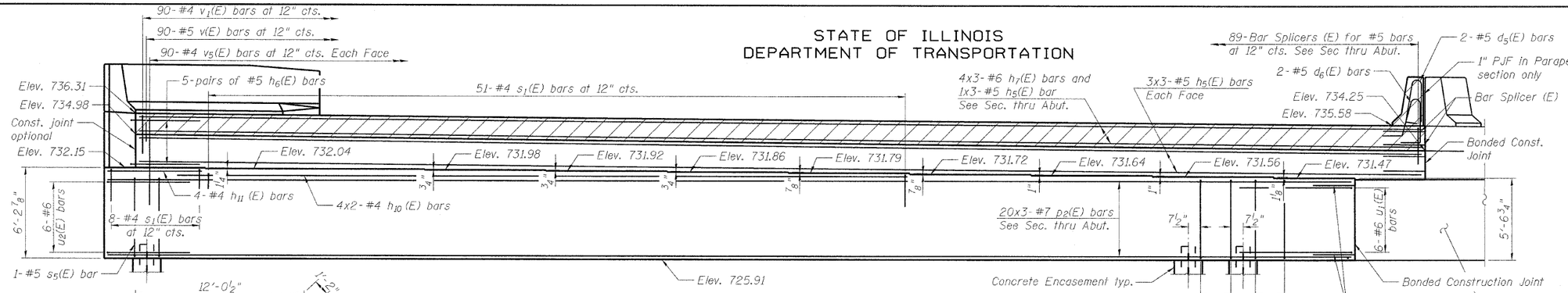
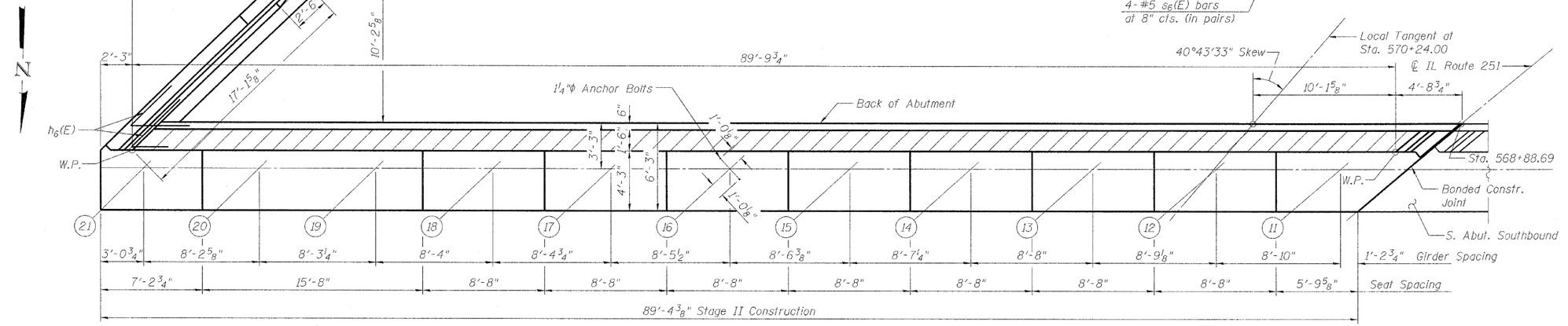
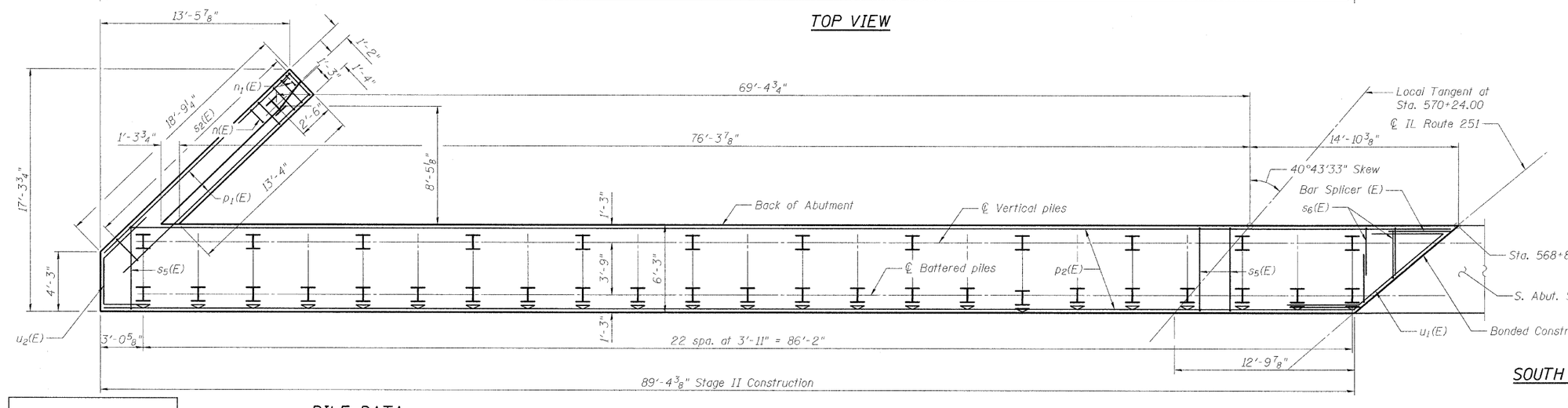
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
(Looking South)



TOP VIEW



SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d5(E)	4	#5	6'-10"	
d6(E)	4	#5	7'-11"	
h(E)	21	#5	32'-6"	
h1(E)	10	#5	7'-9"	
h2(E)	12	#6	33'-0"	
h3(E)	26	#4	16'-9"	
h4(E)	18	#4	16'-9"	
h5(E)	21	#5	33'-0"	
h6(E)	10	#5	7'-9"	
h7(E)	12	#6	33'-6"	
h8(E)	4	#4	40'-0"	
h9(E)	4	#4	12'-5"	
h10(E)	8	#4	28'-9"	
h11(E)	4	#4	6'-10"	
n(E)	30	#6	17'-8"	
n1(E)	12	#6	8'-10"	
p(E)	60	#7	36'-8"	
p1(E)	12	#7	18'-5"	
p2(E)	60	#7	35'-5"	
s(E)	114	#5	21'-7"	
s1(E)	110	#4	11'-1"	
s2(E)	36	#4	9'-7"	
s3(E)	8	#5	11'-3"	
s4(E)	2	#5	13'-9"	
s5(E)	111	#5	23'-1"	
s6(E)	8	#5	12'-0"	
u(E)	6	#6	14'-9"	
u1(E)	12	#6	18'-0"	
u2(E)	6	#6	14'-9"	
v(E)	182	#5	6'-4"	
v1(E)	182	#4	3'-0"	
v2(E)	36	#6	7'-3"	
v3(E)	6	#6	6'-8"	
v4(E)	30	#6	6'-8"	
v5(E)	364	#4	7'-0"	

Structure Excavation	Cu. Yd.	244
Concrete Structures	Cu. Yd.	300.4
Reinforcement Bars, Epoxy Coated	Pound	25,030
Furnishing Steel Piles HP 12x53	Foot	1,656
Driving Piles	Foot	1,656
Test Pile Steel HP 12x53	Each	1
Pile Shoes	Each	73
Conduit Embedded in Structure 2" Dia., PVC	Foot	24
Junction Box, Stainless Steel, Embedded in Structure 12"x10"x6"	Each	2

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 273 kips
Factored Resistance Available: 150 kips
Est. Length: 23 ft
No. Production Piles: 36
No. Test Piles: 0

MINIMUM BAR LAPS

(Abutments)
#4 Bar - 2'-7"
#5 Bar - 3'-8"
#6 Bar - 4'-5"
#7 Bar - 5'-10"

PLAN-PILE CAP

Notes:
See Sheet 47 for abutment sections, wingwall details and bar diagrams.

SOUTH ABUTMENT - NORTHBOUND PLAN & ELEVATION STRUCTURE NO. 101-0190

SHEET NO. 46	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	101
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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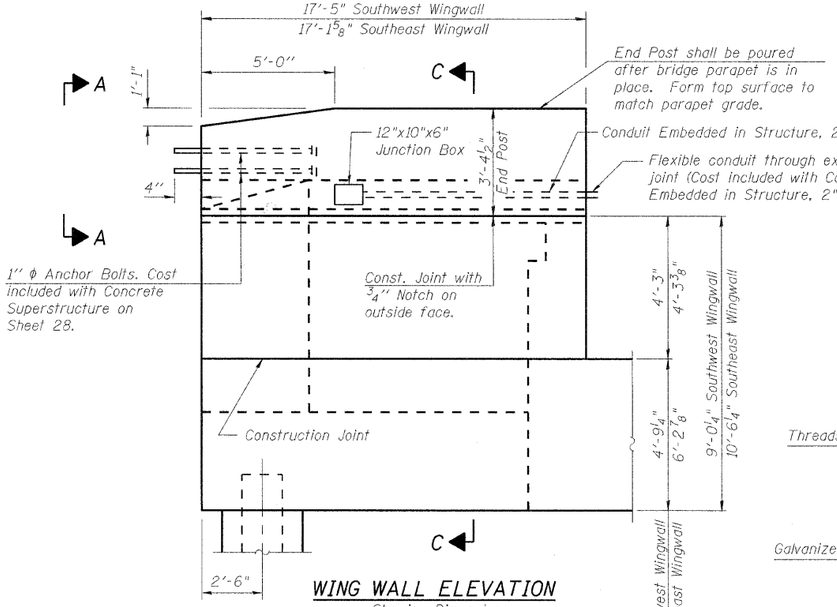
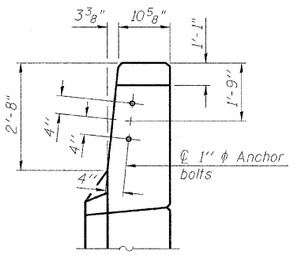
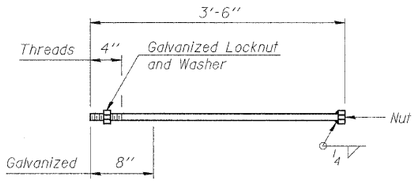
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



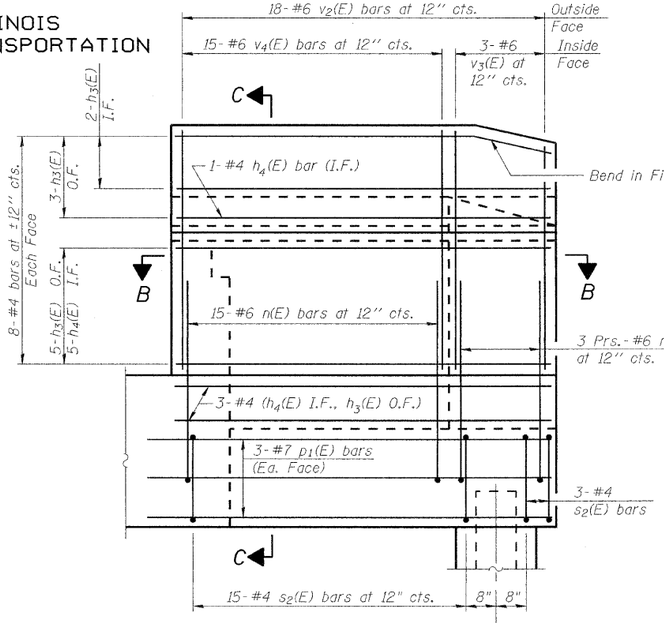
WING WALL ELEVATION
Showing Dimensions



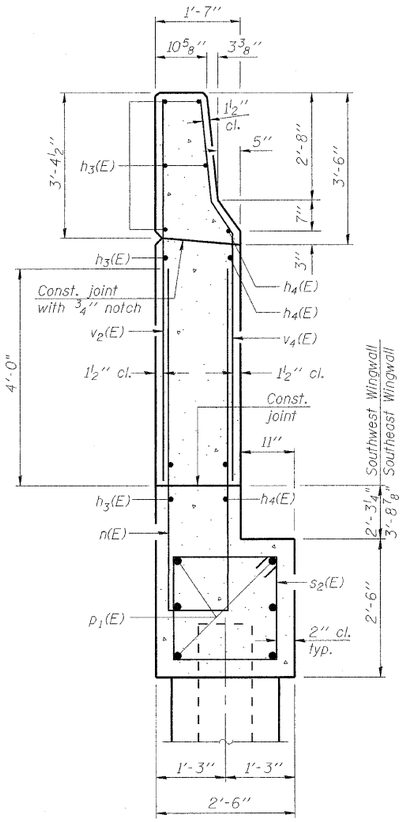
VIEW A-A



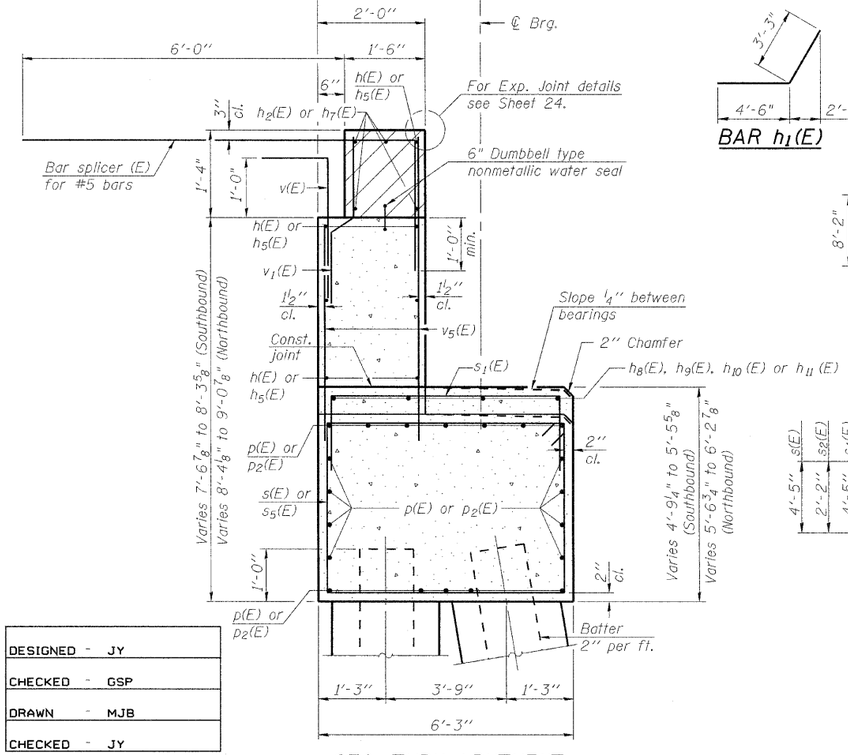
1" ϕ ANCHOR BOLT



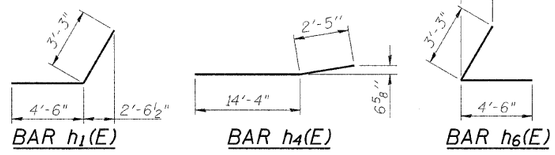
WING WALL ELEVATION
Showing Reinforcement



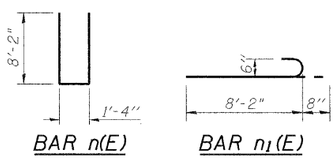
SECTION C-C



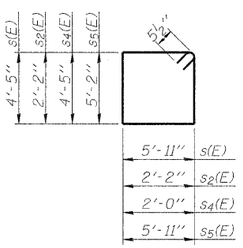
SEC. THRU ABUTMENT



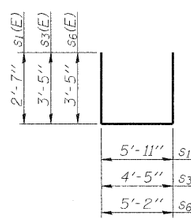
BAR h1(E) BAR h4(E) BAR h6(E)



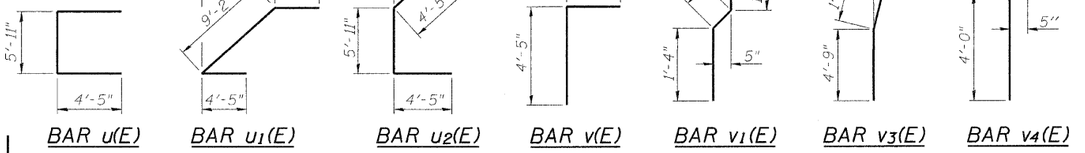
BAR n(E) BAR n1(E)



BARS s(E), s2(E), s4(E) & s5(E)



BARS s1(E), s3(E), & s6(E)



BAR u(E) BAR u1(E) BAR u2(E) BAR v(E) BAR v1(E) BAR v3(E) BAR v4(E)

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Quantity of concrete in end post included with Concrete Superstructure on Sheet 28.
For details of pile and Concrete Encasement, see Sheet 59.
For details of Bar Splicers, see Sheet 58.
For bar $d_5(E)$ and $d_6(E)$ details, see Sheet 28.
For Bill of Material, see Sheet 46.

SOUTH ABUTMENT
DETAILS
STRUCTURE NO. 101-0190

DESIGNED	JY
CHECKED	GSP
DRAWN	MJB
CHECKED	JY

SHEET NO. 47	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	102
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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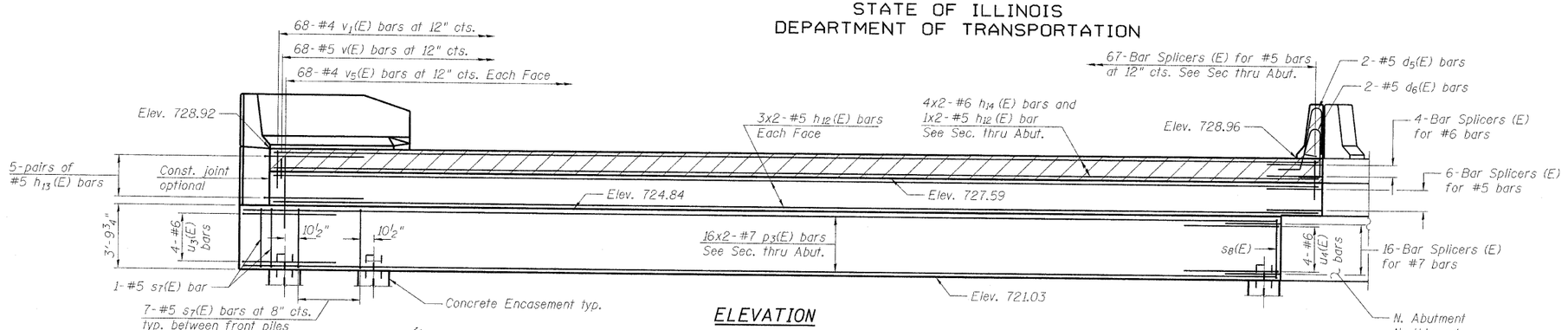
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



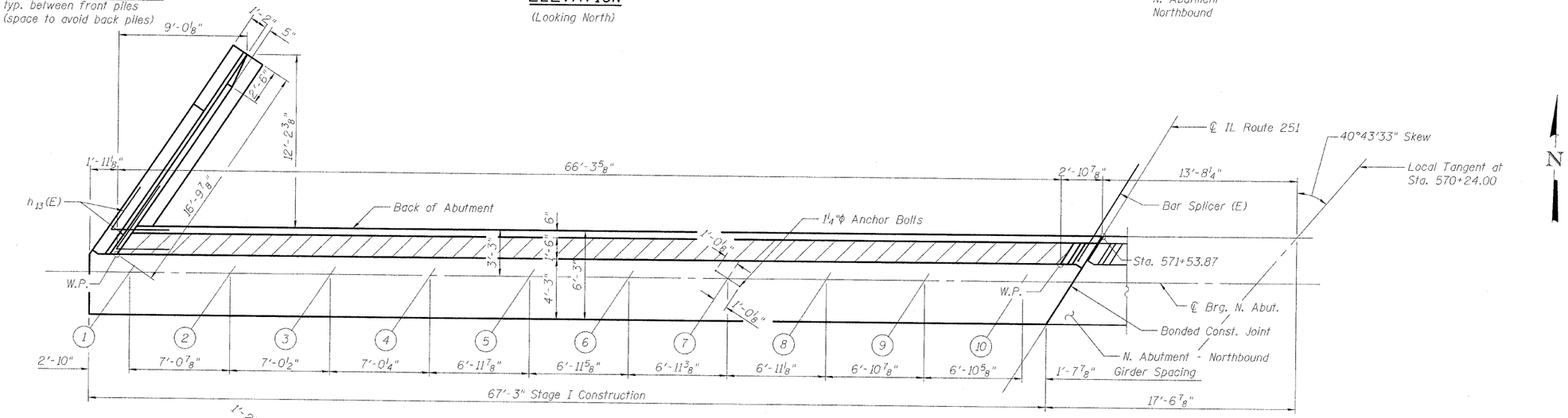
ELEVATION
(Looking North)

PILE DATA

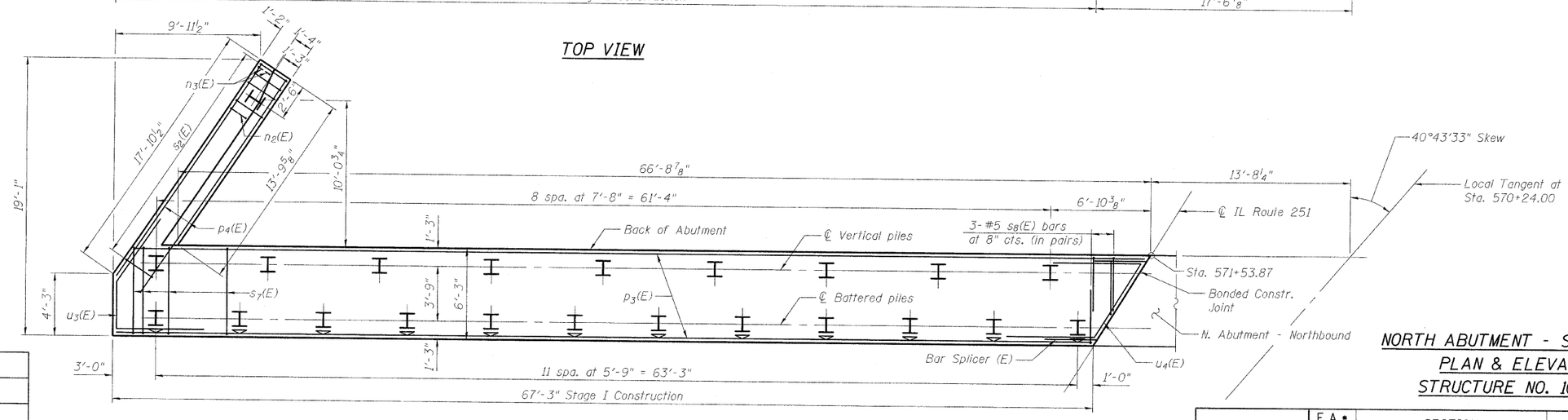
Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 273 kips
Factored Resistance Available: 150 kips
Est. Length: 27 ft
No. Production Piles: 21
No. Test Piles: 1

MINIMUM BAR LAPS

(Abutments)
#4 Bar - 2'-7"
#5 Bar - 3'-8"
#6 Bar - 4'-5"
#7 Bar - 5'-10"



TOP VIEW



PLAN-PILE CAP

Notes:
See Sheet 49 for Bill of Material.
See Sheet 50 for abutment sections, wingwall details and bar diagrams.

NORTH ABUTMENT - SOUTHBOUND PLAN & ELEVATION STRUCTURE NO. 101-0190

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

SHEET NO. 48	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	103
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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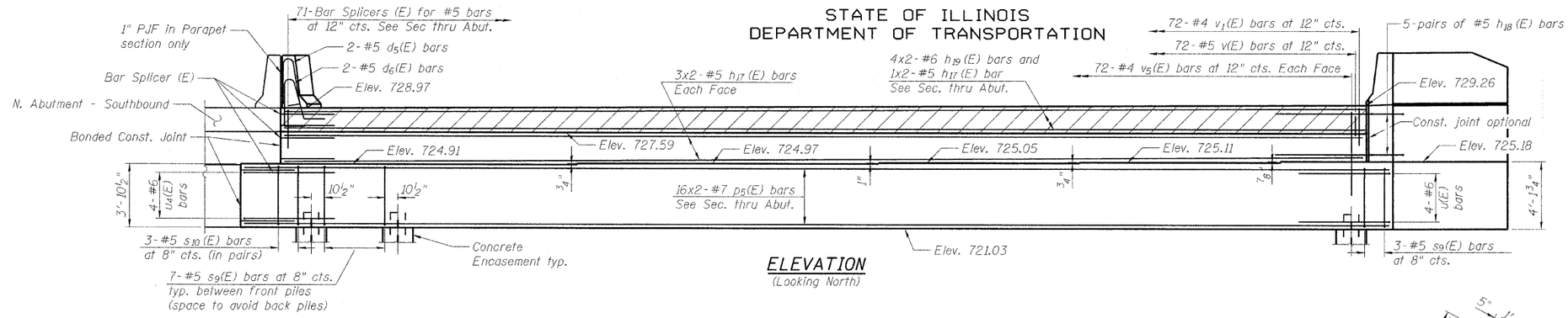
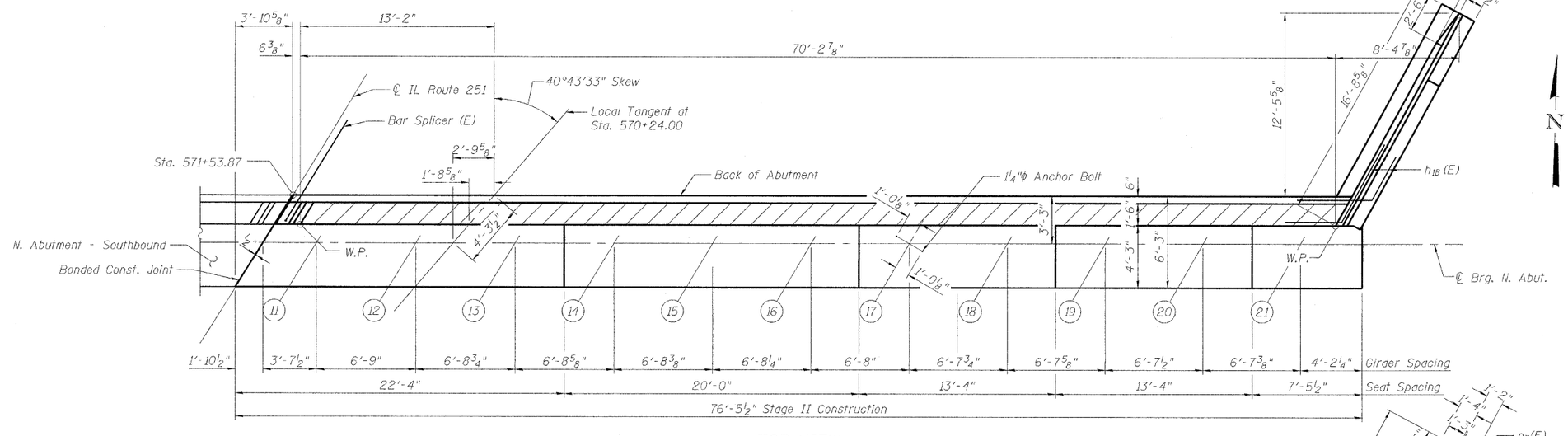
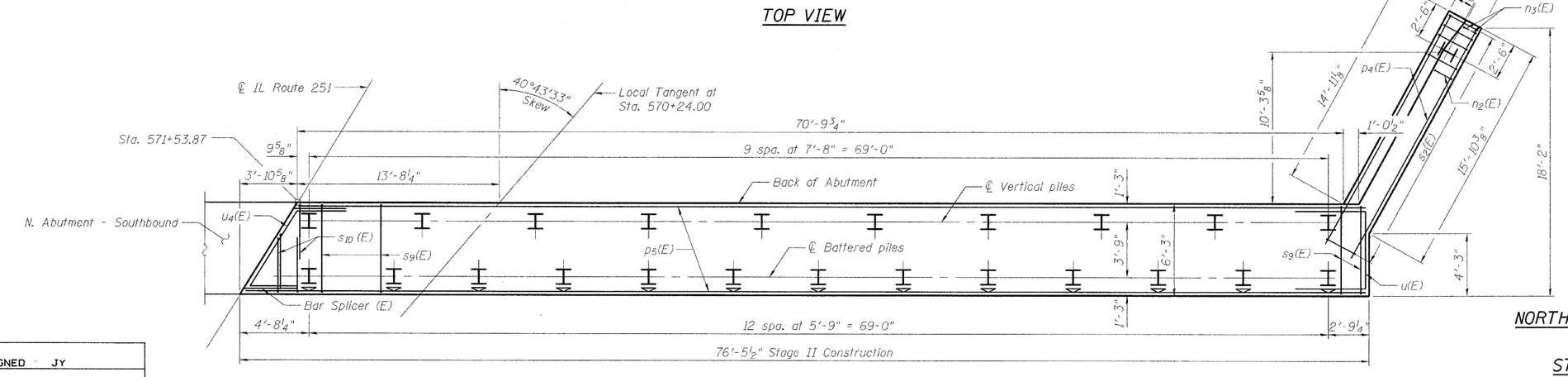
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
(Looking North)



TOP VIEW



MINIMUM BAR LAPS

(Abutments)
#4 Bar - 2'-7"
#5 Bar - 3'-8"
#6 Bar - 4'-5"
#7 Bar - 5'-10"

PLAN-PILE CAP

Notes:
See Sheet 50 for abutment sections, wingwall details and bar diagrams.

NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_5(E)	4	#5	6'-10"	
d_6(E)	4	#5	7'-11"	
h_{12}(E)	14	#5	35'-8"	
h_{13}(E)	10	#5	7'-9"	
h_{14}(E)	8	#6	36'-0"	
h_{15}(E)	24	#4	16'-4"	
h_{16}(E)	16	#4	16'-4"	
h_{17}(E)	14	#5	37'-8"	
h_{18}(E)	10	#5	7'-9"	
h_{19}(E)	8	#6	38'-0"	
n_2(E)	28	#6	14'-6"	
n_3(E)	12	#6	7'-3"	
p_3(E)	32	#7	37'-8"	
p_4(E)	12	#7	17'-6"	
p_5(E)	32	#7	41'-0"	
s_2(E)	28	#4	9'-7"	
s_7(E)	79	#5	19'-7"	
s_8(E)	6	#5	10'-3"	
s_9(E)	87	#5	19'-9"	
s_{10}(E)	6	#5	10'-4"	
u(E)	4	#6	14'-9"	
u_3(E)	4	#6	14'-9"	
u_4(E)	8	#6	15'-10"	
v(E)	140	#5	6'-4"	
v_1(E)	140	#4	3'-0"	
v_2(E)	34	#6	7'-3"	
v_3(E)	6	#6	6'-8"	
v_4(E)	28	#6	6'-8"	
v_5(E)	280	#4	7'-0"	

Structure Excavation	Cu. Yd.	674
Concrete Structures	Cu. Yd.	175.7
Reinforcement Bars, Epoxy Coated	Pound	16,240
Furnishing Steel Piles HP 12x53	Foot	1,215
Driving Piles	Foot	1,215
Test Pile Steel HP 12x53	Each	1
Pile Shoes	Each	46
Conduit Embedded in Structure 2" Dia., PVC	Foot	22
Junction Box, Stainless Steel, Embedded in Structure 12"x10"x6"	Each	2

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 273 kips
Factored Resistance Available: 150 kips
Est. Length: 27 ft
No. Production Piles: 24
No. Test Piles: 0

NORTH ABUTMENT - NORTHBOUND PLAN & ELEVATION STRUCTURE NO. 101-0190

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

SHEET NO. 49	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	104
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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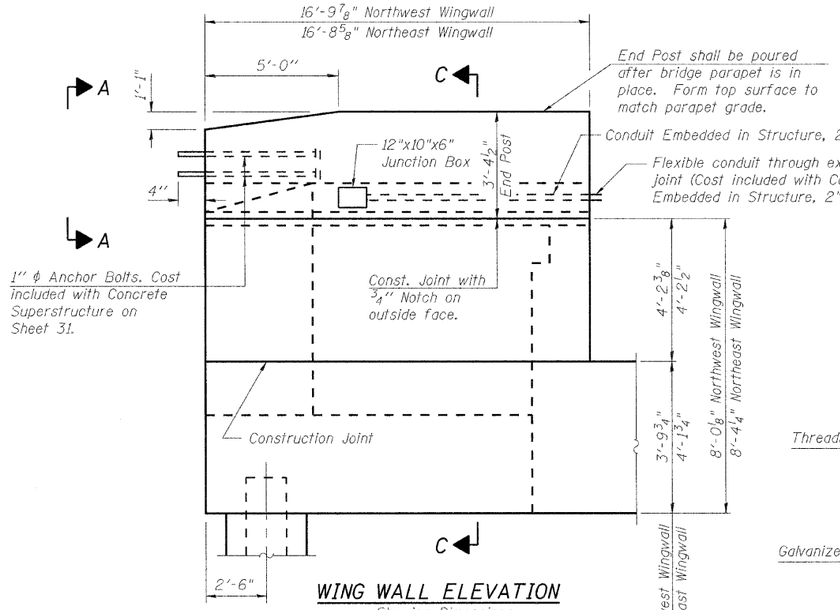
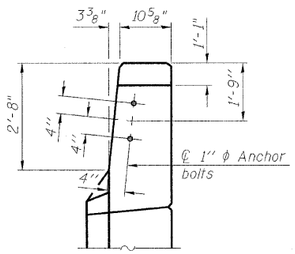
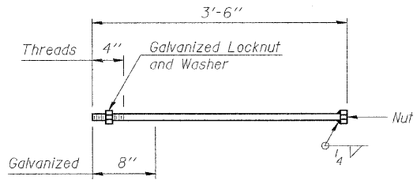
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



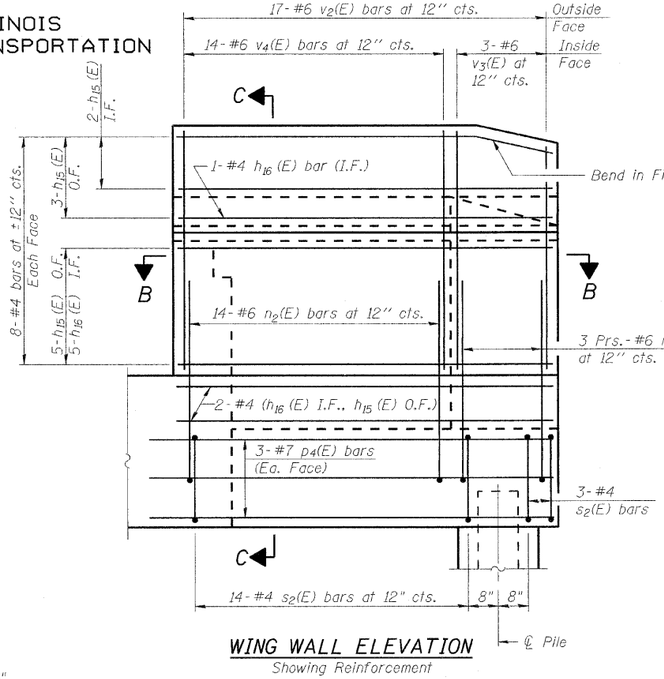
WING WALL ELEVATION
Showing Dimensions



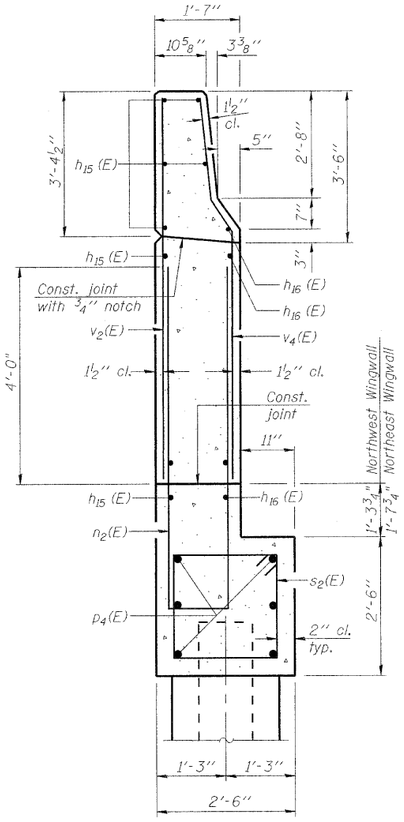
VIEW A-A



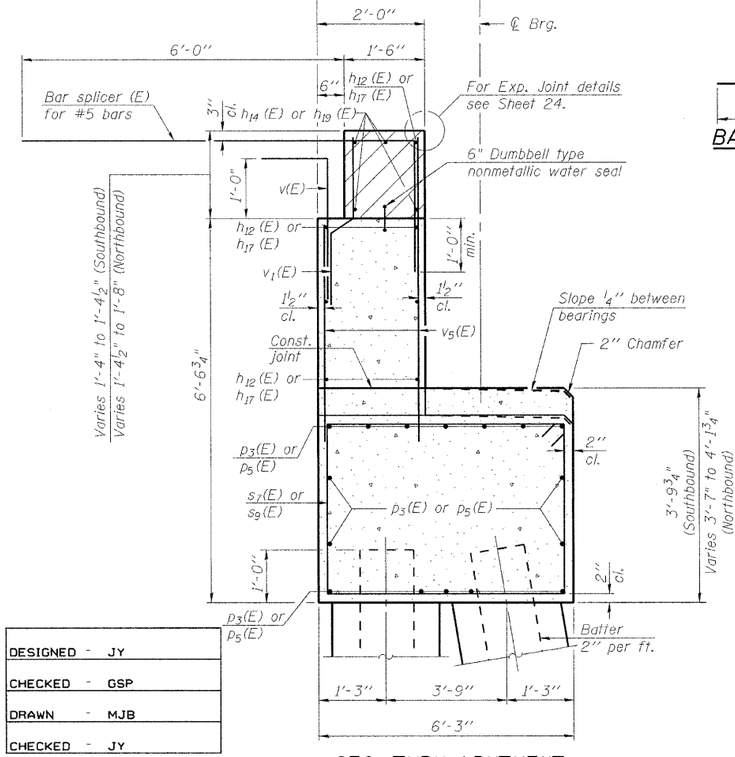
1" ϕ ANCHOR BOLT



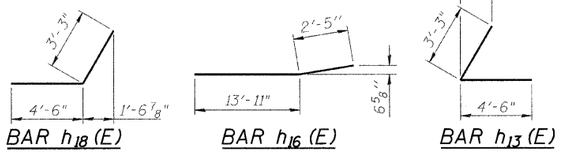
WING WALL ELEVATION
Showing Reinforcement



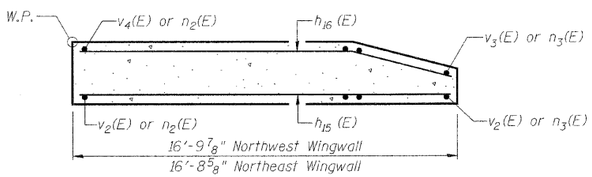
SECTION C-C



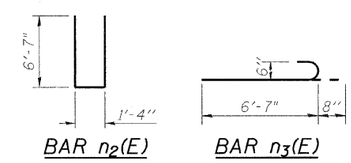
SEC. THRU ABUTMENT



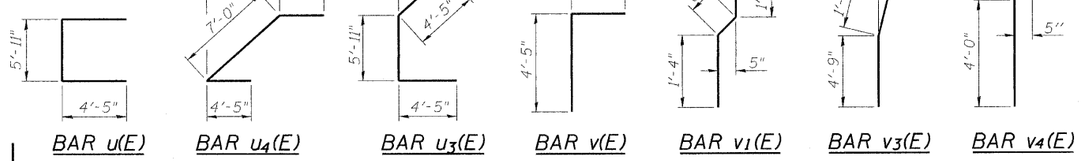
BAR h_{18} (E) BAR h_{16} (E) BAR h_{13} (E)



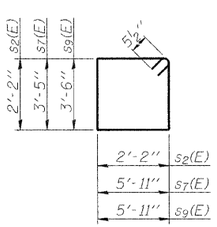
SECTION B-B



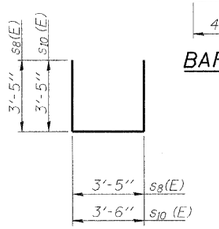
BAR n_2(E) BAR n_3(E)



BAR u(E) BAR u_4(E) BAR u_3(E) BAR v(E) BAR v_1(E) BAR v_3(E) BAR v_4(E)



BARS s_2(E), s_7(E), & s_9(E)



BARS s_8(E), s_{10} (E)

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Quantity of concrete in end post included with Concrete Superstructure on Sheet 31.
For details of pile and Concrete Encasement, see Sheet 59.
For details of Bar Splicers, see Sheet 58.
For details of bars d_5(E) and d_6(E), see Sheet 31.
For Bill of Material, see Sheet 49.

NORTH ABUTMENT
DETAILS
STRUCTURE NO. 101-0190

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

SHEET NO. 50	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	105
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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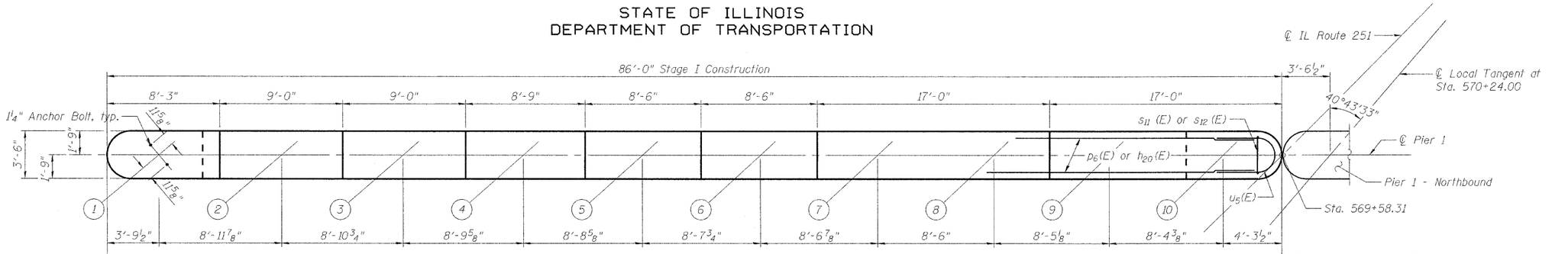
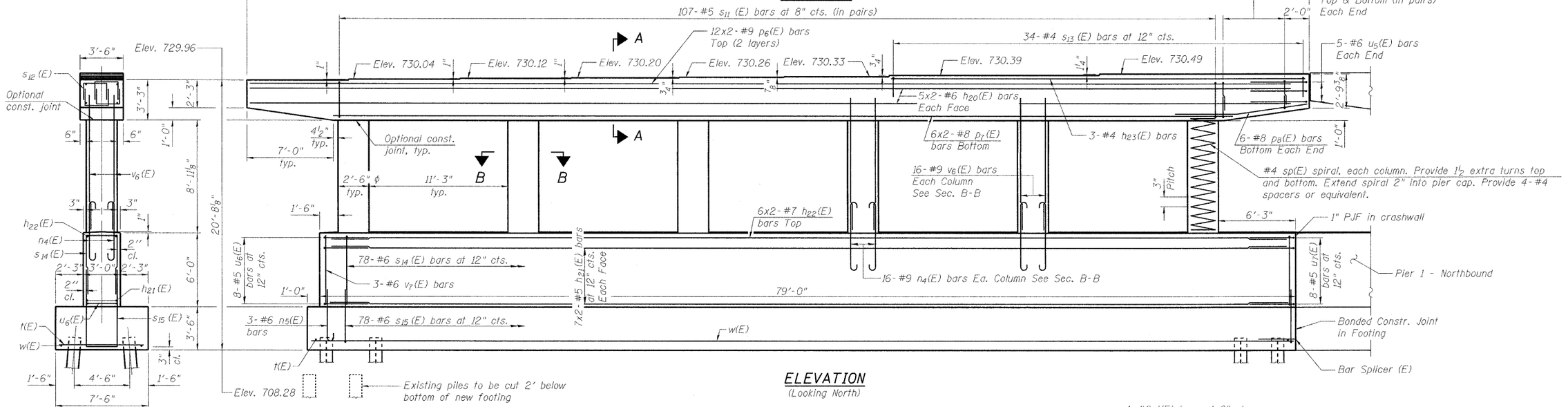
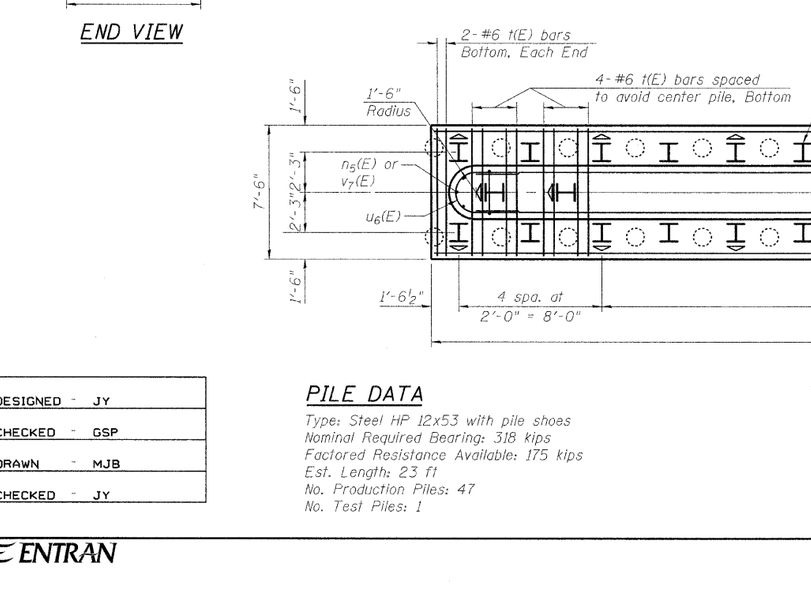
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



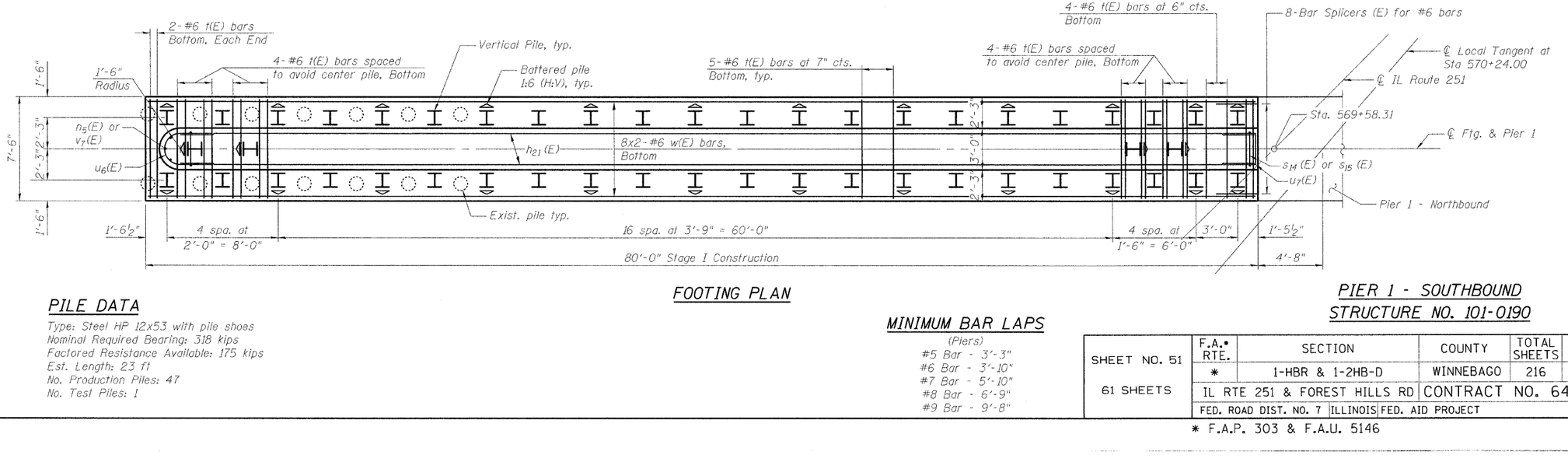
TOP PLAN



ELEVATION
(Looking North)



END VIEW



FOOTING PLAN

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 318 kips
Factored Resistance Available: 175 kips
Est. Length: 23 ft
No. Production Piles: 47
No. Test Piles: 1

MINIMUM BAR LAPS

(Piers)
#5 Bar - 3'-3"
#6 Bar - 3'-10"
#7 Bar - 5'-10"
#8 Bar - 6'-9"
#9 Bar - 9'-8"

PIER 1 - SOUTHBOUND
STRUCTURE NO. 101-0190

SHEET NO. 51	F.A.• RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	106
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

ENTRAN

STATE OF ILLINOIS
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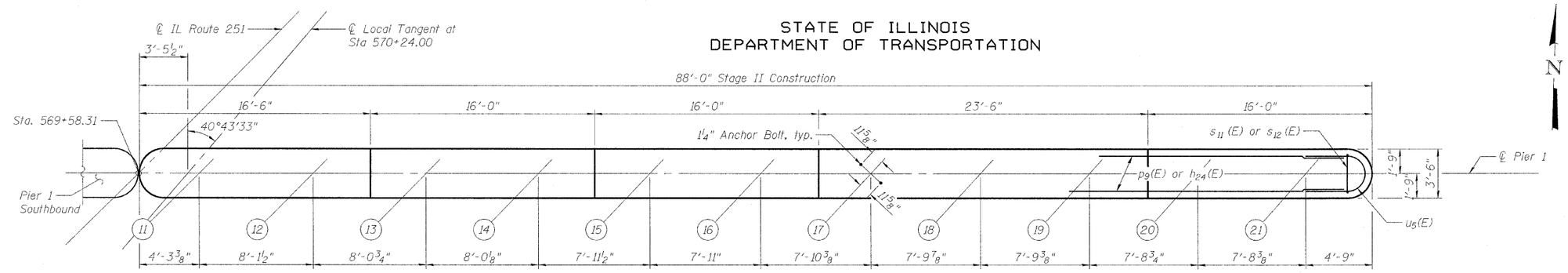
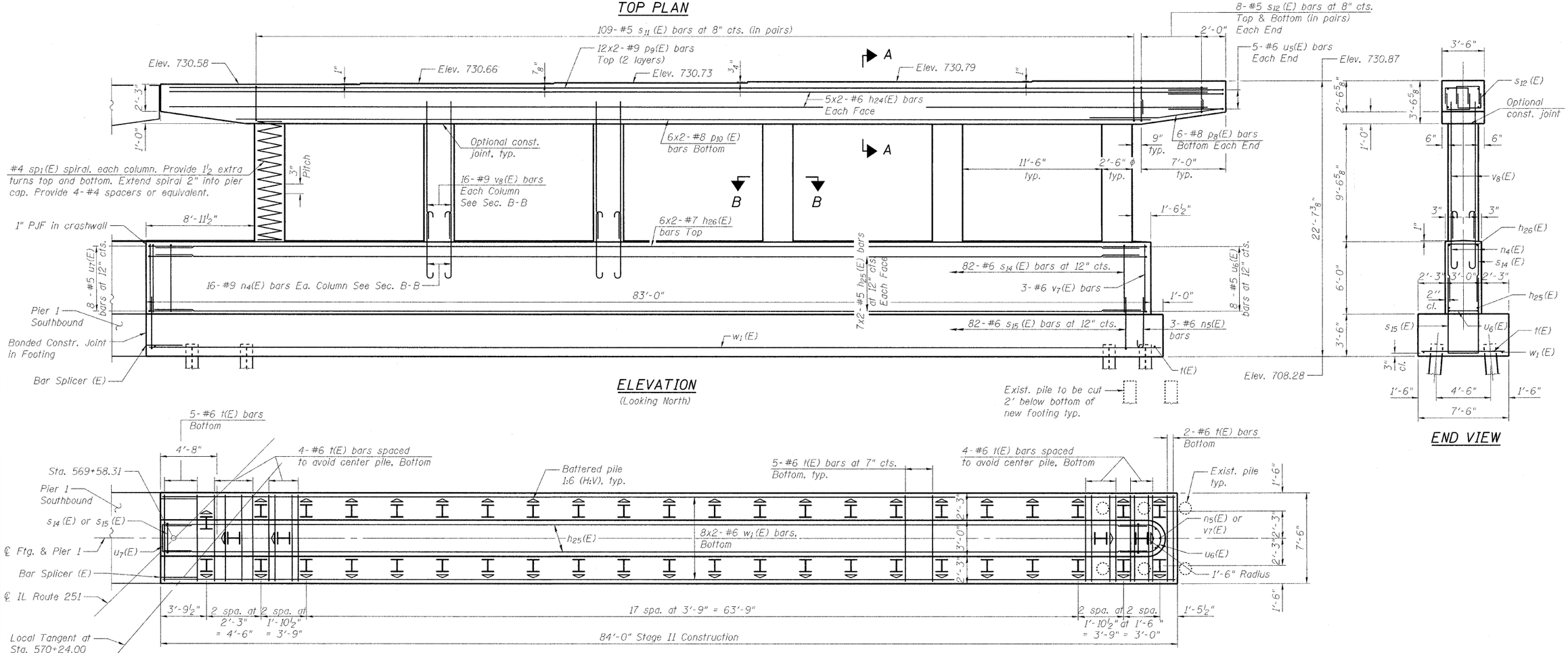


TOP PLAN



ELEVATION
(Looking North)

END VIEW

FOOTING PLAN

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 318 kips
Factored Resistance Available: 175 kips
Est. Length: 23 ft
No. Production Piles: 48
No. Test Piles: 0

MINIMUM BAR LAPS

(Piers)
#5 Bar - 3'-3"
#6 Bar - 3'-10"
#7 Bar - 5'-10"
#8 Bar - 6'-9"
#9 Bar - 9'-8"

PIER 1 - NORTHBOUND
STRUCTURE NO. 101-0190

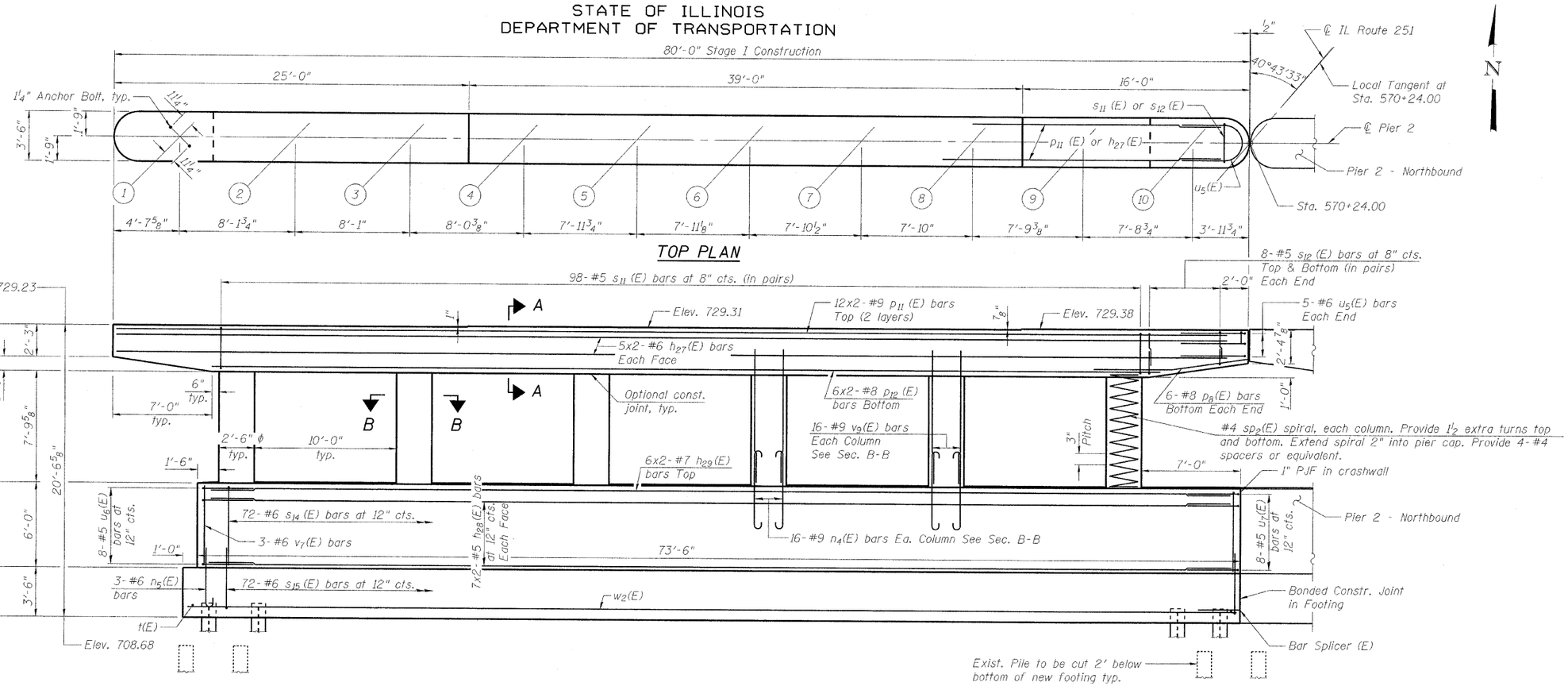
SHEET NO. 52	F.A.• RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	107
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

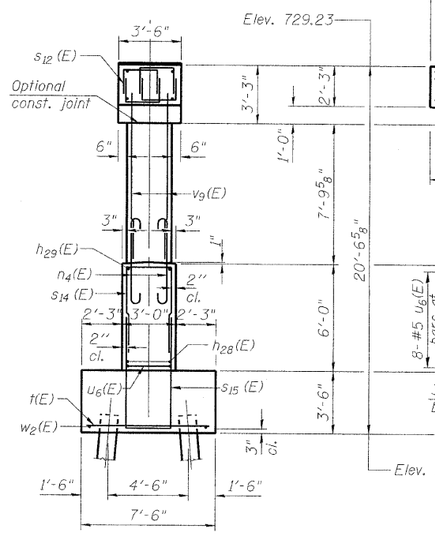
ENTRAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

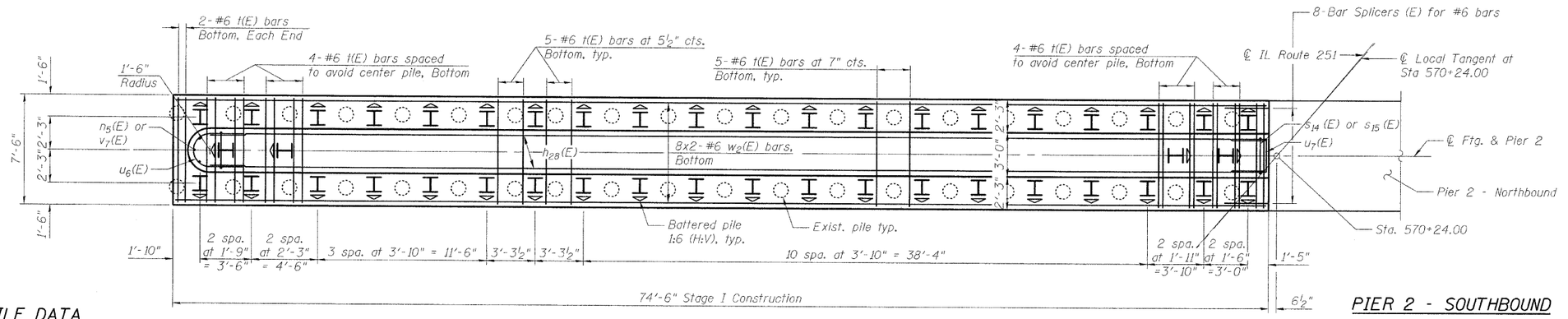


TOP PLAN

END VIEW



ELEVATION
(Looking North)



FOOTING PLAN

PILE DATA

Type: Steel HP 12x53
Nominal Required Bearing: 318 kips
Factored Resistance Available: 175 kips
Est. Length: 25 ft
No. Production Piles: 43
No. Test Piles: 1

MINIMUM BAR LAPS

(Piers)
#5 Bar - 3'-3"
#6 Bar - 3'-10"
#7 Bar - 5'-10"
#8 Bar - 6'-9"
#9 Bar - 9'-8"

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

PIER 2 - SOUTHBOUND
STRUCTURE NO. 101-0190

SHEET NO. 53	F.A.• RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	108
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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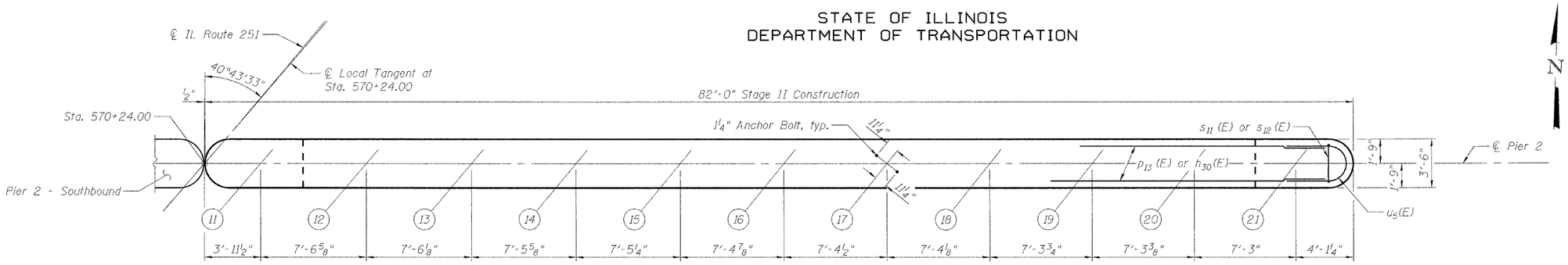
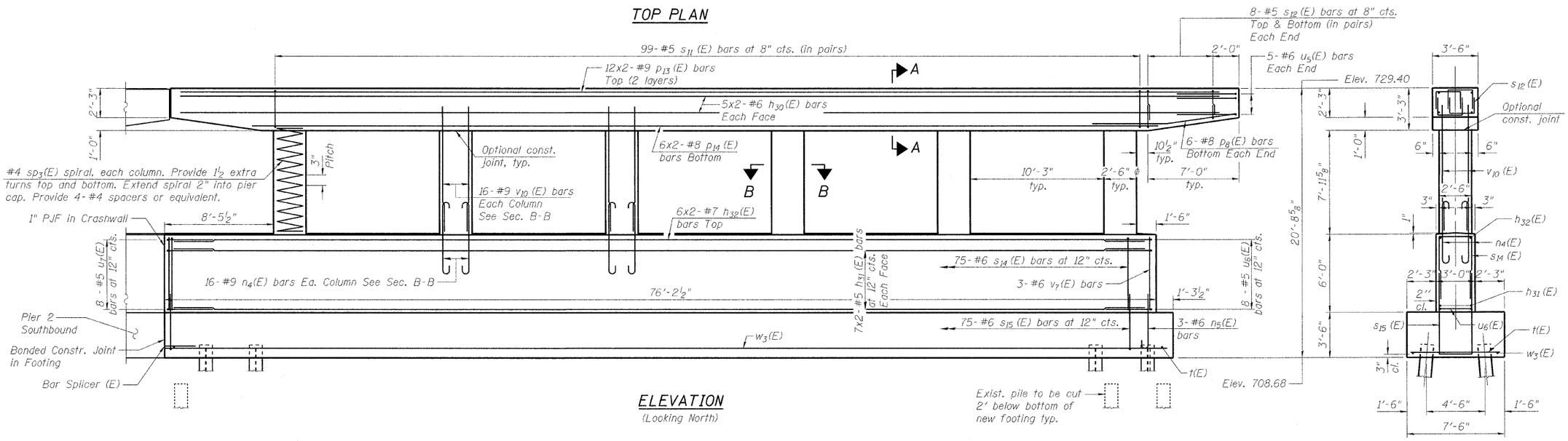
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

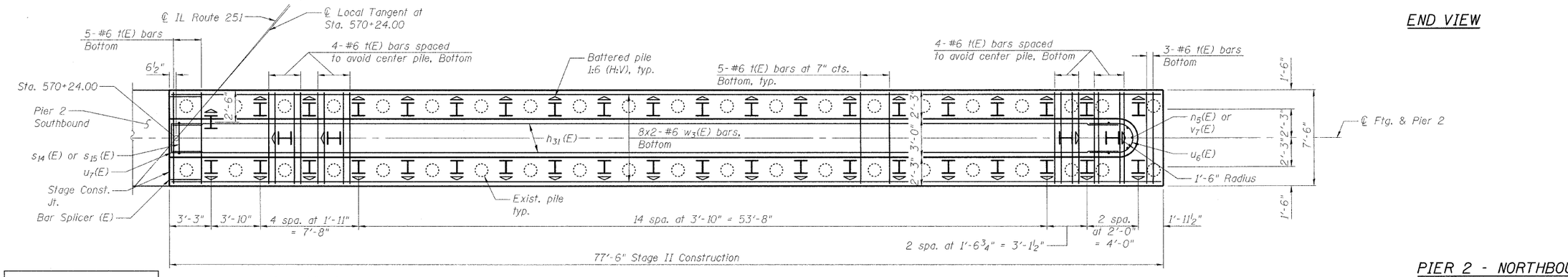


TOP PLAN



ELEVATION
(Looking North)

END VIEW



FOOTING PLAN

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 318 kips
Factored Resistance Available: 175 kips
Est. Length: 25 ft
No. Production Piles: 44
No. Test Piles: 0

MINIMUM BAR LAPS

(Piers)
#5 Bar - 3'-3"
#6 Bar - 3'-10"
#7 Bar - 5'-10"
#8 Bar - 6'-9"
#9 Bar - 9'-8"

PIER 2 - NORTHBOUND
STRUCTURE NO. 101-0190

SHEET NO. 54	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	109
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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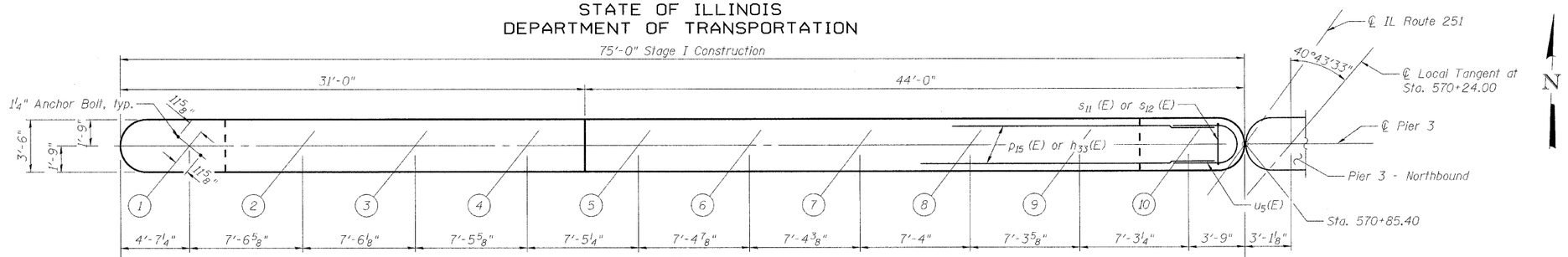
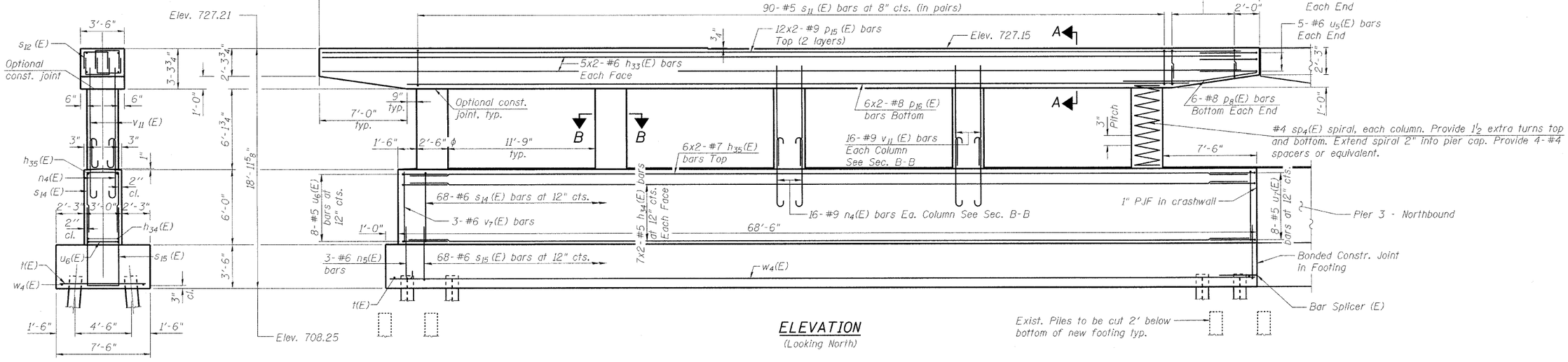
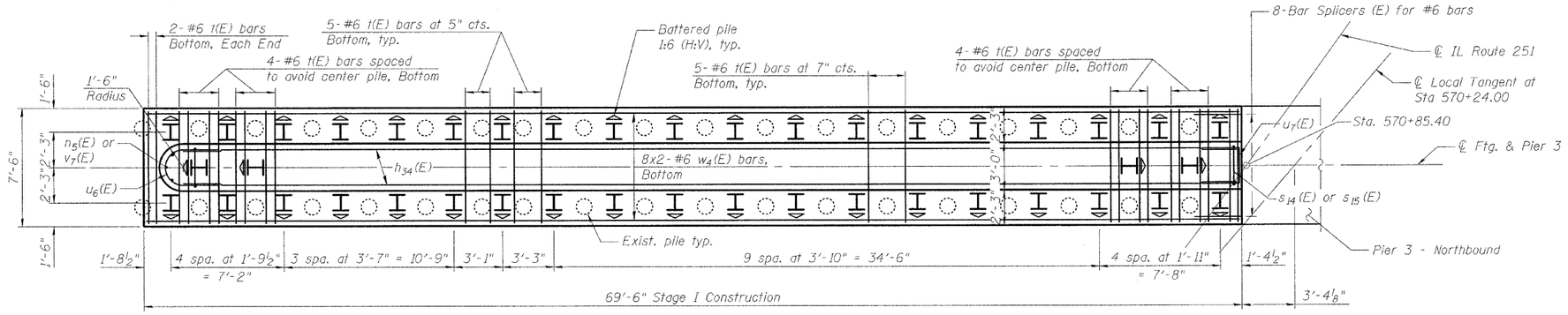


TOP PLAN



ELEVATION
(Looking North)

END VIEW



FOOTING PLAN

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 318 kips
Factored Resistance Available: 175 kips
Est. Length: 29 ft
No. Production Piles: 41
No. Test Piles: 1

Note:
See test pile location on Sheet 3.

MINIMUM BAR LAPS
(Piers)

#5 Bar - 3'-3"
#6 Bar - 3'-10"
#7 Bar - 5'-10"
#8 Bar - 6'-9"
#9 Bar - 9'-8"

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

ENTRAN

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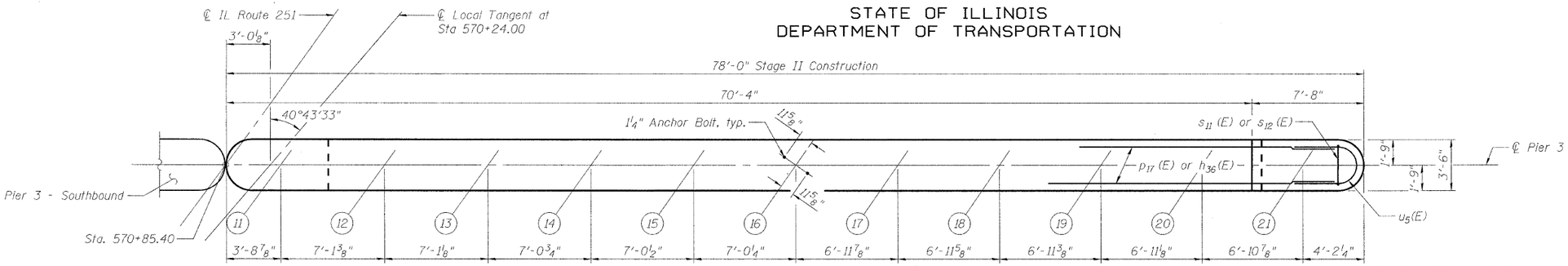
PIER 3 - SOUTHBOUND
STRUCTURE NO. 101-0190

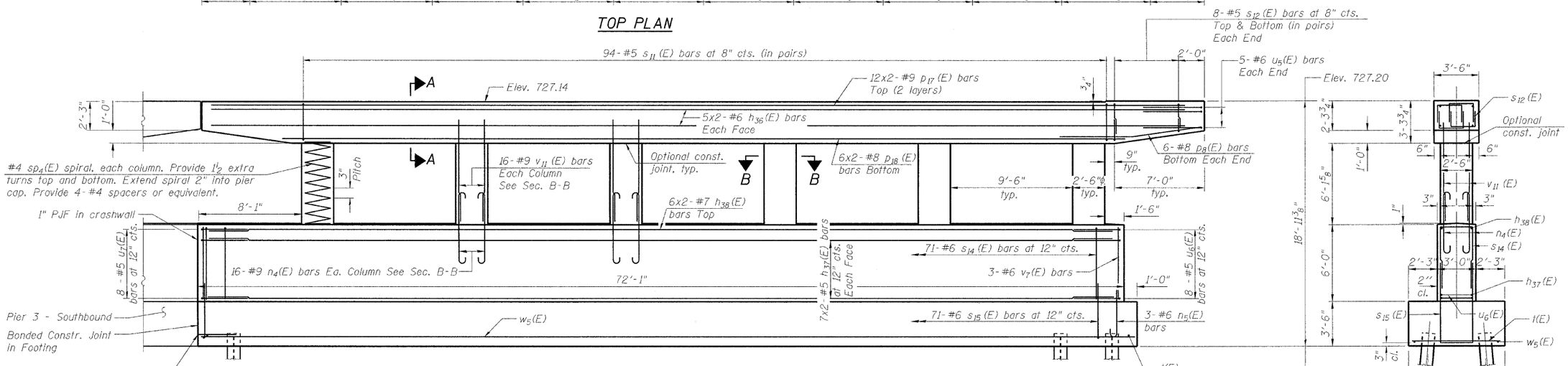
SHEET NO. 55	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	110
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

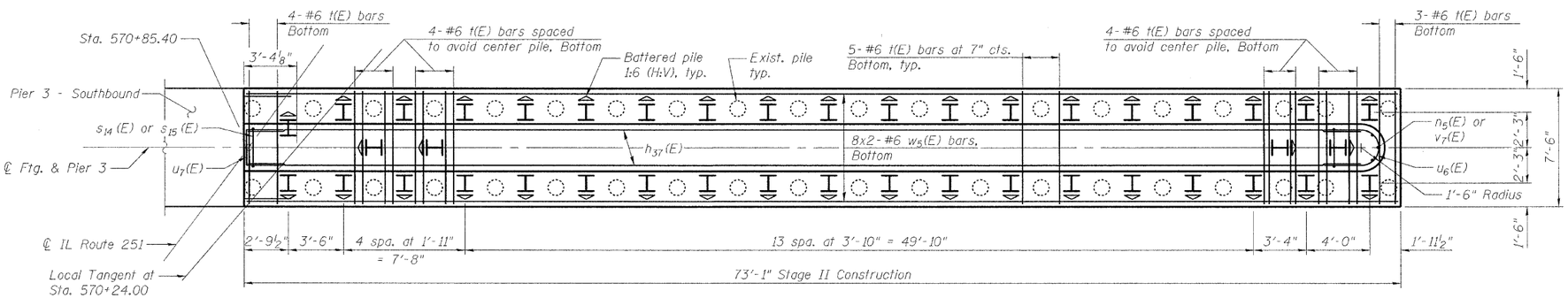


TOP PLAN



ELEVATION
(Looking North)

END VIEW



FOOTING PLAN

Note:
See test pile location on Sheet 3.

DESIGNED	JY
CHECKED	GSP
DRAWN	MJB
CHECKED	JY

PILE DATA

Type: Steel HP 12x53 with pile shoes
Nominal Required Bearing: 318 kips
Factored Resistance Available: 175 kips
Est. Length: 29 ft
No. Production Piles: 42
No. Test Piles: 0

PIER 3 - NORTHBOUND
STRUCTURE NO. 101-0190

SHEET NO. 56	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	111
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 - SOUTHBOUND BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{20}(E)	20	#6	43'-2"	
	h_{21}(E)	28	#5	40'-4"	
	h_{22}(E)	12	#7	41'-7"	
	h_{23}(E)	3	#4	32'-1"	
	n_4(E)	96	#9	8'-6"	
	n_5(E)	3	#6	7'-9"	
	p_6(E)	24	#9	46'-1"	
	p_7(E)	12	#8	39'-5"	
	p_8(E)	12	#8	13'-7"	
	s_{11}(E)	214	#5	13'-1"	
	s_{12}(E)	64	#5	6'-6"	
	s_{13}(E)	34	#4	8'-4"	
	s_{14}(E)	78	#6	14'-0"	
	s_{15}(E)	78	#6	17'-4"	
**	sp(E)	6	#4	9'-0"	
	t(E)	104	#6	7'-2"	
	u_5(E)	10	#6	12'-7"	
	u_6(E)	8	#5	10'-8"	
	u_7(E)	8	#5	9'-2"	
	v_6(E)	96	#9	11'-6"	
	v_7(E)	3	#6	5'-8"	
	w(E)	16	#6	41'-9"	

Concrete Structures	Cu. Yd.	176.3
Reinforcement Bars, Epoxy Coated	Pound	26,360
Furnishing Steel Piles HP 12x53	Foot	1081
Driving Piles	Foot	1081
Test Pile Steel HP 12x53	Each	1
Pile Shoes	Each	48
Braced Excavation	Cu. Yd.	190

** Length is height of spiral.

PIER 1 - NORTHBOUND BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{24}(E)	20	#6	44'-2"	
	h_{25}(E)	28	#5	42'-4"	
	h_{26}(E)	12	#7	43'-7"	
	n_4(E)	96	#9	8'-6"	
	n_5(E)	3	#6	7'-9"	
	p_8(E)	12	#8	13'-7"	
	p_9(E)	24	#9	47'-1"	
	p_{10}(E)	12	#8	40'-5"	
	s_{11}(E)	218	#5	13'-1"	
	s_{12}(E)	64	#5	6'-6"	
	s_{14}(E)	82	#6	14'-0"	
	s_{15}(E)	82	#6	17'-4"	
**	sp_1(E)	6	#4	9'-7"	
	t(E)	108	#6	7'-2"	
	u_5(E)	10	#6	12'-7"	
	u_6(E)	8	#5	10'-8"	
	u_7(E)	8	#5	9'-2"	
	v_7(E)	3	#6	5'-8"	
	v_8(E)	96	#9	12'-1"	
	w_1(E)	16	#6	43'-9"	

Concrete Structures	Cu. Yd.	182.6
Reinforcement Bars, Epoxy Coated	Pound	26,950
Furnishing Steel Piles HP 12x53	Foot	1104
Driving Piles	Foot	1104
Pile Shoes	Each	48
Braced Excavation	Cu. Yd.	199

** Length is height of spiral.

PIER 2 - SOUTHBOUND BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{27}(E)	20	#6	40'-2"	
	h_{28}(E)	28	#5	37'-7"	
	h_{29}(E)	12	#7	38'-10"	
	n_4(E)	96	#9	8'-6"	
	n_5(E)	3	#6	7'-9"	
	p_8(E)	12	#8	13'-7"	
	p_{11}(E)	24	#9	43'-1"	
	p_{12}(E)	12	#8	36'-5"	
	s_{11}(E)	196	#5	13'-1"	
	s_{12}(E)	64	#5	6'-6"	
	s_{14}(E)	72	#6	14'-0"	
	s_{15}(E)	72	#6	17'-4"	
**	sp_2(E)	6	#4	7'-10"	
	t(E)	95	#6	7'-2"	
	u_5(E)	10	#6	12'-7"	
	u_6(E)	8	#5	10'-8"	
	u_7(E)	8	#5	9'-2"	
	v_7(E)	3	#6	5'-8"	
	v_9(E)	96	#9	10'-4"	
	w_2(E)	16	#6	39'-0"	

Concrete Structures	Cu. Yd.	160.7
Reinforcement Bars, Epoxy Coated	Pound	24,330
Furnishing Steel Piles HP 12x53	Foot	1075
Driving Piles	Foot	1075
Test Pile Steel HP 12x53	Each	1
Pile Shoes	Each	44
Braced Excavation	Cu. Yd.	181

** Length is height of spiral.

PIER 2 - NORTHBOUND BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{30}(E)	20	#6	41'-2"	
	h_{31}(E)	28	#5	38'-11"	
	h_{32}(E)	12	#7	40'-3"	
	n_4(E)	96	#9	8'-6"	
	n_5(E)	3	#6	7'-9"	
	p_8(E)	12	#8	13'-7"	
	p_{13}(E)	24	#9	44'-1"	
	p_{14}(E)	12	#8	37'-5"	
	s_{11}(E)	198	#5	13'-1"	
	s_{12}(E)	64	#5	6'-6"	
	s_{14}(E)	75	#6	14'-0"	
	s_{15}(E)	75	#6	17'-4"	
**	sp_3(E)	6	#4	8'-0"	
	t(E)	99	#6	7'-2"	
	u_5(E)	10	#6	12'-7"	
	u_6(E)	8	#5	10'-8"	
	u_7(E)	8	#5	9'-2"	
	v_7(E)	3	#6	5'-8"	
	v_{10}(E)	96	#9	10'-6"	
	w_3(E)	16	#6	40'-6"	

Concrete Structures	Cu. Yd.	165.7
Reinforcement Bars, Epoxy Coated	Pound	24,870
Furnishing Steel Piles HP 12x53	Foot	1100
Driving Piles	Foot	1100
Pile Shoes	Each	44
Braced Excavation	Cu. Yd.	188

** Length is height of spiral.

PIER 3 - SOUTHBOUND BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{33}(E)	20	#6	37'-8"	
	h_{34}(E)	28	#5	35'-1"	
	h_{35}(E)	12	#7	36'-4"	
	n_4(E)	80	#9	8'-6"	
	n_5(E)	3	#6	7'-9"	
	p_8(E)	12	#8	13'-7"	
	p_{15}(E)	24	#9	40'-7"	
	p_{16}(E)	12	#8	33'-11"	
	s_{11}(E)	180	#5	13'-1"	
	s_{12}(E)	64	#5	6'-6"	
	s_{14}(E)	68	#6	14'-0"	
	s_{15}(E)	68	#6	17'-4"	
**	sp_4(E)	5	#4	6'-2"	
	t(E)	90	#6	7'-2"	
	u_5(E)	10	#6	12'-7"	
	u_6(E)	8	#5	10'-8"	
	u_7(E)	8	#5	9'-2"	
	v_7(E)	3	#6	5'-8"	
	v_{11}(E)	80	#9	8'-8"	
	w_4(E)	16	#6	36'-6"	

Concrete Structures	Cu. Yd.	147.1
Reinforcement Bars, Epoxy Coated	Pound	21,530
Furnishing Steel Piles HP 12x53	Foot	1189
Driving Piles	Foot	1189
Test Pile Steel HP 12x53	Each	1
Pile Shoes	Each	42
Braced Excavation	Cu. Yd.	151

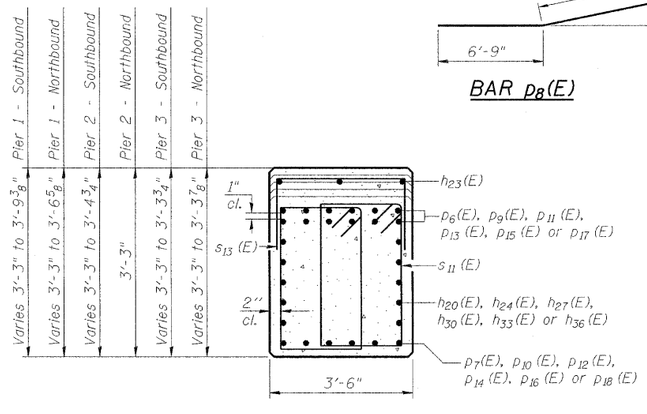
** Length is height of spiral.

PIER 3 - NORTHBOUND BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{36}(E)	20	#6	39'-2"	
	h_{37}(E)	28	#5	36'-10"	
	h_{38}(E)	12	#7	38'-2"	
	n_4(E)	96	#9	8'-6"	
	n_5(E)	3	#6	7'-9"	
	p_8(E)	12	#8	13'-7"	
	p_{17}(E)	24	#9	42'-1"	
	p_{18}(E)	12	#8	35'-5"	
	s_{11}(E)	188	#5	13'-1"	
	s_{12}(E)	64	#5	6'-6"	
	s_{14}(E)	71	#6	14'-0"	
	s_{15}(E)	71	#6	17'-4"	
**	sp_4(E)	6	#4	6'-2"	
	t(E)	93	#6	7'-2"	
	u_5(E)	10	#6	12'-7"	
	u_6(E)	8	#5	10'-8"	
	u_7(E)	8	#5	9'-2"	
	v_7(E)	3	#6	5'-8"	
	v_{11}(E)	96	#9	8'-8"	
	w_5(E)	16	#6	38'-4"	

Concrete Structures	Cu. Yd.	155.2
Reinforcement Bars, Epoxy Coated	Pound	23,230
Furnishing Steel Piles HP 12x53	Foot	1218
Driving Piles	Foot	1218
Pile Shoes	Each	42
Braced Excavation	Cu. Yd.	158

** Length is height of spiral.



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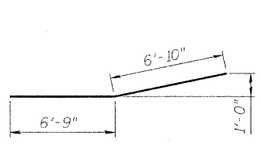
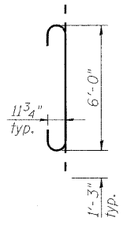
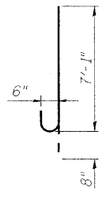


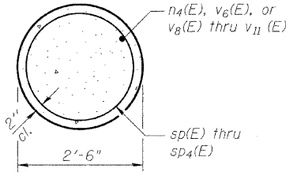
BAR p_8(E)



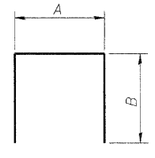
BAR n_4(E)



BAR n_5(E)



SEC. B-B

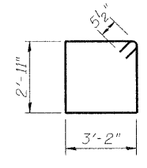


s_{12}(E), s_{13}(E), s_{14}(E) or s_{15}(E) BARS

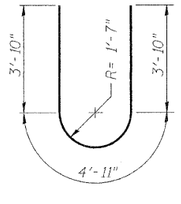
A & B DIMENSIONS

Bar	A	B
s_{12}(E)	2'-2"	2'-2"
s_{13}(E)	3'-2"	2'-7"
s_{14}(E)	2'-8"	5'-8"
s_{15}(E)	2'-8"	7'-4"

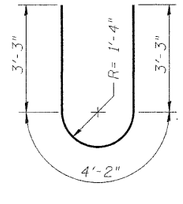
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see Sheet 59.



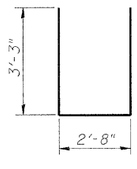
BAR s_{11}(E)



BAR u_5(E)



BAR u_6(E)



BAR u_7(E)

DESIGNED - JY	
CHECKED - GSP	
DRAWN - MJB	
CHECKED - JY	

PIER DETAILS & BILL OF MATERIAL
STRUCTURE NO. 101-0190

	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 57	*	1-HBR & 1-2HB-D	WINNEBAGO	216	112
61 SHEETS	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

ENTRAN

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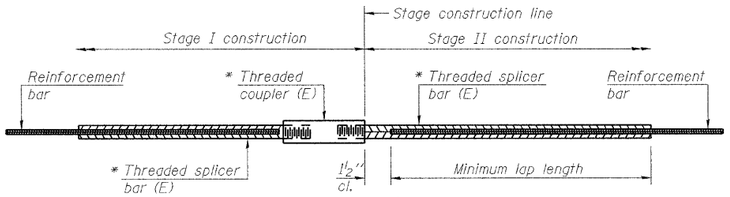
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

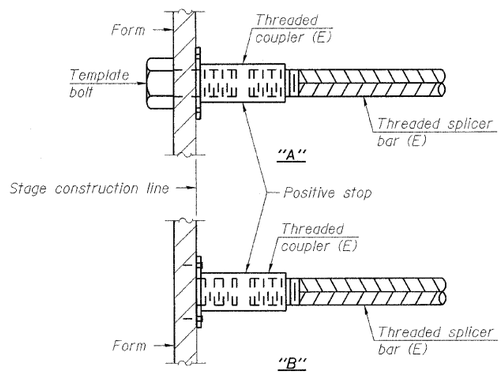
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

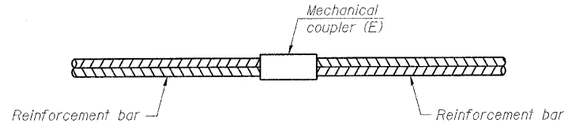
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
S. Abut. - Hatchblock	6	4	Table 4
S. Abut. - Backwall	5	6	Table 4
S. Abut. - Cap	7	20	Table 4
N. Abut. - Hatchblock	6	4	Table 4
N. Abut. - Backwall	5	6	Table 4
N. Abut. - Cap	7	16	Table 4
Pier 1 - Footing	6	8	Table 3
Pier 2 - Footing	6	8	Table 3
Pier 3 - Footing	6	8	Table 3



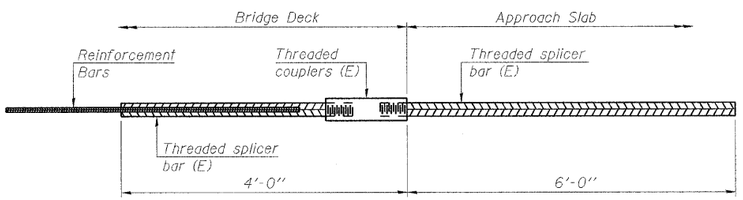
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



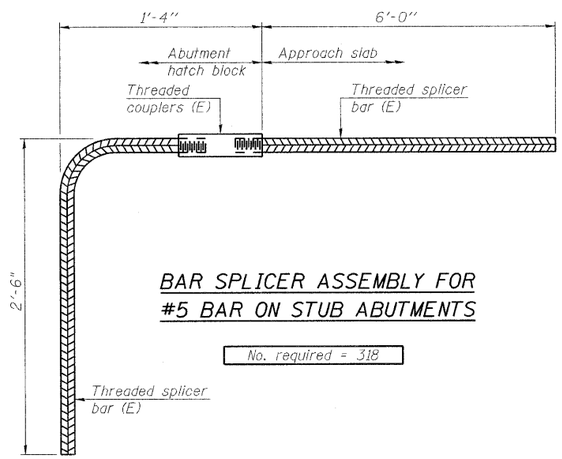
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 0



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 318

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY DETAILS STRUCTURE NO. 101-0190

SHEET NO. 58	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	113
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

BSD-1 7-1-10

ENTRAN

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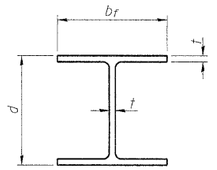
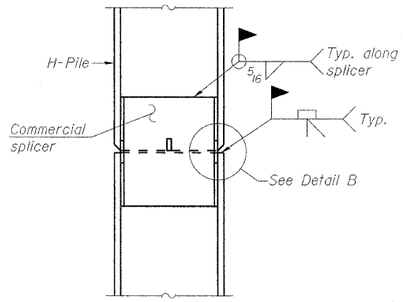
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

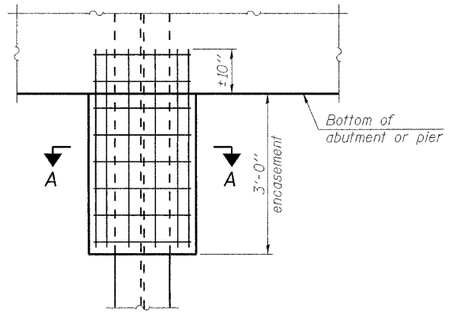


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



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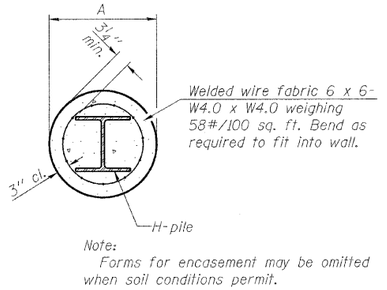
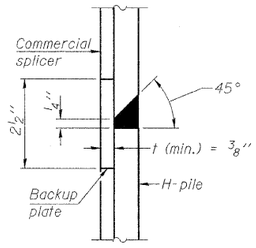


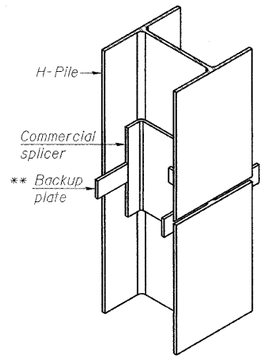
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

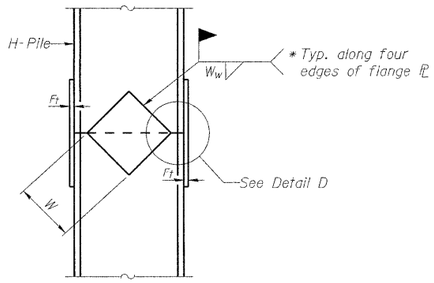


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



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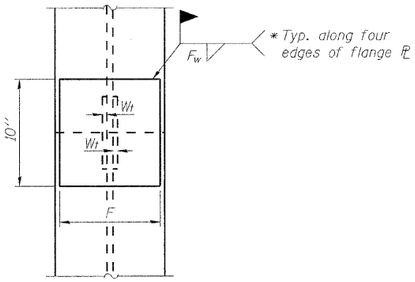
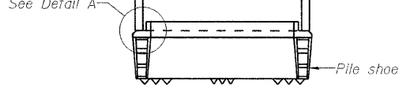


END VIEW



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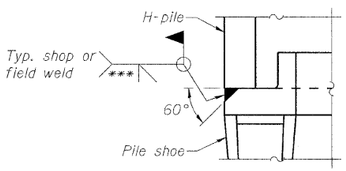
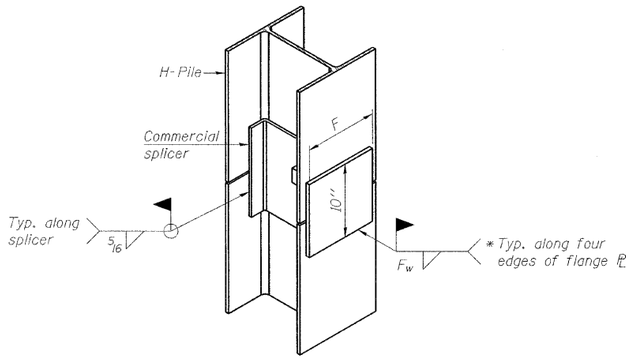


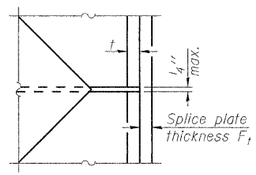
DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

DESIGNED -	JY
CHECKED -	GSP
DRAWN -	MJB
CHECKED -	JY

F-HP 7-1-10

ENTRAN

HP PILE DETAILS
STRUCTURE NO. 101-0190

SHEET NO. 59	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	114
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 4/7/06

ROUTE IL 251 DESCRIPTION P92-144-05 IL 251 over Spring Creek Road in Rockford LOGGED BY W. Garza

SECTION _____ LOCATION Rockford Twp. - 13NE, SEC. , TWP. 44N, RNG. 1E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-1b
Station 159+90
Offset 64.00ft Lt CL
Ground Surface Elev. 713.6 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 701.1 ft
Upon Completion Wash ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SOFT brown SANDY LOAM		0.3 P	12	Wash			
				MEDIUM/DENSE tan SAND & GRAVEL	12 13 17		
711.10				692.10			
VERY LOOSE brown dirty SAND & GRAVEL	3 1 2			DENSE tan clean medium coarse SAND	20 15 17		
709.10				689.60			
-5				-25			
MEDIUM brown SANDY LOAM	1 1 2	0.6 P	16	DENSE tan fine SAND	7 8 30		
707.10				687.10			
VERY STIFF tan SILTY CLAY LOAM TILL	3 6 9	2.2 B	10	Wash DENSE tan SAND & GRAVEL	20 22 24		
704.60				684.60			
-10				-30			
MEDIUM tan SILTY CLAY LOAM TILL	2 3 3	0.8 B	13	Wash VERY DENSE tan clean medium coarse SAND	18 24 32		
701.60				682.10			
LOOSE/MEDIUM tan SAND & GRAVEL	3 4 5			Wash DENSE tan clean medium coarse SAND	14 20 24		
699.60				679.60			
-15				-35			
MEDIUM tan SAND & GRAVEL	6 7 9			Wash VERY DENSE tan fine SAND	10 25 47		
697.10				677.10			
MEDIUM tan SAND & GRAVEL	13 12 14			End of Boring			
694.60							
-20							

Figure 3 Sheet 2 of 7

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 4/10/06

ROUTE IL 251 DESCRIPTION P92-144-05 IL 251 bridge over Spring Creek LOGGED BY W. Garza

SECTION _____ LOCATION Rockford Twp. - 13NE, SEC. , TWP. 44N, RNG. 1E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-2b
Station 160+00
Offset 75.00ft Rt
Ground Surface Elev. 714.8 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 702.3 ft
Upon Completion Wash ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown LOAM		0.5 P	10	MEDIUM tan clean medium coarse SAND	4 5 21		
712.30				693.30			
SOFT brown SANDY LOAM	3 3 4	0.4 S	13	MEDIUM tan clean medium SAND & GRAVEL	3 4 9		
710.30				690.80			
-5				-25			
MEDIUM tan SAND & GRAVEL	6 6 10			Wash DENSE tan fine SAND	9 17 25		
708.30				688.30			
MEDIUM tan SAND & GRAVEL	9 11 14			Wash VERY DENSE tan fine SAND	18 34 43		
705.80				685.80			
-10				-30			
DENSE tan moist SAND & GRAVEL	30 24 16			Wash DENSE Tan fine SAND	12 20 21		
703.30				683.30			
MEDIUM tan dirty SAND & GRAVEL	5 5 7			Wash VERY DENSE tan clean medium coarse SAND	19 38 66		
700.80				680.80			
-15				End of Boring			
DENSE tan dirty SAND & GRAVEL	6 10 25			-35			
698.30							
MEDIUM tan SAND & GRAVEL	16 14 12						
695.80							
-20							

Figure 3 Sheet 3 of 7

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 4/11/06

ROUTE IL 251 DESCRIPTION P92-144-05 IL 251 Bridge over Spring Creek LOGGED BY W. Garza

SECTION _____ LOCATION Rockford Twp. - 13NE, SEC. , TWP. 44n, RNG. 1E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-3b
Station 158+14
Offset 58.00ft Lt
Ground Surface Elev. 714.7 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 702.2 ft
Upon Completion Wash ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY SOFT brown LOAM		0.2 P	12	Wash			
				DENSE tan fine SAND	11 13 20		
712.70				693.20			
MEDIUM tan SAND & GRAVEL	11 11 11			Wash DENSE tan clean medium coarse SAND	11 18 27		
710.70				690.70			
-5				-25			
DENSE tan SAND & GRAVEL	16 17 23			VERY DENSE tan fine SAND	10 20 35		
708.20				688.20			
VERY DENSE tan SAND & GRAVEL	19 28 26			Wash DENSE tan clean medium coarse SAND	11 19 18		
705.70				685.70			
-10				-30			
DENSE tan moist SAND & GRAVEL	20 25 23			VERY DENSE tan clean medium coarse SAND with SILTY lens	11 20 45		
703.20				683.20			
DENSE tan SAND & GRAVEL	17 16 18			End of Boring			
700.70							
-15							
DENSE tan clean medium coarse SAND	26 19 17						
698.20							
MEDIUM tan SAND & GRAVEL	12 12 17						
695.70							
-20							

Figure 3 Sheet 4 of 7

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED	JY
CHECKED	GSP
DRAWN	MJB
CHECKED	JY

BORING LOGS (1 OF 2)
STRUCTURE NO. 101-0190

SHEET NO. 60	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
61 SHEETS	*	1-HBR & 1-2HB-D	WINNEBAGO	216	115
	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 2

Date 4/12/06

ROUTE IL 251 DESCRIPTION P92-144-05 IL 251 bridge over Spring Creek Road LOGGED BY W. Garza

SECTION LOCATION Rockford Twp. - 13NE, SEC. , TWP. 44N, RNG. 1E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station

BORING NO. B-4b
Station 158+12
Offset 48.00ft Rt
Ground Surface Elev. 736.5 ft

Surface Water Elev. ft
Stream Bed Elev. 714.0 ft

Groundwater Elev.:
First Encounter 701.5 ft ▼
Upon Completion Wash ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
12" Asphalt & Concrete			
SOFT brown LOAM	9	0.3 P	12
734.00			
MEDIUM tan SAND and medium GRAVEL	4 6 10		
732.50			
-5-			
STIFF gray SANDY LOAM	9 10 7	2.0 P	10
730.00			
STIFF gray/tan SANDY LOAM	4 2 7	1.1 P	14
727.50			
-10-			
STIFF tan SANDY LOAM	25 13 9	1.4 S	11
725.00			
STIFF redish brown SANDY CLAY LOAM	3 2 5	1.8 P	14
722.00			
-15-			
MEDIUM tan dry SAND	7 8 14		
720.00			
VERY DENSE tan SAND & GRAVEL	11 17 35		
717.50			
-20-			
VERY DENSE tan SAND & GRAVEL	31 30 44		
715.00			
DENSE tan clean medium coarse SAND	19 21 21		
712.50			
-25-			
VERY DENSE tan SAND & GRAVEL	36 100/11"		
710.00			
VERY DENSE tan SAND & GRAVEL	35 38 67		
707.50			
-30-			
VERY DENSE tan SAND & GRAVEL	100/6.5"		
705.00			
VERY DENSE tan moist SAND & GRAVEL	21 45 32		
702.50			
-35- ▼			
VERY DENSE tan SAND & GRAVEL	31 27 28		
700.00			
DENSE tan SAND & GRAVEL	25 21 20		
697.50			
-40-			

Figure 3 Sheet 5 of 7

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear,
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T20

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 2 of 2

Date 4/12/06

ROUTE IL 251 DESCRIPTION P92-144-05 IL 251 bridge over Spring Creek Road LOGGED BY W. Garza

SECTION LOCATION Rockford Twp. - 13NE, SEC. , TWP. 44N, RNG. 1E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station

BORING NO. B-4b
Station 158+12
Offset 48.00ft Rt
Ground Surface Elev. 736.5 ft

Surface Water Elev. ft
Stream Bed Elev. 714.0 ft

Groundwater Elev.:
First Encounter 701.5 ft ▼
Upon Completion Wash ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
DENSE tan SAND and medium GRAVEL	16 17 21		
695.00			
VERY DENSE tan clean medium coarse SAND	17 23 29		
692.50			
-45-			
Wash			
VERY DENSE tan clean medium coarse SAND	20 31 42		
690.00			
End of Boring			
-50-			
-55-			
-60-			

Figure 3 Sheet 6 of 7

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 4/13/06

ROUTE IL 251 DESCRIPTION P92-144-05 IL 251 bridge over Spring Creek Road LOGGED BY W. Garza

SECTION LOCATION Rockford Twp. - 13NE, SEC. , TWP. 44N, RNG. 1E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station

BORING NO. B-5b
Station 159+94
Offset 87.00ft Rt CL
Ground Surface Elev. 716.5 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 701.5 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SANDY LOAM			
		0.5 P	11
714.00			
MEDIUM brown dirty SAND & GRAVEL	5 6 5		
712.50			
-5-			
LOOSE brown dirty SAND	3 3 3		
710.00			
VERY LOOSE brown moist SAND and medium GRAVEL.	2 1 1		
707.00			
-10-			
VERY LOOSE tan fine SAND with LOAM TILL lens	1 1 2	0.3 P	12
705.00			
MEDIUM tan LOAM TILL	3 6 6	0.9 B	13
702.00			
-15- ▼			
DENSE tan clean medium coarse SAND	8 10 23		
700.00			
VERY DENSE tan SAND & GRAVEL	44 22 32		
697.50			
-20-			
VERY DENSE tan clean medium coarse SAND	23 25 37		
695.00			
VERY DENSE tan clean-medium SAND with medium GRAVEL	25 39 59		
692.50			
-25-			
DENSE tan clean medium coarse SAND	14 22 27		
690.00			
End of Boring			
-30-			
-35-			

Figure 3 Sheet 7 of 7

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

DESIGNED	JY
CHECKED	GSP
DRAWN	MJB
CHECKED	JY

BORING LOGS (2 OF 2)
STRUCTURE NO. 101-0190

SHEET NO. 61	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	*	1-HBR & 1-2HB-D	WINNEBAGO	216	116
61 SHEETS	IL RTE 251 & FOREST HILLS RD		CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

ENTRAN

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Bench Mark: Chiseled square on South end of crash wall, West Pier. Elev. 724.66.

Existing Structure: S.N. 101-0123 built in 1971 as F.A.U. Rte. 5146, Section 1-2HB at Station 688+32.18. Repainted in 1985; rehabilitated and overlaid in 2005. The superstructure consists of a R.C. deck 332'-10" back to back of abutments and 26'-6" out to out, supported on three-span continuous steel plate girders, on stub abutments and column frame piers. Traffic shall be detoured during construction.

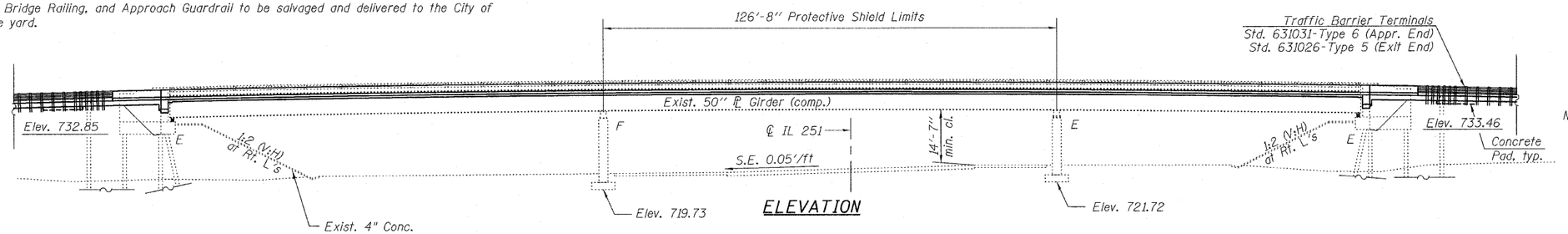
Existing Light Poles, Bridge Railing, and Approach Guardrail to be salvaged and delivered to the City of Rockford maintenance yard.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

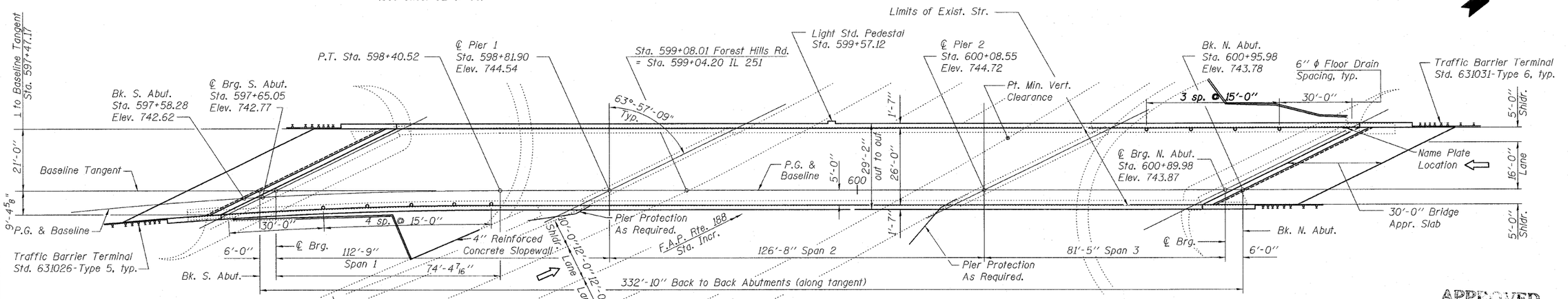
STATION 599+04.02
RE-BUILT 20 BY
STATE OF ILLINOIS
LOADING HL-93
STRUCTURE NO. 101-0123

NAME PLATE
See Std. 515001

Note:
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



ELEVATION



PLAN

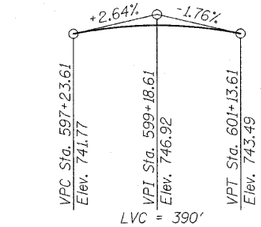
Note:
All longitudinal dimensions are tangent to Baseline at Sta. 598+40.52

CURVE DATA

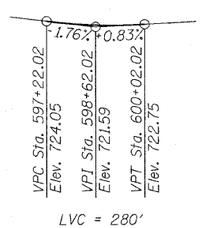
EXIST/PROP. CURVE FAU RTE 5146
Δ = 16°-30'-01" (Rt)
D = 4° 00'
R = 1,432.39'
L = 412.51'
T = 207.69'
E = 14.98'
SE = 0.05 '/' **

EXIST. CURVE FAP RTE 188 (From Survey)
Δ = 28° 14' 53" (Lt)
D = 4° 32' 15"
R = 1,262.73'
L = 622.55'
T = 317.74'
E = 39.36'
SE = 0.05 '/'

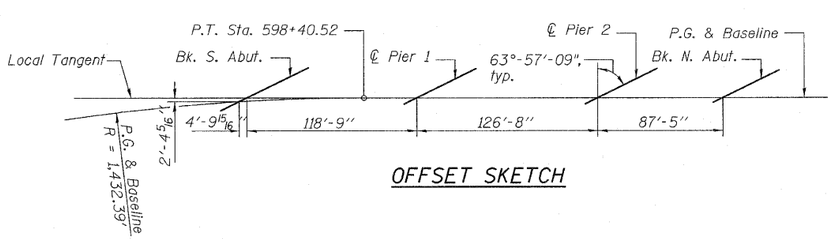
** Superelevation transition from Sta. 597+90.52 to Sta. 599+40.52



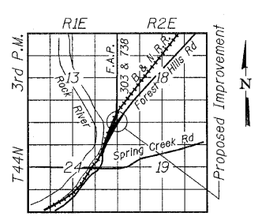
PROPOSED PROFILE GRADE
FOREST HILLS ROAD



EXISTING PROFILE GRADE
IL RTE 251



OFFSET SKETCH



LOCATION SKETCH

DESIGN STRESSES

NEW FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 36,000 psi (M270 Grade 36)

EXISTING CONSTRUCTION
f_c = 1,400 psi
f_s = 20,000 psi (reinforcement)
f_s = 20,000 psi (structural steel)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = .04g
Site Coefficient (S) = 1.2

LOADING HS20-44

No allowance made for Future Wearing Surface

DESIGN SPECIFICATIONS

2002 AASHTO (17th. Edition)

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

STATE OF ILLINOIS · 6519 · PETER K. DOMBROWSKI · STRUCTURAL ENGINEER
Oct. 7th, 2010
Expires: 11-30-2012

GENERAL PLAN & ELEVATION
FOREST HILLS ROAD OVER IL 251
FAU 5146 SECTION 1-2HB-D
WINNEBAGO COUNTY
STATION 599+04.20
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

$FILE$
$DATE$

rjngroup
Excellence through Ownership
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 1 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	117
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts (in painted areas and M164 Type 3 in unpainted areas). Bolts $\frac{7}{8}$ in. ϕ, holes 1 in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 9,083 pounds
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
   As directed by the Engineer, existing construction accessories welded to the top flange of girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.
   Any cracks that cannot be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
7. If the Contractor elects to use cantilever forming brackets on the exterior girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior girder at each of these additional bracket locations.
8. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
9. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
10. Cleaning and painting of the existing structural steel shall be as specified in the Special Provision "Cleaning and Painting Existing Steel Structures." All existing steel shall be cleaned per Near White Blast Cleaning SSPC-SP10. All existing steel shall be painted according to the requirements of Paint System 1-OZ/E/U. The color of the final finish coat shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom of bottom flange of fascia beams shall be Blue, Munsell No. 10B 3/6.
11. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
12. The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.
13. Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
14. Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
15. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
16. This structure will retain the same number 101-0123

All new structural steel shall be painted with an inorganic zinc-rich primer per AASHTO M300, Type 1.

SCOPE OF WORK

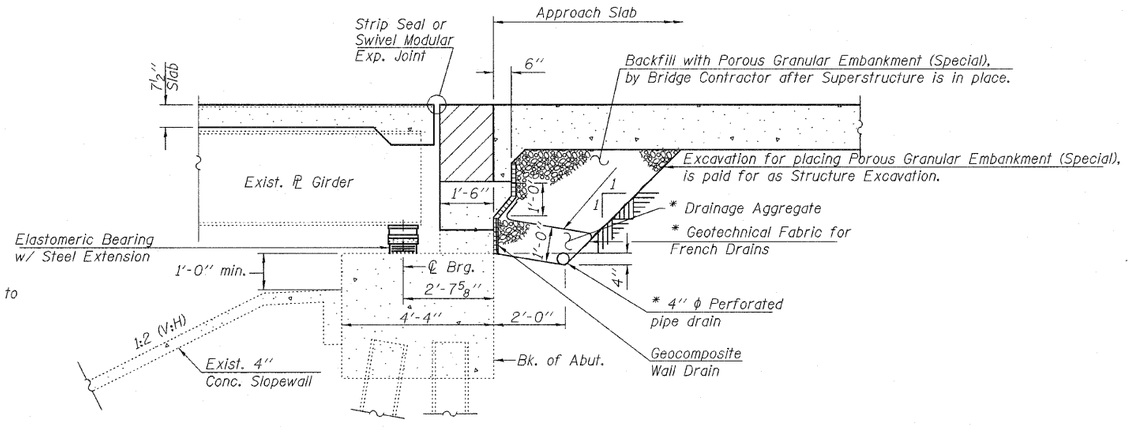
1. Remove and replace existing concrete deck.
2. Install stud shear connectors in positive moment areas of Span 3.
3. Remove existing rocker bearings at abutments and Pier 2 and replace with elastomeric bearings.
4. Remove and replace approach slabs.
5. Partially remove and reconfigure wingwalls and abutment back wall to account for widening.
6. Repair abutments, piers and slopewalls.
7. Retrofit ends of all existing girders with steel plates and angles.
8. Clean and paint existing structural steel.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.	——	87	87
Concrete Removal	Cu. Yd.	——	37.5	37.5
Slopewall Removal	Sq. Yd.	——	168	168
Removal of Existing Concrete Deck	Each.	1	——	1
Protective Shield	Sq. Yd.	356	——	356
Structure Excavation	Cu. Yd.	——	108	108
Floor Drains	Each	9	——	9
Concrete Structures	Cu. Yd.	——	96.7	96.7
Concrete Superstructure	Cu. Yd.	417.8	——	417.8
Bridge Deck Grooving	Sq. Yd.	1155	——	1155
Protective Coat	Sq. Yd.	1463	——	1463
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	——	158	158
Furnishing and Erecting Structural Steel	Pound	9083	——	9083
Stud Shear Connectors	Each	860	——	860
Jack and Remove Existing Bearings	Each	12	——	12
Structural Steel Repair	Pound	3223	——	3223
Cleaning and Painting Steel Bridge	L. SUM	1	——	1
Containment and Disposal of Lead Paint Cleaning Residues	L. SUM	1	——	1
Reinforcement Bars, Epoxy Coated	Pound	124,830	7,590	132,420
Bar Splicers	Each	——	125	125
Concrete Sealer	Sq. Ft	——	978	978
Slopewall, 4"	Sq. Yd.	——	168	168
Name Plates	Each	1	——	1
Preformed Joint Strip Seal	Foot	69	——	69
Elastomeric Bearing Assembly, Type I	Each	8	——	8
Elastomeric Bearing Assembly, Type II	Each	4	——	4
Anchor Bolt $1\frac{1}{4}$"	Each	16	——	16
Anchor Bolt $1\frac{1}{2}$"	Each	8	——	8
Geocomposite Wall Drain	Sq. Yd.	——	35	35
Pipe Underdrains for Structures, 4"	Foot	——	182	182
Conduit Embedded in Structure 2" Dia., PVC	Foot	354	——	354
Junction Box, Stainless Steel, Embedded in Structure 12" X 10" X 6"	Each	2	——	2
Modular Expansion Joint - Swivel 6"	Foot	63	——	63

PRIOR TO REMOVAL OF CONCRETE DECK.
REVIEW SHEET 19 OF 33.

INDEX OF SHEETS



SECTION THRU PILE SUPPORTED STUB ABUTMENT

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

* Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See article 601.05 of the standard Specifications and Highway Standard 601101.)

GENERAL DATA
STRUCTURE NO. 101-0123

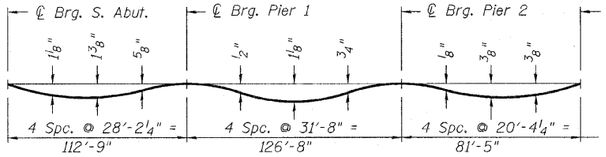
DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

rjngroup
Excellence through Ownership
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 2 OF 33 SHEETS

F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	118
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

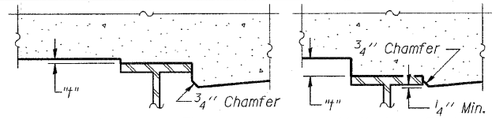
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



At Minimum Fillet — At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

GIRDER 1

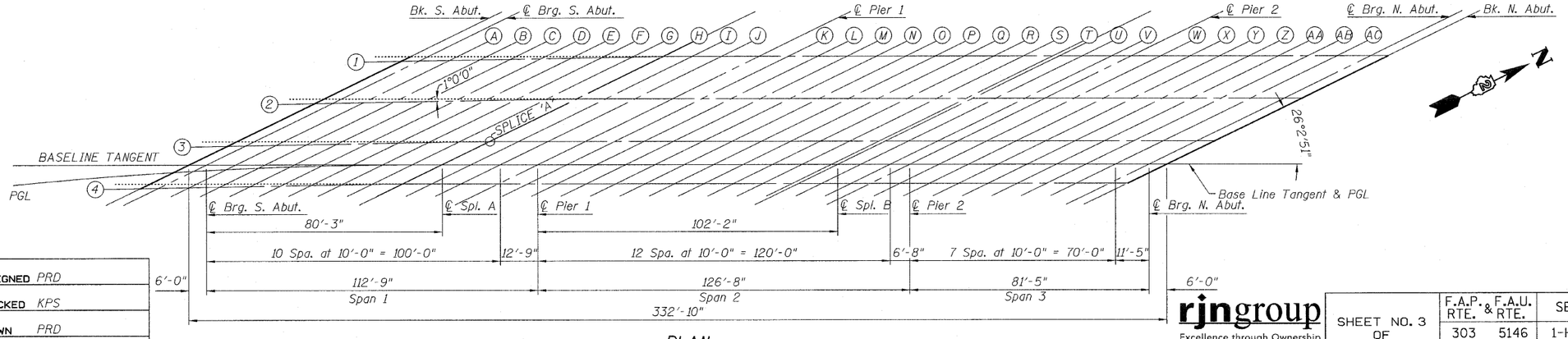
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	597+99.86	-18.27	744.30	744.30
Brg. S. Abut.	598+06.01	-18.22	744.36	744.36
A	598+15.88	-18.19	744.45	744.49
B	598+25.75	-18.22	744.53	744.61
C	598+35.63	-18.33	744.61	744.71
D	598+45.56	-18.50	744.67	744.79
E	598+55.56	-18.67	744.72	744.84
F	598+65.56	-18.84	744.76	744.88
G	598+75.56	-19.02	744.79	744.88
H	598+85.55	-19.19	744.80	744.87
I	598+95.55	-19.25	744.80	744.85
J	599+05.55	-19.25	744.78	744.81
℄ Pier 1	599+21.28	-19.25	744.74	744.74
K	599+31.28	-19.25	744.72	744.72
L	599+41.28	-19.25	744.70	744.72
M	599+51.28	-19.25	744.68	744.72
N	599+61.28	-19.25	744.67	744.73
O	599+71.28	-19.25	744.66	744.74
P	599+81.28	-19.25	744.64	744.73
Q	599+91.28	-19.25	744.60	744.70
R	600+01.28	-19.25	744.56	744.65
S	600+11.28	-19.25	744.51	744.58
T	600+21.28	-19.25	744.44	744.49
U	600+31.28	-19.25	744.36	744.39
V	600+41.28	-19.25	744.27	744.28
℄ Pier 2	600+47.93	-19.25	744.21	744.21
W	600+57.93	-19.25	744.10	744.10
X	600+67.93	-19.25	743.98	743.99
Y	600+77.93	-19.25	743.85	743.87
Z	600+87.93	-19.25	743.71	743.74
AA	600+97.93	-19.25	743.56	743.59
AB	601+07.93	-19.25	743.39	743.42
AC	601+17.93	-19.25	743.22	743.24
Brg. of N. Abut.	601+29.36	-19.25	742.02	743.02
Bk. of N. Abut.	601+35.36	-19.25	742.91	742.91

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	597+84.44	-11.30	743.73	743.73
Brg. S. Abut.	597+90.61	-11.18	743.85	743.85
A	598+00.53	-11.04	743.98	744.02
B	598+10.46	-10.97	744.10	744.17
C	598+20.38	-11.97	744.22	744.32
D	598+30.30	-11.03	744.32	744.44
E	598+40.23	-11.17	744.42	744.54
F	598+50.22	-11.35	744.51	744.62
G	598+60.22	-11.52	744.58	744.68
H	598+70.22	-11.70	744.64	744.72
I	598+80.22	-11.75	744.69	744.74
J	598+90.22	-11.75	744.72	744.75
℄ Pier 1	599+05.94	-11.75	744.76	744.76
K	599+15.94	-11.75	744.76	744.76
L	599+25.94	-11.75	744.76	744.77
M	599+35.94	-11.75	744.74	744.78
N	599+45.94	-11.75	744.74	744.80
O	599+55.94	-11.75	744.74	744.83
P	599+65.94	-11.75	744.74	744.84
Q	599+75.94	-11.75	744.72	744.82
R	599+85.94	-11.75	744.70	744.79
S	599+95.94	-11.75	744.66	744.74
T	600+05.94	-11.75	744.61	744.66
U	600+15.94	-11.75	744.55	744.58
V	600+25.94	-11.75	744.48	744.49
℄ Pier 2	600+32.59	-11.75	744.43	744.43
W	600+42.59	-11.75	744.34	744.33
X	600+52.59	-11.75	744.23	744.24
Y	600+62.59	-11.75	744.12	744.14
Z	600+72.59	-11.75	744.00	744.02
AA	600+82.59	-11.75	743.86	743.89
AB	600+92.59	-11.75	743.72	743.74
AC	601+02.59	-11.75	743.56	743.57
Brg. of N. Abut.	601+14.02	-11.75	743.36	743.36
Bk. of N. Abut.	601+20.02	-11.75	743.26	743.26

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	597+69.08	-4.59	743.09	743.09
Brg. S. Abut.	597+75.27	-4.39	743.20	743.20
A	597+85.24	-4.13	743.39	743.43
B	597+95.21	-3.95	743.56	743.64
C	598+05.18	-3.83	743.72	743.82
D	598+15.15	-3.78	743.87	743.98
E	598+25.13	-3.80	744.01	744.13
F	598+35.10	-3.89	744.14	744.26
G	598+45.08	-4.04	744.26	744.36
H	598+55.08	-4.20	744.37	744.45
I	598+65.08	-4.25	744.46	744.51
J	598+75.08	-4.25	744.55	744.57
℄ Pier 1	598+90.59	-4.25	744.65	744.65
K	599+00.59	-4.25	744.70	744.70
L	599+10.59	-4.25	744.74	744.76
M	599+20.59	-4.25	744.78	744.81
N	599+30.59	-4.25	744.79	744.86
O	599+40.56	-4.25	744.80	744.89
P	599+50.59	-4.25	744.82	744.91
Q	599+60.59	-4.25	744.82	744.92
R	599+70.59	-4.25	744.81	744.90
S	599+80.59	-4.25	744.79	744.86
T	599+90.59	-4.25	744.76	744.81
U	600+00.59	-4.25	744.71	744.74
V	600+10.59	-4.25	744.66	744.67
℄ Pier 2	600+17.24	-4.25	744.62	744.62
W	600+27.24	-4.25	744.55	744.54
X	600+37.24	-4.25	744.46	744.47
Y	600+47.24	-4.25	744.37	744.38
Z	600+57.24	-4.25	744.26	744.28
AA	600+67.24	-4.25	744.14	744.17
AB	600+77.24	-4.25	744.01	744.04
AC	600+87.24	-4.25	743.87	743.89
Brg. of N. Abut.	600+98.67	-4.25	743.70	743.70
Bk. of N. Abut.	601+04.67	-4.25	743.60	743.60



PLAN

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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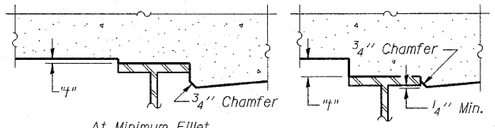
SHEET NO. 3 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	119
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	597+53.13	2.15	742.39	742.39
Brg. S. Abut.	597+59.36	2.41	742.52	742.52
A	597+69.37	2.76	742.72	742.76
B	597+79.39	3.05	742.92	742.99
C	597+89.41	3.27	743.10	743.20
D	597+99.43	3.41	743.29	743.41
E	598+09.46	3.49	743.47	743.60
F	598+19.48	3.50	743.65	743.77
G	598+29.51	3.43	743.82	743.92
H	598+39.53	3.30	743.97	744.05
I	598+49.53	3.25	744.12	744.16
J	598+59.53	3.25	744.25	744.27
℄ Pier 1	598+75.25	3.25	744.43	744.43
K	598+85.25	3.25	744.53	744.53
L	598+95.25	3.25	744.62	744.63
M	599+05.25	3.25	744.69	744.73
N	599+15.25	3.25	744.76	744.82
O	599+25.25	3.25	744.81	744.90
P	599+35.25	3.25	744.86	744.96
Q	599+45.25	3.25	744.88	744.98
R	599+55.25	3.25	744.89	744.98
S	599+65.25	3.25	744.89	744.97
T	599+75.25	3.25	744.88	744.93
U	599+85.25	3.25	744.85	744.88
V	599+95.25	3.25	744.81	744.82
℄ Pier 2	600+01.90	3.25	744.78	744.78
W	600+11.90	3.25	744.73	744.72
X	600+21.90	3.25	744.66	744.67
Y	600+31.90	3.25	744.58	744.60
Z	600+41.90	3.25	744.49	744.52
AA	600+51.90	3.25	744.39	744.42
AB	600+61.90	3.25	744.28	744.31
AC	600+71.90	3.25	744.16	744.17
Brg. of N. Abut.	600+83.33	3.25	744.00	744.00
Bk. of N. Abut.	600+89.33	3.25	743.92	743.92

PROFILE GRADE LINE & BASELINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	597+58.28	0.00	742.62	742.62
Brg. S. Abut.	597+65.06	0.00	742.77	742.77
A	597+75.06	0.00	742.98	743.02
B	597+85.07	0.00	743.18	743.25
C	597+95.07	0.00	743.37	743.47
D	598+05.07	0.00	743.55	743.66
E	598+15.08	0.00	743.71	743.84
F	598+25.08	0.00	743.87	743.99
G	598+35.09	0.00	744.01	744.12
H	598+45.09	0.00	744.15	744.22
I	598+55.09	0.00	744.27	744.32
J	598+65.09	0.00	744.38	744.40
℄ Pier 1	598+81.91	0.00	744.54	744.54
K	598+91.90	0.00	744.62	744.62
L	599+01.90	0.00	744.69	744.70
M	599+11.90	0.00	744.74	744.78
N	599+21.90	0.00	744.79	744.85
O	599+31.90	0.00	744.82	744.91
P	599+41.90	0.00	744.85	744.94
Q	599+51.90	0.00	744.86	744.96
R	599+61.90	0.00	744.86	744.95
S	599+71.90	0.00	744.85	744.92
T	599+81.90	0.00	744.83	744.88
U	599+91.90	0.00	744.79	744.82
V	600+01.90	0.00	744.75	744.76
℄ Pier 2	600+08.55	0.00	744.71	744.71
W	600+18.55	0.00	744.65	744.65
X	600+28.55	0.00	744.58	744.58
Y	600+38.55	0.00	744.49	744.51
Z	600+48.55	0.00	744.39	744.42
AA	600+58.55	0.00	744.29	744.32
AB	600+68.55	0.00	744.17	744.19
AC	600+78.55	0.00	744.04	744.05
Brg. of N. Abut.	600+89.98	0.00	743.87	743.87
Bk. of N. Abut.	600+95.98	0.00	743.78	743.78

CENTERLINE ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	597+76.96	-8.00	743.42	743.42
Brg. S. Abut.	597+83.50	-8.00	743.55	743.55
A	597+93.44	-8.00	743.73	743.77
B	598+03.39	-8.00	743.88	743.95
C	598+13.34	-8.00	744.01	744.11
D	598+23.29	-8.00	744.14	744.26
E	598+33.24	-8.00	744.25	744.37
F	598+43.20	-8.00	744.35	744.47
G	598+53.20	-8.00	744.45	744.54
H	598+63.20	-8.00	744.53	744.60
I	598+73.20	-8.00	744.59	744.64
J	598+83.20	-8.00	744.65	744.67
℄ Pier 1	598+98.26	-8.00	744.72	744.72
K	599+08.26	-8.00	744.75	744.75
L	599+18.26	-8.00	744.76	744.78
M	599+28.26	-8.00	744.77	744.81
N	599+38.26	-8.00	744.77	744.83
O	599+48.26	-8.00	744.78	744.86
P	599+58.26	-8.00	744.78	744.88
Q	599+68.26	-8.00	744.77	744.87
R	599+78.26	-8.00	744.76	744.85
S	599+88.26	-8.00	744.73	744.80
T	599+98.26	-8.00	744.69	744.74
U	600+08.26	-8.00	744.64	744.66
V	600+18.26	-8.00	744.57	744.58
℄ Pier 2	600+24.92	-8.00	744.53	744.53
W	600+34.92	-8.00	744.44	744.44
X	600+44.92	-8.00	744.35	744.36
Y	600+54.92	-8.00	744.25	744.26
Z	600+64.92	-8.00	744.13	744.16
AA	600+74.92	-8.00	744.01	743.03
AB	600+84.92	-8.00	743.87	743.89
AC	600+94.92	-8.00	743.72	743.73
Brg. of N. Abut.	601+06.34	-8.00	743.53	743.53
Bk. of N. Abut.	601+12.34	-8.00	743.43	743.43

DESIGNED	PRD
CHECKED	KPS
DRAWN	KPS
CHECKED	PRD

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 101-0123

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SHEET NO. 4 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	120
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Slab	597+77.09	-22.43	744.14
A1	597+86.93	-22.02	744.32
A2	597+96.77	-21.68	744.43
Bk. of S. Abut	598+06.62	-21.41	744.51
Bk. of N. Abut	601+38.95	-21.00	742.83
A3	601+48.95	-21.00	742.66
A4	601+58.95	-21.00	742.48
End of N. Appr. Slab	601+68.95	-21.00	742.31

WEST EDGE OF TRAFFIC LANE

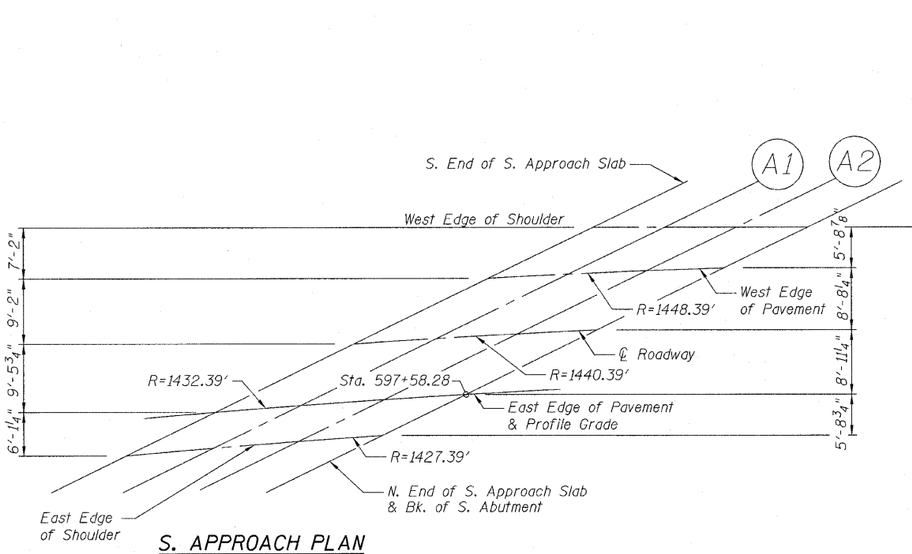
Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Slab	597+62.30	-16.00	743.51
A1	597+73.35	-16.00	743.75
A2	597+84.21	-16.00	743.97
Bk. of S. Abut	597+94.89	-16.00	744.14
Bk. of N. Abut	601+28.72	-16.00	743.06
A3	601+38.72	-16.00	742.89
A4	601+48.72	-16.00	742.71
End of N. Appr. Slab	601+58.72	-16.00	742.54

CENTERLINE OF ROADWAY

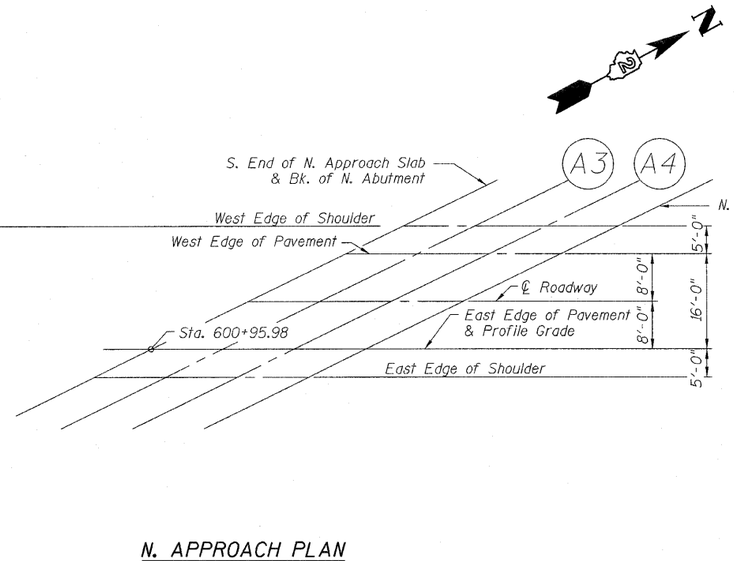
Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Slab	597+43.18	-8.00	742.67
A1	597+54.65	-8.00	742.94
A2	597+65.97	-8.00	743.19
Bk. of S. Abut	597+76.95	-8.00	743.42
Bk. of N. Abut	601+12.35	-8.00	743.43
A3	601+22.35	-8.00	743.26
A4	601+32.35	-8.00	743.08
End of N. Appr. Slab	601+42.35	-8.00	742.90

EAST EDGE OF TRAFFIC LANE, PROFILE GRADE, & BASELINE

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Slab	597+23.19	0.00	741.76
A1	597+35.12	0.00	742.07
A2	597+46.81	0.00	742.35
Bk. of S. Abut	597+58.28	0.00	742.62
Bk. of N. Abut	600+95.98	0.00	743.78
A3	601+05.98	0.00	743.62
A4	601+15.98	0.00	743.45
End of N. Appr. Slab	601+25.98	0.00	743.27



S. APPROACH PLAN



N. APPROACH PLAN

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Slab	597+10.21	5.00	741.17
A1	597+22.46	5.00	741.49
A2	597+34.85	5.00	741.81
Bk. of S. Abut	597+46.19	5.00	742.09
Bk. of N. Abut	600+85.75	5.00	743.99
A3	600+95.75	5.00	743.84
A4	601+05.75	5.00	743.67
End of N. Appr. Slab	601+15.75	5.00	743.50

TOP OF APPROACH SLAB ELEVATIONS STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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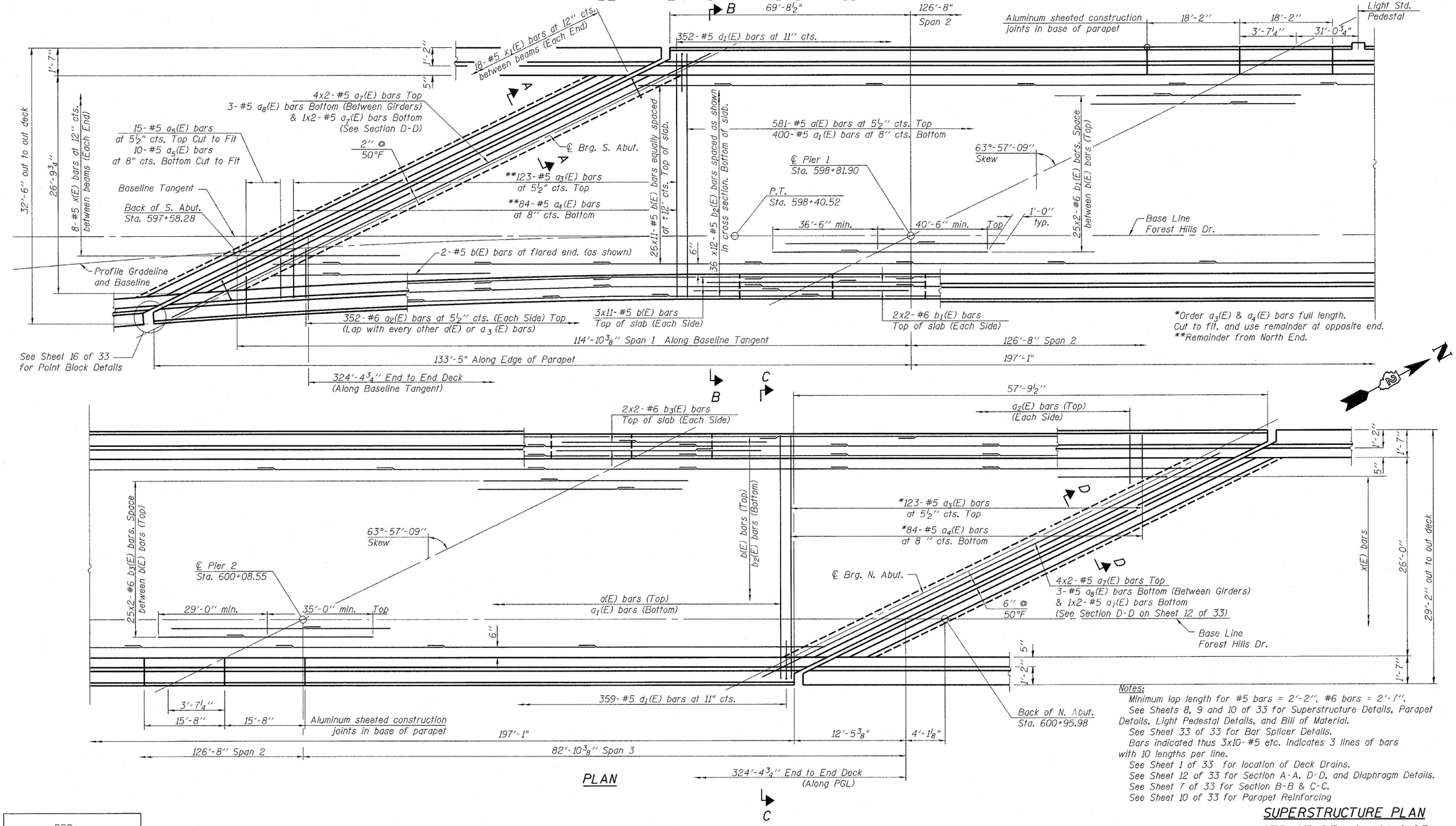
SHEET NO. 5 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	121
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Notes:
Minimum lap length for #5 bars = 2'-2", #6 bars = 2'-7".
See Sheets 8, 9 and 10 of 33 for Superstructure Details, Parapet Details, Light Pedestal Details, and Bill of Material.
See Sheet 33 of 33 for Bar Splicer Details.
Bars indicated thus 3x10-#5 etc. indicates 3 lines of bars with 10 lengths per line.
See Sheet 1 of 33 for location of Deck Drains.
See Sheet 12 of 33 for Section A-A, D-D, and Diaphragm Details.
See Sheet 7 of 33 for Section B-B & C-C.
See Sheet 10 of 33 for Parapet Reinforcing

SUPERSTRUCTURE PLAN
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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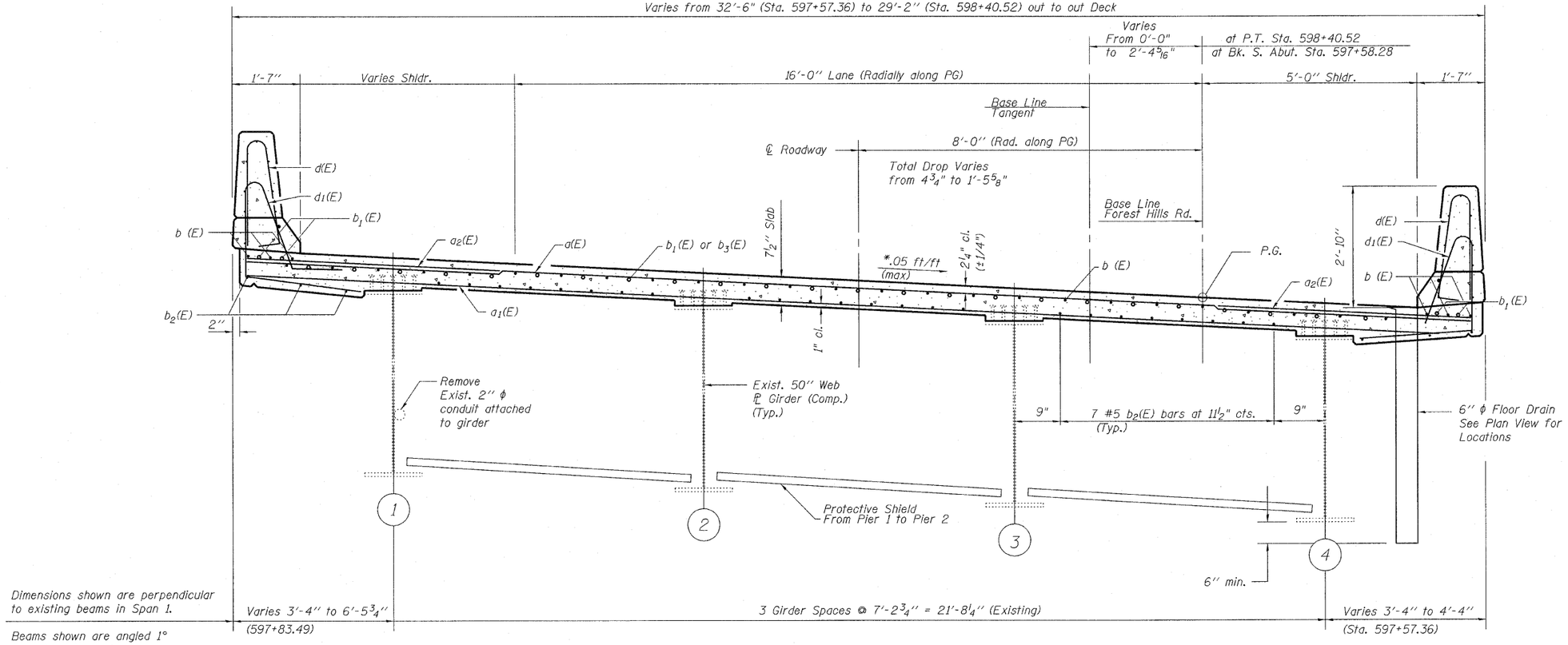
SHEET NO. 6 OF 33 SHEETS

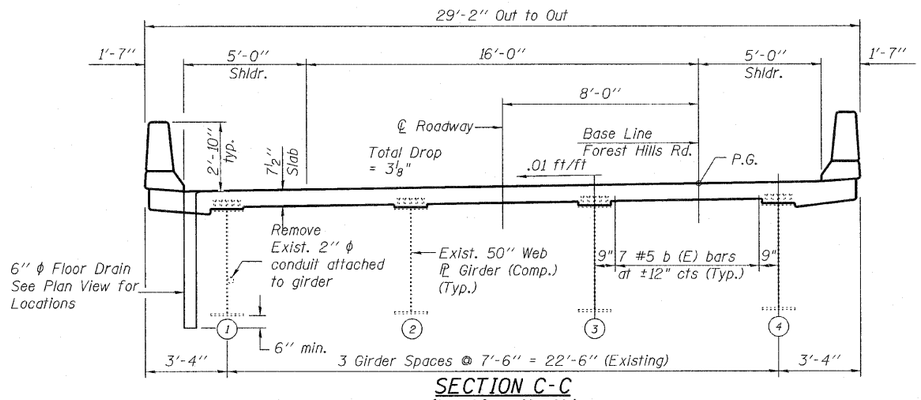
F.A.P. RTE. & F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	122
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSS SECTION B-B
(Looking North)

* Cross Slope transitions from Sta. 597+90.52 to Sta. 599+40.52



SECTION C-C
(Looking North)

Notes:
See Sheet 8 of 33 for superstructure details and Bill of Materials.
See Sheet 10 of 33 for parapet reinforcement
For LightPole Location see Sheet 6 of 33.

SUPERSTRUCTURE CROSS SECTIONS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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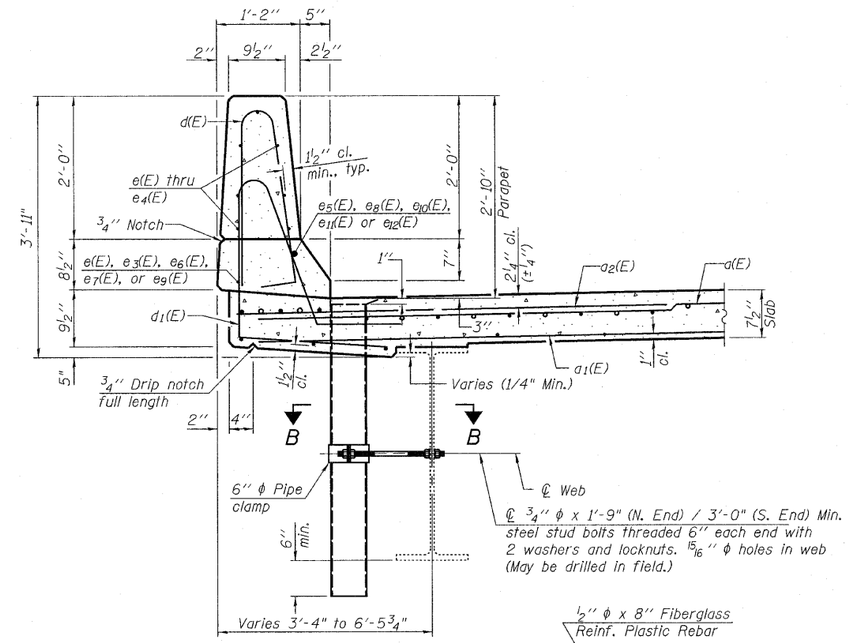
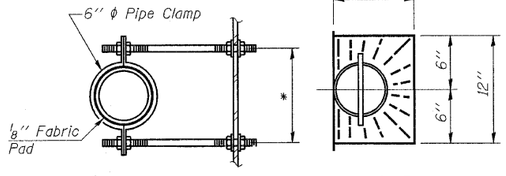
SHEET NO. 7 OF 33 SHEETS

F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	123
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

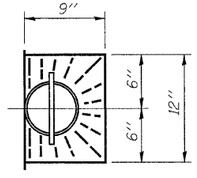


SECTION THRU PARAPET

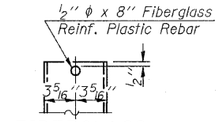


SECTION B-B

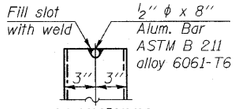
* Dimension as required by Pipe Clamp



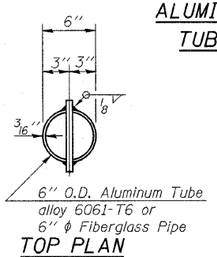
TOP PLAN



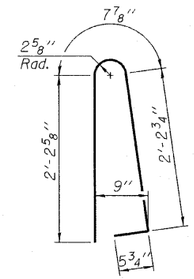
FIBERGLASS PIPE



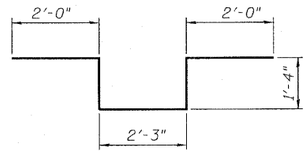
ALUMINUM TUBE



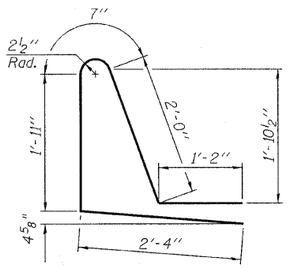
TOP PLAN
(Showing Aluminum Tube)



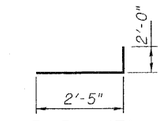
BAR d(E)



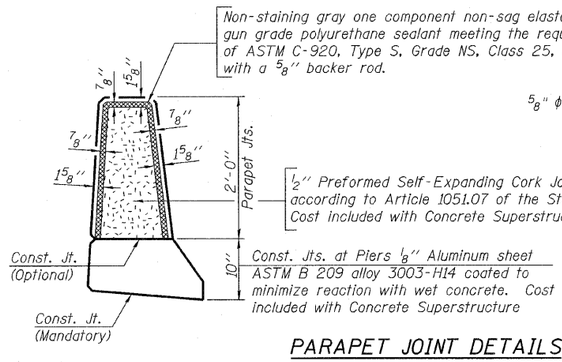
BAR d2(E)



BAR d1(E)



BAR d3(E)



PARAPET JOINT DETAILS

Notes:
Drains shall be located clear of all diaphragms.
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	SIze	Length	Shape
a(E)	581	#5	28'-6"	
a1(E)	400	#5	28'-6"	
a2(E)	704	#6	6'-6"	
a3(E)	123	#5	29'-0"	
a4(E)	84	#5	29'-0"	
a5(E)	25	#5	8'-0"	
a7(E)	20	#5	32'-8"	
a8(E)	18	#5	15'-5"	
b(E)	354	#5	32'-2"	
b1(E)	58	#6	39'-9"	
b2(E)	432	#5	29'-3"	
b3(E)	58	#6	32'-7"	
d(E)	711	#5	5'-7"	
d1(E)	711	#5	8'-0"	
d2(E)	5	#5	8'-11"	
d3(E)	3	#6	4'-5"	
e(E)	32	#4	17'-11"	
e1(E)	70	#4	17'-6"	
e2(E)	70	#4	15'-2"	
e3(E)	46	#4	15'-5"	
e4(E)	56	#4	16'-6"	
e5(E)	4	#8	27'-8"	
e6(E)	4	#4	25'-9"	
e7(E)	16	#4	26'-11"	
e8(E)	16	#8	28'-11"	
e9(E)	4	#4	34'-4"	
e10(E)	4	#8	35'-10"	
e11(E)	4	#8	17'-11"	
e12(E)	4	#8	15'-5"	
e13(E)	7	#4	7'-9"	
e14(E)	7	#4	13'-4"	
x(E)	48	#5	5'-0"	
x1(E)	108	#4	4'-4"	
Reinforcement Bars, Epoxy Coated			Pound	91,530
Concrete Superstructure			Cu. Yds.	417.8
Conduit Embedded in Structure 2"., PVC			Feet	333

Bars indicated thus 1 x 4-#8 etc. indicates 1 line of bars with 4 lengths per line.
Reinforcement bars designated (E) shall be epoxy coated.
For Details of x(E) and x1(E) bars see sheet 12 of 33.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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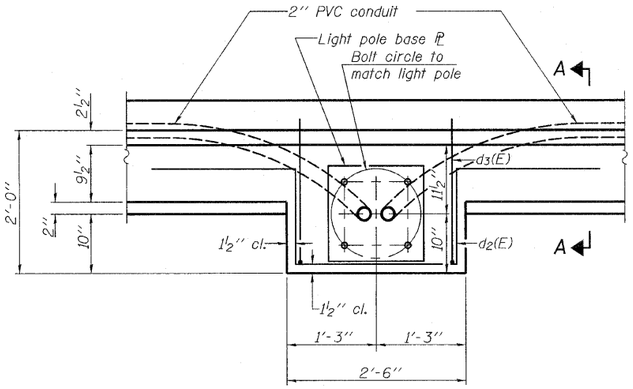
SHEET NO. 8 OF 33 SHEETS

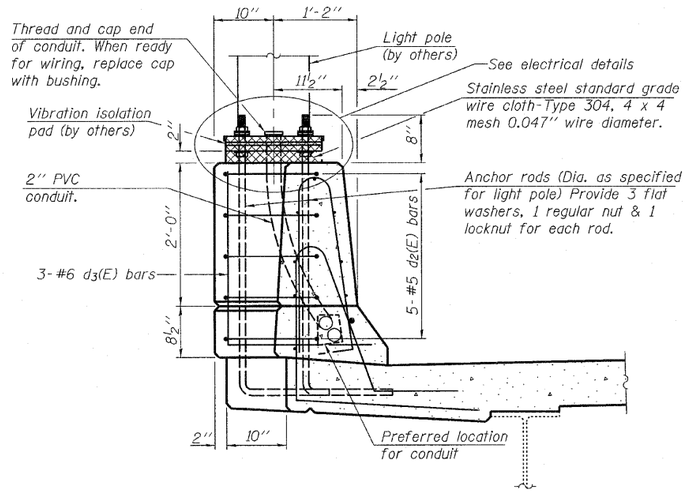
F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	124
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

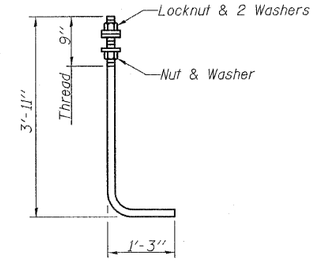


PLAN

Note:
Cost of anchor rods is included with Concrete Superstructure.



SECTION A-A



ANCHOR ROD
Diameter as specified for light poles.
(ASTM F 1554 Grade 105)

SUPERSTRUCTURE DETAILS
(LIGHT MOUNT)
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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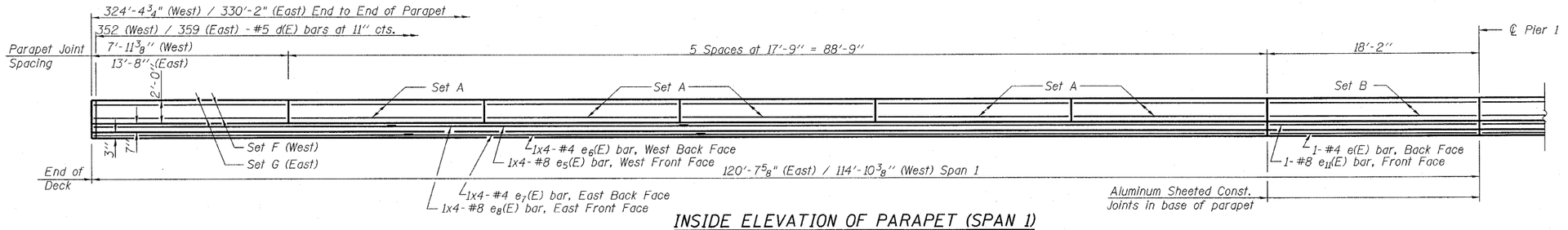
SHEET NO. 9 OF 33 SHEETS

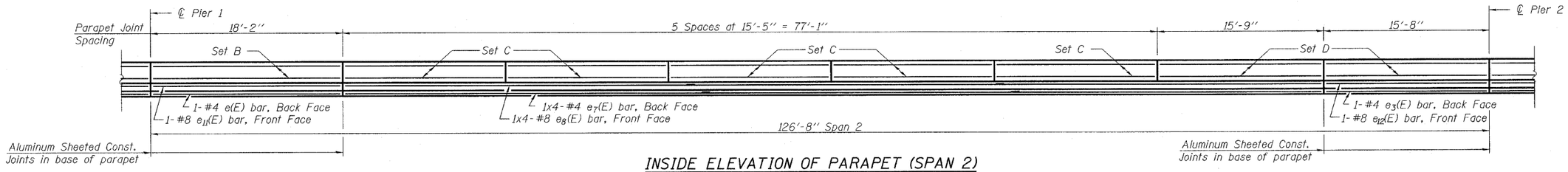
F.A.P. RTE. & F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	125
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



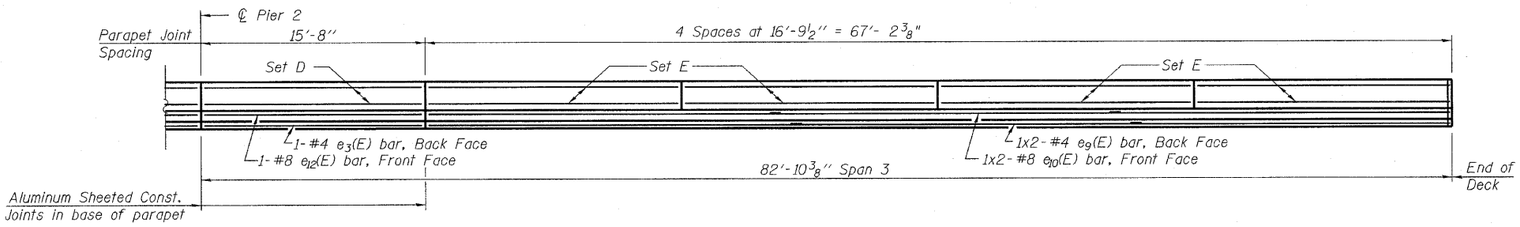
INSIDE ELEVATION OF PARAPET (SPAN 1)

West Parapet Shown (East Parapet Similar)



INSIDE ELEVATION OF PARAPET (SPAN 2)

West Parapet Shown (East Parapet Similar)



INSIDE ELEVATION OF PARAPET (SPAN 3)

West Parapet Shown (East Parapet Similar)

BAR CALL OUTS

Set A: (5 Locations)
7-#4 e_1(E) bars around perimeter
(See section thru parapet)

Set B: (2 Locations)
7-#4 e(E) bars around perimeter
(See section thru parapet)

Set C: (5 Locations)
7-#4 e_2(E) bars around perimeter
(See section thru parapet)

Set D: (3 Locations)
7-#4 e_3(E) bars around perimeter
(See section thru parapet)

Set E: (4 Locations)
7-#4 e_4(E) bars around perimeter
(See section thru parapet)

Set F: (1 Locations)
7-#4 e_{13}(E) bars around perimeter
(See section thru parapet)

Set F: (1 Locations)
7-#4 e_{14}(E) bars around perimeter
(See section thru parapet)

Notes:
See Sheet 8 of 33 for Parapet Joint Details and Parapet Details/Reinforcement.
Bars indicated thus 1x4-#4 etc. indicates 1 line of bars with 4 lenghts per line.
Min. lap length for #4 bars = 1'-9", #8 bars = 4'-6".
If bar lengths are long, increase lap length before cutting bar.

SUPERSTRUCTURE DETAILS (PARAPET)
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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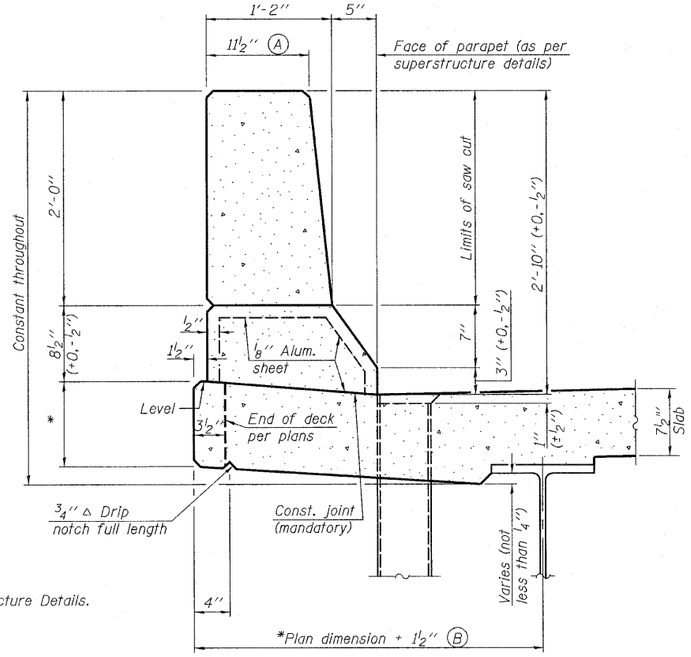
SHEET NO. 10 OF 33 SHEETS

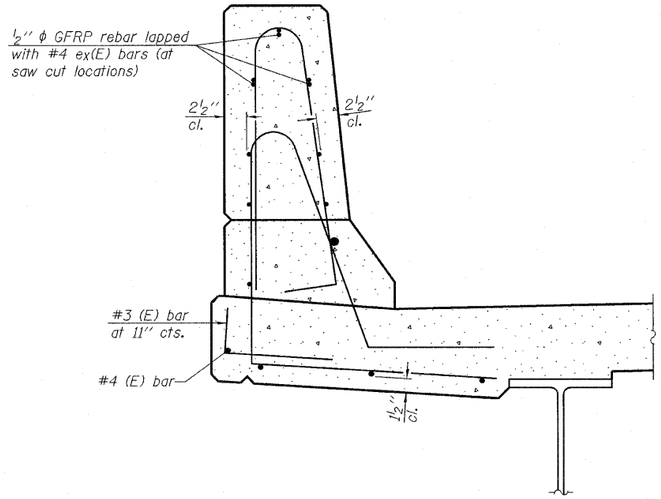
F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	126
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



* See Superstructure Details.

SECTION
(Showing dimensions)



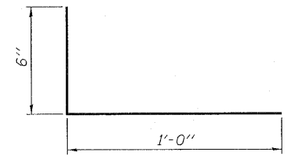
SECTION
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

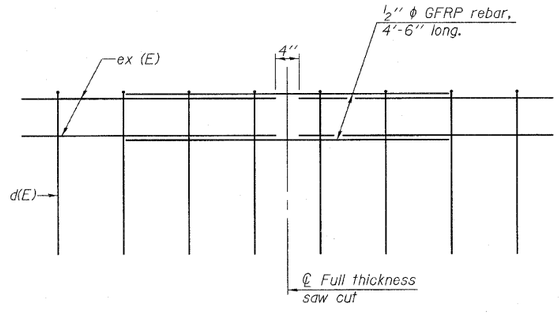
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. of parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.



#3 (E) BAR



GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section at each parapet joint location.)

CONCRETE PARAPET SLIPFORMING OPTION STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

SFP-34 11-1-09

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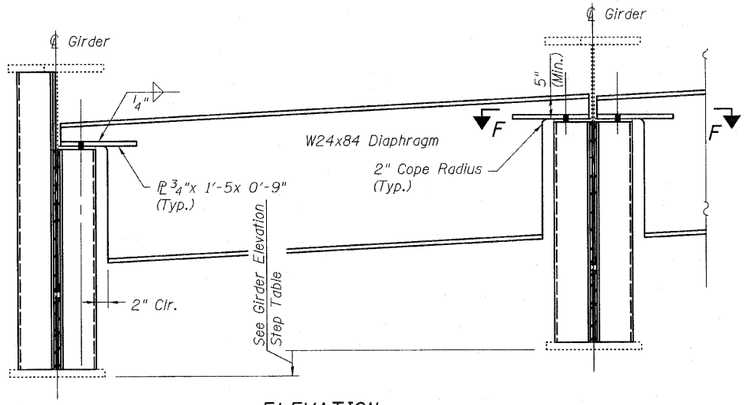
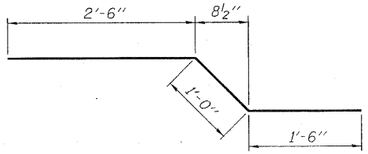
SHEET NO. 11 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	127
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

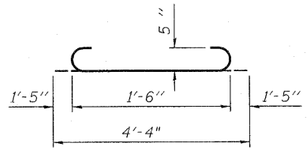
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



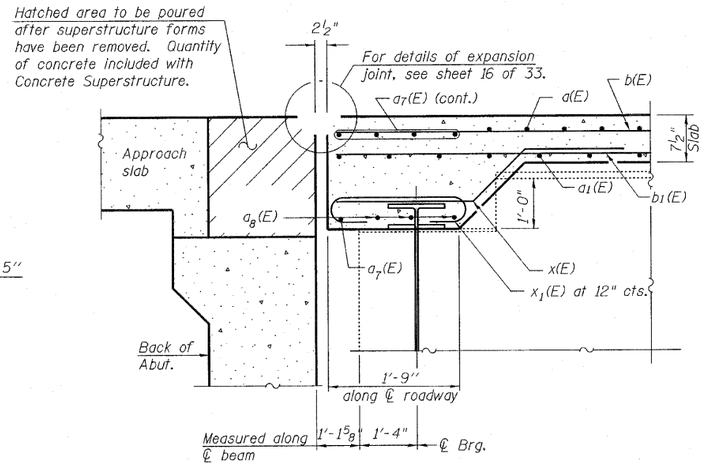
ELEVATION



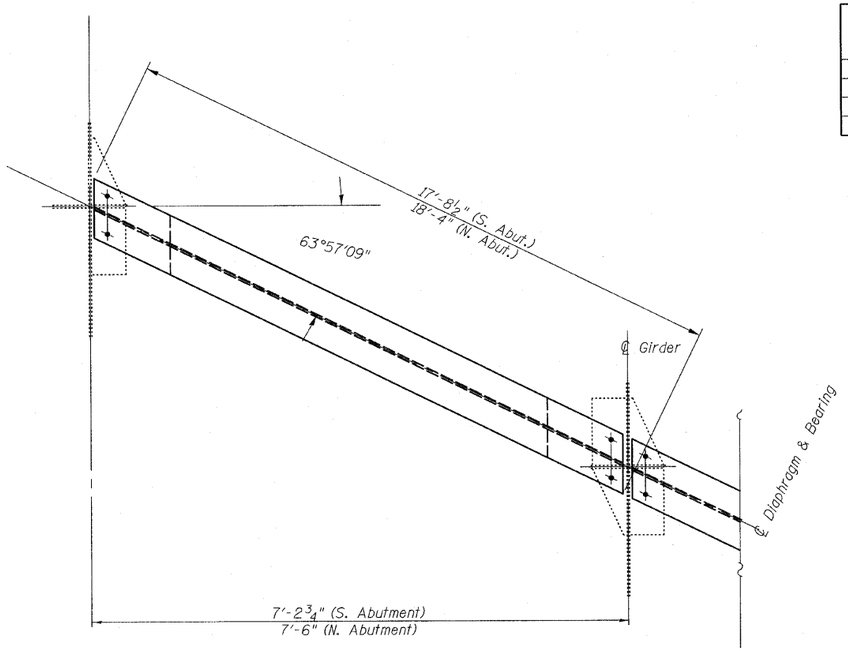
BAR x(E)



BAR x_1(E)



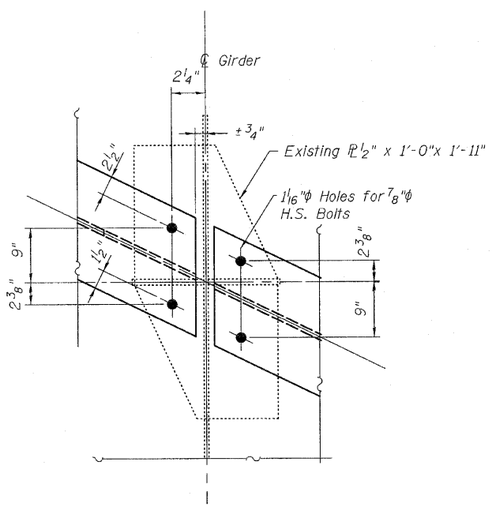
SECTION A-A



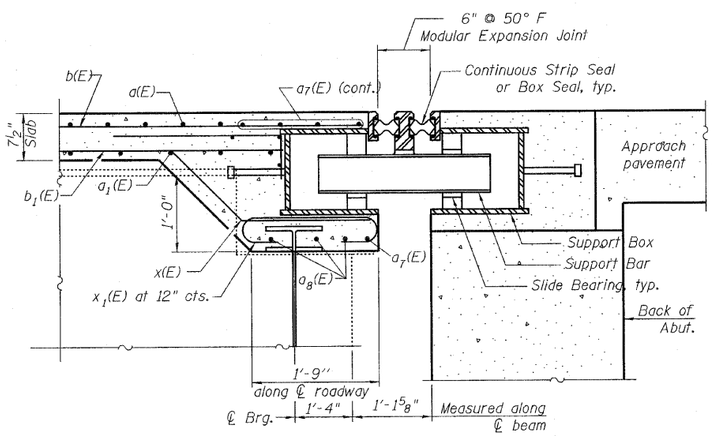
PLAN

Girder	S. Abutment Bearing seat Step	N. Abutment Bearing seat Step
1	6 1/8"	4 1/4"
2	7 7/8"	3 3/4"
3	7 7/8"	3 5/8"
4		

Girder Elevation Step Table



SECTION F-F



SECTION D-D

All Dimensions at Right Ls

BILL OF MATERIAL

Item	Unit	Total
Furnish & Erecting Structural Steel	Pound	9,083

Notes:
a_7(E) bars are continous across the width of the entire deck.

END DIAPHRAGM DETAILS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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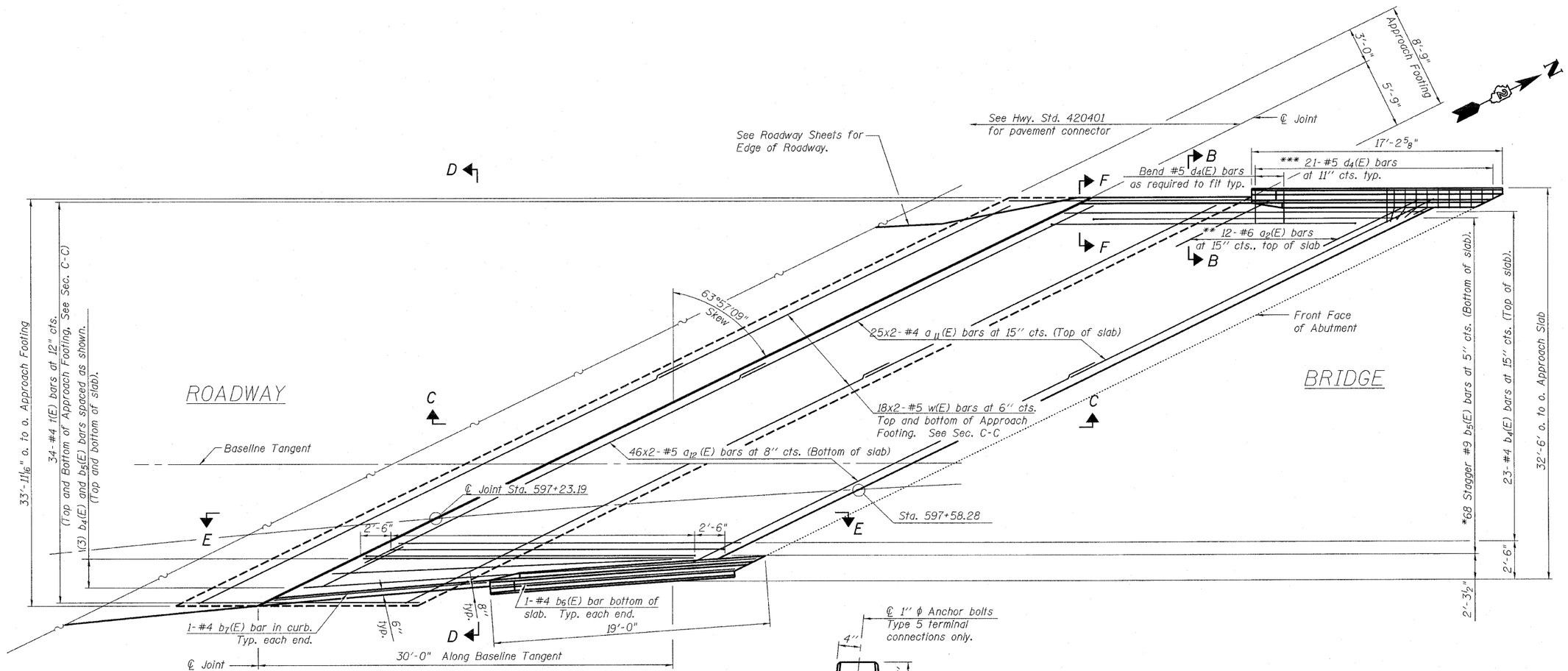
SHEET NO. 12 OF 33 SHEETS

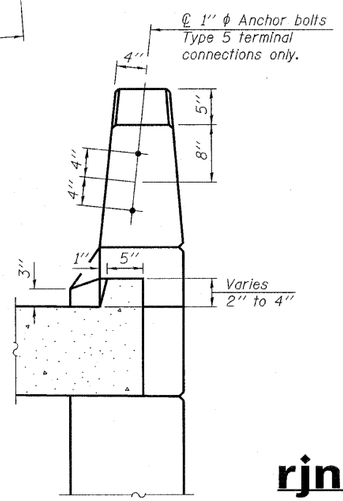
F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	128
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

* Tilt #9 $b_5(E)$ bars as required to maintain clearance.
** Space between $a_{11}(E)$ bars, typ. each parapet.
*** Field bend front horiz. leg of $d_4(E)$ bars to accomodate skew.



VIEW B-B

MIN. BAR LAP

4 Bars = 2'-1"
5 Bars = 2'-7"

Notes:
See sheet 15 of 33 for Sections C-C & D-D and View E-E.
$a_{11}(E)$ and $a_{12}(E)$ bar spacings measured along ℄ of Roadway.

SOUTH APPROACH SLAB
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	MCB
DRAWN	PRD
CHECKED	MCB

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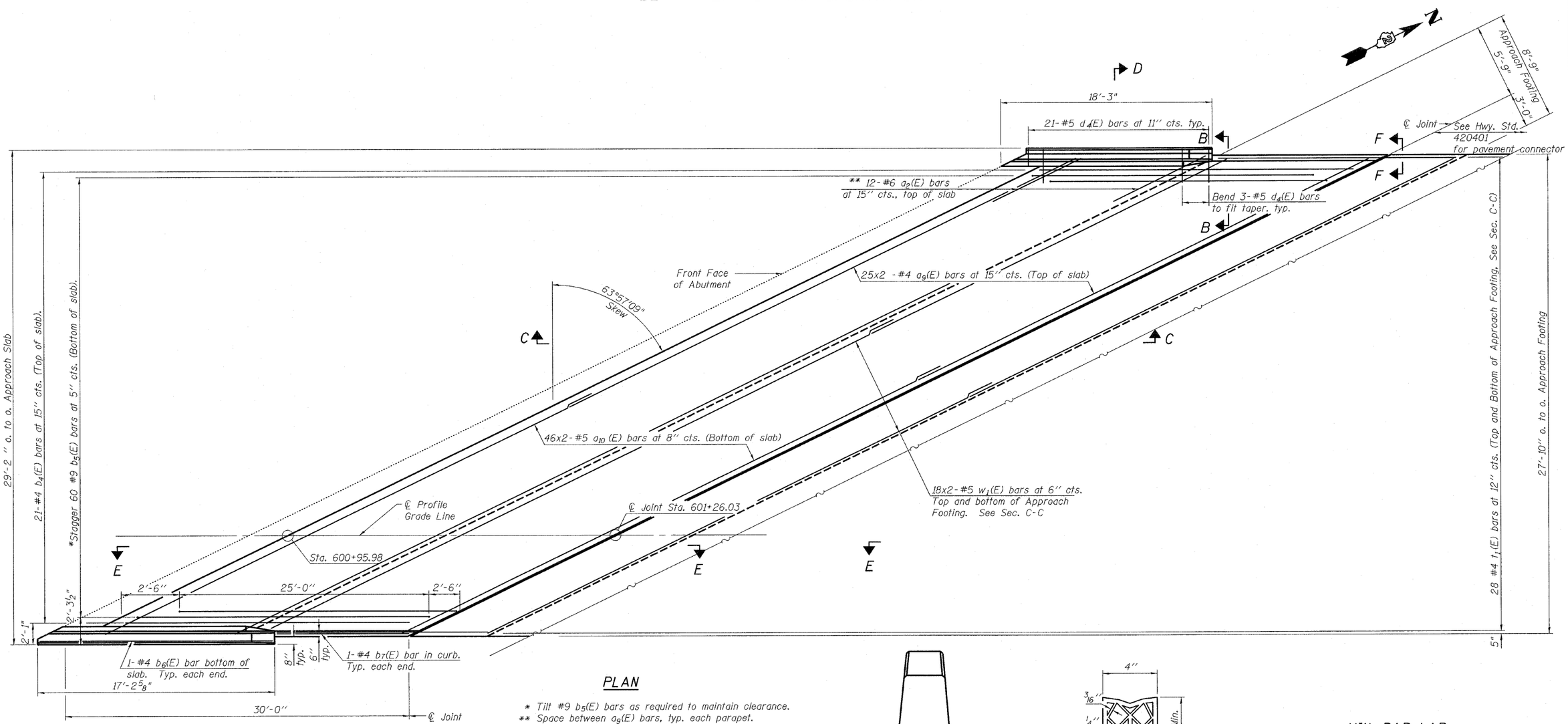
SHEET NO. 13 OF 33 SHEETS

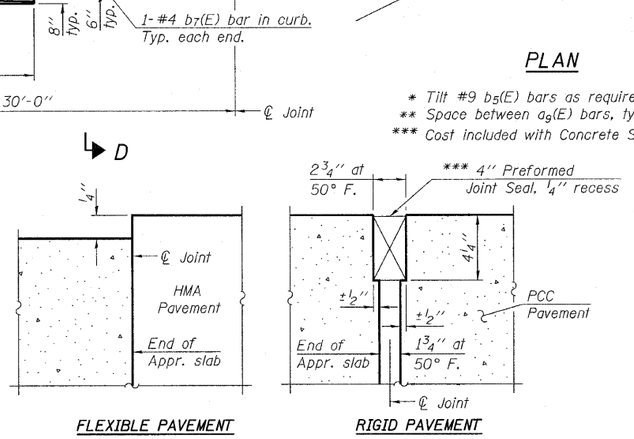
F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	129
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



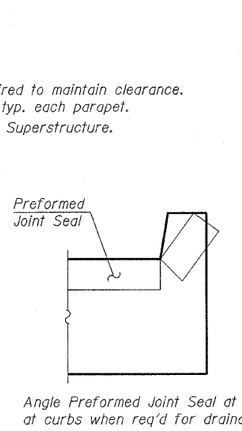
PLAN

* Tilt #9 b_5(E) bars as required to maintain clearance.
** Space between a_9(E) bars, typ. each parapet.
*** Cost included with Concrete Superstructure.



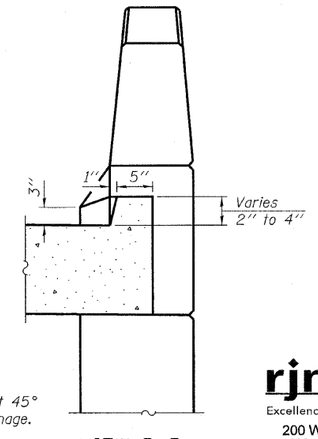
FLEXIBLE PAVEMENT — RIGID PAVEMENT

DETAIL A

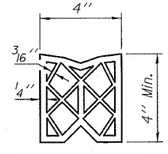


Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

VIEW F-F



VIEW B-B



PREFORMED JOINT SEAL

MIN. BAR LAP

4 Bars = 2'-1"
5 Bars = 2'-7"

Notes:
See sheet 15 of 33 for Sections C-C & D-D and View E-E.
a_9(E) and a_{10}(E) bar spacings measured along ℄ of Roadway.

NORTH APPROACH SLAB
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	MCB
DRAWN	PRD
CHECKED	MCB

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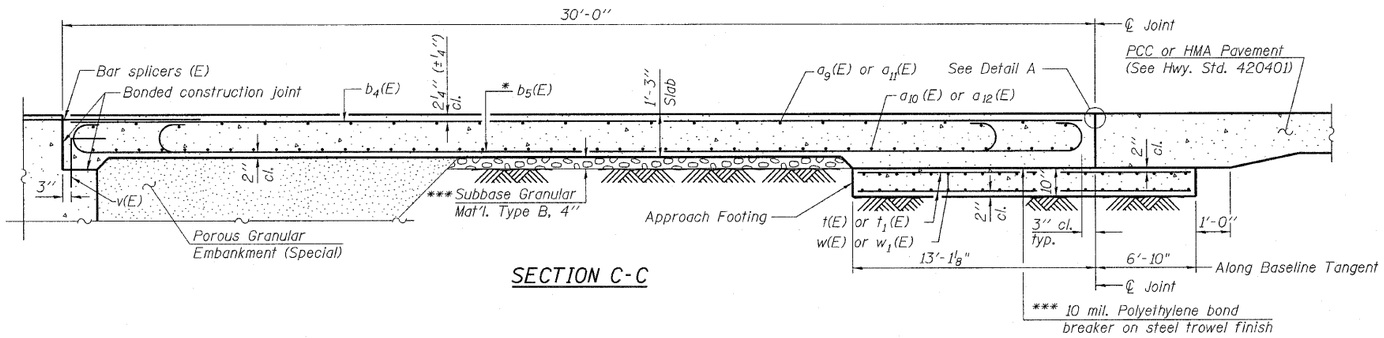
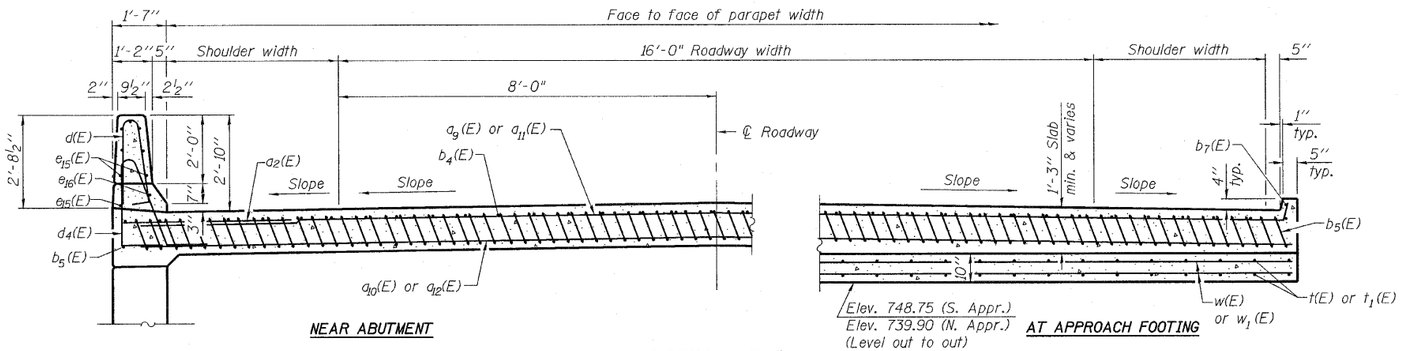
SHEET NO. 14 OF 33 SHEETS

F.A.P. RTE. & F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	130
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION C-C

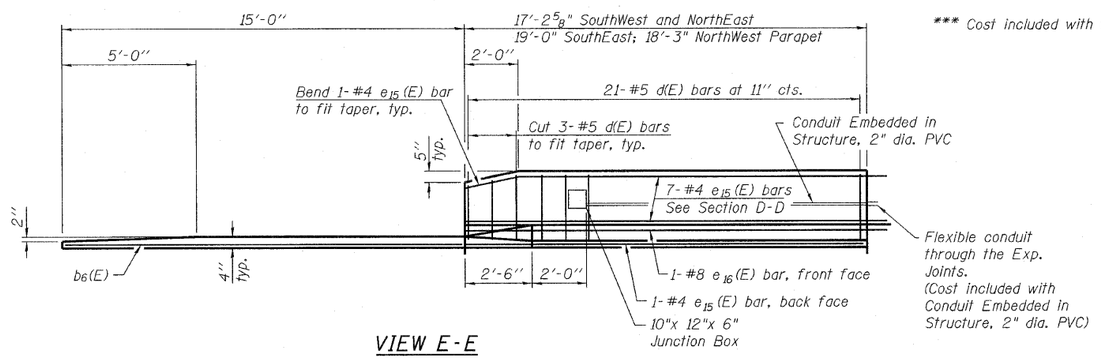


NEAR ABUTMENT

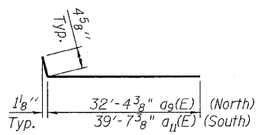
AT APPROACH FOOTING

SECTION D-D

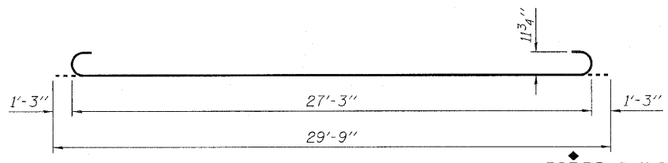
(See Plan for dimensions not shown)



VIEW E-E



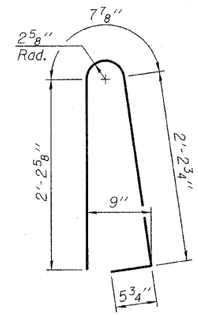
BAR a_9(E)
BAR a_{11}(E)



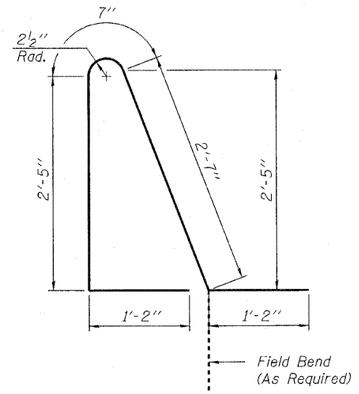
BAR b_5(E)

* Tilt #9 b_4(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



BAR d(E)



BAR d_4(E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_2(E)	48	#6	6'-6"	
a_9(E)	50	#4	32'-9"	
a_{10}(E)	92	#5	32'-9"	
a_{11}(E)	50	#4	40'-0"	
a_{12}(E)	92	#5	39'-3"	
b_4(E)	47	#4	29'-8"	
b_5(E)	131	#9	29'-9"	
b_6(E)	4	#4	18'-6"	
b_7(E)	4	#4	14'-8"	
d(E)	84	#5	5'-7"	
d_4(E)	84	#5	7'-11"	
e_{15}(E)	32	#4	14'-8"	
e_{16}(E)	4	#8	14'-8"	
t(E)	68	#4	21'-4"	
t_1(E)	56	#4	19'-8"	
w(E)	72	#5	39'-9"	
w_1(E)	72	#5	32'-9"	
Concrete Superstructure		Cu. Yd.	90.9	
Concrete Structures		Cu. Yd.	17.2	
Reinforcement Bars, Epoxy Coated		Pound	32,800	
Conduit Embedded in Structure 2" Dia., PVC		Foot	21	
Juction Box, Stainless Steel, Embedded in Structure 12" X 10" X 6"		Each	2	

Notes:
See sheets 13 & 14 of 33 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 27 & 29 of 33.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 33 of 33.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheets 2 & 32 of 33.
For additional parapet details, see sheets 10 of 33.

APPROACH SLAB DETAILS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	MCB
DRAWN	PRD
CHECKED	MCB

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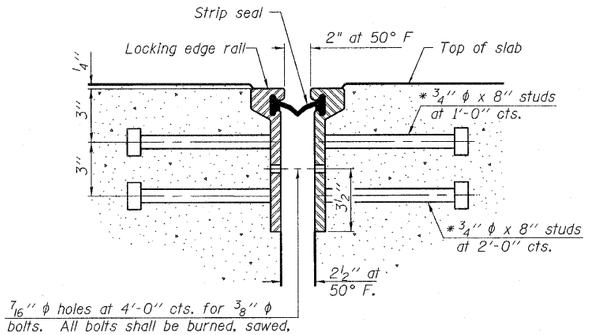
SHEET NO. 15 OF 33 SHEETS	F.A.P. RTE. & F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	131
			CONTRACT NO. 64B79		
	FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

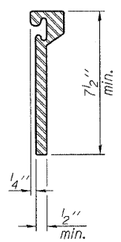
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

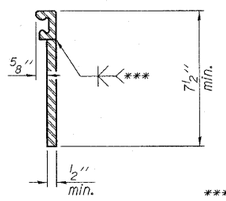


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

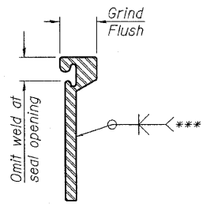
SECTION THRU ROLLED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL

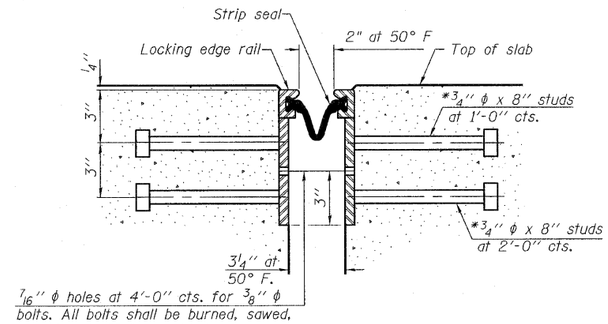


*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

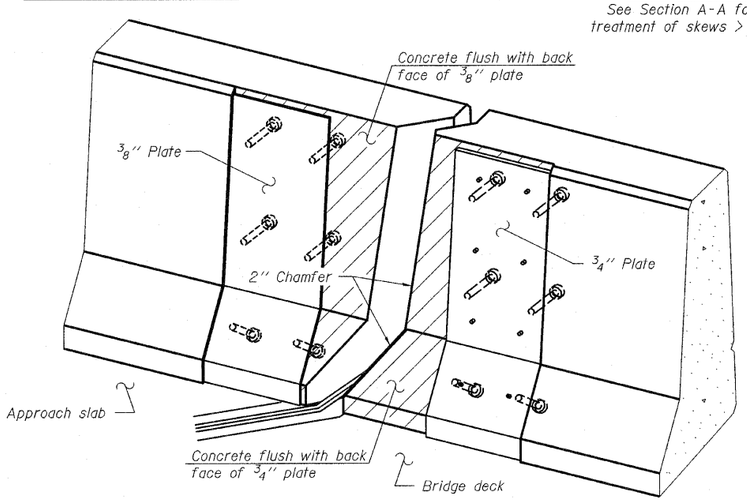
The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.



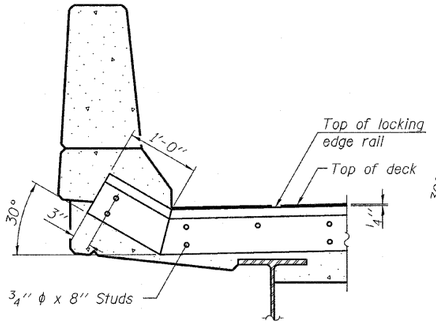
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT



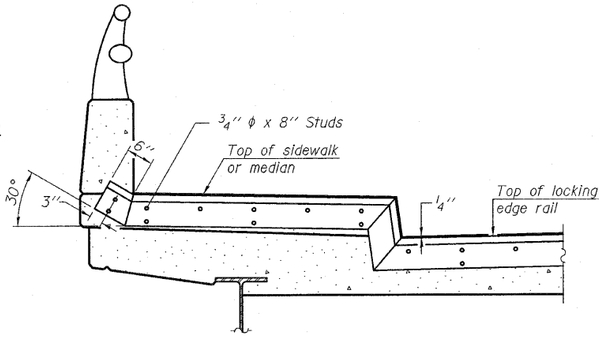
TRIMETRIC VIEW

(Showing back plates only)



AT PARAPET

See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

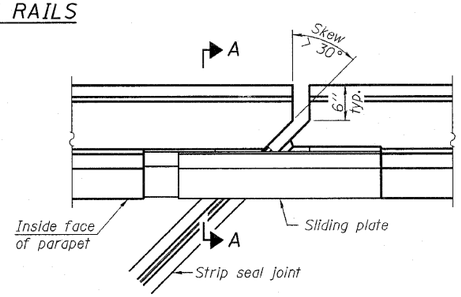
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

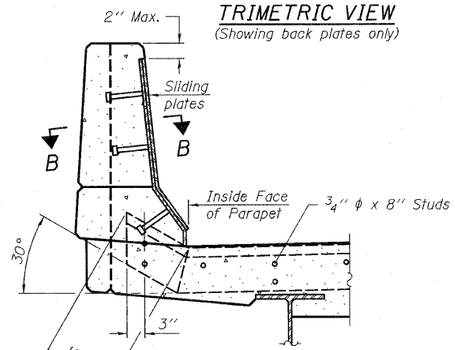
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

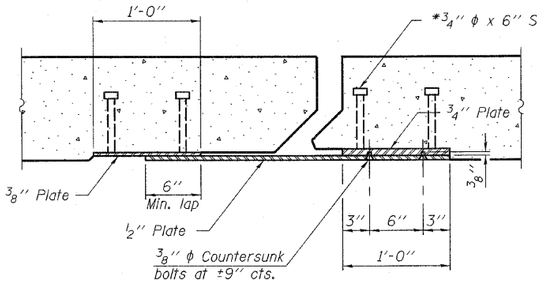
LOCKING EDGE RAILS



PLAN



SECTION A-A



SECTION B-B

POINT BLOCK DETAILS

(for skews > 30°)

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	69

PREFORMED JOINT STRIP SEAL STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	MCB
DRAWN	PRD
CHECKED	MCB

EJ-SSJ 11-1-09

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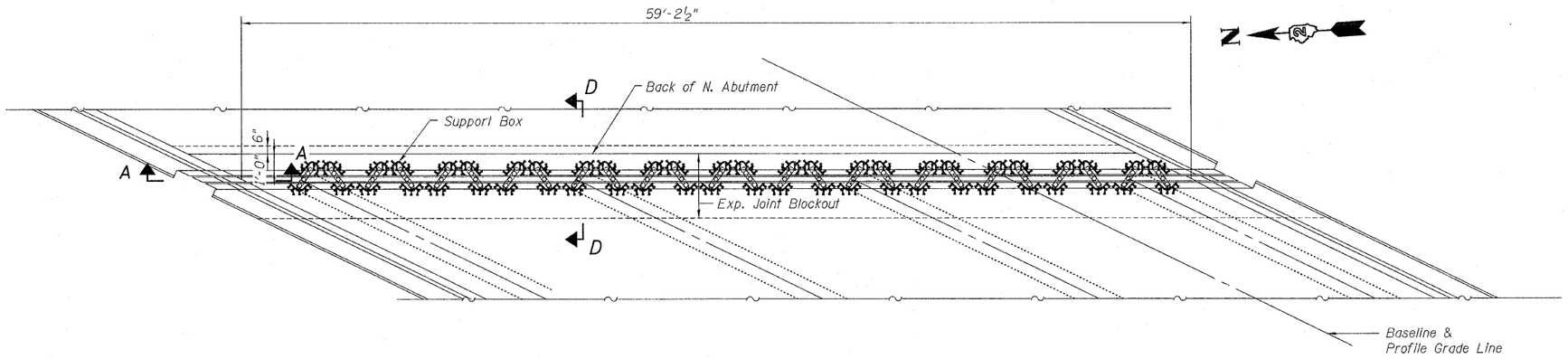
SHEET NO. 16 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	132
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Dimensions are at 50° F

The number, location and orientation of support boxes shall be determined by manufacturer.
No boxes shall be located outside the exterior girders.
All boxes shall be located to miss the top flanges of the girders.

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint - Swivel 6"	Foot	63

Notes:
Work this sheet with sheets 12 and 16 of 33.
See Sheet 16 of 33 for Section A-A.
See Sheet 12 of 33 for Section D-D.
Support Boxes shall be rigidedly attached to cross frame beams and abutment backwall by adjustable brackets, stools or shims. Cost of attachement included in "Modular Expansion Joint - Swivel 6" ".

The Swivel Modular Expansion Joint shall be either MAURER Swivel system by D.S. Brown Co. or the WABO X-CEL system by Watson Bowman Acme Corporation. The joint shall provide for a $2\frac{5}{8}$" movement.

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the blockout is cast at an ambient tempurature other than 50° F.

Cover plates and slide plates shall be AASHTO M270 Grade 36 steel, and hot dipped galvanized according to AASHTO M111 after fabrication.

Countersunk Cap Screws and Concrete Inserts shall be Hot-dipped galvanized according to AASHTO M232.

The cost of furnishing the Cover Plates, Slide Plates, Countersunk Cap Screws, Stud Anchors, and the Installation of these items shall be included with "Modular Expansion Joint - Swivel 6" ".

For Reinforcing at Expansion Joint see Section D-D on Sheet 12 of 33.

Dimensions shown require field verification and coordination with the manufacturer and may require adjustment.

Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

MODULAR EXPANSION JOINT SWIVEL, 6" STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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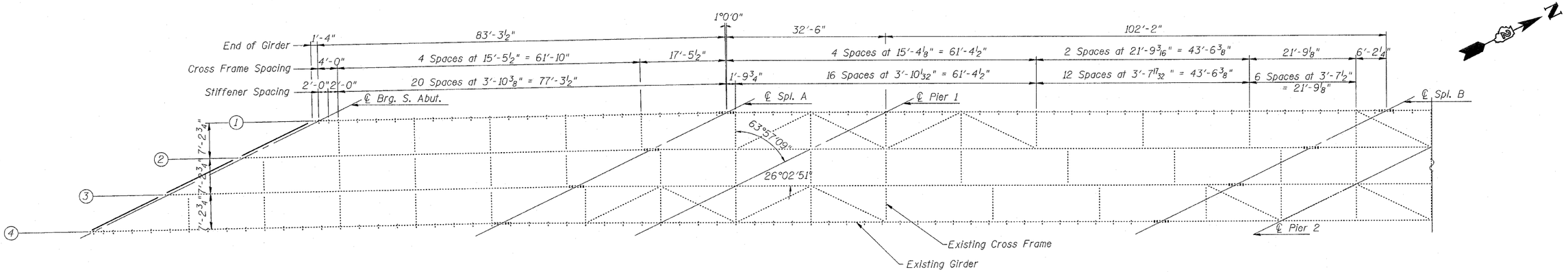
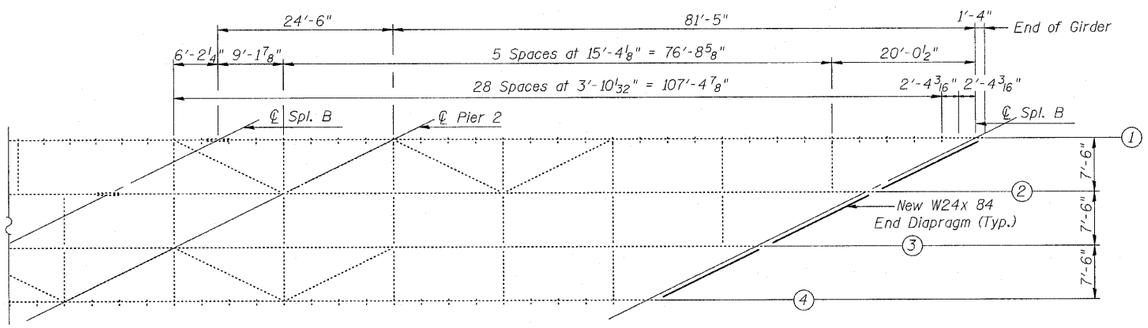
SHEET NO. 17 OF 33 SHEETS

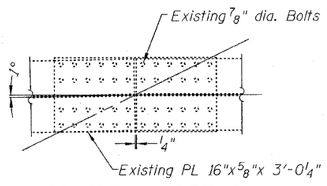
F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	133
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





FRAMING PLAN



SPLICE 'A' DETAIL

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

EXISTING FRAMING PLAN
STRUCTURE NO. 101-0123

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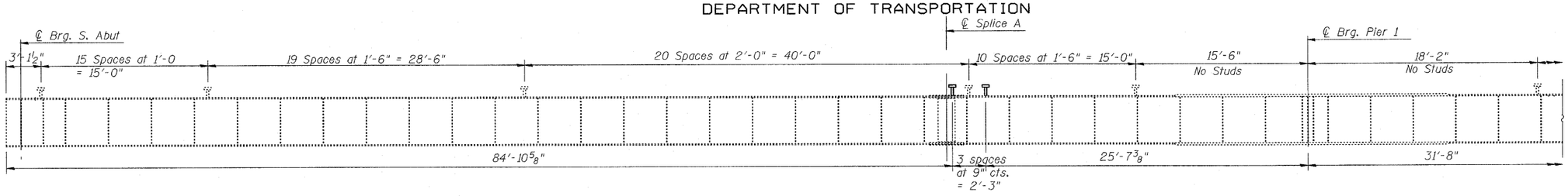
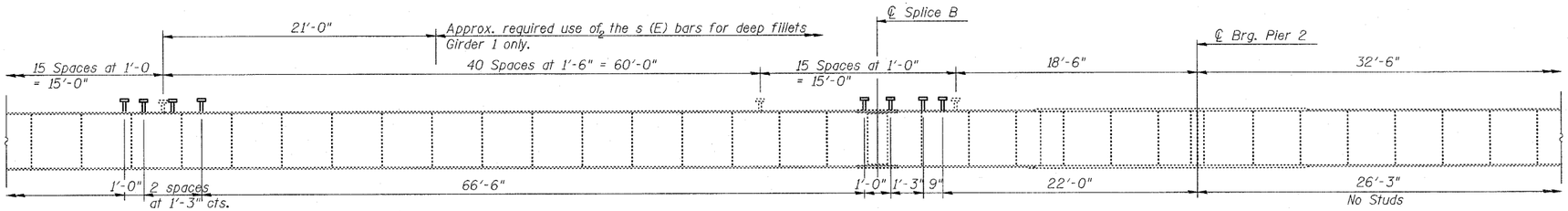
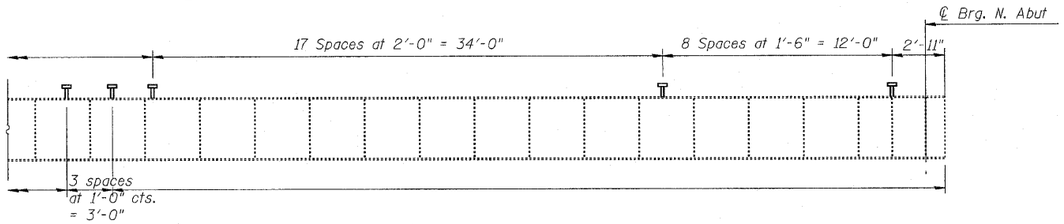
SHEET NO. 18 OF 33 SHEETS

F.A.P. RTE. & F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	134
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

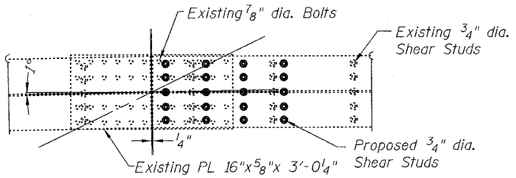
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



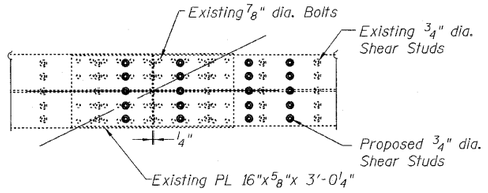




GIRDER ELEVATION



SPLICE 'A' DETAIL



SPLICE 'B' DETAIL

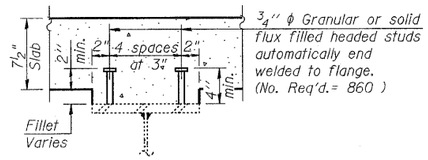
DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	30177	53078	24717	38564	19361
$I_c(n)$	(in^4)	63527	--	55581	--	46731
$I_c(3n)$	(in^4)	47643	--	41718	--	35151
S_s	(in^3)	1150	1948	951	1448	752
$S_c(n)$	(in^3)	1450	--	1237	--	1020
$S_c(3n)$	(in^3)	1343	--	1144	--	940
ℓ	(k/')	.944	1.165	.935	1.148	.910
$M\ell$	('k)	874	1911	568	1230	317
$s\ell$	(k/')	.225	--	.225	--	.225
$M_s\ell$	('k)	234	--	187	--	94
ML	('k)	993	877	937	687	663
$M1M$	('k)	206	178	186	150	161
$\frac{5}{3}[ML + 1]$	('k)	1998	1758	1871	1395	1374
Ma	('k)	4038	4770	3414	3413	2321
* Mu	('k)	4030	--	3469	--	2903
f_s ℓ non-comp	(ksi)	9.12	11.77	7.17	10.19	5.06
f_s ℓ (comp)	(ksi)	2.09	--	1.96	--	1.2
f_s $\frac{5}{3}[ML + M1]$	(ksi)	16.54	10.83	18.15	11.56	16.17
f_s (Overload)	(ksi)	27.75	22.60	27.28	21.75	22.43
** f_s (Total)	(ksi)	36.08	26.85	35.47	26.00	29.16
VR	(k)	56.8	--	52.46	--	59.65

INTERIOR GIRDER REACTION TABLE					
		S. Abut.	Pier 1	Pier 2	N. Abut.
$R\ell$	(k)	50.9	162.8	129.2	31.0
RL	(k)	42.2	77.3	71.5	42.2
$R1$	(k)	8.8	15.7	15.6	10.1
R_{Total}	(k)	101.9	255.8	216.3	83.3

* Compact section
** Braced non-compact and partially braced section

Fillet of 2" was included in calculating composite section properties.



SECTION A-A

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in.4 and in.3).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in.4 and in.3).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in.4 and in.3).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.3).

ℓ: Un-factored non-composite dead load (kips/ft.).

$M\ell$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\ell$: Un-factored long-term composite (superimposed) dead load (kips/ft.)

$M_s\ell$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

ML: Un-factored live load moment (kip-ft.).

$M1$: Un-factored moment due to impact (kip-ft.).

Ma: Factored design moment (kip-ft.).
$1.3\ [\ M\ell + M_s\ell + \frac{5}{3}(ML + M1)]$

Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\ell + M_s\ell + \frac{5}{3}(ML + M1)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\ell + M_s\ell + \frac{5}{3}(ML + M1)]$

VR: Maximum L + impact shear range within the composite portion of the span for stud shear connector design (kips).

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	860

Notes:

Existing Stud Shear Connectors are to be maintained. No Transverse saw-cuts are allowed. Contractor is reponsible for the replacement of Stud Shear Connectors that are damaged during Removal of Existing Concrete Deck.

Resident Engineer may relocate Stud Shear Connectors shown as required to miss exiting connection bolts or existing Stud Shear Connections.

GIRDER ELEVATION AND TABLES
STRUCTURE NO. 101-0123

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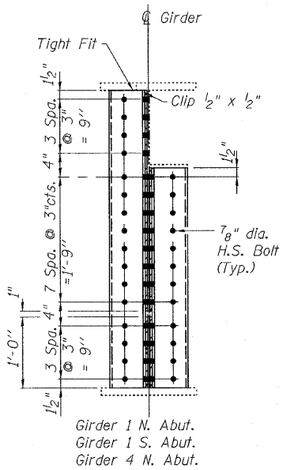
SHEET NO. 19 OF 33 SHEETS

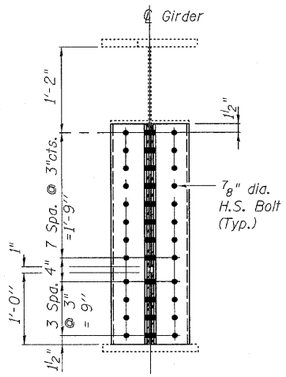
F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	135
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



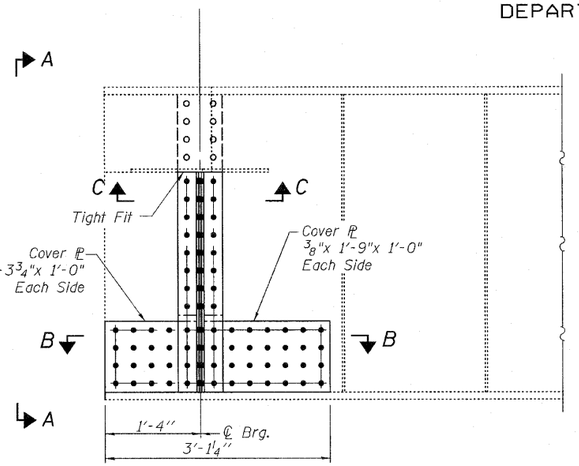
Girder 1 N. Abut.
Girder 1 S. Abut.
Girder 4 N. Abut.

SECTION A-A

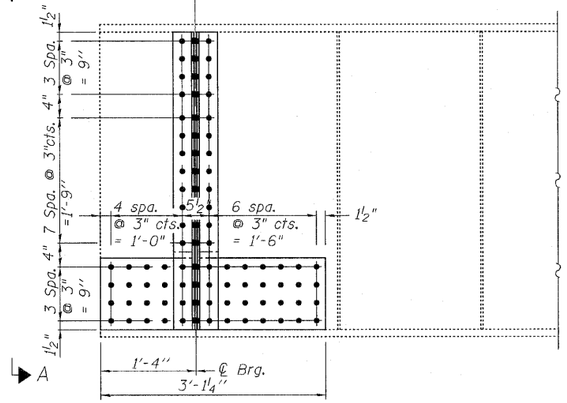


Girder 2 N. Abut.

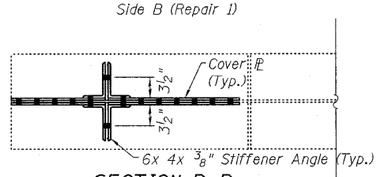
SECTION A-A
(Repair 1)



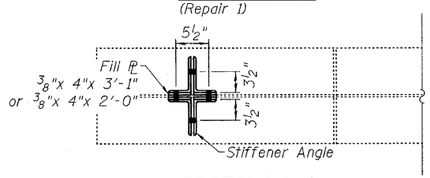
END ELEVATION
Side A (Repair 1)



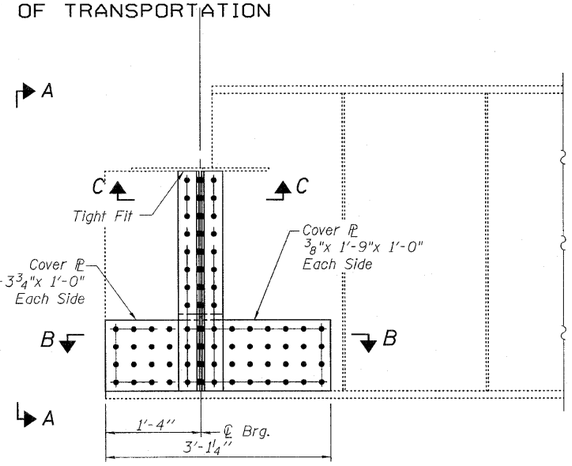
END ELEVATION
Side B (Repair 1)



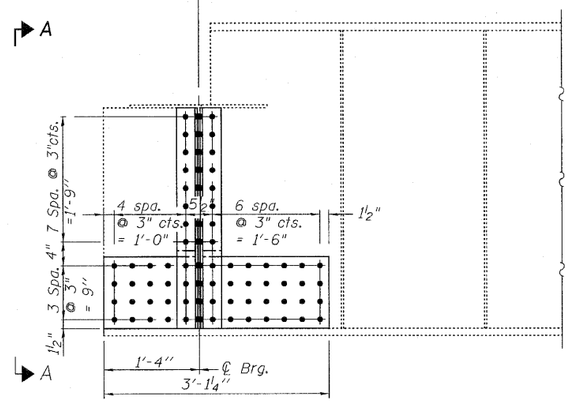
SECTION B-B
(Repair 1)



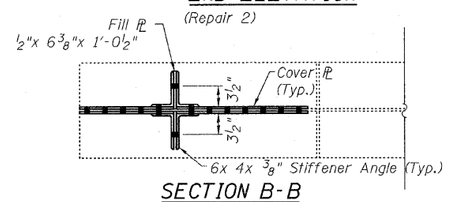
SECTION C-C
(Repair 1)



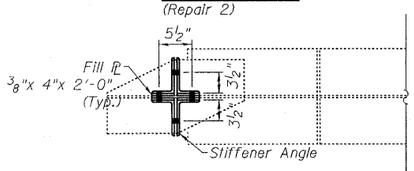
END ELEVATION
(Repair 2)



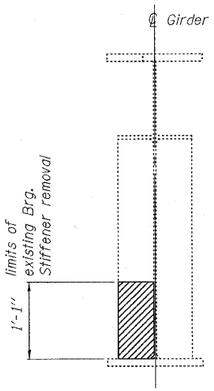
END ELEVATION
(Repair 2)



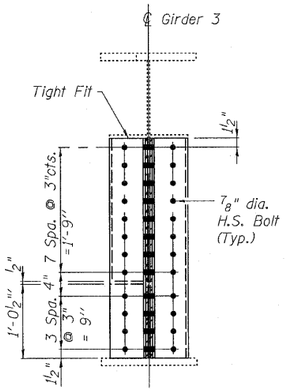
SECTION B-B
(Repair 2)



SECTION C-C
(Repair 2)



Removal Detail
(Repair 2)



SECTION A-A
(Repair 2)

Repair 1. Provide Cover Plates to the following Girder Ends: North Abutment Girder 1,2 & 4. South Abutment Girder 1

Repair 2. Provide Cover Plates and Stiffener replacement to the following Girder Ends: North Abutment Girder 3.

Repair 3. Provide Cover Plates, Web and Stiffener replacement to the following Girder Ends: South Abutment Girder 2,3& 4.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	3,223

PLATE GIRDER
REPAIR DETAILS (1 of 2)
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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200 West Front Street
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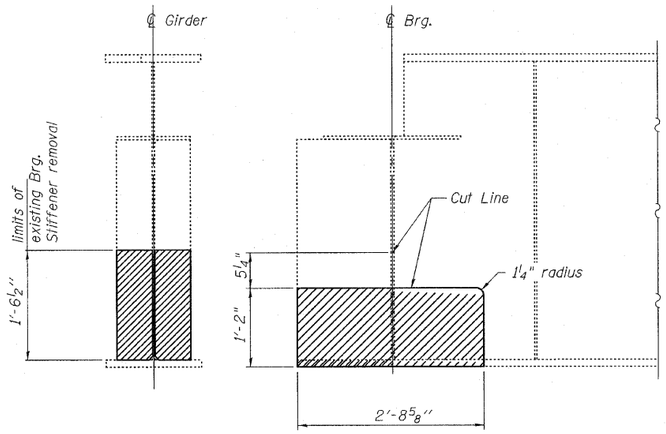
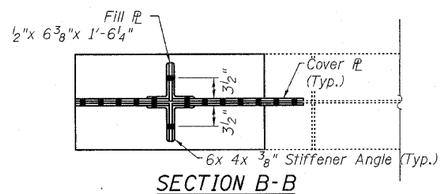
SHEET NO. 20 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	136
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

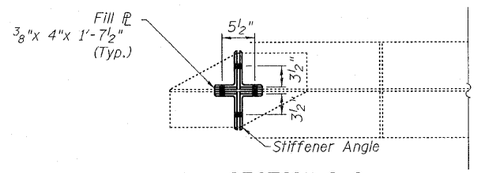
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



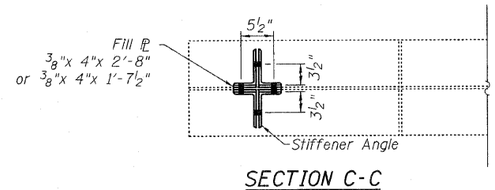
REMOVAL DETAIL
(Repair 3) Girders 2 & 3 S. Abut. Shown
Girder 4 S. Abut. Similar.



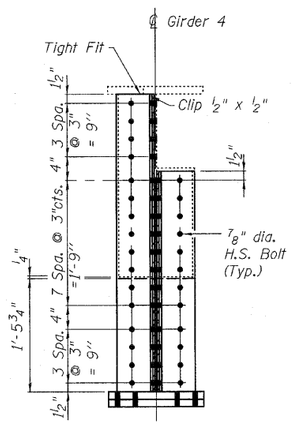
SECTION B-B
(Repair 3)



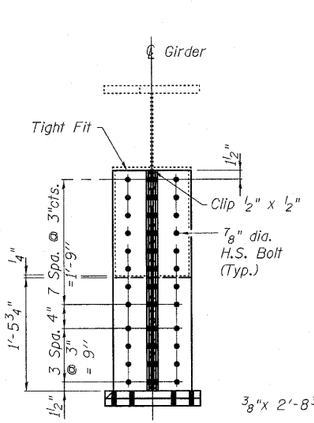
SECTION C-C
(Repair 3) Girders 2 & 3 S. Abut.



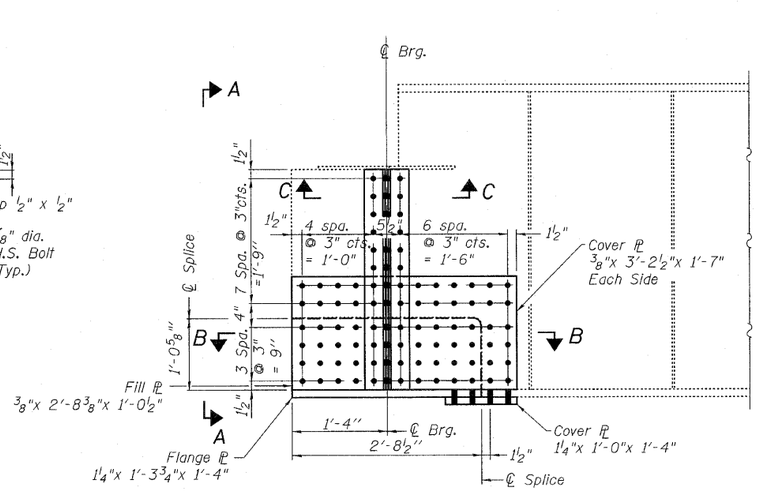
SECTION C-C
(Repair 3) Girder 4 S. Abut.



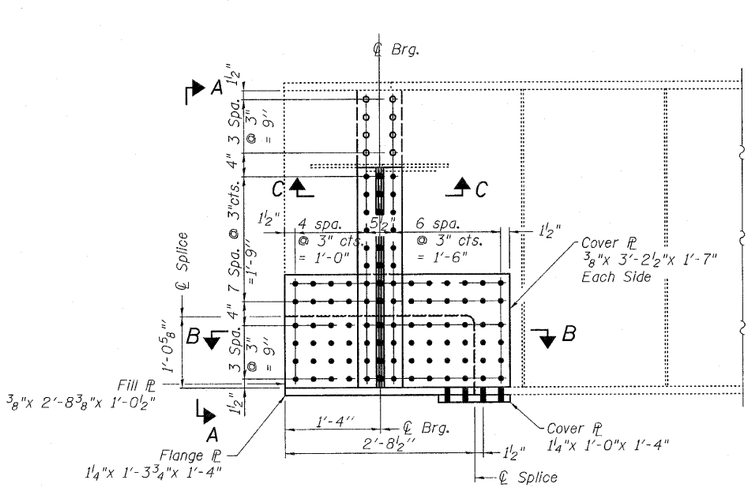
SECTION A-A
(Repair 3) Girder 4 S. Abut.



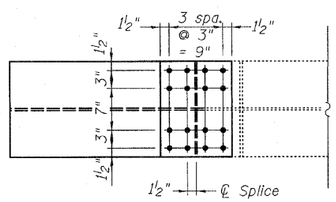
SECTION A-A
(Repair 3) Girders 2 & 3 S. Abut.



END ELEVATION
(Repair 3) Girders 2 & 3 S. Abut.



END ELEVATION
(Repair 3) Girder 4 S. Abut.



BOTTOM PLAN
(Repair 3)

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

PLATE GIRDER
REPAIR DETAILS (2 of 2)
STRUCTURE NO. 101-0123

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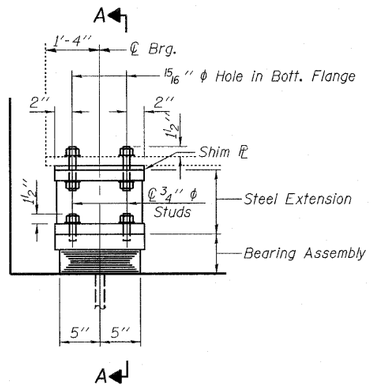
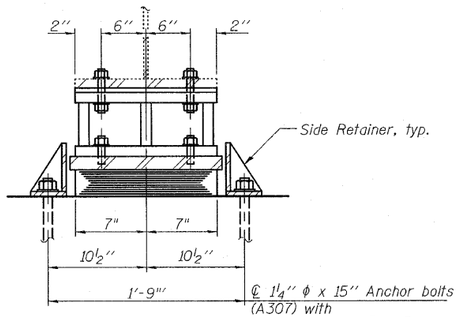
SHEET NO. 21 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	137
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

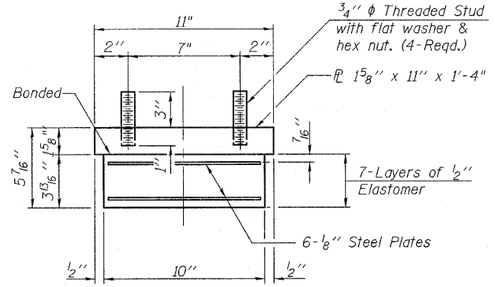
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT ABUT.



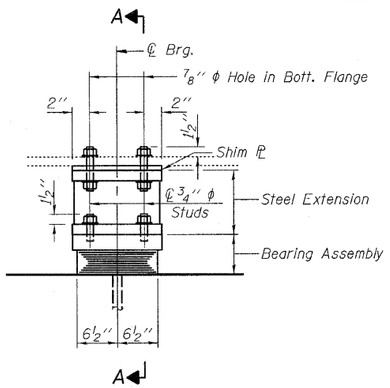
SECTION A-A



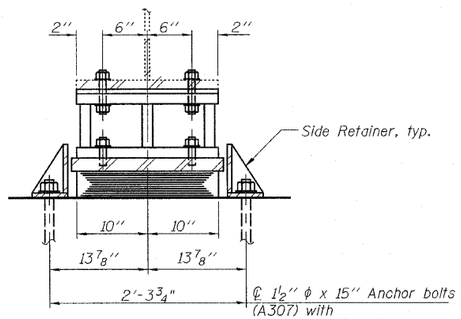
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

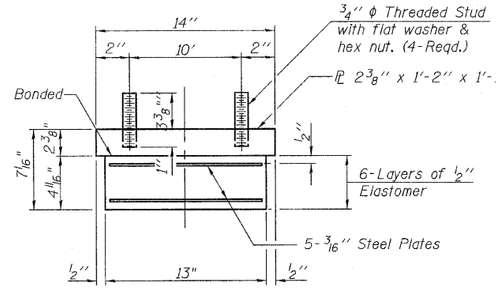
TYPE I ELASTOMERIC EXP. BRG. (SOUTH ABUTMENT)



ELEVATION AT PIER 2



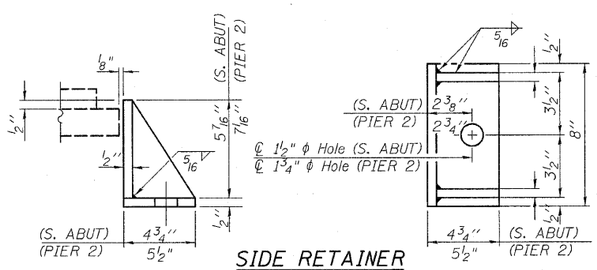
SECTION A-A



BEARING ASSEMBLY

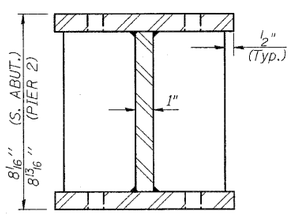
Note:
Shim plates shall not be placed under Bearing Assembly.

TYPE I ELASTOMERIC EXP. BRG. (PIER 2)

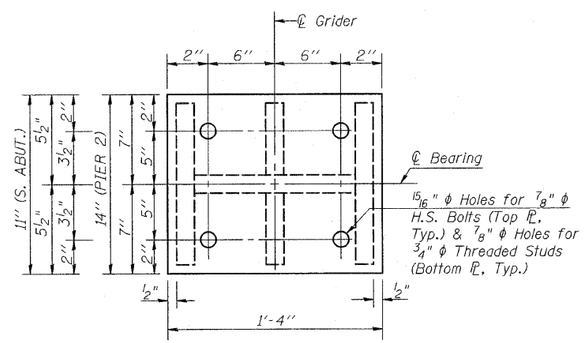


SIDE RETAINER

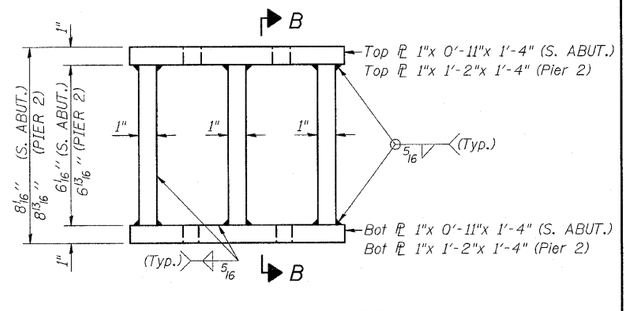
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SECTION B-B



STEEL EXTENSION PLAN



STEEL EXTENSION ELEVATION

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	8
Anchor Bolts, 1 1/4"	Each	8
Anchor Bolts, 1 1/2"	Each	8

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

See sheet 23 of 33 fot Jacking and Cribbing Procedures

S. ABUTMENT AND PIER 2 ELASTOMERIC BEARING - TYPE I STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

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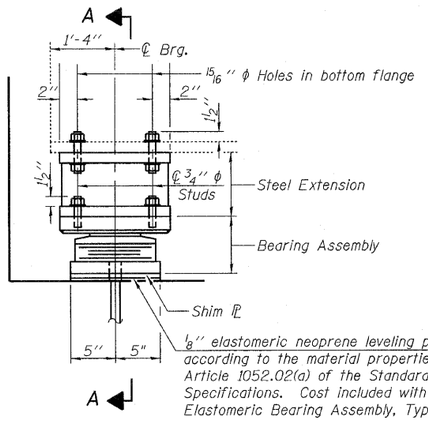
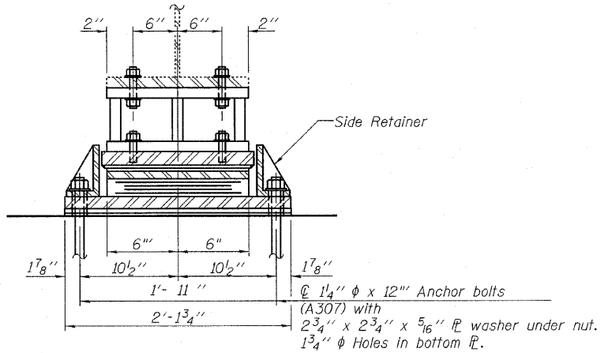
F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	138
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

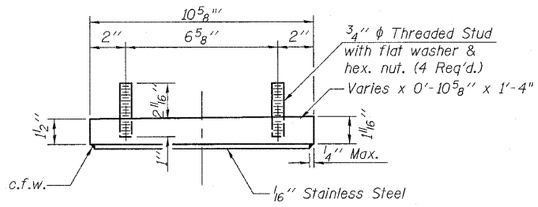


ELEVATION AT ABUT.

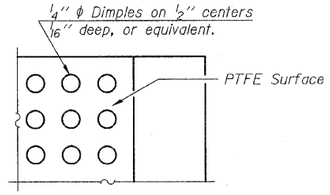


SECTION A-A

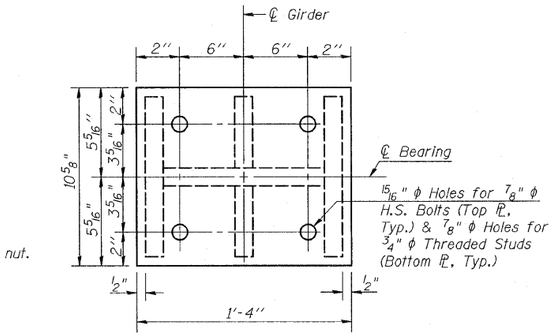
TYPE II ELASTOMERIC EXP. BRG. (N. ABUTMENT)



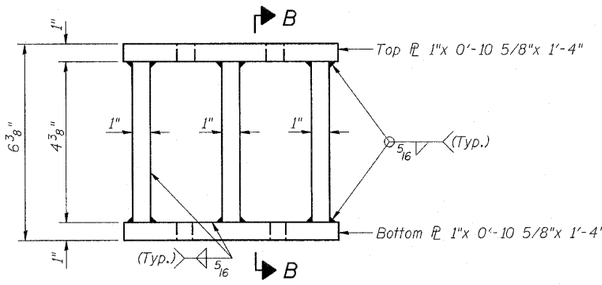
TOP BEARING ASSEMBLY



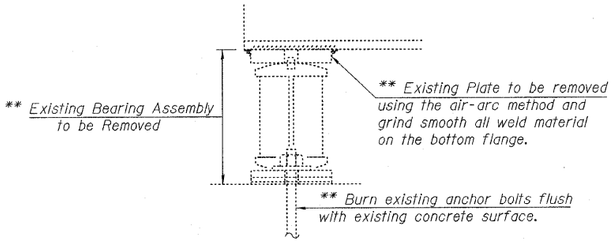
PLAN-PTFE SURFACE



STEEL EXTENSION PLAN



STEEL EXTENSION ELEVATION



**Cost is included with Jacking and Remove Existing Bearings

REMOVE EXISTING BEARINGS AT ABUTMENTS

JACKING AND REMOVING PROCEDURES

1. Prior to commencing any work at the bearings, the contractor shall submit plans for Jacking and Remove Existing Bearings for approval by the Engineer.

   In each removal stage, Jacking and Remove Existing Bearings shall be done after the existing deck is removed and before the new deck is poured.

2. Jacking shall be limited so that the maximum lift transversely between adjacent beams is 1/8". See Special Provision for Jacking and Remove Existing Bearings.

3. Minimum Jack capacity is 30 Tons per bearing.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	4
Anchor Bolts, 1 1/4"	Each	8

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

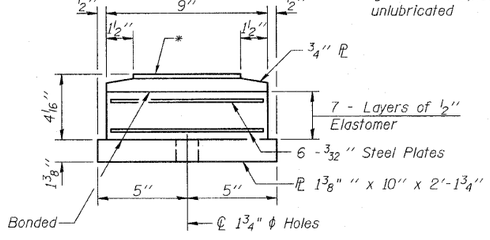
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

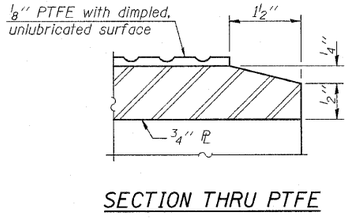
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

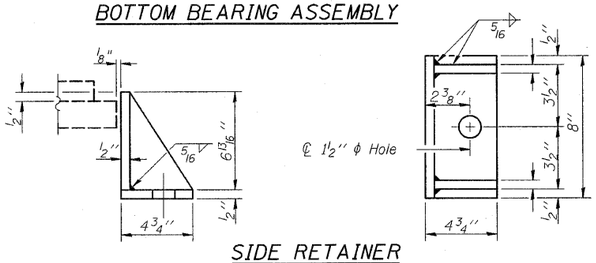
*1/8" PTFE dimpled, unlubricated



BOTTOM BEARING ASSEMBLY

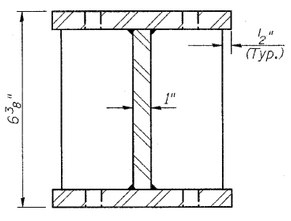


SECTION THRU PTFE

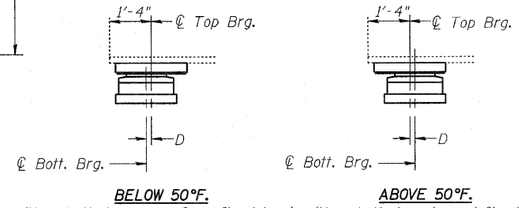


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SECTION B-B



BELOW 50°F. (Move bott. brg. away from fixed brg.)

ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

DESIGNED	PRD
CHECKED	KPS
DRAWN	PRD
CHECKED	KPS

N. ABUTMENT
ELASTOMERIC BEARINGS - TYPE II
STRUCTURE NO. 101-0123

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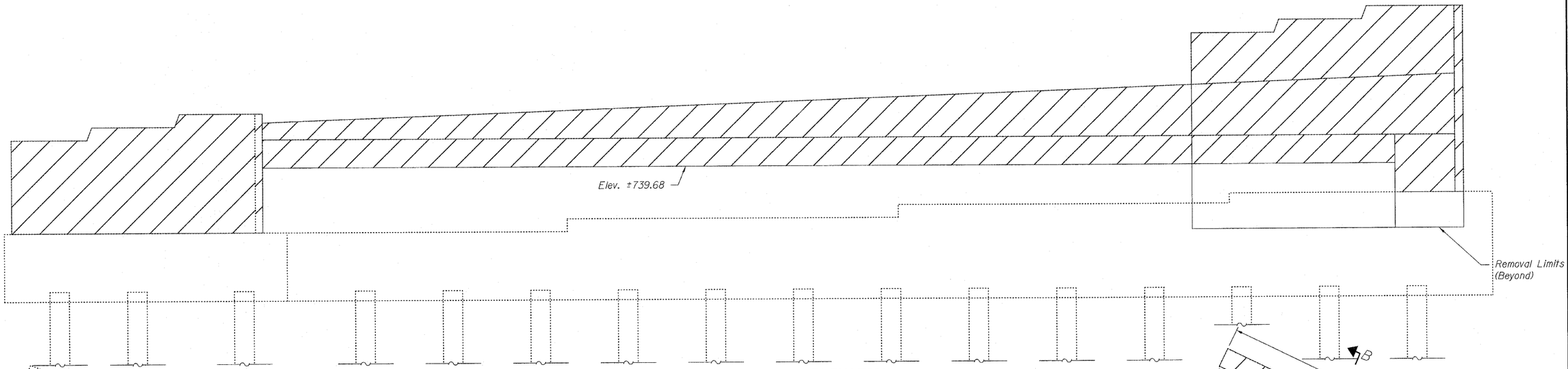
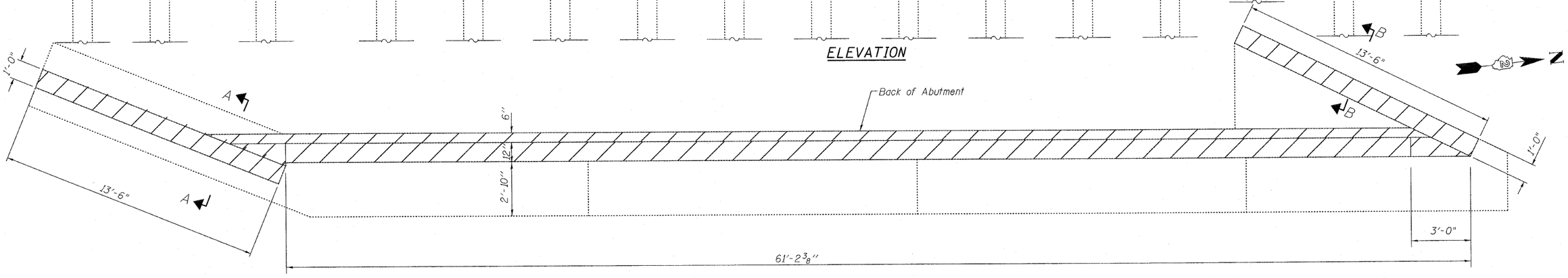
SHEET NO. 23 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	139
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



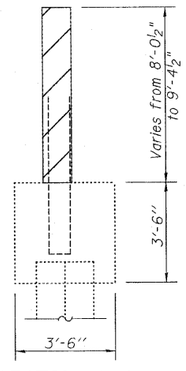
ELEVATION



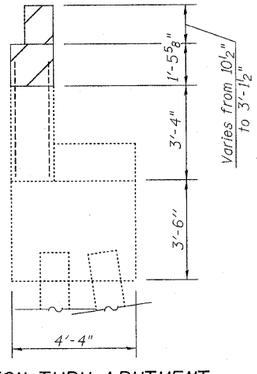
PLAN

LEGEND

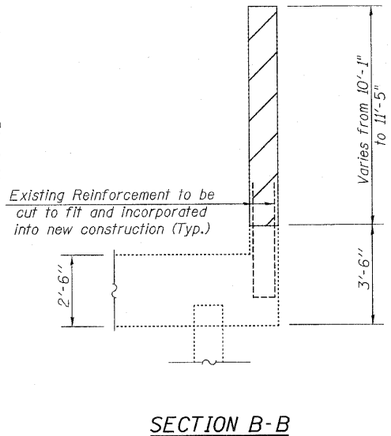
Concrete Removal



SECTION A-A



SECTION THRU ABUTMENT



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	18.1

NOTES

Existing reinforcement bars extending into the removal area shall be blast cleaned to gray metal and straightened. Blast cleaning and straightening shall be included with the cost of Concrete Removal.

Existing reinforcement not extending into areas of new construction shall be cut at the removal line and removed. Cost included with Concrete Removal.

Existing reinforcement bars which have lost more than 25% of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnishing and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with Concrete Removal.

S. ABUT. REMOVAL PLAN
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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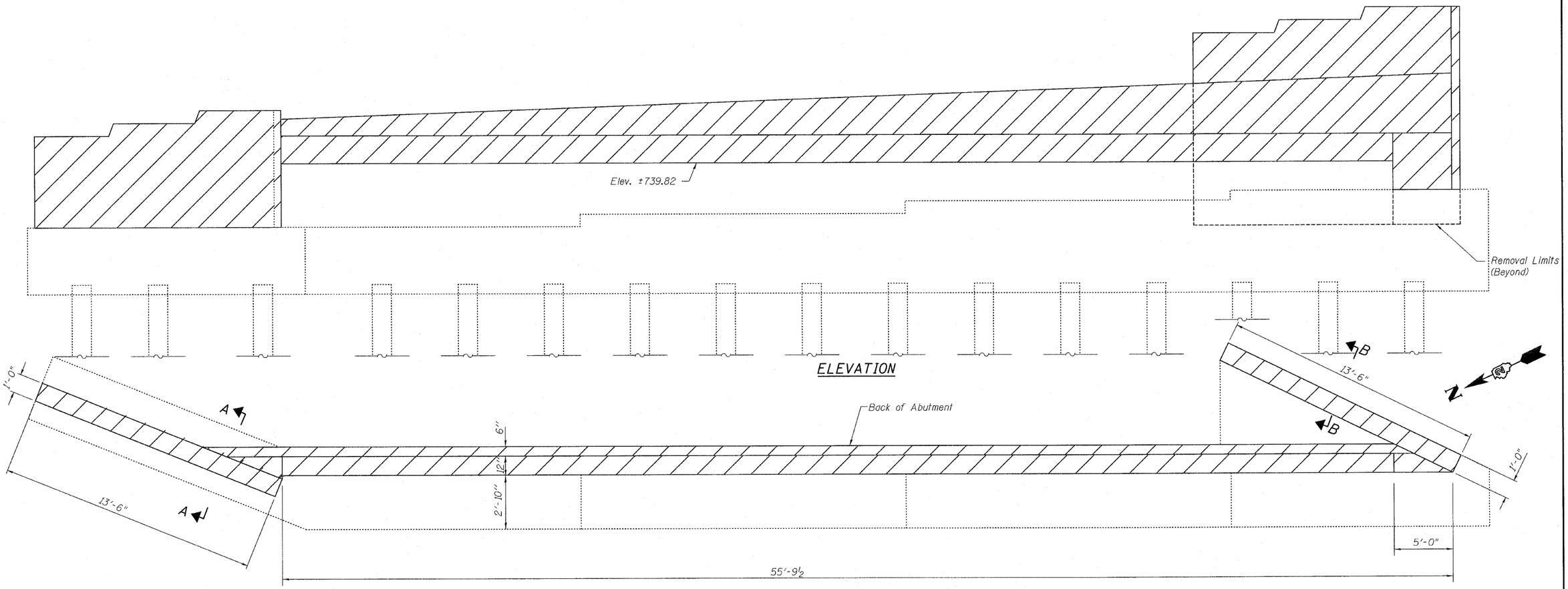
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 24 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	140
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

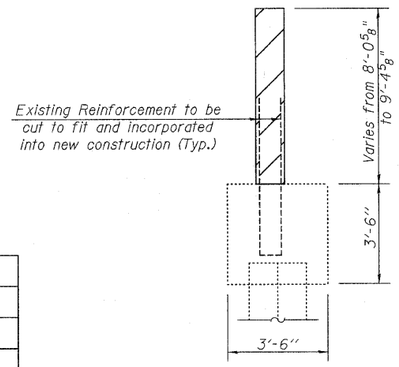


ELEVATION

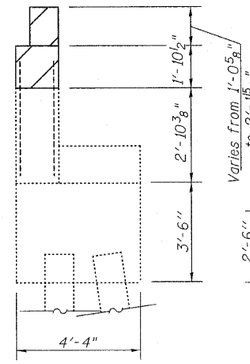
PLAN

LEGEND

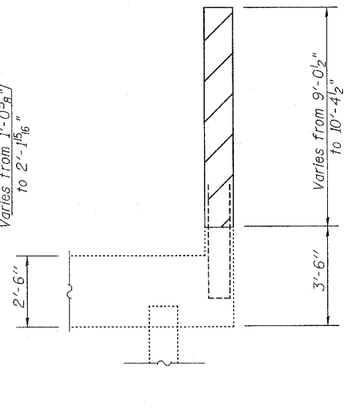
Concrete Removal



SECTION A-A



SECTION THRU ABUTMENT



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	19.1

NOTES

Existing reinforcement bars extending into the removal area shall be blast cleaned to gray metal and straightened. Blast cleaning and straightening shall be included with the cost of Concrete Removal.

Existing reinforcement not extending into areas of new construction shall be cut at the removal line and removed. Cost included with Concrete Removal.

Existing reinforcement bars which have lost more than 25% of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnishing and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with Concrete Removal.

N. ABUT. REMOVAL PLAN
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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200 West Front Street
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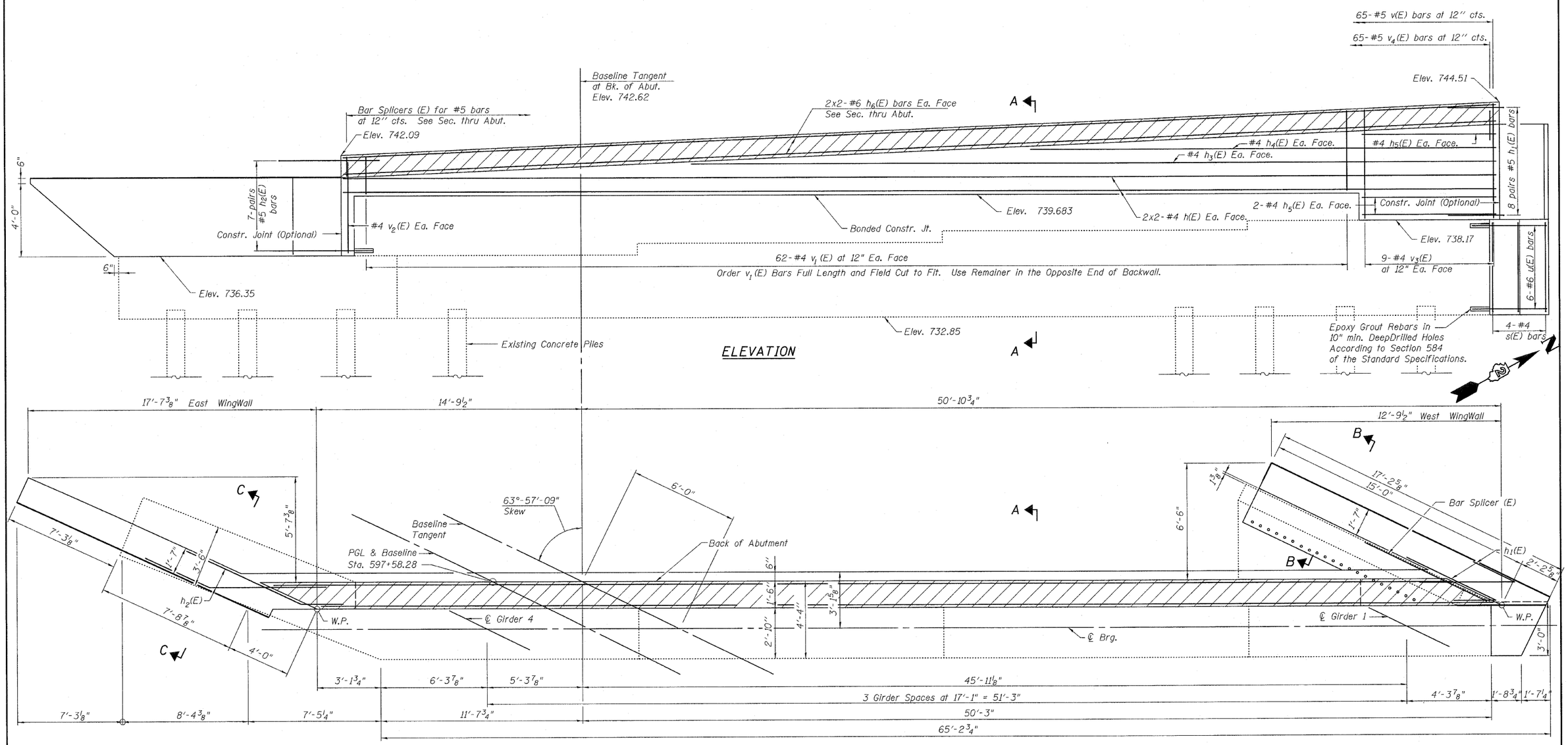
PH. 630.682.4700

SHEET NO. 25 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	141
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Notes:

For Sections A-A, B-B, C-C See Sheet 27 of 33.

Hatched area to be poured after Superstructure falsework has been removed.

For Bill of Material See Sheet 27 of 33.

Existing reinforcement bars which have lost more than 25% of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnishing and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with Concrete Removal.

Elevations and dimensions are obtained from the existing plans. The Contractor shall verify these elevations and dimensions before ordering material.

SOUTH ABUTMENT
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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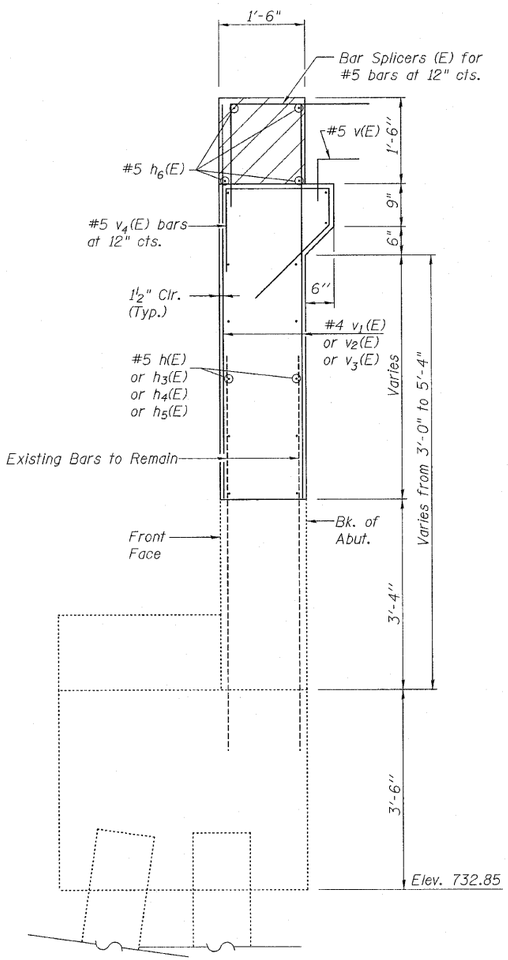
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

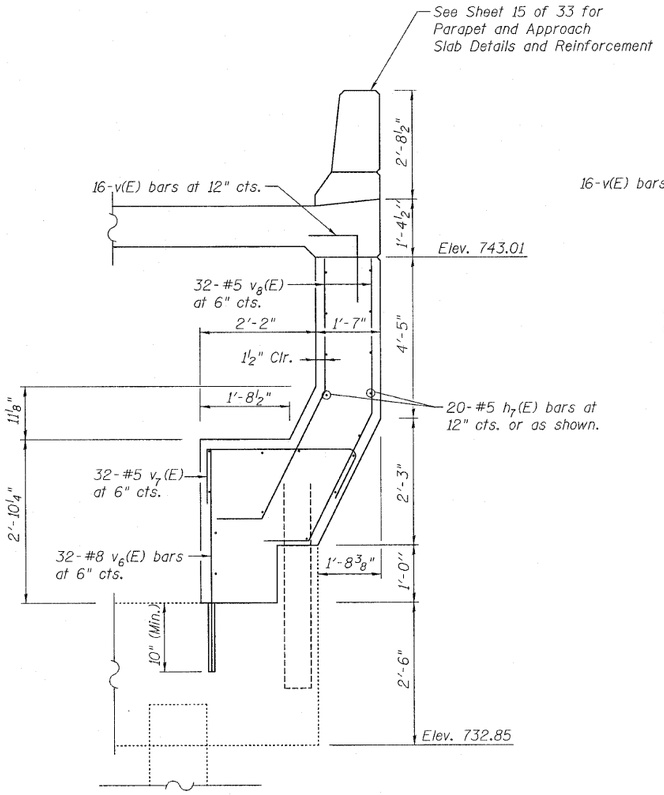
SHEET NO. 26 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	142
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

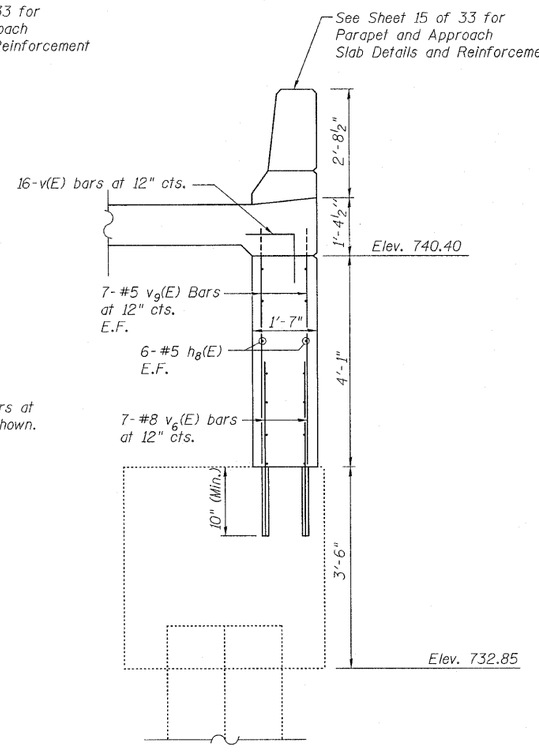
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



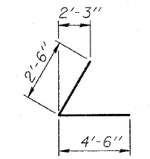
SECTION A-A



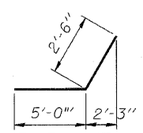
SECTION B-B
*Denotes Bar to be Cut-in-Field.



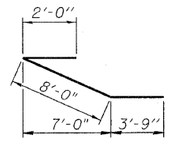
SECTION C-C
See Sheet 29 of 33 for Similar Elevation.



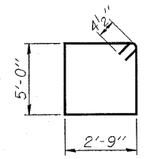
BAR h1(E)



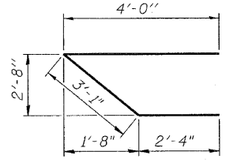
BAR h2(E)



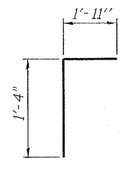
BAR h9(E)



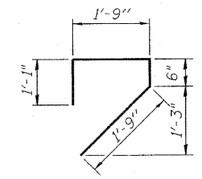
BARS s(E)



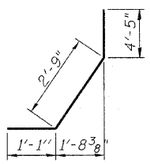
BAR u(E)



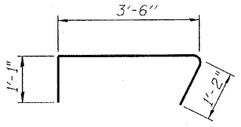
BAR v(E)



BAR v4(E)



BAR v8(E)



BAR v7(E)

S. ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	8	#5	34'-6"	
h1(E)	20	#5	7'-0"	
h2(E)	12	#5	7'-6"	
h3(E)	2	#4	44'-9"	
h4(E)	2	#4	25'-3"	
h5(E)	2	#4	7'-3	
h6(E)	8	#6	35'-0"	
h7(E)	20	#5	15'-0"	
h8(E)	12	#5	16'-0"	
h9(E)	2	#5	13'-9"	
s(E)	4	#4	16'-6"	
u(E)	6	#6	9'-5"	
v(E)	97	#5	3'-3"	
v1(E)	62	#4	13'-4"	
v2(E)	2	#4	5'-3"	
v3(E)	18	#4	6'-0"	
v4(E)	65	#5	5'-1"	
v5(E)	16	#5	4'-4"	
v6(E)	32	#8	3'-6"	
v7(E)	32	#5	5'-3"	
v8(E)	64	#5	8'-3"	
v9(E)	14	#5	4'-3"	
Structure Excavation			Cu. Yd.	57
Concrete Structures			Cu. Yd.	44.2
Reinforcement Bars, Epoxy Coated			Pound	4,190
Concrete Sealer			Sq. Ft.	550

For details of Bar Splicers, see sheet 33 of 33.

SOUTH ABUTMENT DETAILS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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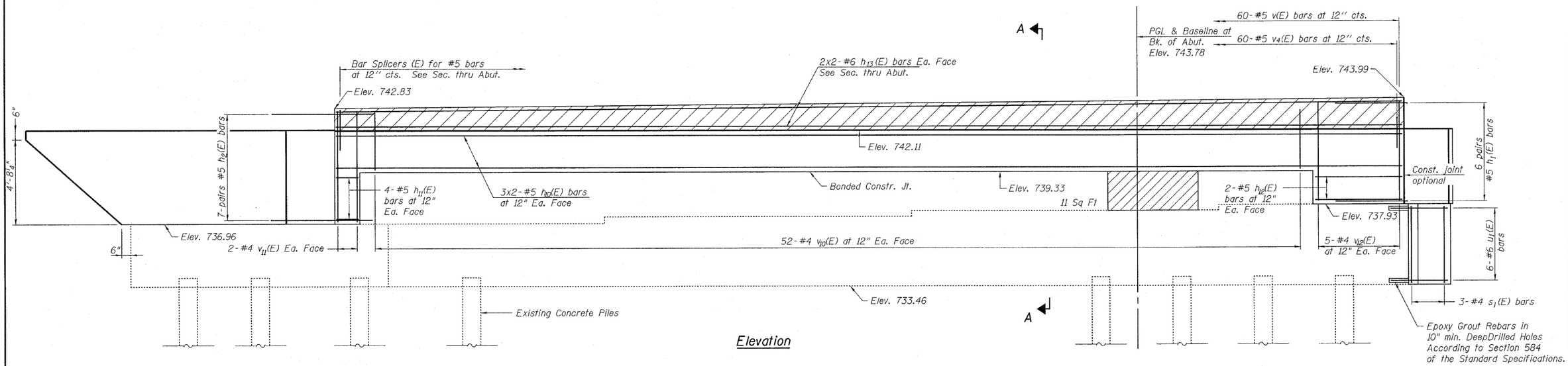
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

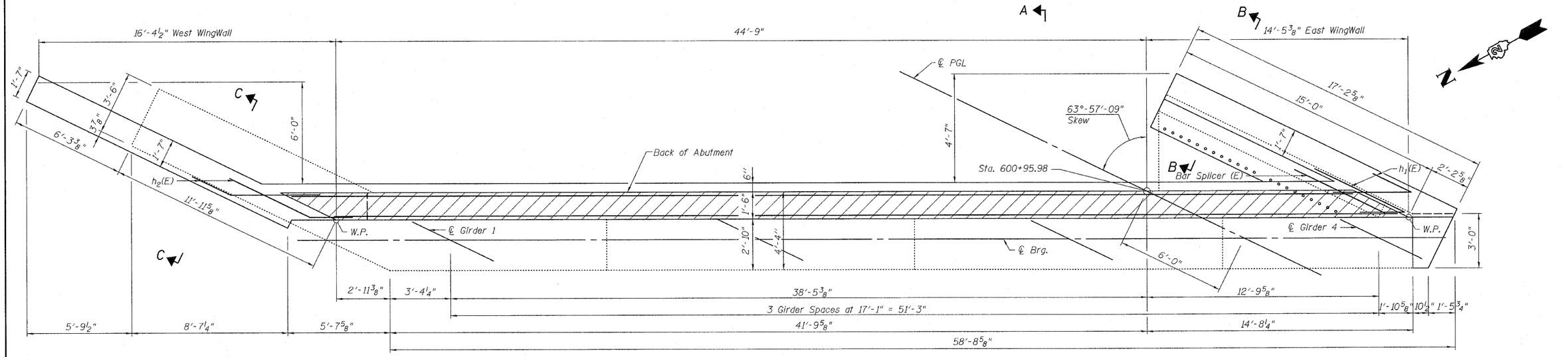
SHEET NO. 27 OF 33 SHEETS

F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	143
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Elevation



PLAN

Notes:

For Sections A-A, B-B, & C-C See Sheet 29 of 33.

Hatched area to be poured after Superstructure falsework ha been removed.

For Bill of Material See Sheet 29 of 33.

Existing reinforcement bars which have lost more than 25% of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnishing and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with Concrete Removal.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	11

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5")

Elevations and dimensions are obtained from the existing plans. The Contractor shall verify these elevations and dimensions before ordering material.

NORTH ABUTMENT
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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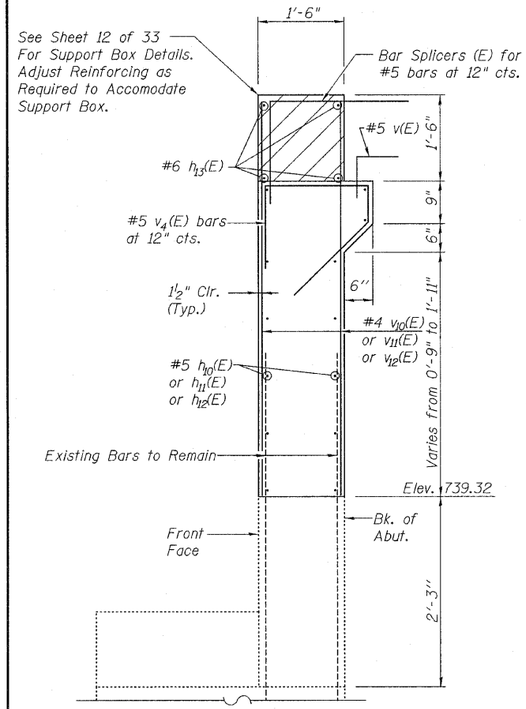
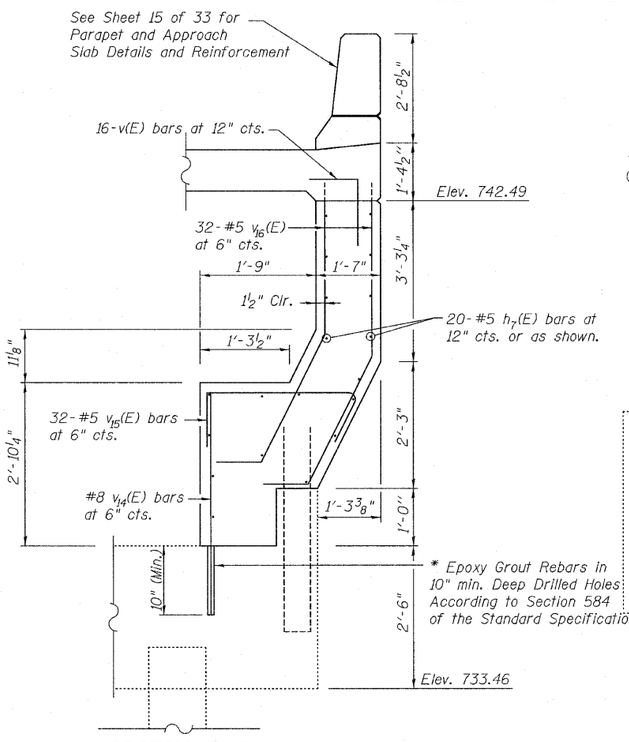
SHEET NO. 28 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	144
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

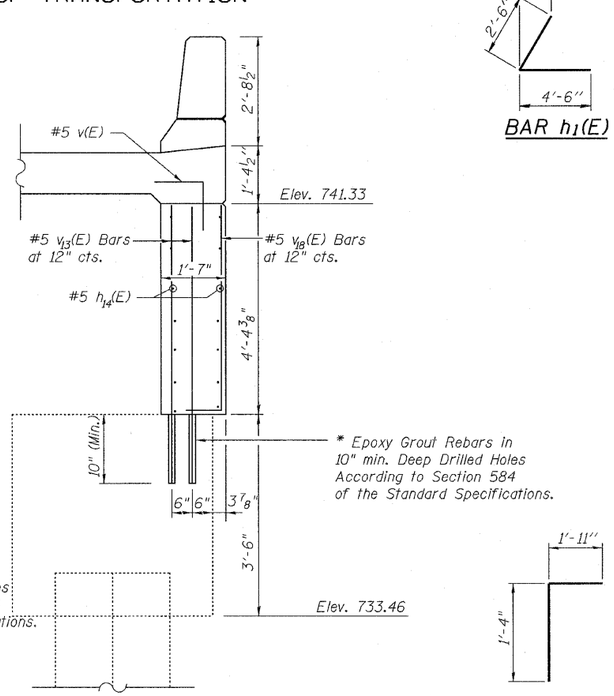
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



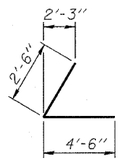
SECTION A-A



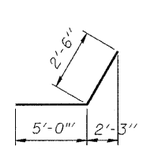
SECTION B-B



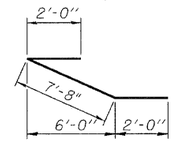
SECTION C-C



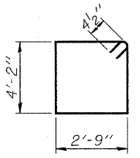
BAR h_1(E)



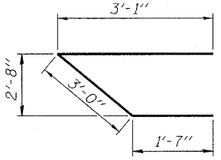
BAR h_2(E)



BAR h_{15}(E)

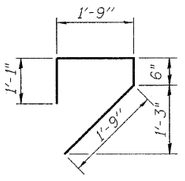


BARS s_1(E)

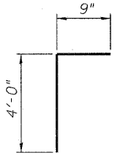


BAR u_1(E)

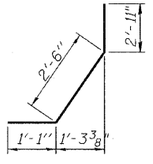
BAR v(E)



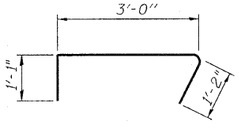
BAR v_4(E)



BAR v_{18}(E)



BAR v_{16}(E)

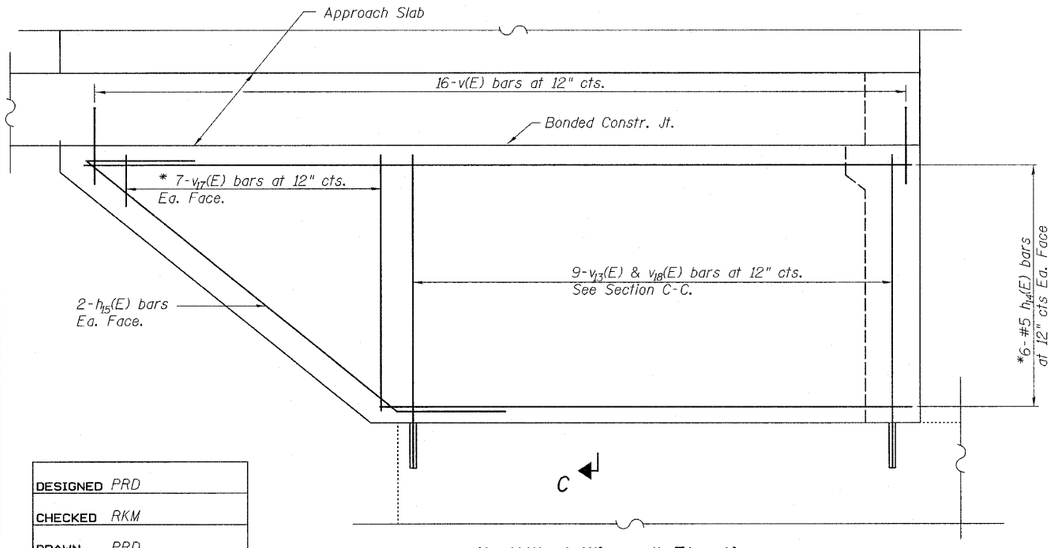


BAR v_{15}(E)

N. ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_1(E)	12	#5	7'-0"	∠
h_2(E)	14	#5	7'-6"	⌿
h_7(E)	20	#5	15'-0"	—
h_{10}(E)	12	#5	32'-8"	—
h_{11}(E)	8	#4	1'-3"	—
h_{12}(E)	4	#4	5'-0"	—
h_{13}(E)	8	#6	32'-3"	—
h_{14}(E)	6	#5	18'-0"	—
h_{15}(E)	2	#5	11'-8"	◺
s_1(E)	3	#4	14'-7"	□
u_1(E)	6	#6	7'-8"	⌐
v(E)	92	#5	3'-3"	⌜
v_{10}(E)	104	#4	3'-6"	—
v_{11}(E)	4	#4	6'-3	—
v_{12}(E)	10	#4	5'-3"	—
v_4(E)	60	#5	5'-1"	⌝
v_{13}(E)	18	#5	4'-10"	—
v_{14}(E)	32	#8	3'-7"	—
v_{15}(E)	32	#5	5'-3"	⌐
v_{16}(E)	32	#5	6'-6"	⌞
v_{17}(E)	14	#5	4'-6"	—
v_{18}(E)	9	#5	4'-9"	⌞
Structure Excavation			Cu. Yd.	51
Concrete Structures			Cu. Yd.	32.1
Reinforcement Bars, Epoxy Coated			Pound	3,400
Concrete Sealer			Sq. Ft.	428

For details of Bar Splicers, see sheet 33 of 33.



NorthWest Wingwall Elevation
SouthEast Wingwall Similar

* Bars to be Cut-in-Field.

NORTH ABUTMENT DETAILS
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

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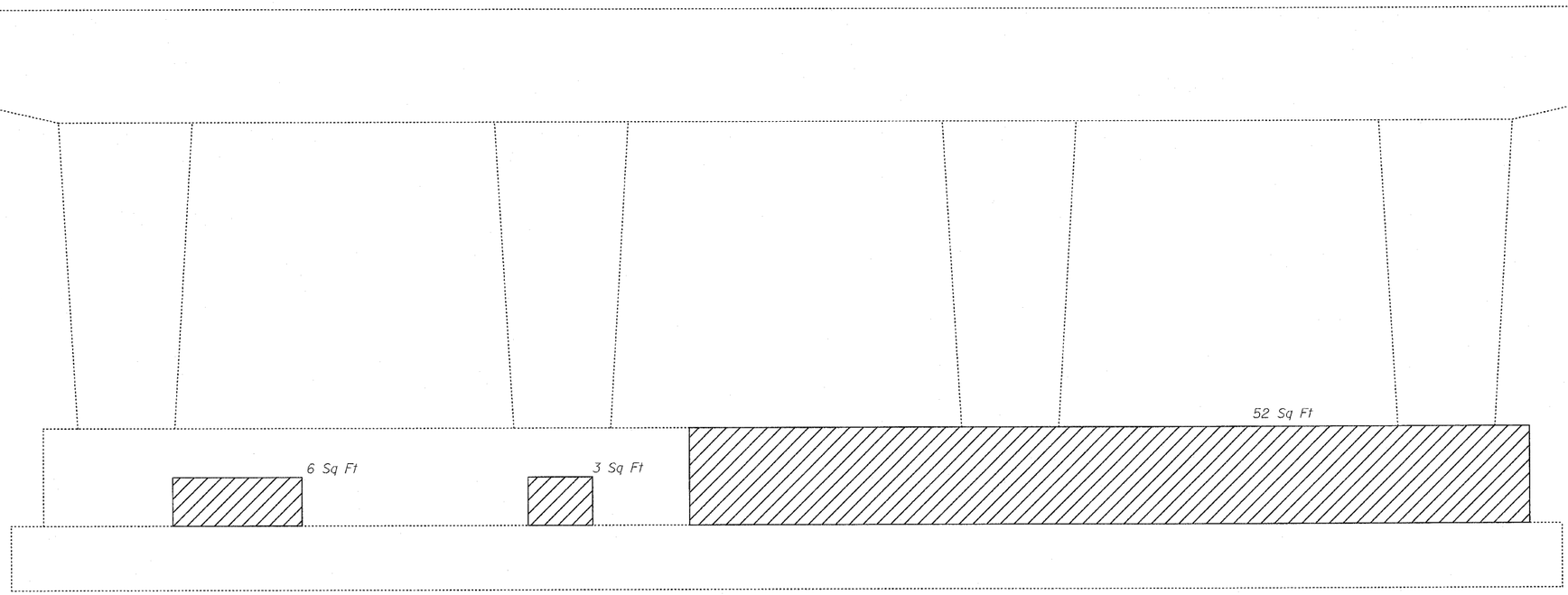
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 29 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	145
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Elevation

West Face shown (Looking East)

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5")

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	61

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

PIER 1

STRUCTURE NO. 101-0123

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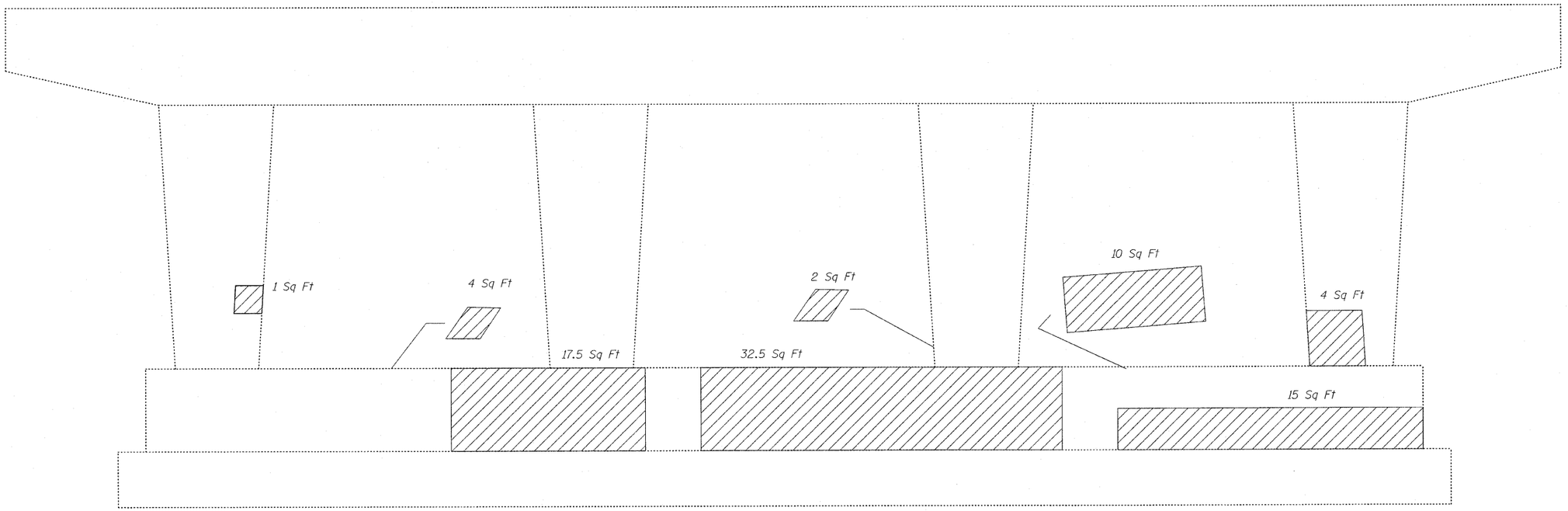
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 30 OF 33 SHEETS

F.A.P. RTE.	& F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	146
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Elevation

East Face shown (Looking West)

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less Than 5")

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	86

PIER 2

STRUCTURE NO. 101-0123

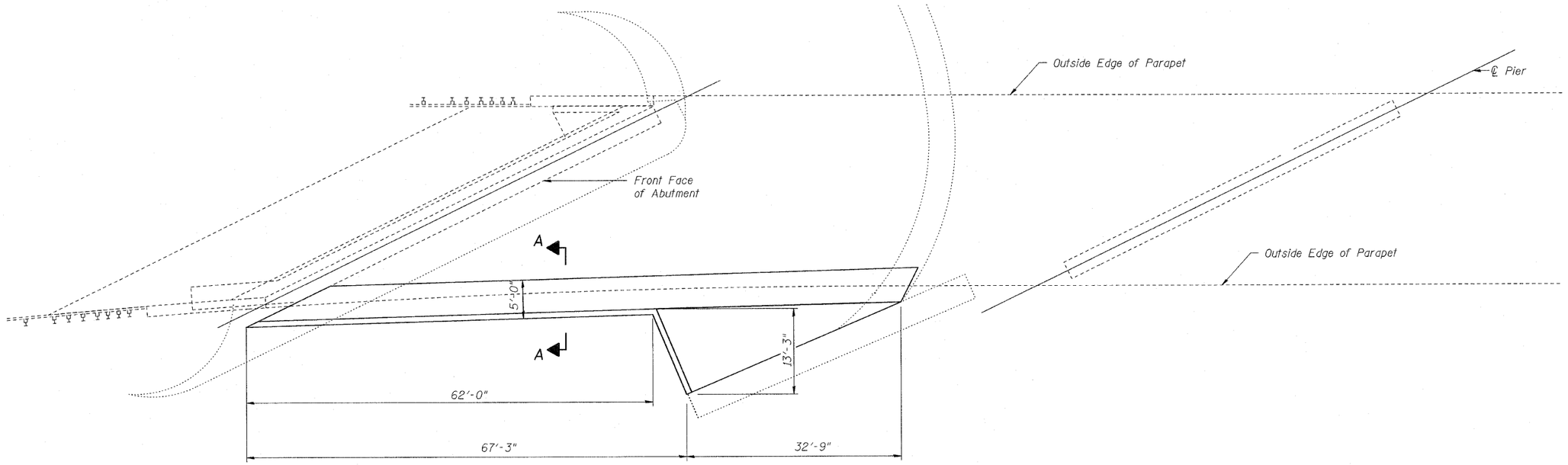
DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

rjngroup
Excellence through Ownership
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

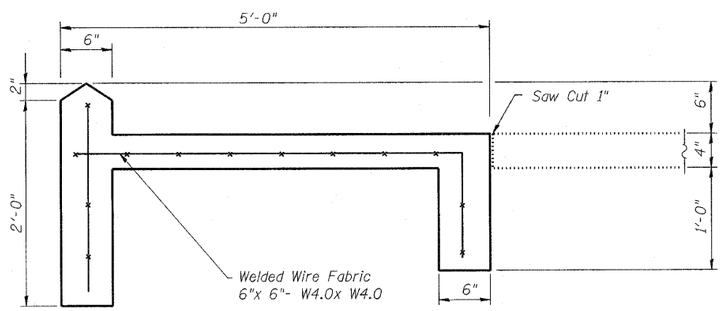
SHEET NO. 31 OF 33 SHEETS

F.A.P. RTE. & F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	147
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN
South Slopewall Shown, North Slopewall Similar.



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Removal	Sq. Yds.	168
Slopewall, 4"	Sq. Yds.	160

Elevations and dimensions are obtained from the existing plans. The Contractor shall verify these elevations and dimensions before ordering material.

SLOPEWALL REPAIR PLAN
STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	RKM
DRAWN	PRD
CHECKED	RKM

rjngroup
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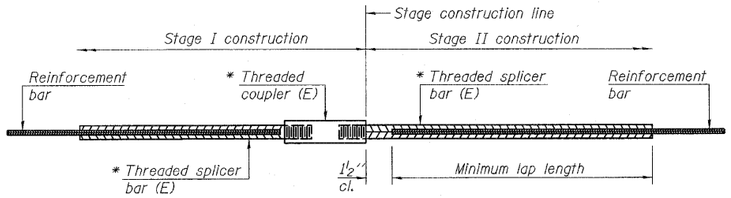
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 32 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	148
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

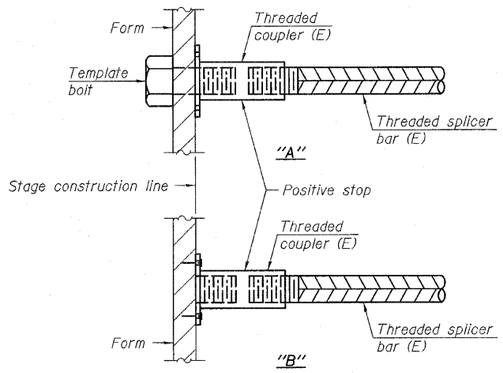
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

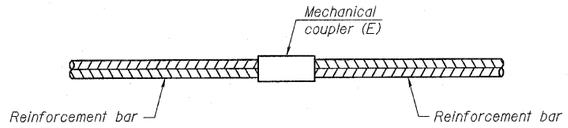
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



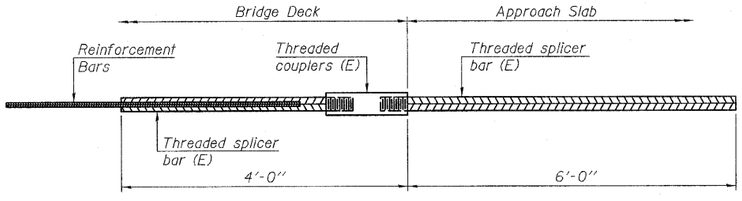
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



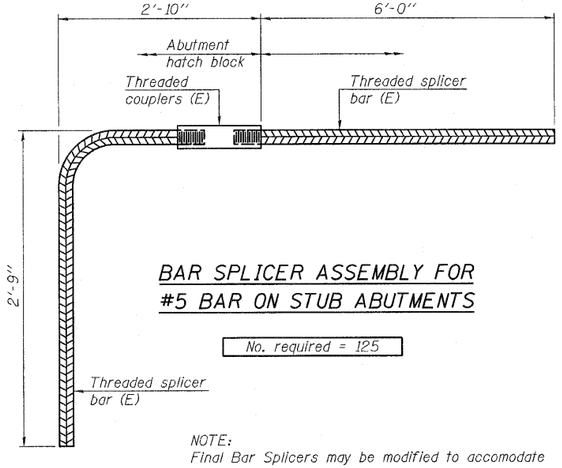
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 125

NOTE:
Final Bar Splicers may be modified to accomodate the Modular Expansion Joint Swivel, 6". Coordinate with Joint Manufacture prior to ordering bar splicers.

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 101-0123

DESIGNED	PRD
CHECKED	MCB
DRAWN	PRD
CHECKED	MCB

BSD-1 11-1-09

rjngroup
Excellence through Ownership
200 West Front Street
Wheaton, IL 60187
PH. 630.682.4700

SHEET NO. 33 OF 33 SHEETS

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
303	5146	1-HBR & 1-2HB-D	WINNEBAGO	216	149
			CONTRACT NO. 64B79		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT			

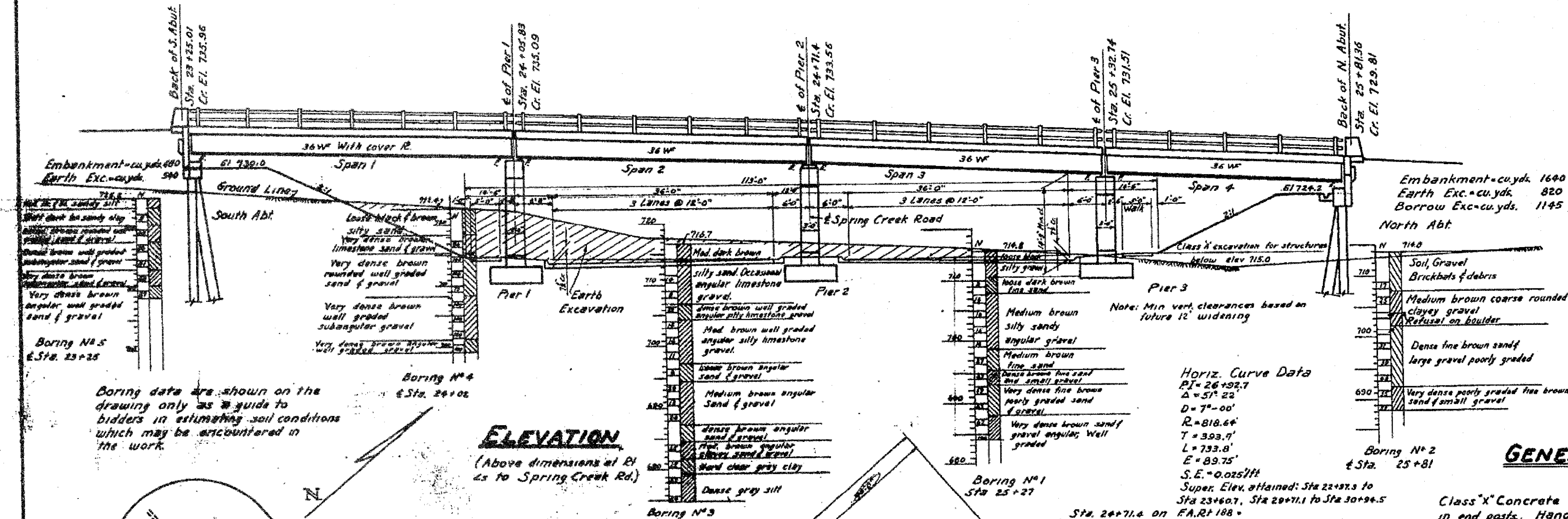
B.M. "X" in base of traffic signal 23' Rt. Sta. 15+31 (Spring Creek Road) El. 717.90
No existing bridge
N = Blows per foot of penetration of sampling spoon. Hammer wt.=350# drop = 12"

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

Route No.	Section	County	Total Sheets	Sheet No.
S.B.I. / F.A. 188	1-HF / 1-HB & 1-2B	Winnebago	38	21

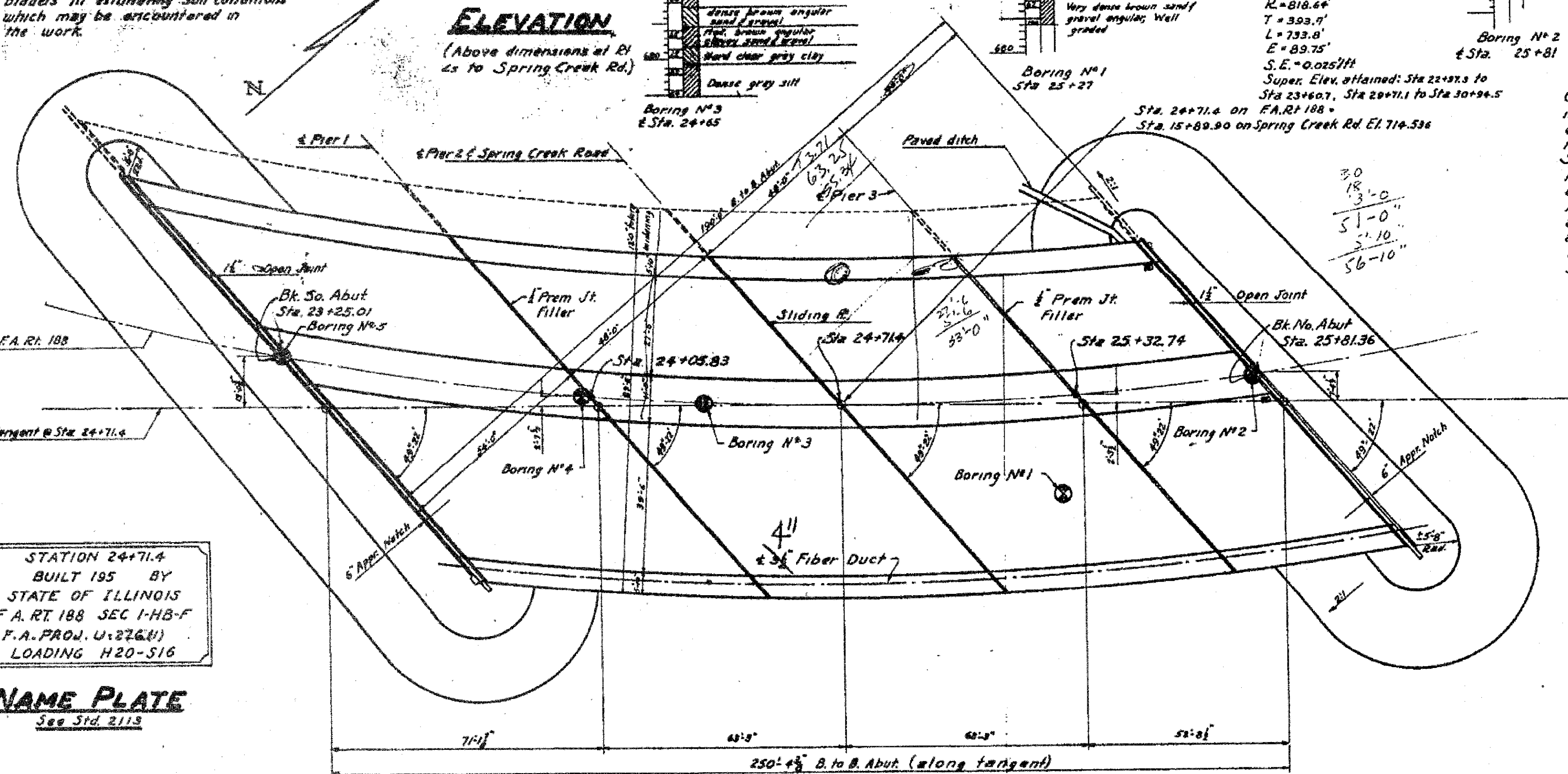
U-276(1)

SHEET NO. 1
12 SHEETS



ELEVATION

(Above dimensions at Rt. ¢s to Spring Creek Rd.)

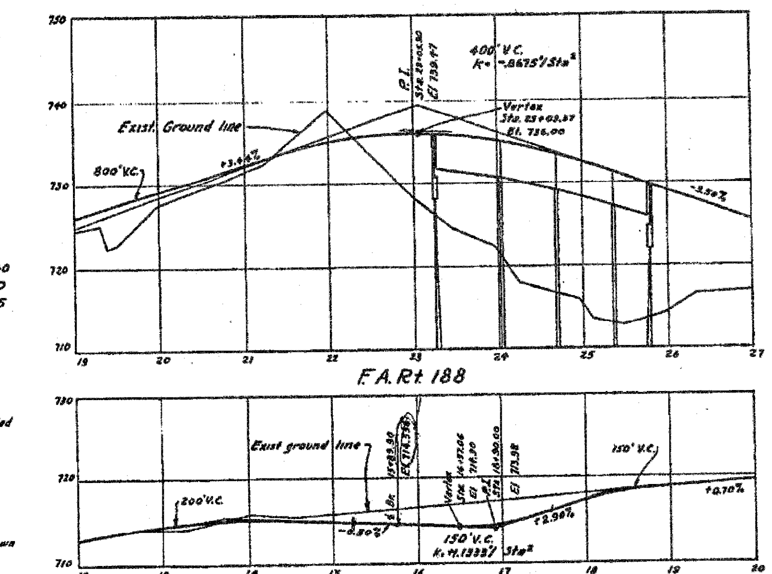


PLAN

STATION 24+71.4
BUILT 195 BY
STATE OF ILLINOIS
F.A. RT. 188 SEC 1-HB-F
F.A. PROJ. U-276(1)
LOADING H20-S16

NAME PLATE

See Std. 2113



PROFILES

Scale 1" = 100' Horiz.
Scale 1" = 10' Vert.

GENERAL NOTES

Class "X" Concrete shall be used throughout except in end posts. Handrail concrete shall be used in end posts. The concrete floor slab shall be finished in accordance with Art. 51.18 (a) of the Standard Specifications.

Rivets ¾" ϕ open holes 13/16" ϕ unless noted. Field connections riveted unless noted.

All rollers, rockers, bearing plates, lead plates, pintles and anchor bolts shall be fabricated and set in accordance with Art. 51.14 of the Standard Specifications and are included for payment as structural steel. Est. Wt. = 48,090#

Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 57.1 to 57.5 inclusive of the Standard Specifications. All paint shall be furnished and applied by the Contractor involved.

The Contractor shall drive two test piles (con) in permanent location as directed by the Engineer before casting or ordering remainder of piles and two test piles (timber) before ordering remainder of piles.

Railings shall be adjusted to true alignment after sidewalks have been poured.

TOTAL BILL OF MATERIALS

1414.8

(SEC 1-HB)

Item	Unit	Super	Sub	Total
Class "X" Concrete	cu. yds.	684.8	~~724.5~~	~~1408.3~~
Handrail Concrete	cu. yds.	0.6	730	0.6
Structural Steel	lbs.	1003875		1003875
Reinforcement Bars	lbs.	101210	64290	165,430
Metal Handrail	lin. ft.	509		509
Cast Iron Frames	ea.	two		two
Name Plate	ea.	one		one
Concrete Piles	lin. ft.		578	578
Test Piles (Concrete)	ea.		two	two
Class "A" Exc. for Structures	cu. yds.		720	720
Earth Excavation	cu. yds.			1360
~~Bit. Fiber Conduit~~, 3½"	lin. ft.	248		248
Borrow Excavation	cu. yds.			1145
Creosoted Piles (Up to 20')	lin. ft.		1560	1560
Test Piles (Timber)	each		two	two
Metal Shoes	ea.		64	64

(SEC 1-HF)

Item	Unit	Super	Sub	Total
Structural Steel	lbs.			1,003,[illegible]
Metal Handrail	lin. ft.			[illegible]

STRESSES

f_c = 1400#/□" Super
f_c = 800#/□" Sub.
f_s = 18000#/□" Struct. Steel
f_s = 20000#/□" Reinf. Bars
n = 10

F.A. RT. 188 OVER SPRING CREEK RD.
PROJ. U-276(1)
F.A. RT. 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA 24+71.4

DESIGNED	George R. Fischer
CHECKED	[signature]
DRAWN	R. Rash
CHECKED	[signature]

FEB. 8 1955
EXAMINED: V.M. Romine, Engineer of Bridge and Traffic Structures
PASSED: [signature], Engineer of Design
APPROVED: R.R. Bartelsmeyer, Chief Highway Engineer

Loading

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO / CONTRACT 64B79	150 OF 216

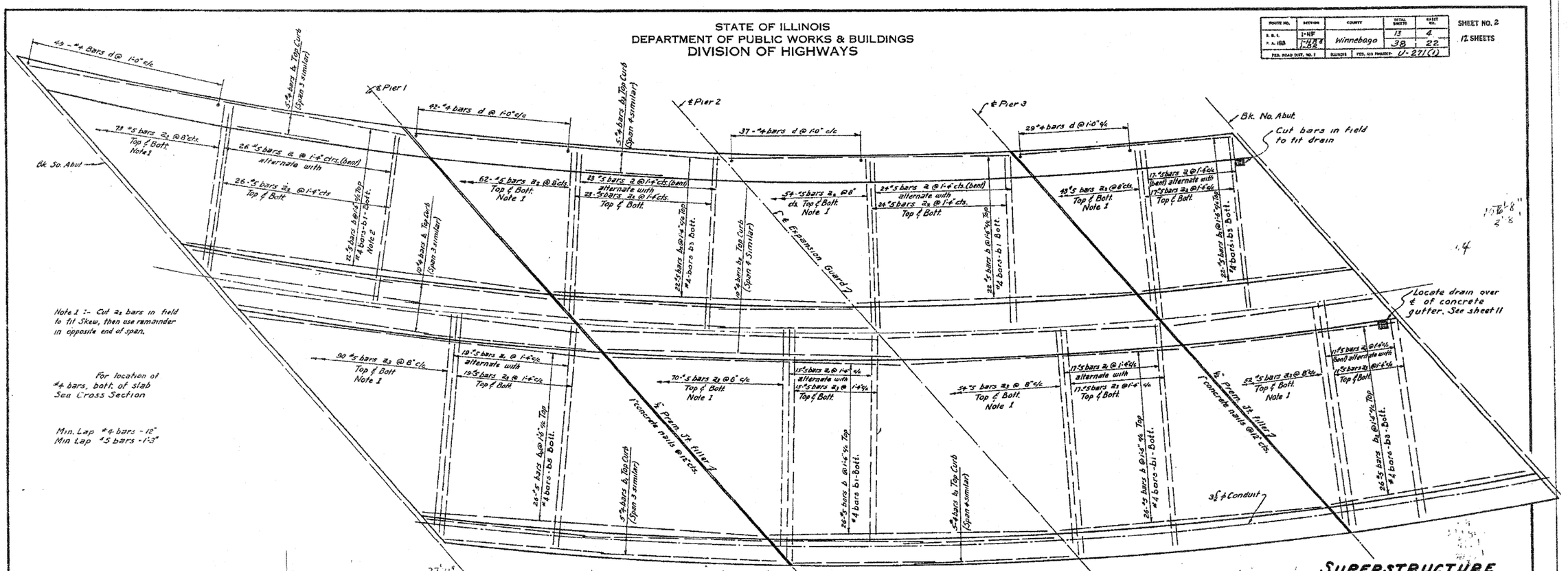
Revised 4-7-55 - V.J.M. Sheet showing alternate types of piles added as Sheet 12

INFORMATION ONLY

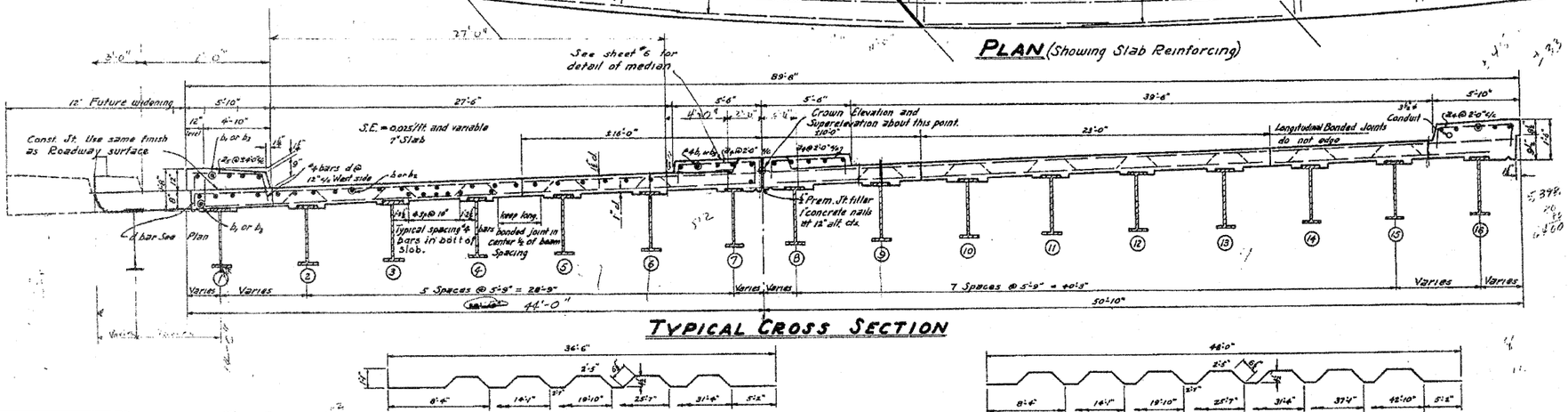
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.	1-HF	Winnebago	13	4
F.A. 188	1-HB & 1-2-HB		38	22
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	U-271(1)	

SHEET NO. 2
12 SHEETS

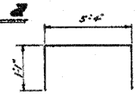


PLAN (Showing Slab Reinforcing)



TYPICAL CROSS SECTION

BAR a₂



BAR 24

Note:
All transverse reinforcement shall be placed perpendicular to beams.
All longitudinal construction joints shall be placed parallel to beams.
Provide a minimum cover of 3" of concrete over 3½" ℄ conduit. Extend conduit one foot beyond Abt. and plug. Plugs and expansion devices shall be included in unit price for conduit.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	90	#5	39'-3"	
a₁	62	#5	50'-4"	
a₂	644	#5	38'-6"	
a₃	656	#5	49'-6"	
a₄	378	#4	7'-6"	
a₅	67	#4	5'-6"	
b	310	#5	22'-0"	
b₁	648	#4	22'-0"	
b₂	162	#5	24'-0"	
b₃	344	#4	24'-0"	
b₄	78	#5	26'-0"	
b₅	156	#4	26'-0"	
d	417	#4	1'-0"	
Class "X" Concrete			cu. yd	684.8
Reinf. Bars			lbs.	101 810
Structural Steel			lbs.	1003 878
Cast Iron Frames			ea.	2
* Conduit			lin. ft	248

*Conduit shall be 3½" ℄ Fiber Duct

SUPERSTRUCTURE
F.A. RT. 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA 24+71.4

INFORMATION ONLY

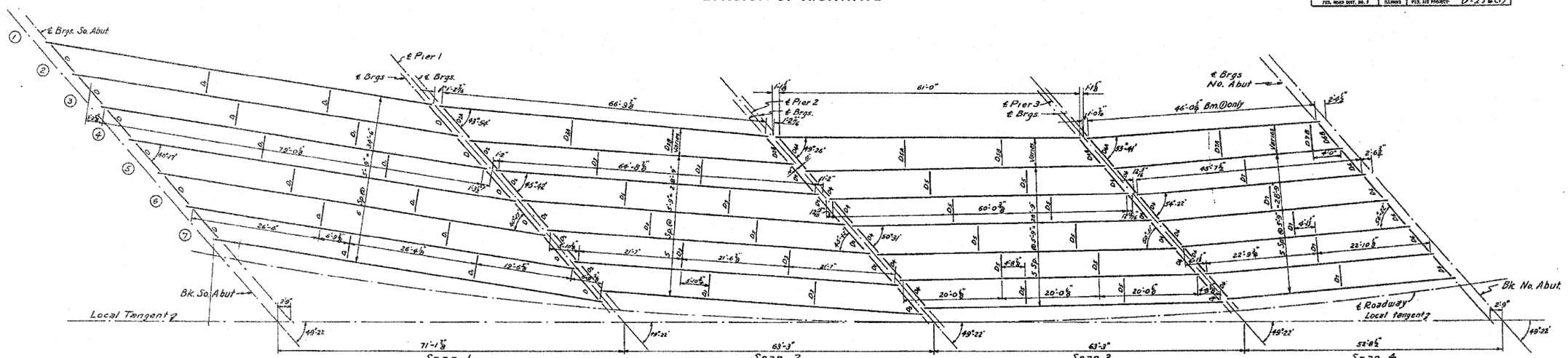
DESIGNED	Jerry Rueden	FEB. 8 19 85
CHECKED	Jack Nightingale	EXAMINED W. M. Romine, ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
DRAWN	R. Rash	PASSED, DIVISION OF DESIGN
CHECKED	Jon	APPROVED R. L. Bartholomeyer, CHIEF HIGHWAY ENGINEER

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	151 OF 216
		CONTRACT 64B79	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E.B.L.	1-HF	Winnebago	13	5
F.A.I.188	1-HBR & 1-HB		30	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	(I-276(1))	

SHEET NO. 3
12 SHEETS



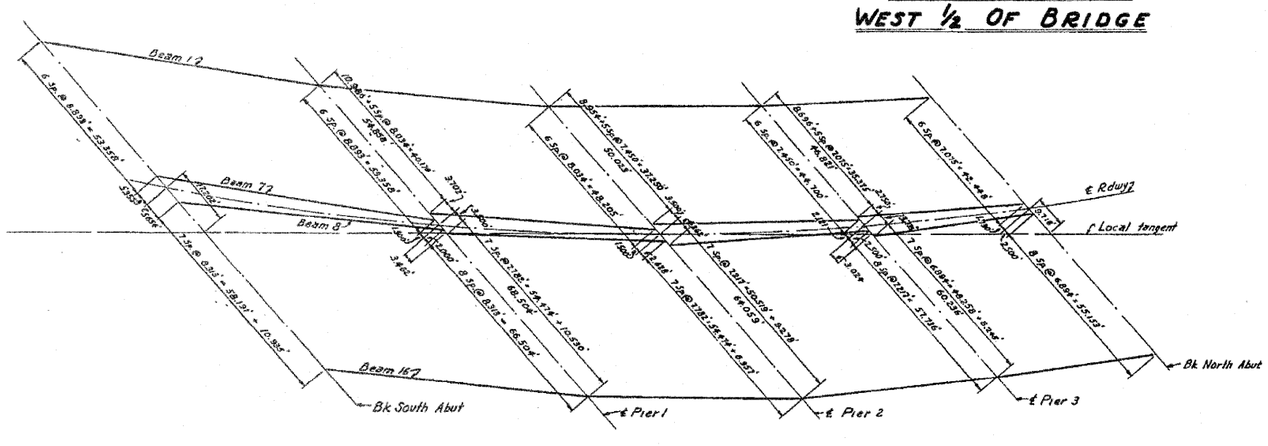
Beams ② to ⑰ 36WF 230 2 Pl. 10" x ½" x 36'-9"
Beam ① 36WF 230 2 Pl. 11" x ¾" x 36'-9"

All Beams 36WF 230

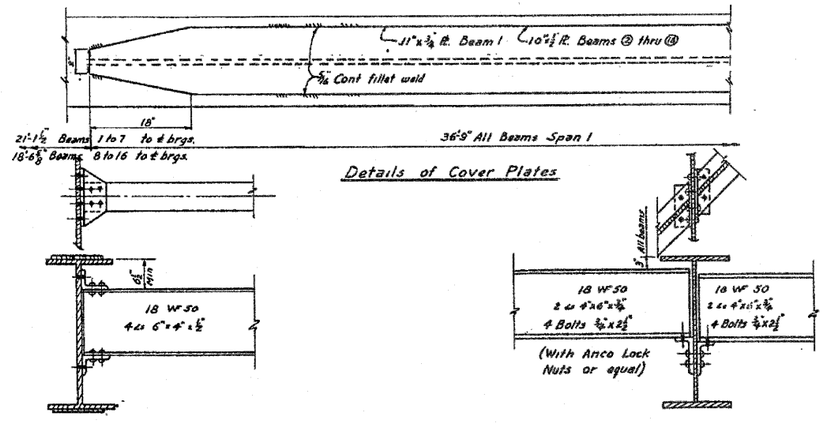
All Beams 36WF 194

All Beams 36WF 150

FRAMING PLAN
WEST ½ OF BRIDGE



BEAM LAYOUT



Diaphragms D_1, 3, 5 or 7, 9, 11, 13 or 15
Showing cover P_{ls} in Span 1

Diaphragms D, D_2, 4 or 6
D_8, 10, 12 or 14

DESIGNED	George T. Rieschen	EXAMINED	FEB. 8 1955
CHECKED	John Nightingale		ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
DRAWN	C. Rash	PASSED	
CHECKED		APPROVED	ENGINEER OF DESIGN
			CHIEF HIGHWAY ENGINEER

WEST ½ STRUCTURAL STEEL BEAM LAYOUT
F.A. RT. 188 SEC 1-HB-F
WINNEBAGO CO.
STA 24+71.4

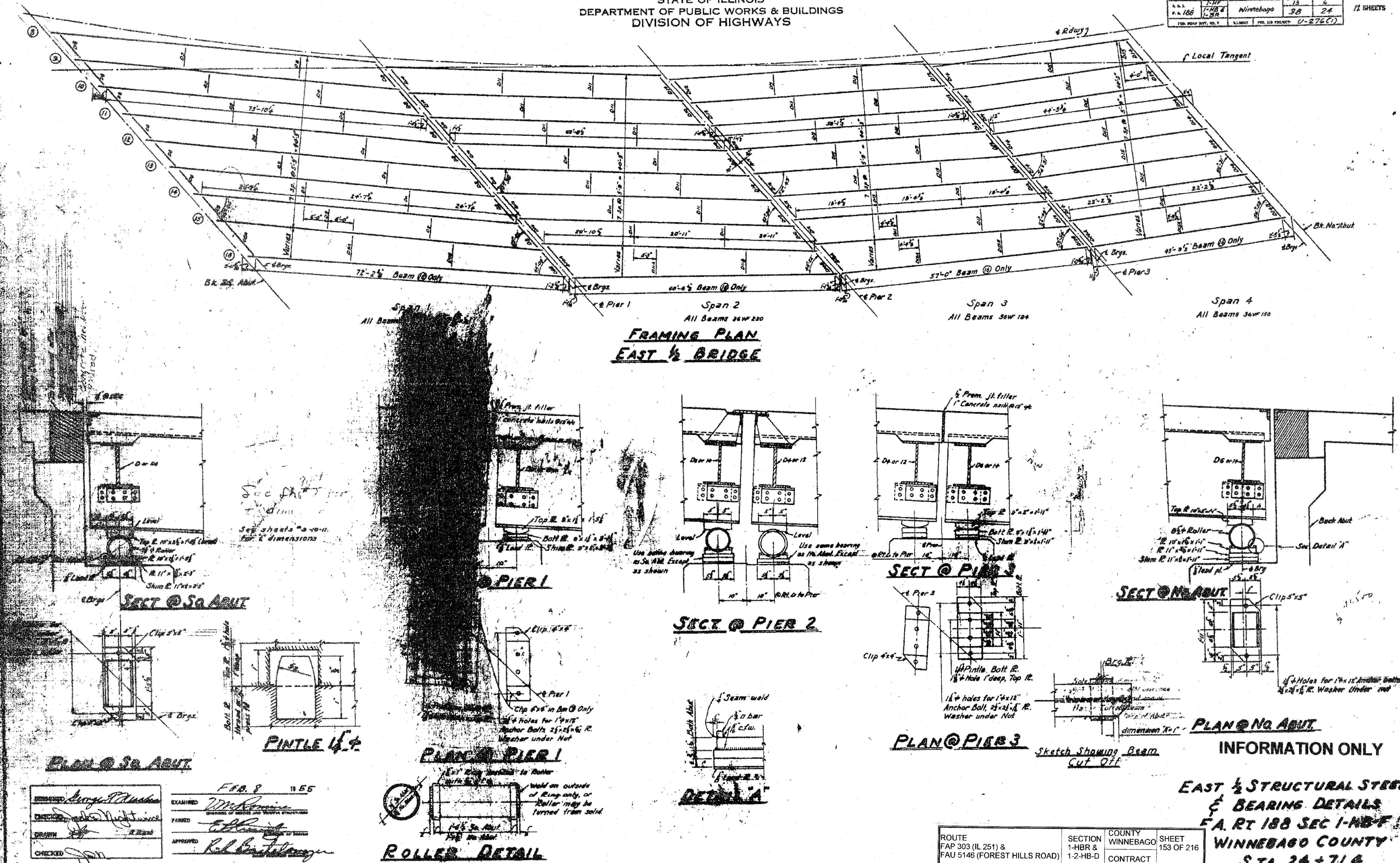
ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	152 OF 216
		CONTRACT 64B79	

INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 188	1-HF / 1-HB & 1-SR	Winnebago	13 / 38	6 / 24
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT U-276(1)		

SHEET NO. 4
12 SHEETS



INFORMATION ONLY

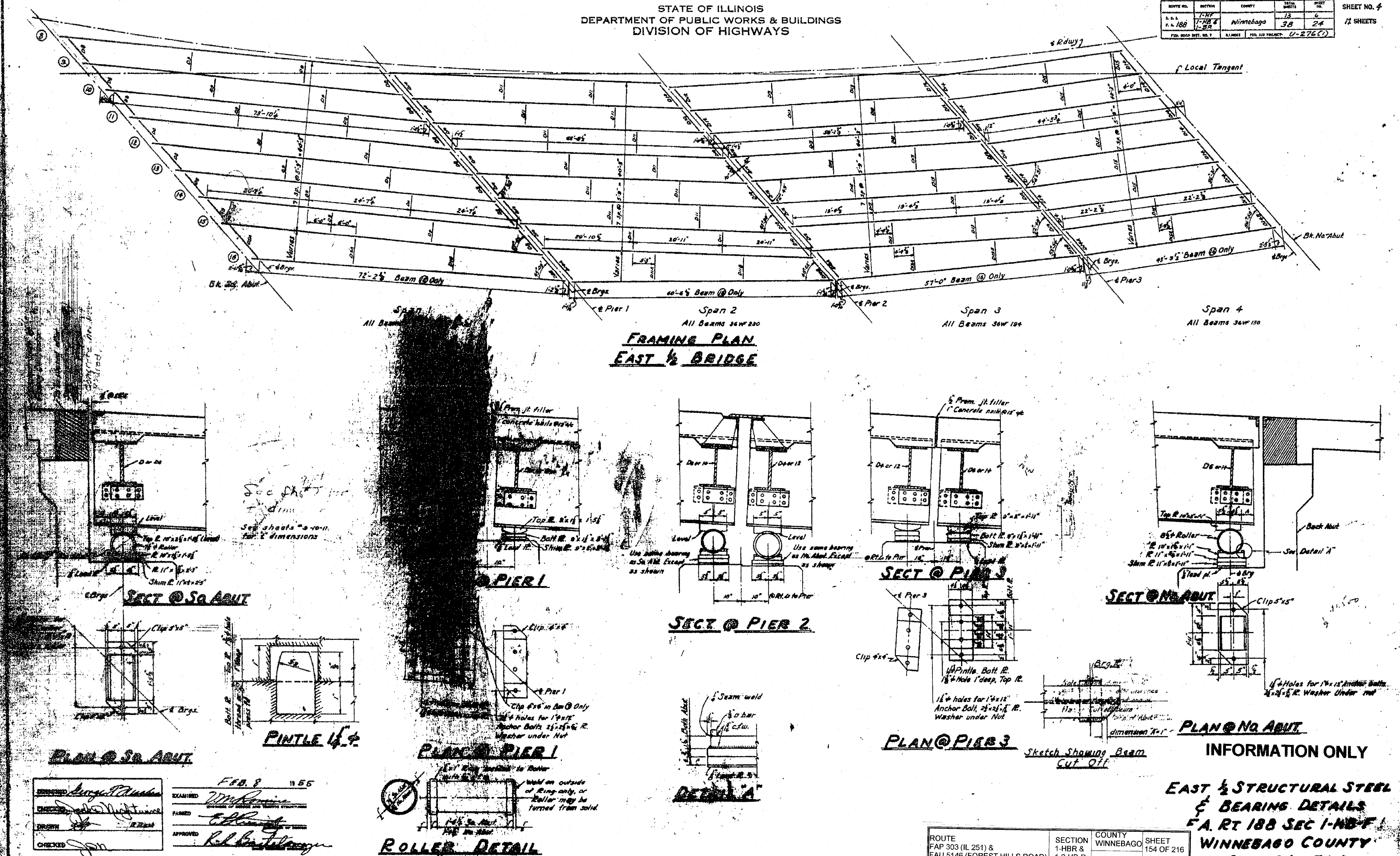
EAST ½ STRUCTURAL STEEL
& BEARING DETAILS
F.A. RT. 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA 24 + 71.4

FEB. 8 1955

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO / CONTRACT 64B79	153 OF 216

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SHEET NO. 4 — 12 SHEETS

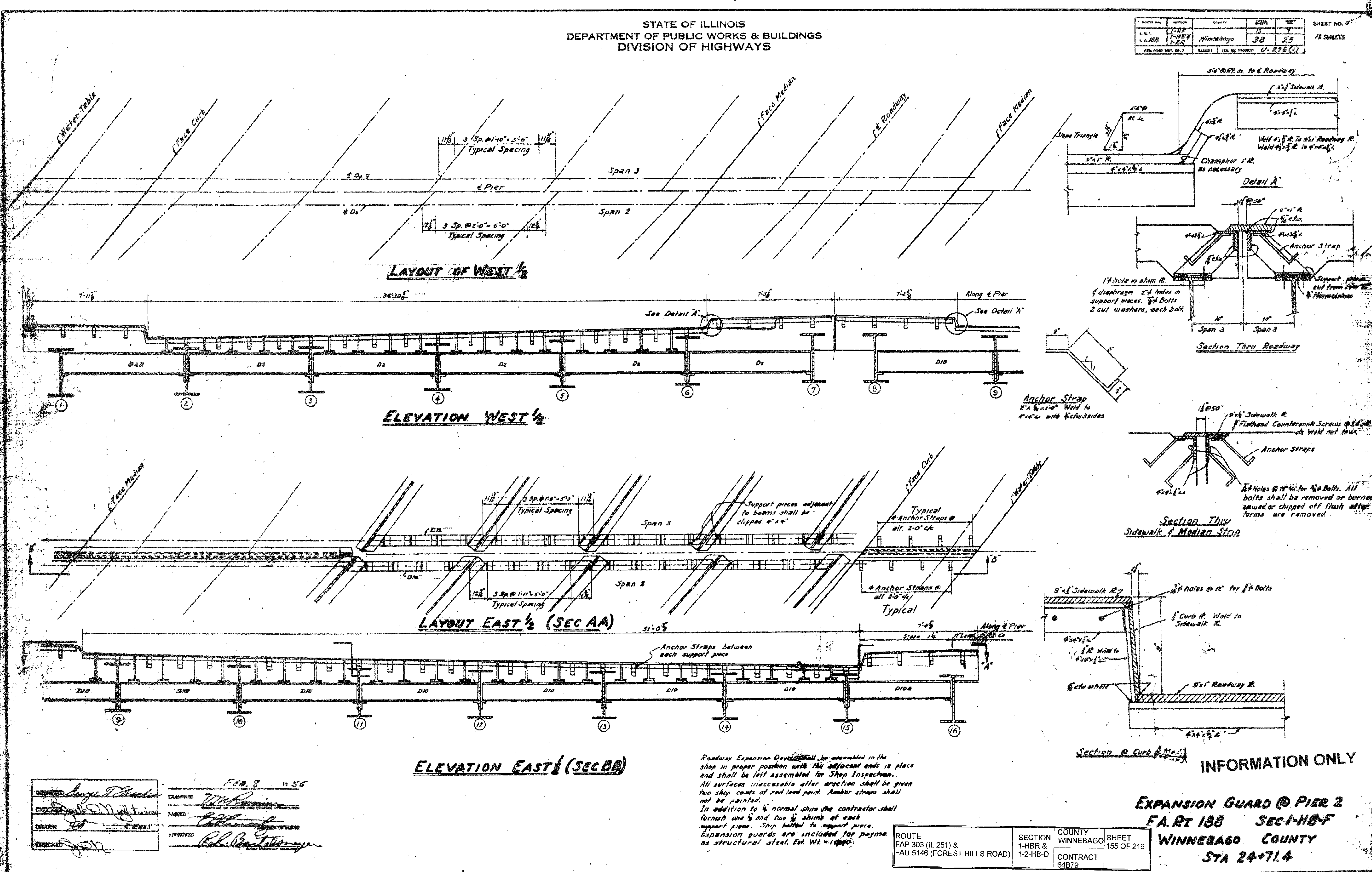


FEB. 8 1955

INFORMATION ONLY

EAST ½ STRUCTURAL STEEL
& BEARING DETAILS
F.A. RT 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA 24 + 71.4

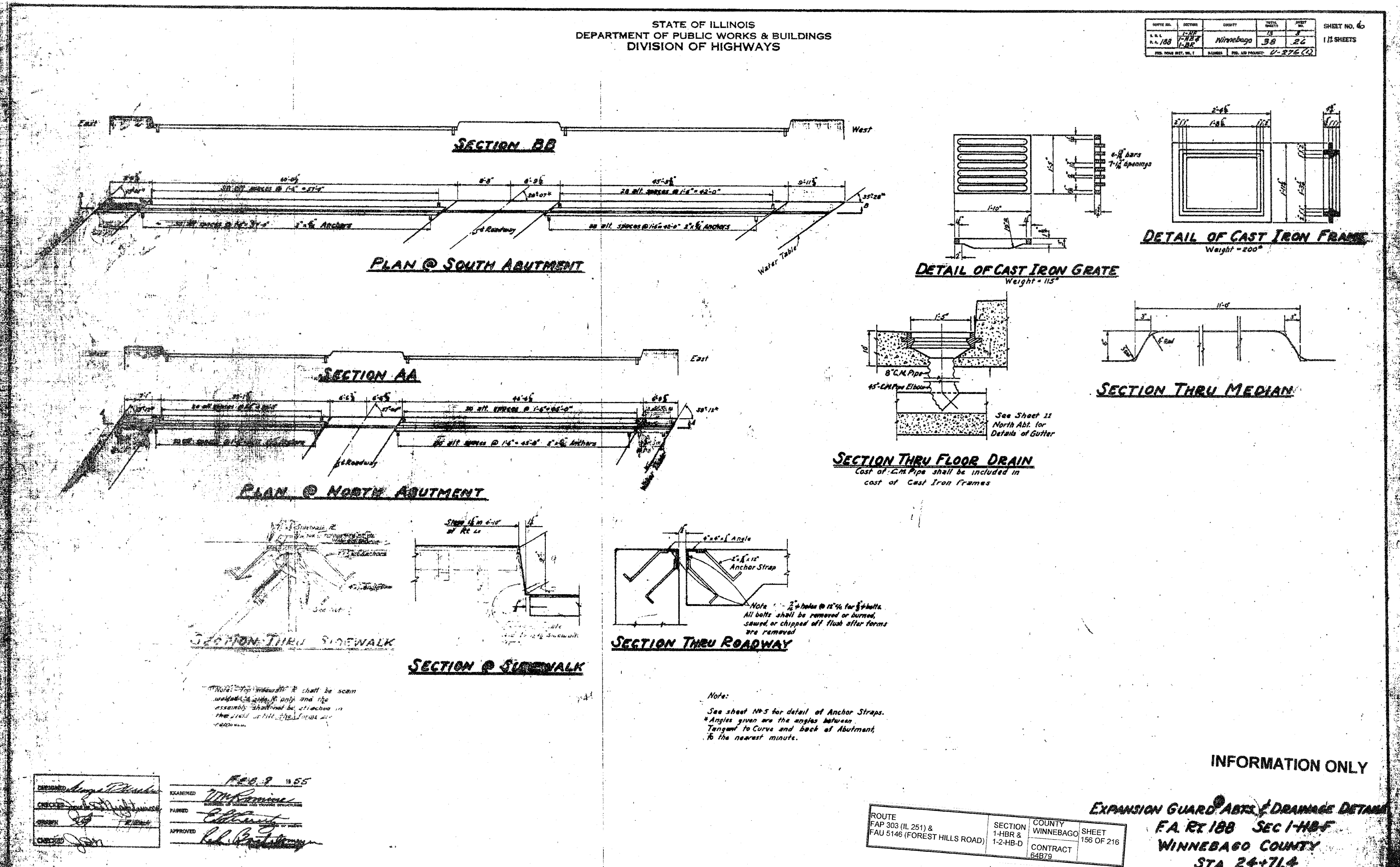
ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	154 OF 216
		CONTRACT 64B79	

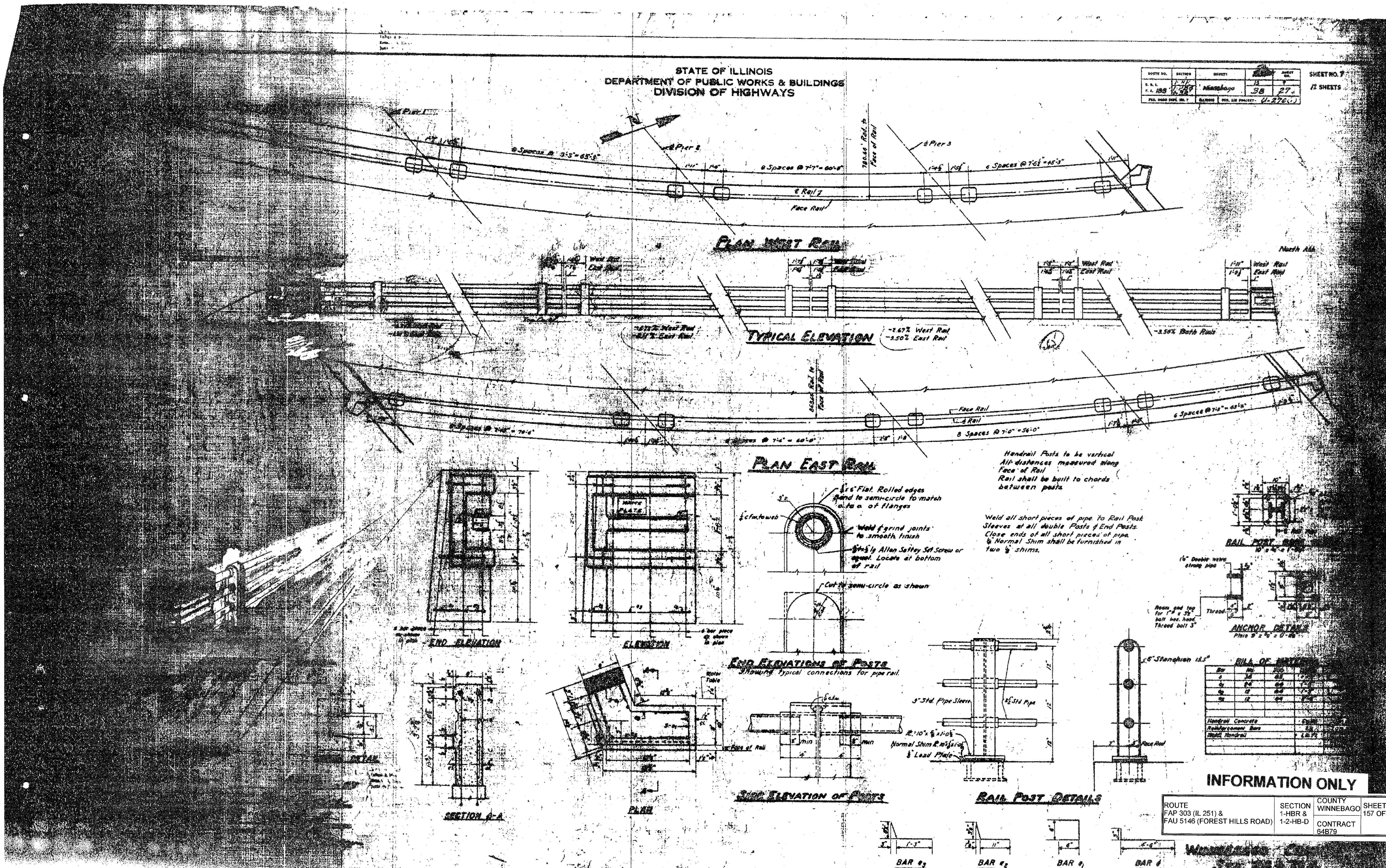


STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
SHEET NO. 5
12 SHEETS
Winnebago
38
25
U-276(1)
Water Table
Face Curb
Face Median
℄ Roadway
Face Median
3 Sp. @1'-10" = 5'-6"
Typical Spacing
Span 3
℄ Pier
Span 2
3 Sp. @2'-0" = 6'-0"
Typical Spacing
LAYOUT OF WEST ½
See Detail "A"
Along ℄ Pier
ELEVATION WEST ½
Detail "A"
Slope Triangle
Champher 1" ℞ as necessary
Anchor Strap
1½" hole in shim ℞.
Span 3
Span 2
Section Thru Roadway
Anchor Strap
Section Thru Sidewalk & Median Strip
Anchor Straps
Support pieces adjacent to beams shall be clipped 4" x 4"
Typical
4 Anchor Straps @ alt. 2'-0" c/c
4 Anchor Straps @ alt. 2'-0" c/c
Typical
Typical Spacing
LAYOUT EAST ½ (SEC AA)
51'-0⅝"
Anchor Straps between each support piece
Along ℄ Pier
ELEVATION EAST ½ (SEC BB)
Sidewalk ℞
Curb ℞. Weld to Sidewalk ℞.
Roadway ℞
Section @ Curb & Med.
Roadway Expansion Device shall be assembled in the shop in proper position with the adjacent ends in place and shall be left assembled for Shop Inspection.
All surfaces inaccessible after erection shall be given two shop coats of red lead paint. Anchor straps shall not be painted.
In addition to ¼" normal shim the contractor shall furnish one ⅛" and two 1/16" shims at each support piece. Ship bolted to support piece.
Expansion guards are included for payment as structural steel.
FEB. 8 1956
DESIGNED
CHECKED
DRAWN
CHECKED
EXAMINED
PASSED
APPROVED
EXPANSION GUARD @ PIER 2
F.A. RT. 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA 24+71.4

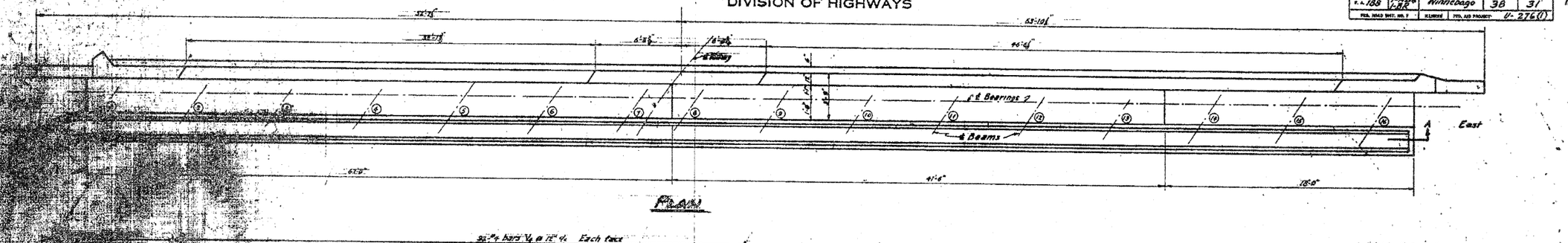
INFORMATION ONLY

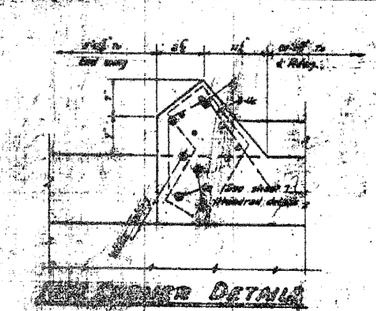
ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO CONTRACT 64B79	155 OF 216

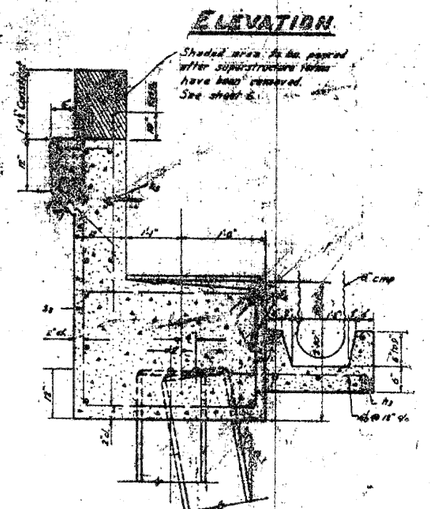

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
SHEET NO. 6
Winnebago
38
26
U-276(1)
SECTION BB
East
West
PLAN @ SOUTH ABUTMENT
Water Table
SECTION AA
East
PLAN @ NORTH ABUTMENT
DETAIL OF CAST IRON GRATE
Weight = 115#
DETAIL OF CAST IRON FRAME
Weight = 200#
SECTION THRU FLOOR DRAIN
8" C.M. Pipe
45° C.M. Pipe Elbow
See Sheet 11 North Abt. for Details of Gutter
Cost of C.M. Pipe shall be included in cost of Cast Iron Frames
SECTION THRU MEDIAN
SECTION THRU SIDEWALK
SECTION @ SIDEWALK
SECTION THRU ROADWAY
Anchor Strap
All bolts shall be removed or burned, sawed, or chipped off flush after forms are removed
Note:
See sheet No 5 for detail of Anchor Straps.
* Angles given are the angles between Tangent to Curve and back of Abutment, to the nearest minute.
FEB 9 1955
EXAMINED
PASSED
APPROVED
INFORMATION ONLY
ROUTE
FAP 303 (IL 251) &
FAU 5146 (FOREST HILLS ROAD)
SECTION
1-HBR &
1-2-HB-D
COUNTY
WINNEBAGO
CONTRACT
64B79
SHEET
156 OF 216
EXPANSION GUARD @ ABTS & DRAINAGE DETAILS
F.A. RT. 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA. 24+71.4


STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
Winnebago
PLAN WEST RAIL
Face Rail
TYPICAL ELEVATION
-2.67% West Rail
-3.50% East Rail
-3.50% Both Rails
PLAN EAST RAIL
Handrail Posts to be vertical
All distances measured along Face of Rail
Rail shall be built to chords between posts
Weld all short pieces of pipe to Rail Post Sleeves at all double Posts & End Posts.
Close ends of all short pieces of pipe.
Normal Shim shall be furnished in two shims.
END ELEVATION
ELEVATION
END ELEVATIONS OF POSTS
Showing typical connections for pipe rail.
Cut to semi-circle as shown
SECTION A-A
PLAN
SIDE ELEVATION OF POSTS
RAIL POST DETAILS
ANCHOR DETAIL
RAIL POST
BILL OF MATERIAL
Handrail Concrete
Reinforcement Bars
BAR
INFORMATION ONLY

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	157 OF 216
		CONTRACT 64B79	







STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.A. R. 188	1-HF 1-HB3 1-BR	Winnebago	13 38	13 31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	U-276(1)	

SHEET NO. 11
12 SHEETS.

Piles marked "B" are to be driven on a Batter

Pile Data
Concrete piles:
Minimum capacity 35 Tons
Estimated Length 22 ft
15 each required, North Abut.

Note:
For Pile detail see sheet 12
For bars V_r, S_2, U_4, U_5
See sheet 10

NORTH ABUT.
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_4	44	4	26'-0"	
h_6	8	4	11'-0"	
h_5	26	4	7'-0"	
V_4	186	4	5'-0"	
V_6	98	4	4'-4"	
V_r	24	4	4'-4"	
V_7	22	4	6'-8"	
d	2	4	3'-8"	
d_1	106	4	3'-0"	
P_3	18	#8	37'-8"	
S_2	76	4	12'-8"	
U_4	8	4	14'-6"	
U_5	3	4	4'-8"	

* Class "X" Concrete	cu.yd.	59.8
* Reinf. Bars	lbs.	4840
Concrete Piles	lin.ft.	308
Test Pile	ea.	one

140 lbs Reinf. bars & 1.9 cu.yds. class "X" concrete included in quantities for Sec. "CC" based on estimated length of 40 ft.

NORTH ABUTMENT
S.A. RT 188 SEC 1-HB-F
WINNEBAGO COUNTY
STA 24+71.4

DESIGNED
CHECKED
DRAWN
CHECKED

FEB. 8 1955
EXAMINED
PASSED
APPROVED

Concrete types of piles added on Sheet 12

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO CONTRACT 64B79	158 OF 216

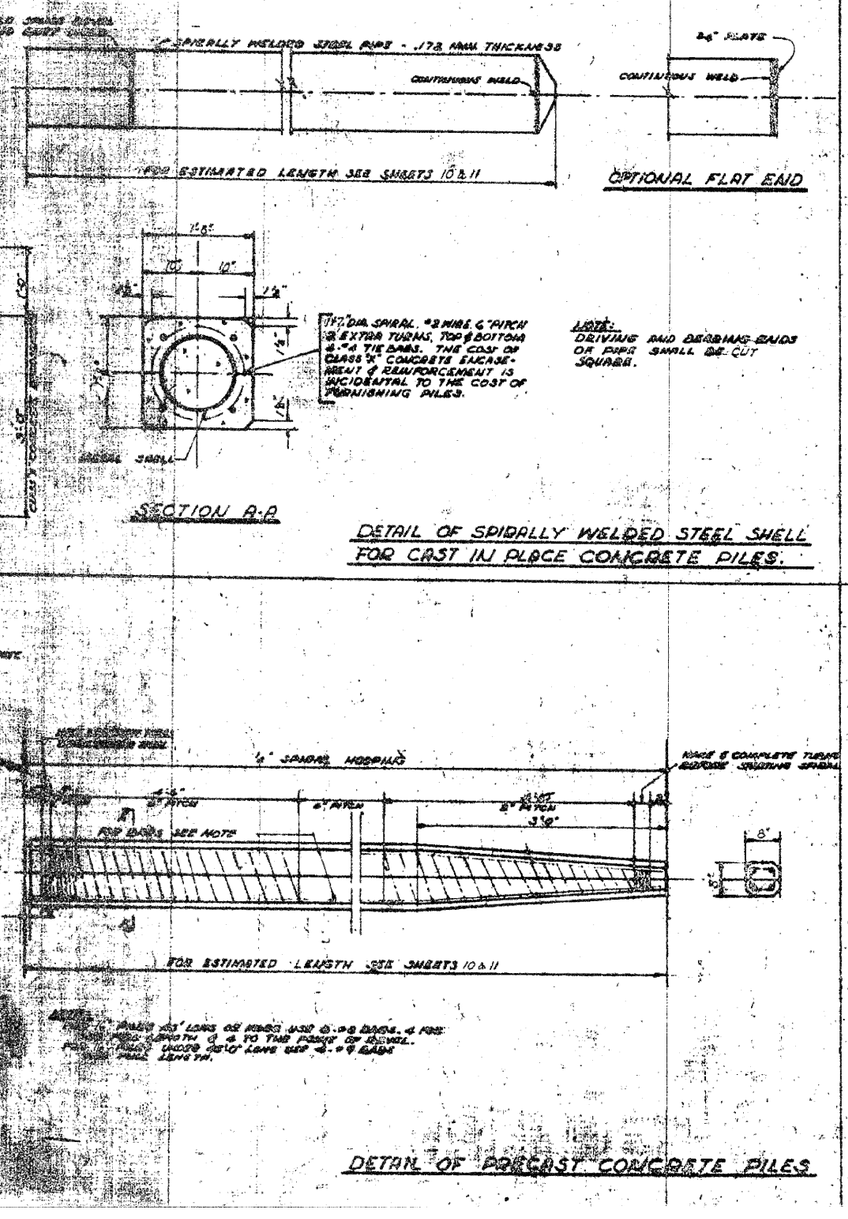
INFORMATION ONLY

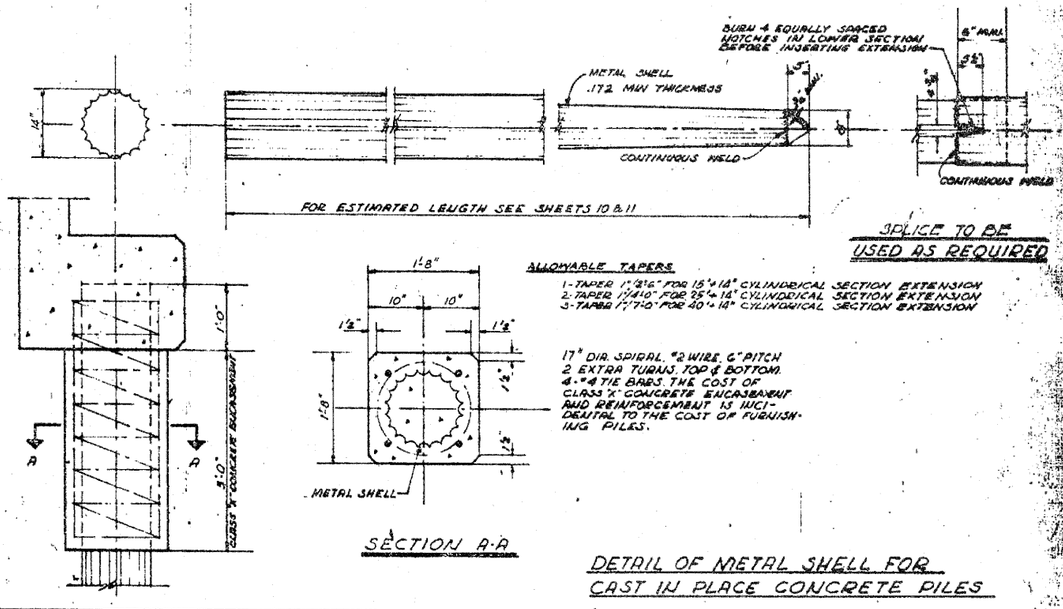
SECT. AND HIGHWAY NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
188	1-HB	WINNEBAGO	38	37
STA.		TO STA.		
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT	U-276(1)	

SHEET NO. 37 OF 12 SHEETS

ABUTMENT PILES

NOTE: PILING TO BE USED AT THE ABUTMENTS SHALL BE ANY ONE OF THE VARIOUS PILES SHOWN BELOW.





INFORMATION ONLY

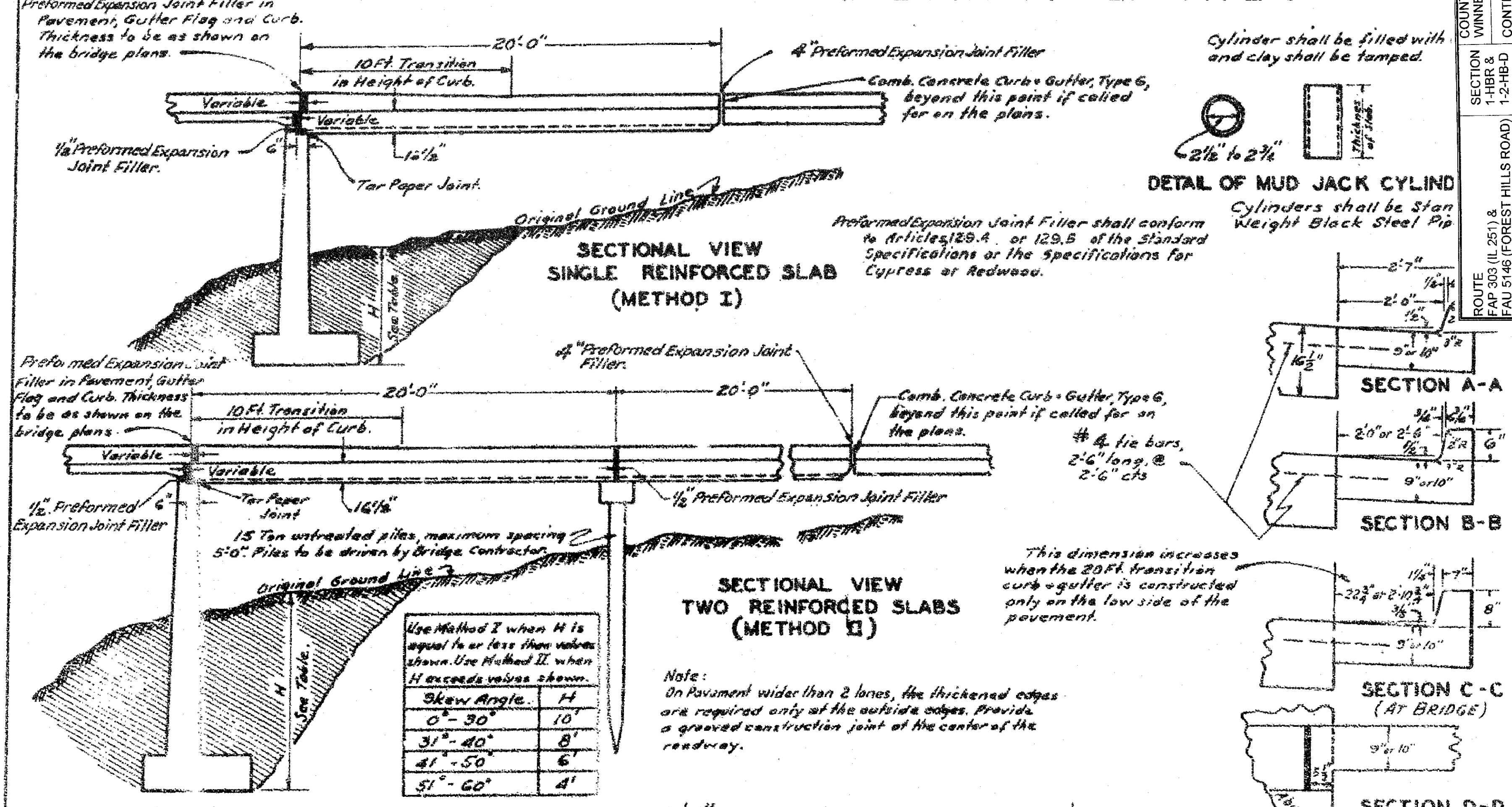
PILE DETAILS

GRADE SEPARATION
F.A. ROUTE 188 OVER SPRING CREEK RD.
F.A. ROUTE 188 - SECTION 1-HB
WINNEBAGO COUNTY
STATION 24+71.4

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	159 OF 216
		CONTRACT 64B79	

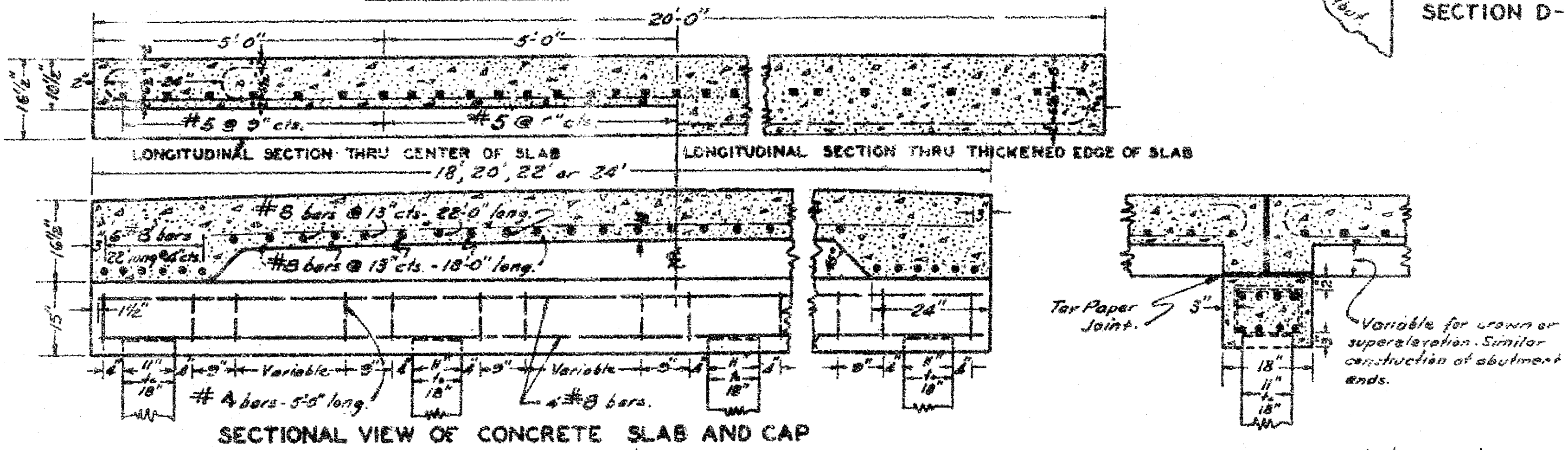
DETAILS OF BRIDGE APPROACHES

USING COMBINATION CONCRETE CURB AND GUTTER TYPE 6



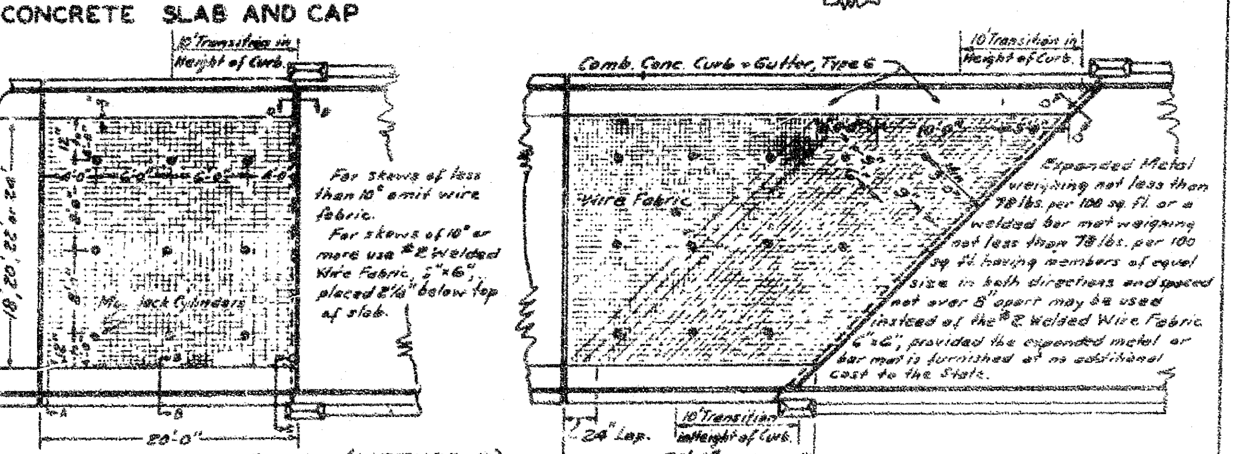
Skew Angle	H
0°-30°	10'
31°-40°	8'
41°-50°	6'
51°-60°	4'

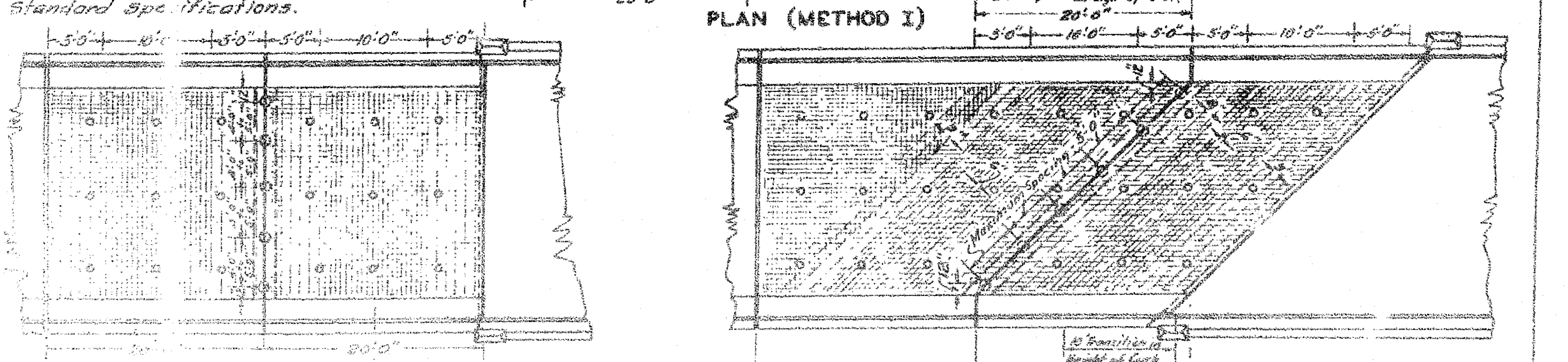
Use Method I when H is equal to or less than values shown. Use Method II when H exceeds values shown.



Where the roadway width of the bridge exceeds the width of the approach pavement by more than 6 ft., the Type 6 Curb + Gutter may be omitted, except where the pavement slopes in one direction only, in which case the Type 6 Curb + Gutter shall be constructed only on the low side of the pavement. The cross section of the curb and gutter of the bridge shall be transformed uniformly to the cross section shown in Section A-A, by a 20 ft. transition curb. Where the Type 6 Curb and Gutter is omitted, the earth shoulders shall be sloped up uniformly to a height of 2 inches above the edge of the pavement and this shoulder raise shall extend approximately 10 ft. back of the bridge and taper in another 10 ft. to the standard shoulder.

The Preformed Expansion Joint Filler shall be included in the contract unit prices for P.C. CONCRETE PAVEMENT (16 1/2"-10 1/2"-16 1/2") and COMBINATION CONCRETE CURB + GUTTER, TYPE 6, and shall conform to Articles 129.4 & 129.5 of the Standard Specifications.





STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

Passed Sept. 2 1941

The slab or slabs shall be paid for at the contract unit price for P.C. CONCRETE PAVEMENT (16 1/2"-10 1/2"-16 1/2").
The Type 6 Curb + Gutter (including the 10 ft transition in height and including tie bars) shall be paid for at the contract unit price for COMBINATION CONCRETE CURB AND GUTTER, TYPE 6.
The concrete cap shall be paid for at the contract unit price for CLASS X CONCRETE.

All reinforcement bars, except the curb & gutter tie bars, shall be paid for at the contract unit price for REINFORCEMENT BARS. The welded wire fabric and the Mud Jack cylinders shall be furnished and installed by the paving contractor and included in the contract unit price for P.C. CONCRETE PAVEMENT (16 1/2"-10 1/2"-16 1/2").

STANDARD 1909R

1958

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	160 OF 216
		CONTRACT 64B79	

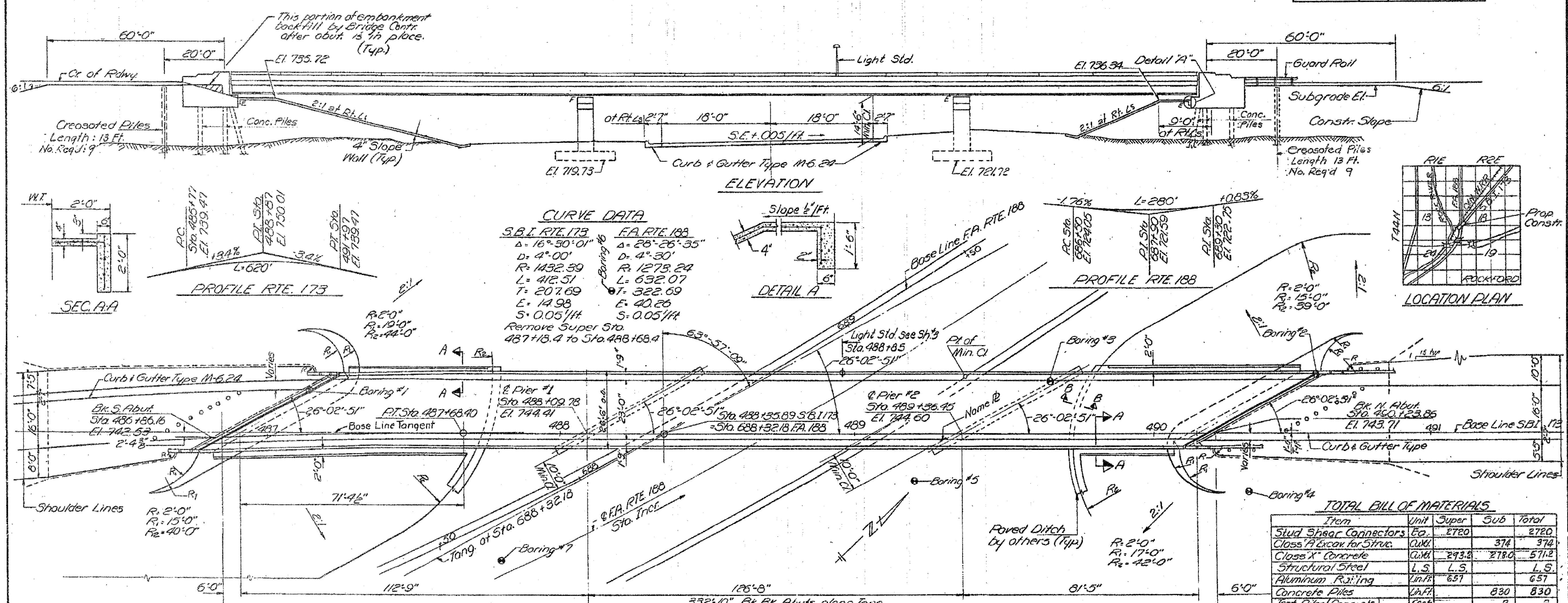
INFORMATION ONLY

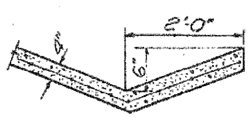
B.M.-T.B.M. 5-731- "□" Chiseled in Concrete base of light std. Steak & Shake Drive Inn. 37' Lt. of Sta. 491+65 line "C".

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 188	1-2HB	WINNEBAGO	187	116

SHEET NO. 1
16 SHEETS





STATION 688+32.18
BUILT 197 BY
STATE OF ILLINOIS
F.A. RT. 188 - SEC. 1-2HB
F.A. PROJ. U-276(16)
LOADING HS20-44

NAME PLATE
Std. 2113-1

SPANS 1 & 2: COMP. GIRDERS

Table of Mom. & Shears - Int. Girders		
	Steel Sec. - Max. Mom.	
	SPAN-1	SPAN-2
D.L.	724.8'K	510.7'K
	Comp. Sec. Max. Mom.	
S.D.L.	365.8'K	302.4'K
L.L.+Imp.	959.3'K	914.5'K
Total	1325.1'K	1216.9'K

SHEARS

	S.Abut.	.45p.1	Pier 1	.55p.2	Pier 2
S.D.L.	17.3K	4.0K	29.8K	0	28.5K
L.L.+Imp.	42.9K	20.9K	47.0K	21.8K	46.7K
Total	60.2K	24.9K	76.8K	21.8K	75.2K

DESIGN STRESSES

fc: 1400 psi Super.
Vc = 75 psi. Ftgs.
fs: 20,000 psi. Reinf.
fs: 20,000 psi. Struct.
n: 10
L.L. Deflection:
L/1200 = Composite
L/1000 = non-Composite

SPAN 3 - NON-COMP. GIRDERS

Moment	
	.4pt
D.L.	509.0K
L.L.+Imp.	620.9K
Total	1129.9K

Reactions	
No. Abut.	Pier 2
54.7K	146.5K
40.9K	69.3K
75.6K	215.8K

PROPERTIES
Steel Section

	.45p.1	Pier 1	.55p.2	Pier 2	.45p.3
Is	30166 in⁴	53046 in⁴	24722 in⁴	38538 in⁴	19356 in⁴
Ss	1149 in³	1947 in³	951 in³	1447 in³	752 in³

Comp. Section

	Span 1	Span 2
Ic	53390 in⁴	49441 in⁴
Sc	1272 in³	1168 in³

LOADING: HS20-44

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts 7/8" φ; open holes 15/16" φ, unless otherwise noted.

Calculated weight of Structural Steel. = 303,300 lbs.

Cast steel shall be Class 70. Structural steel weldments of equal sections and meeting A.S.T.M. A-36 may be substituted for castings at the option of the Contractor, subject to approval by the Engineer prior to fabrication. No additional compensation will be allowed the Contractor for this substitution.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting cross frames over supports.

Class A Excavation for structures includes excavation for slope wall.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

The Contractor shall drive 2 concrete test piles in permanent locations, one at each abutment as directed by the Engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIALS

	Item	Unit	Super	Sub	Total
	Stud Shear Connectors	Ea.	2720		2720
	Class "A" Excav. for Struc.	Cu.Yd.		374	374
	Class "X" Concrete	Cu.Yd.	293.2	278.0	571.2
	Structural Steel	L.S.	L.S.		L.S.
	Aluminum Railing	Lin.Ft.	651		651
	Concrete Piles	Lin.Ft.		830	830
	Test Piles (Concrete)	Each		2	2
	Creosoted Piles (to 20 Ft.)	Lin.Ft.		234	234
	Name Plates	Each		1	1
	Slope Wall (4")	Sq.Yd.		300	300
*	Protective Coat	Sq.Yd.	1150		1150
†	Bridge Seat Sealant	L.S.			Lump Sum
	Reinforcement Bars	Lb.	73,010	32,070	105,080

* Includes use on inside vertical face, top and exposed ends of the abutment wings.
† To be applied at the abutments only.

GENERAL PLAN & ELEVATION
PROJ. U-276(16)
F.A. RTE. 188 SEC. 1-2HB
WINNEBAGO COUNTY
STA. 688+32.18

DESIGNED W. Arbovell
CHECKED T.M. McGrail
DRAWN R. Ferrondo
CHECKED T.M. McGrail

April 20 19
EXAMINED
PASSED
APPROVED

Revised May 21 '70

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO / CONTRACT 64B79	161 OF 216

INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 188	1-2HB	WINNEBAGO	187	117
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
16 SHEETS

Note:
Bars indicated thus 20x3-#5 etc. indicate 20 lines of bars with 3 lengths per line.
Min. bar laps = 24 dia.

DETAIL "A"

DETAIL "B"

PLAN

FLOOR DRAIN

BAR a

BAR c1

BAR d1

BAR e1

SECTION A-A
(At Rt Ls to Girders)

SECTION B-B

STANDARD FILLET DETAIL

To determine "t": After all Structural Steel has been erected, elevations of the top flanges of the Girders shall be taken at intervals shown on Sheet 4&5. These elevations, subtracted from the "Grade Elevations adjusted for Dead Load Deflections" shown on sheet 4&5, minus slab thickness, equals the fillet heights "t" above top of Girders.

CURB DETAIL

Cost of aluminum sheets and drains incidental to Class "X" Conc.

DETAIL "C"

DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 4&5.

Note:
For placement of die bars see sheet 3

BILL OF MATERIALS

BAR	NO	SIZE	LENGTH	SHAPE
a	399	#5	26'-8"	
a1	906	#5	25'-11"	
b12	12	#8	32'-9"	
b13	8	#8	14'-9"	
b	380	#5	34'-0"	
b1	26	#6	40'-0"	
b2	26	#6	37'-6"	
b3	20	#5	36'-0"	
b4	8	#5	19'-3"	
b5	12	#5	32'-0"	
b6	8	#5	14'-9"	
b7	8	#8	36'-6"	
b8	28	#9	26'-0"	
b9	6	#9	16'-0"	
b10	12	#8	35'-9"	
b11	8	#8	19'-3"	
d	658	#4	3'-10"	L
d1	658	#5	3'-3"	L
c1	104	#5	5'-6"	
e	20	#5	19'-0"	
e1	16	#5	19'-3"	
e2	40	#5	18'-2"	
e3	16	#5	14'-9"	
e4	52	#5	16'-11"	
e5	4	#5	15'-4"	
df	3	#6	3'-10"	L
d3	4	#6	9'-3"	
Class X Concrete			Cu. Yds.	293.2
Reinforcement Bars			Lbs.	73010

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	162 OF 216
		CONTRACT 64B79	

DESIGNED
CHECKED
DRAWN R. Ferrondo
CHECKED

EXAMINED
PASSED
APPROVED

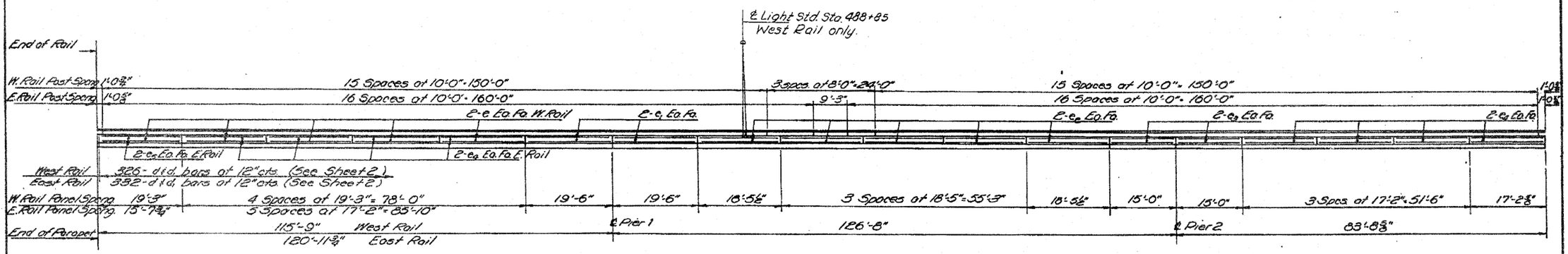
SUPERSTRUCTURE
F.A. RT. 188 SEC. 1-2 HB
WINNEBAGO COUNTY
STA. 688 + 52.18

INFORMATION ONLY

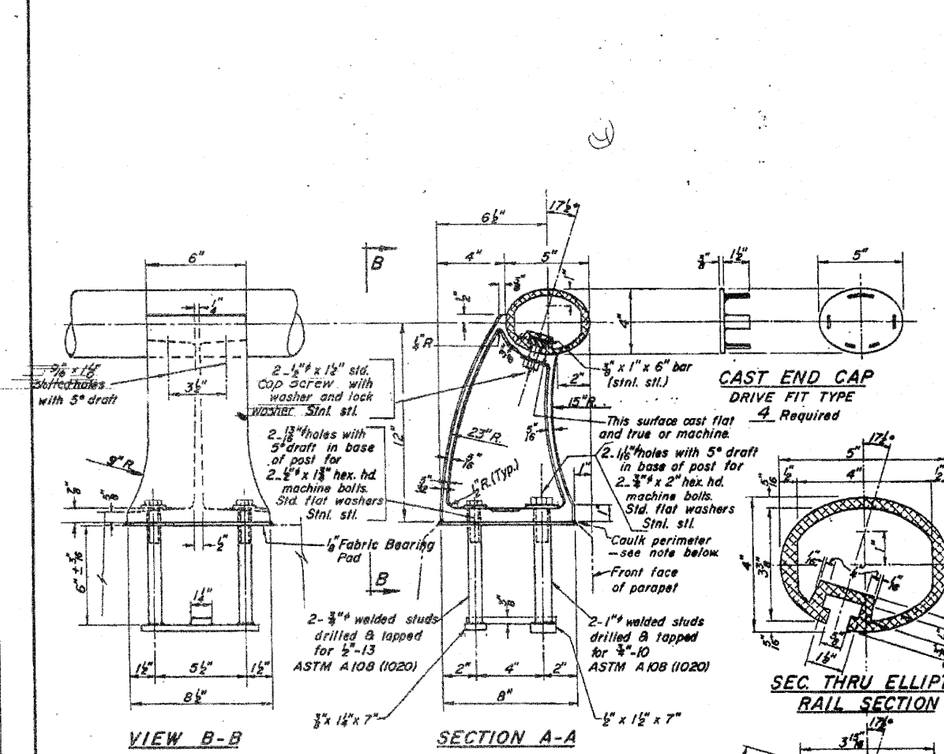
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S.I. F.A. 188	1-2HB	WINNEBAGO	187	113
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
16 SHEETS

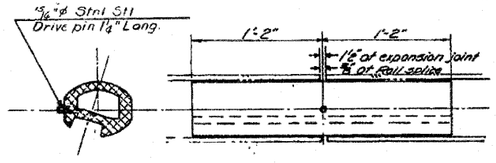


ELEVATION
(All measurements along ℄ of rail)

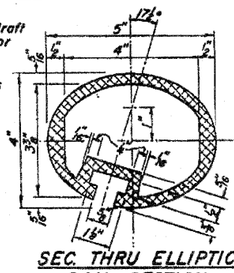


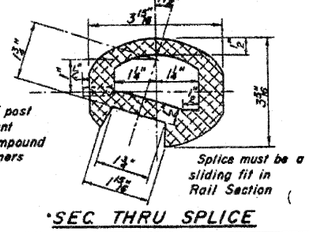
CAST END CAP
DRIVE FIT TYPE
4 Required

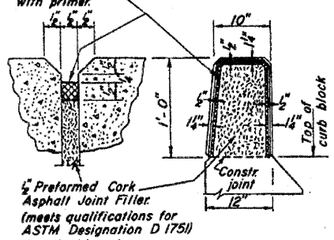
RAIL POST DETAILS



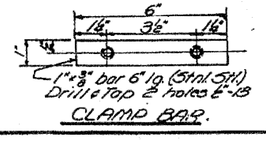
RAIL SPLICE
Notch top of slot in rails to clear ⅝" screw.

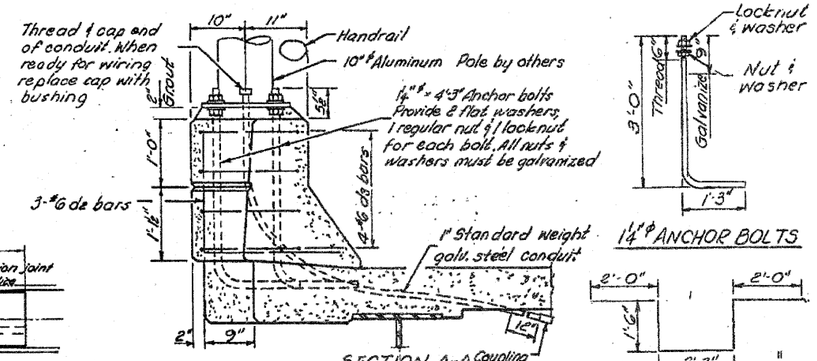




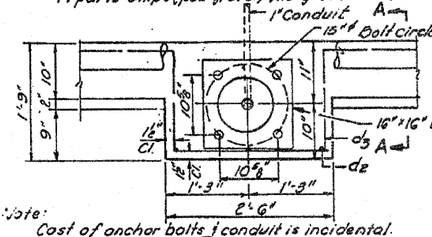


PARAPET JOINT DETAIL





Note: Grout mixture shall consists of 1 part sand, 1 part cement & 1 parts chips (pea gravel) The grout shall contain water for 1" slump.



PLAN

Note: Cost of anchor bolts & conduit is incidental.

BILL OF MATERIAL

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	652

The lengths and quantities of handrail, reinforcement and Class X Concrete in parapets are included in superstructure quantities. See Sheet 2.

ALUMINUM HANDRAIL
F.A. RTE. 188 SEC. 1-2HB
WINNEBAGO COUNTY
STA. 688 + 32.18

NOTES:

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.

All joints in rail shall be spliced per detail.

Provide 1 - ⅛" and 2 - 1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with p
os base of post.
Aluminum
or 6351-T5 wi
elongation of 1

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers — gun grade with primer.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Wm. M. Best, R.F.
CHECKED	[illegible]

EXAMINED April 30 1965
PASSED
APPROVED

R-17 Dwn 5-28-64 Rev. 1-20-65 7-23-65 8-18-65

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	163 OF 216
		CONTRACT 64B79	

INFORMATION ONLY

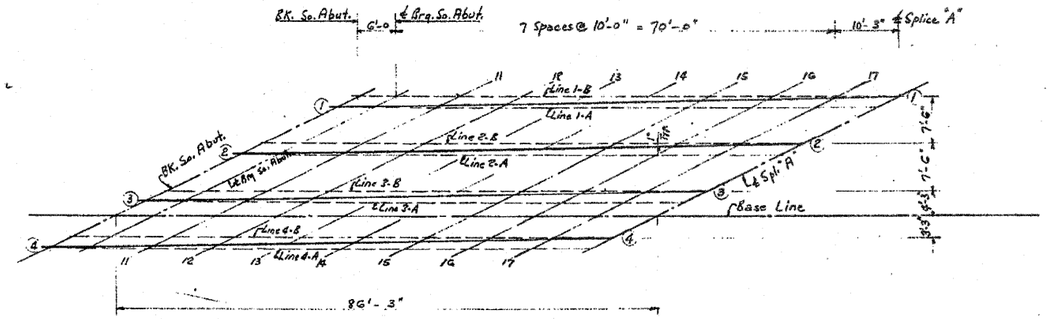
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 188	1-2HB	WINNEBAGO	187	119
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
16 SHEETS

	Line	Station	Offset from Base Line	Theoretical Grade Elevations	Theor. Grade Elevs. Adjusted for D.L. Defl.	Beam No.	Prorated Adjusted Elevations
	3-A	48696.722	– 4.485	742.979	742.979		
BK. So. Abut.	3-B	48699.979	– 5.889	743.116	743.116	3	742.98
	2-A	48712.300	– 11.294	743.631	743.631		
	2-B	48715.526	– 12.733	743.784	743.764	2	743.63
	1-A	48727.731	– 18.271	744.194	744.194		
	1-B	48730.926	– 19.745	744.293	744.293	1	744.19
	3-A	48702.697	– 4.198	743.087	743.087		
	3-B	48705.948	– 5.615	743.223	743.223	3	743.10
℄ Brg. So. Abut.	2-A	48718.250	– 11.071	743.732	743.732		
	2-B	48721.470	– 12.524	743.848	743.848	2	743.74
	1-A	48733.653	– 18.113	744.246	744.246		
	1-B	48736.843	– 19.601	744.339	744.339	1	744.25
	3-A	48712.660	– 3.774	743.262	743.304		
11	3-B	48715.903	– 5.214	743.395	743.437	3	743.33
	2-A	48728.189	– 10.756	743.852	743.894		
	2-B	48731.380	– 12.231	743.990	744.002	2	743.91
	1-A	48743.527	– 17.905	744.326	744.369		
	1-B	48746.706	– 19.415	744.412	744.454	1	744.38
	3-A	48722.629	– 3.419	743.424	743.493		
12	3-B	48725.862	– 4.882	743.546	743.615	3	743.53
	2-A	48738.093	– 10.509	743.967	744.036		
	2-B	48741.294	– 12.007	744.086	744.155	2	744.07
	1-A	48753.403	– 17.766	744.401	744.470		
	1-B	48756.572	– 19.298	744.477	744.547	1	744.50
	3-A	48732.602	– 3.135	743.572	743.655		
13	3-B	48735.826	– 4.620	743.686	743.749	3	743.70
	2-A	48748.019	– 10.333	744.075	744.199		
	2-B	48751.210	– 11.852	744.188	744.250	2	744.20
	1-A	48763.281	– 17.696	744.488	744.551		
	1-B	48766.440	– 19.250	744.536	744.619	1	744.58
	3-A	48742.579	– 2.920	743.714	743.815		
14	3-B	48745.792	– 4.427	743.819	743.920	3	743.87
	2-A	48757.947	– 10.225	744.176	744.277		
	2-B	48761.128	– 11.767	744.258	744.359	2	744.32
	1-A	48773.198	– 17.696	744.926	744.622		
	1-B	48776.307	– 19.271	744.585	744.686	1	744.66
	3-A	48752.558	– 2.774	743.850	743.941		
15	3-B	48755.761	– 4.304	743.946	744.038	3	744.00
	2-A	48767.676	– 10.187	744.270	744.361		
	2-B	48771.047	– 11.751	744.343	744.434	2	744.41
	1-A	48783.036	– 17.762	744.576	744.668		
	1-B	48786.173	– 19.360	744.626	744.717	1	744.70
	3-A	48762.539	– 2.899	743.978	744.056		
16	3-B	48765.731	– 4.251	744.066	744.144	3	744.12
	2-A	48777.805	– 10.218	744.354	744.433		
	2-B	48780.985	– 11.804	744.418	744.497	2	744.48
	1-A	48792.912	– 17.899	744.616	744.694		
	1-B	48796.038	– 19.519	744.656	744.733	1	744.72
	3-A	48772.520	– 2.692	744.098	744.160		
17	3-B	48775.702	– 4.267	744.176	744.239	3	744.23
	2-A	48787.734	– 10.318	744.429	744.491		
	2-B	48790.882	– 11.926	744.484	744.546	2	744.54
	1-A	48802.766	– 18.104	744.645	744.708		
	1-B	48805.901	– 19.746	744.676	744.738	1	744.75
	3-A	48782.750	– 2.759	744.211	744.253		
℄ Splice "A"	3-B	48785.921	– 4.356	744.280	744.322	3	744.32
	2-A	48797.908	– 10.493	744.496	744.538		
	2-B	48801.045	– 12.124	744.540	744.582	2	744.58
	1-A	48812.903	– 18.387	744.663	744.706		
	1-B	48816.006	– 20.051	744.683	744.726	1	744.72

	Line	Station	Offset from Base Line	Theoretical Grade Elevations	Theor. Grade Elevs. Adjusted for D.L. Defl.	Beam No.	Prorated Adjusted Elevations
BK. So. Abut.	4-A	48680.999	2.150	742.305	742.305	4	742.30
	4-B	48684.295	.778	742.448	742.448		
℄ Brg. So. Abut.	4-A	48685.999	2.503	742.421	742.421	4	742.43
	4-B	48690.289	1.118	742.562	742.562		
11	4-A	48697.004	3.036	742.609	742.651	4	742.68
	4-B	48700.286	1.628	742.747	742.789		
12	4-A	48707.016	3.500	742.789	742.858	4	742.90
	4-B	48710.269	2.069	742.924	742.993		
13	4-A	48717.034	3.893	742.961	743.095	4	743.10
	4-B	48720.298	2.439	743.096	743.180		
14	4-A	48727.057	4.217	743.141	743.242	4	743.31
	4-B	48730.311	2.740	743.270	743.371		
15	4-A	48737.084	4.470	743.317	743.409	4	743.69
	4-B	48740.329	2.971	743.438	743.529		
16	4-A	48747.115	4.654	743.488	743.571	4	743.66
	4-B	48750.349	3.132	743.599	743.683		
17	4-A	48757.147	4.767	743.651	743.713	4	743.81
	4-B	48760.371	3.223	743.754	743.816		
℄ Splice "A"	4-A	48767.431	4.811	743.810	743.852	4	743.95
	4-B	48770.644	3.244	743.903	743.945		



PLAN

DESIGNED
CHECKED
DRAWN
CHECKED

EXAMINED — APRIL 20 1966
PASSED
APPROVED

DECK ELEVATIONS
FA Rt. 188 Sec 1-2HB
WINNEBAGO CO.
Sta. 688 + 32.18

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	164 OF 216
		CONTRACT 64B79	

INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

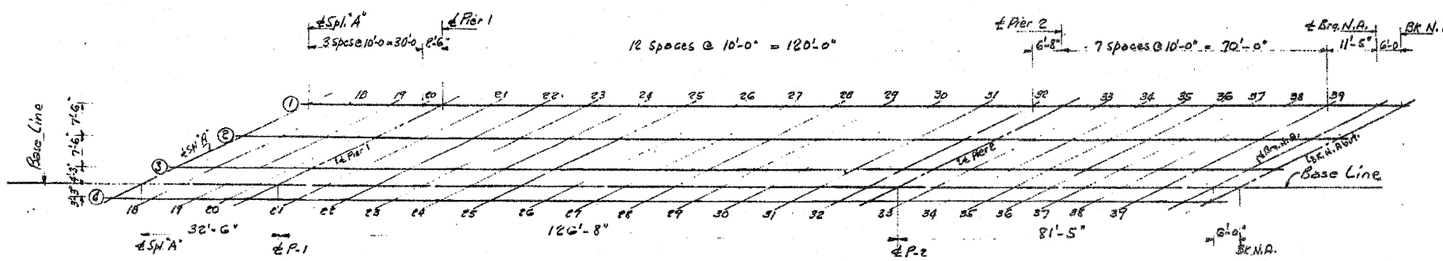
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 188	1-2HB	WINNEBAGO	187	120
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 5
16 SHEETS

	Bm. No.	Station	Offset from Base Line	Theoretical Grade Elevations	Theor. Grade Elevs. Adj. for D.L. Defl.
℄ Splice "A"		48777.280	.000	744.080	744.122
	3	48785.975	- 4.250	744.278	744.320
	2	48801.320	- 11.750	744.535	744.578
	1	48816.665	- 19.250	744.675	744.717
18		48787.280	.000	744.195	744.238
	3	48795.975	- 4.250	744.366	744.380
	2	48811.320	- 11.750	744.577	744.600
	1	48826.665	- 19.250	744.659	744.693
19		48797.280	.000	744.299	744.309
	3	48805.975	- 4.250	744.444	744.454
	2	48821.320	- 11.750	744.607	744.617
	1	48836.665	- 19.250	744.653	744.663
20		48807.280	.000	744.391	744.399
	3	48815.975	- 4.250	744.510	744.517
	2	48831.320	- 11.750	744.627	744.634
	1	48846.665	- 19.250	744.626	744.633
℄ Pier 1		48809.780	.000	744.413	744.413
	3	48818.475	- 4.250	744.525	744.525
	2	48833.820	- 11.750	744.630	744.630
	1	48849.165	- 19.250	744.617	744.617
21		48819.780	.000	744.492	744.502
	3	48828.475	- 4.250	744.578	744.587
	2	48843.820	- 11.750	744.636	744.646
	1	48859.165	- 19.250	744.576	744.586
22		48829.780	.000	744.560	744.560
	3	48838.475	- 4.250	744.619	744.639
	2	48853.820	- 11.750	744.631	744.650
	1	48869.165	- 19.250	744.530	744.550
23		48839.780	.000	744.618	744.647
	3	48848.475	- 4.250	744.650	744.680
	2	48863.820	- 11.750	744.615	744.644
	1	48879.165	- 19.250	744.544	744.574
24		48849.780	.000	744.664	744.705
	3	48858.475	- 4.250	744.670	744.712
	2	48873.820	- 11.750	744.613	744.655
	1	48889.165	- 19.250	744.547	744.589
25		48859.780	.000	744.699	744.755
	3	48868.475	- 4.250	744.679	744.734
	2	48883.820	- 11.750	744.622	744.677
	1	48899.165	- 19.250	744.595	744.595
26		48869.780	.000	744.724	744.792
	3	48878.475	- 4.250	744.694	744.762
	2	48893.820	- 11.750	744.620	744.688
	1	48909.165	- 19.250	744.521	744.589
27		48879.780	.000	744.737	744.803
	3	48888.475	- 4.250	744.697	744.764
	2	48903.820	- 11.750	744.607	744.673
	1	48919.165	- 19.250	744.491	744.557
28		48889.780	.000	744.740	744.795
	3	48898.475	- 4.250	744.690	744.747
	2	48913.820	- 11.750	744.583	744.640
	1	48929.165	- 19.250	744.450	744.506
29		48899.780	.000	744.731	744.776
	3	48908.475	- 4.250	744.672	744.719
	2	48923.820	- 11.750	744.548	744.595
	1	48939.165	- 19.250	744.398	744.445
30		48909.780	.000	744.712	744.747
	3	48918.475	- 4.250	744.643	744.678
	2	48933.820	- 11.750	744.502	744.537
	1	48949.165	- 19.250	744.336	744.371
31		48919.780	.000	744.681	744.703
	3	48928.475	- 4.250	744.603	744.625
	2	48943.820	- 11.750	744.445	744.467
	1	48959.165	- 19.250	744.262	744.284
32		48929.780	.000	744.640	744.648
	3	48938.475	- 4.250	744.552	744.561
	2	48953.820	- 11.750	744.378	744.386
	1	48969.165	- 19.250	744.177	744.186

	Bm. No.	Station	Offset from Base Line	Theor. Grade Elevations	Theor. Grade Elev. Adjusted for D.L. Defl.
℄ Pier 2		48936.447	.000	744.606	744.606
	3	48945.142	- 4.250	744.512	744.512
	2	48960.487	- 11.750	744.326	744.326
	1	48975.832	- 19.250	744.115	744.115
33		48946.447	.000	744.546	744.546
	3	48955.142	- 4.250	744.443	744.443
	2	48970.487	- 11.750	744.240	744.240
	1	48985.832	- 19.250	744.012	744.012
34		48956.447	.000	744.476	744.476
	3	48965.142	- 4.250	744.363	744.363
	2	48980.487	- 11.750	744.143	744.143
	1	48995.832	- 19.250	743.898	743.898
35		48966.447	.000	744.394	744.404
	3	48975.142	- 4.250	744.271	744.281
	2	48990.487	- 11.750	744.035	744.045
	1	49005.832	- 19.250	743.773	743.783
36		48976.447	.000	744.301	744.321
	3	48985.142	- 4.250	744.169	744.189
	2	49000.487	- 11.750	743.916	743.936
	1	49015.832	- 19.250	743.637	743.657
37		48986.447	.000	744.196	744.218
	3	48995.142	- 4.250	744.055	744.077
	2	49010.487	- 11.750	743.786	743.807
	1	49025.832	- 19.250	743.491	743.511
38		48996.447	.000	744.083	744.104
	3	49005.142	- 4.250	743.932	743.953
	2	49020.487	- 11.750	743.645	743.666
	1	49035.832	- 19.250	743.333	743.354
39		49006.447	.000	743.958	743.969
	3	49015.142	- 4.250	743.797	743.809
	2	49030.487	- 11.750	743.493	743.509
	1	49045.832	- 19.250	743.164	743.176
℄ Brg. North Abut.	3	49017.863	.000	743.801	743.801
	2	49026.559	- 4.250	743.629	743.629
	1	49041.904	- 11.750	743.307	743.307
	1	49057.249	- 19.250	742.958	742.958
Back North Abut.	3	49023.863	.000	743.713	743.713
	2	49032.559	- 4.250	743.536	743.536
	1	49047.904	- 11.750	743.203	743.203
	1	49063.249	- 19.250	742.844	742.844

	Bm. No.	Station	Offset from Base Line	Theor. Grade Elevations	Theor. Grade Elevs. Adjusted for D.L. Defl.
Splice "A"	4	48770.631	3.250	743.903	743.945
18	4	48780.631	3.250	744.038	744.061
19	4	48790.631	3.250	744.162	744.172
20	4	48800.631	3.250	744.275	744.283
℄ Pier 1	4	48809.131	3.250	744.302	744.302
21	4	48819.131	3.250	744.401	744.411
22	4	48829.131	3.250	744.490	744.510
23	4	48839.131	3.250	744.568	744.597
24	4	48849.131	3.250	744.634	744.676
25	4	48859.131	3.250	744.690	744.745
26	4	48869.131	3.250	744.734	744.803
27	4	48879.131	3.250	744.762	744.828
28	4	48889.131	3.250	744.772	744.828
29	4	48899.131	3.250	744.770	744.817
30	4	48909.131	3.250	744.758	744.783
31	4	48919.131	3.250	744.735	744.757
32	4	48929.131	3.250	744.701	744.710
℄ Pier 2	4	48939.797	3.250	744.672	744.672
33	4	48939.797	3.250	744.620	744.620
34	4	48949.797	3.250	744.556	744.556
35	4	48959.797	3.250	744.482	744.492
36	4	48969.797	3.250	744.397	744.417
37	4	48979.797	3.250	744.300	744.321
38	4	48989.797	3.250	744.193	744.214
39	4	48999.797	3.250	744.075	744.086
℄ Brg. North Abut.	4	49011.214	3.250	743.926	743.926
Back North Abut.	4	49017.214	3.250	743.843	743.843



PLAN

DECK ELEVATIONS (CONT'D)
FA RT. 188 SEC 1-2HB
WINNEBAGO CO.
Sta. 688+32.18

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED APRIL 20 1966
PASSED
APPROVED

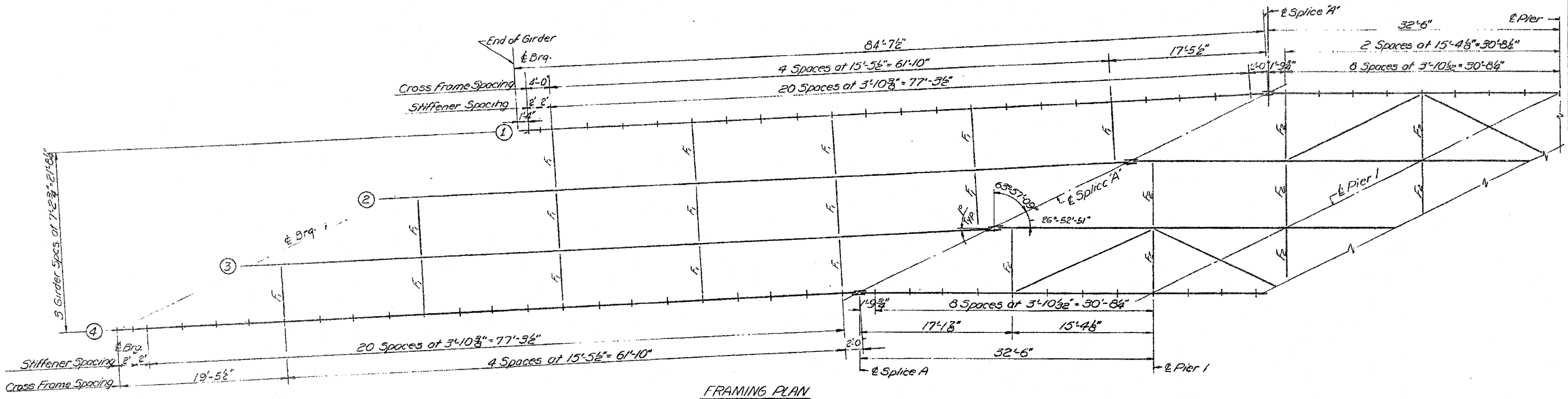
ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	165 OF 216
		CONTRACT 64B79	

INFORMATION ONLY

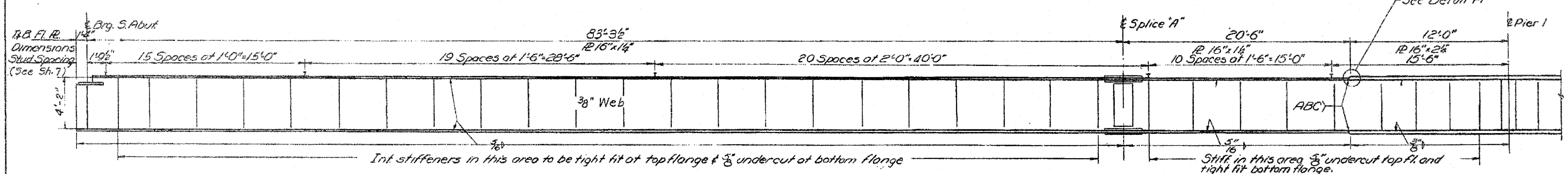
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 188	1-2HB	WINNEBAGO	187	121

SHEET NO. 6
16 SHEETS

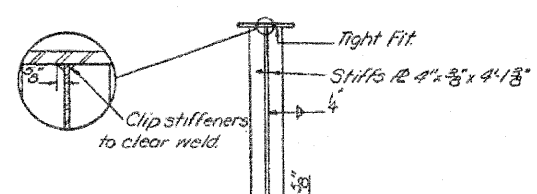


FRAMING PLAN

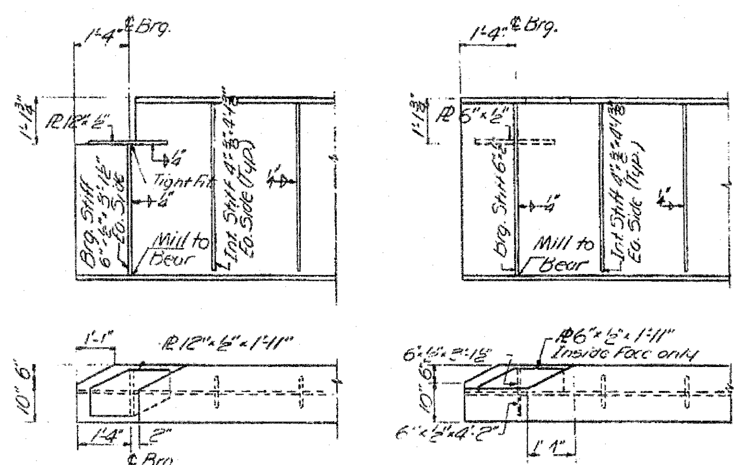


INT. GIRDER ELEVATION

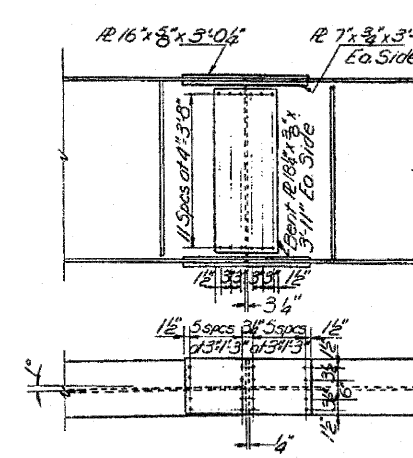
Girder Web shall be cut to Camber Curve. See Sheet 7



SECTION SHOWING TYP. INT. STIFFENER IN MID-SPANS

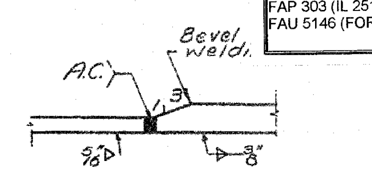


DETAILS AT ABUTMENTS



SPLICE "A" DETAILS

All rivets ⅞"φ



DETAIL A

WELDING REFERENCE

A - Butt weld groove may be of any qualified type permitted by the current AWS Specifications for Submerged Arc Welded Bridge Joints.

B - Plate thickness transitions shall conform to Detail "A"

C - Finish to required weld conformation by grinding transversely to the welded joints.

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	166 OF 216
		CONTRACT 64B79	

INFORMATION ONLY

DESIGNED — CHECKED — DRAWN R. Ferrando — CHECKED

EXAMINED April 20 1966

PASSED

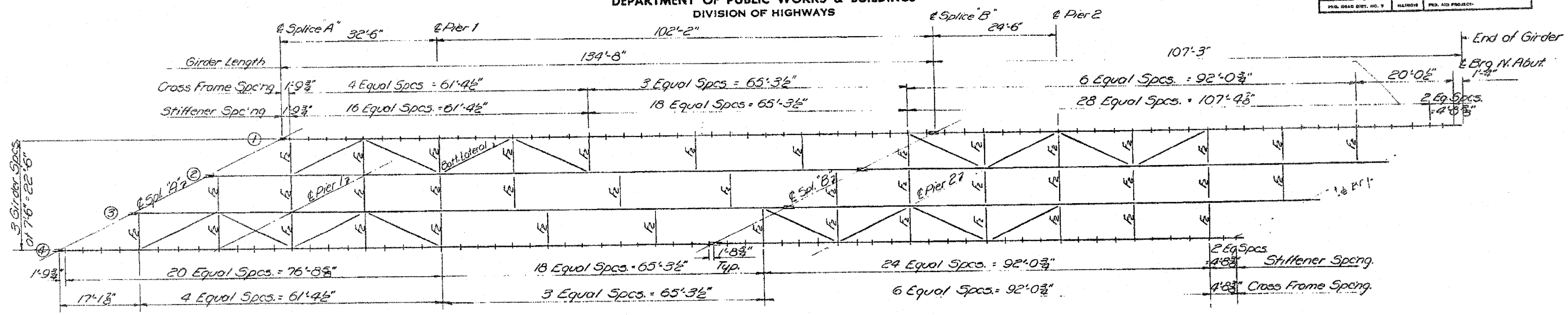
APPROVED

SPAN 1
STRUCTURAL STEEL
F.A. RT. 198 SEC. 1-2HB
WINNEBAGO COUNTY
STA. 688+32.18

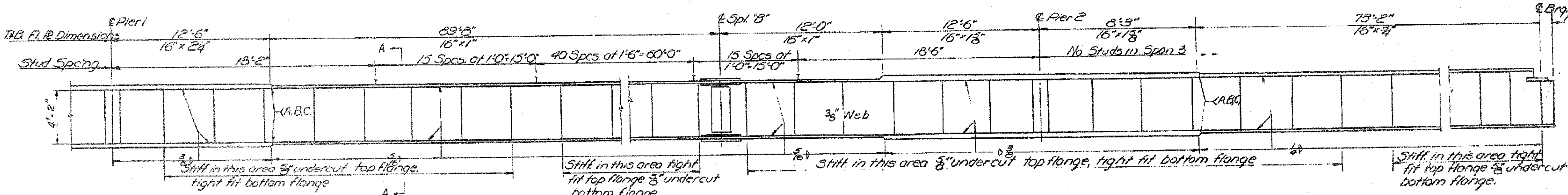
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 188	1-2HB	WINNEBAGO	187	122

SHEET NO. 7
16 SHEETS

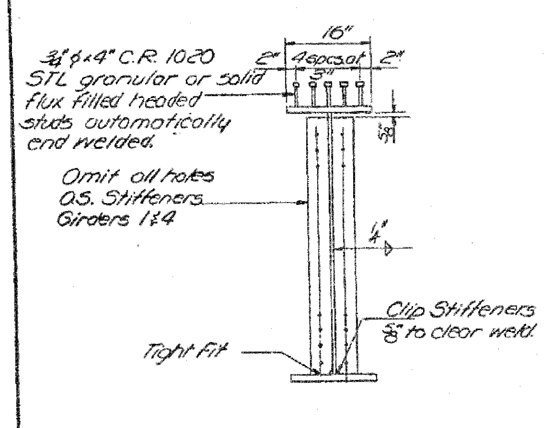
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



FRAMING PLAN

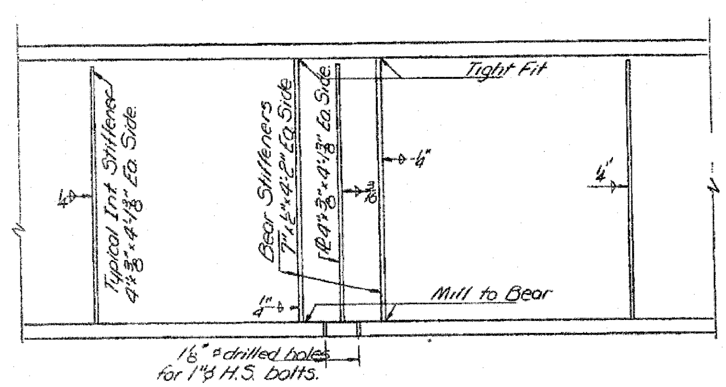


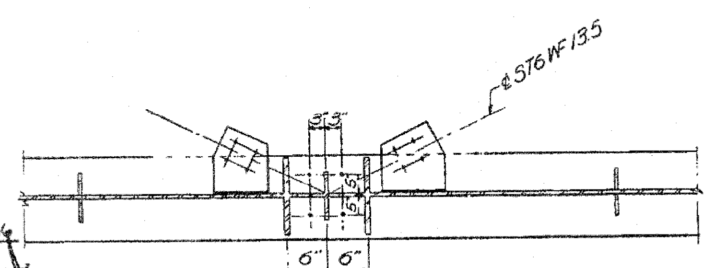
GIRDER ELEVATION



SECTION A-A

Showing shear connector and intermediate stiffeners. (680 studs per Girder)

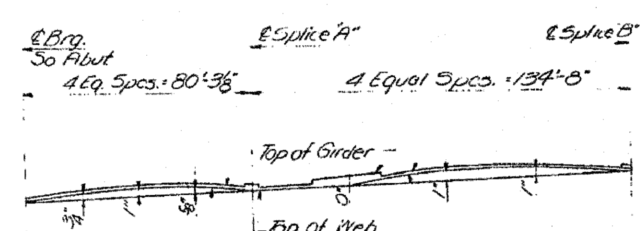




DETAILS AT PIERS

Showing Bearing Stiffeners

Note: Splice "B" same as Splice "A" except web splice plates are not bent.



CAMBER DIAGRAM

TOP OF WEB ELEVATIONS

	Gird. No. 1	Gird. No. 2	Gird. No. 3	Gird. No. 4
℄ Brg. So. Abut.	743.57	743.36	742.41	741.75
℄ Splice "A"	744.01	743.86	743.60	743.23
℄ Pier 1	743.92	743.85	743.69	743.43
℄ Splice "B"	743.64	743.81	743.96	744.08
℄ Pier 2	743.35	743.56	743.75	743.91
℄ Brg. No. Abut.	742.32	742.67	742.99	743.29

INFORMATION ONLY

DESIGNED [signature]
CHECKED Tom M'Cormick
DRAWN R. Ferrando
CHECKED Tom M'Cormick

April 20 1966
EXAMINED [signature]
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED [signature]
ENGINEER OF DESIGN
APPROVED [signature]
CHIEF HIGHWAY ENGINEER

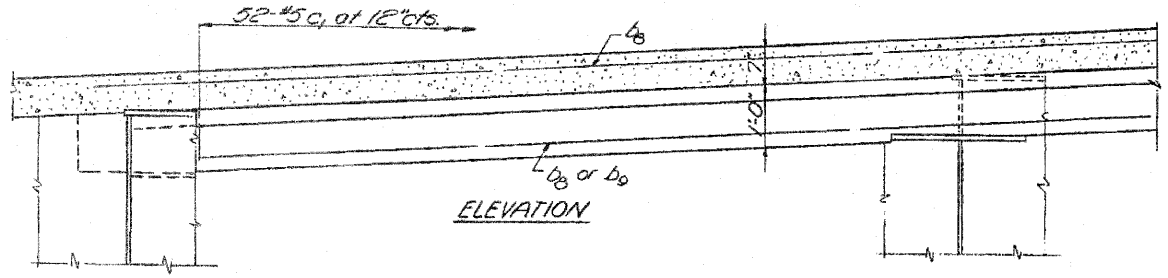
ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO CONTRACT 64B79	167 OF 216

SPANS 2 & 3
STRUCTURAL STEEL
F.A. RTE. 188 SEC. 1-2HB
WINNEBAGO COUNTY
STA. 688+32.18

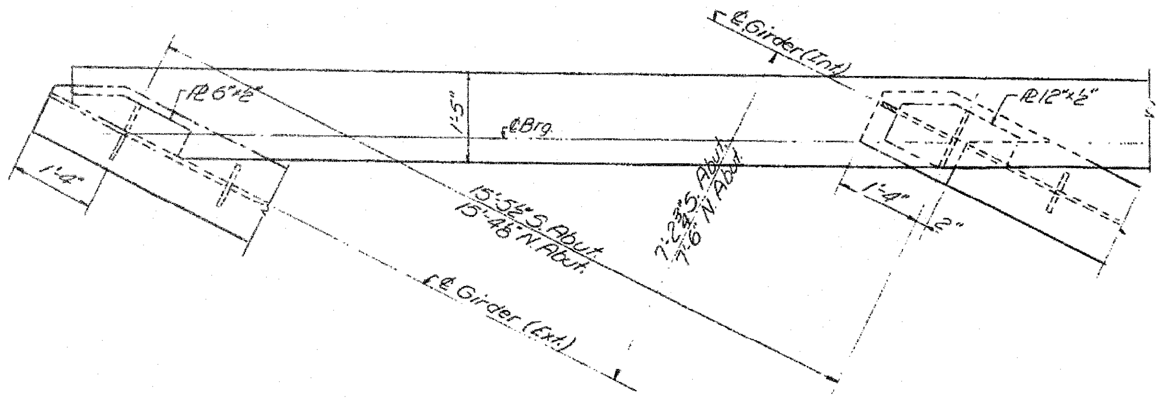
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 188	1-2HB	WINNEBAGO	187	123

SHEET NO. 8
16 SHEETS

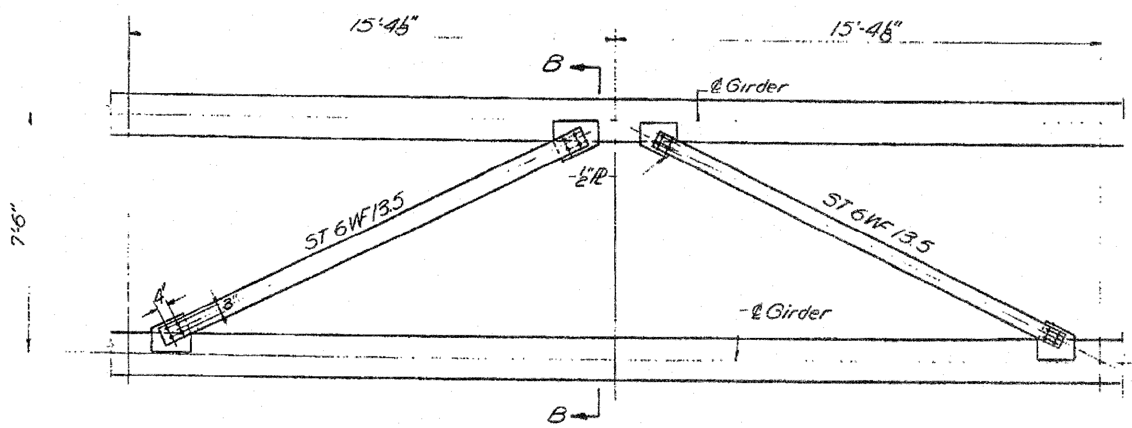


ELEVATION

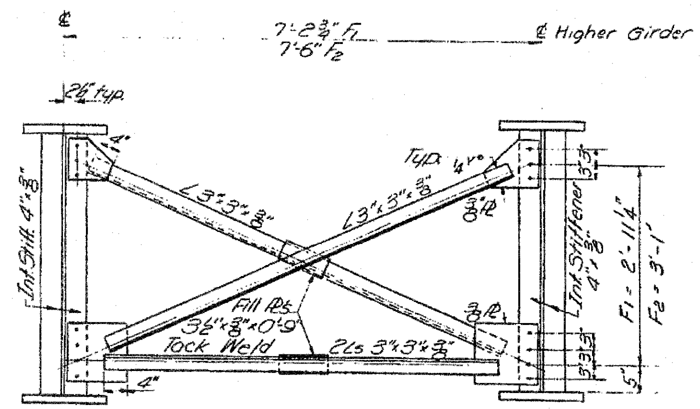


PLAN

DETAILS AT END BEAMS
(SEE SEC AT ABUT - SHEET 9)

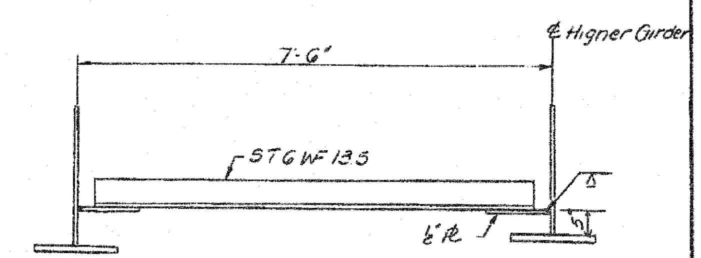


BOTTOM LATERALS (TYPICAL)
16 Req'd



FRAME F1 & F2

15 F1 Req'd.
42 F2 Req'd.



SECTION B-B

INFORMATION ONLY

DESIGNED	C. Dabowell
CHECKED	Tom McGuire
DRAWN	R. Ferrando
CHECKED	Tom McGuire

APRIL 20 1966
EXAMINED — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — CHIEF HIGHWAY ENGINEER

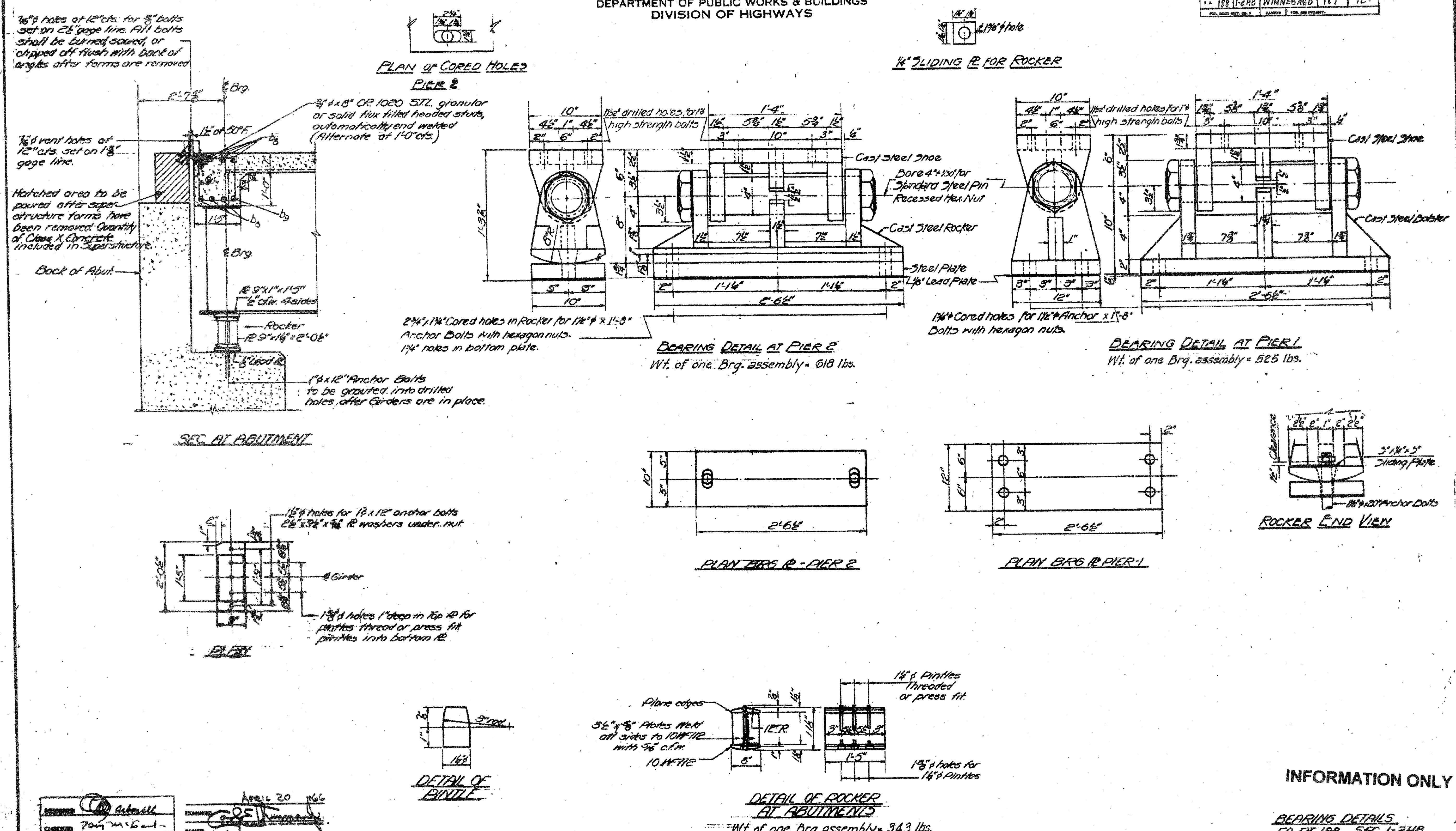
END BEAMS
CROSS FRAMES & BOTTOM LATERALS
F.A. RTE. 188 SEC. 1-2HB
WINNEBAGO COUNTY
STATION 688+32.18

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	168 OF 216
		CONTRACT 64B79	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 188	1-2HB	WINNEBAGO	187	124

SHEET NO. 9 16 SHEETS



7/8"φ holes at 12" cts. for 3/4" bolts set on 2 1/2" gage line. All bolts shall be burned, sawed, or chipped off flush with back of angles after forms are removed
7/8"φ vent holes at 12" cts. set on 1 3/4" gage line.
Hatched area to be poured after superstructure forms have been removed. Quantity of Class X Concrete included in Superstructure.
Back of Abut.
3/4"φ x 8" OR 1020 STL. granular or solid flux filled headed studs, automatically end welded (Alternate at 1'-0" cts.)
℄ Brg.
Rocker
1" Lead ℞
1"φ x 12" Anchor Bolts to be grouted into drilled holes after Girders are in place.
SEC. AT ABUTMENT
PLAN OF CORED HOLES PIER 2
2 3/4" x 1 3/4" Cored holes in Rocker for 1 1/2"φ x 1'-8" Anchor Bolts with hexagon nuts. 1 3/4" holes in bottom plate.
1 1/2" drilled holes for 1 3/8" high strength bolts
Cast Steel Shoe
Bore 4" + 1/50 for Standard Steel Pin
Recessed Hex Nut
Cast Steel Rocker
Steel Plate
1/8" Lead Plate
BEARING DETAIL AT PIER 2
Wt. of one Brg. assembly = 618 lbs.
1 1/4" SLIDING ℞ FOR ROCKER
Cast Steel Bolster
1 3/4"φ Cored holes for 1 1/2"φ Anchor x 1'-8" Bolts with hexagon nuts.
BEARING DETAIL AT PIER 1
Wt. of one Brg. assembly = 525 lbs.
PLAN BRG ℞ - PIER 2
PLAN BRG ℞ PIER-1
3" x 1 1/4" x 3" Sliding Plate
1 1/2"φ x 20" Anchor Bolts
ROCKER END VIEW
1 5/8"φ holes for 1 1/2"φ x 12" anchor bolts 2 1/2" x 3 1/2" x 5/8" ℞ washers under nut
℄ Girder
1 3/8"φ holes 1" deep in Top ℞ for pintles thread or press fit pintles into bottom ℞.
PLAN
DETAIL OF PINTLE
Plane edges
5 1/2" x 5/8" Plates Weld all sides to 10WF112 with 5/16" c.f.w.
10WF112
12" R.
1 1/4"φ Pintles Threaded or press fit.
1 5/8"φ holes for 1 1/4"φ Pintles
DETAIL OF ROCKER AT ABUTMENTS
Wt. of one Brg. assembly = 343 lbs.

APRIL 20 1966

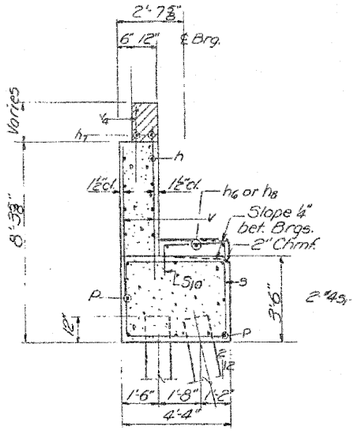
INFORMATION ONLY

BEARING DETAILS
FA RT 188 SEC 1-2HB
WINNEBAGO COUNTY
STA 688+32.18

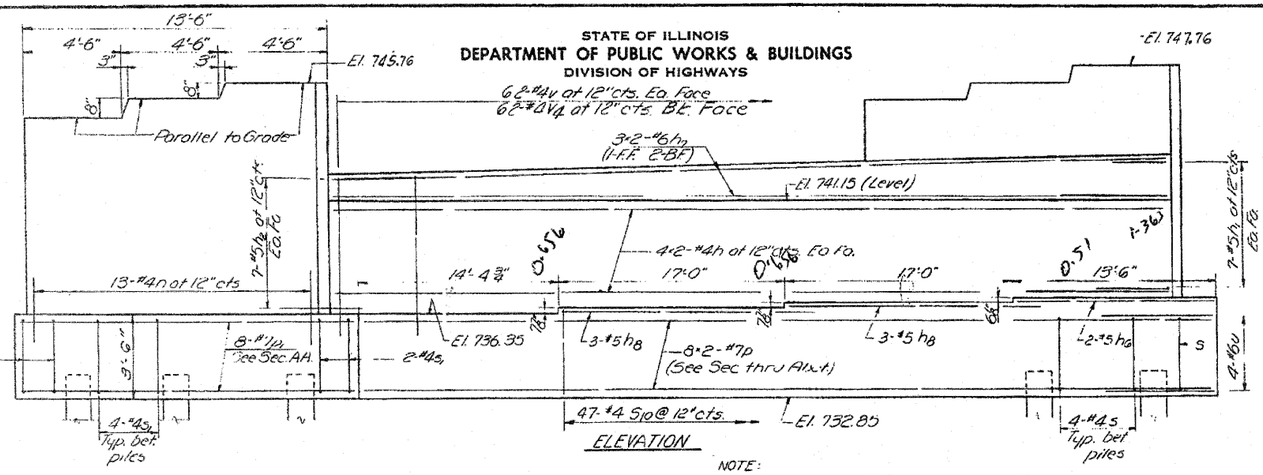
ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO; CONTRACT 64B79	169 OF 216

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	170 OF 216
		CONTRACT 64B79	

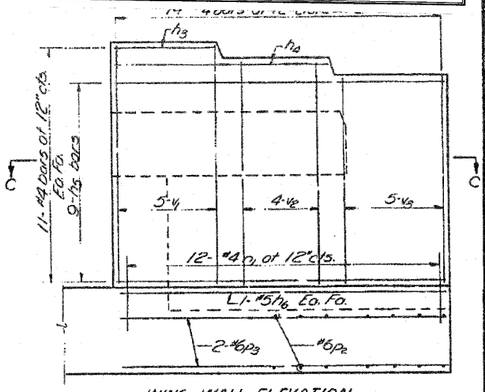


SEC. THRU. ABUT.

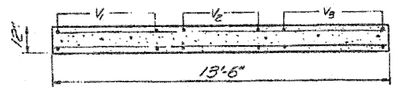


ELEVATION

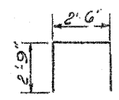
NOTE:
For location of Electrical conduit
See sheet 14.



WING WALL ELEVATION

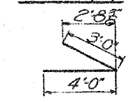


SEC. C-C

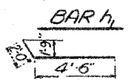


BAR S10

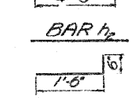
BAR S & S1



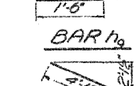
BAR h1



BAR h2



BAR hB

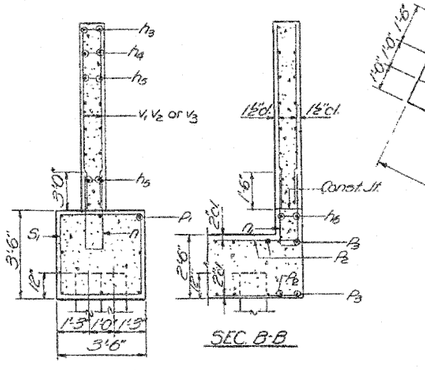


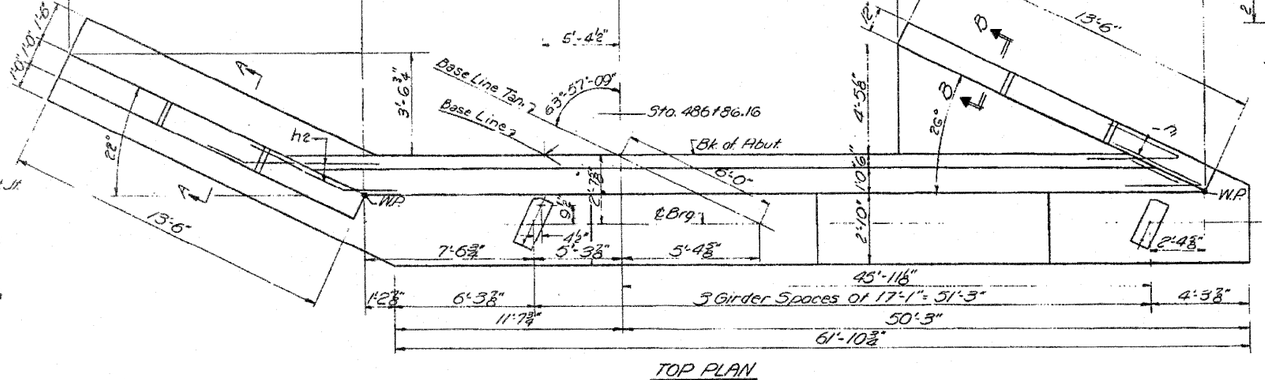
BAR u

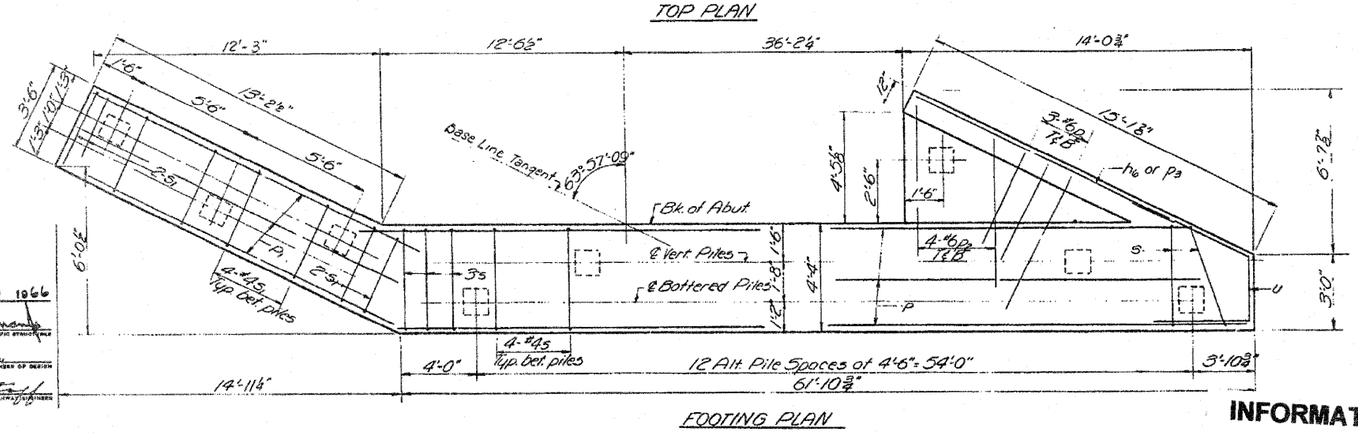
BAR n & n1

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h	16	#4	31'-0"	
h1	14	#5	7'-0"	
h2	14	#5	6'-6"	
h3	4	#4	4'-0"	
h4	4	#4	8'-6"	
h5	36	#4	13'-3"	
h6	4	#5	13'-0"	
h7	6	#6	31'-6"	
h8	6	#5	18'-3"	
n	13	#4	11'-9"	FF
n1	12	#4	8'-9"	FF
P	16	#7	31'-9"	
P1	8	#7	15'-9"	
P2	14	#6	6'-0"	
P3	2	#6	12'-0"	
s	52	#4	15'-1"	
S1	12	#4	13'-5"	
S10	47	#4	8'-0"	
u	4	#6	11'-6"	
V	124	#4	7'-0"	
V1	20	#4	9'-3"	
V2	16	#4	8'-6"	
V3	20	#4	7'-9"	
VB	68	#4	4'-0"	
Class X Concrete			Cu Yds.	771
Reinforcement Bars			Lbs.	49801
Concrete Piles			Lin. Ft.	480
Test Piles, Concrete			Each	1







PILE DATA
Type: Concrete
Capacity: 35 tons
Est'd. Length: 30 ft.
No. Req'd. 17 - Including 1 Test Pile

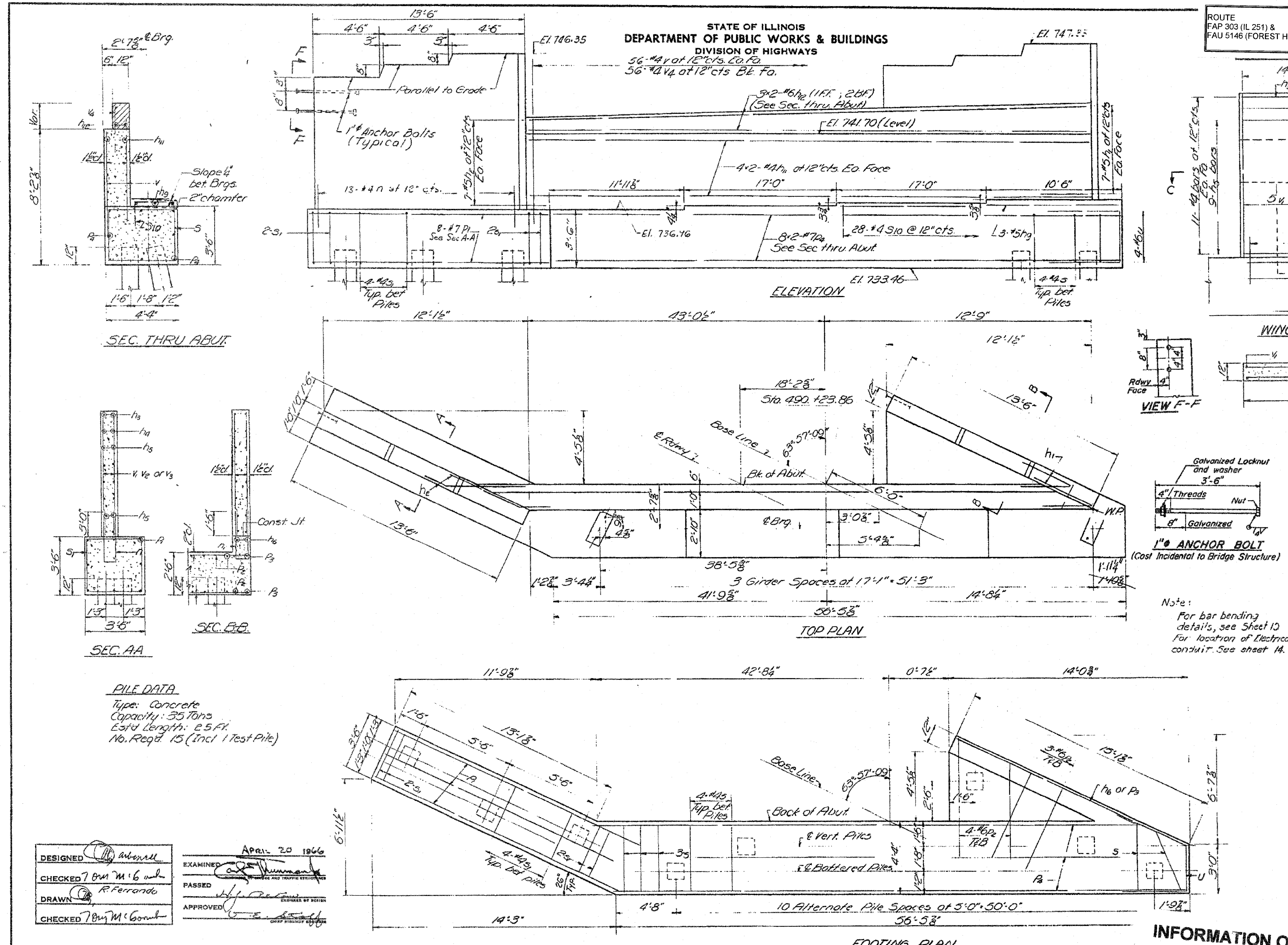
DESIGNED	Mburrill	
CHECKED	Tom McCourt	
DRAWN	R Ferrando	
CHECKED	Tom McCourt	
EXAMINED		April 20 1966
PASSED		
APPROVED		

INFORMATION ONLY

SOUTH ABUTMENT
F.A. RTE. 188 SEC. 1-2HB
WINNEBAGO COUNTY
STA. 688+32.18

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	171 OF 216
		CONTRACT 64B79	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



PILE DATA
Type: Concrete
Capacity: 35 Tons
Est'd Length: 25 Ft.
No. Req'd. 15 (Incl. 1 Test Pile)

Galvanized Locknut and washer
3'-6"
4" Threads
Nut
8" Galvanized
1"ø ANCHOR BOLT
(Cost Incidental to Bridge Structure)

Note:
For bar bending details, see Sheet 13
For location of Electrical conduit. See sheet 14.

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h_1	14	#5	7'-0"	
h_2	14	#5	3'-6"	
h_3	4	#4	4'-0"	
h_4	4	#4	8'-6"	
h_5	36	#4	13'-3"	
h_6	2	#5	13'-0"	
h9	3	#5	27'-3"	
h_{11}	16	#4	28'-5"	
h_{12}	6	#6	28'-9"	
n	13	#4	11'-9"	
n_1	12	#4	8'-9"	
P_1	8	#7	15'-9"	
P_2	14	#6	6'-0"	
P_3	2	#6	12'-0"	
P_4	16	#7	29'-0"	
S	44	#4	15'-7"	
S_1	12	#4	13'-5"	
S_{10}	28	#4	8'-0"	
U	4	#6	11'-6"	
V	112	#4	7'-0"	
V_1	20	#4	9'-3"	
V_2	16	#4	8'-6"	
V_3	20	#4	7'-9"	
V_4	56	#4	4'-0"	
Class X Concrete			Cu. Yds.	68.1
Reinforcement Bars			Lbs.	4520
Concrete Piles			Lin. Ft.	350
Test Piles, Concrete			Each	1

DESIGNED	[signature]
CHECKED	[signature]
DRAWN	R. Ferrando
CHECKED	[signature]

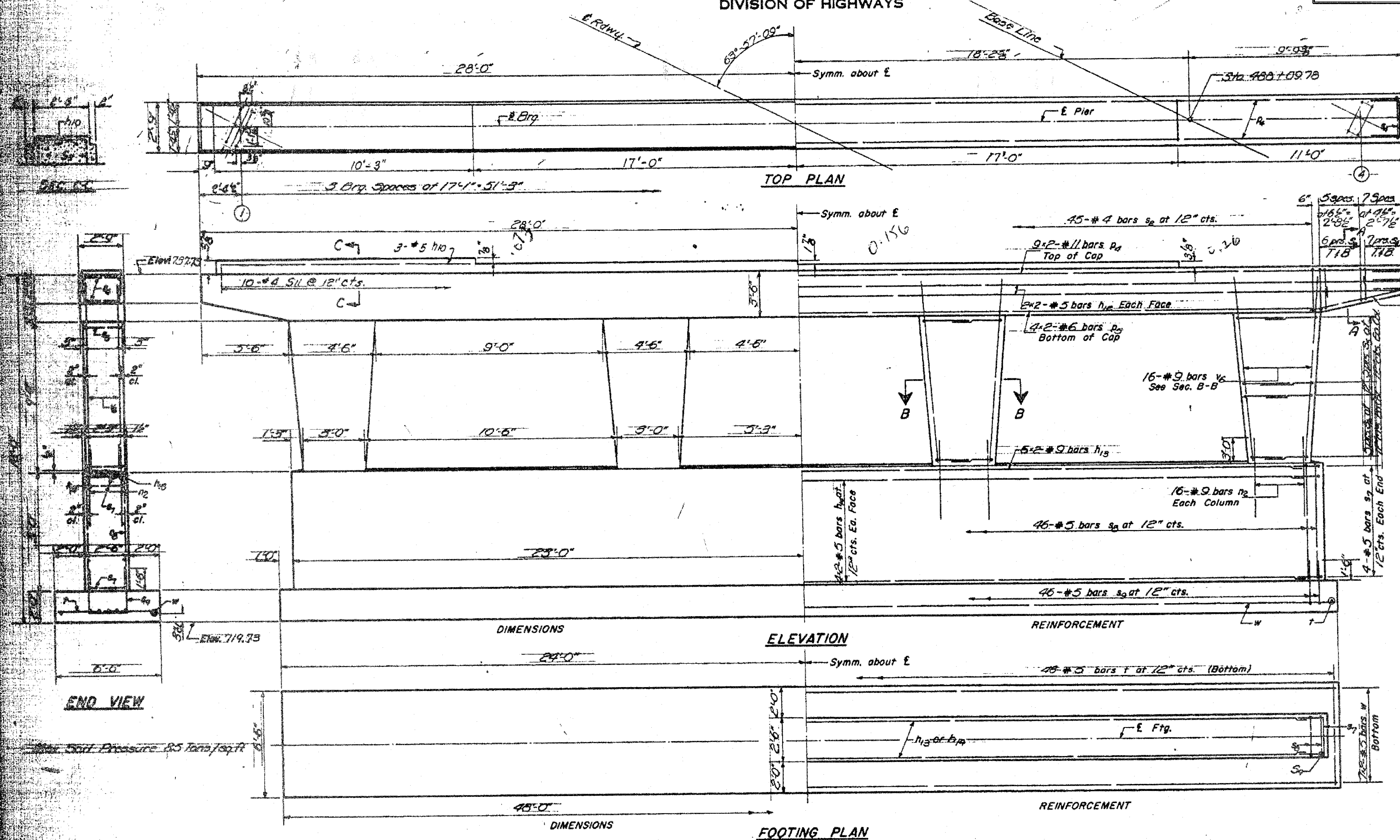
APRIL 20 1966
EXAMINED [signature]
PASSED [signature]
APPROVED [signature]

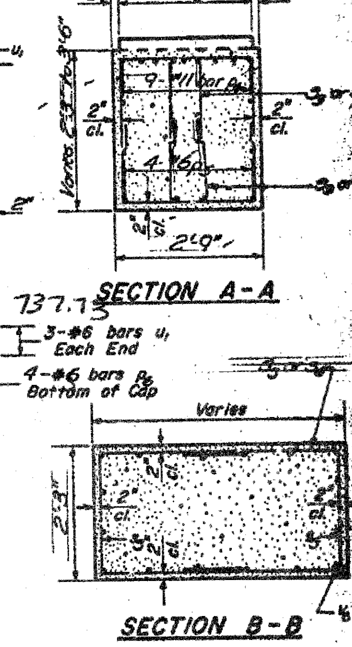
NORTH ABUTMENT
F.A. RTE 188 SEC. 1-2HB
WINNEBAGO COUNTY
STA. 688+32.18

INFORMATION ONLY

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	172 OF 216
		CONTRACT 64B79	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

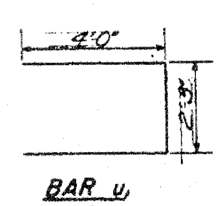


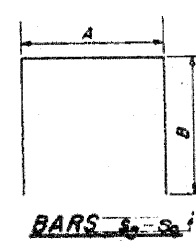


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{12}	8	#5	28'-6"	
h_{18}	10	#9	24'-0"	
h_{19}	16	#5	23'-9"	
n_2	64	#9	5'-6"	
h_{10}	3	#5	10'-0"	
p_4	18	#11	29'-0"	
p_9	8	#6	23'-9"	
p_6	8	#6	6'-5"	
s_e	45	#4	11'-9"	
s_3	48	#5	6'-6"	
s_4	56	#5	3'-4"	
s_5	40	#5	7'-3"	
s_6	40	#5	6'-2"	
s_7	8	#5	4'-8"	
s_8	46	#5	7'-8"	
s_9	46	#5	8'-8"	
t	48	#5	6'-5"	
u_1	6	#6	10'-5"	
v_6	64	#9	12'-0"	
w	14	#5	24'-6"	
S11	10	#4	5'-1"	
Class X Concrete			Cu. Yds.	[illegible]
Reinforcement Bars			Lbs.	11,590

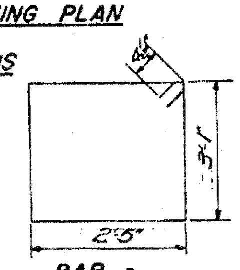
INFORMATION ONLY





A & B DIMENSIONS

Bar	A	B
s_3	1'-6"	2'-6"
s_4	1'-6"	1'-11"
s_5	1'-11"	2'-8"
s_6	1'-11"	2'-2"
s_7	2'-2"	1'-2"
s_8	2'-2"	2'-8"
s_9	2'-2"	3'-3"
S11	2'-1"	1'-6"



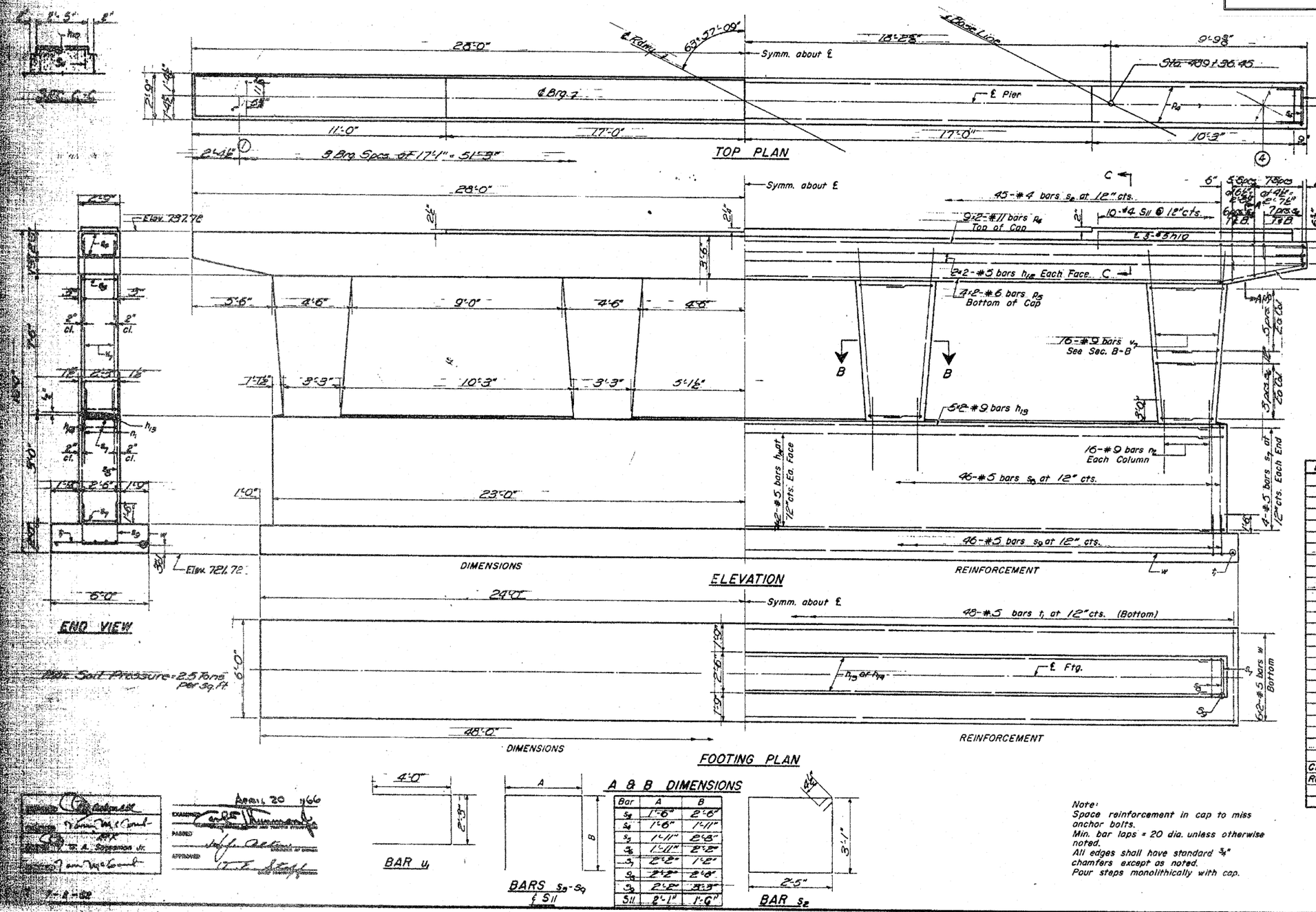
Note:
Space reinforcement in cap to miss anchor bolts.
Min. bar laps = 20 dia. unless otherwise noted.
All edges shall have standard ¾" chamfers except as noted.
Pour steps monolithically with cap.
Bars designated thus 20-3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 20 dia.

Max. Soil Pressure 8.5 Tons/sq. ft.

PIER 1
F.A. RTE. 188 SEC. [illegible]
WINNEBAGO COUNTY
STA 688+82.18

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	173 OF 216
		CONTRACT 64B79	



A & B DIMENSIONS

Bar	A	B
s_3	1'-6"	2'-6"
s_4	1'-6"	1'-11"
s_5	1'-11"	2'-8"
s_6	1'-11"	2'-8"
s_7	2'-2"	1'-2"
s_8	2'-2"	2'-8"
s_9	2'-2"	3'-3"
S11	2'-1"	1'-6"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{12}	8	#5	20'-8"	
h_{13}	10	#10	24'-0"	
h_{14}	16	#5	23'-0"	
n_2	64	#9	5'-6"	
h_{10}	3	#5	10'-0"	
p_4	18	#11	29'-0"	
p_5	8	#6	23'-0"	
p_6	8	#6	6'-8"	
s_e	45	#4	11'-0"	
s_9	48	#5	6'-8"	
s_4	56	#5	5'-4"	
s_3	40	#5	7'-3"	
s_6	24	#5	6'-5"	
s_7	8	#5	4'-8"	
s_8	48	#5	7'-6"	
s_9	96	#5	8'-8"	
t_1	48	#5	5'-9"	
u_1	6	#6	10'-3"	
u_7	64	#9	10'-0"	
w	12	#5	29'-6"	
S11	10	#4	5'-1"	
Class X Concrete			Cu. Yds.	84.6
Reinforcement Bars			Lbs.	10980

Note:
Space reinforcement in cap to miss anchor bolts.
Min. bar laps = 20 dia. unless otherwise noted.
All edges shall have standard ¾" chamfers except as noted.
Pour steps monolithically with cap.

APPROVED April 20 1966

PIER 2
F.A. RTE. 188 - SEC. 1-HBR
WINNEBAGO COUNTY
STA. 688 + 32.78

INFORMATION ONLY

F.A.				
F.A.188	1-HB 1-BR	WINNEBAGO	38	9
			U-276(1)	

B.M. "X" TRAFFIC SIGNAL BASE 23'R 13+31 (SPCR. RD.) EL. 717.90

STORM SEWER LINE AND F.A. 188 AT GRADE SEPARATION OVER SPRING CREEK ROAD

The Bridge Contractor will place 64' of 18" SS - Type I from the Existing Culvert 106' L 15+72 toward the Future Manhole 36' L 15+72.

The end of the storm sewer at the Future Manhole will be left open and any ditches necessary to drain off surface water collecting under the structure will be made to drain to the open end of the SS To be paid for as STORM SEWER TYPE-I - 18" - 64' Lin. Ft.

To Existing Manhole 35' L 15+22

235' 30" H.Y. Storm Sewer

Future Manhole Type A 4' Diam. Invert of MH 708.8

PAVEMENT REMOVAL

Outlet Flow of SS 708.27

64' SS-I-18" Grade -64%

8' Transition to fit culvert

1.9 cu.yds class "X" concrete and 130 lbs. Reinf. Bars included on Sheet No. 31

Sheet No. 31

See Sec. C-C sheet No. 31

723.47 — 5' — 106'-6" — 6"

72420

723.45

723.00

22.36'

711.22

713.47

713.00

708.22

8' Transition from Sec. C-C to Culvert

Transition from Sec. at Abut. to Sec. C-C See Sheet No. 31

PROFILE OF PAVED DITCH FROM BRIDGE TO CULVERT

℄ F.A. Route 188

Back of Abutment 23+25.01

F.A. Rte. 188 24+71.4
Spring Creek Rd 15+89.9

F.A. Rte. 188 24+93.9
Spring Creek Rd 16+19.6

Back of Abutment 25+81.36

MH-A-I-C
Top. Mas. 715.22

PUMA 18" SS

Existing 12" San. Sewer

Existing 18" San. Sewer

Remove existing 5'x3' culvert to existing inlet 106' L 15+72 (spring creek road)

Future 15" SS

12" San. Sewer to be abandon

Proposed 8" Sanitary Sewer Spring Creek Road

MANHOLE SPECIAL #2 2+73

Inlet Fl 708.0 / 711.0

50' L 18+40

708.08

PAVEMENT REMOVAL 23.5' L 18+52

MH-A-Spec-I-C Top. Mas. 717.13

Existing 15" San. Sewer

36" SANITARY SEWER 12"

Existing 12" San. Sewer to Remain in Place

Existing M.H. to Remain in Place Flow 711.15

1+53 MANHOLE Special ℄ 1

153' SS-I-60" -1.8%

Future 12" SS Grade 1.0%

4' SS-I-12" 11.710.67

70' R 18+40

IL 709.9

Existing 8" Sanitary

RELOCATED SEE SHEET 11

1+28

P.I. Ramp "A" Sta. 12+06.3

RAMP "A"

Base Line Inside RAMP "A"

Survey Line - Ramp "A"

Future Manhole

Future 15" SS Grade 4.5%

4' SS-I-15"

IL 713.2

0+00 SS Line

R. 712.3

Special Paved Ditch See Special Drawing

One 4' section of the future Storm Sewer System coming into Manholes Special No. 1, No. 2, and No. 3 and at the Paved Ditch R 10+54 Ramp "A" (0+00 SS Line) will be placed in the Manholes or Paved Ditch at the grade and alignment Shown on the plans.

The ends of the sections shall be blocked to prevent deposit of material in the Manholes and care shall be taken during backfilling to prevent damage to the sections.

See sheet No. 13 for plan and profile and other details of the sanitary sewers.

See special drawing for Manhole Type A Special.

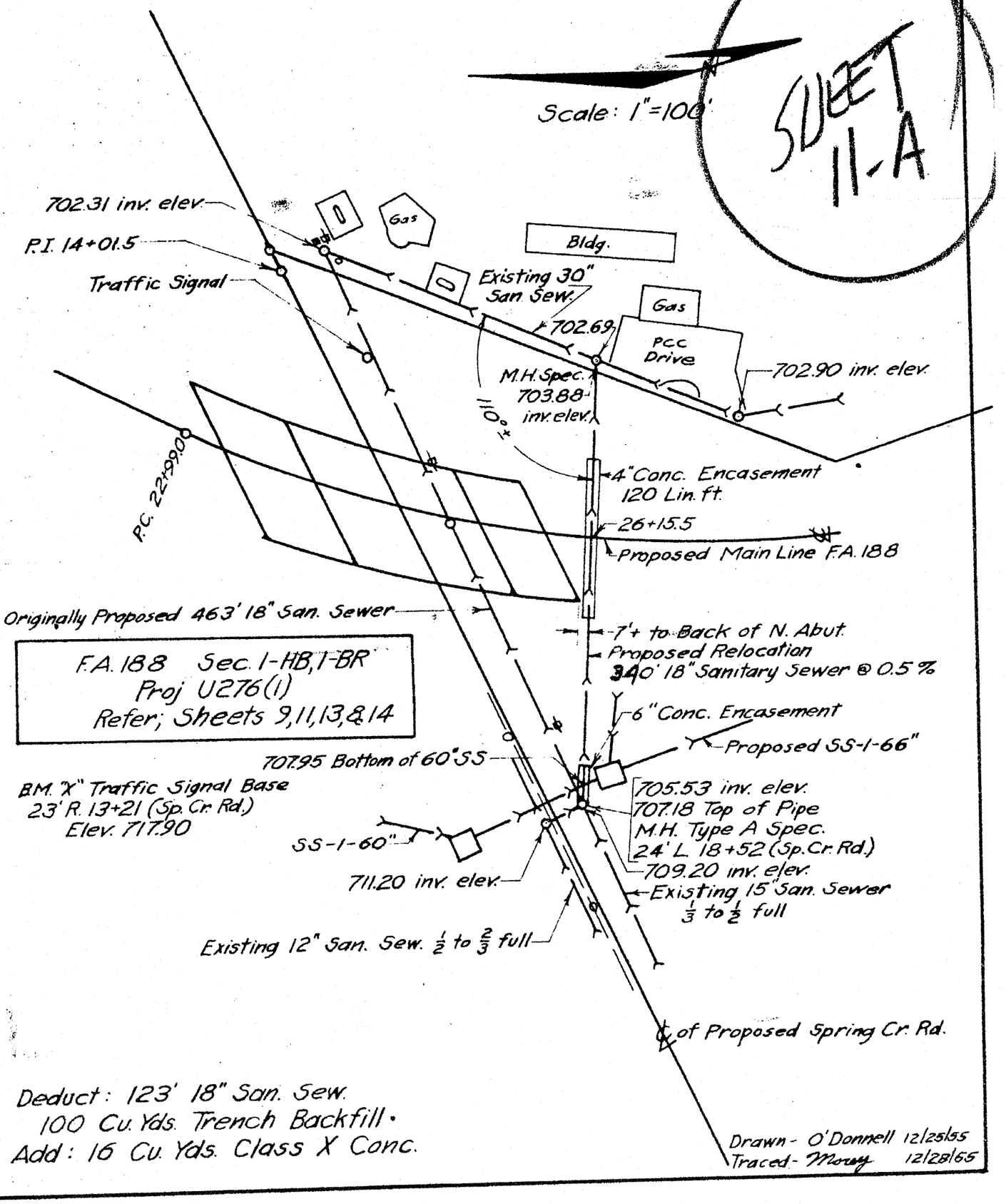
See Sheet No 7 for Curve Data and Sheet No 8 for Tie Points

F.A. ROUTE 188 - Sec (1HB, 1BR)
Proj U-276(1)
WINNEBAGO COUNTY
District #2
Drawn: Keene, Kramer
Checked Hankins
Date: 3-55

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	174 OF 216
		CONTRACT 64B79	

PROPOSED RELOCATION OF PROPOSED 18" SANITARY SEWER

SHEET 11-A



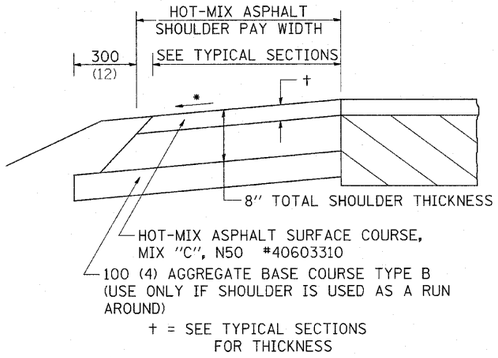
F.A. 188 Sec. 1-HB, 1-BR
Proj U276(1)
Refer; Sheets 9, 11, 13, & 14

Deduct: 123' 18" San. Sew.
100 Cu. Yds. Trench Backfill.
Add: 16 Cu. Yds. Class X Conc.

Drawn - O'Donnell 12/25/65
Traced - Morey 12/28/65

ROUTE	SECTION	COUNTY	SHEET
FAP 303 (IL 251) & FAU 5146 (FOREST HILLS ROAD)	1-HBR & 1-2-HB-D	WINNEBAGO	175 OF 216
		CONTRACT 64879	

HOT–MIX ASPHALT SHOULDER



GENERAL NOTES

THE HOT-MIX ASPHALT SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310 AND SQUARE YARD FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED.

USE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310. WHEN RESURFACING EXISTING HOT-MIX ASPHALT SHOULDERS. THE THICKNESS IS SHOWN ON THE TYPICAL SECTIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310.

REMOVAL OF MATERIAL FOR PLACEMENT OF THE HOT-MIX ASPHALT SHOULDER TO BE PAID FOR IN UNITS FOR EXCAVATING AND GRADING EXISTING SHOULDERS OR IN CUBIC YARDS FOR EARTH EXCAVATION OR EARTH EXCAVATION WIDENING.

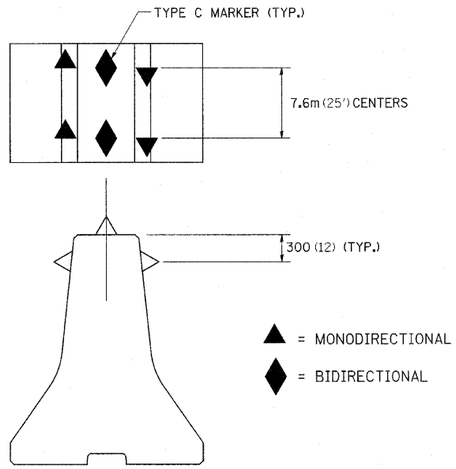
* 4% WHEN MAINLINE IS ON TANGENT. FOR CROSS SLOPE ON SUPERELEVATION SECTION, SEE HIGHWAY STANDARD 482001 OR 482006.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

REVISED - 11-01-07

HOT–MIX ASPHALT SHOULDER 23.4a

DELINEATION OF CENTER BARRIER OF TWO–LANE TWO WAY OPERATION



DESIGNER NOTE:

Use this with Traffic Control and Protection Standard 701416 when using concrete barrier vs. flexible delineators as the barrier on centerline.

NOTES

1. All reflectors are to be amber in color and meet the specifications of Section 1097 of the Standard Specifications for Road and Bridge Construction.

2. All reflectors are to be installed in accordance with Section 782 of the Standard Specifications for Road and Bridge Construction.

3. On Interstates do not use the panels mounted on top of the barriers as shown on Standard 701416.

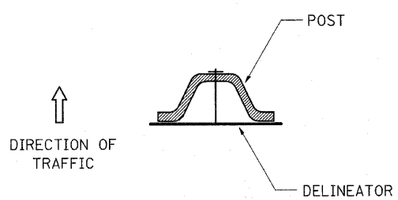
4. The cost of the reflectors will be included in the contract unit price per meter (foot) for Temporary Concrete Barrier.

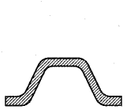
5. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

REVISED - 1-08-08

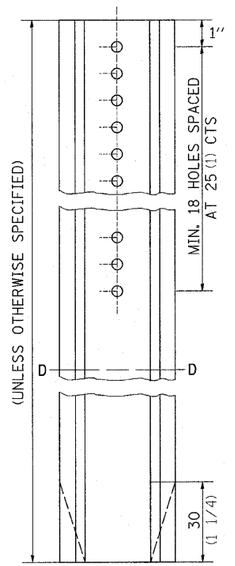
DELINEATION OF CENTER BARRIER OF TWO–LANE TWO WAY OPERATION 25.4

DELINEATOR AND POST ORIENTATION





SECTION D-D



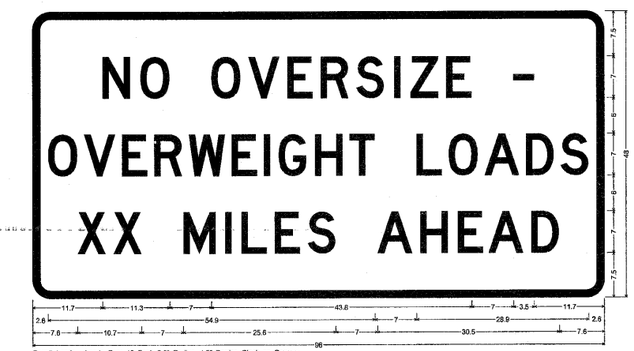
DELINEATORS SHALL BE INSTALLED ACCORDING TO STANDARD 635001 EXCEPT THAT THE POST SHALL BE ROTATED 180° . THE POST WILL HAVE THE WIDE SIDE FACING TRAFFIC AND THE DELINEATOR ATTACHECD AS SHOWN ABOVE.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

REVISED - 11-01-07

DELINEATOR AND POST ORIENTATION 37.4

ROAD CLOSED TO OVERSIZED LOADS



Permit Loads - Loads Over 13 Feet; 3.0" Radius, 1.3" Border, Black on Orange;
[NO OVERSIZE] D; [OVERWEIGHT LOADS] D 85% spacing; [XX MILES AHEAD] D;
Table of letter and object lefts.

N	O	O	V	C	R	S	I	Z	E	-														
11.7	18.1	30.0	36.2	42.8	48.4	54.4	60.7	63.5	69.5	80.8														
O	V	E	R	W	E	I	G	H	T	-	L	O	A	D	S									
2.8	8.8	15.0	20.4	26.2	33.4	38.8	41.3	47.4	53.2	54.5	59.9	75.8	82.9	98.7										
X	X	M	I	L	E	S	A	H	E	A	D													
7.6	13.6	25.3	32.3	35.1	40.6	46.2	57.9	65.1	71.4	76.6	83.7													

All work to furnish and install these signs shall be included in the cost of the Traffic Control Standards and shall not be paid for separately.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

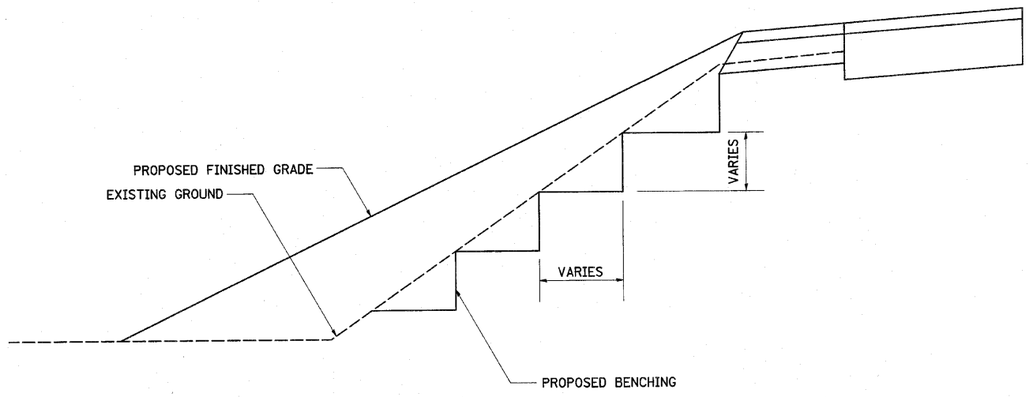
REVISED - 3-11-09	REGION 2 / DISTRICT 2 STANDARD		F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -			•	1-HBR & 1-2HB-D	WINNEBAGO	216	176
REVISED -					CONTRACT NO. 64B79		
REVISED -	SCALE: 50.0000 ' / IN.	SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

PLOT DATE = Tue Aug 31 11:19:09 2010

ROAD CLOSED TO OVERSIZED LOADS 40.4

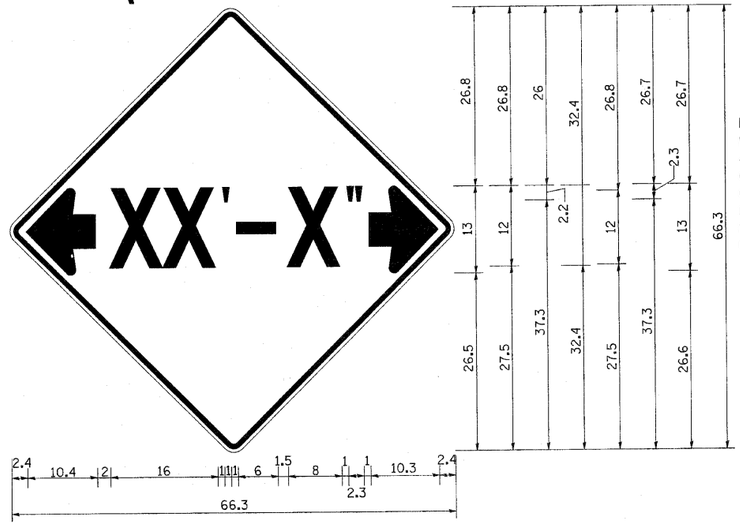
TYPICAL BENCHING ON EXISTING EMBANKMENT



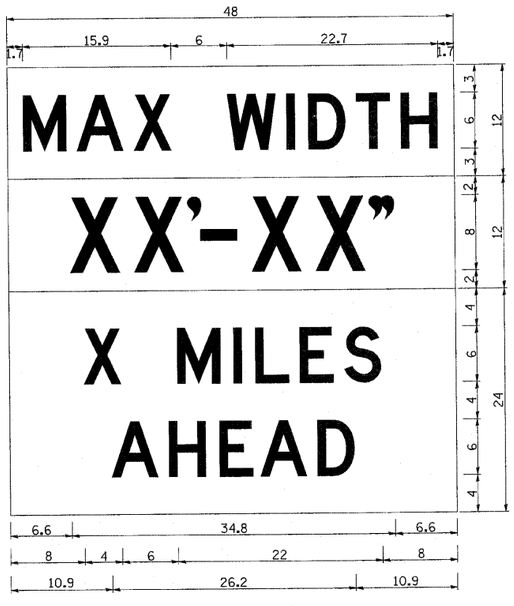
REVISED - 2-22-06

TYPICAL BENCHING ON EXISTING EMBANKMENT **50.4**

INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES)



NOTES
W12-2 - Horizontal Clearance Sign 48.0" across sides, 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange; Standard Arrow Custom 10.4" X 8.1" 180° Black 11 Inch D Series Lettering; Standard Arrow Custom 10.4" X 8.1" 0°



W12-I103 (Width is 8D);
No border, Black on White;
[MAX WIDTH] D;

No border, Black on Orange;
[XX'-XX"] D;

No border, Black on White;
[X MILES] D; [AHEAD] D;

All work to furnish and install these signs shall be included in the cost of the Traffic Control Standards and shall not be paid for separately.

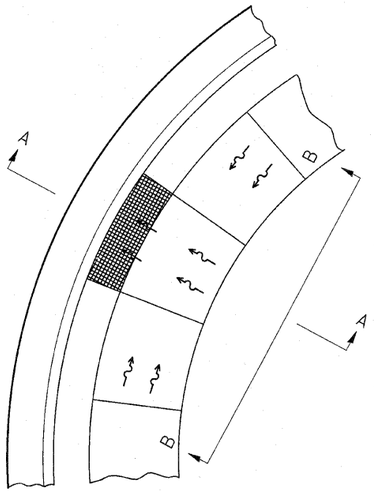
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

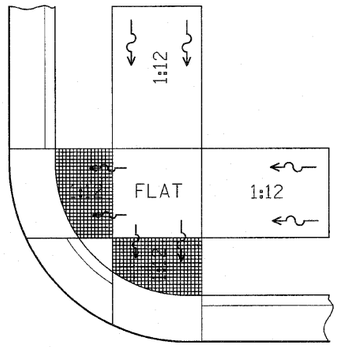
REVISED - 5-15-09	REGION 2 / DISTRICT 2 STANDARD	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -		•	1-HBR & 1-2HB-D	WINNEBAGO	216	177
REVISED -				CONTRACT NO. 64B79		
REVISED -	SCALE: 50.0000 ' / IN. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
		* F.A.P. 303 & F.A.U. 5146.				

PLOT DATE = Tue Aug 31 11:19:09 2010

INFORMATIONAL WARNING SIGNS (FOR NARROW TRAVEL LANES) **39.2**

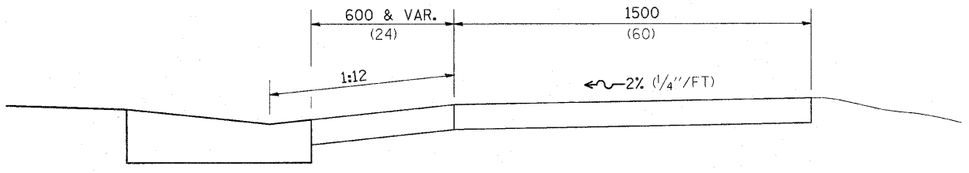
DISABLED RAMP DETAIL



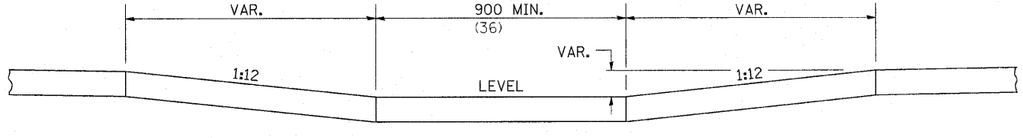


SEE STANDARD 424001
FOR SIDE FLARE DETAIL
& SEE PLANS FOR RAMP TYPE.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)
UNLESS OTHERWISE NOTED.



SECTION A-A

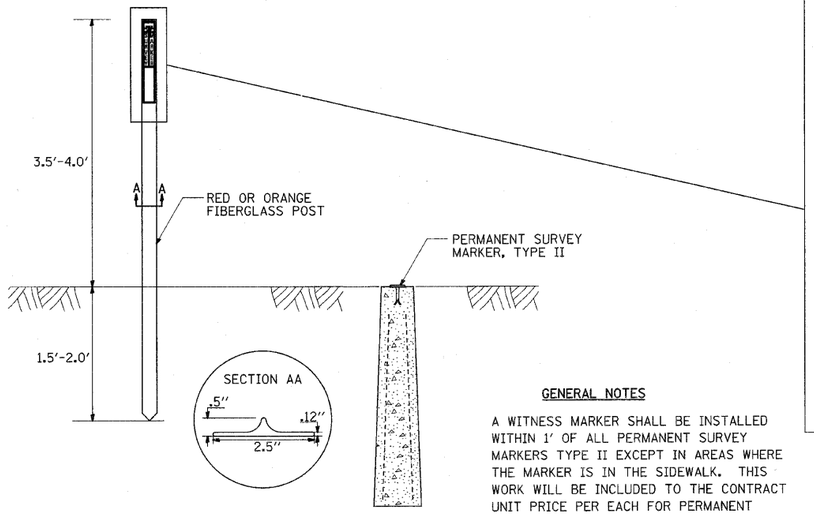


SECTION B-B

NOTES : THIS DETAIL TO BE USED IN CONJUNCTION WITH STATE STANDARD 424001.
THE MAXIMUM ALLOWABLE CROSS SLOPE FOR SIDEWALK IS 2% (1/4"/FT).
THE MAXIMUM ALLOWABLE SIDEWALK GRADE IS 8% (1/12"/FT). IF SPACE LIMITATIONS PROHIBIT THE USE OF THE 1:12 SLOPE, THEN SLOPES BETWEEN 1:10 ARE 1:12 ARE PERMITTED FOR A MAXIMUM RISE OF 150 (6). SLOPES 1:8 AND 1:10 ARE ALLOWED FOR A MAXIMUM RISE OF 75 (3). SLOPES STEEPER THAN 1:8 ARE NOT PERMITTED.
THE DEPRESSED CURB IS NOT STANDARD. THE RISE IS 13(1/2) INSTEAD OF 40(1 1/2).

REVISED - 9-19-05

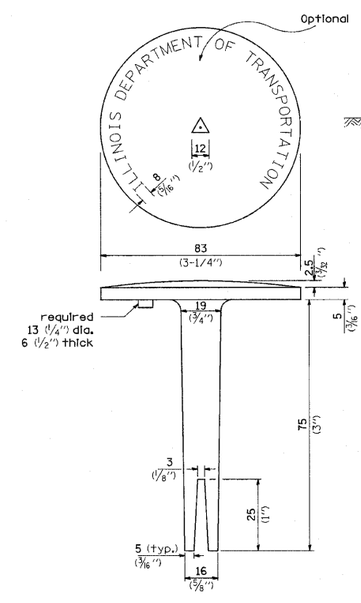
WITNESS MARKER FOR PERMANENT SURVEY MARKERS, TYPE II



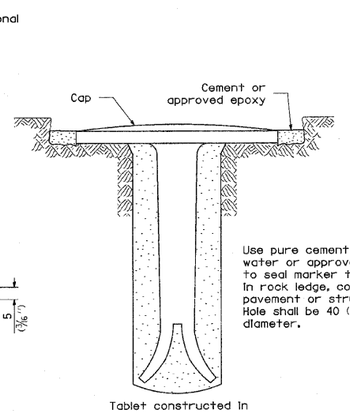
GENERAL NOTES

A WITNESS MARKER SHALL BE INSTALLED WITHIN 1' OF ALL PERMANENT SURVEY MARKERS TYPE II EXCEPT IN AREAS WHERE THE MARKER IS IN THE SIDEWALK. THIS WORK WILL BE INCLUDED TO THE CONTRACT UNIT PRICE PER EACH FOR PERMANENT SURVEY MARKERS, TYPE II.

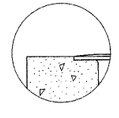
PERMANENT SURVEY MARKERS, TYPE II



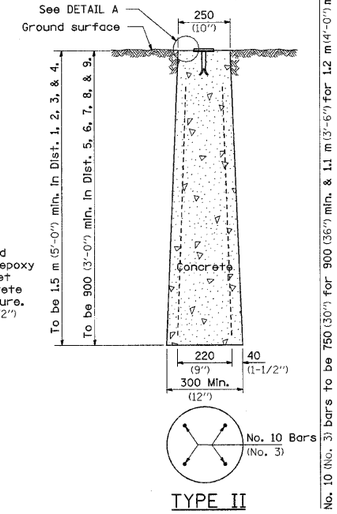
BRASS OR ALUMINUM TABLET



TYPE II



DETAIL A



TYPE II

CAST-IN-PLACE MARKER

No. 10 (No. 3) bars to be 750 (30") for 900 (36") min. & 1.1 m (3'-6") for 1.2 m (4'-0") min.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

REVISED - 10-21-08	REGION 2 / DISTRICT 2 STANDARD				
REVISED -					
REVISED -					
REVISED -	SCALE: 50.0000 ' / IN	SHEET NO. OF SHEETS	STA.	TO STA.	

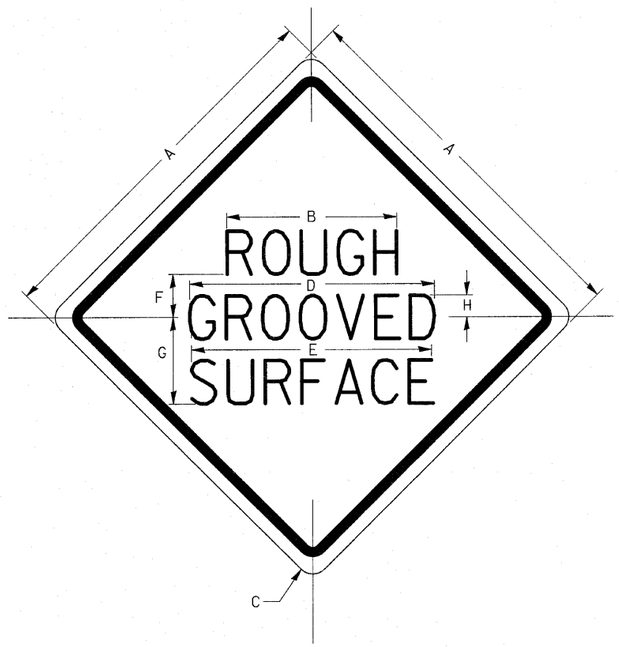
PLOT DATE = Tue Aug 31 11:19:09 2010

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	1-HBR & 1-2HB-D	WINNEBAGO	216	178
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* F.A.P. 303 & F.A.U. 5146				

ROUGH GROOVED SURFACE SIGN

ILLINOIS STANDARD W8-I107

SIGN PANEL TYPE 1



COLOR: LEGEND AND BORDER - BLACK NON-RELFLECTIVE
BACKGROUND - ORANGE REFLECTORIZED

SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	H
1200x1200 (48x48)	1200 (48.0)	600 (24.1)	75 (3.0)	850 (34.0)	825 (33.0)	150 (6.0)	325 (13.0)	88 (3.5)

SIGN SIZE	SERIES LINES			MARGIN	BORDER	BLANK STD.
	1	2	3			
1200x1200 (48x48)	7C	7C	7C	20 (0.8)	30 (1.2)	B4-48D

ALL DIMENSIONS IN INCHES.

GENERAL NOTES

SIGN PANELS AND FACE MATERIALS SHALL BE ACCORDING TO SECTION 720 OF THE STANDARD SPECIFICATIONS

METAL POSTS SHALL BE IN ACCORDANCE WITH STD. 720011.

ALL MOUNTING HARDWARE SHALL BE ALUMINUM, STAINLESS STEEL, ZINC OR CADMIUM PLATED STEEL AND SHALL BE INCLUDED TO THE COST OF THE INSTALLATION.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

REVISED - 1-09-08

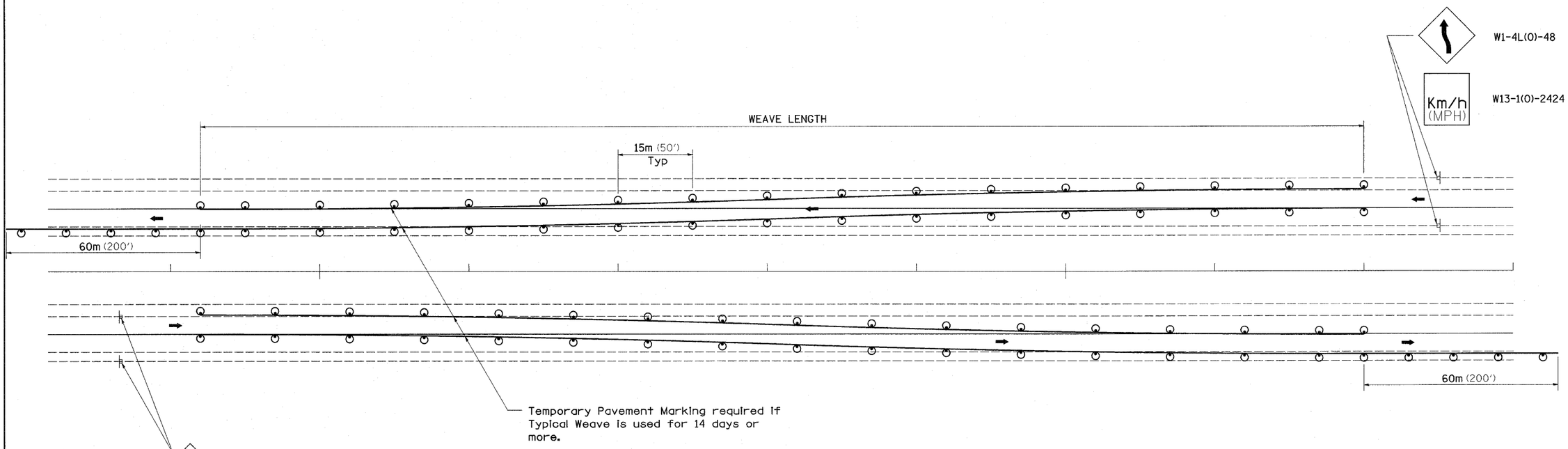
REVISED -	REGION 2 / DISTRICT 2 STANDARD						
REVISED -							
REVISED -							
REVISED -	SCALE: 50.0000 ' / IN	SHEET NO.	OF	SHEETS	STA.	TO STA.	

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	1-HBR & 1-2HB-D	WINNEBAGO	216	179
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

PLOT DATE = Tue Aug 31 11:19:14 2010

TRAFFIC CONTROL TYPICAL WEAVE



DESIGNER NOTE:

1. USE ON LONG 4-LANE PROJECTS WHERE THE CONTRACTOR MAY CHANGE A PORTION OF THE WORK TO THE OPPOSITE LANE.
2. USE WHERE THE PROJECT IS ADJACENT TO ANOTHER AND THE CONTRACTOR COULD BE WORKING ON DIFFERENT LANES.
3. TEMPORARY PAVEMENT MARKING SHALL BE USED WHEN TYPICAL WEAVE IS USED FOR 14 DAYS OR MORE.
4. TRAFFIC CONTROL TYPICAL WEAVE SHALL BE INCLUDED IN THE COST OF THE SPECIFIC TRAFFIC CONTROL STANDARDS OF ITEMS.

LEGEND

- DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHTS
- SIGN ON PERMANENT MOUNT

STANDARD WEAVE CONDITIONS FOR DIFFERENT SPEED LIMITS

POSTED SPEED LIMIT	ADVISORY SPEED LIMIT	WEAVE LENGTH
110 Km/h (65 MPH)	80 Km/h (45 MPH)	240m (780 FT.)
90 Km/h (55 MPH)	60 Km/h (35 MPH)	200m (660 FT.)
80 Km/h (45 MPH)	40 Km/h (25 MPH)	165m (540 FT.)

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

FILE NAME = c:\pw_work\pwidot\goffjl\dms41657\d2144 05-sht-cover.dgn	USER NAME = goffjl	DESIGNED -	REVISED - 5-30-91
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = Tue Aug 31 11:19:10 2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

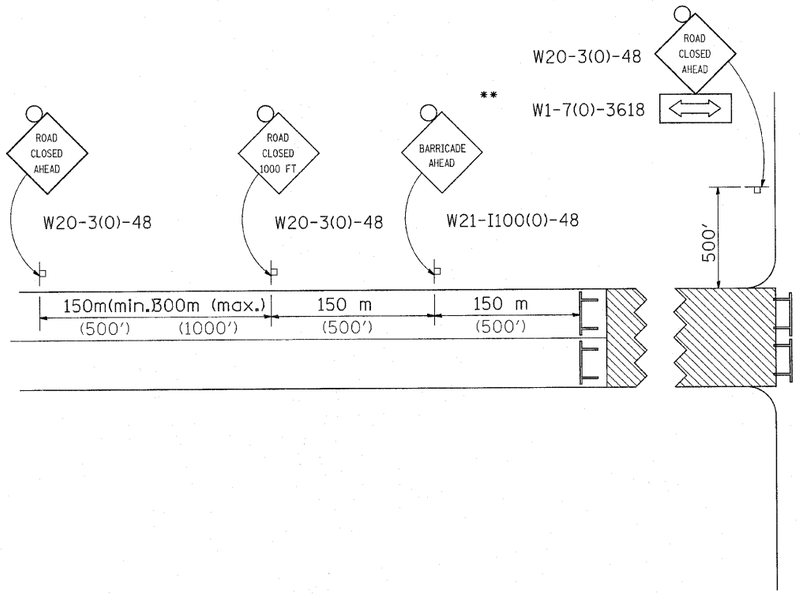
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	1-HBR & 1-2HB-D	WINNEBAGO	216	180
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

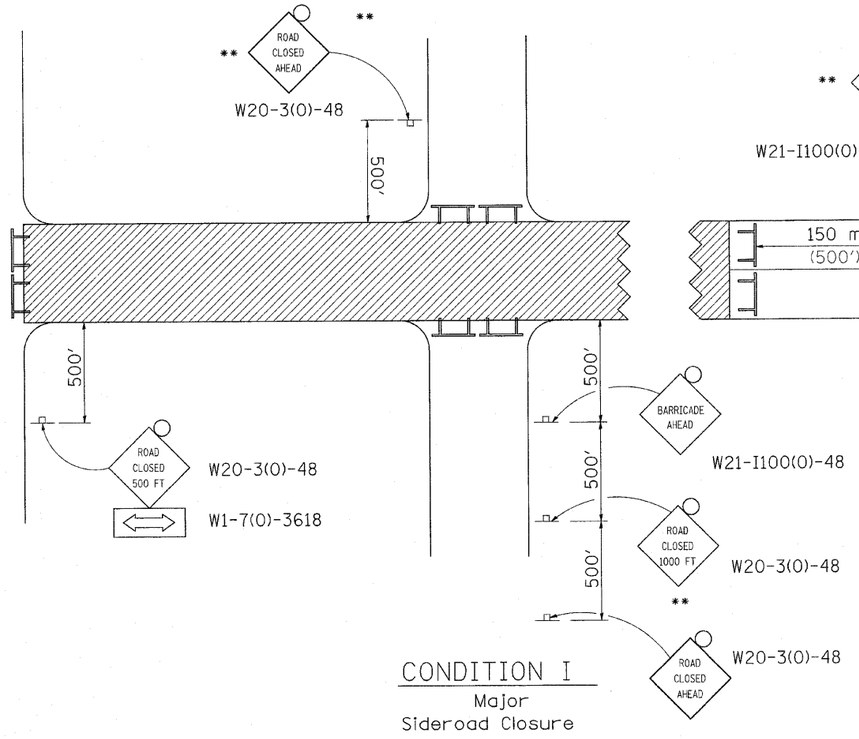
* F.A.P. 303 & F.A.U. 5146

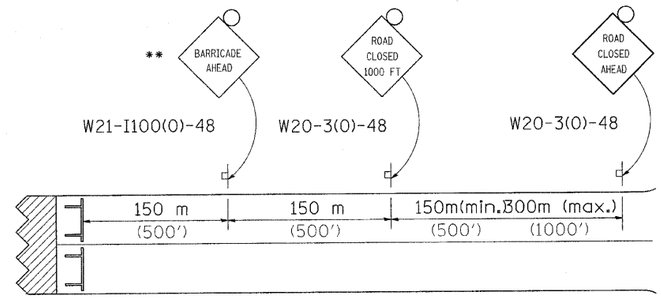
TRAFFIC CONTROL FOR ROAD CLOSURE

CONDITION II

Minor
Sideroad Closure







CONDITION I

Major
Sideroad Closure

GENERAL NOTES

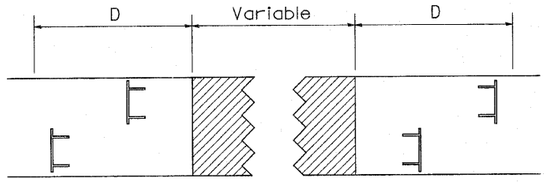
Longitudinal dimensions may be adjusted to fit field conditions.

When speed limit is less than 45mph, change sign spacing to 250' and change ROAD CLOSED 1000 FT to ROAD CLOSED 500 FT.

Side roads requiring all three signs as shown in CONDITION I (Major Sideroad Closure), shall be listed in the special provision.

** Where local access is to be maintained, barricades are to be set up as shown in Road Closed to thru traffic. Type III Barricades and R11-2-4830 signs shall be as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

ROAD CLOSED TO THRU TRAFFIC BARRICADE SET UP



Type III Barricades and R11-4-4830 signs shall be as shown in "Road Closed To All Thru Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 600 m (2000') an additional set of barricades and R11-4-4830 shall be placed at each end of the work area.

SYMBOLS

Work area

Type III Barricade with Flashers

Sign with flashing light

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATION FOR ROAD CLOSURE

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		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = Tue Aug 31 11:19:10 2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

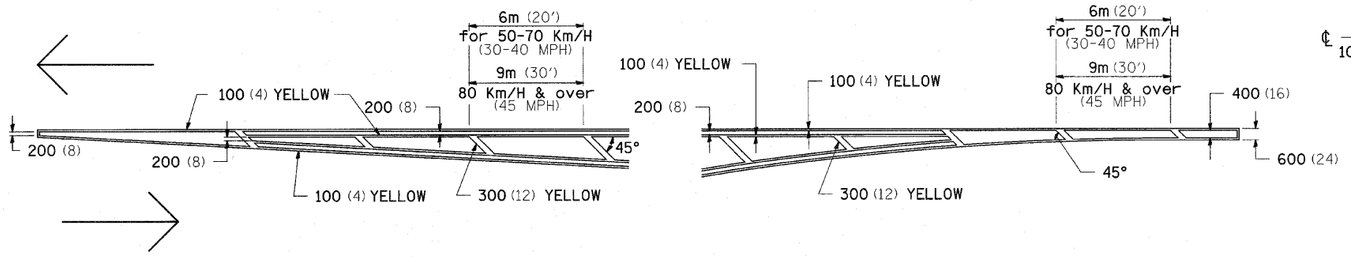
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	1-HBR & 1-2HB-D	WINNEBAGO	216	181
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

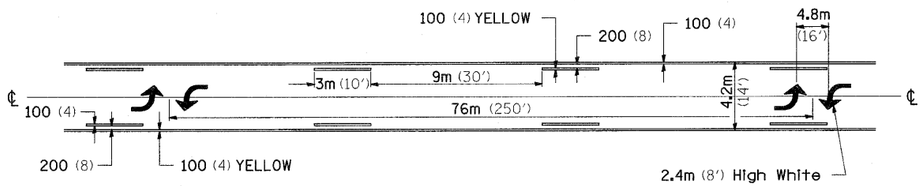
TRAFFIC CONTROL FOR ROAD CLOSURE **40.1**

TYPICAL PAVEMENT MARKINGS

TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE

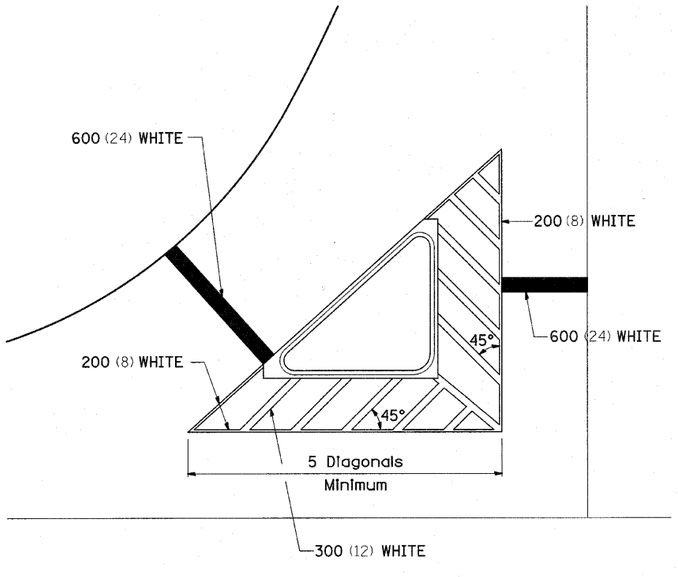


MEDIAN PAVEMENT MARKING

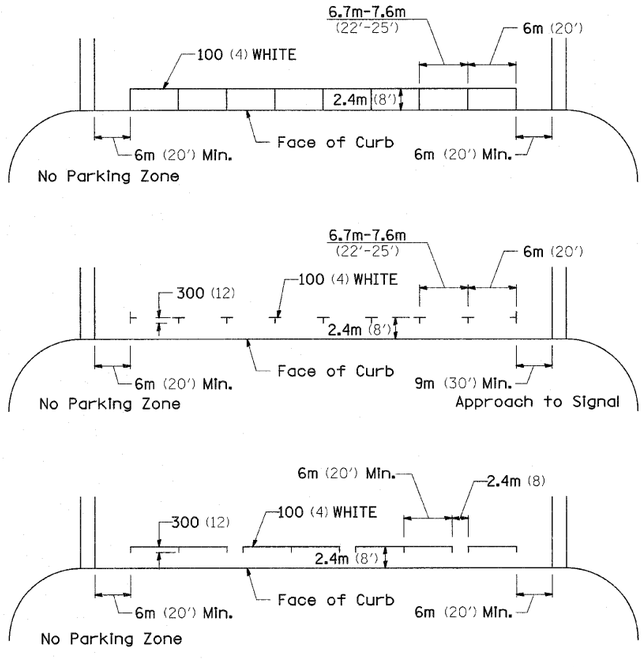


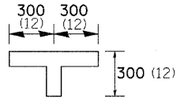
** ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

TYPICAL ISLAND OFFSET SHOULDER WIDTH



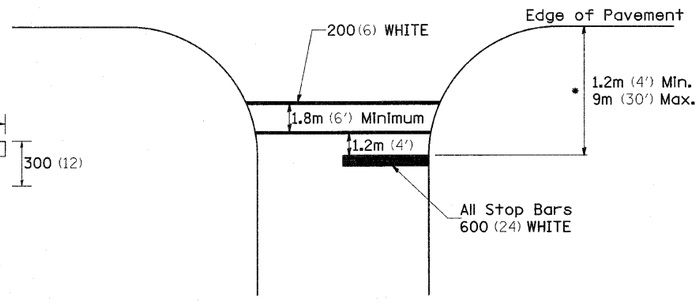
TYPICAL PARKING SPACING





STANDARD CROSSWALK MARKING

See Schedules for Locations



* Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

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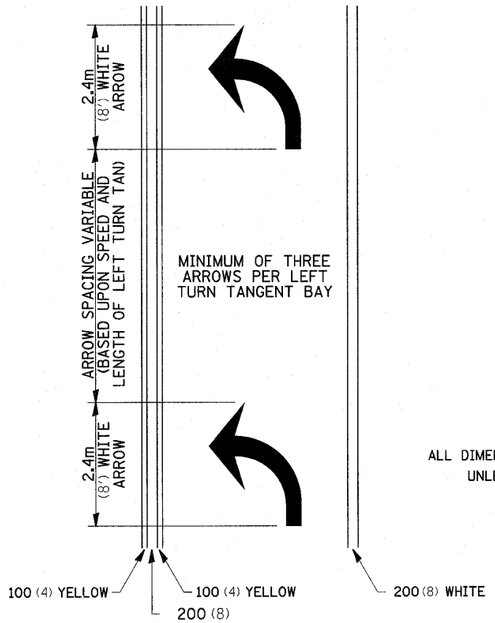
		DRAWN -	REVISED -					*	1-HBR & 1-2HB-D	WINNEBAGO	216	182
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -							CONTRACT NO. 64B79		
	PLOT DATE = Tue Aug 31 11:19:10 2010	DATE -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

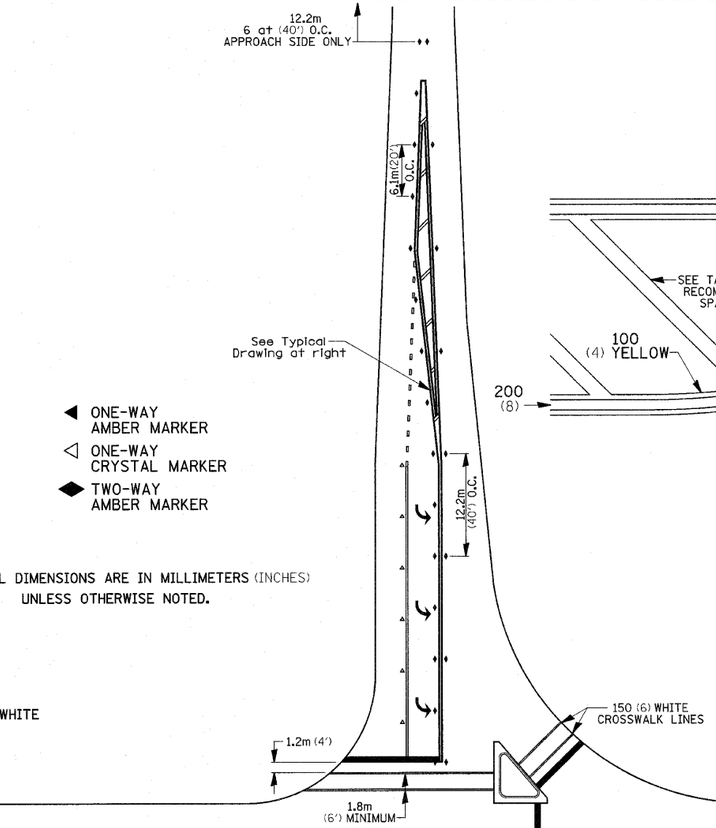
* F.A.P. 303 & F.A.U. 5146

TYPICAL PAVEMENT MARKINGS SHEET 1 OF 3 41.1

TYPICAL PAVEMENT MARKINGS

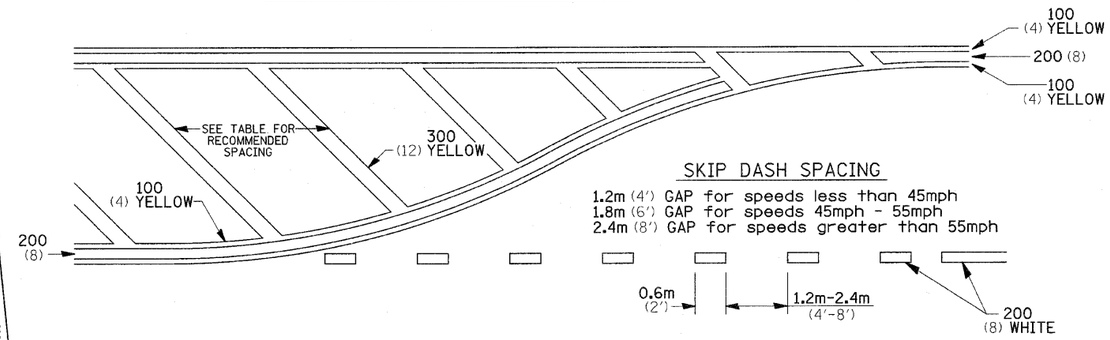
ARROW LAYOUT





ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

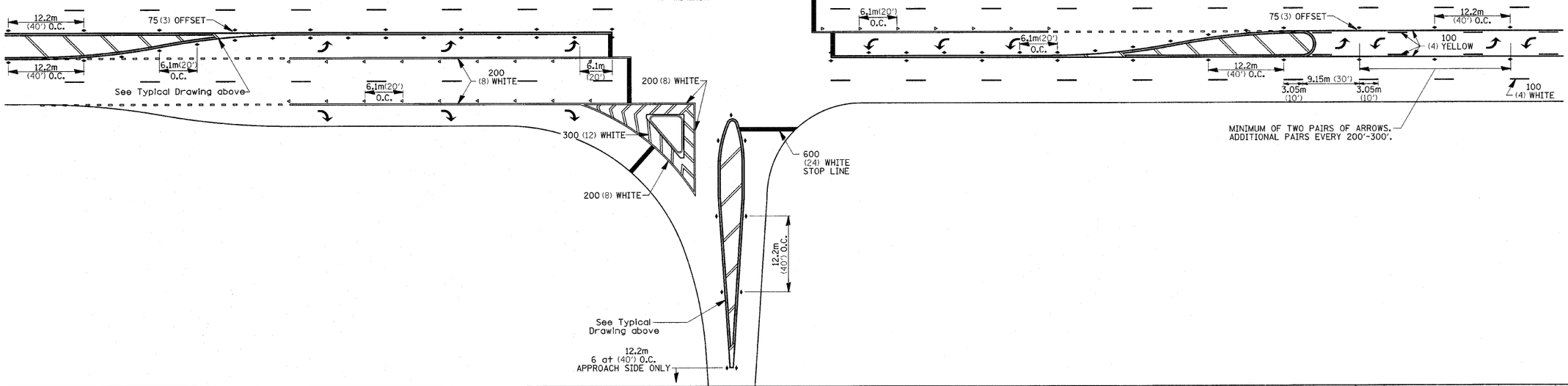
TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 50Km/H (30MPH)	15.3m (50')	4.53m (15')	3.05m (10')
50-60Km/H (30-40MPH)	22.9m (75')	6.1m (20')	4.53m (15')
70Km/H (45MPH) & over	22.9m (75')	9.05m (30')	6.1m (20')

NOTE: If the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.



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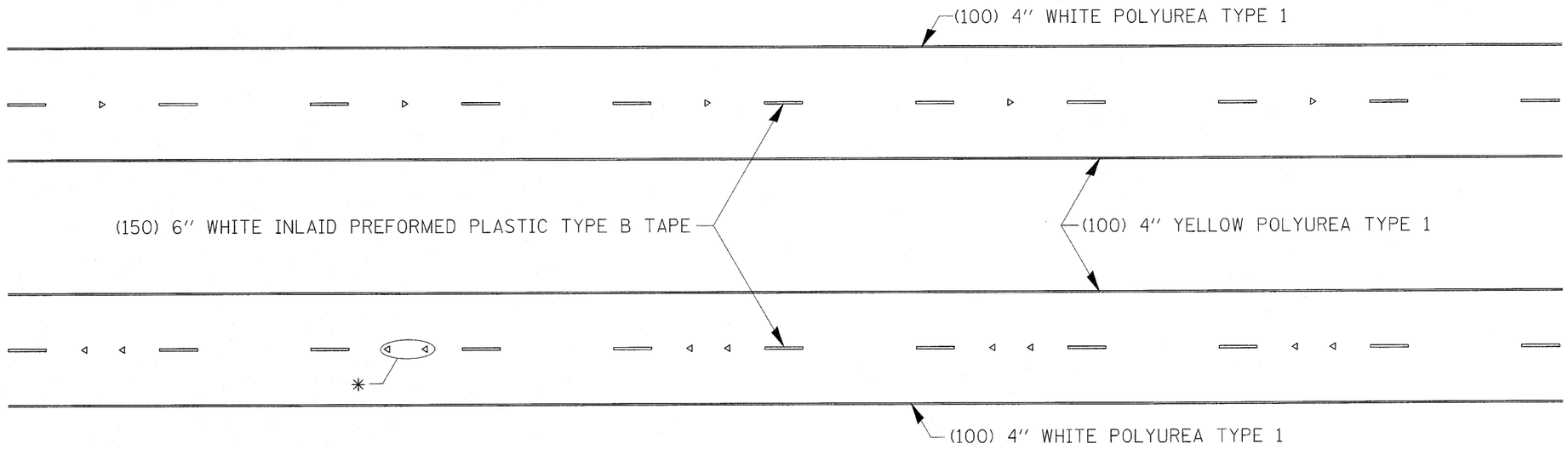
		DRAWN -	REVISED -		
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -		
	PLOT DATE = Tue Aug 31 11:19:10 2010	DATE -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	1-HBR & 1-2HB-D	WINNEBAGO	216	183
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT			

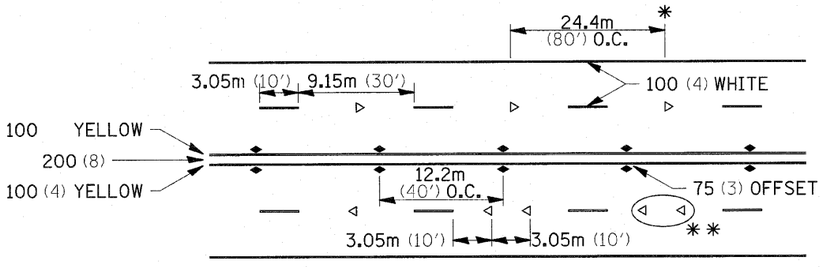
* F.A.P. 303 & F.A.U. 5146

TYPICAL PAVEMENT MARKINGS



* SEE HIGHWAY STANDARD 781001 FOR SPACING DETAILS.
USE DOUBLE MARKERS WHEN ADT ≥ 25,000.

MULTI–LANE / DIVIDED



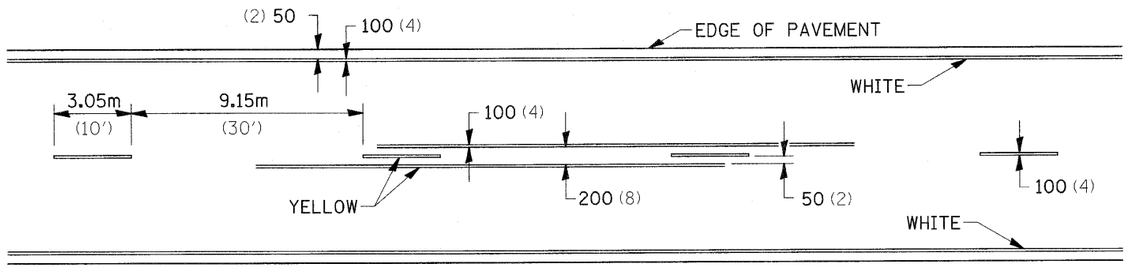
SYMBOLS

* REDUCE TO 12.2m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 15Km/H (10MPH) LOWER THAN POSTED SPEEDS.

** USE DOUBLE MARKERS WHEN ADT ≥ 25,000

MULTI–LANE / UNDIVIDED

TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION – NO PASSING ZONES



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	PLOT DATE = Tue Aug 31 11:19:11 2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

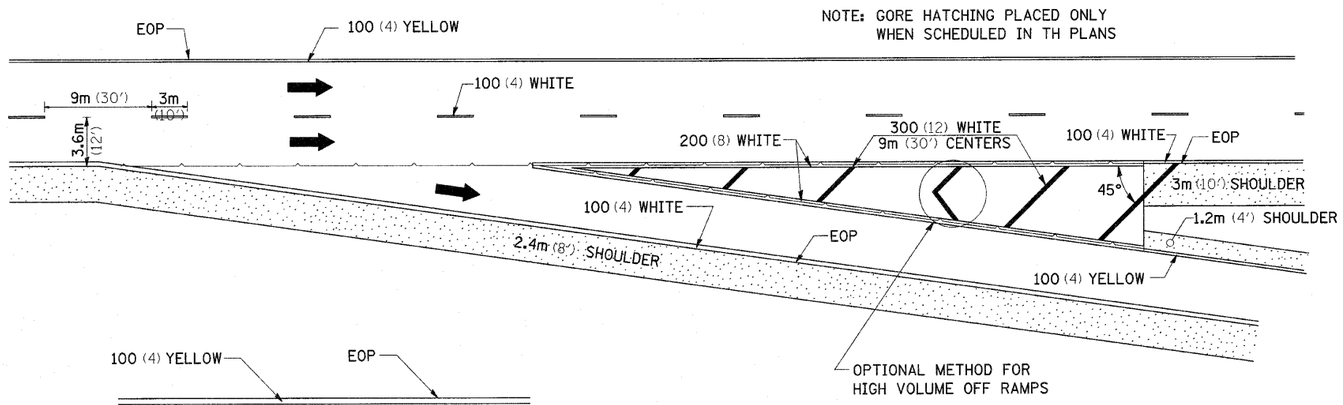
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	1-HBR & 1-2HB-D	WINNEBAGO	216	184
		CONTRACT NO. 64B79		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* F.A.P. 303 & F.A.U. 5146

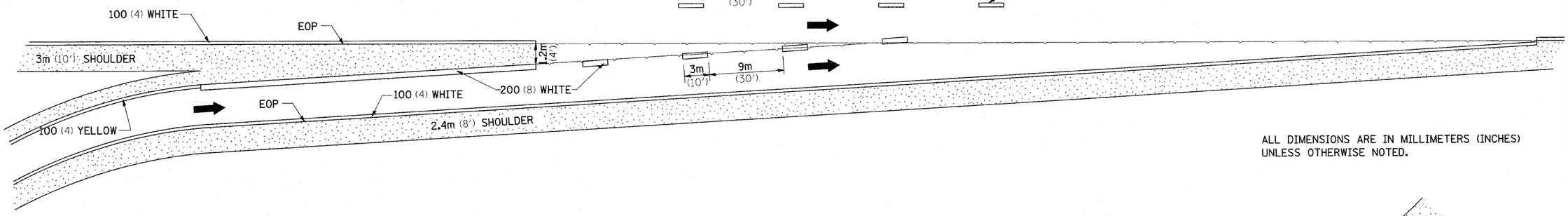
TYPICAL PAVEMENT MARKINGS SHEET 3 OF 3 **41.1**

PAINTING DETAILS

EXIT RAMP

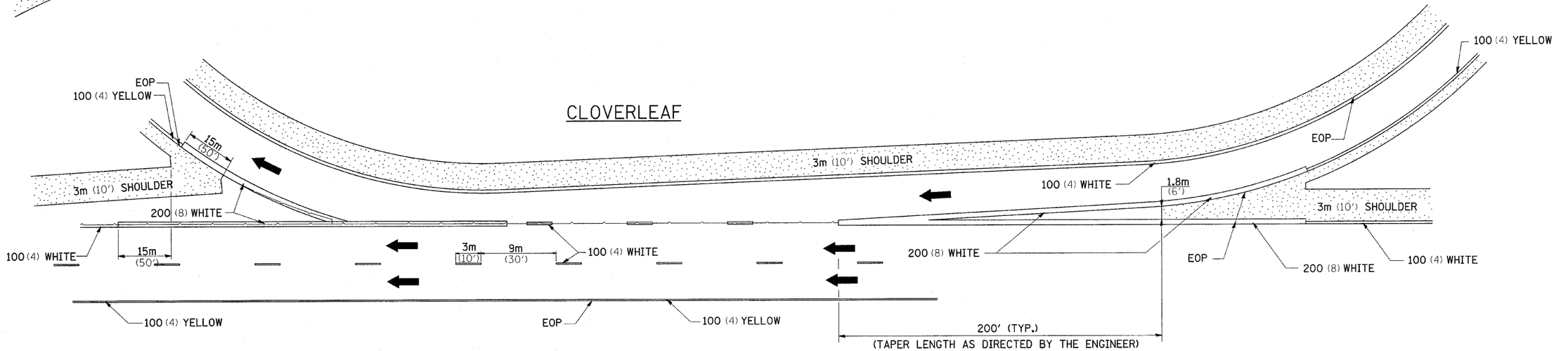


ENTRANCE RAMP



ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

CLOVERLEAF



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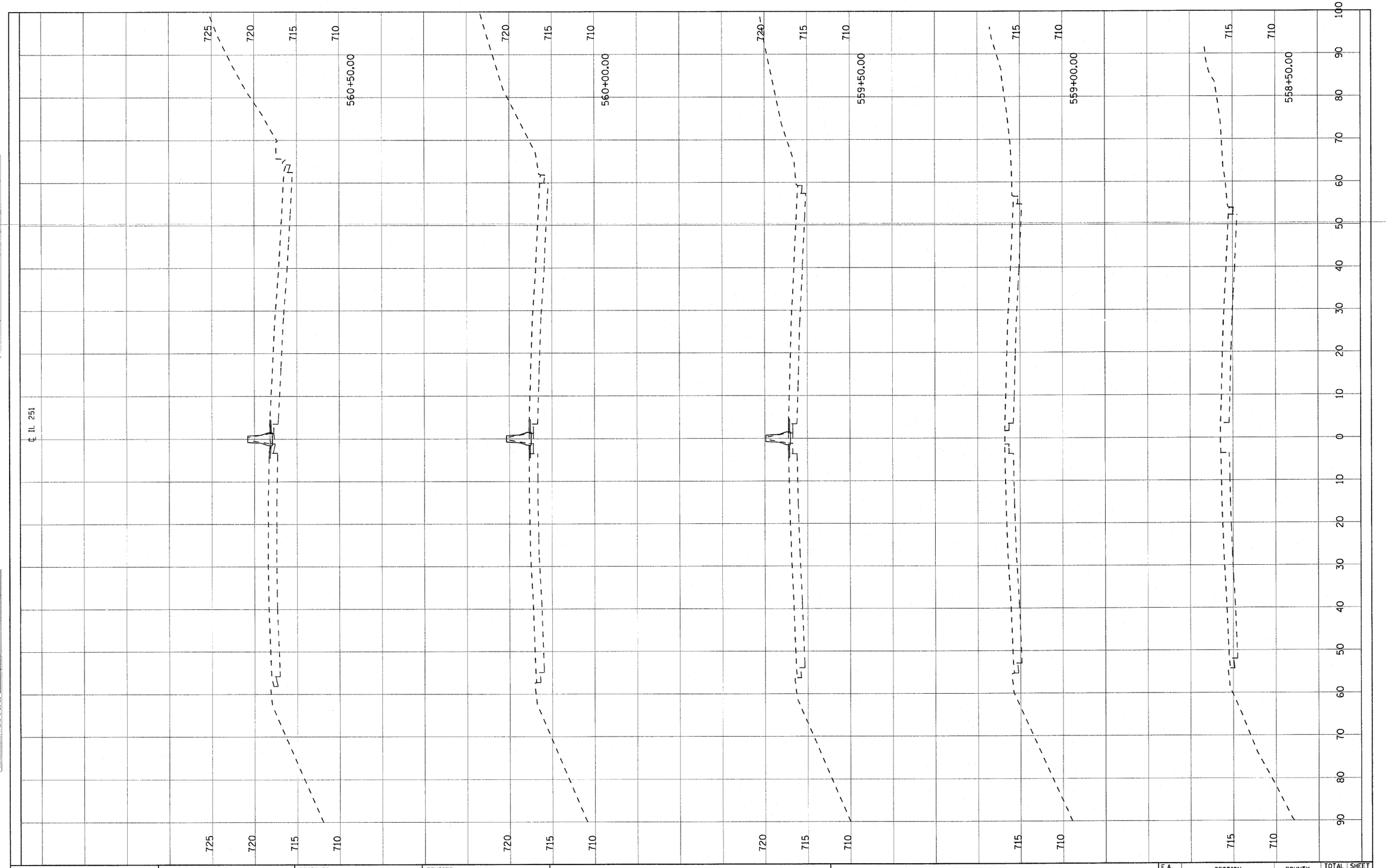
		DATE -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• F.A.P. 303 & F.A.U. 8146



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	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS CHECKED		

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	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS CHECKED		

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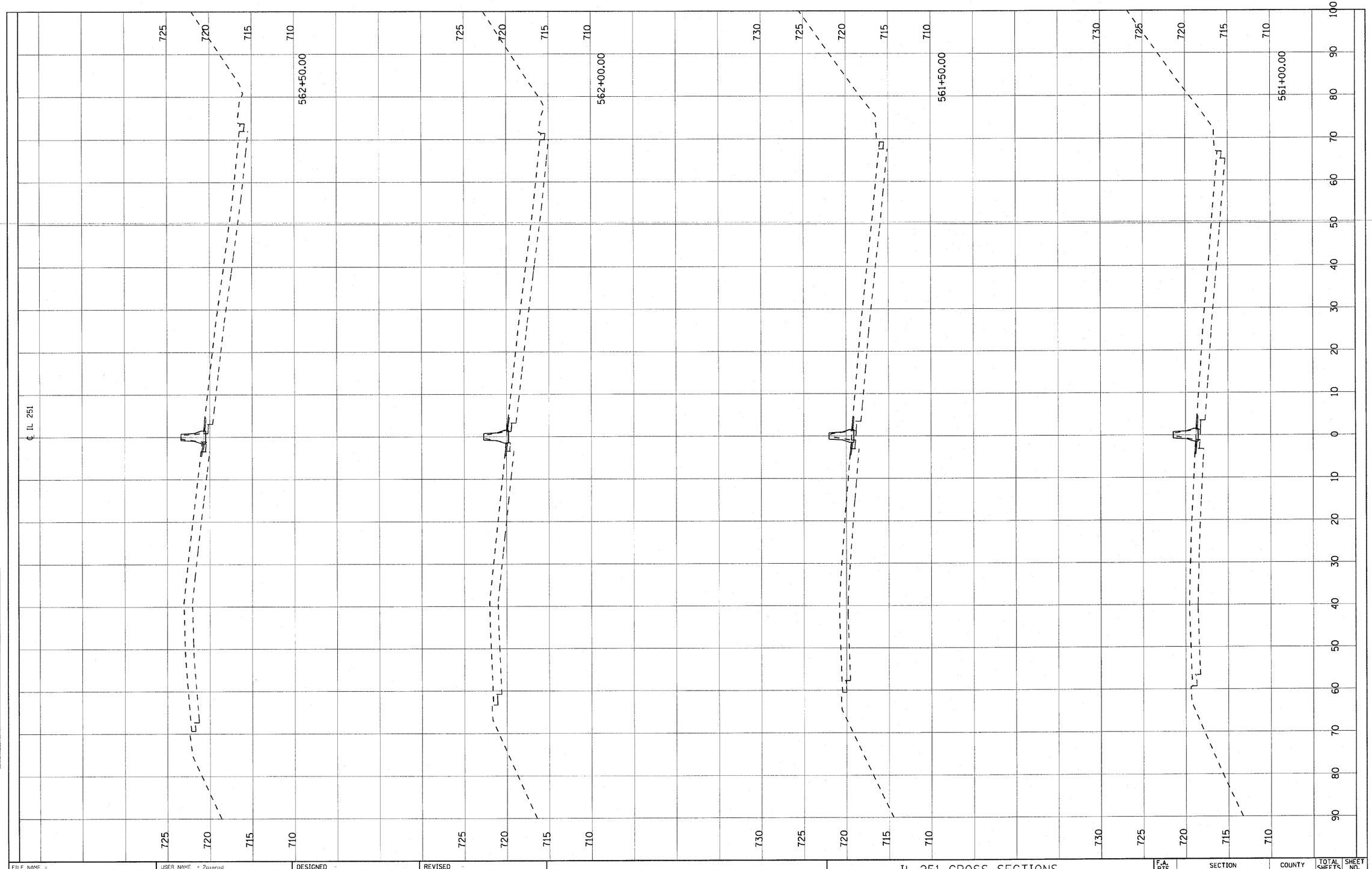
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 558+50.00 | TO STA. 560+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	186
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



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NOTE BOOK	PLOTTED	DATE
NO.	TEMPLATE	
	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	BY
NOTE BOOK	PLOTTED	DATE
NO.	TEMPLATE	
	AREAS	
	AREAS CHECKED	

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	PLOT DATE = 8/30/2010	DATE -	REVISED -

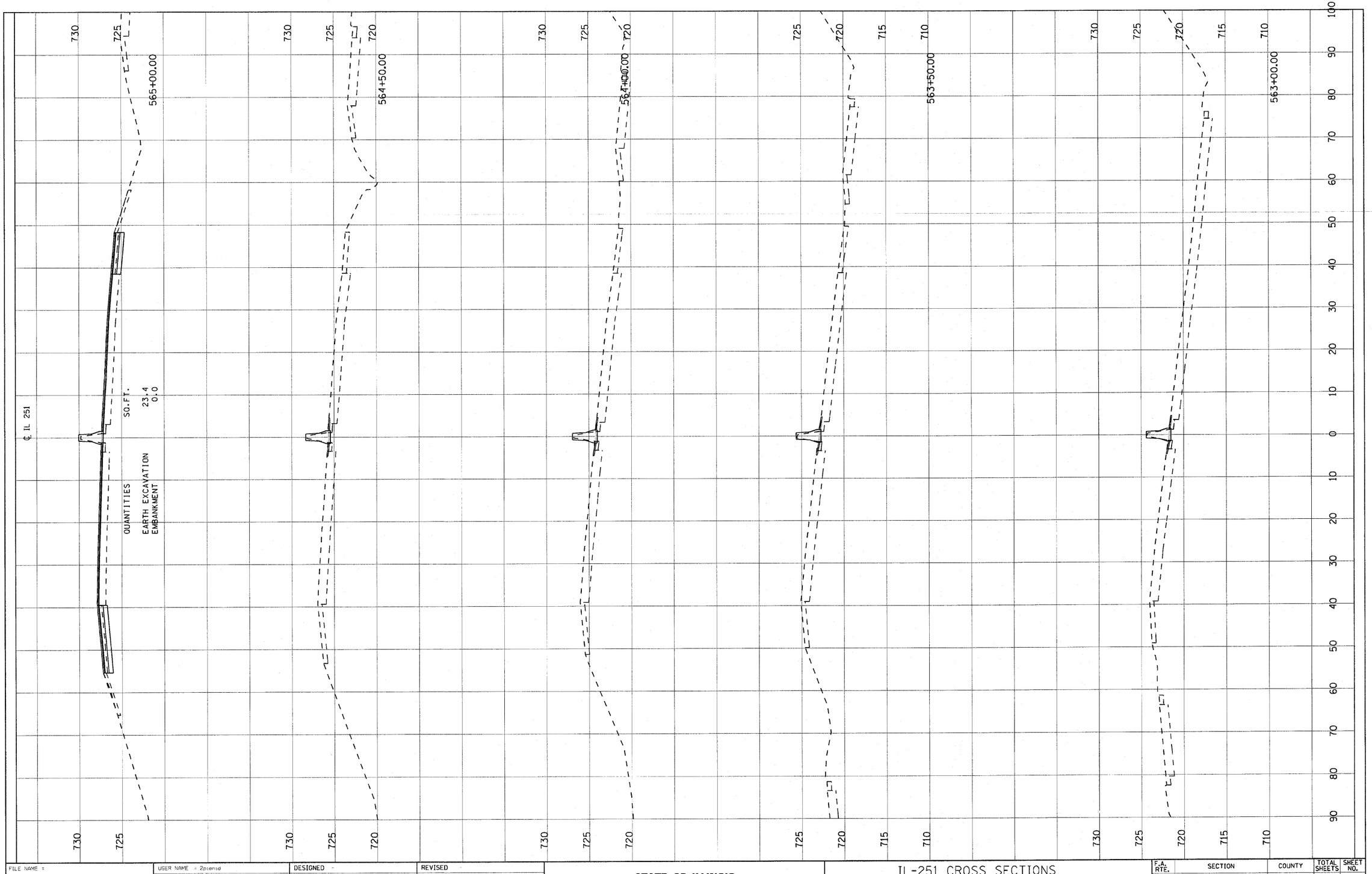
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 561+00.00 | TO STA. 562+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE 251 & FOREST HILLS RD			216	187
			CONTRACT NO.	
		ILLINOIS	FED. AID PROJECT	

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

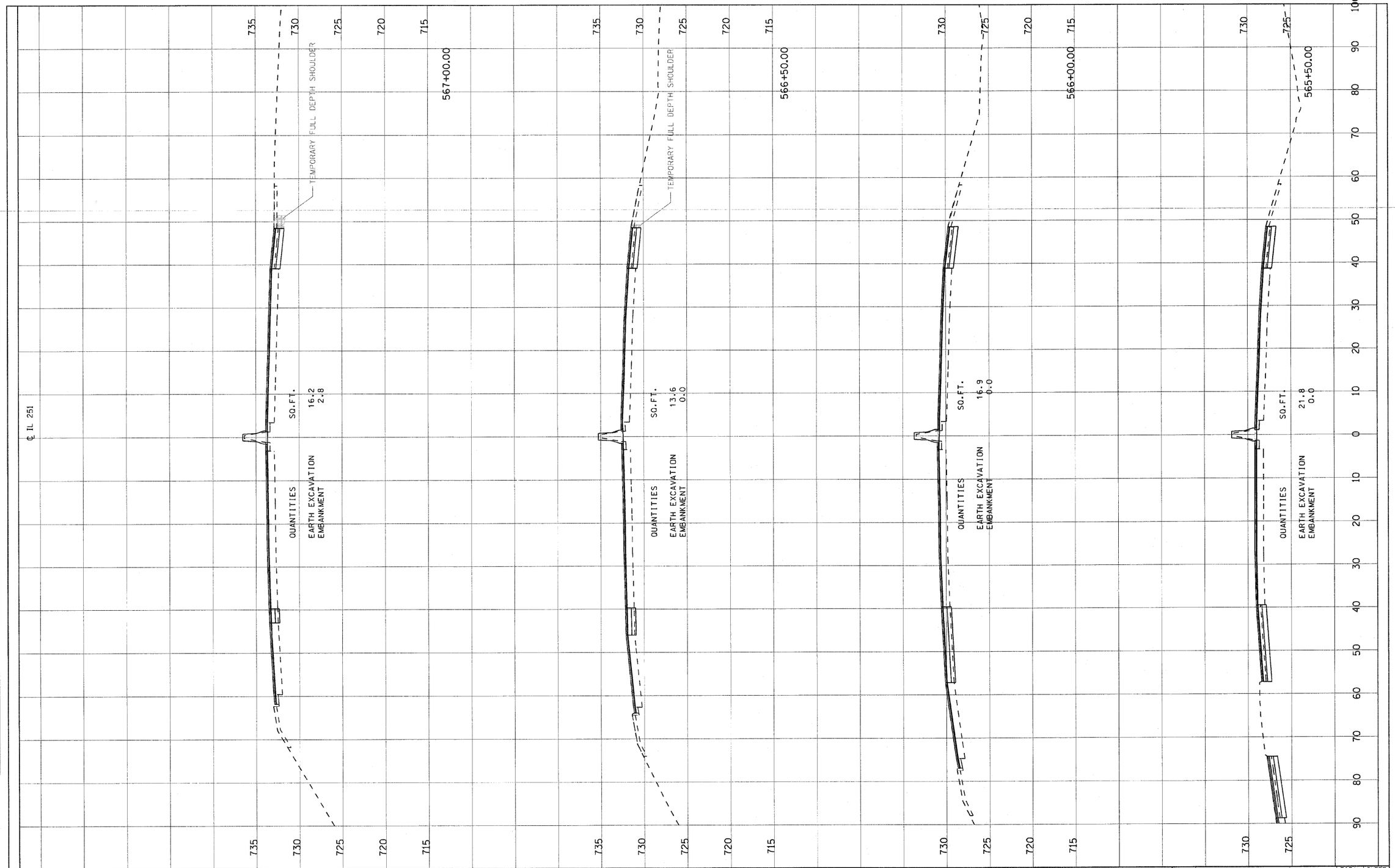
SCALE: | SHEET NO. OF SHEETS | STA. 563+00.00 TO STA. 565+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE 251 & FOREST HILLS RD			216	188
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

℄ IL 251



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
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	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 565+50.00 TO STA. 567+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	189
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

NOTE BOOK
NO.

ORIGINAL SURVEY

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

NOTE BOOK
NO.

℄ IL 251

BRIDGE OMISSION
(SKEWED)

568+53.19

568+50.00

568+00.00

567+50.00

TEMPORARY FULL DEPTH SHOULDER

QUANTITIES

	SQ.FT.
EARTH EXCAVATION	110.4
EMBANKMENT	18.5

QUANTITIES

	SQ.FT.
EARTH EXCAVATION	18.1
EMBANKMENT	3.8

735 730 725 720 715

0 10 20 30 40 50 60 70 80 90 100

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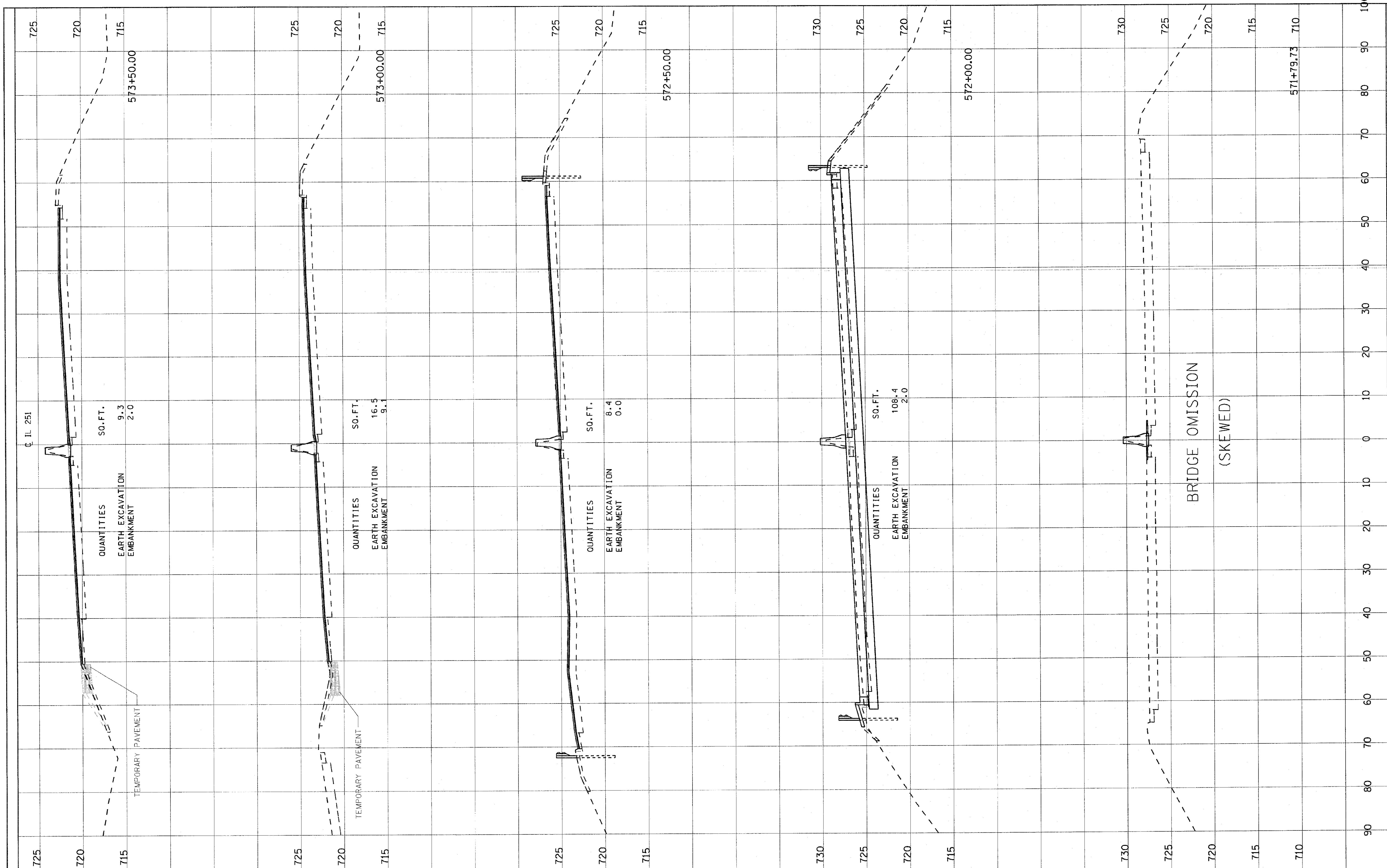
	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 567+50.00 TO STA. 568+53.19

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	IL RTE 251 & FOREST HILLS RD		216	190
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



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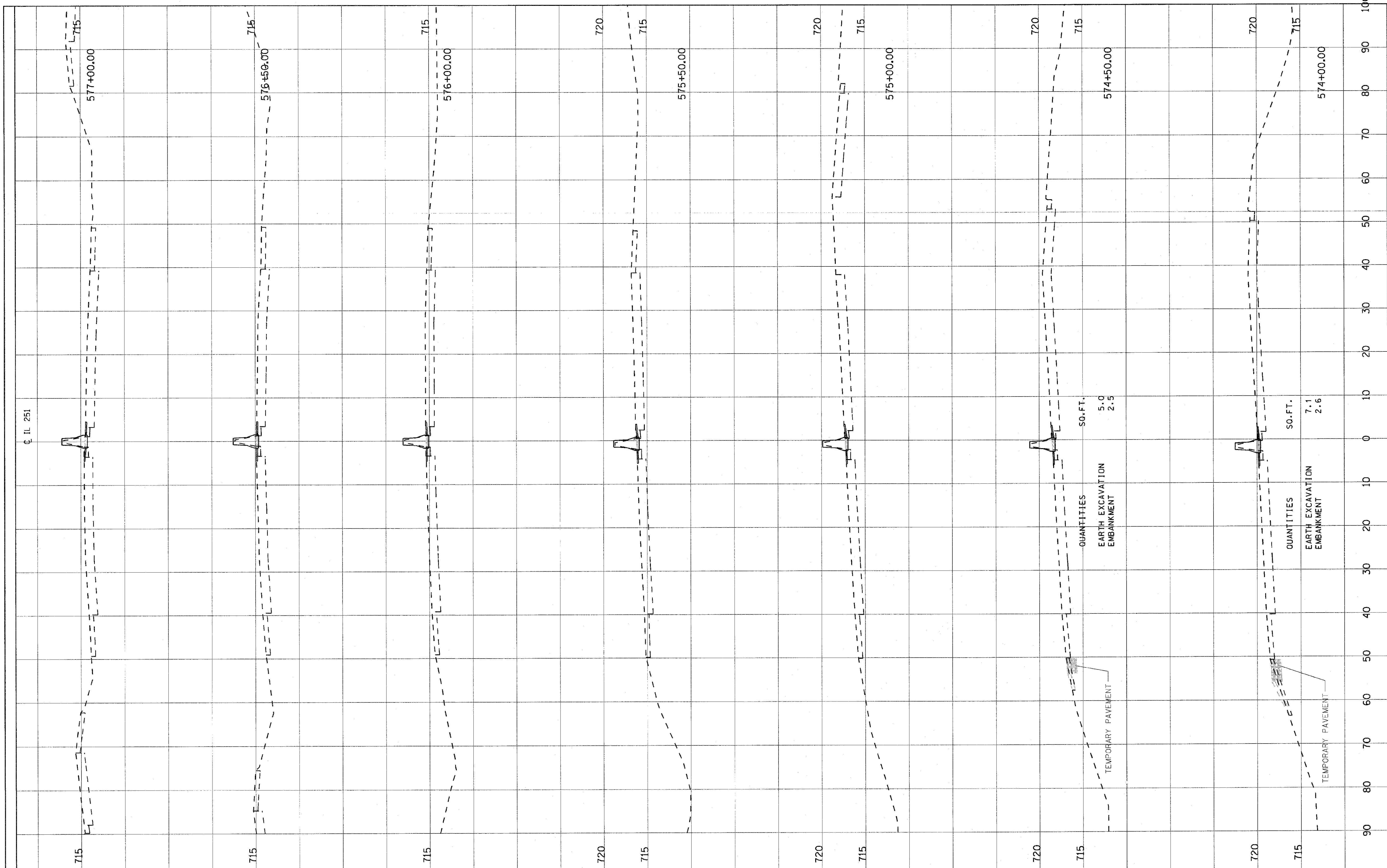
	PLOT SCALE = 10.0000 ' / IN.	DRAWN -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. 571+79.73 TO STA. 573+50.00
	PLOT DATE = 8/30/2010	CHECKED -	REVISED -		
		DATE -	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	191
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



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	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 574+00.00 TO STA. 577+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	192

CONTRACT NO.

ILLINOIS | FED. AID PROJECT

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
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NO.	AREAS		
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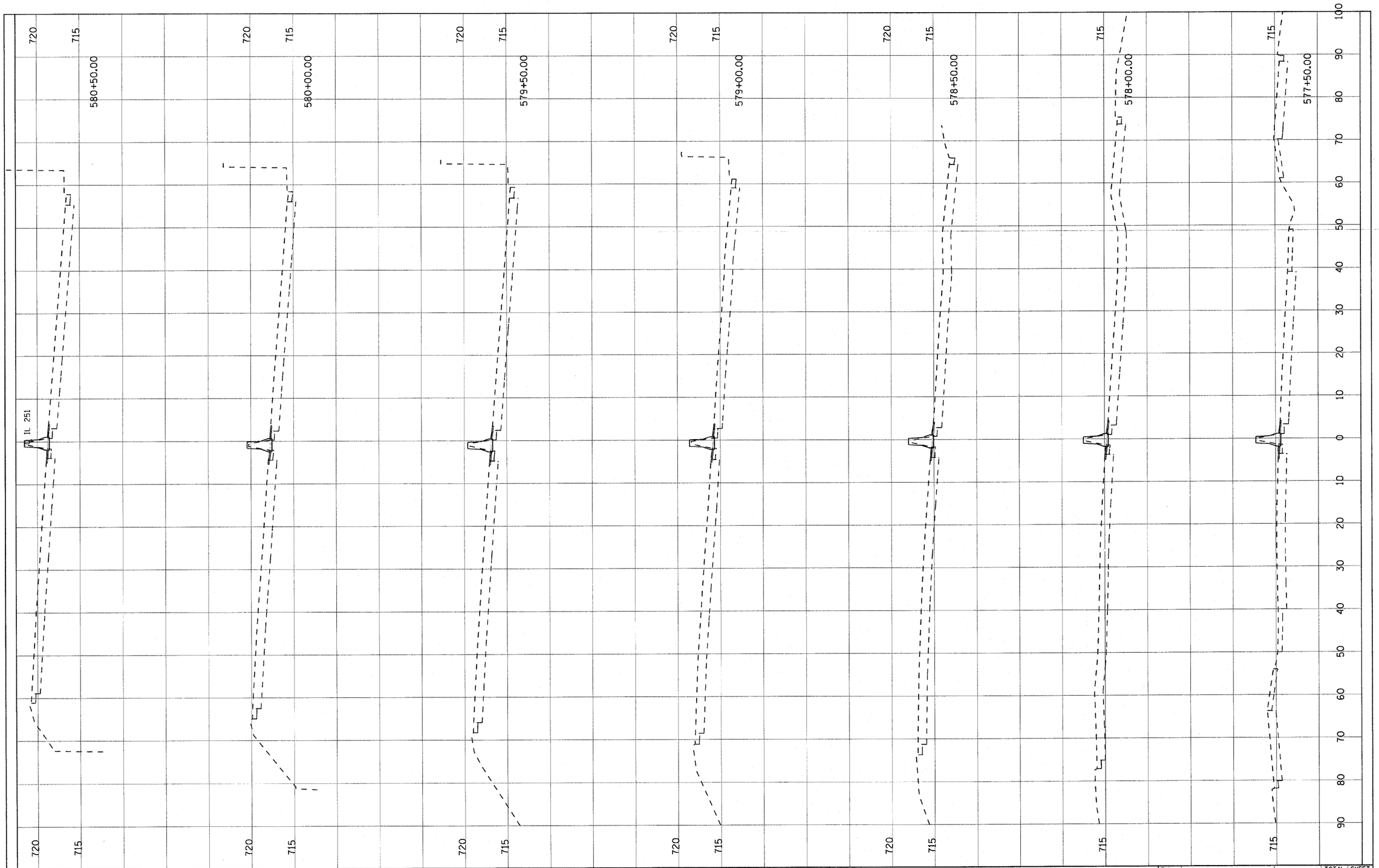

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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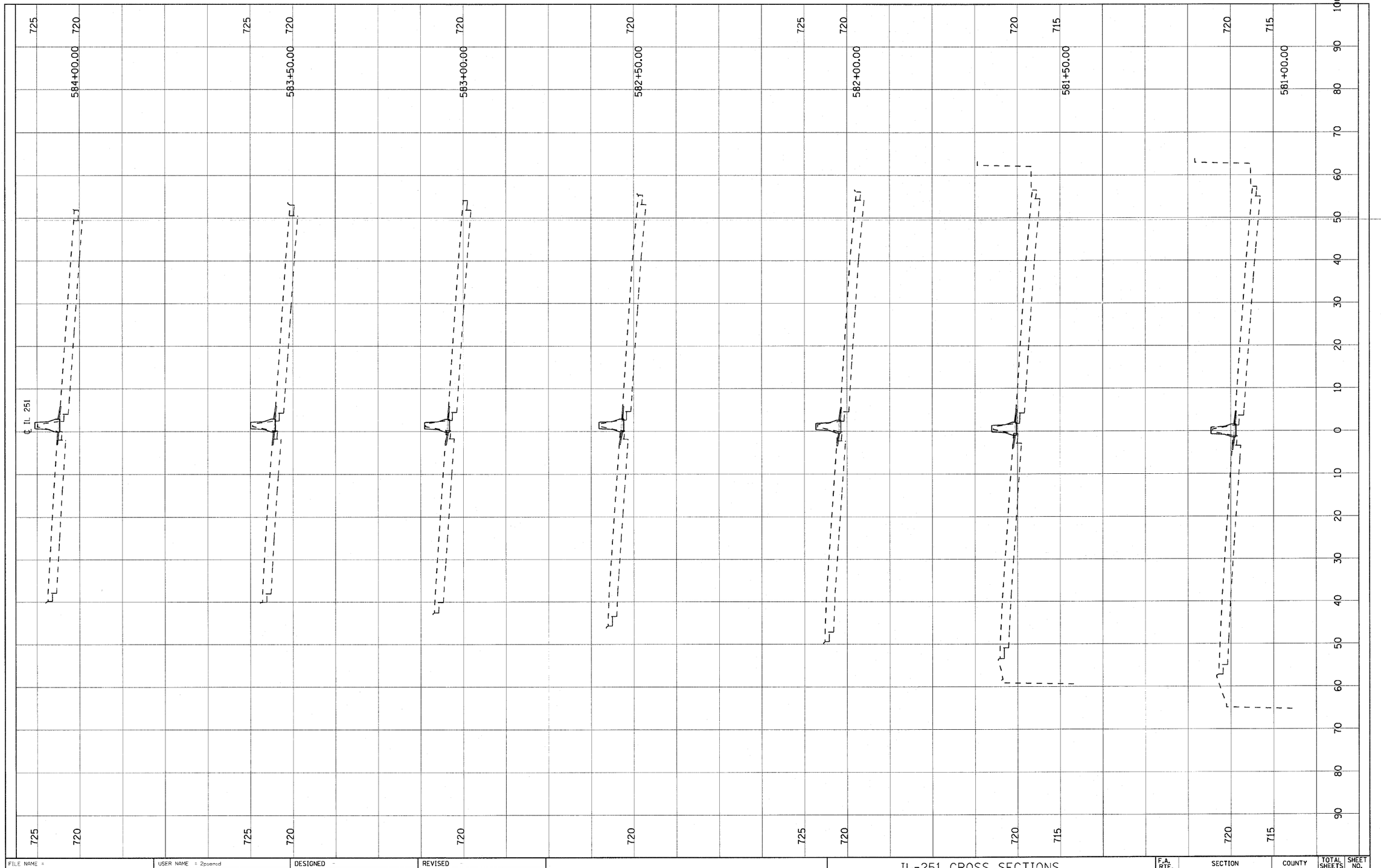
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 577+50.00 | TO STA. 580+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE 251	& FOREST HILLS RD		216	193
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS		
NO.	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS		
NO.	AREAS CHECKED	

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	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

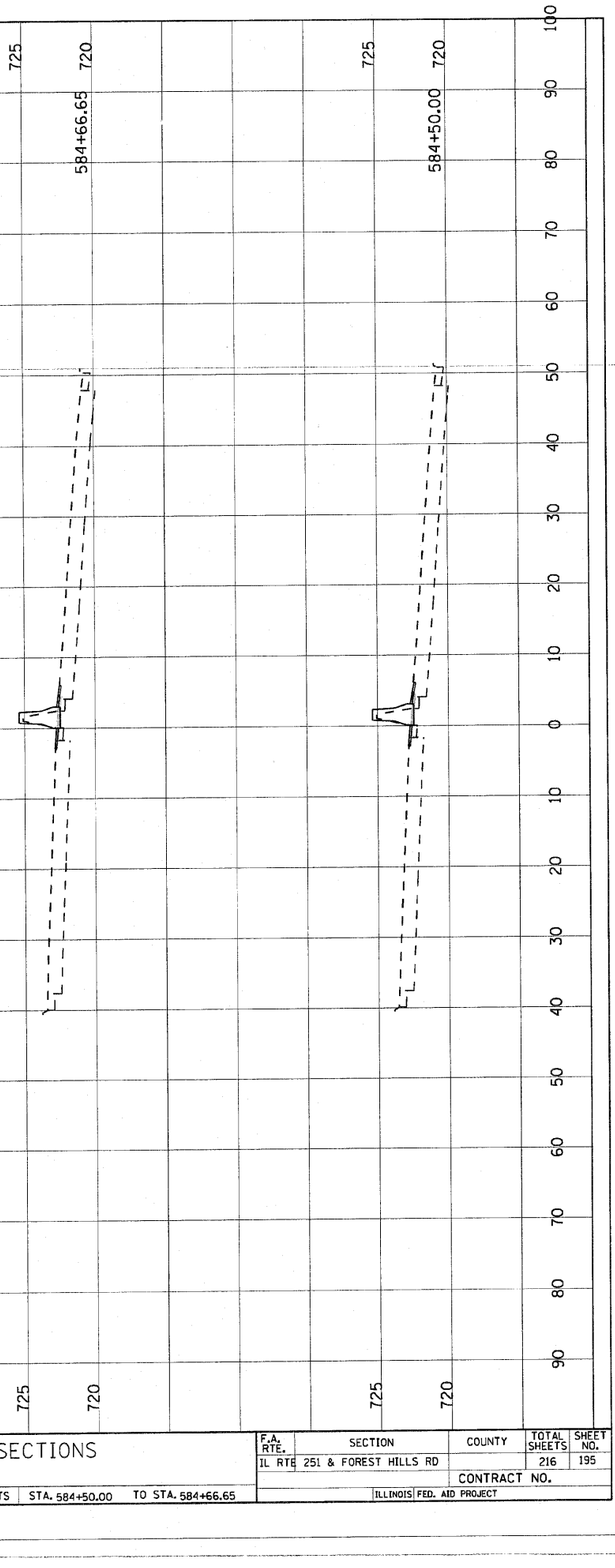
SCALE: | SHEET NO. OF SHEETS | STA. 581+00.00 | TO STA. 584+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	194
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		DATE

ORIGINAL SURVEY	SURVEYED	BY	
	PLOTTED		
NOTE BOOL	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		DATE

℄ IL 251



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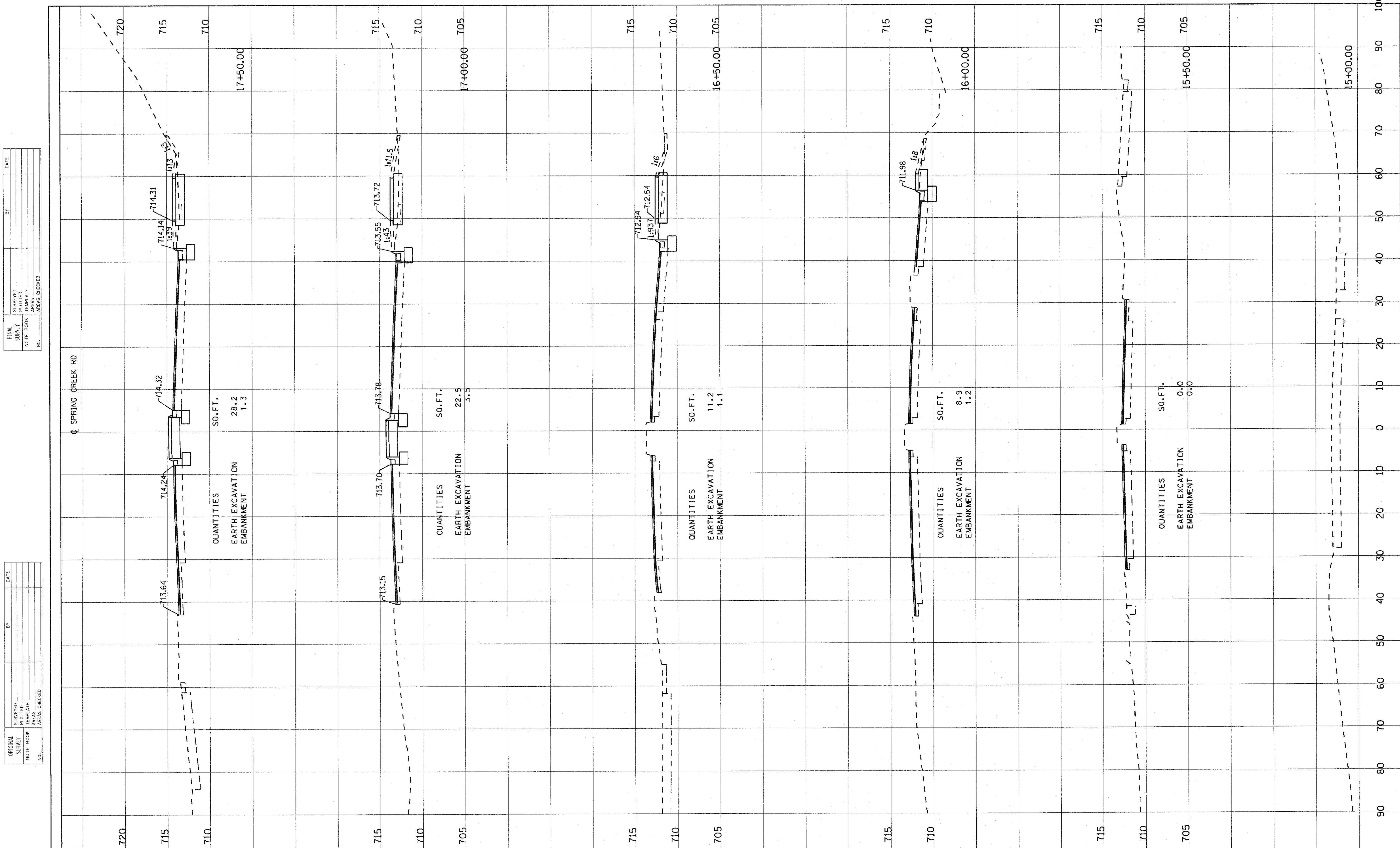
	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-251 CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 584+50.00 | TO STA. 584+66.65

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	195
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



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	PLOT SCALE = 10.0000 ' / IN.	DRAWN -	REVISED -	
	PLOT DATE = 8/30/2010	CHECKED -	REVISED -	
		DATE -	REVISED -	

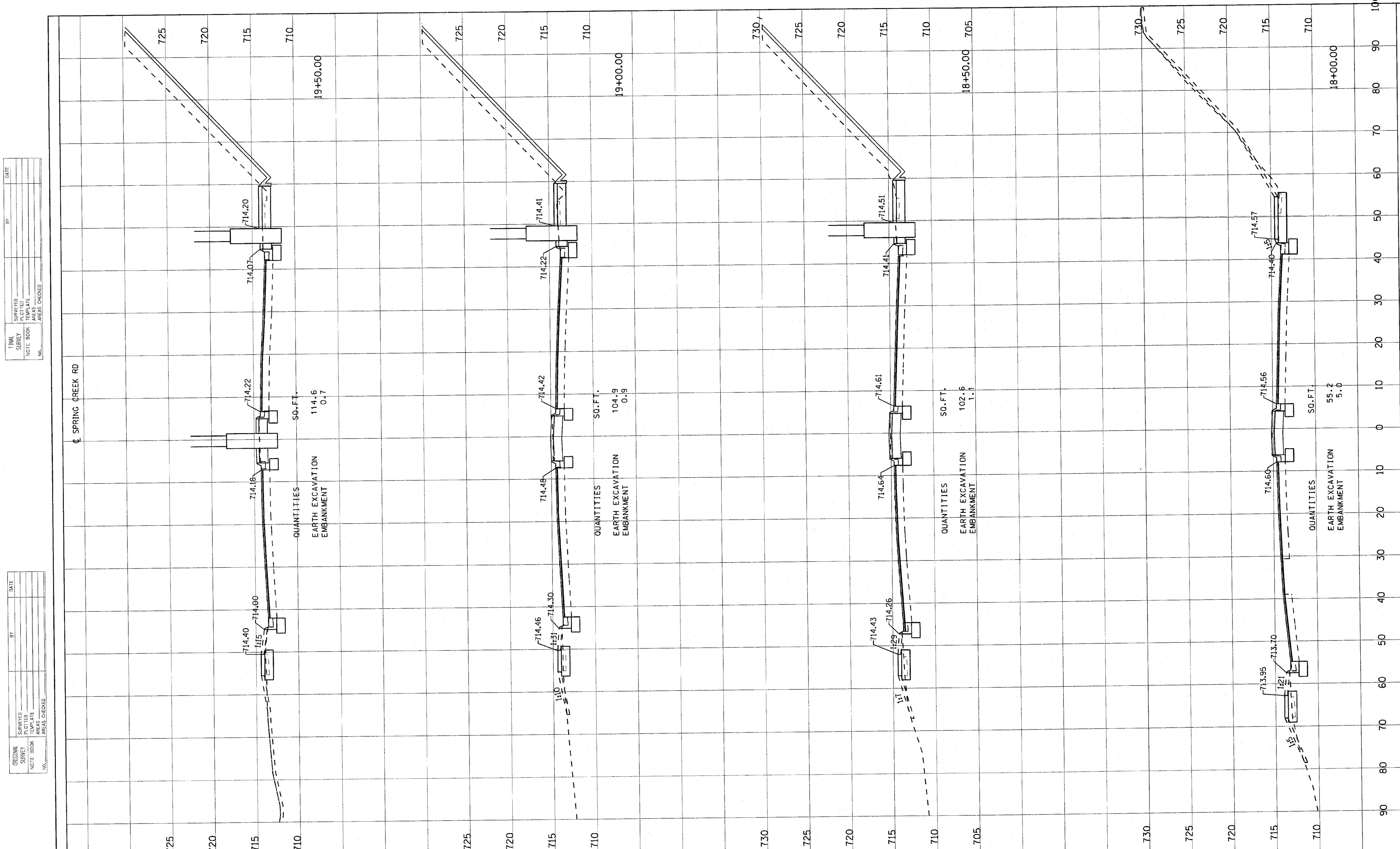
SPRING CREEK CROSS SECTIONS

SCALE: SHEET NO. OF SHEETS STA. 15+00.00 TO STA. 17+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	196

CONTRACT NO.

ILLINOIS FED. AID PROJECT



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	PLOT SCALE = 10.0000 ' / IN.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION
	PLOT DATE = 8/30/2010	DATE -	REVISED -	

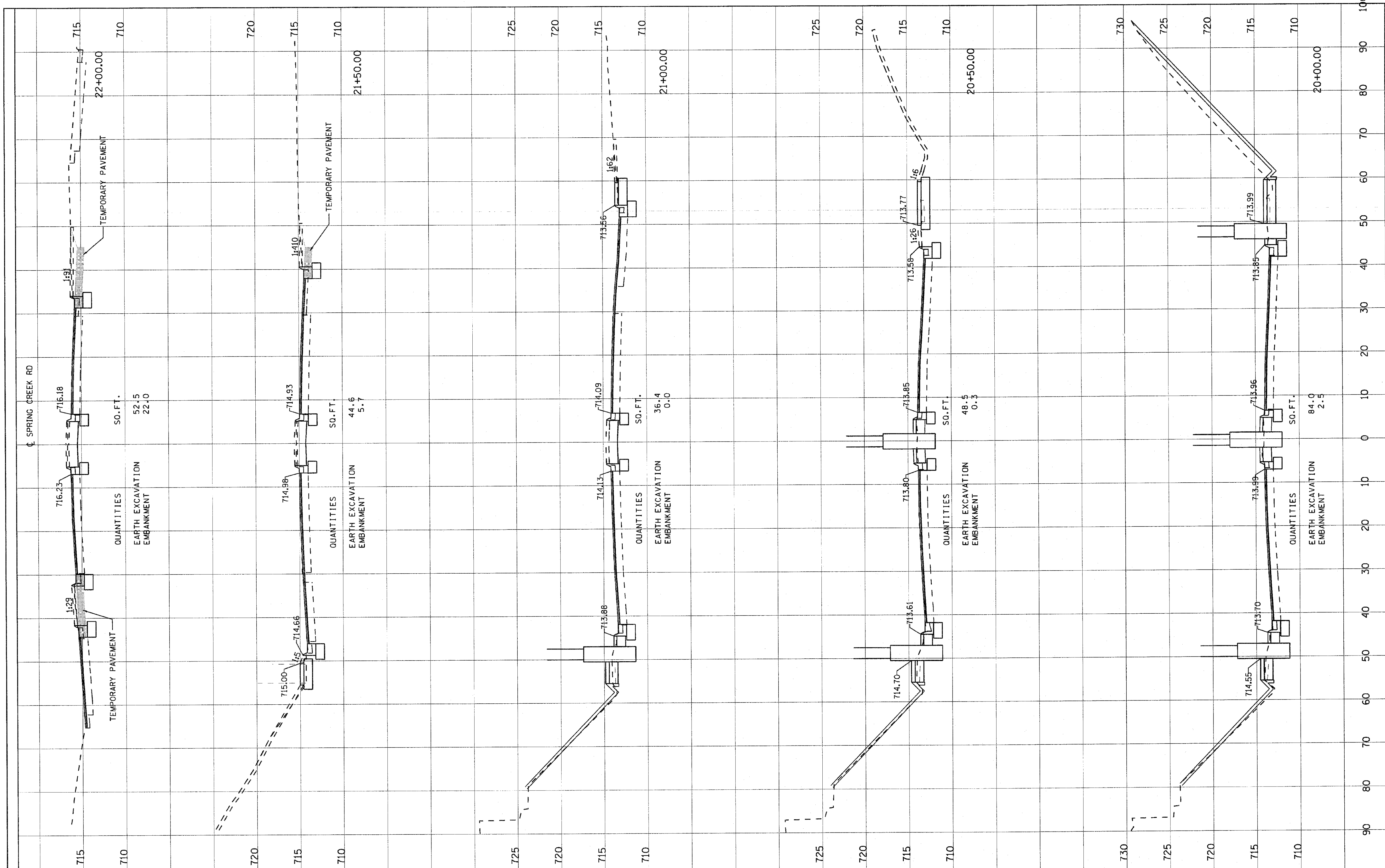
SPRING CREEK CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 18+00.00 TO STA. 19+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE 251 & FOREST HILLS RD			216	197

CONTRACT NO.

ILLINOIS FED. AID PROJECT



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	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRING CREEK CROSS SECTIONS

SCALE: SHEET NO. OF SHEETS STA. 20+00.00 TO STA. 22+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE	251 & FOREST HILLS RD		216	198

CONTRACT NO.

ILLINOIS FED. AID PROJECT

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

℄ SPRING CREEK RD

25+00.00

SQ.FT.
0.0
0.0

QUANTITIES
EARTH EXCAVATION
EMBANKMENT

24+50.00

SQ.FT.
0.0
0.0

QUANTITIES
EARTH EXCAVATION
EMBANKMENT

24+00.00

SQ.FT.
12.9
6.6

QUANTITIES
EARTH EXCAVATION
EMBANKMENT

1:105

TEMPORARY PAVEMENT

718.52

23+50.00

SQ.FT.
29.0
7.4

QUANTITIES
EARTH EXCAVATION
EMBANKMENT

718.65

1:32

TEMPORARY PAVEMENT

717.97

23+00.00

SQ.FT.
32.5
10.0

QUANTITIES
EARTH EXCAVATION
EMBANKMENT

718.18

1:26

TEMPORARY PAVEMENT

1:51

717.22

22+50.00

SQ.FT.
45.8
11.8

QUANTITIES
EARTH EXCAVATION
EMBANKMENT

717.33

1:43

TEMPORARY PAVEMENT

720 715 710 0 10 20 30 40 50 60 70 80 90 100

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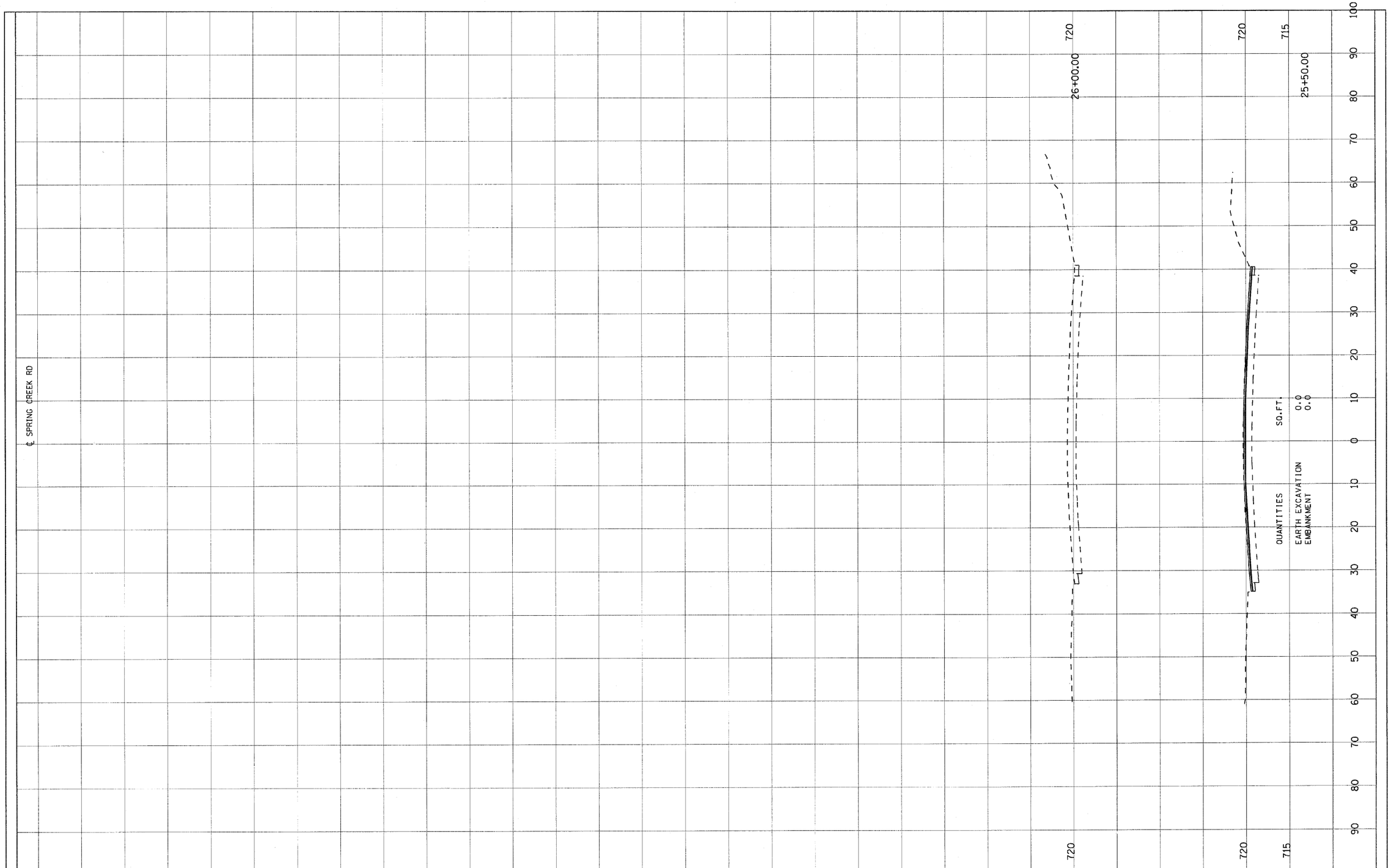
	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRING CREEK CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 22+50.00 TO STA. 25+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE 251 & FOREST HILLS RD			216	199
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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	PLOT DATE = 8/30/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRING CREEK CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 25+50.00 | TO STA. 26+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL RTE 251	& FOREST HILLS RD		216	200
			CONTRACT NO.	
	ILLINOIS	FED. AID PROJECT		