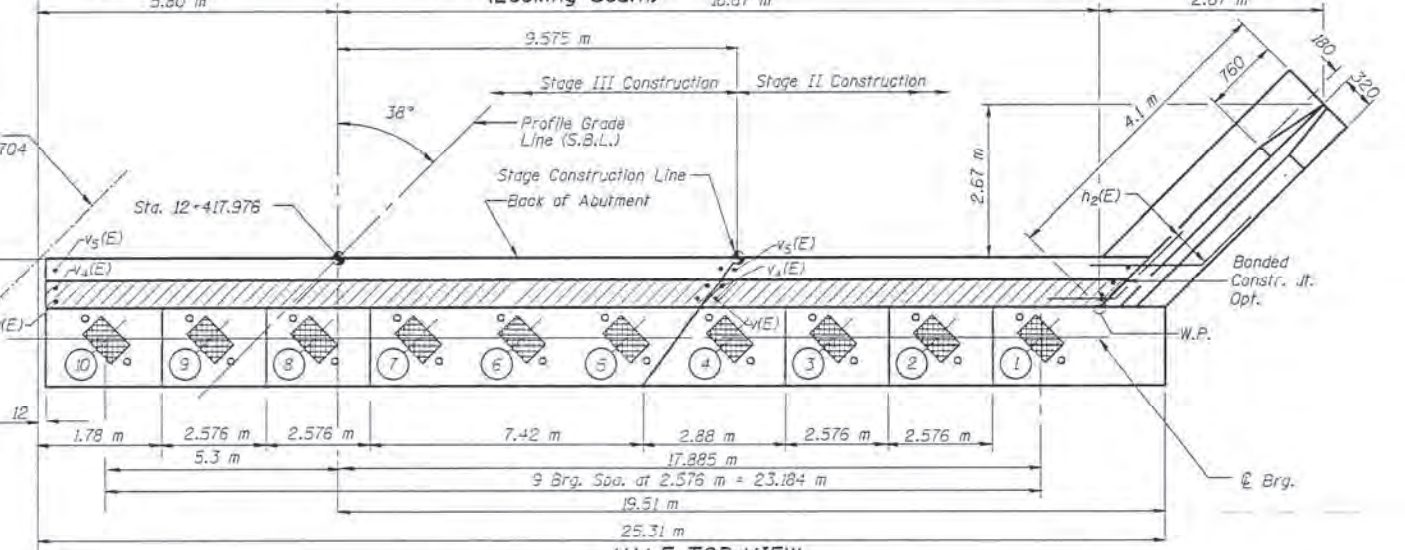
SOUTH ABUTMENT
(NORTH BOUND LANES)
F.A.P. RTE. 704 SECTION 2BR
McLEAN COUNTY
STA. 12+449.451

PROJECT NO.	SECTION	DATE	BY	CHECKED	SHEET NO.
704	2BR	MC LEAN	404	31	26
TOTAL SHEETS					34 SHEETS

Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included with "Concrete Superstructure".



Expansion Joint (25 mm Preformed Joint Filler with a 150 mm non-metallic water seal, Hollow Bulb Type) in backwall and cap



Notes: Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated. All dimensions are in millimeters (mm) except as noted. Quantity of concrete in end post included with "Concrete Superstructure" on sheet #14 of 34.

EXPANSION JOINT DETAIL

(Preformed Joint Filler shall extend full height of both backwall stem and cap included in the cost of "CONCRETE STRUCTURES")

SOUTH ABUTMENT
(SOUTH BOUND LANES)
F.A.P. RTE. 704 SECTION 2BR
MCLEAN COUNTY
STA. 12+449.451

DESIGNED	DAF
CHECKED	BOF
DRAWN	RAP
CHECKED	BDF

A-1-R (35°-60°) (M) 4-30-97