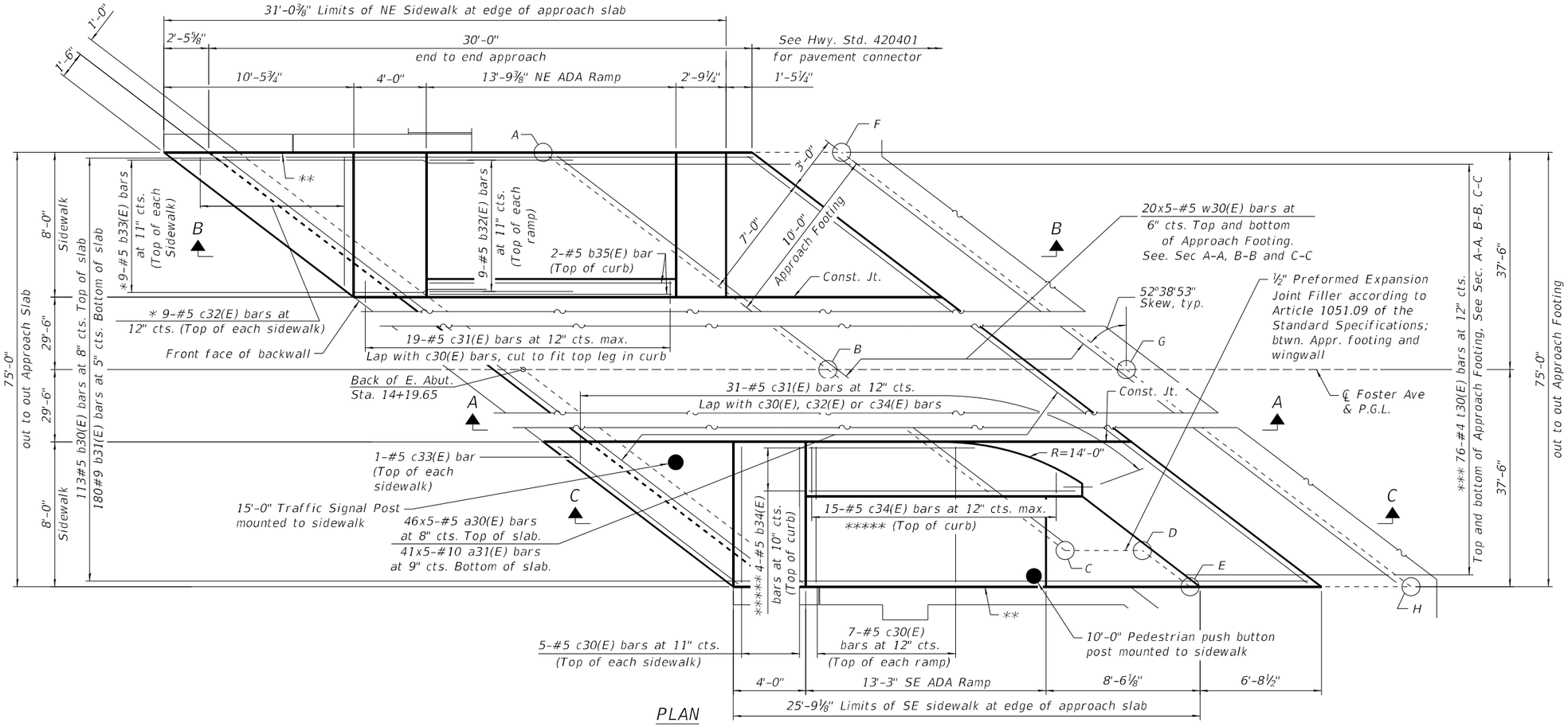


PLAN

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	Top	Bottom
A	615.25	614.41
B	614.60	613.77
C	612.87	612.04
D	612.77	611.93
E	612.67	611.83
F	614.84	614.01
G	614.18	613.35
H	612.36	611.53

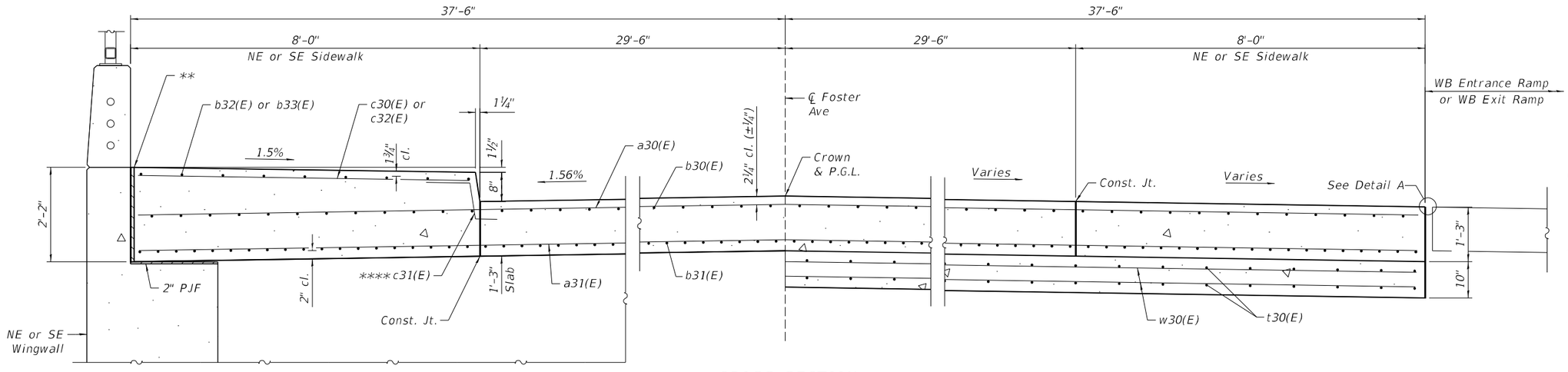
* Cut to fit skew and use remainder of bars in other sidewalk. See Field Cutting Diagram on sheet 27 of 77.

** ½" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slabs, full length of parapet. Typ., each parapet.

*** Cut to fit in field at wingwall

**** In lieu of bottom leg, c31(E) bars may be cored and set according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 6".

***** Cut to fit in field at sidewalk radius.



NEAR ABUTMENT

CROSS SECTION

AT APPROACH FOOTING

MINIMUM BAR LAP

#5 bar = 3'-1"
#10 bar = 9'-6"

Notes:

1. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
2. For Sections A-A, B-B and C-C, Detail A, rebar details, notes and Bill of Material, see sheet 27 of 77.
3. See Traffic Signal sheets for traffic signal and pedestrian push button post locations and details.

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ROSEMONT, IL 60018

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST BRIDGE APPROACH SLAB DETAILS 1
STRUCTURE NO. 016-1669
SHEET 26 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	201
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

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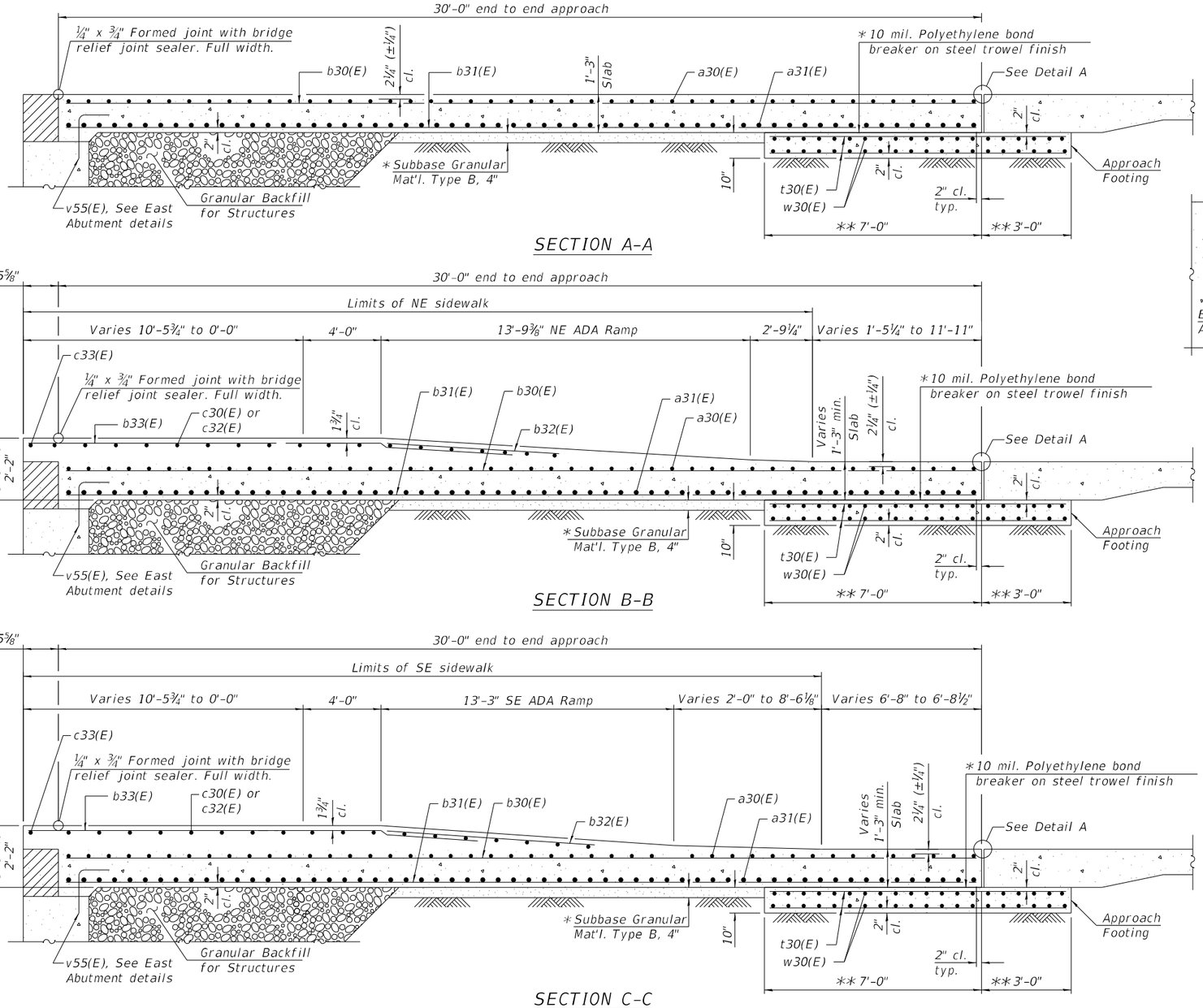
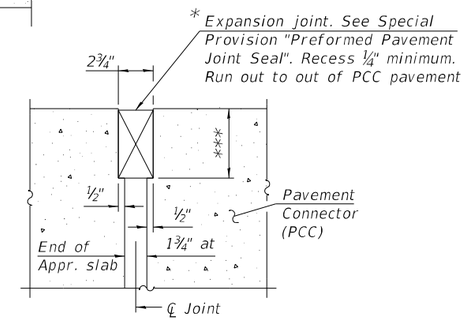


SECTION A-A

SECTION B-B

SECTION C-C

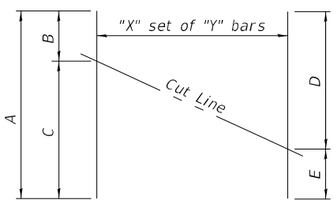


DETAIL A

(at Rt. ∠'s)

EAST APPROACH BILL OF MATERIAL

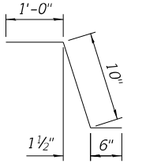
Bar	No.	Size	Length	Shape
a30(E)	230	#5	27'-2"	
a31(E)	205	#10	32'-3"	
b30(E)	113	#5	29'-8"	
b31(E)	180	#9	29'-8"	
b32(E)	18	#5	6'-0"	
b33(E)	9	#5	24'-8"	
b34(E)	4	#5	15'-0"	
b35(E)	2	#5	13'-7"	
c30(E)	24	#5	7'-6"	
c31(E)	50	#5	2'-4"	
c32(E)	9	#5	7'-7"	
c33(E)	2	#5	12'-6"	
c34(E)	15	#5	2'-6"	
t30(E)	152	#4	16'-1"	
w30(E)	200	#5	27'-2"	
Protective Coat			Sq. Yd.	275
Concrete Superstructure (Approach Slab)			Cu. Yd.	113.2
Concrete Structures			Cu. Yd.	37.9
Reinforcement Bars, Epoxy Coated			Pound	64,800
Bridge Deck Grooving			Sq. Yd.	215



FIELD CUTTING DIAGRAM

Order b33(E) and c32(E) bars full length. Cut as shown and use remainder of bars as shown in the plans.

Bar	X	Y	A	B	C	D	E
b33(E)	1	9	24'-8"	7'-1"	17'-7"	17'-7"	7'-1"
c32(E)	1	9	7'-7"	9"	6'-10"	6'-10"	9"



BAR c31(E)

* Cost included with Concrete Superstructure (Approach Slab).

** At right angles to the end of Approach Slab

*** Per manufacturer recommendations

Notes:

1. Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
2. Approach footing concrete shall be paid for as Concrete Structures.
3. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
4. Cost of excavation for approach footing included with Concrete Structures.
5. For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 77.
6. See Roadway ADA Ramp Details and Roadway Pavement Connector Details for ADA ramp geometric information, pavement connector elevation information, and additional details.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST BRIDGE APPROACH SLAB DETAILS 2
STRUCTURE NO. 016-1669

SHEET 27 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	202
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

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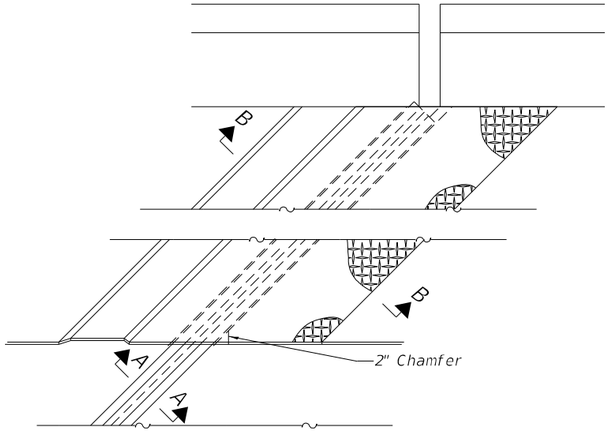
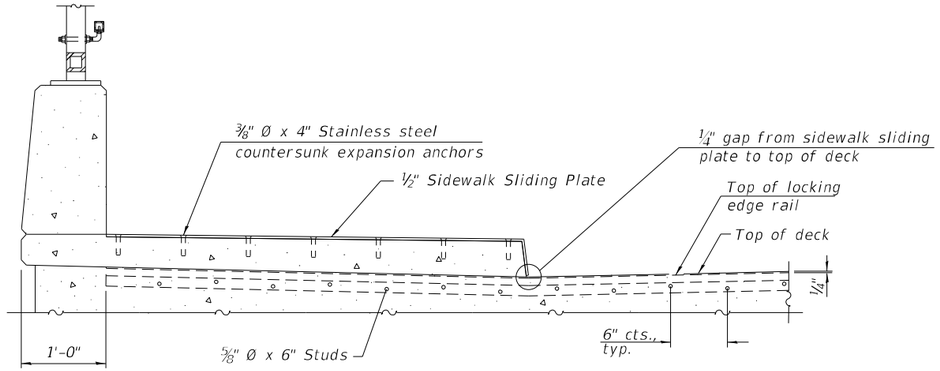
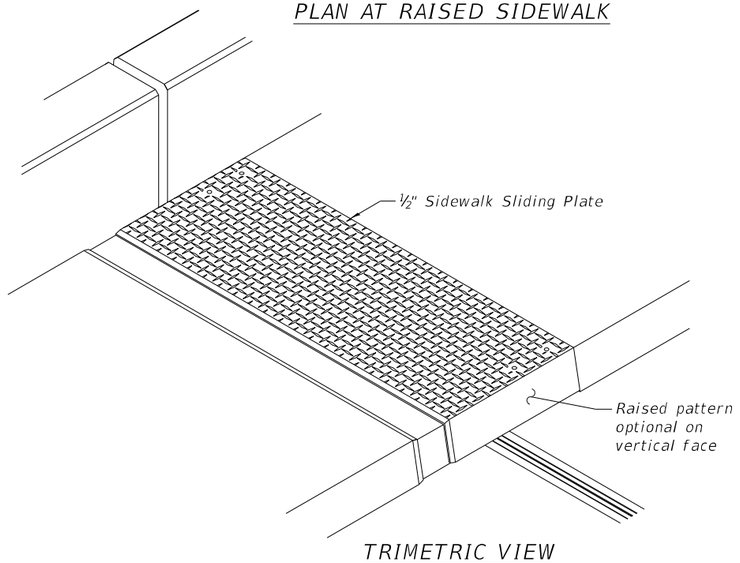


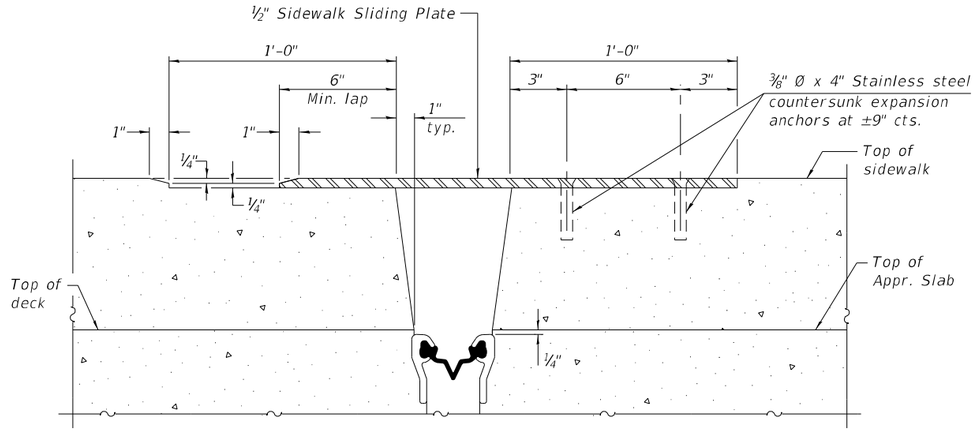
PLAN AT RAISED SIDEWALK



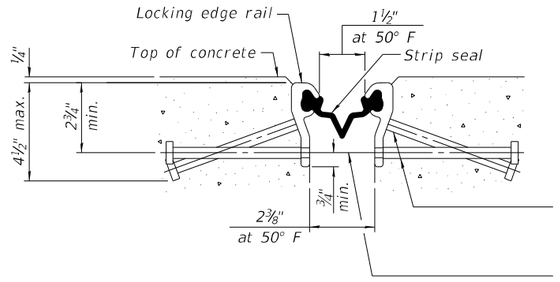
SECTION AT RAISED SIDEWALK



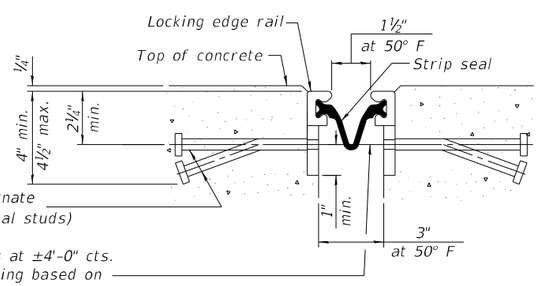
TRIMETRIC VIEW



SECTION B-B



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

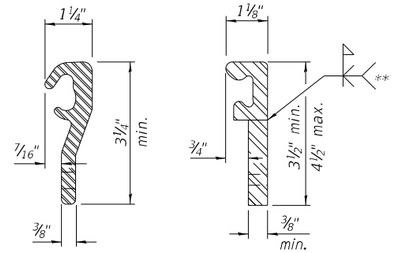
3/16" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

Notes:

1. 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.
2. The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
3. The manufacturer's recommended installation methods shall be followed.
4. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
5. The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
6. The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.
7. Cost of sidewalk sliding plates, anchorage studs, and expansion anchors included with Preformed Joint Strip Seal.
8. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required.



ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

** 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.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	247.5

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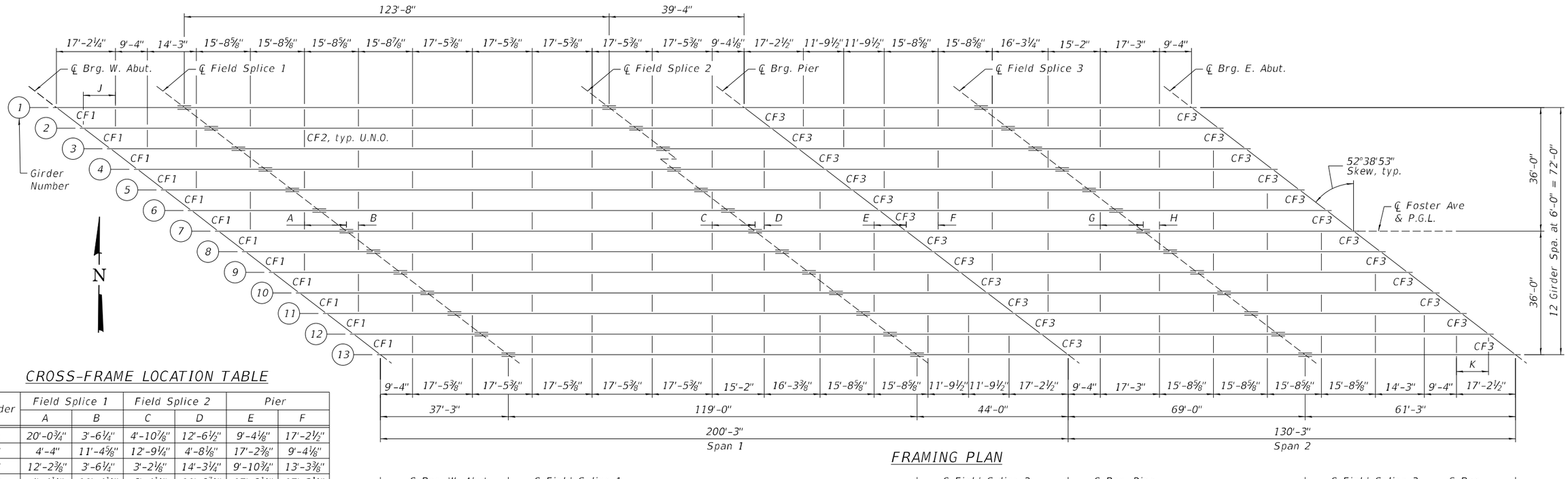
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-1669
SHEET 28 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	203
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



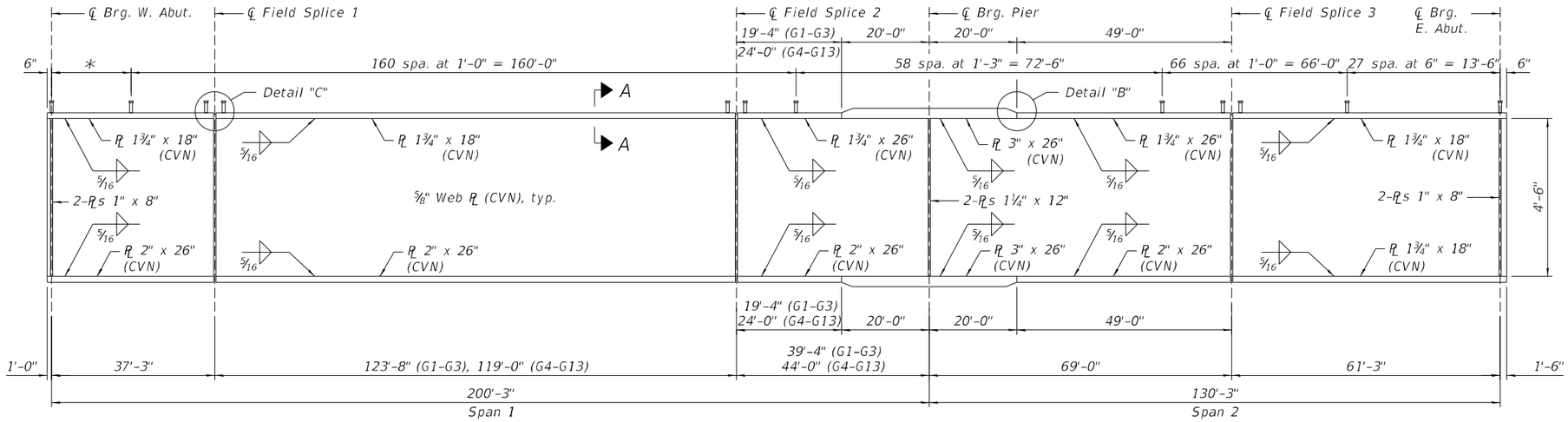
CROSS-FRAME LOCATION TABLE

Girder	Field Splice 1		Field Splice 2		Pier	
	A	B	C	D	E	F
1	20'-0¾"	3'-6¼"	4'-10⅞"	12'-6½"	9'-4⅛"	17'-2½"
2	4'-4"	11'-4⅜"	12'-9¼"	4'-8⅛"	17'-2⅜"	9'-4⅛"
3	12'-2⅜"	3'-6¼"	3'-2⅛"	14'-3¼"	9'-10¾"	13'-3⅜"
4	4'-4⅛"	11'-4½"	6'-4½"	11'-0⅞"	17'-9⅛"	17'-2½"
5	12'-2⅜"	3'-6¼"	14'-2⅞"	3'-2½"	9'-4⅛"	9'-4⅛"
6	4'-4⅛"	11'-4½"	4'-7¾"	10'-6¼"	17'-2⅜"	17'-2½"
7	12'-2½"	3'-6⅛"	12'-6⅛"	2'-7⅞"	9'-4⅛"	9'-4⅛"
8	4'-4⅛"	11'-4⅜"	5'-2½"	11'-0⅞"	17'-2½"	17'-2⅜"
9	12'-2½"	3'-6⅜"	13'-0¾"	3'-2⅜"	9'-4⅛"	9'-4⅛"
10	4'-4"	13'-1⅜"	4'-7¾"	11'-0⅞"	17'-2½"	17'-9"
11	12'-2⅜"	5'-3"	12'-6⅛"	3'-2½"	13'-3⅜"	9'-10⅝"
12	2'-7¼"	14'-10⅛"	4'-7¾"	11'-0⅞"	9'-4⅛"	17'-2¼"
13	10'-5⅝"	6'-11¾"	12'-6⅛"	3'-2½"	17'-2½"	9'-4"

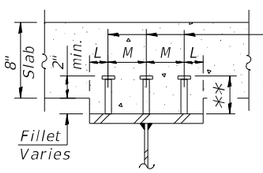
Girder	Field Splice 3		W. Abut.	E. Abut.
	G	H	J	K
1	12'-5⅞"	3'-2¾"	17'-2¼"	9'-4"
2	4'-7⅝"	11'-7⅝"	9'-4"	17'-2⅜"
3	12'-5⅞"	3'-9⅜"	10'-9⅝"	9'-4"
4	4'-1"	11'-1"	17'-2¼"	17'-2⅜"
5	11'-11⅜"	3'-2⅝"	9'-4"	9'-4⅛"
6	4'-7⅝"	12'-7⅜"	17'-2¼"	17'-2⅜"
7	12'-6"	4'-9"	9'-3⅞"	9'-4⅛"
8	3'-1⅜"	12'-7¼"	17'-2¼"	17'-2½"
9	10'-11⅜"	4'-9"	9'-3⅞"	9'-4⅛"
10	3'-1⅜"	12'-7¼"	17'-2⅛"	17'-2½"
11	10'-11¾"	4'-8⅞"	9'-3¾"	10'-9⅞"
12	3'-1½"	12'-7⅛"	17'-2⅜"	9'-4¼"
13	10'-11¾"	4'-8⅞"	9'-4"	17'-2½"

** 5" min. from W. End of Girder to Field Splice 1.
5½" min. from Field Splice 1 to Field Splice 2.
5" min. from Field Splice 2 to E. End of Girder.

FRAMING PLAN



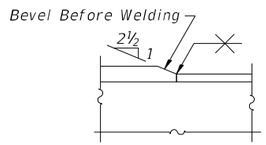
GIRDER ELEVATION



¾" Ø Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 13,728)

SECTION A-A

Flange Width	Variable	
	L	M
18"	3"	6"
26"	4"	9"



DETAIL "B"

* 40 spa. at 6" = 20'-0"

Notes:
1. "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
2. All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
3. For shear connectors at field splice plates, see Detail C on sheet 30 of 77.
4. All structural steel for girders and bearing stiffeners shall conform to the requirements of AASHTO M270, Grade 50.

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PLOT DATE = 03/11/2024	CHECKED – MBQ	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
STRUCTURE NO. 016-1669
SHEET 29 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	204
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	

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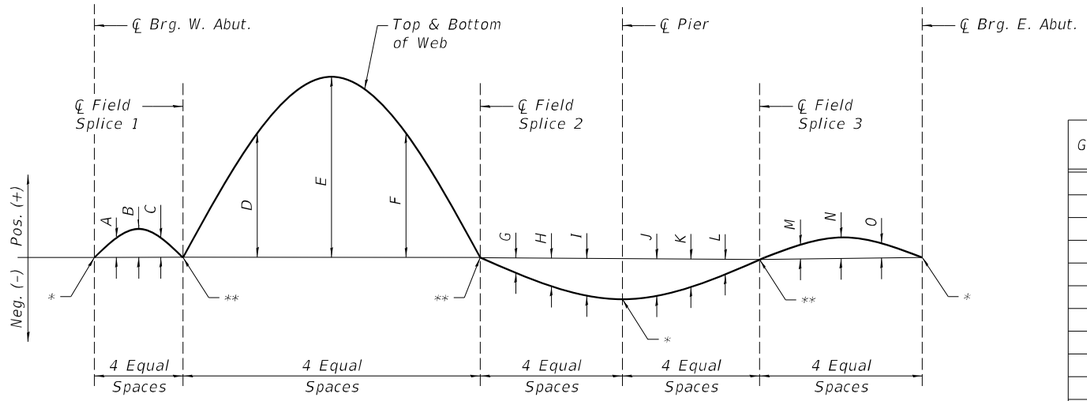
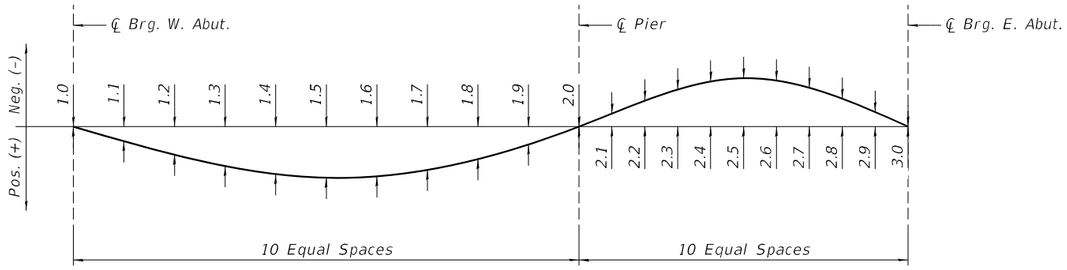


CAMBER DIAGRAM

* Final Top of Web Elevations to be used in computing the bearing seat elevations.
** Theoretical elevations before Dead Load deflection.

WEB CAMBER INFORMATION (FOR FABRICATION ONLY)

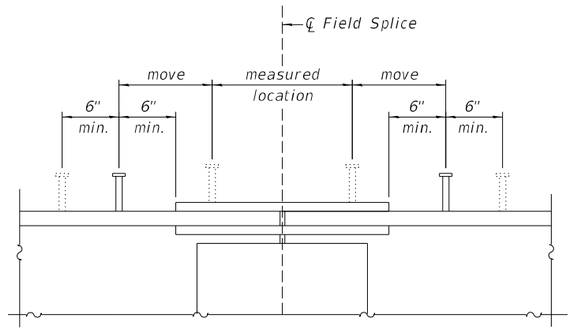
Girder	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	½	¾	½	5½	8¼	5½	–⅝	–1⅛	–1½	–1¾	–1⅜	–⅝	¾	1¼	¾
2	½	¾	½	5	7	5	–½	–⅞	–1⅛	–1⅜	–1	–½	¾	1¼	¾
3	½	¾	½	5	7½	5	–⅜	–⅞	–1⅛	–1¼	–1	–½	¾	1¼	¾
4	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	¾	1¼	¾
5	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	¾	1¼	¾
6	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	¾	1¼	¾
7	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	¾	1¼	¾
8	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	¾	1¼	¾
9	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	½	¾	½
10	½	¾	½	4¼	6	4¼	–¼	–½	–⅝	–¾	–½	–¼	½	¾	½
11	½	¾	½	5	7	5	–⅜	–⅞	–1¼	–1⅜	–1	–½	½	¾	½
12	½	¾	½	5	7	5	–½	–1	–1¼	–1½	–1⅛	–½	½	¾	½
13	½	¾	½	5½	7¾	5½	–⅝	–1¼	–1⅝	–1⅞	–1⅜	–⅝	½	¾	½



STEEL DEAD LOAD DEFLECTION DIAGRAM

TOP OF WEB ELEVATIONS (FOR FABRICATION ONLY)

Girder	℄ Brg. W. Abut.	℄ Field Splice 1	℄ Field Splice 2	℄ Pier	℄ Field Splice 3	℄ Brg. E. Abut.
1	618.91	619.67	619.05	618.22	617.17	616.14
2	619.04	619.70	619.03	618.22	617.13	616.06
3	619.17	619.78	619.04	618.22	617.09	615.97
4	619.30	619.75	619.07	618.21	617.04	615.87
5	619.41	619.85	619.08	618.20	616.98	615.77
6	619.53	619.94	619.09	618.18	616.92	615.67
7	619.64	620.02	619.10	618.16	616.85	615.57
8	619.55	619.91	618.91	617.94	616.59	615.27
9	619.46	619.80	618.72	617.72	616.32	614.98
10	619.37	619.68	618.52	617.49	616.05	614.69
11	619.27	619.68	618.41	617.26	615.76	614.40
12	619.16	619.57	618.22	617.02	615.48	614.11
13	619.05	619.52	618.07	616.78	615.18	613.81



DETAIL C
(At Splices)

Do not place shear connectors on splice plates. Move studs from measured location to 6" from edge of splice plate and place in additional rows at 6" min. spacing.

STEEL DEAD LOAD DEFLECTION (INCHES) (FOR FABRICATION ONLY)

Girder	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
1–13	0.00	1.32	2.45	3.25	3.63	3.58	3.13	2.38	1.48	0.63	0.00

Girder	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
1–13	0.00	-0.25	-0.38	-0.41	-0.36	-0.28	-0.18	-0.10	-0.04	-0.01	0.00

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ROSEMONT, IL 60018

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS 1
STRUCTURE NO. 016-1669
SHEET 30 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	205
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.7 Sp. 2
	Is (in⁴)	70,622	135,029	57,169
	Ic(n) (in⁴)	136,574	----	103,281
	Ic(3n) (in⁴)	100,383	----	78,873
	Ic(cr) (in⁴)	----	141,683	----
	Ss (in³)	2,934	4,501	1,988
	Sc(n) (in³)	3,510	----	2,392
	Sc(3n) (in³)	3,261	----	2,218
	Sc(cr) (in³)	----	4,567	----
	Sxc (in³)	3,264	----	2,356
*	DC1 (k/')	1.107	1.386	1.035
*	MDC1 ('k)	3,410	5,182	424
**	DC2 (k/')	0.401	0.401	0.401
**	MDC2 ('k)	1,236	1,733	194
	DW (k/')	0.277	0.277	0.277
	MDW ('k)	854	1,197	134
	LLDF	0.470	0.511	0.508
	M_{L+IM} ('k)	2654	3043	1550
	fℓ (Strength I) ('k)	10	10	10
	Mu + ½fℓ Sxc ('k)	12,640	----	4,340
	Øf Mn ('k)	13,895	----	11,712
	fs DC1 (ksi)	13.95	13.82	2.56
	fs DC2 (ksi)	4.55	4.56	1.05
	fs DW (ksi)	3.15	3.15	0.73
	fs (L+IM) (ksi)	9.08	8.00	7.78
	fℓ (Service II) (ksi)	10	10	10
	fs+ $f_f/_2$ (Service II) (ksi)	38.5	36.9	19.5
	0.95Rh Fyf (ksi)	47.5	47.5	47.5
	fs + $f_f/_3$ (Total)(Strength I) (ksi)	----	45.0	----
	Øf Fn (ksi)	----	50	----
	Vf (k)	32.7	----	32.9

GIRDER REACTION TABLE							
		W. Abut.		Pier		E. Abut.	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
	LLDF	0.671	----	0.671	----	0.671	----
	OCF	----	----	----	----	----	----
*	RDC1 (k)	87.9	105.4	262.9	313.3	52.0	48.6
**	RDC2 (k)	31.5	31.5	88.2	88.3	12.8	12.8
	RDW (k)	21.8	21.7	60.9	61.0	8.9	8.8
***	RL (k)	81.3	28.3	167.7	73.7	69.0	19.6
	RIM (k)	14.9	0.0	27.5	0.0	14.5	0.0
	RTotal (k)	237.4	186.9	607.3	536.3	157.1	89.9

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs(Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).

Sxc: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.³).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1+ MDC2) + 1.5 MDW + 1.75 M_{L+IM}

fℓ: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (kip-ft.).

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1 / Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2 / Sc(3n) or MDC2 / Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW / Sc(3n) or MDW / Sc(cr) as applicable.

fs (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
M_{L+IM} / Sc(n) or M_{L+IM} / Sc(cr) as applicable.

fs + $f_f/_2$ (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs(L_{+IM}) + $f_f/_2$

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs + $f_f/_3$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(L_{+IM}) + $f_f/_3$

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

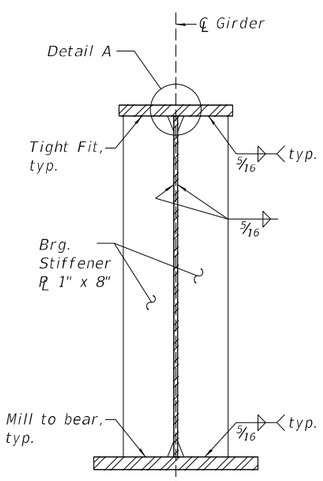
LLDF: Live Load Distribution Factor

OCF: Obtuse Correction Factor

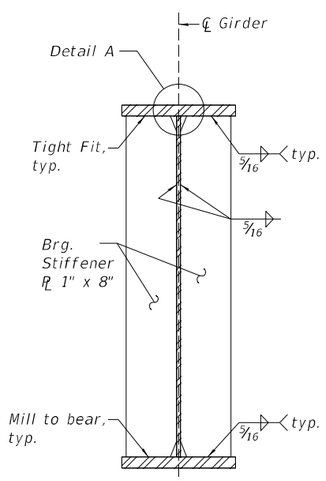
* Includes 0.050 k/' for utilities attached under bridge.

** DC2 distributed equally to three outermost girders on each side of bridge.

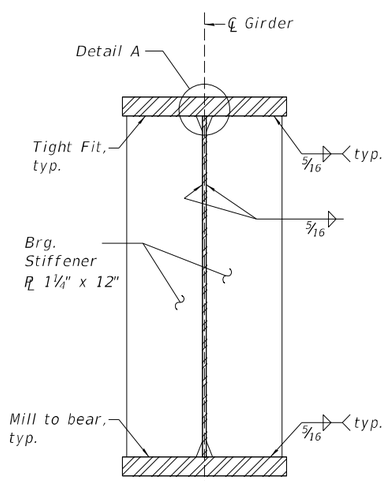
*** Load allowance accounts for interior girder HL-93 loading or exterior girder pedestrian loading.



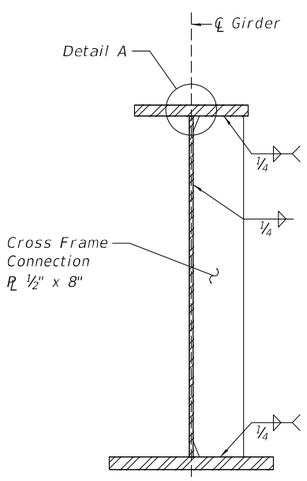
BEARING STIFFENER
at W. Abutment
(No. req'd = 13)



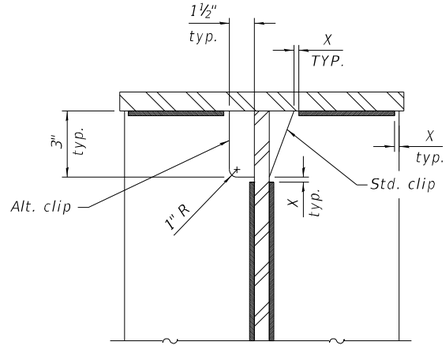
BEARING STIFFENER
at E. Abutment
(No. req'd = 13)



BEARING STIFFENER
at Pier
(No. req'd = 13)



CROSS FRAME CONNECTION PLATE
(No. req'd = 324)



DETAIL A
Weld termination:
"X" = stop weld ¼" (±⅛")
(typical top & bottom flanges)

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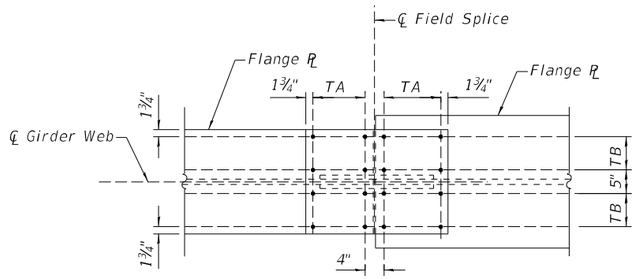
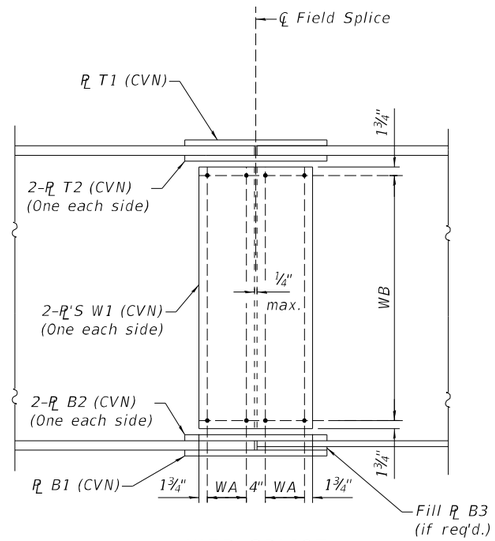
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS 2
STRUCTURE NO. 016-1669
SHEET 31 OF 77 SHEETS

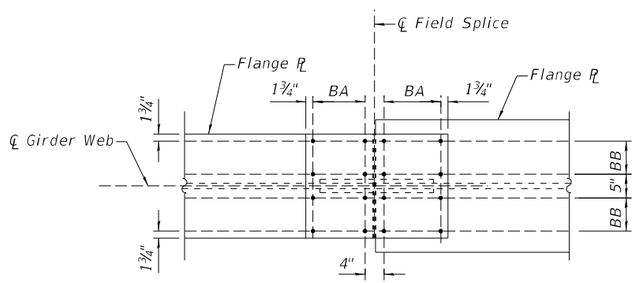
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	206
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



TOP FLANGE SPLICE



WEB SPLICE



BOTTOM FLANGE SPLICE

TOP FLANGE				
Field Splice	Splice PL		Bolt Spacing	
	T1	T2	TA	TB
1	1¼"x18"x3'-7½"	1¼"x8½"x3'-7½"	6 spa. at 3"	1 spa. at 4¾"
2	1¼"x18"x3'-7½"	1¼"x8½"x3'-7½"	6 spa. at 3"	1 spa. at 4¾"
3	1¼"x18"x3'-7½"	1¼"x8½"x3'-7½"	6 spa. at 3"	1 spa. at 4¾"

WEB			
Field Splice	Splice PL	Bolt Spacing	
	W1	WA	WB
1	⅜"x13½"x3'-11½"	1 spa. at 3"	8 spa. at 5½"
2	⅜"x13½"x3'-11½"	1 spa. at 3"	8 spa. at 5½"
3	⅜"x13½"x3'-11½"	1 spa. at 3"	8 spa. at 5½"

BOTTOM FLANGE					
Field Splice	Splice PL		Filler PL	Bolt Spacing	
	B1	B2	B3	BA	BB
1	1¼"x26"x4'-1½"	1¼"x12¼"x4'-1½"	---	7 spa. at 3"	2 spa. at 4⅜"
2	1¼"x26"x4'-1½"	1¼"x12¼"x4'-1½"	---	7 spa. at 3"	2 spa. at 4⅜"
3	1¼"x18"x4'-1½"	1¼"x8¼"x4'-1½"	¼"x18"x2'-0⅝"	7 spa. at 3"	1 spa. at 4¾"

Notes:
1. "CVN" denotes Charpy-V-notch impact energy requirements, zone 2.
2. All structural steel for splices shall conform to the requirements of AASHTO M270, Grade 50.

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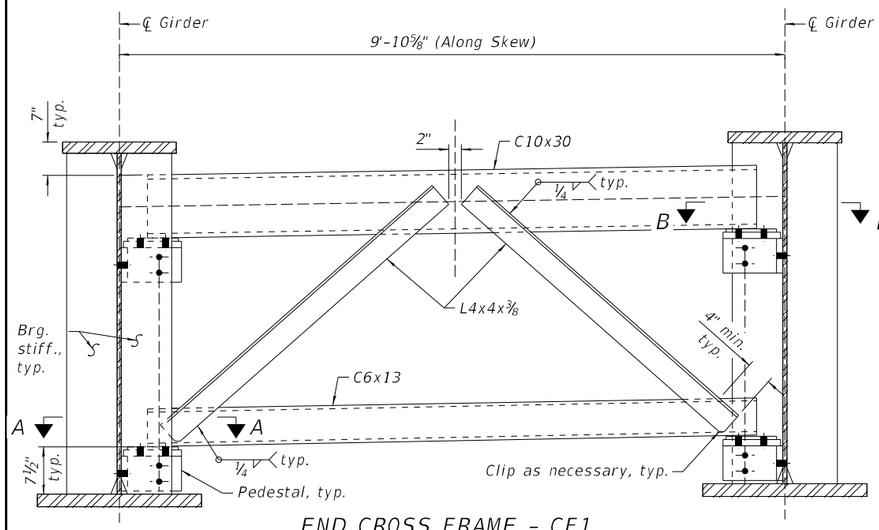
STRUCTURAL STEEL DETAILS 3
STRUCTURE NO. 016-1669
SHEET 32 OF 77 SHEETS

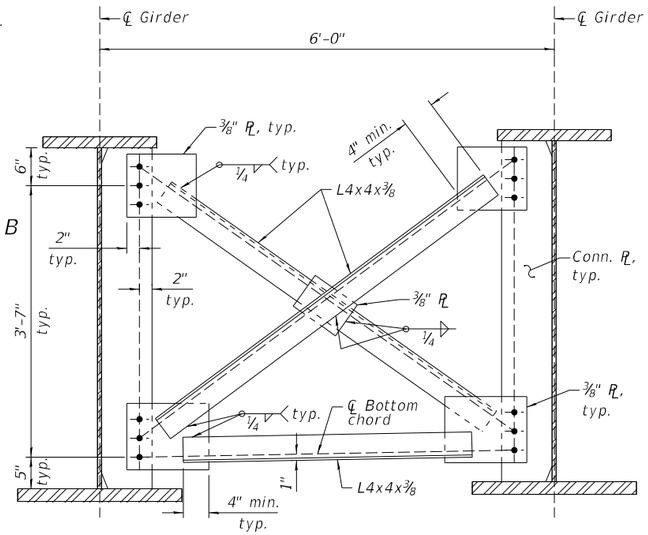
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	207
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



END CROSS FRAME – CF1

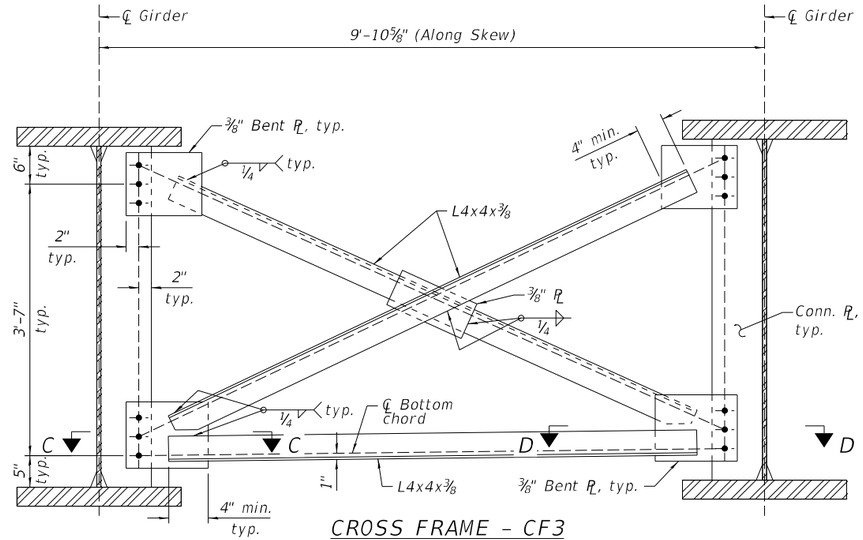
at W. Abutment

(No. req'd. = 12)



INTERMEDIATE CROSS FRAME – CF2

(No. req'd. = 138)

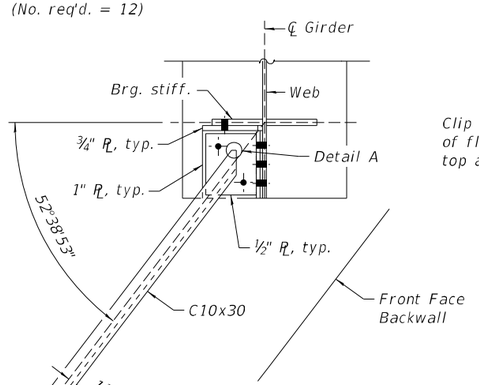


CROSS FRAME – CF3

at Pier & E. Abutment

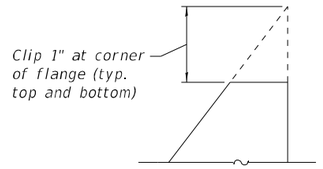
Brg. Stiffener not shown for clarity

(No. req'd. = 24)

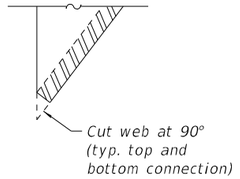


SECTION B-B

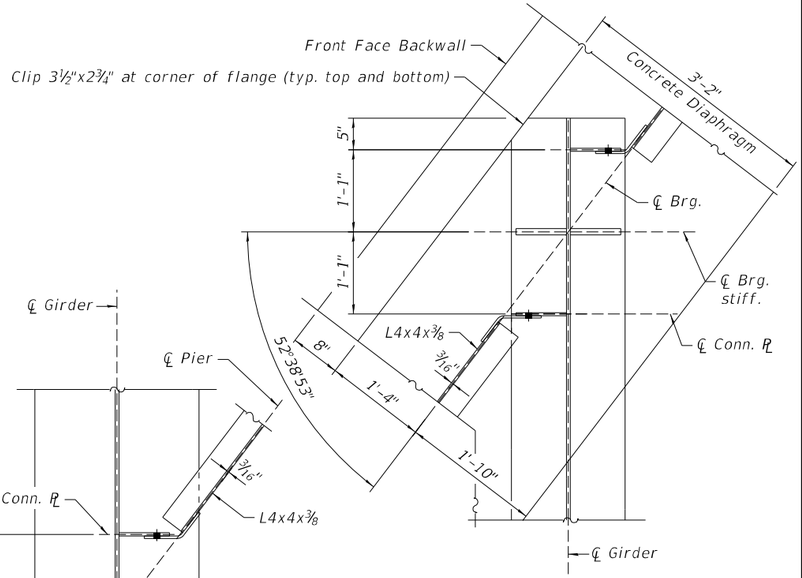
TOP CONNECTION DETAIL



DETAIL A



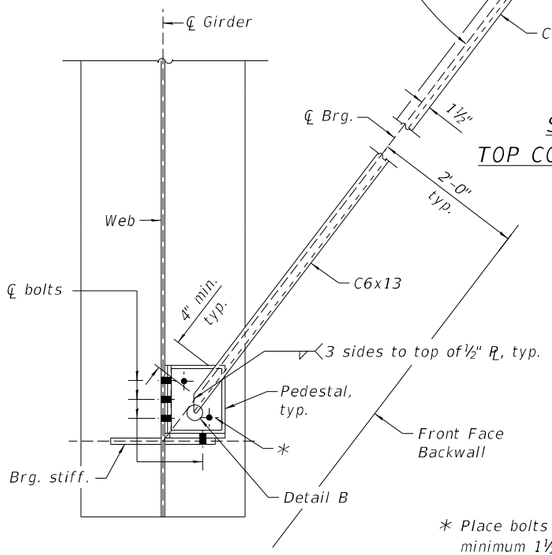
DETAIL B



SECTION D-D

CONNECTION DETAIL

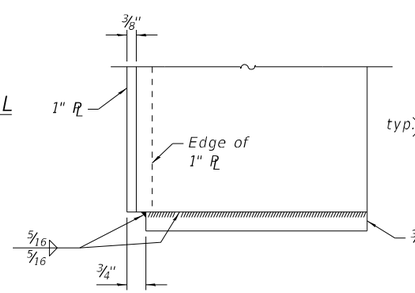
(at E. Abutment)



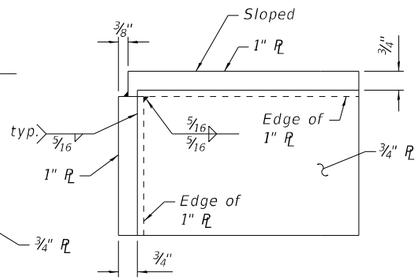
SECTION A-A

BOTTOM CONNECTION DETAIL

* Place bolts to maintain a minimum 1½" clearance between channel and edge of ½" PL.



PEDESTAL PARTIAL PLAN



PEDESTAL ELEVATION

SECTION C-C

CONNECTION DETAIL

(at Pier)

Notes:

1. All structural steel for cross frame members shall conform to the requirements of AASHTO M270, Grade 50.
2. Bolts for cross frames shall be ¾" dia. bolts in 15/16" dia. holes.
3. Two hardened washers required for each set of oversized holes.
4. Place diaphragm with channel flanges outward from the abutment backwall.

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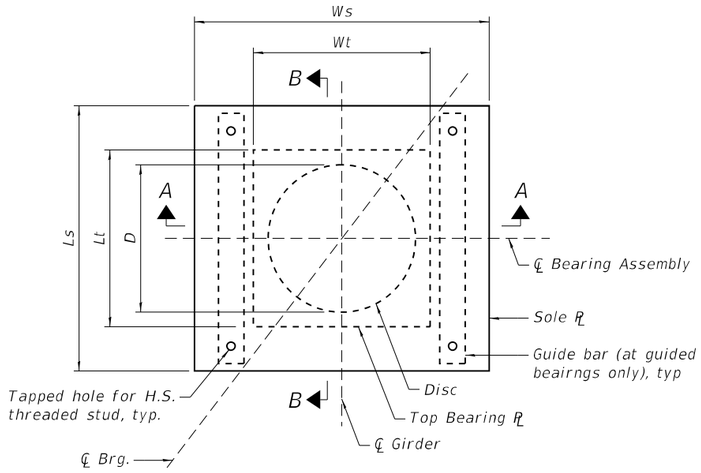
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

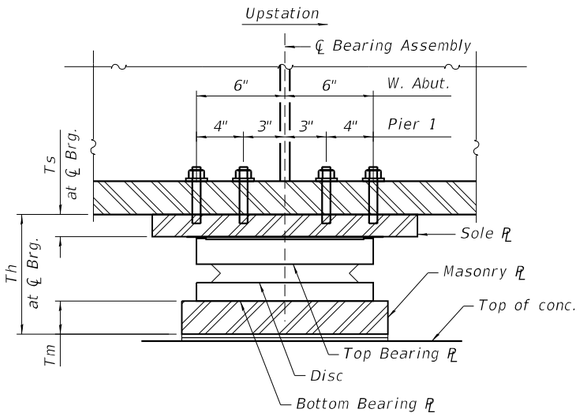
STRUCTURAL STEEL DETAILS 4
STRUCTURE NO. 016-1669
SHEET 33 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	208
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



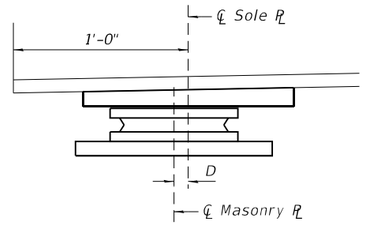
SOLE PLATE PLAN

(Guided Bearing shown. Non-Guided Bearing similar)

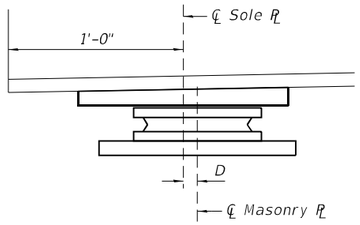


SECTION B-B

(Guided Bearing shown. Non-Guided Bearing similar)



BELOW 50° F
(Move Masonry PL away from Fixed Brg.)

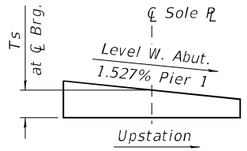


ABOVE 50° F
(Move Masonry PL towards Fixed Brg.)

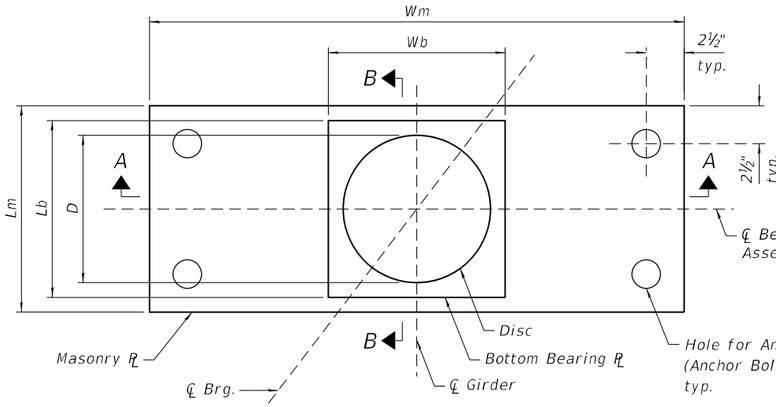
D = ⅛" per each 100' of expansion for every 15° F temperature change from the normal temperature of 50° F

SETTING ANCHOR BOLTS AT WEST ABUTMENT BEARINGS

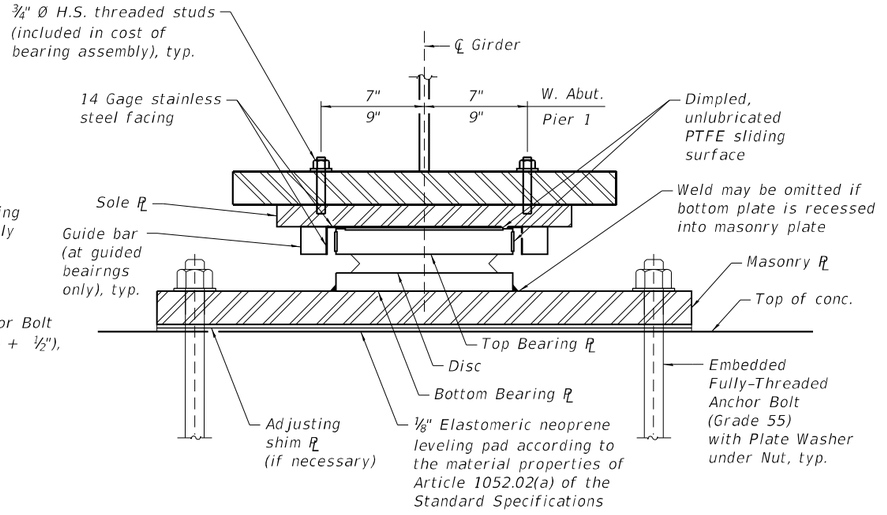
The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.



BEVELED SOLE PLATE DETAIL



MASONRY PLATE PLAN



SECTION A-A

(Guided Bearing shown. Non-Guided Bearing similar)

∗ Length shown is minimum required embedment

∗∗ Design movements are from the strength limit state and include the total combined movement range for bridge expansion (50° F to 120° F) and bridge contraction (50° F to -20° F). Design movements include ½ inch for tolerance in each direction.

∗∗∗ Design rotations include 0.005 radians for tolerances and 0.005 radians for uncertainties.

BEARING DATA TABLE

Brg. Location	Girder No.	Brg. Type	Design Loads (kip)		Design Movements (inch)		∗∗∗ Design Rotation Strength (rad)	Estimated Dimensions											Anchor Bolt	
								Sole Plate			Top Brg. Plate		Disc	Bott. Brg. Plate		Masonry Plate			Th		
			Service Vertical	Strength Horizontal	∗∗ Longitudinal	Transverse		Ts	Ls	Ws	Lt	Wt	D	Lb	Wb	Tm	Lm	Wm		Bolt Dia. & Length ∗	Plate Washer
W. Abut.	1, 2, 12, 13	Non-Guided	250	-	4	1	0.025	1½"	1'-6"	1'-8"	1'-0"	1'-0"	9⅞"	11⅞"	11⅞"	2½"	1'-2"	3'-0"	8½"	1" x 12"	2¼"x2¼"x5/16"
	3 to 11	Guided	250	50	4	-	0.025	1½"	1'-6"	1'-8"	1'-0"	1'-0"	9⅞"	11⅞"	11⅞"	2½"	1'-2"	3'-0"	8½"	1" x 12"	2¼"x2¼"x5/16"
Pier 1	1, 2, 12, 13	Non-Guided	600	-	1	1	0.025	2"	1'-9"	2'-1"	1'-6"	1'-6"	1'-2⅝"	1'-4⅜"	1'-4⅜"	2¾"	1'-7"	3'-0"	10½"	1½" x 15"	3"x3"x5/16"

BILL OF MATERIAL

ITEM	UNIT	TOTAL
High Load Multi-Rotational Bearings, Disc, Guided Expansion-300K	Each	9
High Load Multi-Rotational Bearings, Disc, Non-Guided Expansion-300K	Each	4
High Load Multi-Rotational Bearings, Disc, Non-Guided Expansion-600K	Each	4
Anchor Bolts, 1"	Each	52
Anchor Bolts, 1½"	Each	16

Notes:

1. High Load Multi-Rotational bearings shall be disc type. POT BEARINGS ARE NOT ALLOWED. Bearing assemblies shown are schematic.
2. All structural steel plates of the Bearings Assembly shall conform to the requirements of AASHTO M270 grade 50, unless otherwise noted.
3. All structural steel plates, anchor bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable.
4. The corresponding specified grade of AASHTO M314 Anchor Bolts may be used in lieu of ASTM F1554.
5. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
6. Two ⅛ inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
7. If disc assembly is recessed into the masonry plate, the thickness of the masonry plate shall be Tm plus the depth of the recess.
8. Th is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations with approval from the engineer, if required, prior to placing concrete.
9. The bearing supplier is responsible for the design and supply of the masonry plate, bottom and top bearing plates, polyether urethane disc, sole plate, guide bars, stainless steel and PTFE sliding surfaces, and any other required components of the bearing assembly.

HDR
9450 W. BRYN MAWR AVE.
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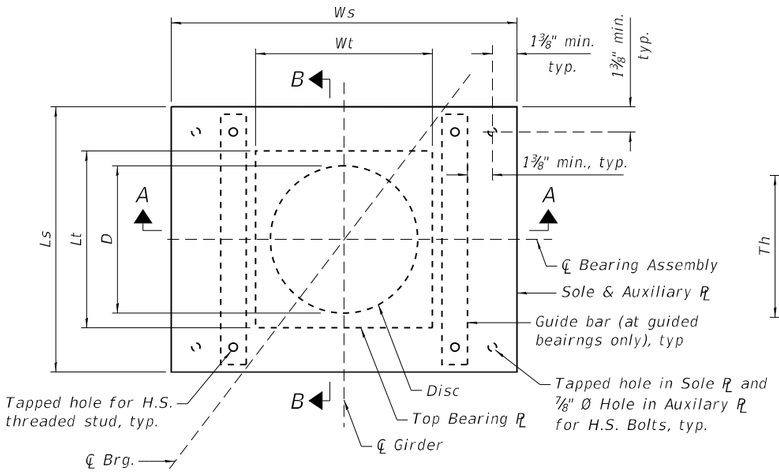
PLOT DATE =	03/11/2024	CHECKED - MBQ	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS 1
STRUCTURE NO. 016-1669

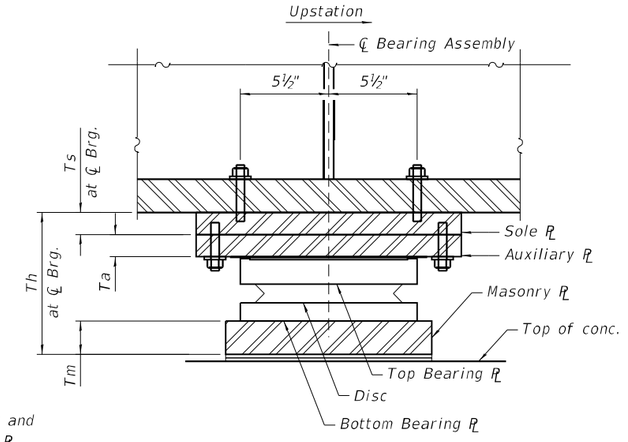
SHEET 34 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	209
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



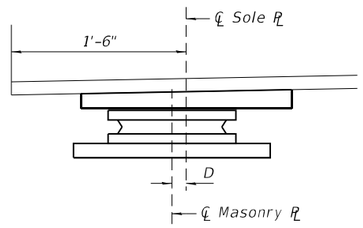
SOLE PLATE PLAN

(Guided Bearing shown. Non-Guided Bearing similar)

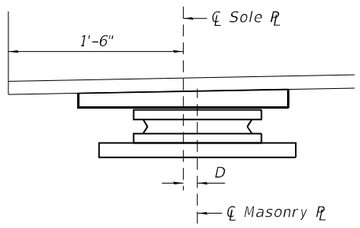


SECTION B-B

(Guided Bearing shown. Non-Guided Bearing similar)



BELOW 50° F
(Move Masonry ℄ away from Fixed Brg.)

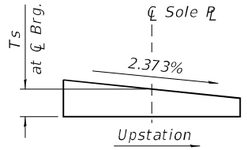


ABOVE 50° F
(Move Masonry ℄ towards Fixed Brg.)

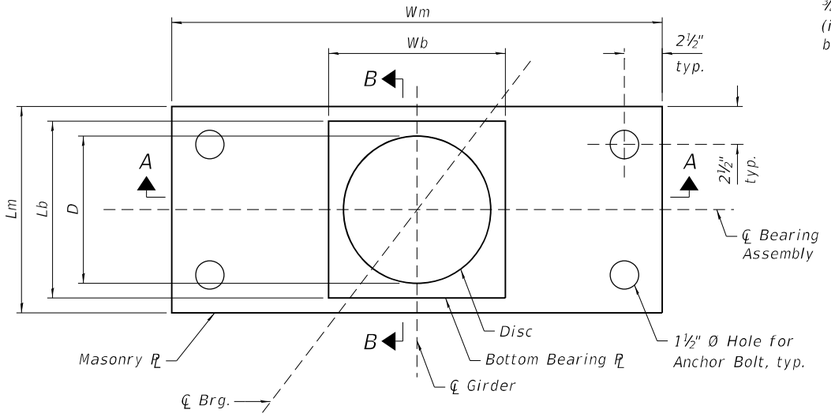
D = ⅛" per each 100' of expansion for every 15° F temperature change from the normal temperature of 50° F

SETTING ANCHOR BOLTS AT EAST ABUTMENT BEARINGS

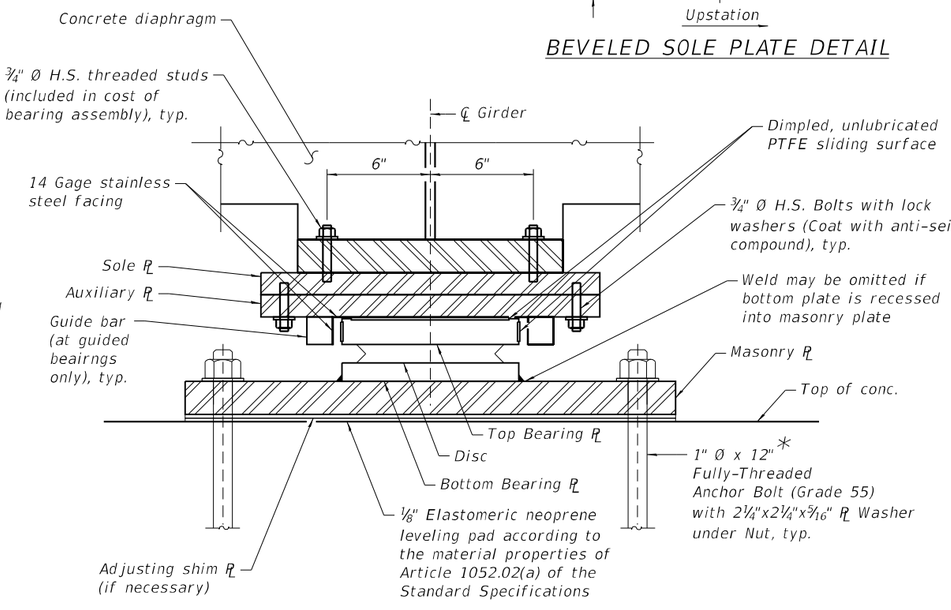
The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.



BEVELED SOLE PLATE DETAIL



MASONRY PLATE PLAN



SECTION A-A

(Guided Bearing shown. Non-Guided Bearing similar)

* *Length shown is minimum required embedment*

** *Design movements are from the strength limit state and include the total combined movement range for bridge expansion (50° F to 120° F) and bridge contraction (50° F to -20° F). Design movements include ½ inch for tolerance in each direction.*

*** *Design rotations include 0.005 radians for tolerances and 0.005 radians for uncertainties.*

Notes:

1. *High Load Multi-Rotational bearings shall be disc type. POT BEARINGS ARE NOT ALLOWED. Bearing assemblies shown are schematic.*
2. *All structural steel plates of the Bearings Assembly shall conform to the requirements of AASHTO M270 grade 50, unless otherwise noted.*
3. *All structural steel plates, anchor bolts, H.S. bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable.*
4. *The corresponding specified grade of AASHTO M314 Anchor Bolts may be used in lieu of ASTM F1554.*
5. *H.S. bolts shall conform to the requirements of Article 1006.08 of the Standard Specifications.*
6. *Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.*
7. *Two ⅛ inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.*
8. *If disc assembly is recessed into the masonry plate, the thickness of the masonry plate shall be Tm plus the depth of the recess.*
9. *Th is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations with approval from the engineer, if required, prior to placing concrete.*
10. *The bearing supplier is responsible for the design and supply of the masonry plate, bottom and top bearing plates, polyether urethane disc, sole plate, guide bars, auxiliary plate, stainless steel and PTFE sliding surfaces, and any other required components of the bearing assembly.*

BEARING DATA TABLE

Brg. Location	Girder No.	Brg. Type	Design Loads (kip)		Design Movements (inch)		*** Design Rotation Strength (rad)	Estimated Dimensions														
								Sole Plate			Auxiliary Plate			Top Brg. Plate		Disc	Bott. Brg. Plate		Masonry Plate			Th
			Service Vertical	Strength Horizontal	** Longitudinal	Transverse		Ts	Ls	Ws	Ta	Ls	Ws	Lt	Wt	D	Lb	Wb	Tm	Lm	Wm	
E. Abut.	1, 2, 12, 13	Non-Guided	150	-	3	1	0.025	2¼"	1'-3"	1'-11"	1¾"	1'-3"	1'-11"	9⅞"	9⅞"	7⅞"	9⅞"	9⅞"	2¼"	1'-0"	2'-9"	10⅛"
	3 to 11	Guided	150	30	3	-	0.025	2¼"	1'-3"	1'-11"	1¾"	1'-3"	1'-11"	9⅞"	9⅞"	7⅞"	9⅞"	9⅞"	2¼"	1'-0"	2'-9"	10⅛"

BILL OF MATERIAL

ITEM	UNIT	TOTAL
High Load Multi-Rotational Bearings, Disc, Guided Expansion-200K	Each	9
High Load Multi-Rotational Bearings, Disc, Non-Guided Expansion-200K	Each	4
Anchor Bolts, 1"	Each	52

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ROSEMONT, IL 60018

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS 2
STRUCTURE NO. 016-1669

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	210
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

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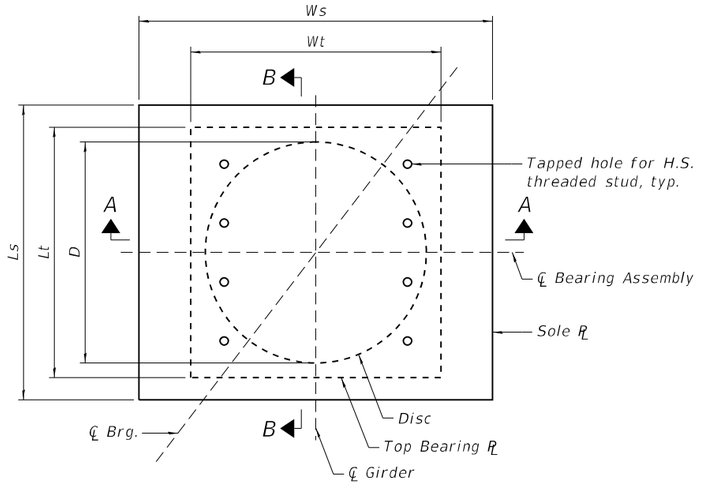
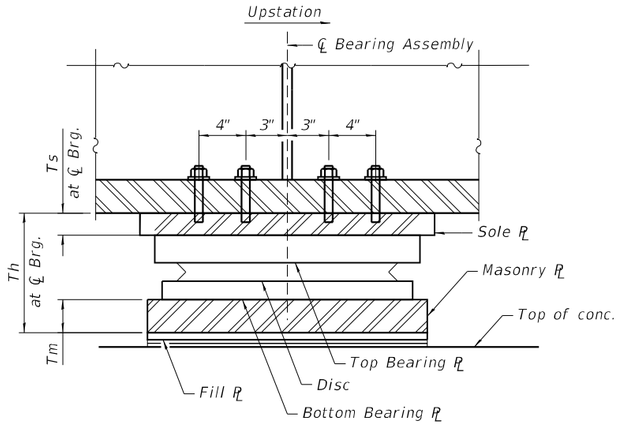
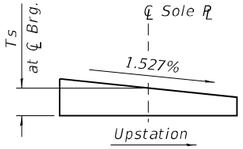


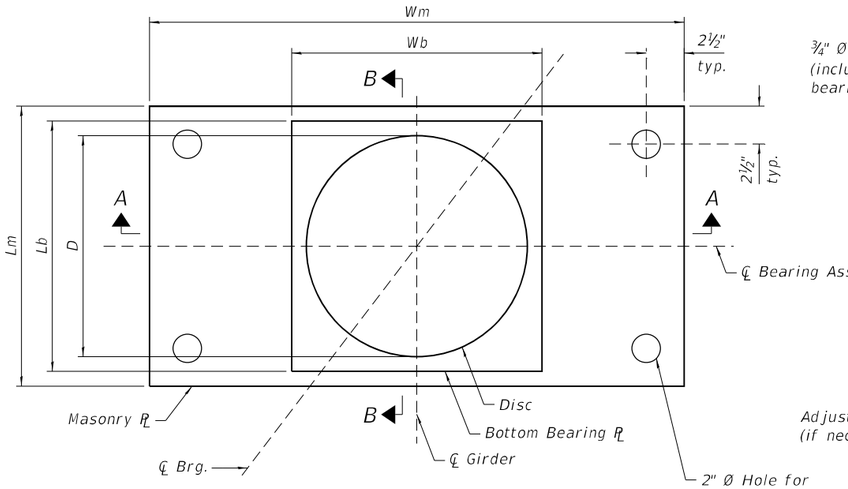
SOLE PLATE PLAN



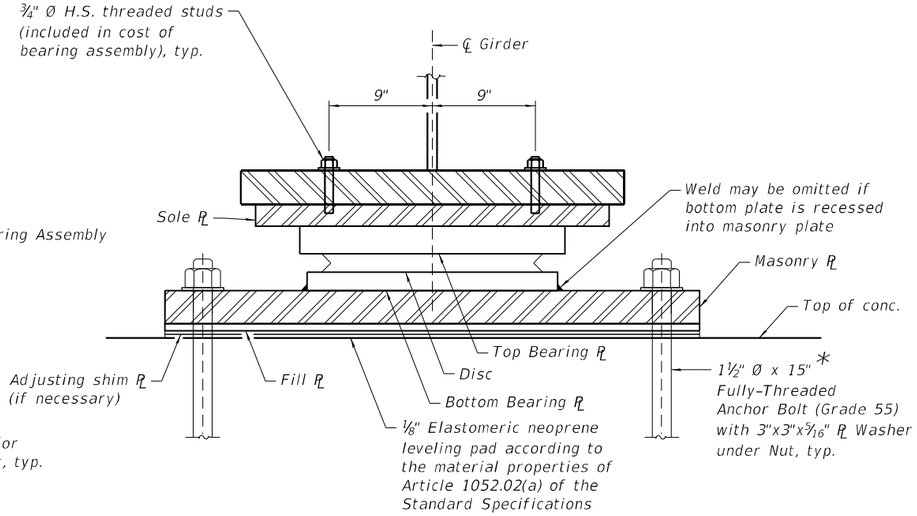
SECTION B-B



BEVELED SOLE PLATE DETAIL



MASONRY PLATE PLAN



SECTION A-A

* Length shown is minimum required embedment

** Design rotations include 0.005 radians for tolerances and 0.005 radians for uncertainties.

FILL PLATE TABLE

Brg. Location	Thickness (inch)		
	Girder 4	Girder 5	Girder 6
Pier 1	¾"	½"	⅜"

BEARING DATA TABLE

Brg. Location	Girder No.	Brg. Type	Design Loads (kip)		** Design Rotation Strength (rad)	Estimated Dimensions											
			Service Vertical	Strength Horizontal		Sole Plate			Top Brg. Plate		Disc	Bott. Brg. Plate		Masonry Plate			Th
						Ts	Ls	Ws	Lt	Wt	D	Lb	Wb	Tm	Lm	Wm	
Pier 1	3 to 11	Fixed	600	140	0.025	2"	1'-8"	2'-0"	1'-6"	1'-6"	1'-2⅝"	1'-4⅝"	1'-4⅝"	2¾"	1'-7"	3'-0"	10½"

Notes:

1. High Load Multi-Rotational bearings shall be disc type. POT BEARINGS ARE NOT ALLOWED. Bearing assemblies shown are schematic.
2. All structural steel plates of the Bearings Assembly shall conform to the requirements of AASHTO M270 grade 50, unless otherwise noted.
3. All structural steel plates, anchor bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable.
4. The corresponding specified grade of AASHTO M314 Anchor Bolts may be used in lieu of ASTM F1554.
5. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
6. Two ⅛ inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
7. If disc assembly is recessed into the masonry plate, the thickness of the masonry plate shall be Tm plus the depth of the recess.
8. Th is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations with approval from the engineer, if required, prior to placing concrete.
9. The bearing supplier is responsible for the design and supply of the masonry plate, bottom and top bearing plates, polyether urethane disc, sole plate, and any other required components of the bearing assembly.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
High Load Multi-Rotational Bearings, Disc, Fixed-600K	Each	9
Anchor Bolts, 1½"	Each	36

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = | DESIGNED – RGB | REVISED –
PLOT SCALE = | DRAWN – RGB | REVISED –
PLOT DATE = 03/11/2024 | CHECKED – MBQ | REVISED –
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

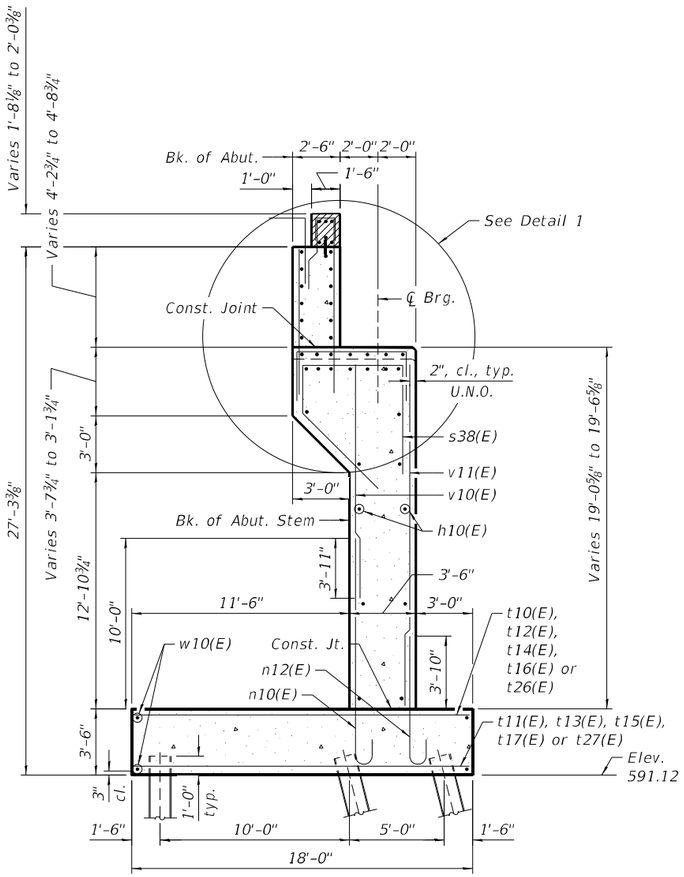
HLMR BEARING DETAILS 3
STRUCTURE NO. 016-1669
SHEET 36 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	211
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

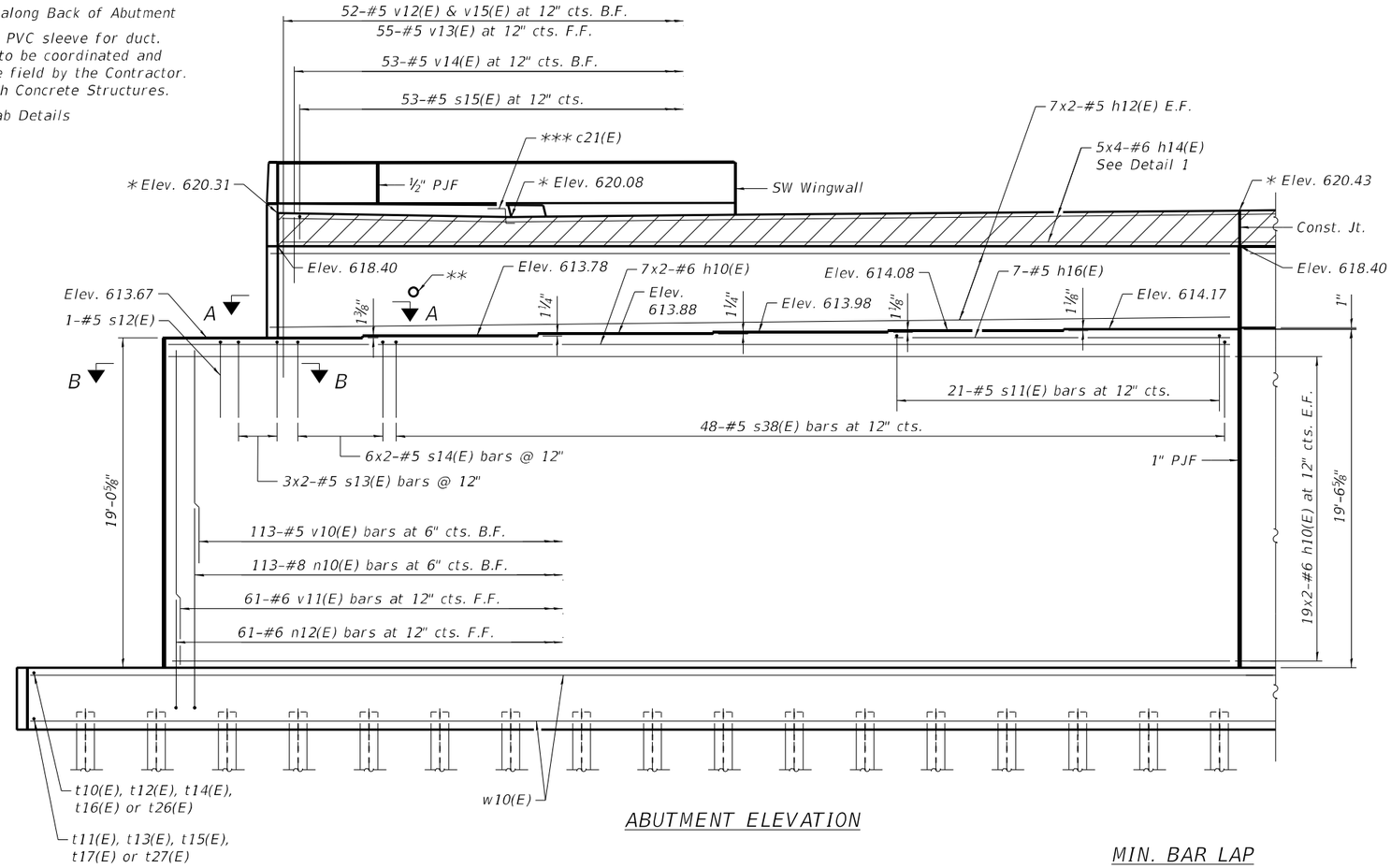
* Elevations taken along Back of Abutment

** Provide 1-4" Dia. PVC sleeve for duct. Location of duct to be coordinated and determined in the field by the Contractor. Cost included with Concrete Structures.

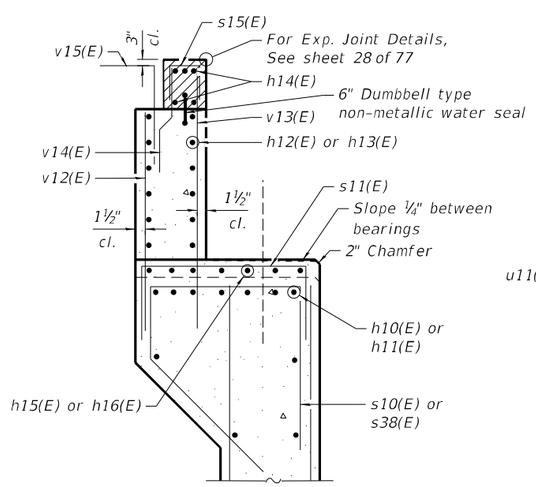
*** See Approach Slab Details



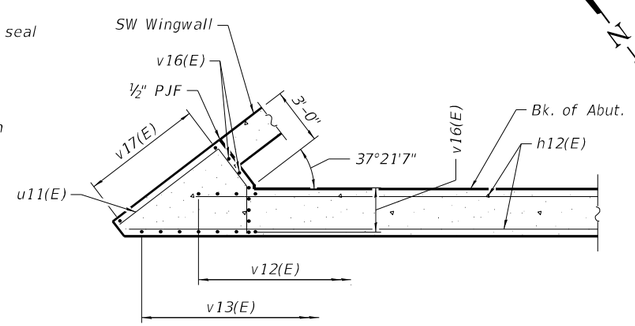
SECTION THRU ABUTMENT



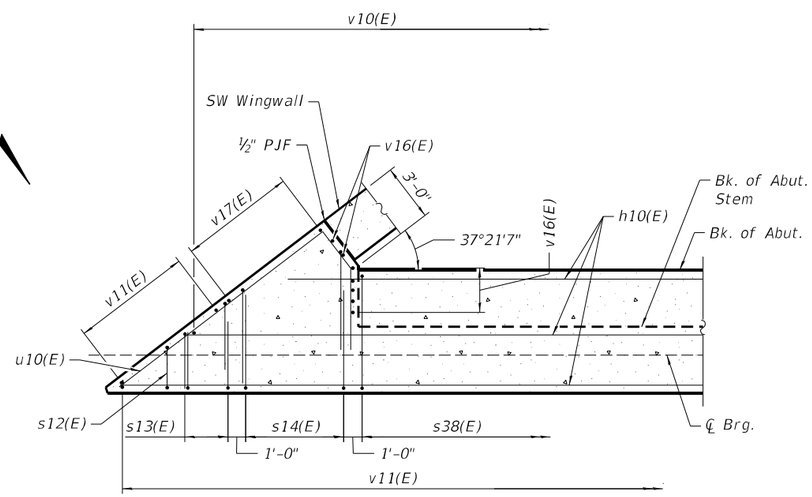
ABUTMENT ELEVATION



DETAIL 1



SECTION A-A



SECTION B-B

MIN. BAR LAP

#5 Bars = 3'-7"
#6 Bars = 4'-4"

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolitically with cap.
3. Bars indicated thus 6x2-#5 etc. indicate 6 lines of bars with 2 lengths per line.
4. For Bill of Material, see sheet 44 of 77.
5. Concrete sealer shall be applied to the entire surface of the backwall, front face of the abutment from top of footing to bridge seat, and front face of the wingwalls from top of footing to top of parapet.
6. Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.

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PLOT DATE = 03/11/2024	CHECKED - RGB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT ELEVATION - REINFORCEMENT 1
STRUCTURE NO. 016-1669

SHEET 37 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	212
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-X(IF(742)			

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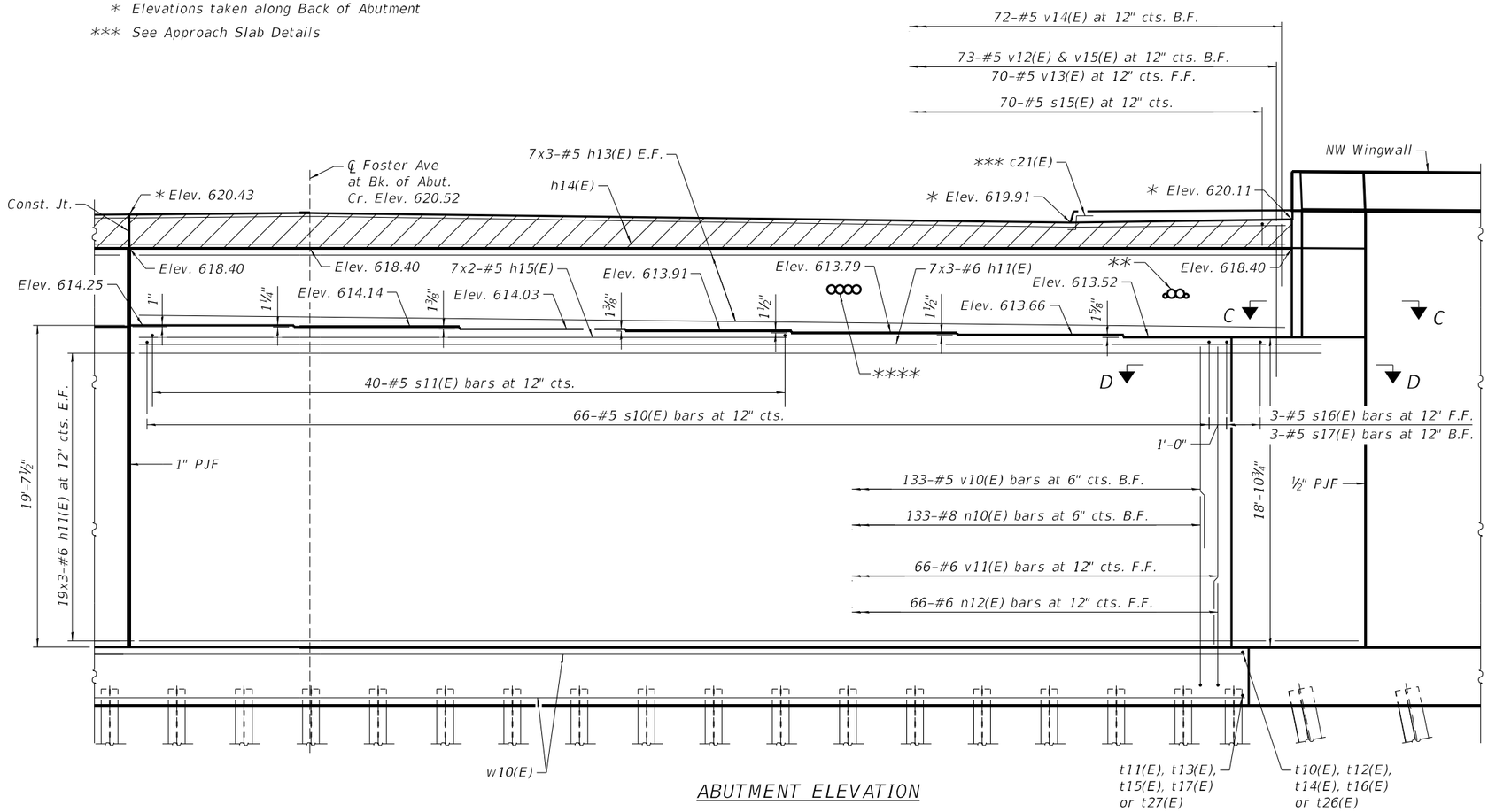
* Elevations taken along Back of Abutment

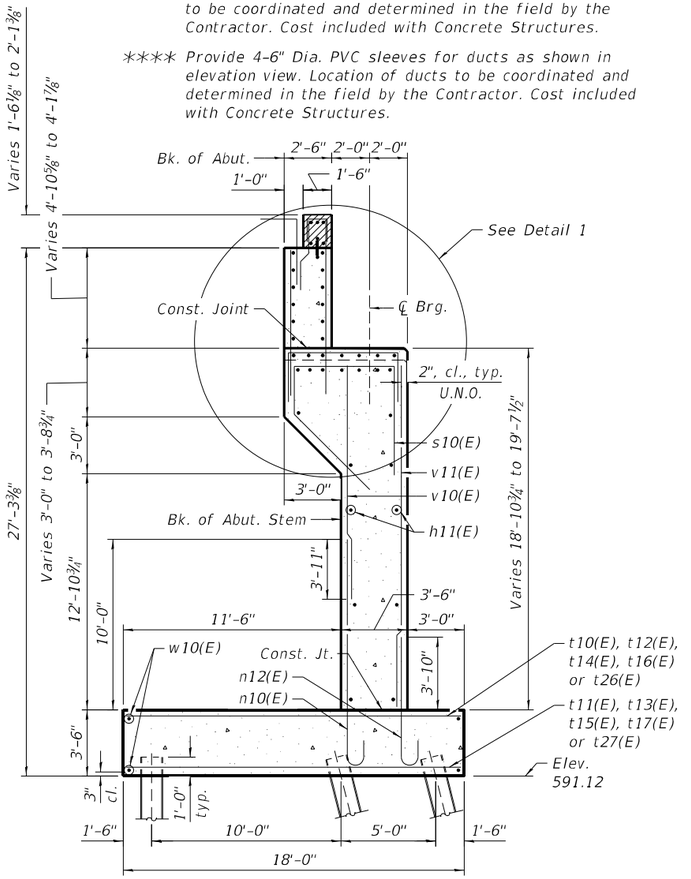
*** See Approach Slab Details



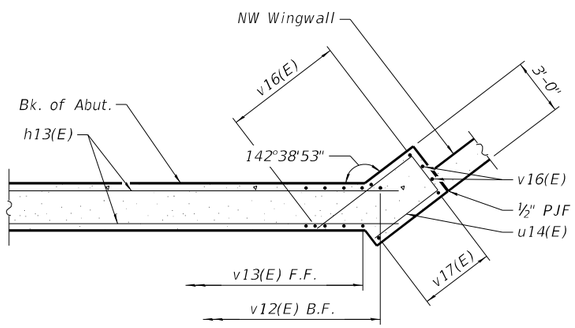
ABUTMENT ELEVATION

** Provide 2-6" Dia. PVC sleeves and 2-4" Dia. PVC sleeves for ducts as shown in elevation view. Location of ducts to be coordinated and determined in the field by the Contractor. Cost included with Concrete Structures.

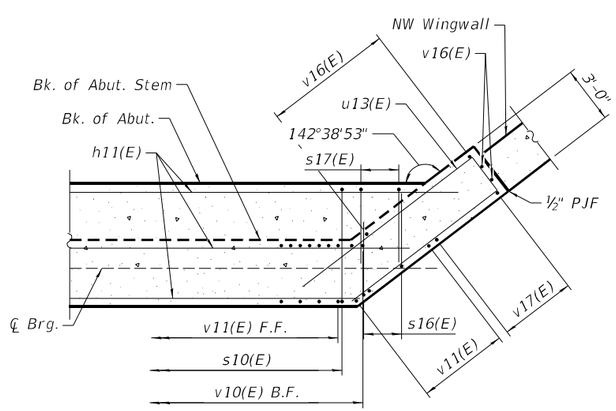
**** Provide 4-6" Dia. PVC sleeves for ducts as shown in elevation view. Location of ducts to be coordinated and determined in the field by the Contractor. Cost included with Concrete Structures.



SECTION THRU ABUTMENT



SECTION C-C



SECTION D-D

MIN. BAR LAP

#5 Bars = 3'-7"
#6 Bars = 4'-4"

Notes:

1. For notes, see sheet 37 of 77.
2. For Detail 1, see sheet 37 of 77.

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9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = | DESIGNED – MBQ | REVISED –
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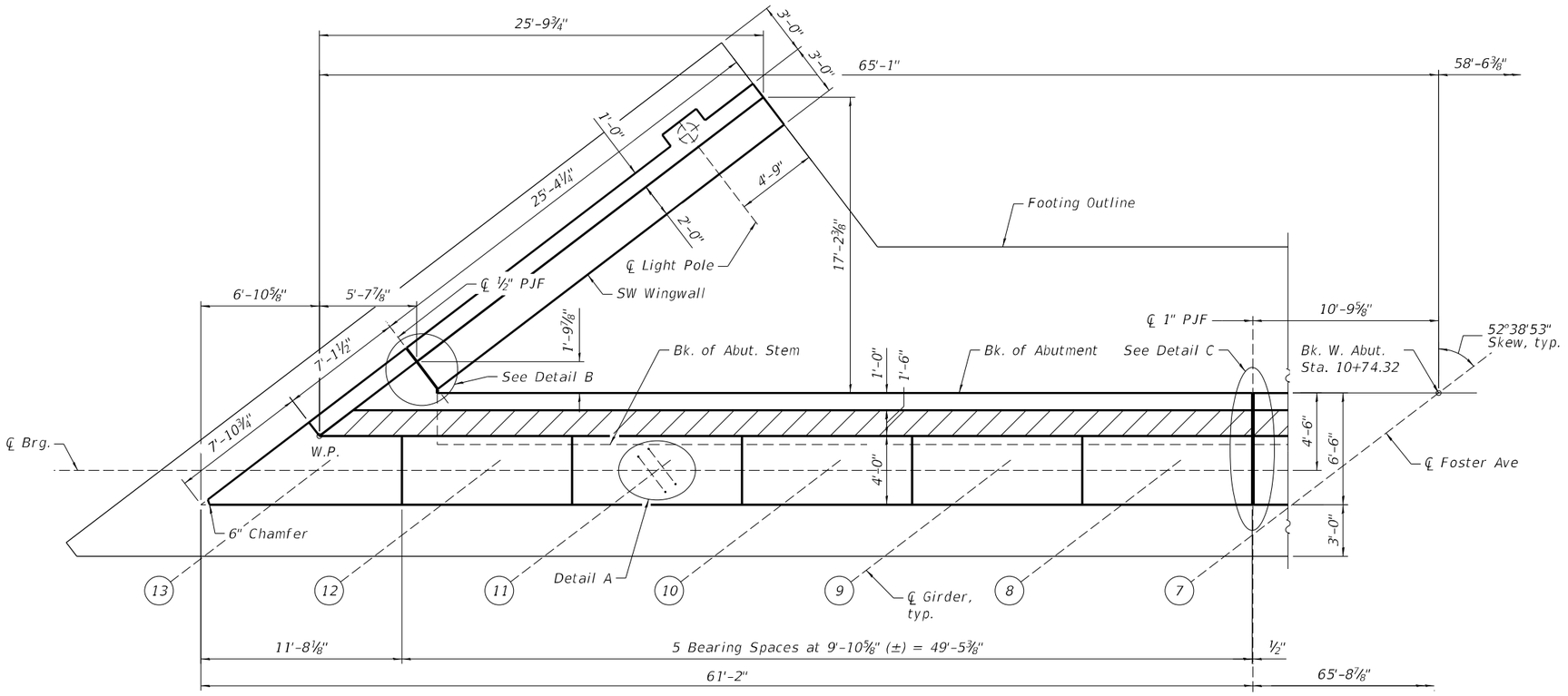
PLOT SCALE = | DRAWN – CHP | REVISED –
PLOT DATE = 03/11/2024 | CHECKED – RGB | REVISED –

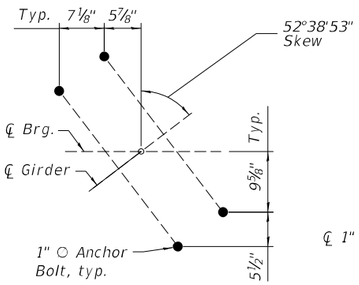
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT ELEVATION - REINFORCEMENT 2
STRUCTURE NO. 016-1669
SHEET 38 OF 77 SHEETS

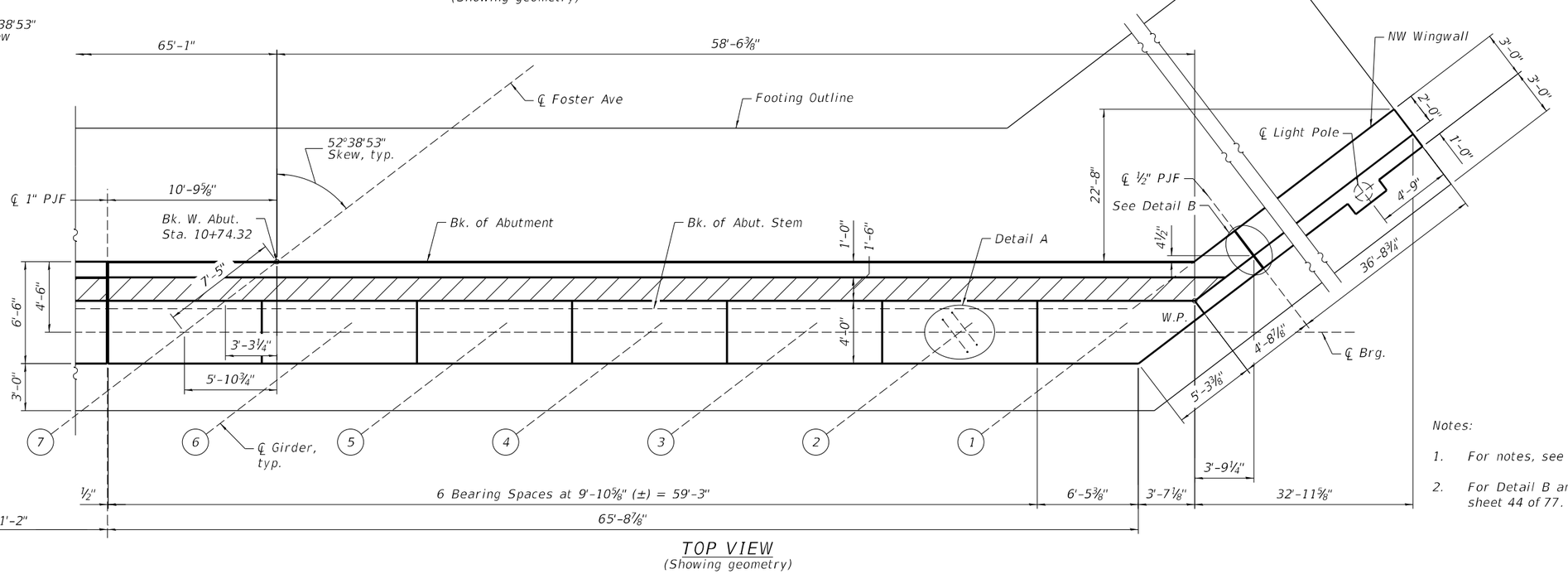
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	213
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



TOP VIEW
(Showing geometry)



DETAIL A



TOP VIEW
(Showing geometry)

Notes:

1. For notes, see sheet 37 of 77.
2. For Detail B and Detail C, see sheet 44 of 77.

HDR
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ROSEMONT, IL 60018

USER NAME =	DESIGNED – MBQ	REVISED –
	CHECKED – RGB	REVISED –
PLOT SCALE =	DRAWN – CHP	REVISED –
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT PLAN
STRUCTURE NO. 016-1669
SHEET 39 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	214
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

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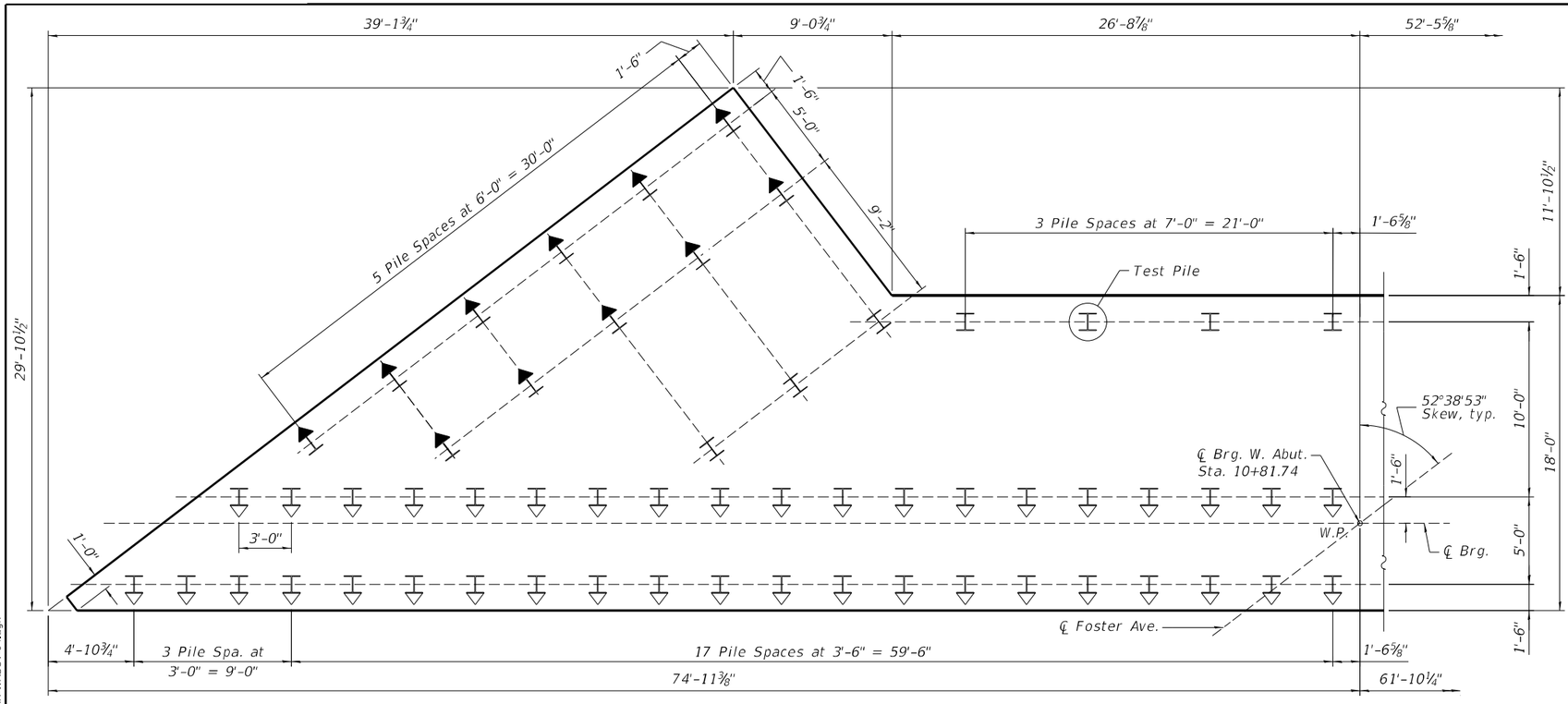

FOOTING PLAN
(Showing geometry)

FOOTING PLAN
(Showing geometry)

LEGEND

Batter 3" per ft.

Batter 4" per ft.

N

PILE DATA

Type:	HP12x53
Nominal Required Bearing:	418 Kips
Factored Resistance Available:	230 Kips
Est. Length:	54 ft.
No. Production Piles:	121
No. Test Piles:	2

Note:

For notes, see sheet 37 of 77.

MODEL: Default
FILE NAME: pw:\\pwhdrusce01:HDR_US_Central_01\Documents\3068\10210549.6.0_CAD_BIM\6.2_WIP\6.2.3_CADD Sheet\Structures_HDR\016169-62J23-XX-WABUT-04.dgn

3/11/2024 2:31:16 PM

HDR
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ROSEMONT, IL 60018

USER NAME =	DESIGNED – MBQ	REVISED –
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PLOT SCALE =	DRAWN – CHP	REVISED –
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT FOOTING PLAN
STRUCTURE NO. 016-1669
SHEET 40 OF 77 SHEETS

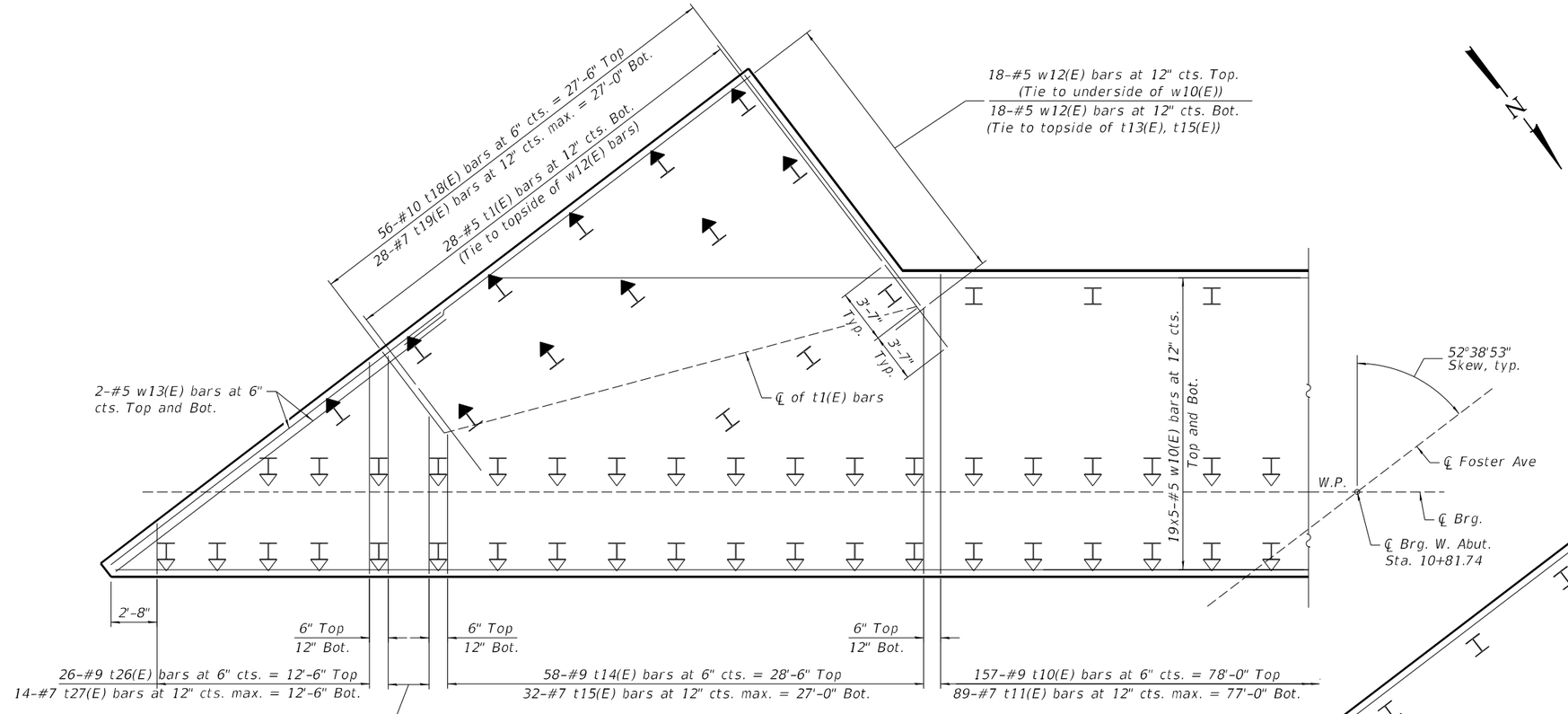
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	215
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

Notes:

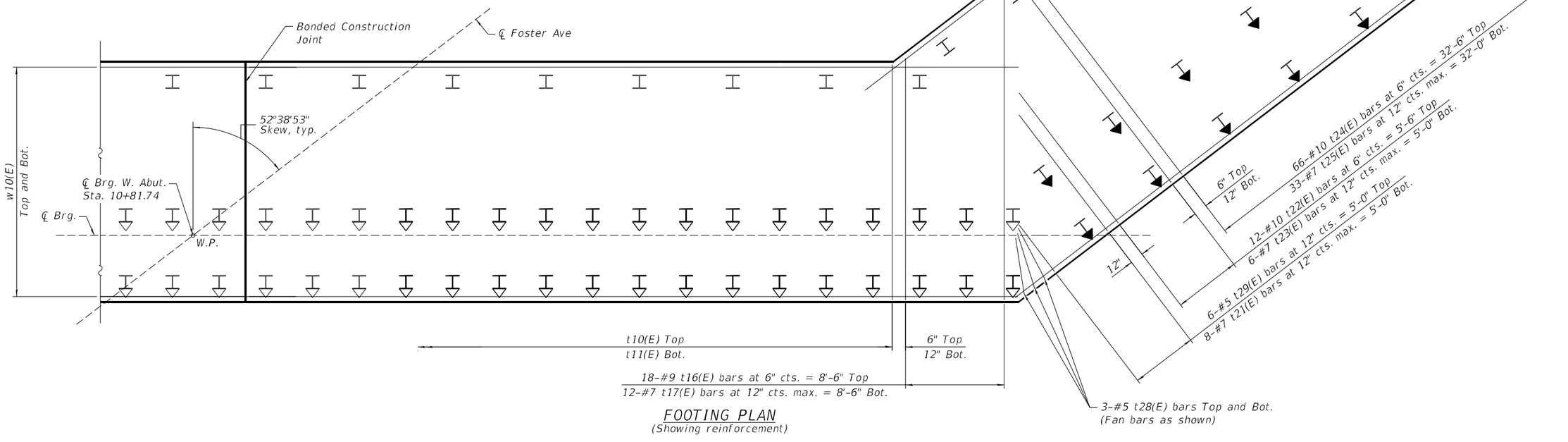
1. For notes, see sheet 37 of 77.
2. For bar cut diagram, see sheet 45 of 77.
3. Adjust location of bottom bars as needed to miss piles.

MIN. BAR LAP

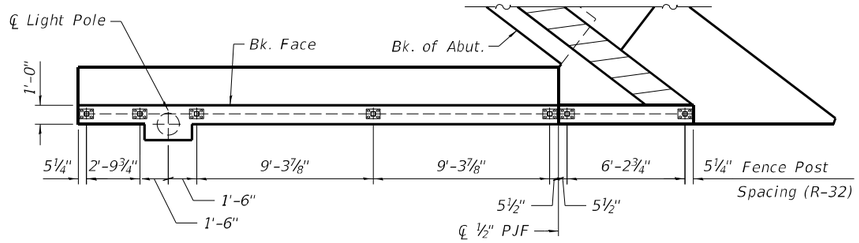
#5 Bars = 3'-7"



FOOTING PLAN
(Showing reinforcement)



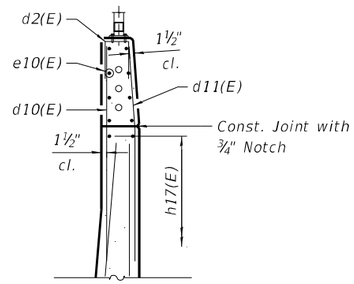
FOOTING PLAN
(Showing reinforcement)



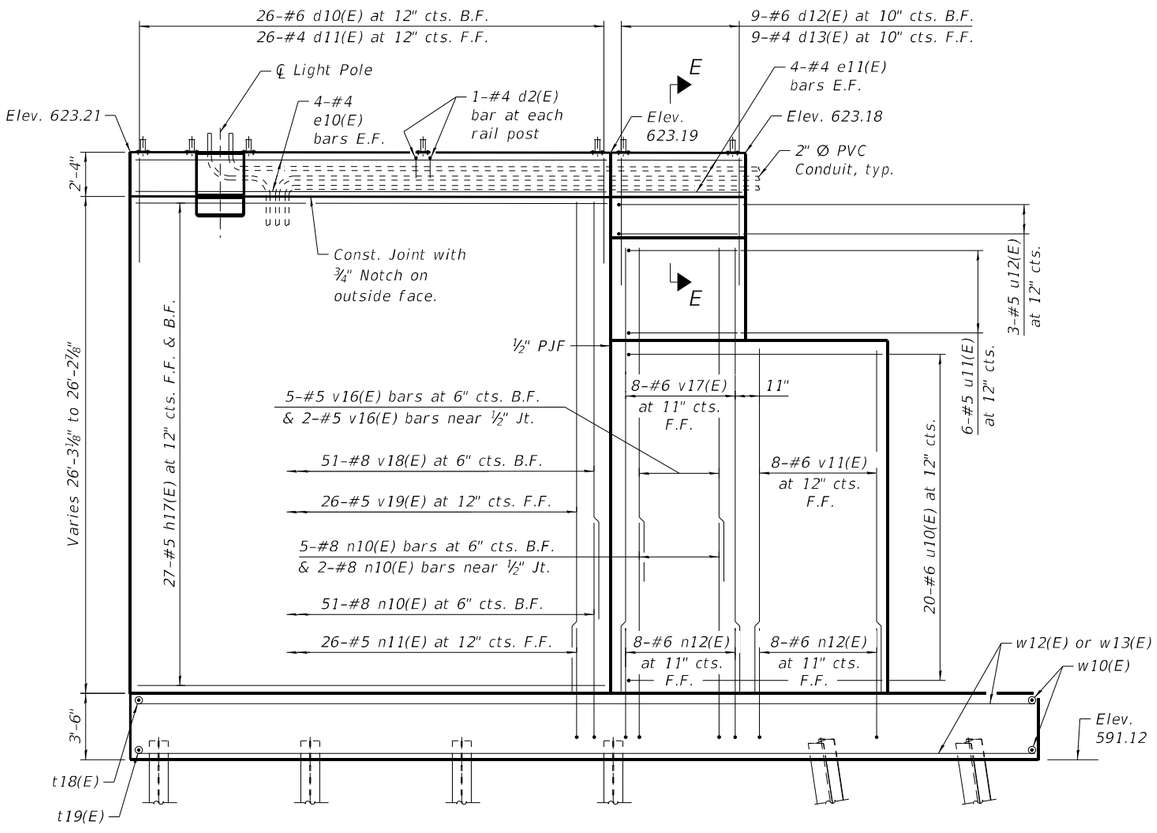
SW WINGWALL TOP VIEW

(Showing Fence Post Spacing)

N

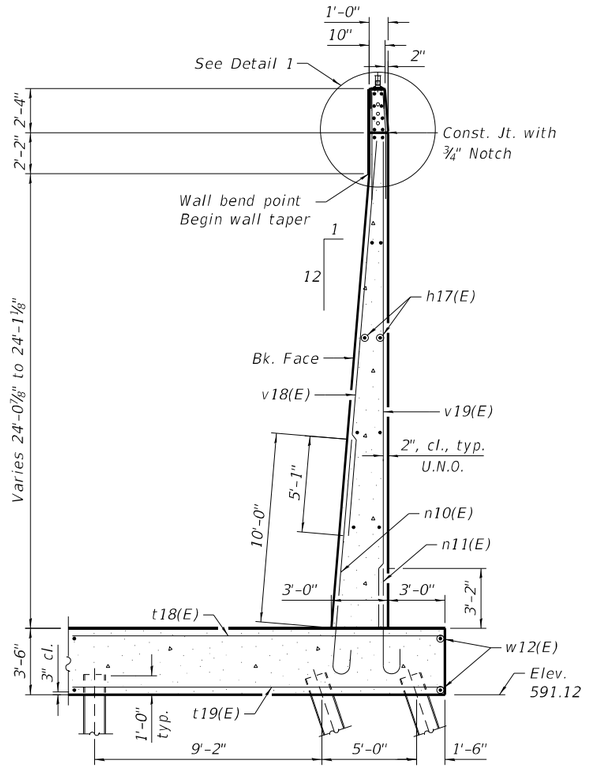


DETAIL 1

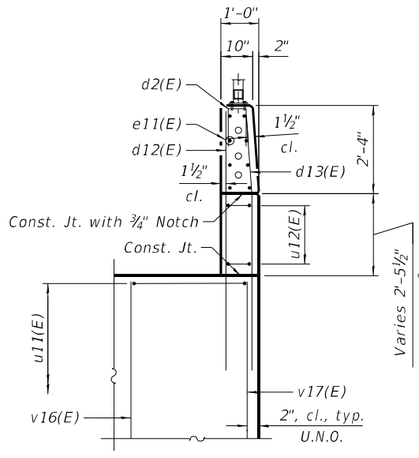


SW WINGWALL ELEVATION

(Looking North)



SW WINGWALL SECTION



SECTION E-E

Notes:

1. For notes, see sheet 37 of 77.
2. For Light Pole blister detail, see sheet 44 of 77.

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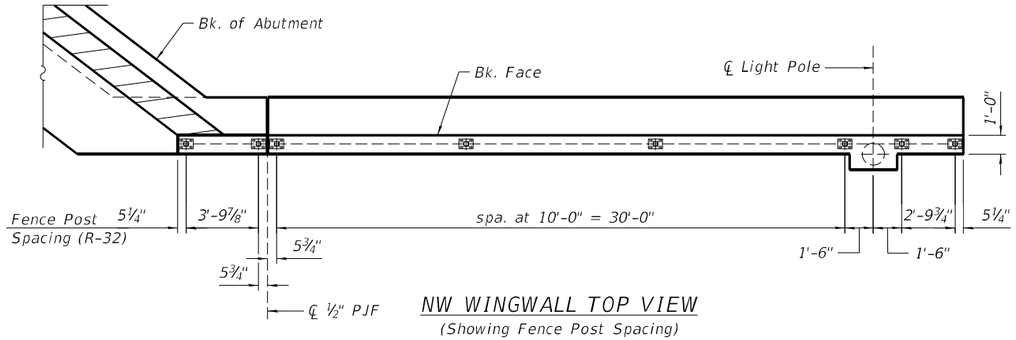
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS 1
STRUCTURE NO. 016-1669

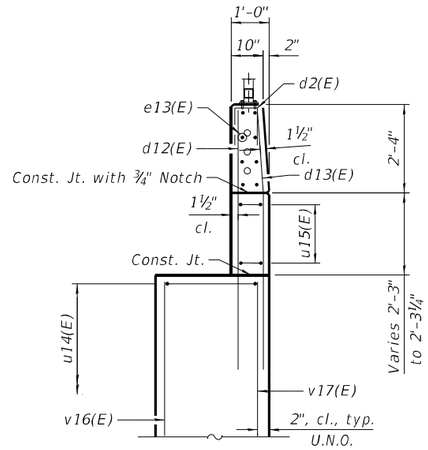
SHEET 42 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	217
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

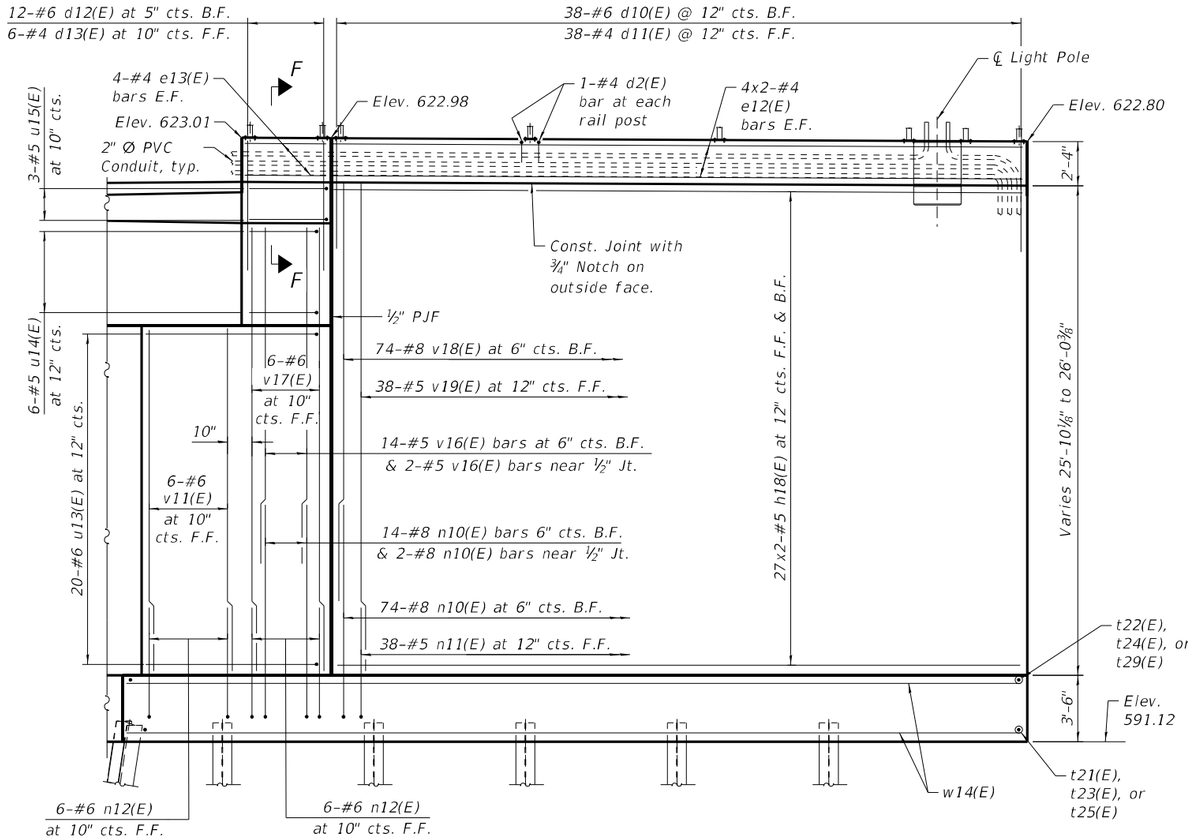


NW WINGWALL TOP VIEW
(Showing Fence Post Spacing)

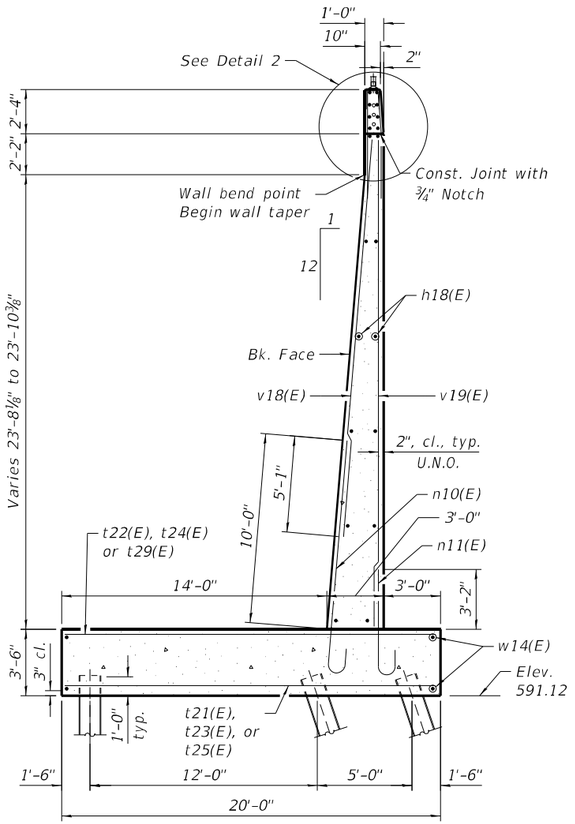
N



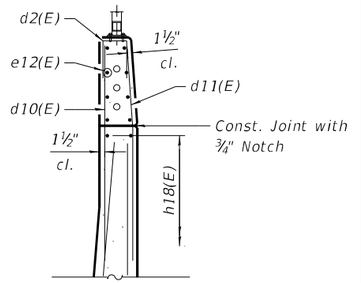
SECTION F-F



NW WINGWALL ELEVATION
(Looking South)



NW WINGWALL SECTION

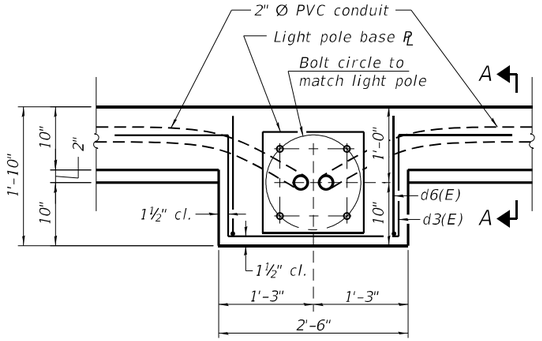


DETAIL 2

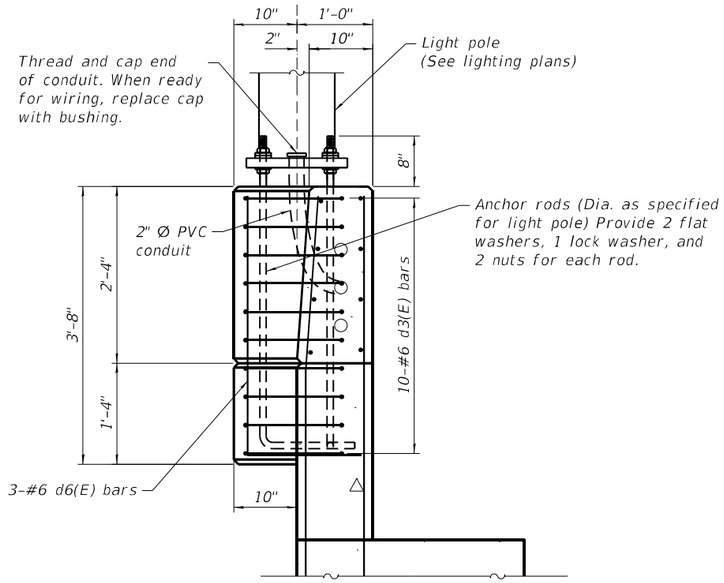
MIN. BAR LAP
#4 Bars = 2'-11"
#5 Bars = 3'-7"

Notes:

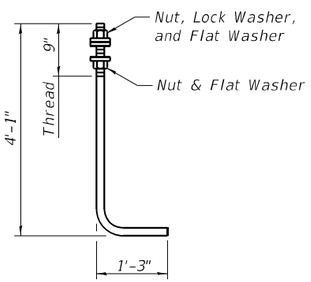
1. For notes, see sheet 37 of 77.
2. For Light Pole blister detail, see sheet 44 of 77.



PARAPET DETAIL AT LIGHT POLE

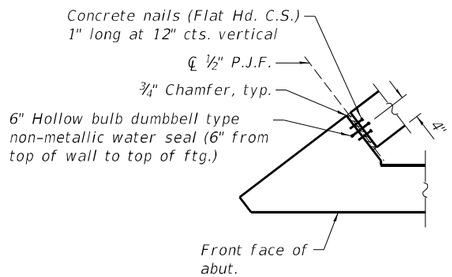


SECTION A-A

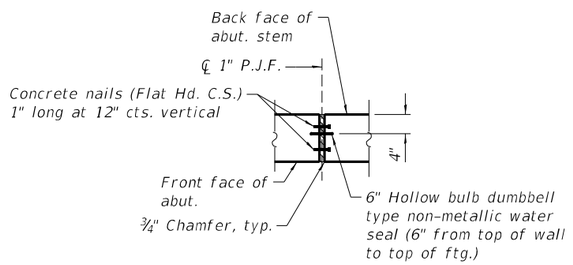


LIGHT POLE ANCHOR ROD

Diameter as specified for light poles. (ASTM F 1554 Grade 105) Full length hot dipped galvanized. Cost of anchor rods included with Concrete Structures.



DETAIL B

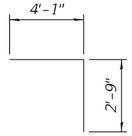


DETAIL C

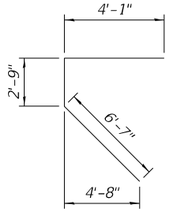
(Section below brg. seat shown, Backwall similar)

Note:

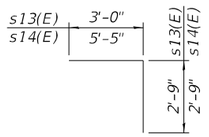
For notes, see sheet 37 of 77.



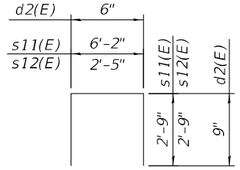
BAR s16(E)



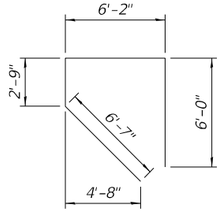
BAR s17(E)



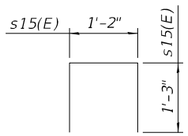
BAR s13(E) & s14(E)



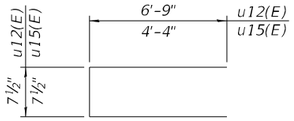
BAR s11(E), s12(E) & d2(E)



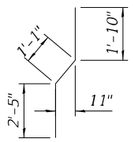
BAR s10(E)



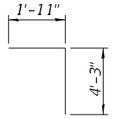
BAR s15(E)



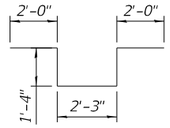
BAR u12(E) & u15(E)



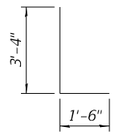
BAR v14(E)



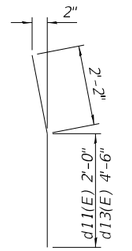
BAR v15(E)



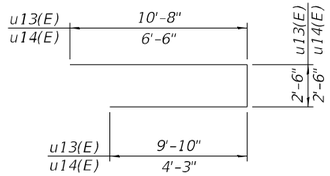
BAR d3(E)



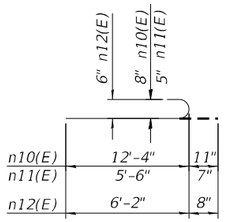
BAR d6(E)



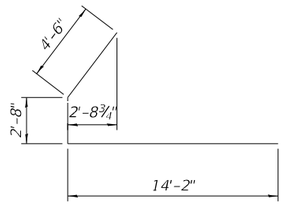
BAR d11(E) & d13(E)



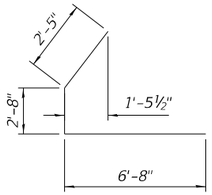
BAR u13(E) & u14(E)



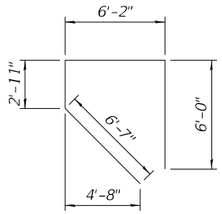
BAR n10(E), n11(E) & n12(E)



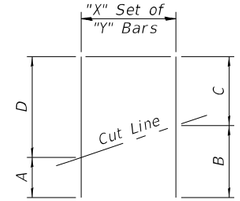
BAR u10(E)



BAR u11(E)



BAR s38(E)



FIELD CUTTING DIAGRAM

Order t12(E) thru t19(E), t21(E) thru t23(E), t26(E), t27(E), t29(E) & w12(E) bars full length. Cut as shown and use remainder as shown in plans.

Bar	A	B	C	D	Y	X
t12(E)	9'-0"	10'-4"	11'-0"	12'-4"	3	1
t13(E)	9'-3"	10'-3"	11'-6"	12'-6"	2	1
t14(E)	7'-11"	11'-8"	11'-10"	15'-7"	29	1
t15(E)	8'-3"	11'-10"	12'-0"	15'-7"	16	1
t16(E)	17'-9"	20'-10"	21'-2"	24'-3"	9	1
t17(E)	17'-3"	20'-2"	20'-10"	23'-9"	6	1
t18(E)	6'-0"	11'-5"	11'-7"	17'-0"	28	1
t19(E)	6'-0"	11'-4"	11'-8"	17'-0"	14	1
t21(E)	6'-0"	8'-10"	9'-9"	12'-7"	4	1
t22(E)	12'-3"	15'-7"	16'-2"	19'-6"	6	1
t23(E)	13'-11"	16'-2"	17'-3"	19'-6"	3	1
t26(E)	2'-9"	7'-4"	7'-8"	12'-3"	13	1
t27(E)	2'-9"	7'-2"	7'-11"	12'-4"	7	1
t29(E)	4'-4"	7'-0"	8'-3"	10'-11"	3	1
w12(E)	3'-6"	25'-10"	3'-6"	25'-10"	18	1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
w10(E)	190	#5	30'-0"	
w12(E)	18	#5	29'-4"	
w13(E)	4	#5	25'-4"	
w14(E)	84	#5	25'-7"	
Structure Excavation		Cu. Yd.	2,537	
Concrete Structures		Cu. Yd.	1,009.5	
Reinforcement Bars, Epoxy Coated		Pound	99,880	
Furnishing Steel Piles HP12x53		Foot	6,534	
Driving Piles		Foot	6,534	
Test Pile Steel HP12x53		Each	2	
Concrete Sealer		Sq. Ft.	5,877	
Protective Coat		Sq. Yd.	27	
Pile Shoes		Each	123	

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d2(E)	30	#4	2'-0"	
d3(E)	20	#6	8'-11"	
d6(E)	6	#6	4'-10"	
d10(E)	64	#6	5'-1"	
d11(E)	64	#4	4'-2"	
d12(E)	21	#6	8'-4"	
d13(E)	15	#4	6'-8"	
e10(E)	8	#4	25'-0"	
e11(E)	8	#4	6'-9"	
e12(E)	16	#4	19'-10"	
e13(E)	8	#4	4'-5"	
h10(E)	90	#6	32'-4"	
h11(E)	135	#6	27'-1"	
h12(E)	28	#5	28'-10"	
h13(E)	42	#5	26'-9"	
h14(E)	20	#6	34'-2"	
h15(E)	14	#5	21'-7"	
h16(E)	7	#5	19'-5"	
h17(E)	54	#5	25'-0"	
h18(E)	108	#5	20'-2"	
n10(E)	394	#8	13'-3"	
n11(E)	64	#5	6'-1"	
n12(E)	155	#6	6'-10"	
s10(E)	66	#5	21'-6"	
s11(E)	61	#5	11'-8"	
s12(E)	1	#5	7'-11"	
s13(E)	6	#5	5'-9"	
s14(E)	12	#5	8'-2"	
s15(E)	123	#5	3'-8"	
s16(E)	3	#5	6'-10"	
s17(E)	3	#5	13'-5"	
s38(E)	48	#5	21'-8"	
t1(E)	28	#5	7'-2"	
t10(E)	157	#9	17'-6"	
t11(E)	89	#7	17'-6"	
t12(E)	3	#9	21'-4"	
t13(E)	2	#7	21'-9"	
t14(E)	29	#9	23'-6"	
t15(E)	16	#7	23'-10"	
t16(E)	9	#9	42'-0"	
t17(E)	6	#7	41'-0"	
t18(E)	28	#10	23'-0"	
t19(E)	14	#7	23'-0"	
t21(E)	4	#7	18'-7"	
t22(E)	6	#10	31'-9"	
t23(E)	3	#7	33'-5"	
t24(E)	66	#10	19'-6"	
t25(E)	33	#7	19'-6"	
t26(E)	13	#9	15'-0"	
t27(E)	7	#7	15'-1"	
t28(E)	6	#5	3'-9"	
t29(E)	3	#5	15'-3"	
u10(E)	20	#6	21'-4"	
u11(E)	6	#5	11'-9"	
u12(E)	3	#5	14'-2"	
u13(E)	20	#6	23'-0"	
u14(E)	6	#5	13'-3"	
u15(E)	3	#5	9'-4"	
v10(E)	246	#5	12'-8"	
v11(E)	141	#6	18'-8"	
v12(E)	125	#5	7'-3"	
v13(E)	125	#5	9'-4"	
v14(E)	125	#5	5'-4"	
v15(E)	125	#5	6'-2"	
v16(E)	23	#5	17'-6"	
v17(E)	14	#6	23'-7"	
v18(E)	125	#8	20'-9"	
v19(E)	64	#5	25'-9"	

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ROSEMONT, IL 60018

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	CHECKED – RGB	REVISED –	
PLOT SCALE =	DRAWN – CHP	REVISED –	
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS 4
STRUCTURE NO. 016-1669

SHEET 45 OF 77 SHEETS

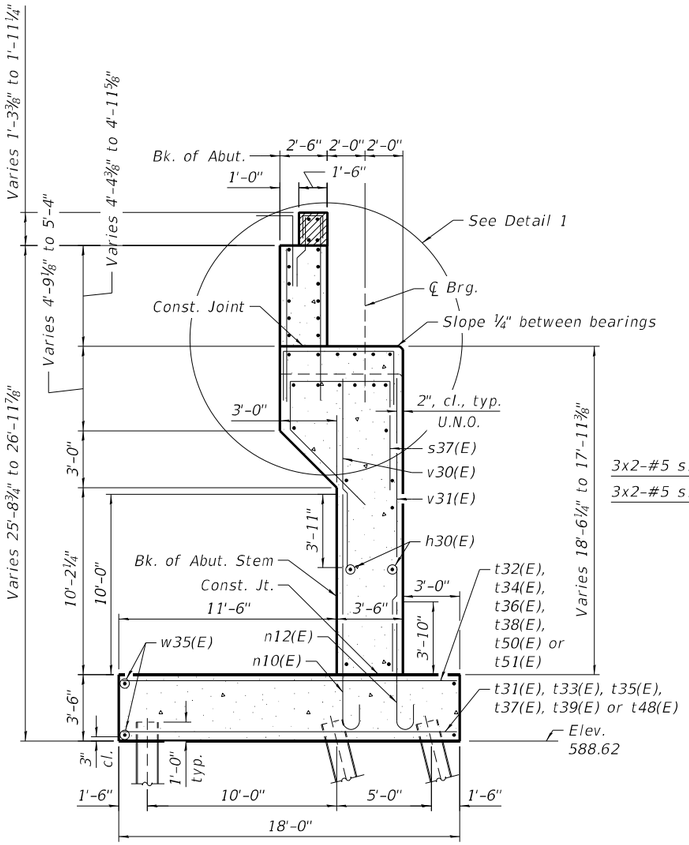
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	220
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

* Elevations taken along Back of Abutment

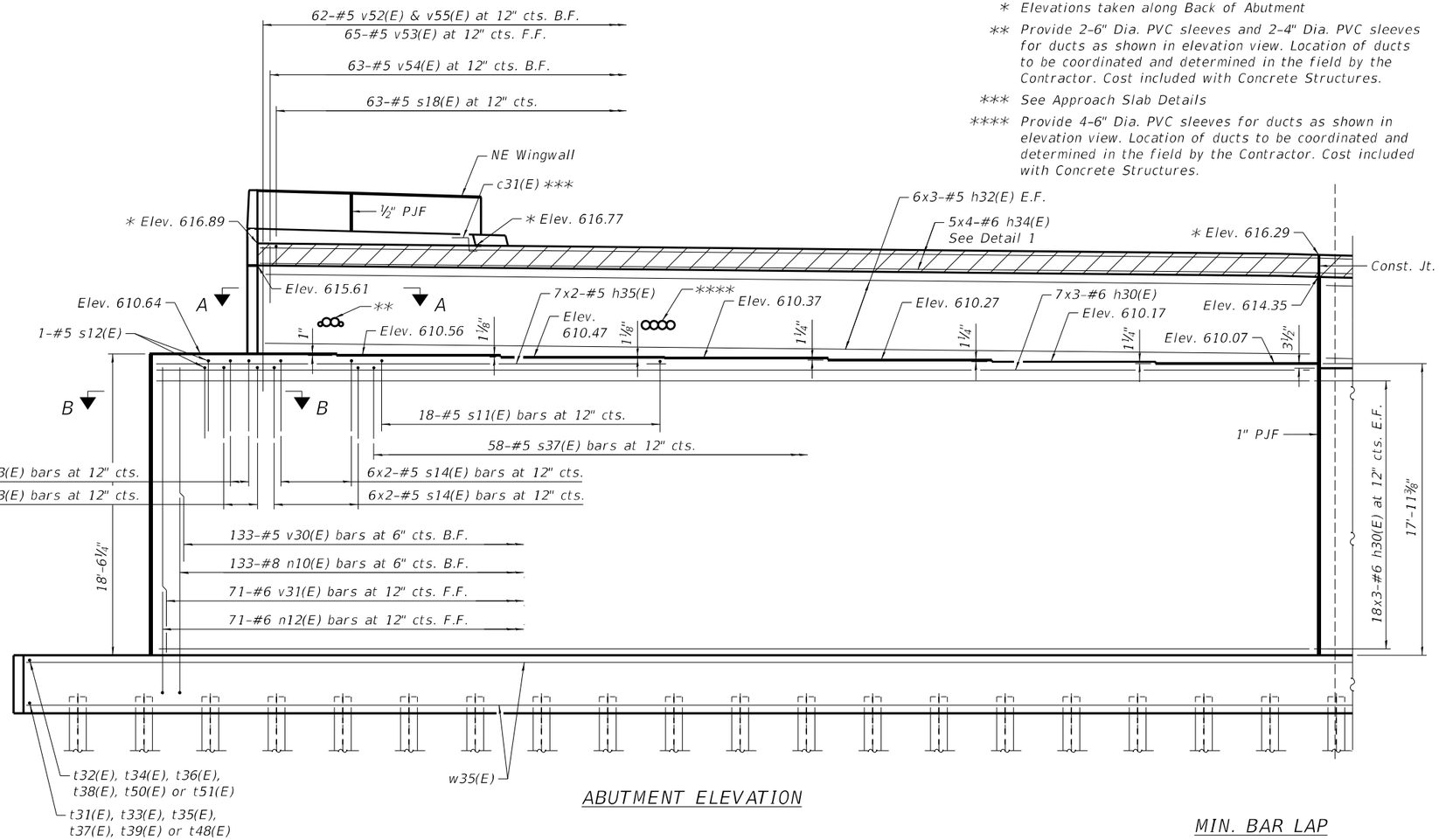
** Provide 2-6" Dia. PVC sleeves and 2-4" Dia. PVC sleeves for ducts as shown in elevation view. Location of ducts to be coordinated and determined in the field by the Contractor. Cost included with Concrete Structures.

*** See Approach Slab Details

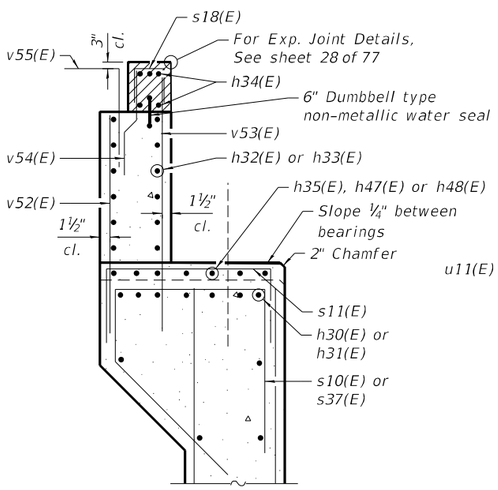
**** Provide 4-6" Dia. PVC sleeves for ducts as shown in elevation view. Location of ducts to be coordinated and determined in the field by the Contractor. Cost included with Concrete Structures.



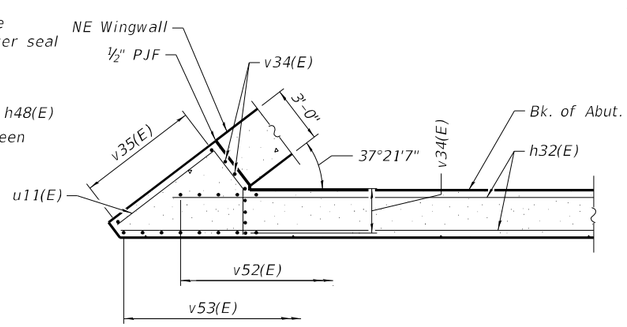
SECTION THRU ABUTMENT



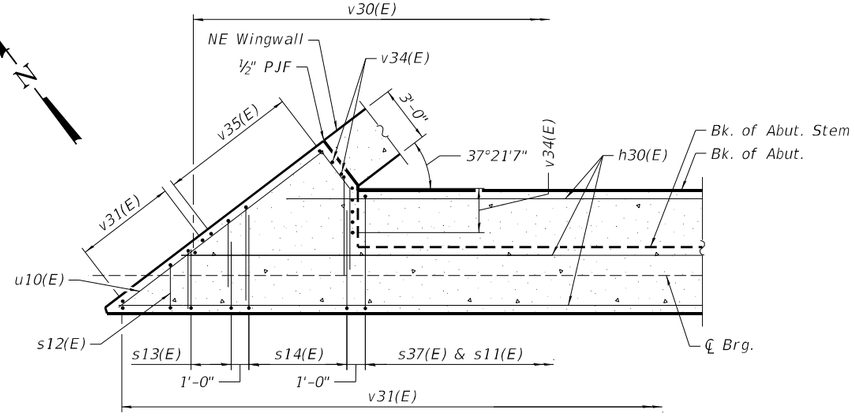
ABUTMENT ELEVATION



DETAIL 1



SECTION A-A



SECTION B-B

MIN. BAR LAP

#5 Bars = 3'-7"
#6 Bars = 4'-4"

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolitically with cap.
3. Bars indicated thus 6x2-#5 etc. indicate 6 lines of bars with 2 lengths per line.
4. For Bill of Material, see sheet 55 of 77.
5. Concrete sealer shall be applied to the entire surface of the backwall, front face of the abutment from top of footing to bridge seat, and front face of the wingwalls from top of footing to top of parapet.
6. Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.

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ROSEMONT, IL 60018

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT ELEVATION - REINFORCEMENT 1
STRUCTURE NO. 016-1669

SHEET 46 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	221
		CONTRACT NO. 62J23		
ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)			

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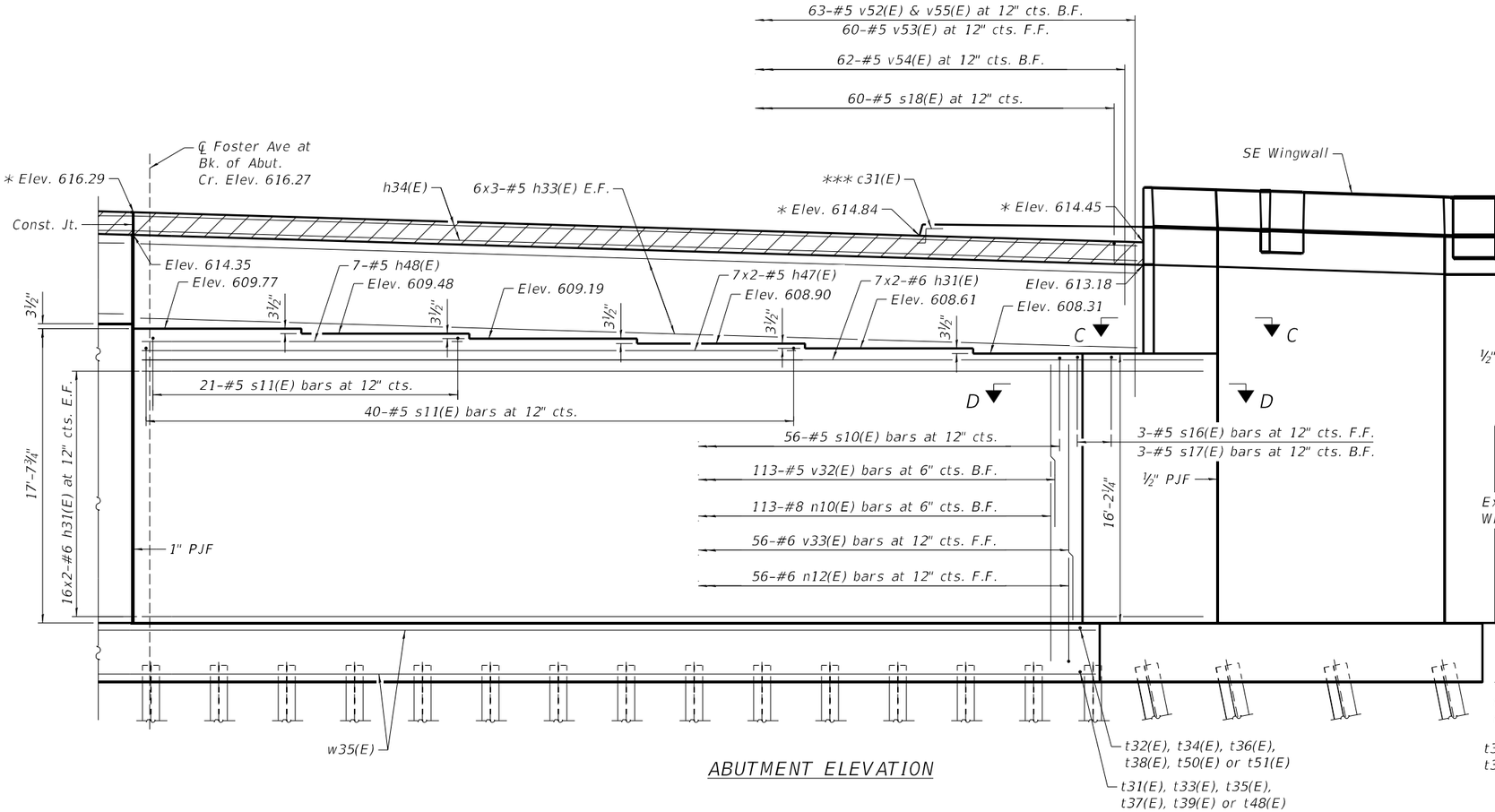
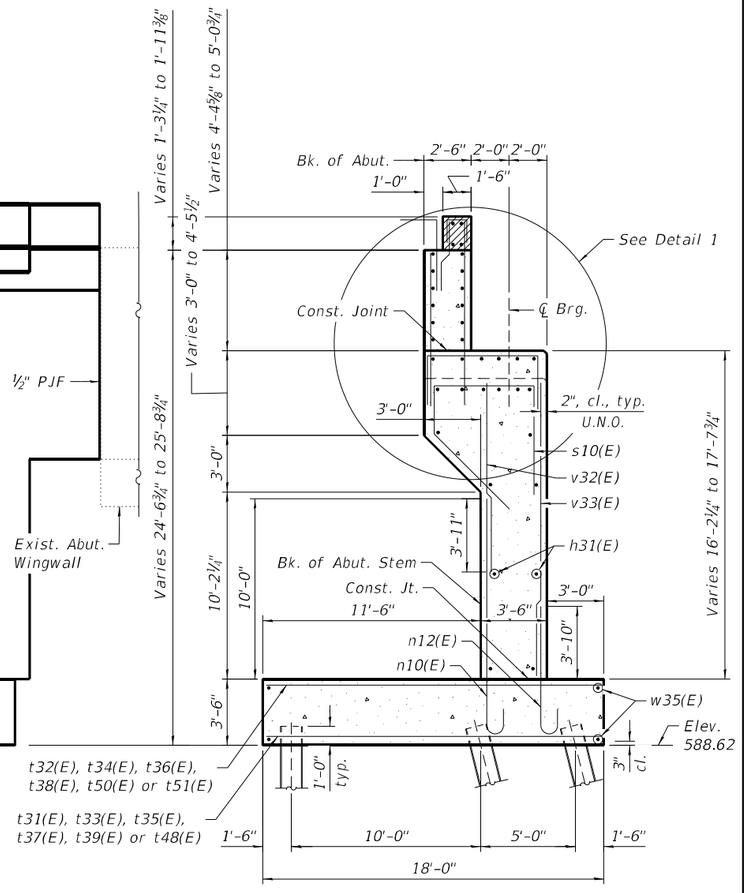
* Elevations taken along Back of Abutment

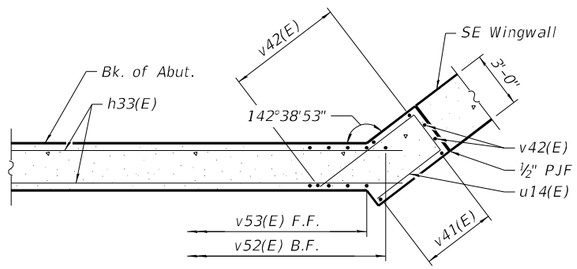
*** See Approach Slab Details



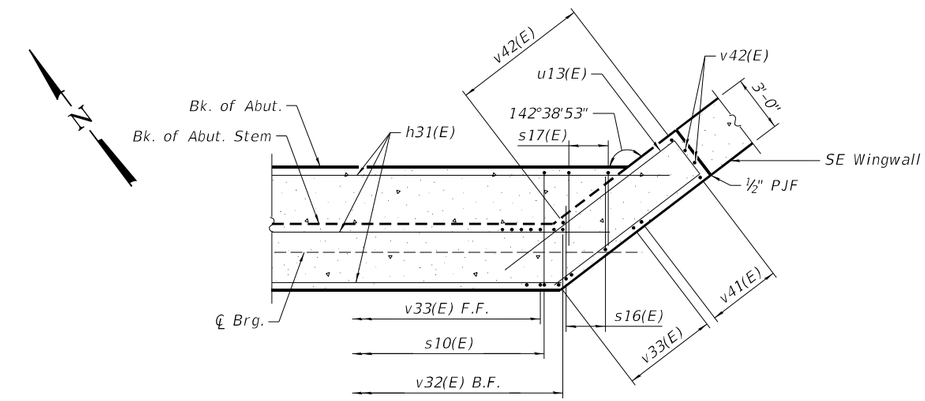
ABUTMENT ELEVATION



SECTION THRU ABUTMENT



SECTION C-C



SECTION D-D

MIN. BAR LAP

#5 Bars = 3'-7"
#6 Bars = 4'-4"

Notes:

1. For notes, see sheet 46 of 77.
2. For Detail 1, see sheet 46 of 77.

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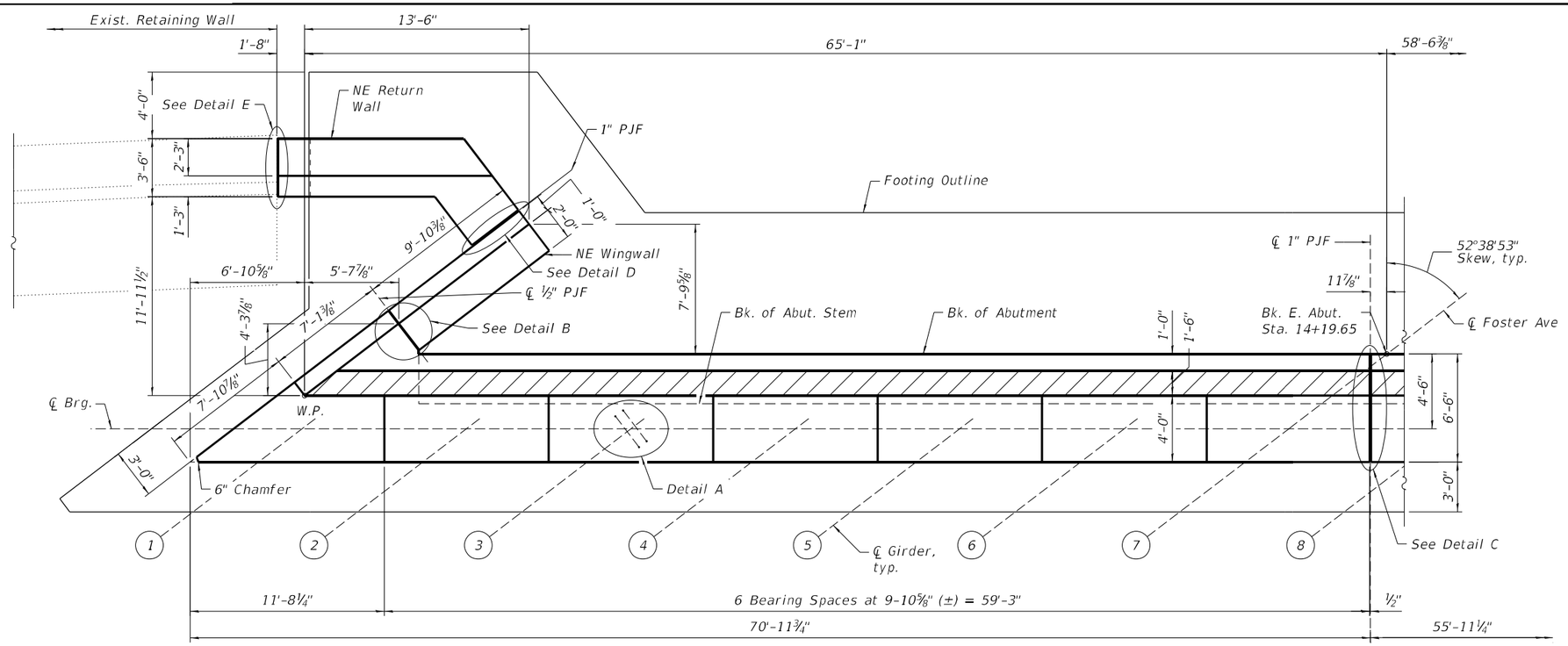
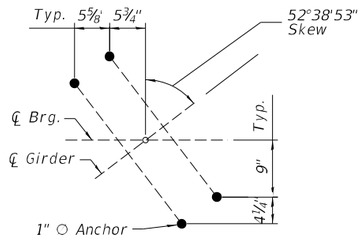
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT ELEVATION - REINFORCEMENT 2
STRUCTURE NO. 016-1669
SHEET 47 OF 77 SHEETS

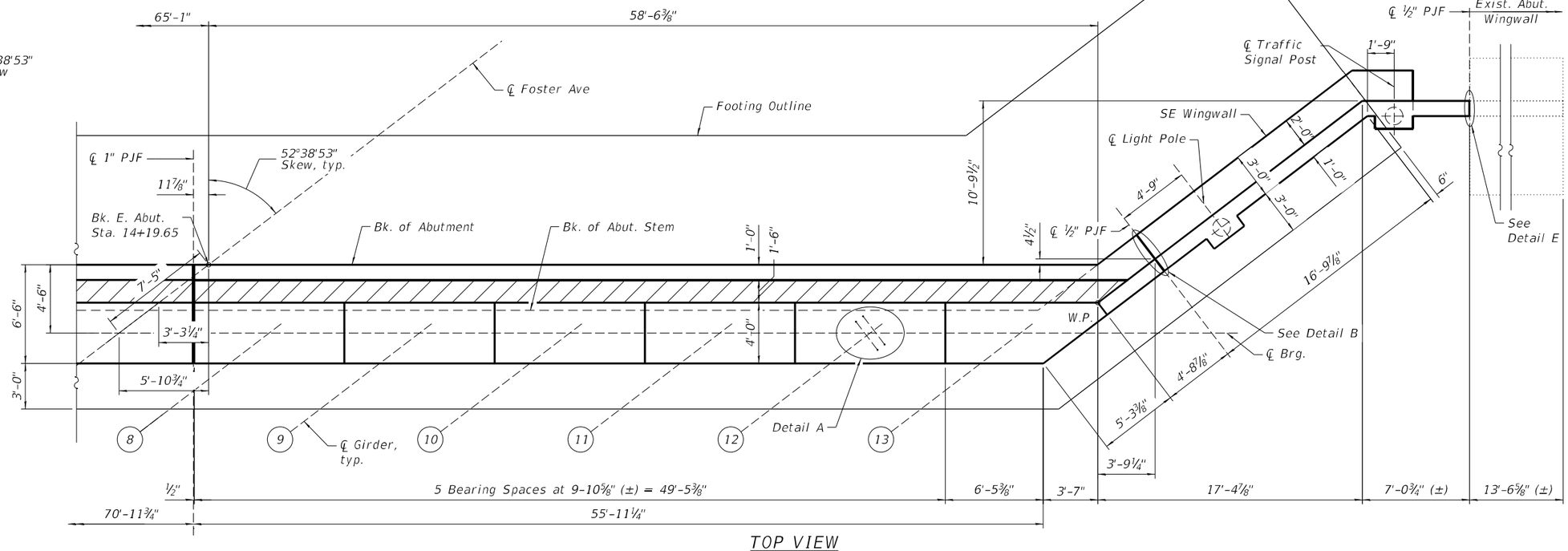
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	222
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



TOP VIEW
(Showing geometry)



DETAIL A



TOP VIEW
(Showing geometry)

Notes:

1. For notes, see sheet 46 of 77.
2. For Detail B, C, D and E, see sheet 54 of 77.

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PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT PLAN
STRUCTURE NO. 016-1669
SHEET 48 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	223
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

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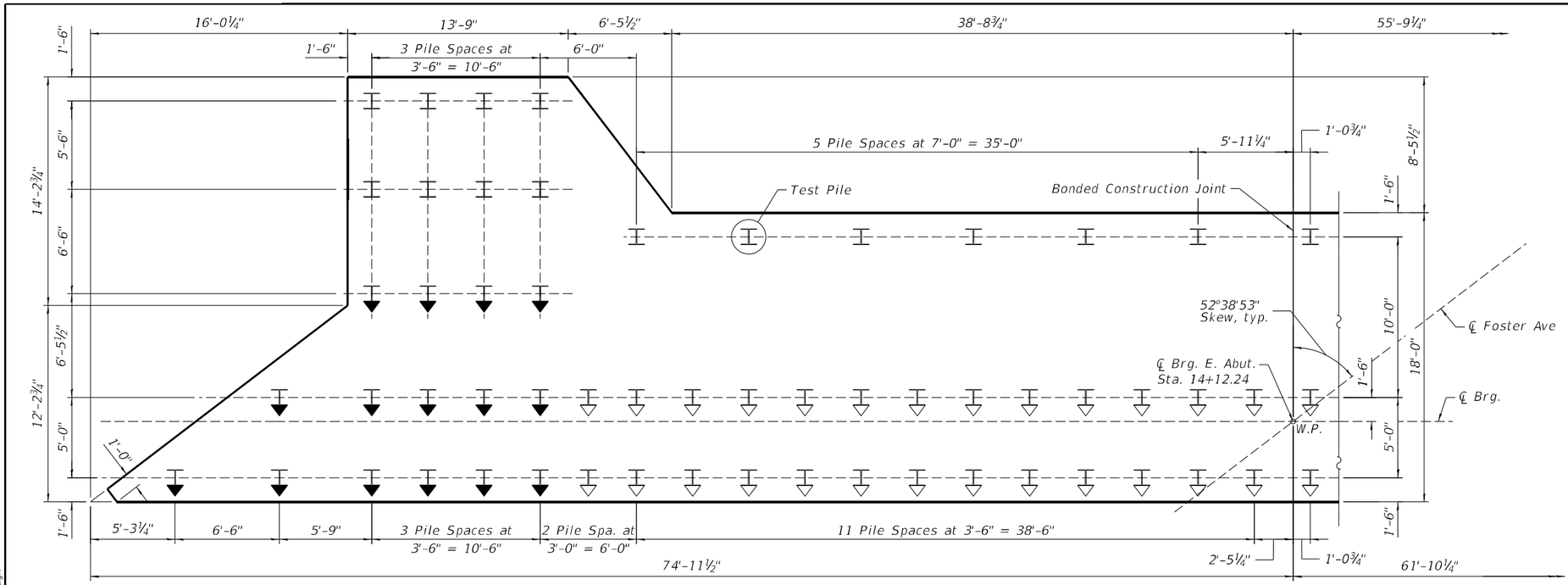
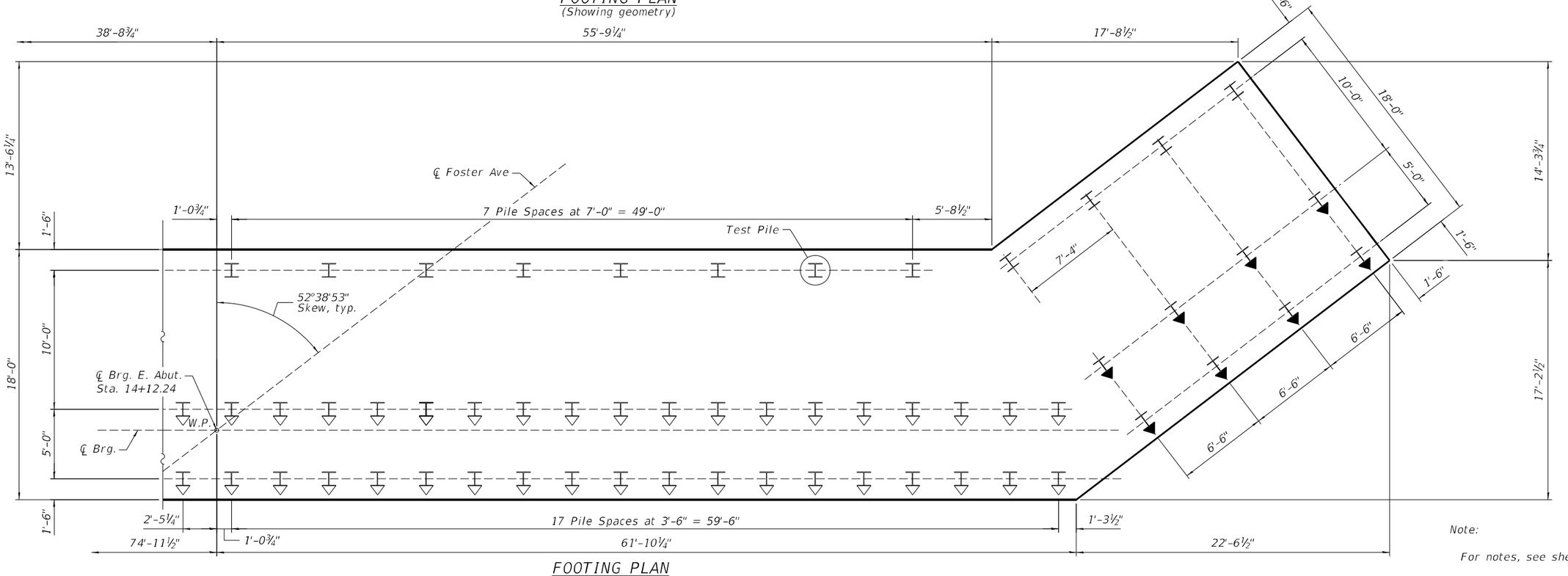


FOOTING PLAN
(Showing geometry)



FOOTING PLAN
(Showing geometry)

LEGEND

Batter 3" per ft.

Batter 4" per ft.

PILE DATA

Type:	HP12x53
Nominal Required Bearing:	418 Kips
Factored Resistance Available:	230 Kips
Est. Length:	47 ft.
No. Production Piles:	109
No. Test Piles:	2

Note:

For notes, see sheet 46 of 77.

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PLOT SCALE =	DRAWN – CHP	REVISED –	
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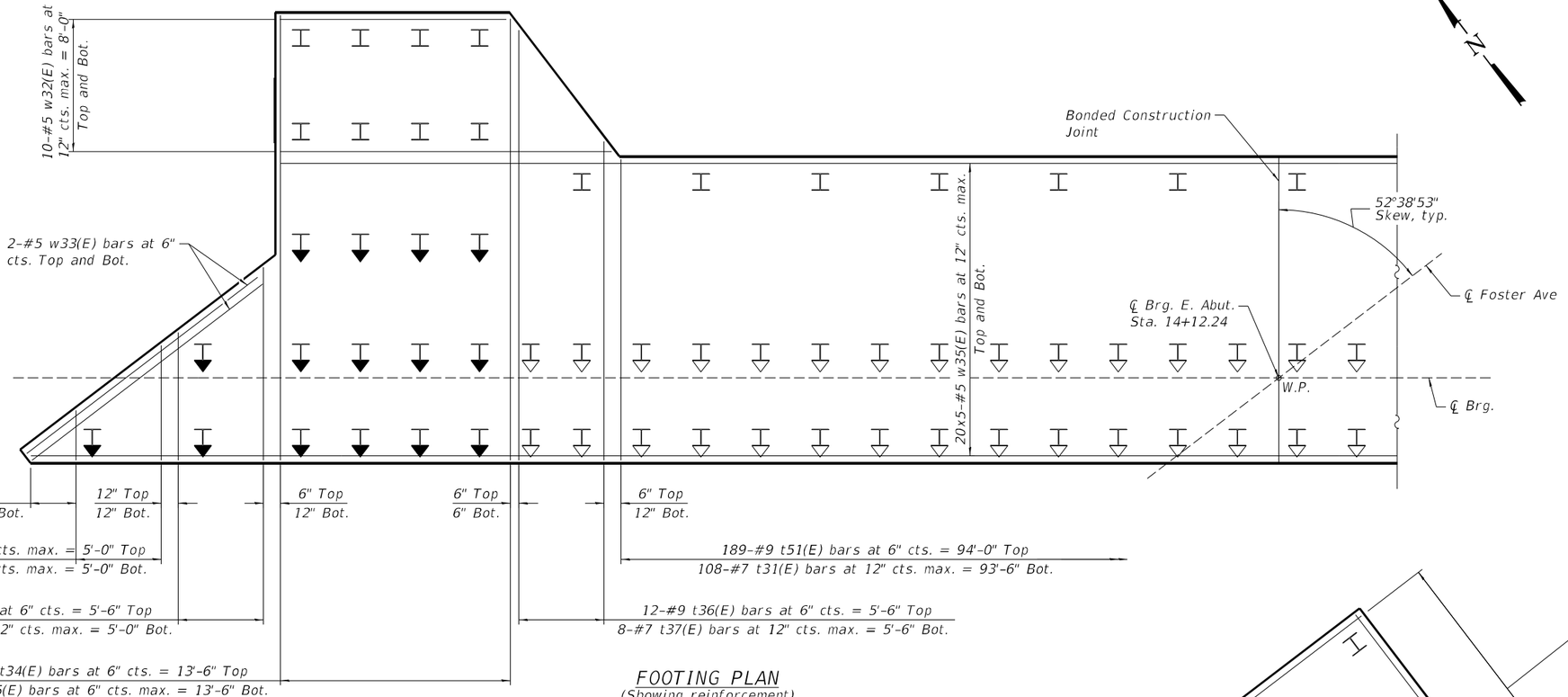
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT FOOTING PLAN
STRUCTURE NO. 016-1669
SHEET 49 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	224
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

Notes:

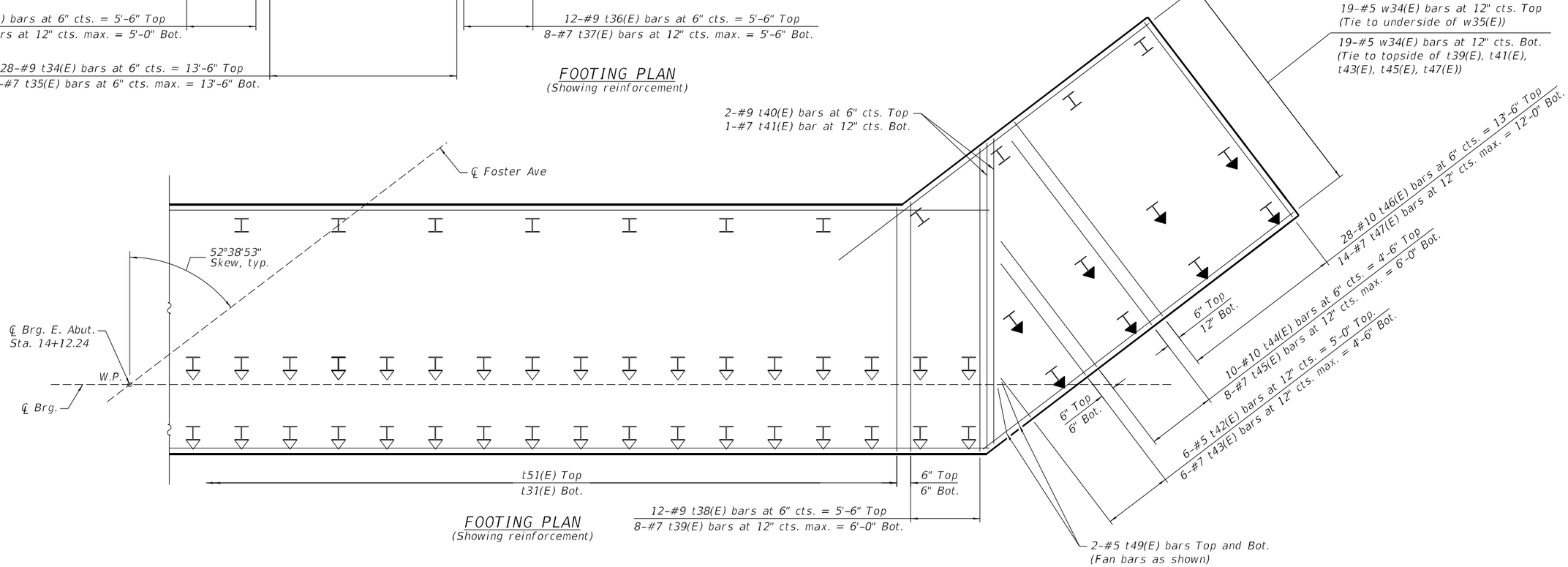
1. For notes, see sheet 46 of 77.
2. For bar cut diagram, see sheet 55 of 77.
3. Adjust location of bottom bars as needed to miss piles.



FOOTING PLAN
(Showing reinforcement)

MIN. BAR LAP

#5 Bars = 3'-7"



FOOTING PLAN
(Showing reinforcement)

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PLOT SCALE =	DRAWN – CHP	REVISED –	
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –	

STATE OF ILLINOIS
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EAST ABUTMENT FOOTING PLAN - REINFORCEMENT
STRUCTURE NO. 016-1669

SHEET 50 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	225
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

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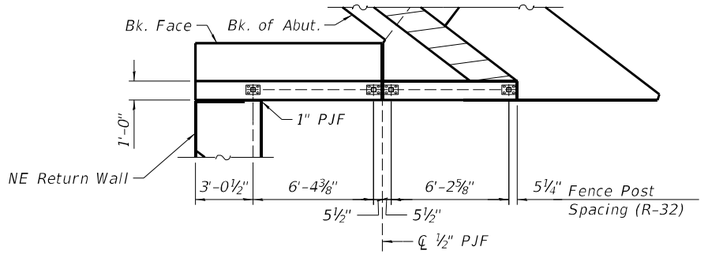
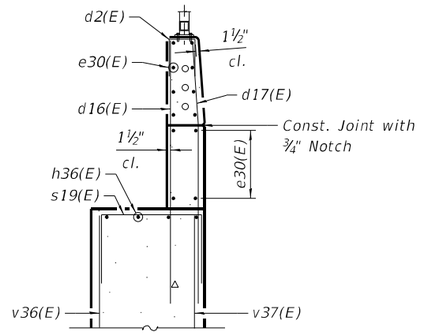
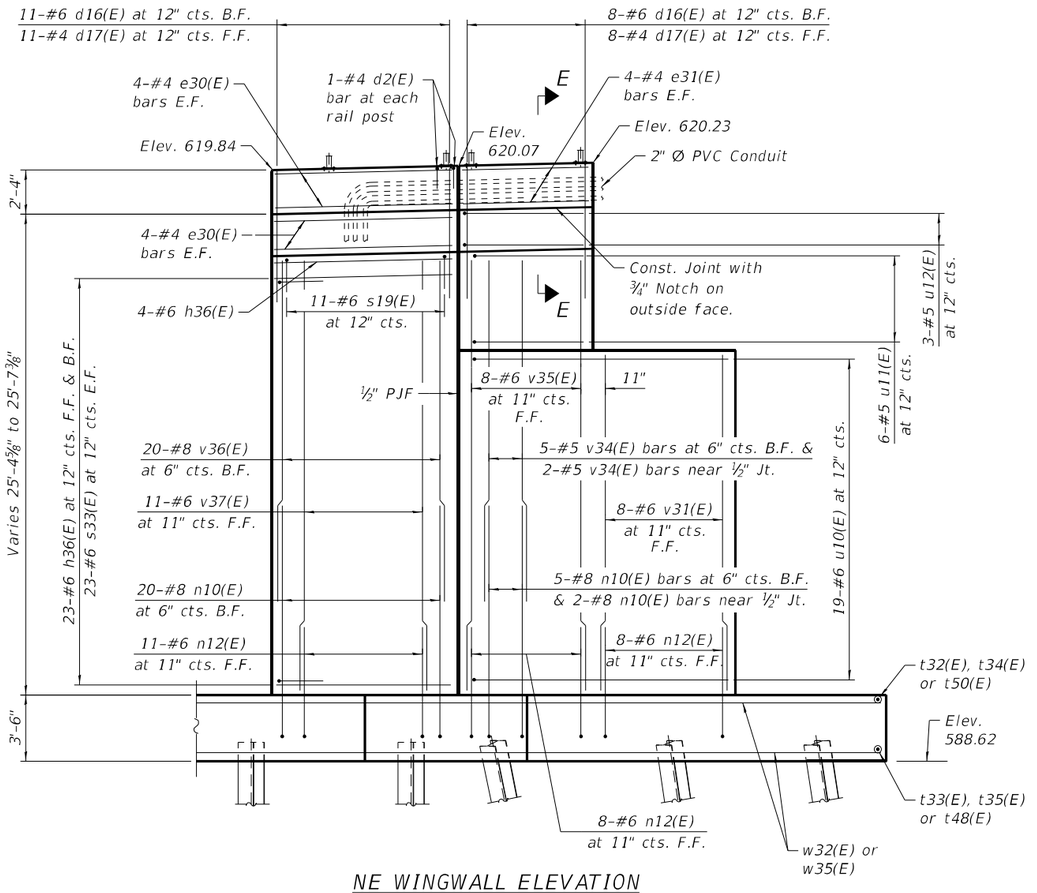


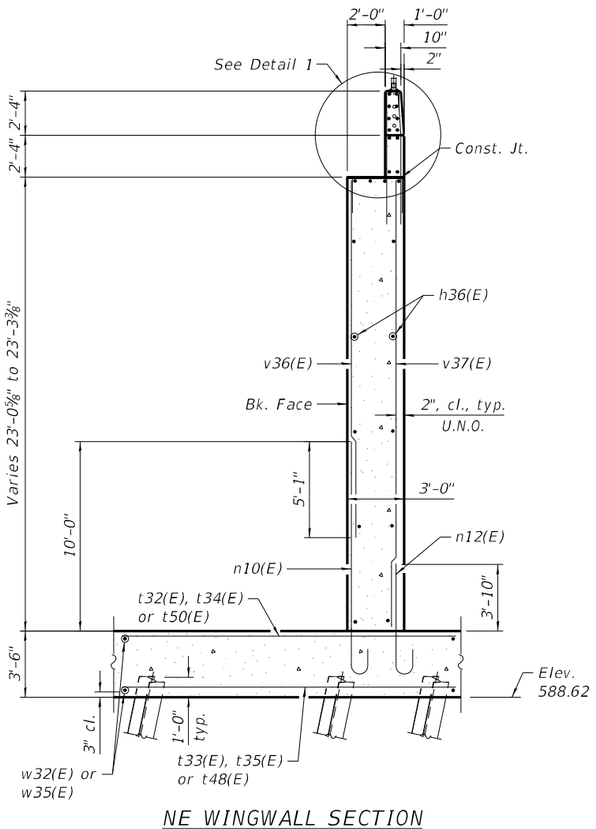
NE WINGWALL TOP VIEW
(Showing Fence Post Spacing)



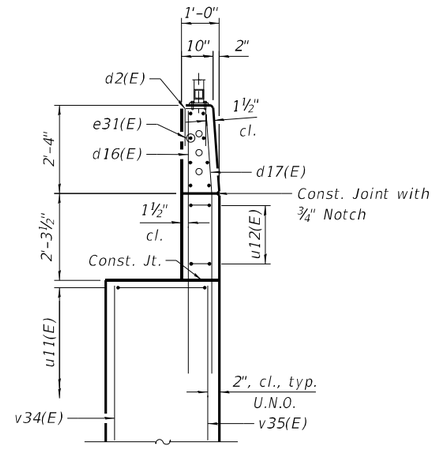
DETAIL 1



NE WINGWALL ELEVATION
(Looking South)



NE WINGWALL SECTION



SECTION E-E

Note:

For notes, see sheet 46 of 77.

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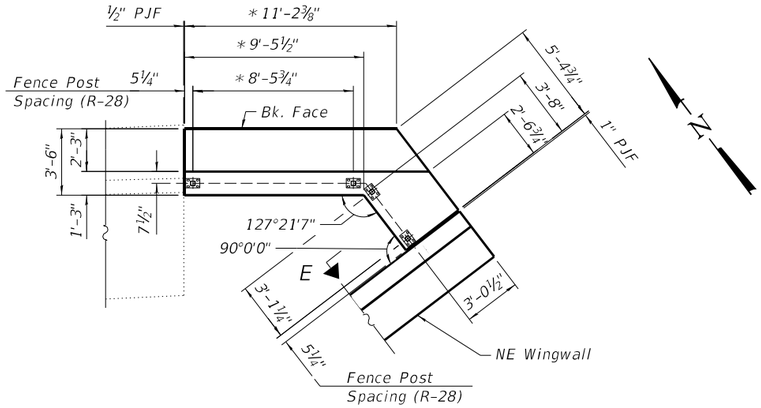
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS 1
STRUCTURE NO. 016-1669
SHEET 51 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	226
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	

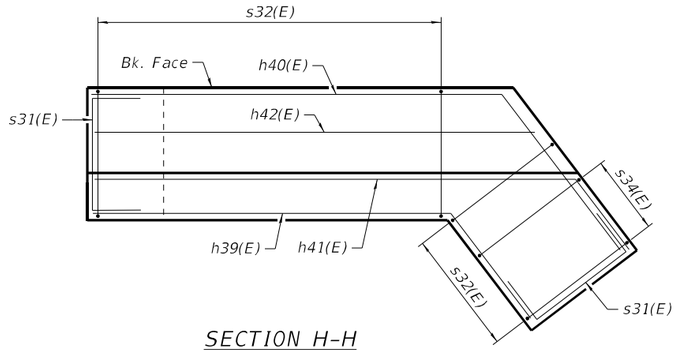
Note:

For notes, see sheet 46 of 77.



NE RETURN WALL TOP VIEW

(Showing Geometry and Fence Post Spacing)



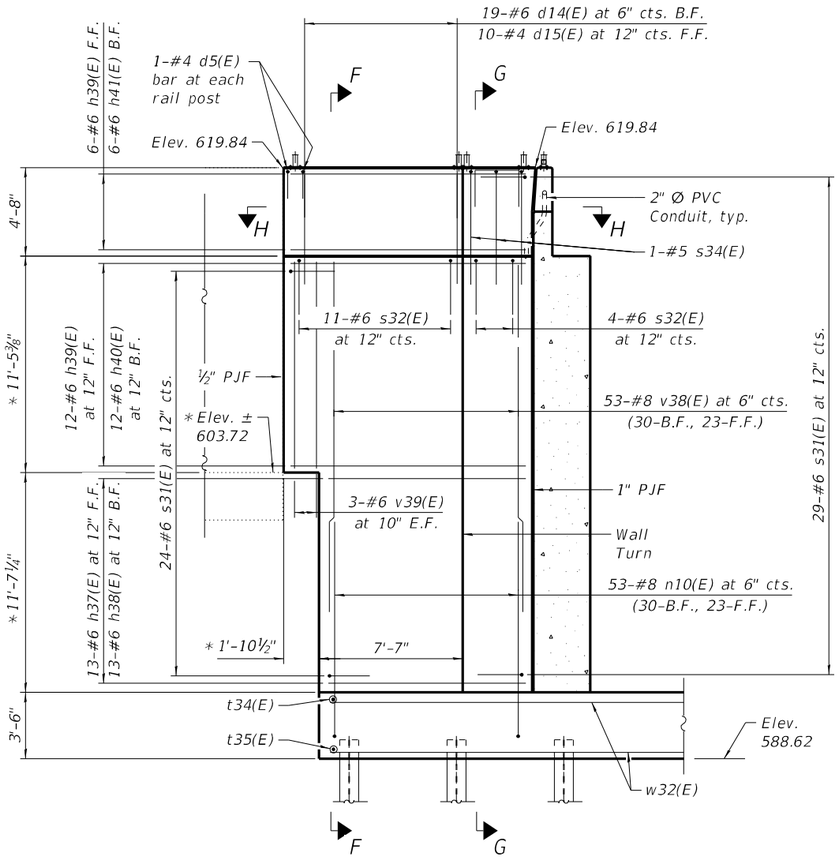
SECTION H-H

(Vertical bars not shown for clarity)

MIN. BAR LAP

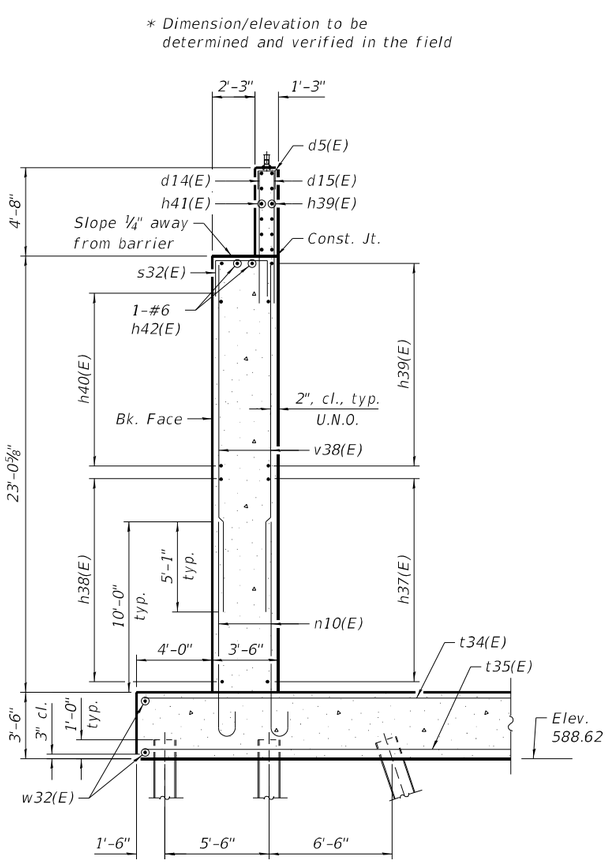
#4 Spiral = 3'-0"

* Dimension/elevation to be determined and verified in the field

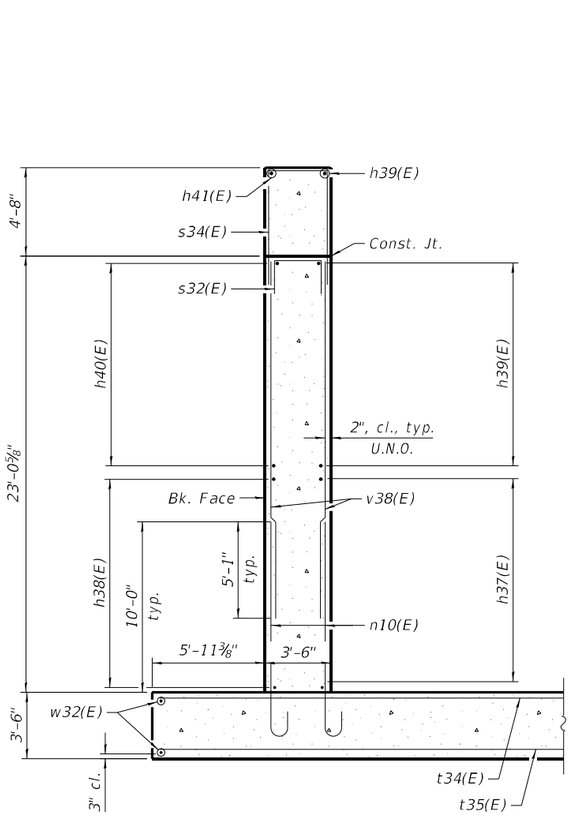


NE RETURN WALL DEVELOPED ELEVATION

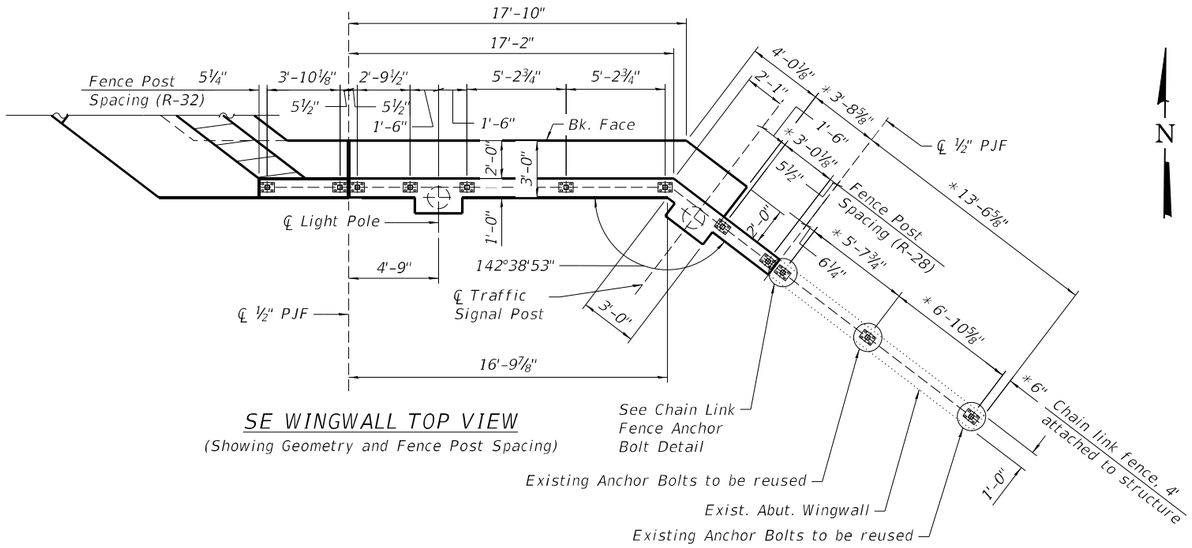
(Looking Northeast)



SECTION F-F



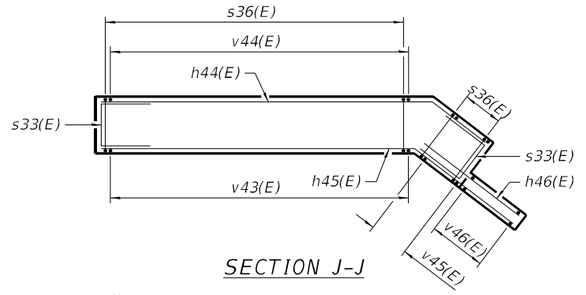
SECTION G-G



SE WINGWALL TOP VIEW

(Showing Geometry and Fence Post Spacing)

N



SECTION J-J

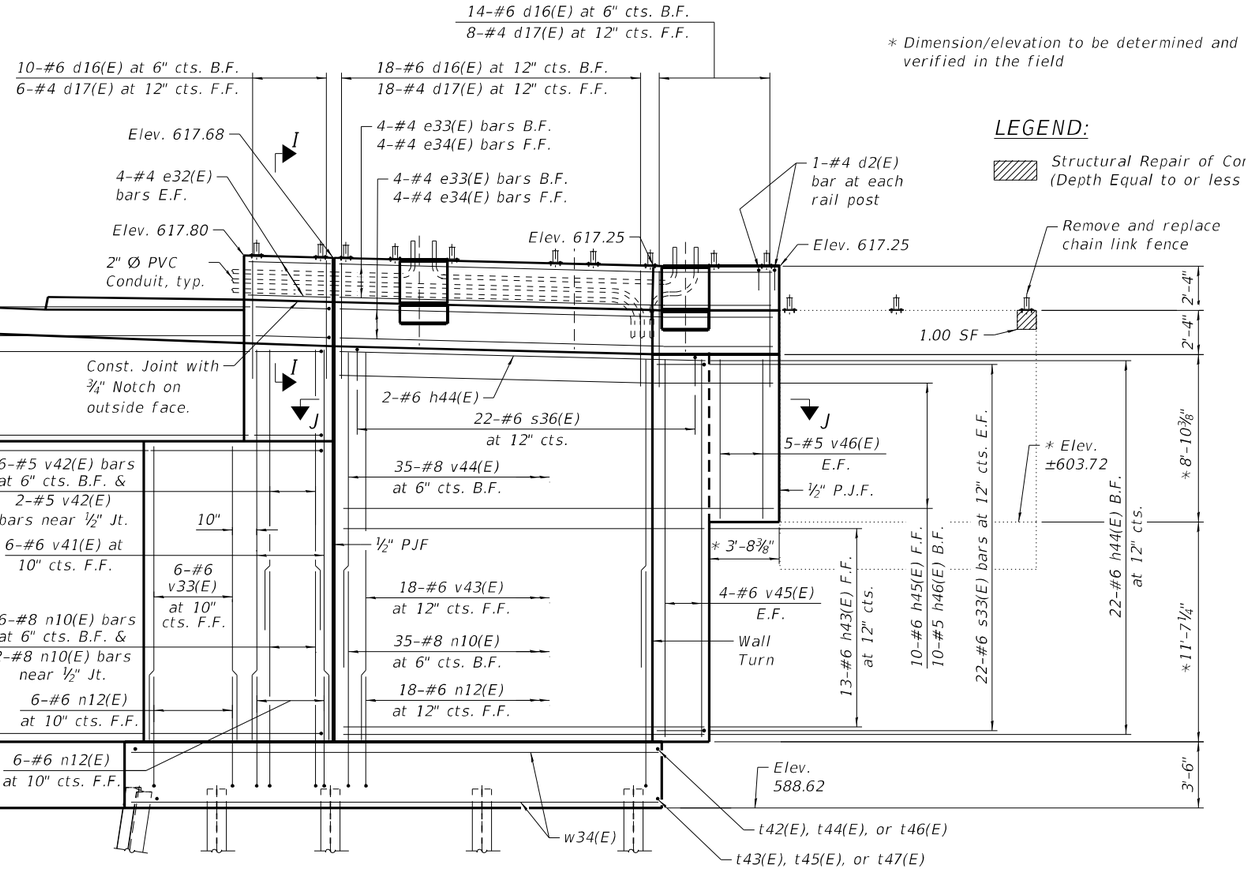
* Dimension/elevation to be determined and verified in the field

Notes:

1. For notes, see sheet 46 of 77.
2. For Chain link fence anchor bolt detail, see sheet 54 of 77.
3. For light pole and traffic signal post blister details, see sheet 54 of 77.
4. Quantities and limits shown for Structural Repair of Concrete are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used will be determined by the Engineer in the Field at the time of construction.
5. For additional Chain link fence details and notes, see sheet 68 of 77.

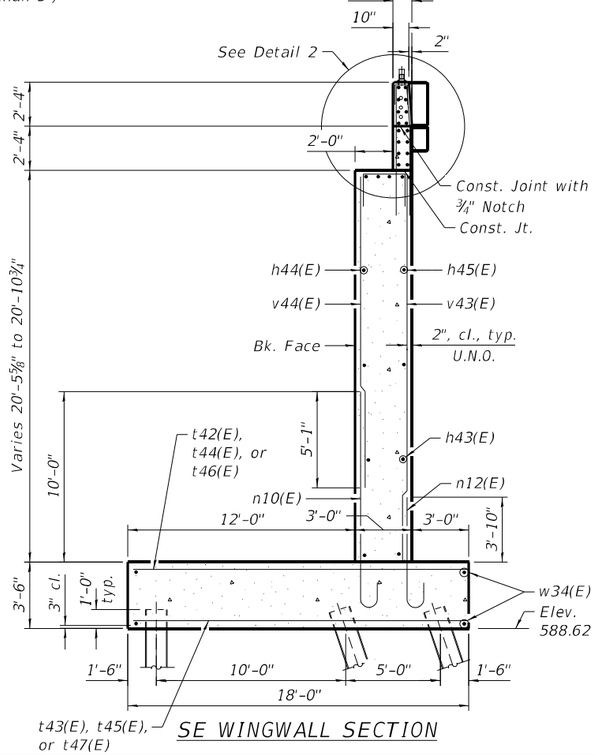
LEGEND:

Structural Repair of Concrete (Depth Equal to or less than 5")

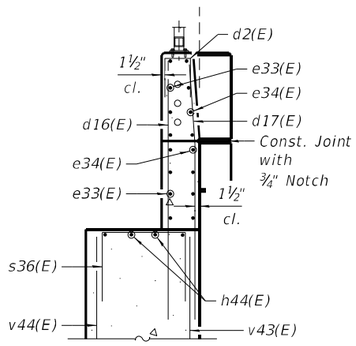


SE WINGWALL DEVELOPED ELEVATION

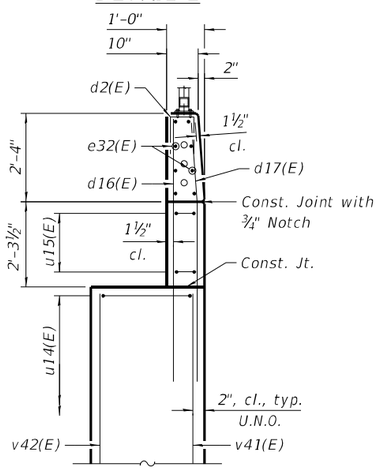
(Looking North)



SE WINGWALL SECTION



DETAIL 2



SECTION I-I

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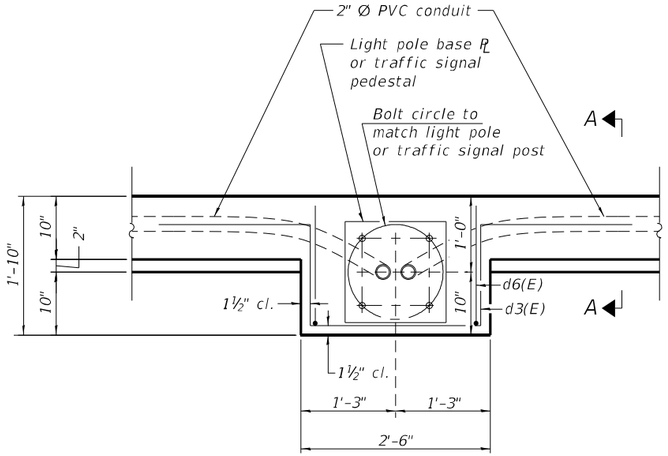
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

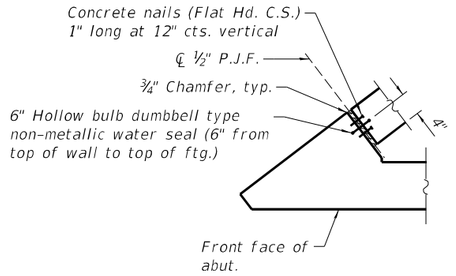
EAST ABUTMENT DETAILS 3
STRUCTURE NO. 016-1669

SHEET 53 OF 77 SHEETS

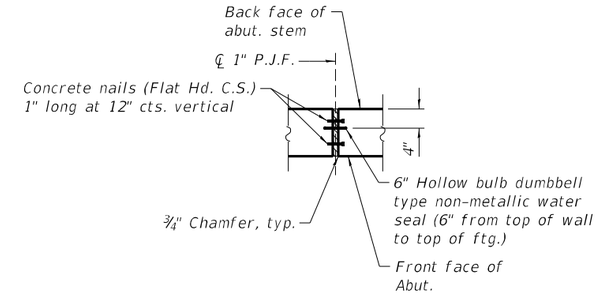
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	228
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			



PARAPET DETAIL AT LIGHT POLE/ TRAFFIC SIGNAL POST

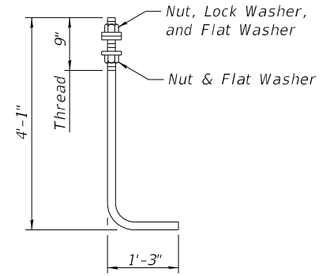


DETAIL B



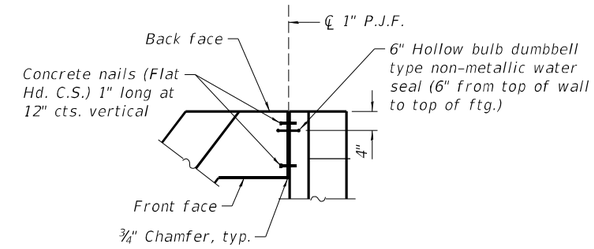
DETAIL C

(Section below brg. seat shown, Backwall similar)

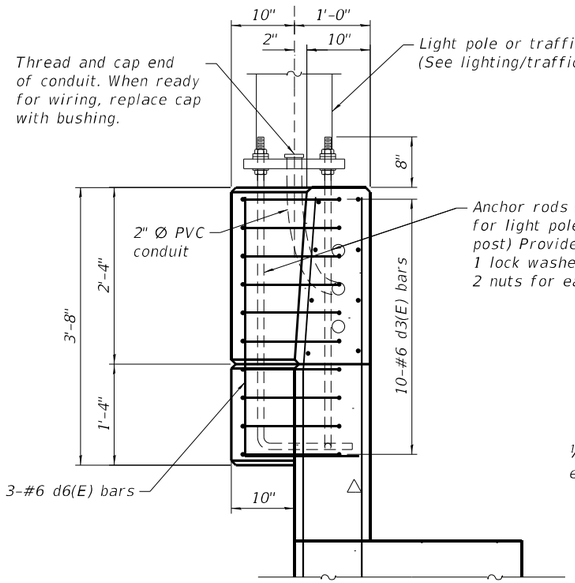


LIGHT POLE/ TRAFFIC SIGNAL POST ANCHOR ROD

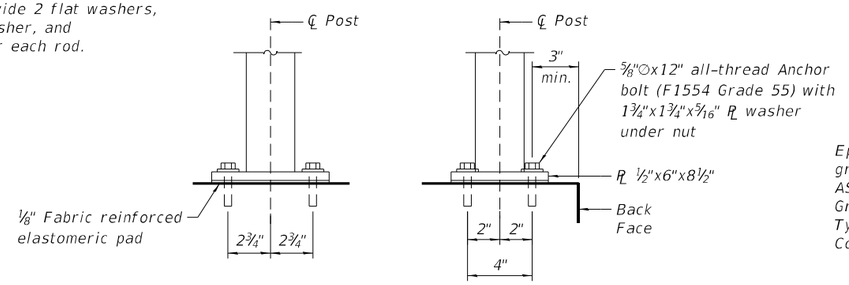
Diameter as specified for light poles or traffic signal post. (ASTM F1554 Grade 105) Full length hot dipped galvanized. Cost of anchor rods included with Concrete Structures.



DETAIL D

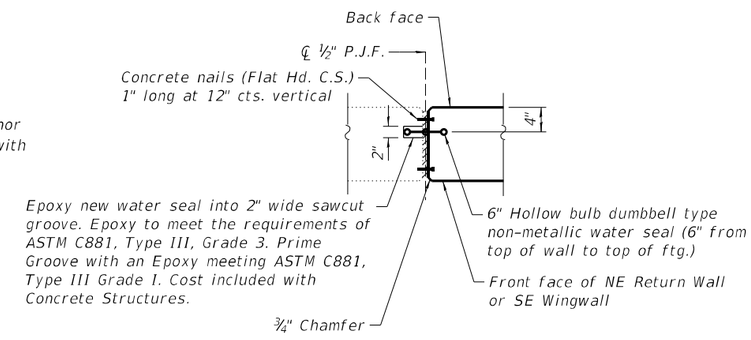


SECTION A-A



CHAIN LINK FENCE ANCHOR BOLT DETAILS

The Contractor shall drill and set ⅝" Ø anchor rods according to article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications. Cost of Anchor Bolts included in Concrete Structures.



DETAIL E

Note:

For notes, see sheet 46 of 77.

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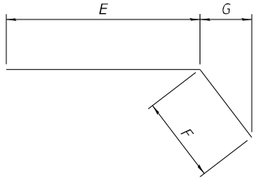
HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME =	DESIGNED – MBQ	REVISED –
	CHECKED – RGB	REVISED –
PLOT SCALE =	DRAWN – CHP	REVISED –
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

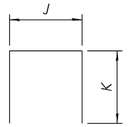
EAST ABUTMENT DETAILS 4
STRUCTURE NO. 016-1669
SHEET 54 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	229
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			



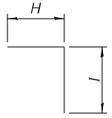
BAR e33(E), e34(E), h37(E) thru h41(E) & h43(E) thru h45(E)

Bar	E	F	G
e33(E)	16'-11"	6'-10"	5'-5"
e34(E)	16'-9"	6'-7"	5'-3"
h37(E)	7'-7"	3'-7"	2'-2"
h38(E)	9'-1"	5'-1"	3'-1"
h39(E)	9'-5"	3'-7"	2'-2"
h40(E)	10'-11"	5'-1"	3'-1"
h41(E)	12'-8"	2'-3"	1'-4½"
h43(E)	16'-9"	2'-11"	2'-4"
h44(E)	17'-7"	3'-9"	3'-0"
h45(E)	16'-9"	6'-7"	5'-3"



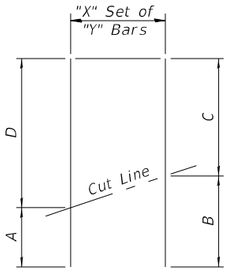
BAR d2(E), d5(E), s11(E), s12(E), s18(E), s19(E), s31(E), s32(E), s33(E), s34(E), & s36(E)

Bar	J	K
d2(E)	6"	9"
d5(E)	11"	9"
s11(E)	6'-2"	2'-9"
s12(E)	2'-5"	2'-9"
s18(E)	1'-2"	1'-0"
s19(E)	2'-8"	3'-2"
s31(E)	3'-0"	3'-4"
s32(E)	3'-2"	2'-11"
s33(E)	2'-6"	3'-4"
s34(E)	3'-2"	6'-11"
s36(E)	2'-8"	3'-4"



BAR s13(E), s14(E), s16(E) & v55(E)

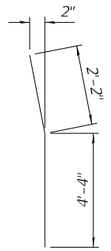
Bar	H	I
s13(E)	3'-0"	2'-9"
s14(E)	5'-5"	2'-9"
s16(E)	4'-1"	2'-9"
v55(E)	1'-11"	4'-1"



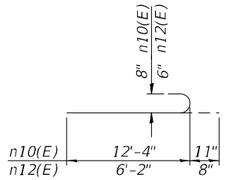
FIELD CUTTING DIAGRAM

Order t32(E), t33(E), t36(E) thru t39(E), t42(E) thru t45(E), t48(E), t50(E) & w32(E) bars full length. Cut as shown and use remainder as shown in plans.

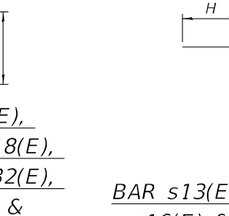
Bar	A	B	C	D	Y	X
t32(E)	7'-3"	9'-2"	9'-7"	11'-6"	6	1
t33(E)	7'-3"	8'-9"	9'-7"	11'-1"	3	1
t36(E)	17'-11"	21'-2"	21'-11"	25'-2"	6	1
t37(E)	17'-11"	21'-0"	22'-1"	25'-2"	4	1
t38(E)	17'-6"	19'-5"	19'-9"	21'-8"	6	1
t39(E)	17'-6"	19'-5"	20'-1"	22'-0"	4	1
t42(E)	4'-2"	6'-10"	8'-1"	10'-9"	3	1
t43(E)	3'-6"	5'-10"	7'-1"	9'-5"	3	1
t44(E)	11'-5"	14'-1"	14'-8"	17'-4"	5	1
t45(E)	10'-1"	13'-3"	14'-4"	17'-6"	4	1
t48(E)	2'-8"	4'-4"	4'-10"	6'-6"	4	1
t50(E)	2'-9"	4'-3"	5'-0"	6'-6"	3	1
w32(E)	13'-4"	13'-4"	19'-5"	19'-5"	10	1



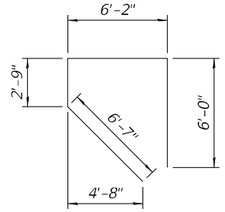
BAR d17(E)



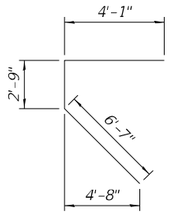
BAR n10(E) & n12(E)



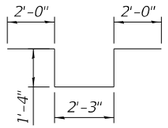
BAR s37(E)



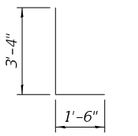
BAR s10(E)



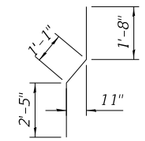
BAR s17(E)



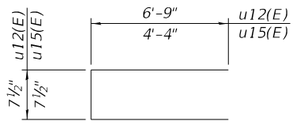
BAR d3(E)



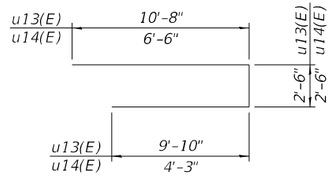
BAR d6(E)



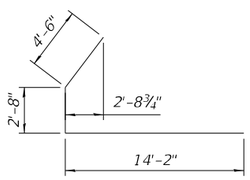
BAR v54(E)



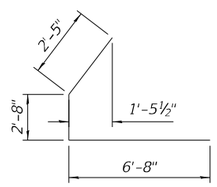
BAR u12(E) & u15(E)



BAR u13(E) & u14(E)



BAR u10(E)



BAR u11(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
t42(E)	3	#5	14'-11"	
t43(E)	3	#7	12'-11"	
t44(E)	5	#10	28'-9"	
t45(E)	4	#7	27'-7"	
t46(E)	28	#10	17'-6"	
t47(E)	14	#7	17'-6"	
t48(E)	4	#5	9'-2"	
t49(E)	4	#5	3'-6"	
t50(E)	3	#5	9'-3"	
t51(E)	189	#9	17'-6"	
u10(E)	19	#6	21'-4"	
u11(E)	6	#5	11'-9"	
u12(E)	3	#5	14'-2"	
u13(E)	17	#6	23'-0"	
u14(E)	6	#5	13'-3"	
u15(E)	3	#5	9'-4"	
v30(E)	133	#5	11'-10"	
v31(E)	79	#6	17'-8"	
v32(E)	113	#5	10'-0"	
v33(E)	62	#6	16'-0"	
v34(E)	7	#5	17'-2"	
v35(E)	8	#6	23'-1"	
v36(E)	20	#8	18'-0"	
v37(E)	11	#6	22'-10"	
v38(E)	53	#8	18'-0"	
v39(E)	6	#6	11'-1"	
v41(E)	6	#6	20'-9"	
v42(E)	18	#5	14'-9"	
v43(E)	18	#6	20'-3"	
v44(E)	35	#8	15'-5"	
v45(E)	8	#6	20'-1"	
v46(E)	10	#5	8'-7"	
v52(E)	125	#5	7'-5"	
v53(E)	125	#5	9'-1"	
v54(E)	125	#5	5'-2"	
v55(E)	125	#5	6'-0"	
w32(E)	10	#5	32'-9"	
w33(E)	4	#5	18'-8"	
w34(E)	38	#5	28'-2"	
w35(E)	200	#5	30'-0"	

Structure Excavation	Cu. Yd.	2,068
Concrete Structures	Cu. Yd.	938.1
Reinforcement Bars, Epoxy Coated	Pound	92,510
Furnishing Steel Piles HP12x53	Foot	5,123
Driving Piles	Foot	5,123
Test Pile Steel HP12x53	Each	2
Concrete Sealer	Sq. Ft.	4,803
Protective Coat	Sq. Yd.	28
Chain Link Fence, 4' attached to structure	Foot	13
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	1
Pile Shoes	Each	111

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d2(E)	26	#4	2'-0"	
d3(E)	20	#6	8'-11"	
d5(E)	8	#4	2'-5"	
d6(E)	6	#6	4'-10"	
d14(E)	19	#6	7'-5"	
d15(E)	10	#4	6'-6"	
d16(E)	61	#6	7'-5"	
d17(E)	51	#4	6'-6"	
e30(E)	16	#4	9'-7"	
e31(E)	8	#4	6'-9"	
e32(E)	8	#4	4'-5"	
e33(E)	8	#4	23'-9"	
e34(E)	8	#4	23'-4"	
h30(E)	129	#6	26'-3"	
h31(E)	78	#6	33'-10"	
h32(E)	36	#5	23'-8"	
h33(E)	36	#5	23'-6"	
h34(E)	20	#6	34'-2"	
h35(E)	14	#5	17'-4"	
h36(E)	50	#6	9'-6"	
h37(E)	13	#6	11'-2"	
h38(E)	13	#6	14'-2"	
h39(E)	18	#6	13'-0"	
h40(E)	12	#6	16'-0"	
h41(E)	6	#6	14'-11"	
h42(E)	2	#6	11'-9"	
h43(E)	13	#6	19'-8"	
h44(E)	24	#6	21'-4"	
h45(E)	10	#6	23'-4"	
h46(E)	10	#5	7'-0"	
h47(E)	14	#5	21'-8"	
h48(E)	7	#5	19'-5"	
n10(E)	379	#8	13'-3"	
n12(E)	184	#6	6'-10"	
s10(E)	56	#5	21'-6"	
s11(E)	79	#5	11'-8"	
s12(E)	2	#5	7'-11"	
s13(E)	12	#5	5'-9"	
s14(E)	24	#5	8'-2"	
s16(E)	3	#5	6'-10"	
s17(E)	3	#5	13'-5"	
s18(E)	123	#5	3'-2"	
s19(E)	11	#6	9'-0"	
s31(E)	53	#6	9'-8"	
s32(E)	15	#6	9'-0"	
s33(E)	90	#6	9'-2"	
s34(E)	3	#5	17'-0"	
s36(E)	22	#6	9'-4"	
s37(E)	58	#5	23'-3"	
t31(E)	108	#7	17'-6"	
t32(E)	6	#9	18'-9"	
t33(E)	3	#7	18'-4"	
t34(E)	28	#9	26'-0"	
t35(E)	25	#7	26'-0"	
t36(E)	6	#9	43'-1"	
t37(E)	4	#7	43'-1"	
t38(E)	6	#9	39'-2"	
t39(E)	4	#7	39'-6"	
t40(E)	2	#9	22'-0"	
t41(E)	1	#7	19'-9"	

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ROSEMONT, IL 60018

USER NAME =		DESIGNED – MBQ	REVISED –	
		CHECKED – RGB	REVISED –	
PLOT SCALE =		DRAWN – CHP	REVISED –	
PLOT DATE =	03/11/2024	CHECKED – RGB	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS 5
STRUCTURE NO. 016-1669

SHEET 55 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	230
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

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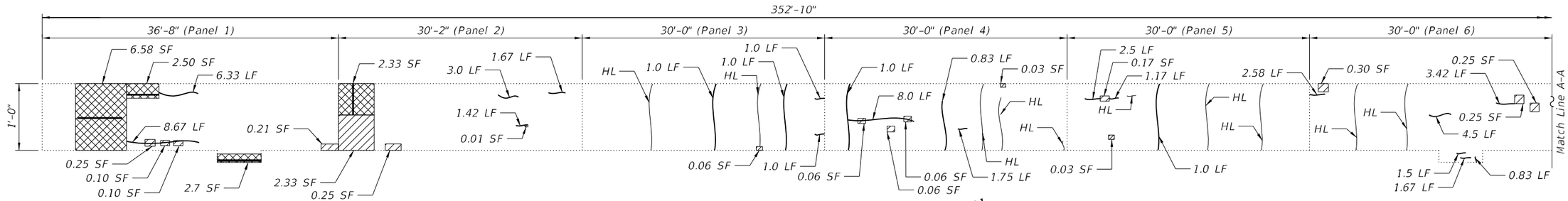
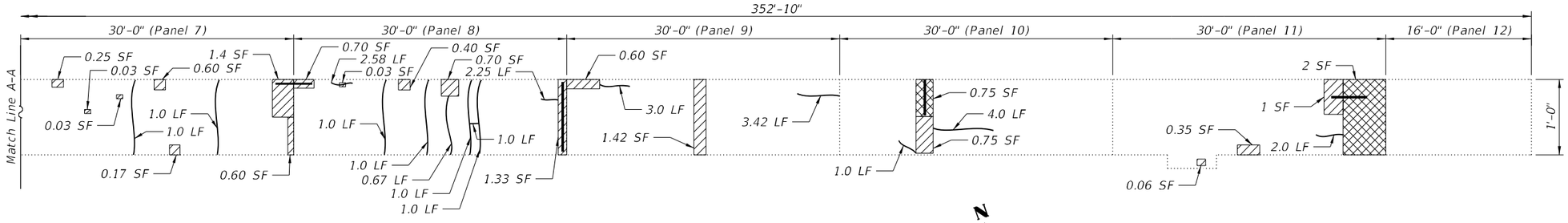
NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.



NORTHEAST RETAINING WALL - PLAN
(Not to scale)



NORTHEAST RETAINING WALL - PLAN
(Not to scale)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	245
Weep Holes Cored	Each	46
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	56
Structural Repair of Concrete (Depth Greater Than 5")	Sq Ft	31

LEGEND:

Structural Repair of Concrete (Depth Equal to or less than 5")

Structural Repair of Concrete (Depth Greater than 5")

Epoxy Crack Injection (Width > 0.007")

Exposed Reinforcement

HL	Hairline Crack
SF	Square Foot
LF	Lineal Foot
U.N.O.	Unless Noted Otherwise

Accurate GROUP, INC.

USER NAME = user	DESIGNED - IH	REVISED -	
	CHECKED - MF	REVISED -	
PLOT SCALE =	DRAWN - IH	REVISED -	
PLOT DATE = 06/22/2022	CHECKED - MF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

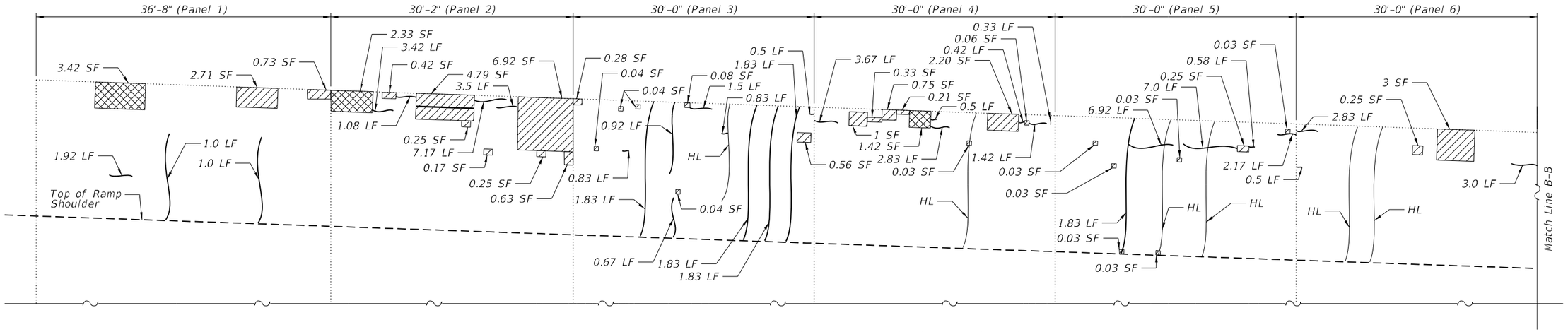
RETAINING WALL REPAIR DETAILS 1
STRUCTURE NO. 016-1669
SHEET 56 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	231
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XRF(742)			

NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

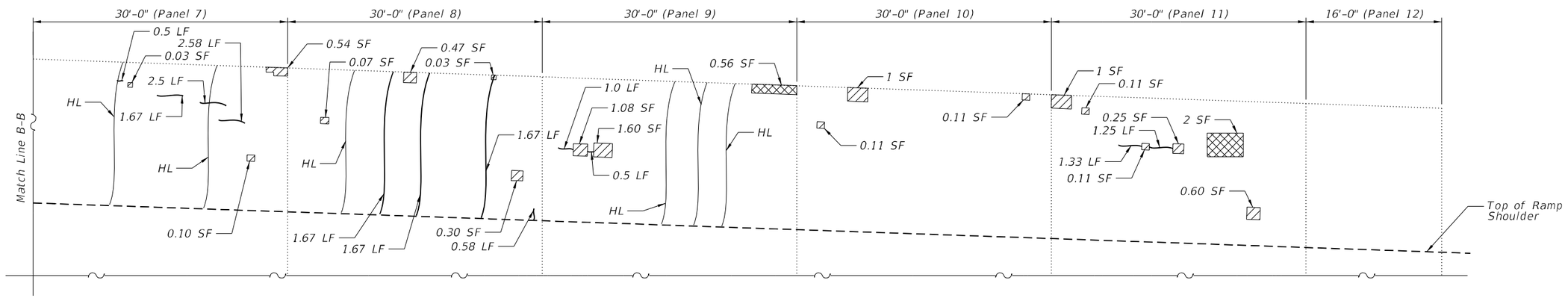
2. For Legend and Bill of Material, see Sheet S-01 of S-05.



NORTHEAST RETAINING WALL - INSIDE ELEVATION

NORTH FACE

(Not to scale)



NORTHEAST RETAINING WALL - INSIDE ELEVATION

NORTH FACE

(Not to scale)

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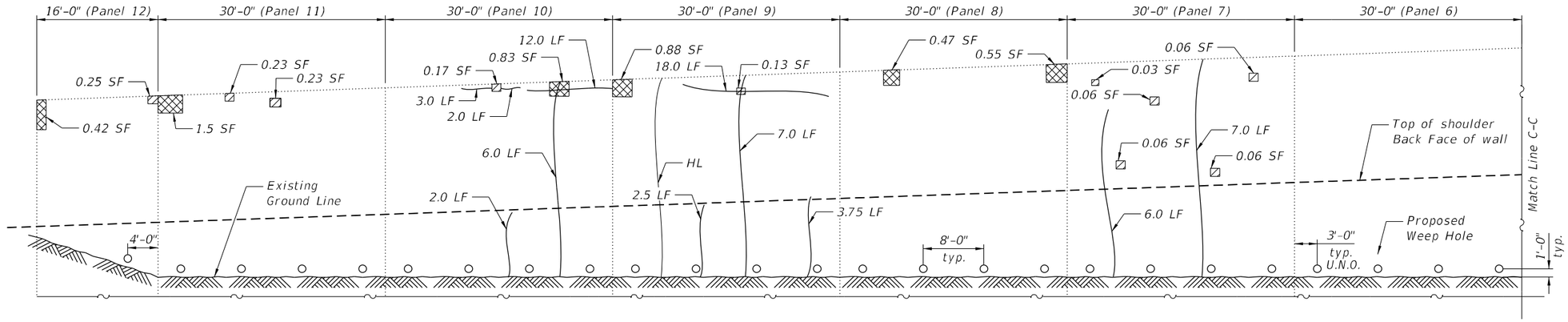
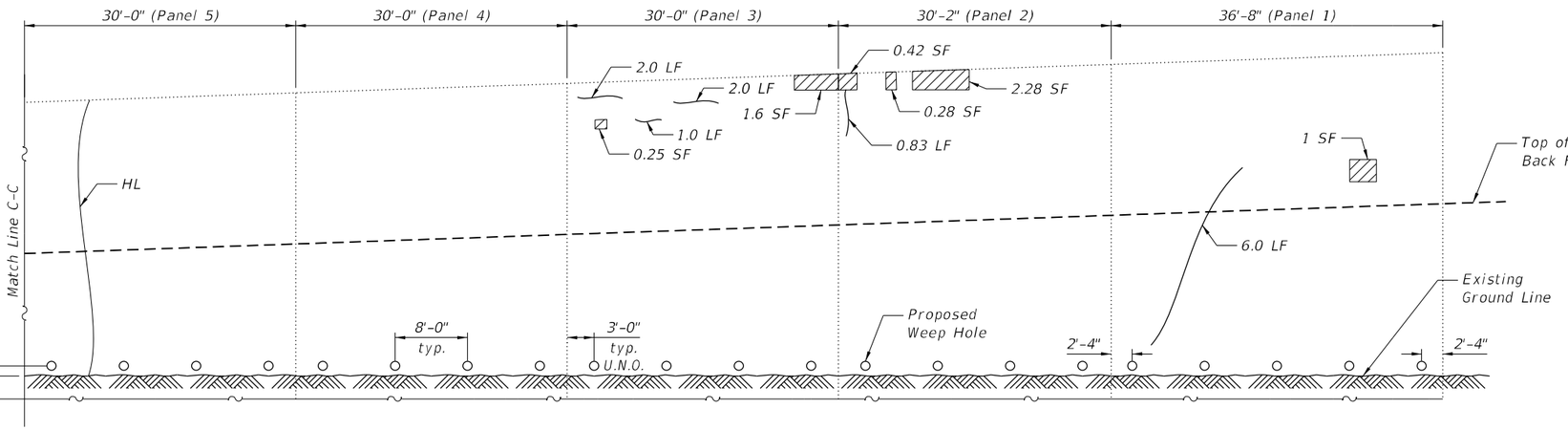
Accurate GROUP, INC.

USER NAME = user	DESIGNED - IH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RETAINING WALL REPAIR DETAILS 2 STRUCTURE NO. 016-1669
	CHECKED - MF	REVISED -		
PLOT SCALE =	DRAWN - IH	REVISED -		
PLOT DATE = 06/22/2022	CHECKED - MF	REVISED -		SHEET 57 OF 77 SHEETS

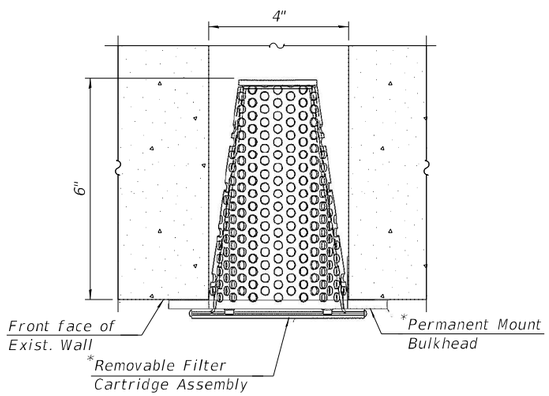
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	232
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XRIF(742)		



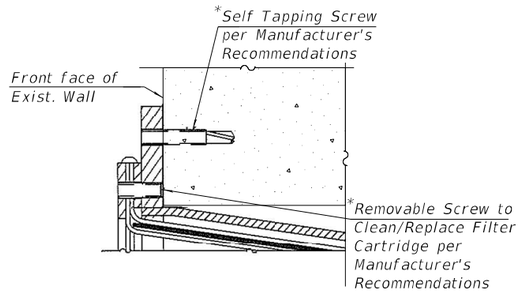
NORTHEAST RETAINING WALL - ELEVATION
SOUTH FACE
(Not to scale)



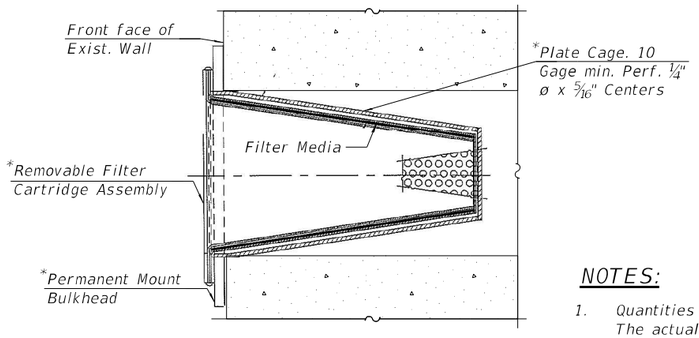
NORTHEAST RETAINING WALL - ELEVATION
SOUTH FACE
(Not to scale)



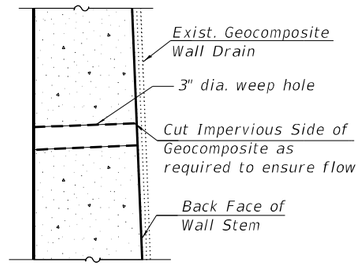
CORED WEEP HOLE
ASSEMBLY PLAN VIEW



CORED WEEP HOLE
ASSEMBLY MOUNTING
DETAIL



SECTION THRU CORED
WEEP HOLE ASSEMBLY



PROP. WEEP HOLE
DRAIN DETAIL

NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
2. For Legend and Bill of Material, see Sheet S-01 of S-05.

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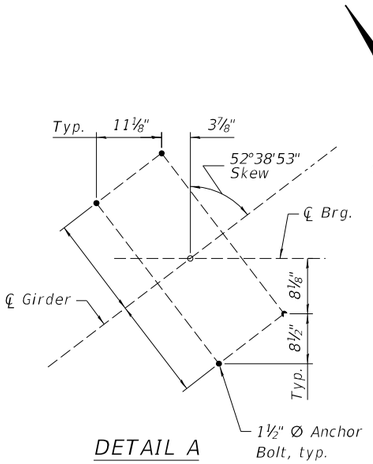
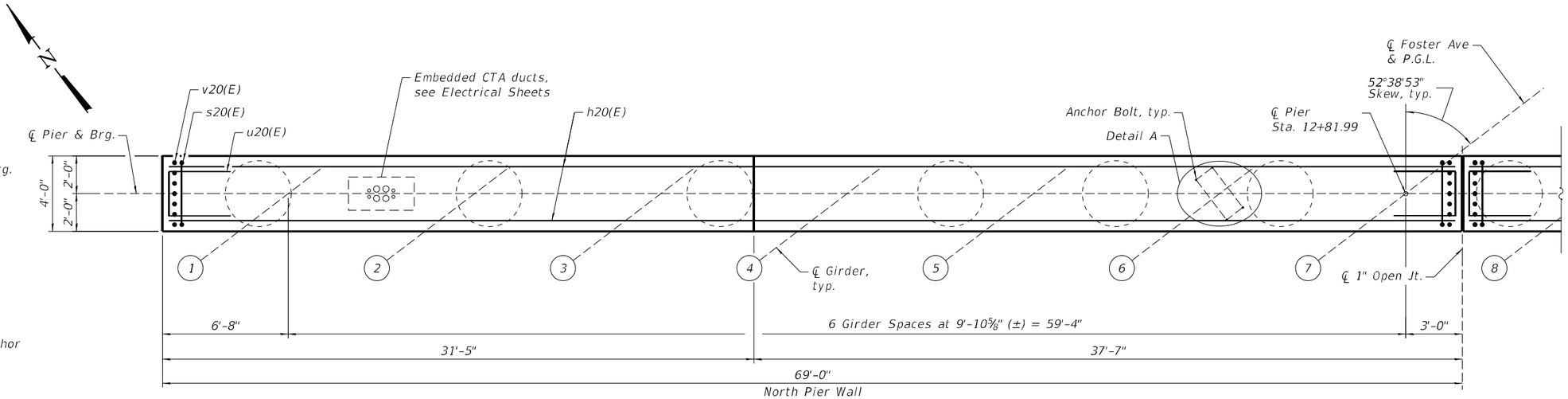
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL REPAIR DETAILS 3
STRUCTURE NO. 016-1669
SHEET 58 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	233
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



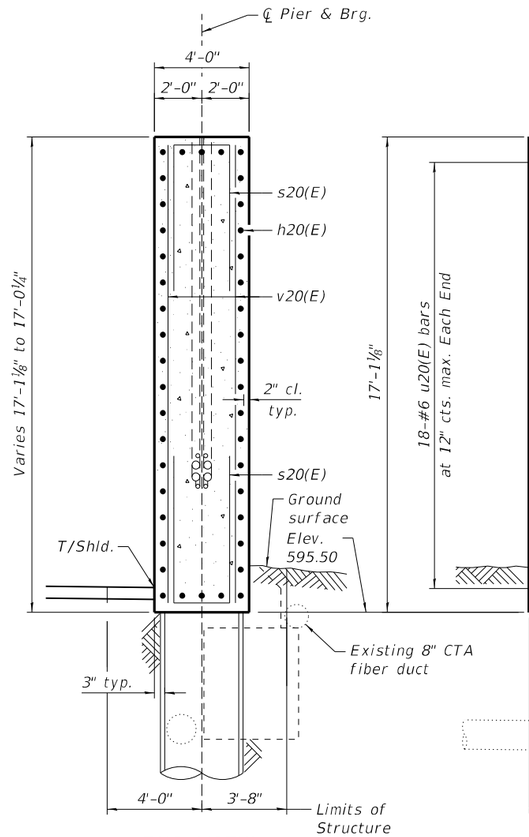
DETAIL A



TOP PLAN

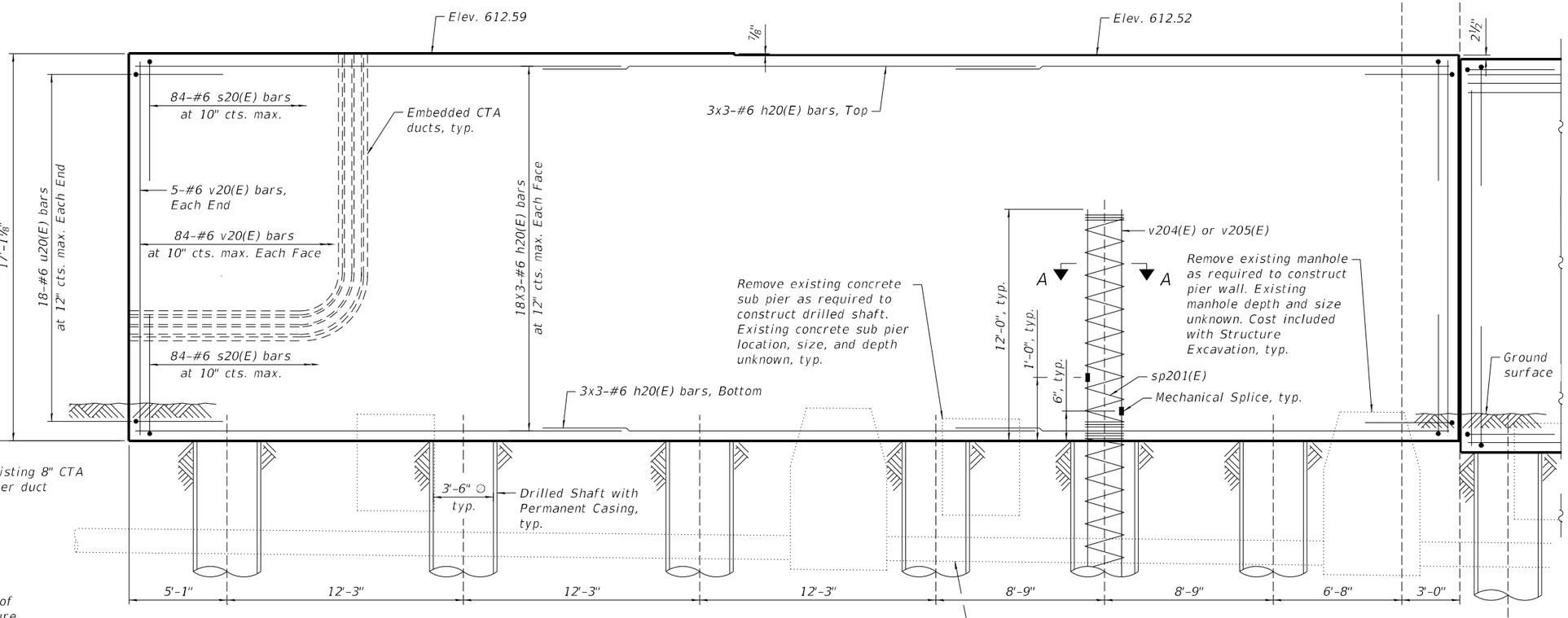
MINIMUM BAR LAP

#6 bar = 4'-4"
#4 spiral = 3'-0"



END VIEW

(Drilled shaft reinforcement not shown for clarity)



ELEVATION

(Looking East)

Note:

For Notes, Drilled Shaft Details, Section A-A, and Bill of Materials, see sheet 61 of 77 .

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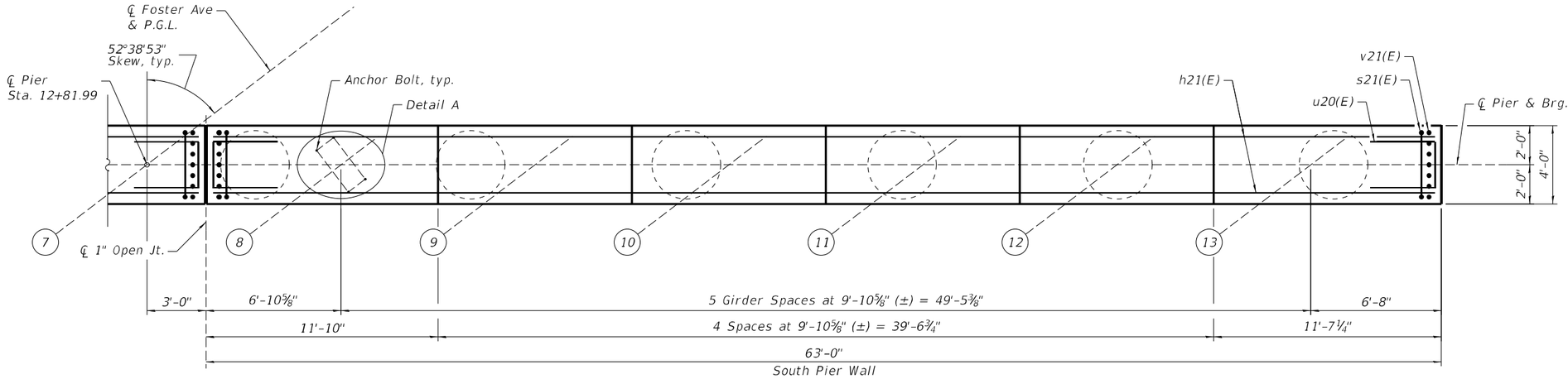
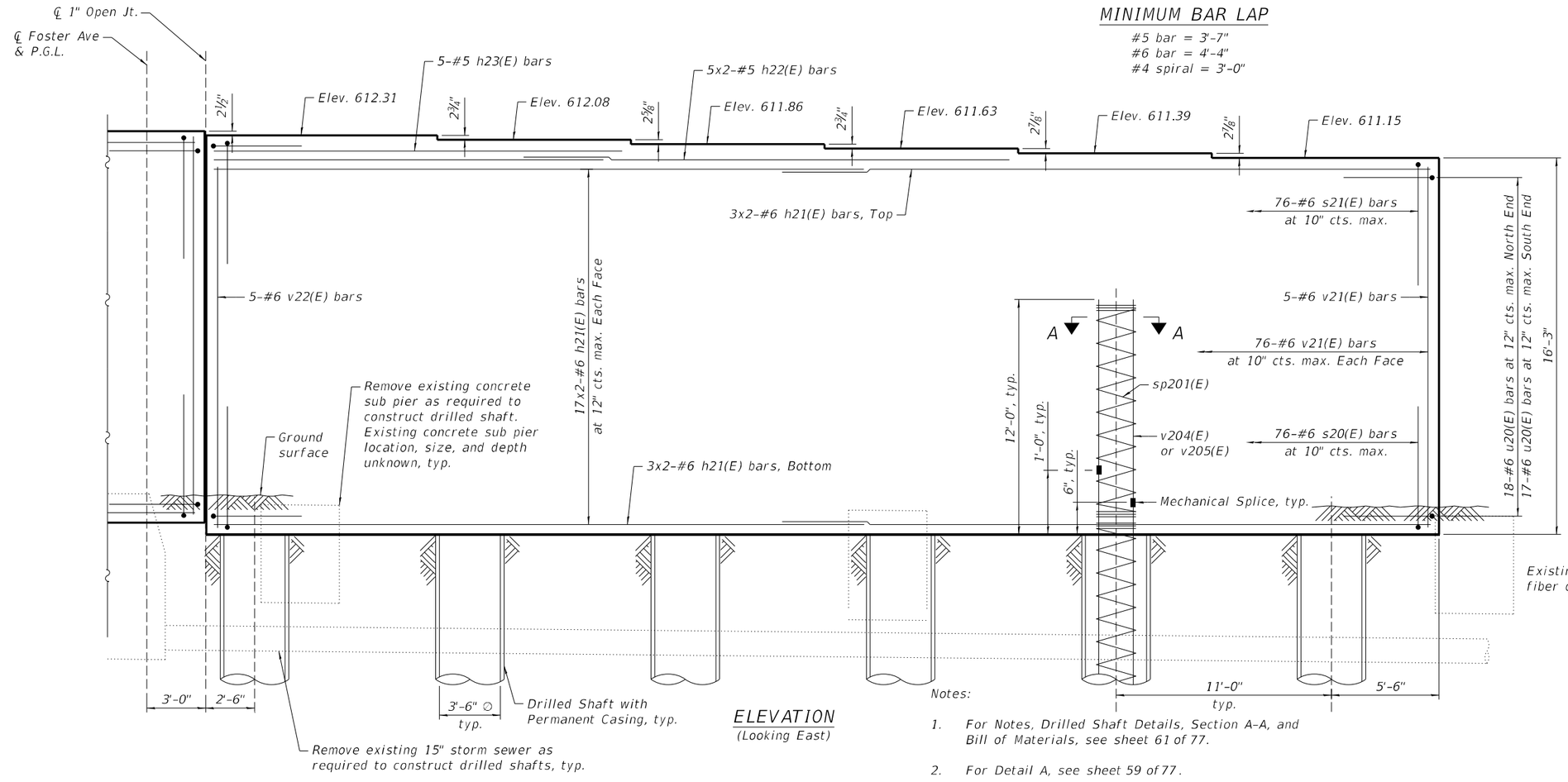
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER PLAN AND ELEVATION 1
STRUCTURE NO. 016-1669
SHEET 59 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	234
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-X(I)(742)			



TOP PLAN



ELEVATION
(Looking East)

MINIMUM BAR LAP

#5 bar = 3'-7"
#6 bar = 4'-4"
#4 spiral = 3'-0"

Notes:

1. For Notes, Drilled Shaft Details, Section A-A, and Bill of Materials, see sheet 61 of 77.
2. For Detail A, see sheet 59 of 77.

END VIEW
(Drilled shaft reinforcement not shown for clarity)

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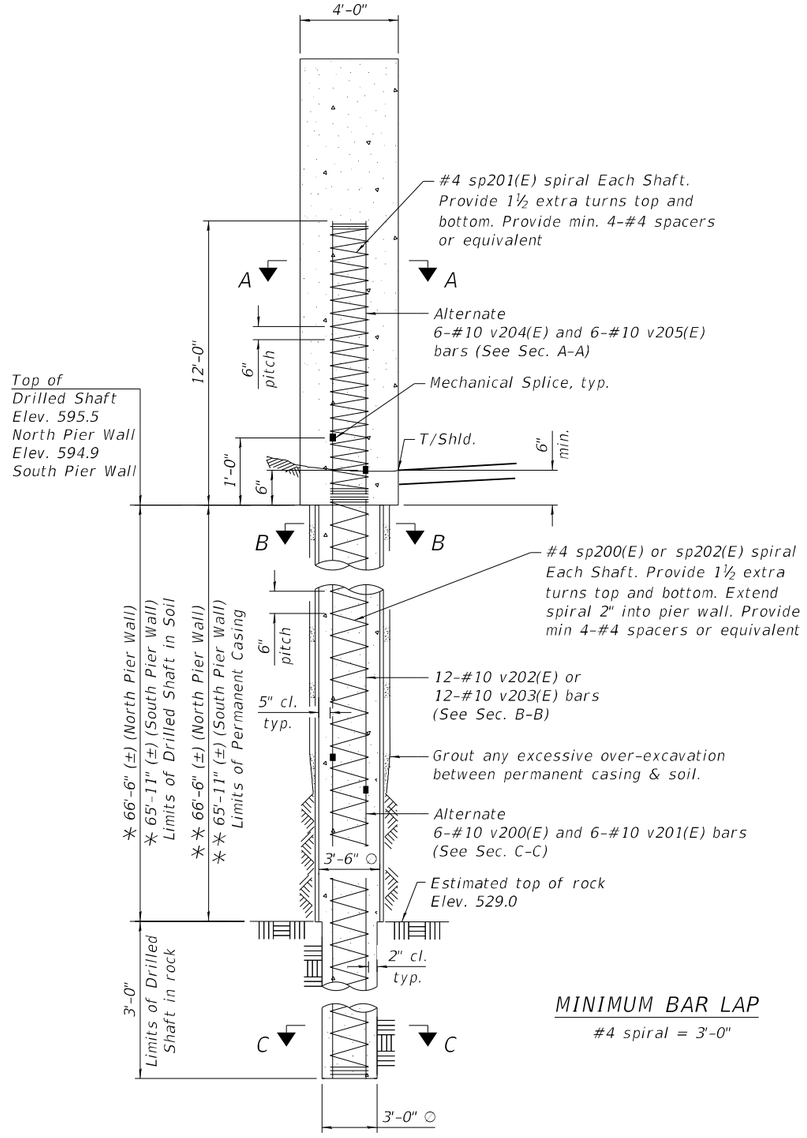
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER PLAN AND ELEVATION 2
STRUCTURE NO. 016-1669
SHEET 60 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	235

CONTRACT NO. 62J23
ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)



TYPICAL DRILLED SHAFT SECTION

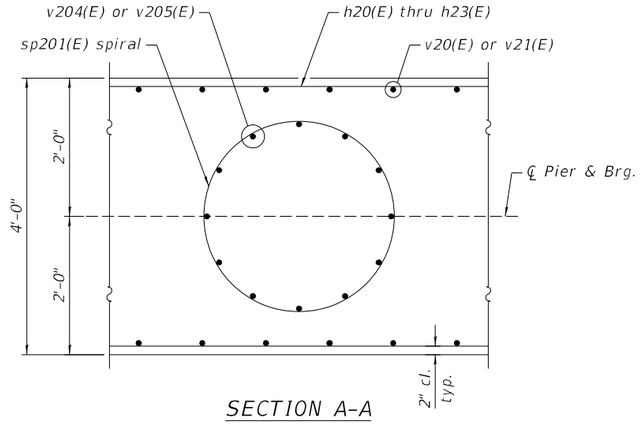
(Pier wall reinforcement not shown for clarity)

* The top of all drilled shafts within a substructure unit shall be constructed to the same elevation. The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock elevations encountered at each shaft and the final top of shaft elevation.

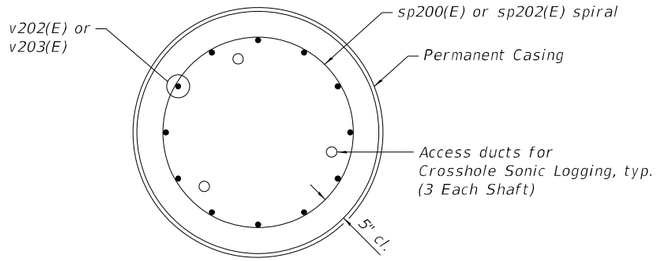
** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing are based on the length shown.

MINIMUM BAR LAP

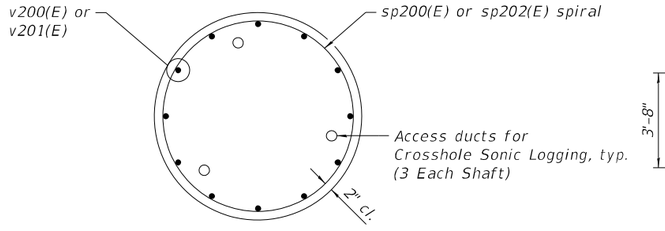
#4 spiral = 3'-0"



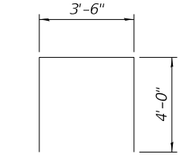
SECTION A-A



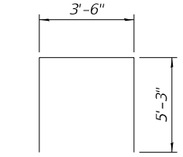
SECTION B-B



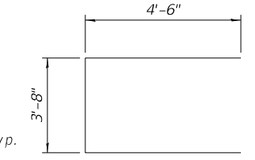
SECTION C-C



BARS s20(E)



BARS s21(E)



BAR u20(E)

Notes:

1. *Space reinforcement in pier wall to avoid anchor bolts.*
2. *Pour steps monolithically with pier wall.*
3. *Concrete sealer shall be applied to top, sides, and ends of pier wall.*
4. *Bars indicated thus 3x2-#5 etc. indicates 3 lines of bars with 2 lengths per line.*
5. *Pier formwork and drilled shaft construction shall comply with the requirements in the CTA Adjacent Construction Manual. See the special provision "CTA Flagging and Coordination."*

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h20(E)	126	#6	25'-11"	———
	h21(E)	80	#6	33'-8"	———
	h22(E)	10	#5	22'-7"	———
	h23(E)	5	#5	21'-3"	———
	s20(E)	244	#6	11'-10"	⊓
	s21(E)	76	#6	14'-0"	⊓
***	sp200(E)	6	#4	69'-8"	∧∧∧
***	sp201(E)	12	#4	11'-10"	∧∧∧
***	sp202(E)	6	#4	69'-1"	∧∧∧
	u20(E)	71	#6	12'-8"	⊏
	v20(E)	178	#6	16'-7"	———
	v21(E)	157	#6	15'-10"	———
	v22(E)	5	#6	16'-11"	———
	v200(E)	72	#10	32'-0"	———
	v201(E)	72	#10	32'-6"	———
	v202(E)	72	#10	38'-0"	———
	v203(E)	72	#10	37'-5"	———
	v204(E)	72	#10	11'-6"	———
	v205(E)	72	#10	11'-0"	———

Structure Excavation	Cu. Yd.	25
Concrete Structures	Cu. Yd.	331.1
Reinforcement Bars, Epoxy Coated	Pound	86,350
Permanent Casing	Foot	795
Drilled Shaft in Soil	Cu. Yd.	283.2
Drilled Shaft in Rock	Cu. Yd.	9.5
Concrete Sealer	Sq. Ft.	5,133
Crosshole Sonic Logging Access Ducts	Foot	831
Crosshole Sonic Logging Testing	Each	2
Mechanical Splicer	Each	288
Foundation Construction at Existing Obstructions	Each	12

*** Length is height of spiral.

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PIER DETAILS
STRUCTURE NO. 016-1669
SHEET 61 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	236
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

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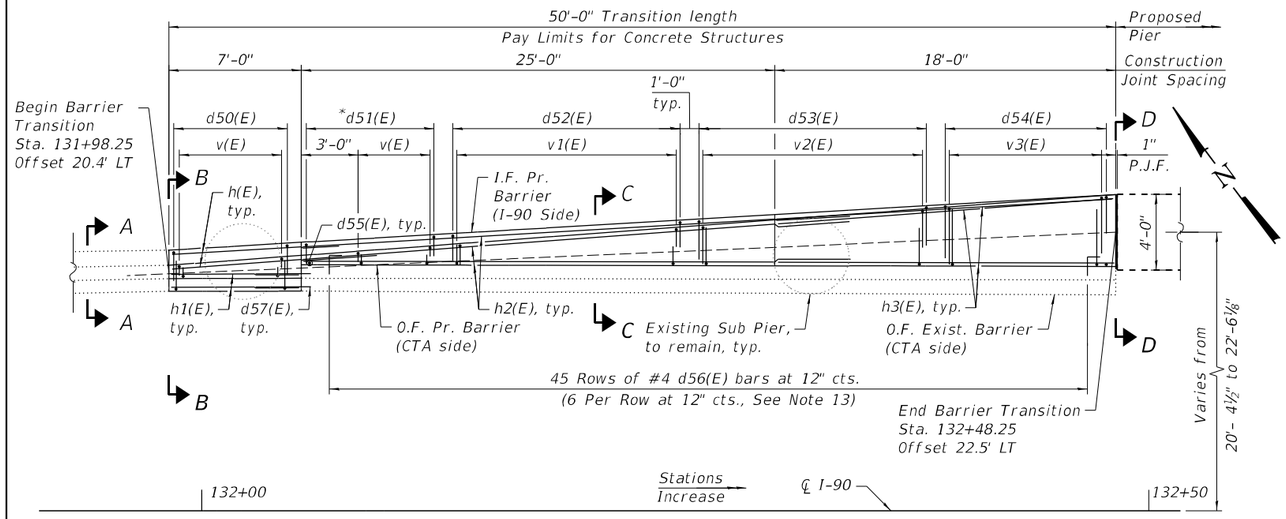
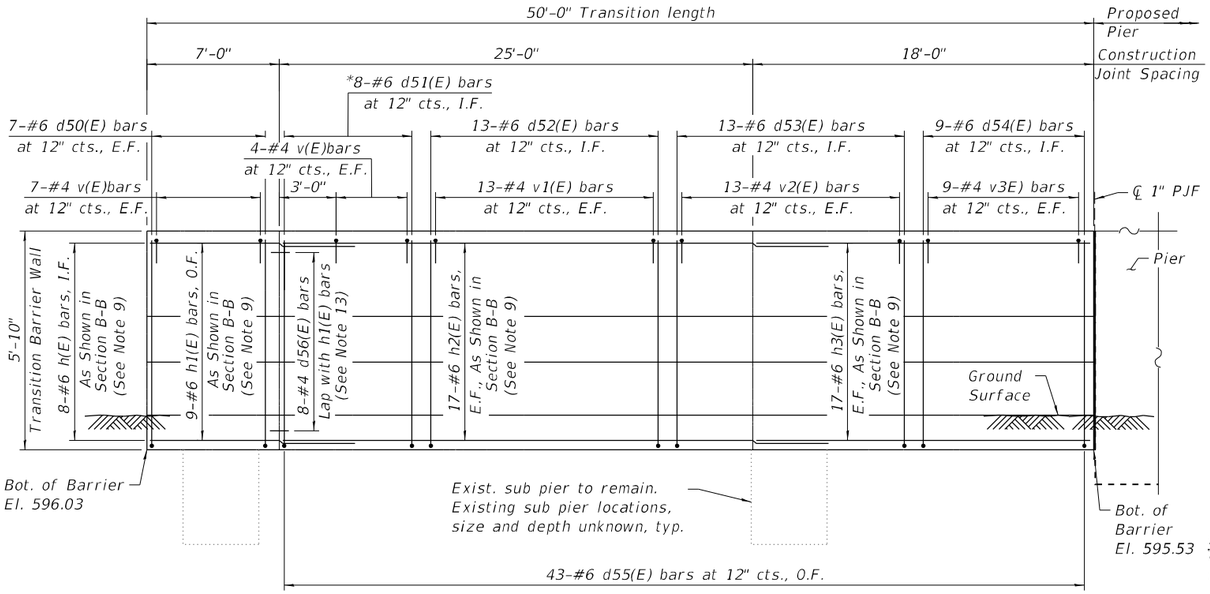


EXIT TRANSITION BARRIER - PLAN



*Trim bars to fit.

EXIT TRANSITION BARRIER - PLAN

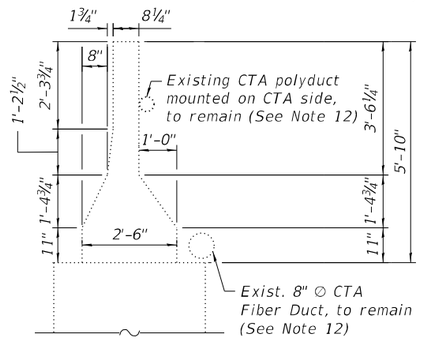
(Looking South)

LEGEND

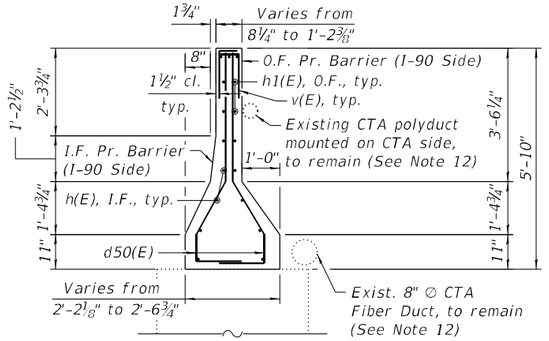
I.F.	Inside Face
O.F.	Outside Face
E.F.	Each Face

NOTES:

1. Removal of existing barrier shall be included with "Concrete Barrier Removal (Special)", See Roadway Plans.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Contractor shall submit a detailed plan and proposed layout for approval of the Engineer before ordering material.
4. Contractor shall submit shop drawings for the removal and replacement of the barrier wall showing all existing and proposed dimensions and tapers, as well as all reinforcement details. Costs are included with "Concrete Structures".
5. Taper Length for the barrier shall meet 17:1 minimum taper rate For Exit Barrier and 26:1 for Entrance Barrier.
6. Edge of barrier base shall match existing top of shoulder at existing ground line elevations.
7. For Bar diagrams and Bill of Material, see Sheet 238 of 280.
8. Bars noted thus, 3x2-#4, indicate 3 lines of #4 bars with 2 lengths of bars per line.
9. Adjust location of h(E), h2(E), h3(E), d50(E) thru d54(E) and v(E) thru v3(E) bars as needed to match Barrier Transition slope.
10. The coarse aggregate to be used in the Concrete Transition Barrier Walls shall conform to the requirement for coarse aggregate used in Class BS concrete according to Article 1004.01(b), paragraph 2.
11. The Contractor shall clean and prepare Exist. Barrier Concrete Surface prior to pouring concrete. The surface shall be water cleaned and sand blasted to expose clean, well Bonded Aggregate.
12. The Contractor shall exercise extreme caution during concrete removal to avoid damaging CTA Fiber Duct and CTA Polyduct mounted on the CTA side of the Existing Concrete Barrier. The Contractor shall contact CTA to partially detach, support, and protect the CTA Fiber Duct and CTA Polyduct during concrete removal and construction of the first 7 feet of Exit and Entrance Barrier.
13. Epoxy grout d56(E) and d57(E) bars according to Article 584 of the Standard Specifications. Drill to miss exist. reinforcement with 6" minimum embedded. Cost included with Concrete Superstructure.

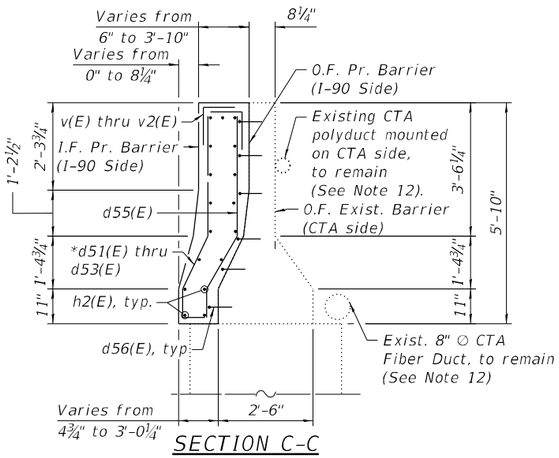


SECTION A-A

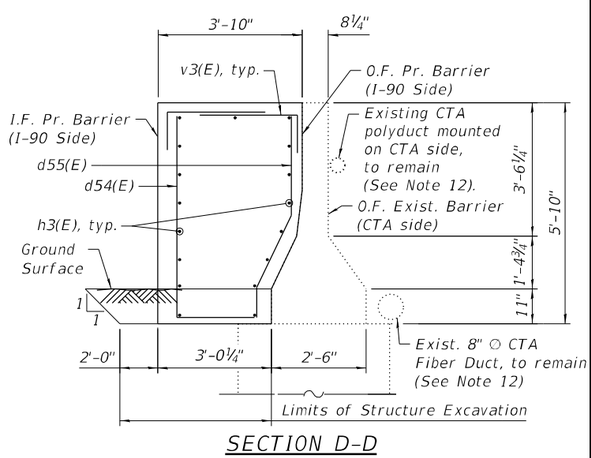


SECTION B-B

From Sta. 131+98.25 to Sta. 132+03.25



SECTION C-C



SECTION D-D

Near Proposed Pier

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STATE OF ILLINOIS
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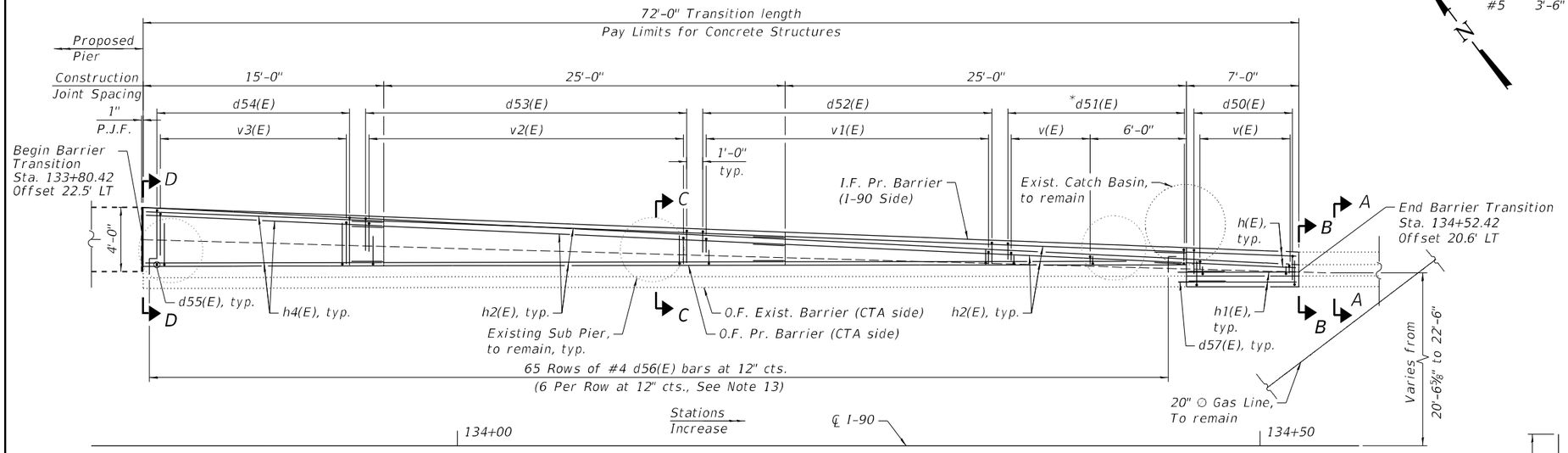
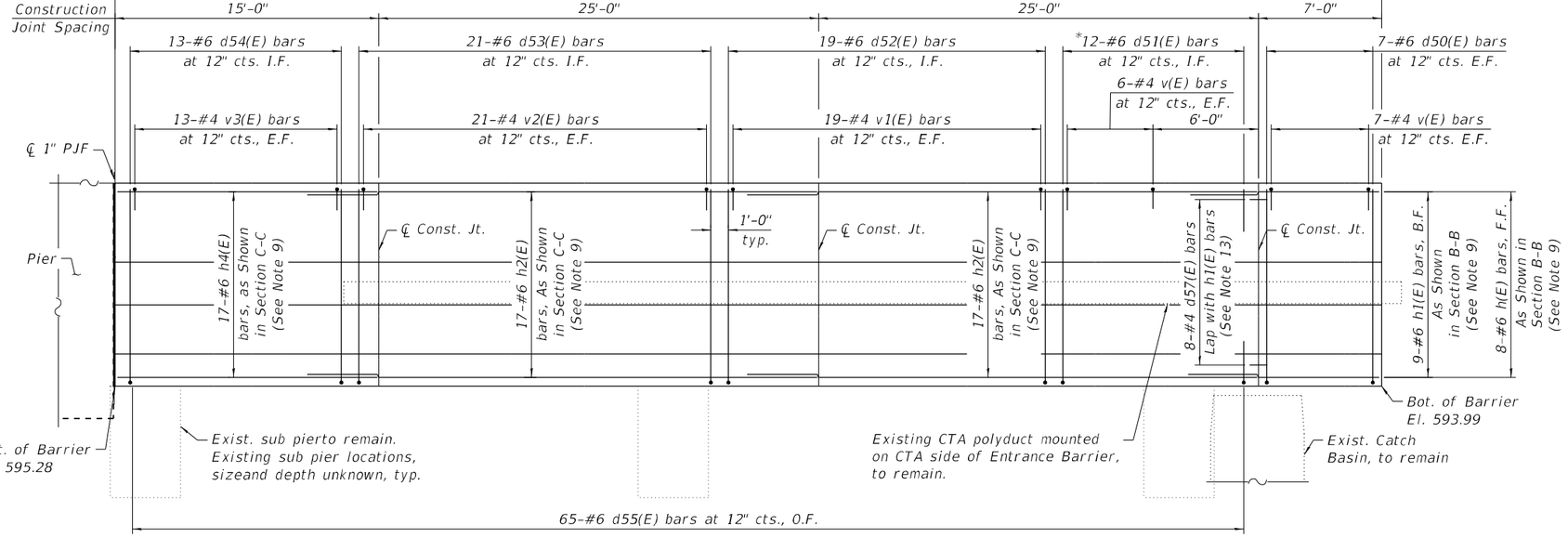
TRANSITION BARRIER WALL DETAILS 1
STRUCTURE NO. 016-1669
SHEET 62 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	237
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			



ENTRANCE TRANSITION BARRIER - PLAN



ENTRANCE TRANSITION BARRIER - ELEVATION

(Looking North)

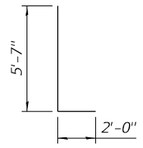
*Tilt bars or hooks as needed to fit

MIN BAR LAP

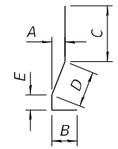
#5	3'-6"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d50(E)	28	#6	5'-10"	L
d51(E)	20	#6	6'-1⅜"	L
d52(E)	32	#6	6'-3"	L
d53(E)	34	#6	6'-11⅜"	L
d54(E)	22	#6	7'-7"	L
d55(E)	108	#6	5'-9¼"	I
d56(E)	660	#4	1'-10"	L
d57(E)	32	#4	2'-11"	—
h(E)	16	#6	10'-10"	———
h1(E)	18	#6	6'-9"	———
h2(E)	51	#6	28'-11"	———
h3(E)	17	#6	17'-9"	———
h4(E)	17	#6	14'-9"	———
v(E)	48	#4	1'-6"	⌐
v1(E)	64	#4	1'-10"	⌐
v2(E)	68	#4	2'-10"	⌐
v3(E)	44	#4	3'-10"	⌐
Structure Excavation		Cu Yd	17	
Concrete Structures		Cu Yd	56.6	
Protective Coat		Sq Yd	124	
Reinforcement Bars, Epoxy Coated		Pound	6,840	

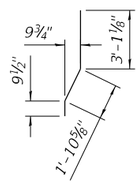


BAR d54(E)

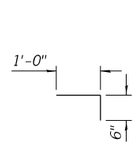


BARS d50(E) THRU d53(E)

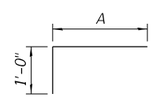
Bar	A	B	C	D	E
d50(E)	3⅝"	1'-8"	2'-0"	1'-5"	9"
d51(E)	8⅜"	5"	3'-0⅜"	1'-10¾"	9½"
d52(E)	6¾"	7"	2'-11"	1'-11⅜"	9½"
d53(E)	4¼"	1'-4"	2'-5"	2'-4¾"	9½"



BAR d55(E)



BAR d56(E)

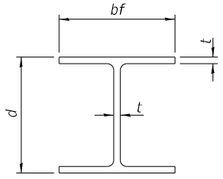


BARS v(E) THRU v3(E)

Bar	A
v(E)	6"
v1(E)	10"
v2(E)	1'-10"
v3(E)	2'-10"

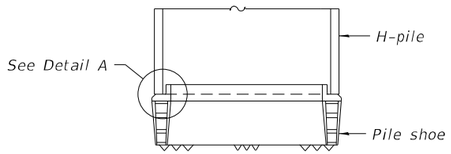
NOTES:

1. For Sections A-A, B-B, C-C, D-D, additional Notes, Legend and Exit Transition Barrier Details, see sheet 237 of 280.

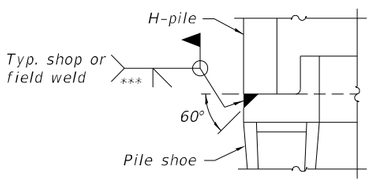


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1 1/16"	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"	1 1/16"	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"



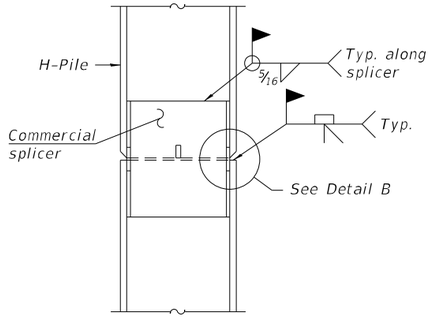
ELEVATION



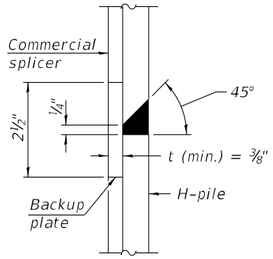
DETAIL A

SHOE ATTACHMENT

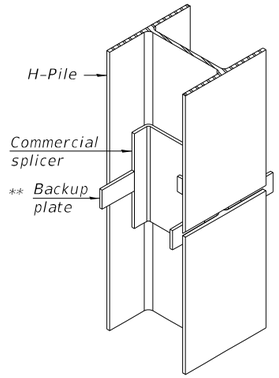
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

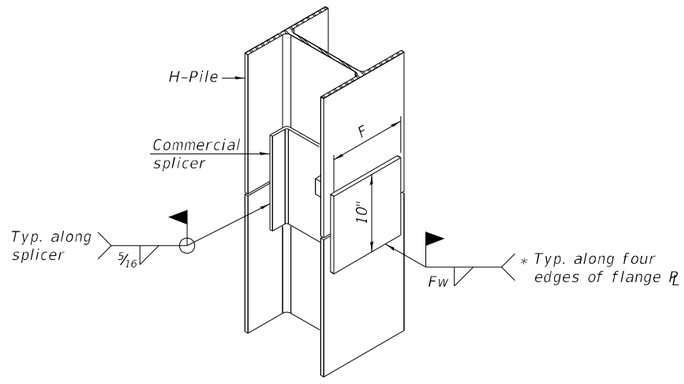


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



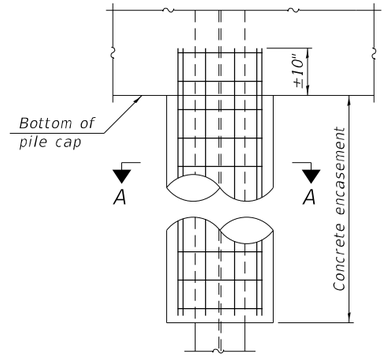
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

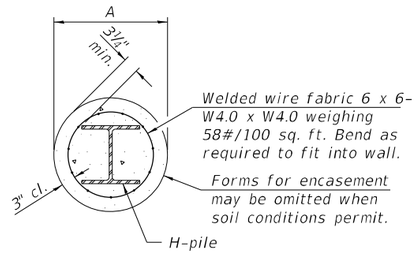
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



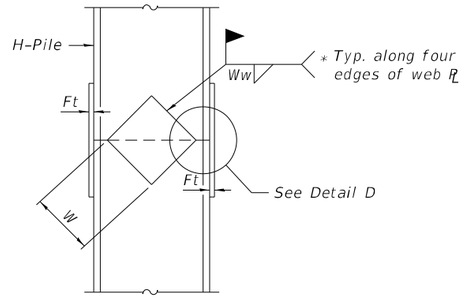
ELEVATION



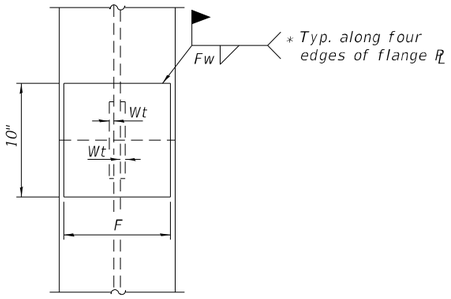
SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

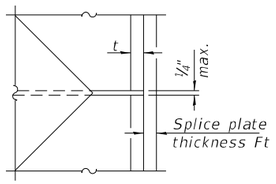
(when specified)



ELEVATION



END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	1/8"	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"	1 1/16"	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"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	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

F-HP 1-1-2020

HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

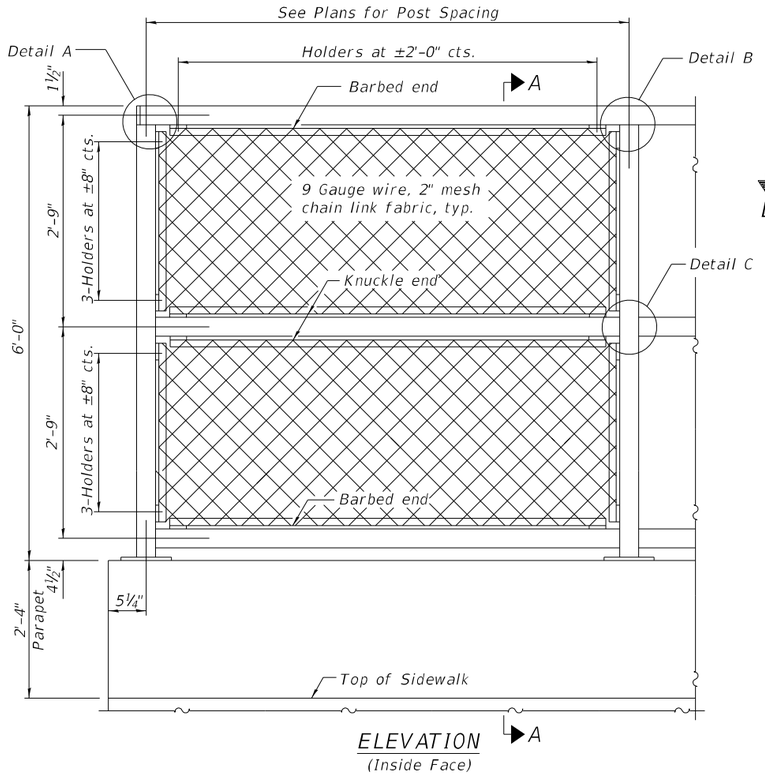
USER NAME =	DESIGNED – JM	REVISED –
	CHECKED – RGB	REVISED –
PLOT SCALE =	DRAWN – JM	REVISED –
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

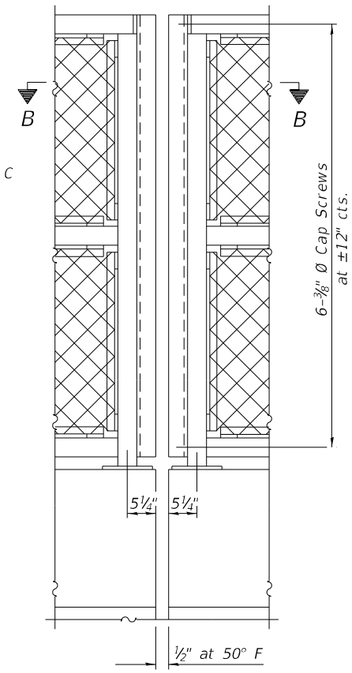
HP PILE DETAILS
STRUCTURE NO. 016-1669

SHEET 64 OF 77 SHEETS

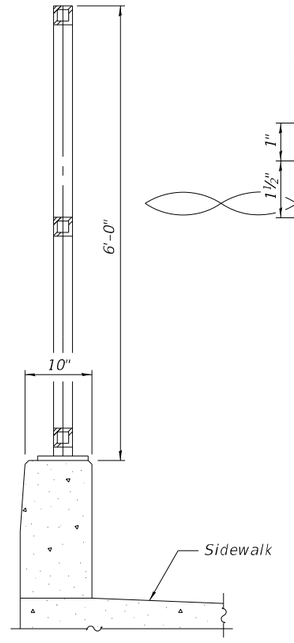
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	239
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



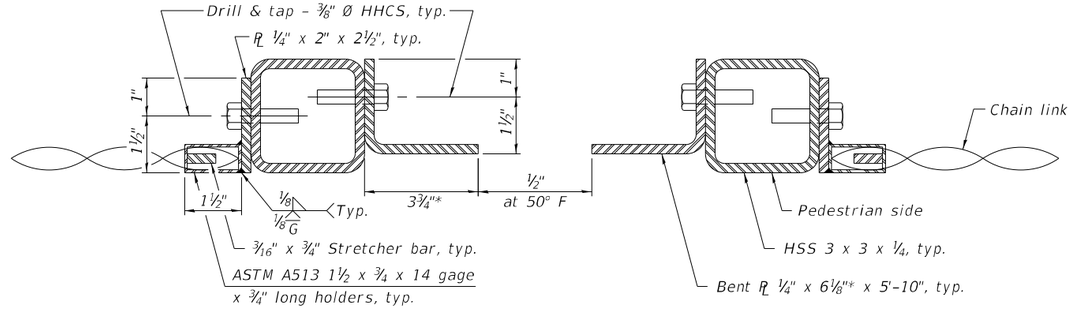
ELEVATION
(Inside Face)



ELEVATION
(At Expansion Joint)

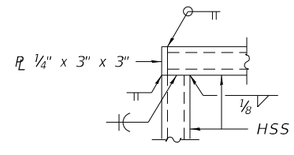


SECTION A-A

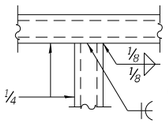


SECTION B-B

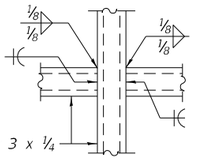
* Assume ⅜" radius. Dimensions may need to be modified for larger joints to avoid gaps greater than 6".



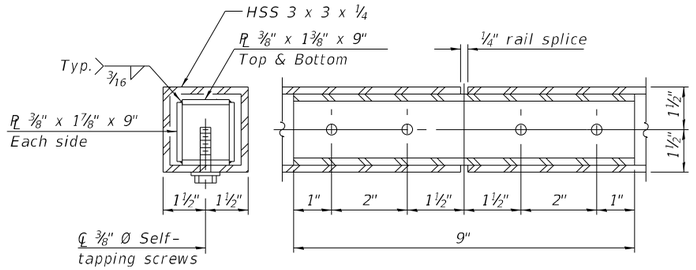
DETAIL A



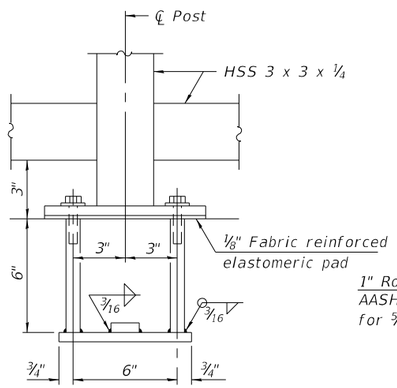
DETAIL B

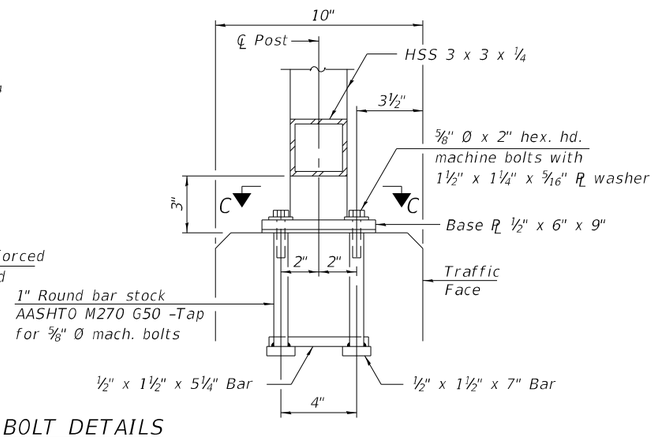


DETAIL C



RAIL SPLICE





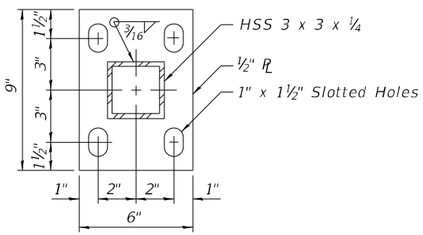
ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications. Place reinforcement bars to miss anchor rod locations.

RAILING CRITERIA

NCHRP 350 Test Level	4
Max Post Spacing	10'-0"
Railing Weight (plf)	50

Notes:
1. Place reinforcement bars to miss anchor rod locations.
2. CVN testing is not required for the HSS tubing.
3. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



SECTION C-C

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	17

MODEL: Default
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3/11/2024 2:33:40 PM

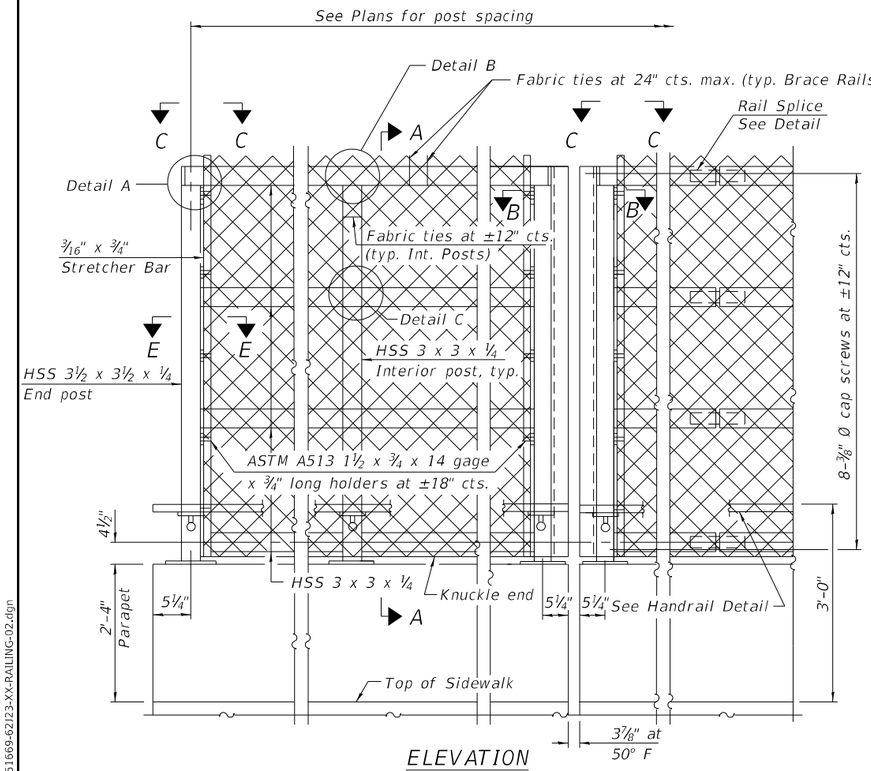
HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = | DESIGNED - CHP | REVISED -
PLOT SCALE = | DRAWN - CHP | REVISED -
PLOT DATE = 03/11/2024 | CHECKED - RGB | REVISED -
CHECKED - RGB | REVISED -

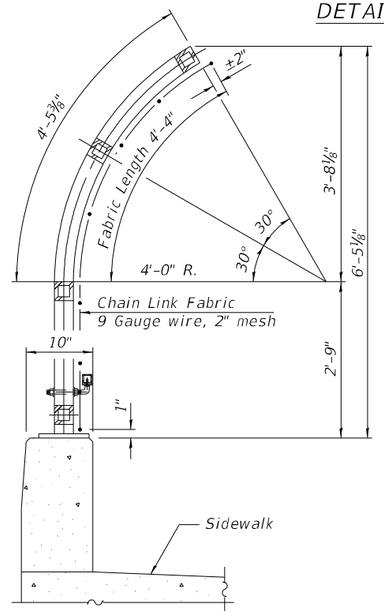
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE RAILING DETAILS (R-28)
STRUCTURE NO. 016-1669
SHEET 65 OF 77 SHEETS

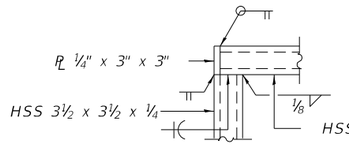
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	240
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



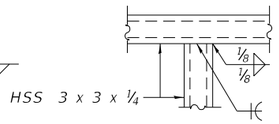
ELEVATION
(Inside Face)



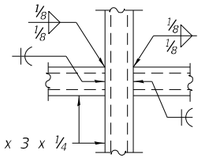
SECTION A-A



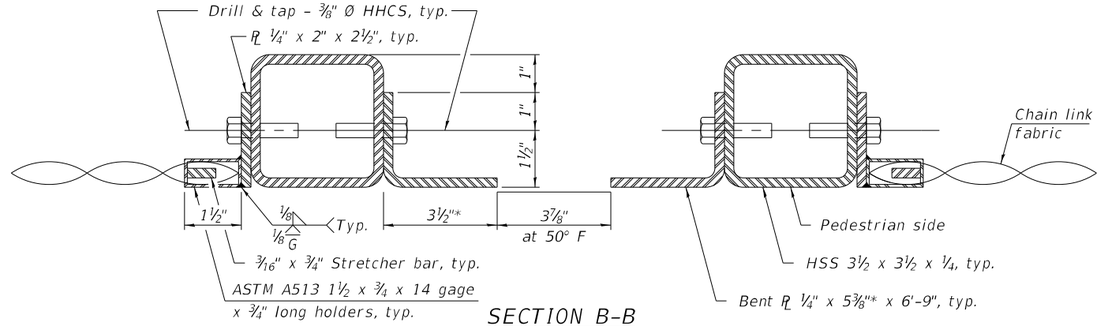
DETAIL A



DETAIL B

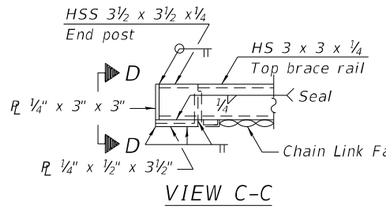


DETAIL C

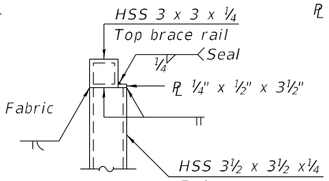


SECTION B-B

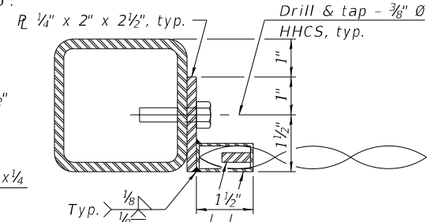
* Assume ⅜" radius. Dimensions may need to be modified for larger joints to avoid gaps greater than 6".



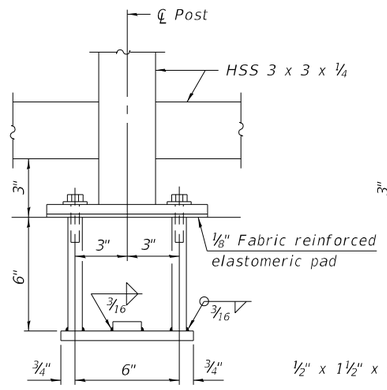
VIEW C-C

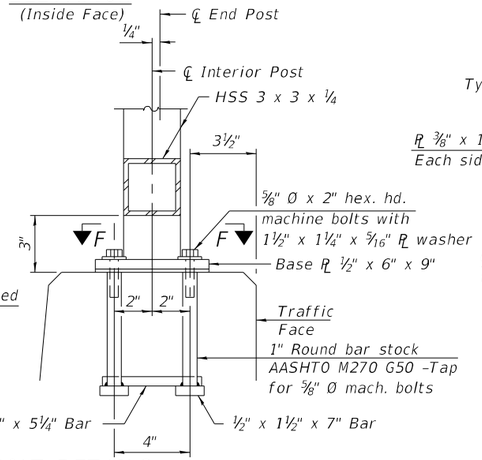


VIEW D-D



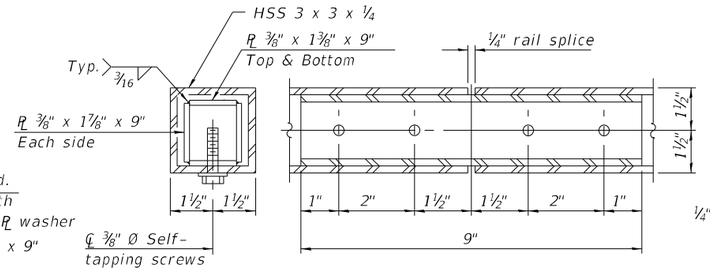
SECTION E-E



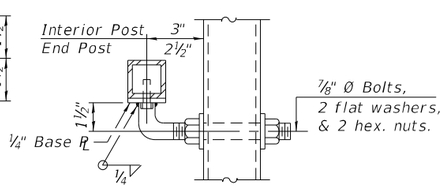


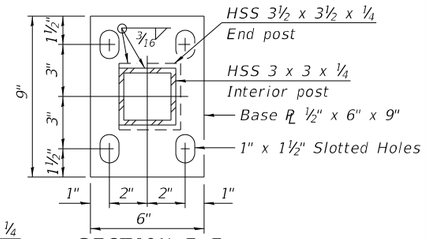
ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications. Place reinforcement bars to miss anchor rod locations.

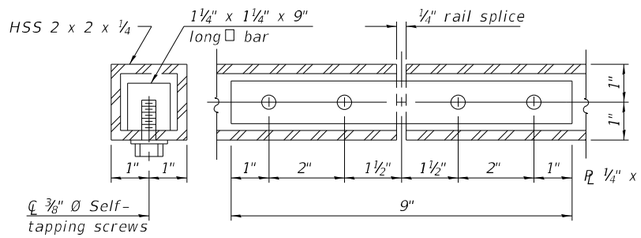


RAIL SPLICE

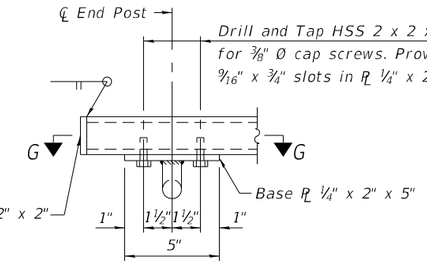




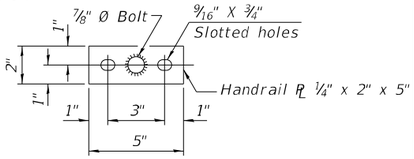
SECTION F-F



HANDRAIL SPLICE



HANDRAIL DETAIL



SECTION G-G
(Handrail)

RAILING CRITERIA

NCHRP 350 Test Level	4
Railing Weight (plf)	70
Max Post Spacing	10'-0"

R-32 10-12-2021

Notes:
1. Cost of handrail included wth Bridge Fence Railing, Curved.
2. CVN testing is not required for the HSS tubing.
3. Place reinforcement bars to miss anchor bolt locations.
4. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing, Curved	Foot	784

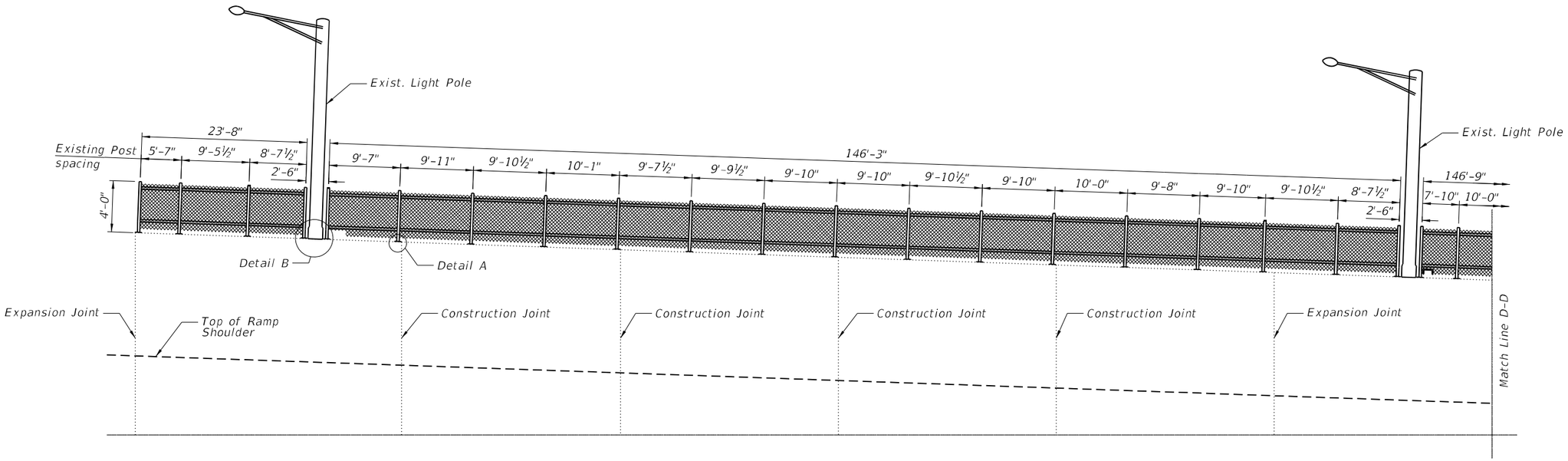
HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME =	DESIGNED - CHP	REVISED -	
	CHECKED - RGB	REVISED -	
PLOT SCALE =	DRAWN - CHP	REVISED -	
PLOT DATE = 03/11/2024	CHECKED - RGB	REVISED -	

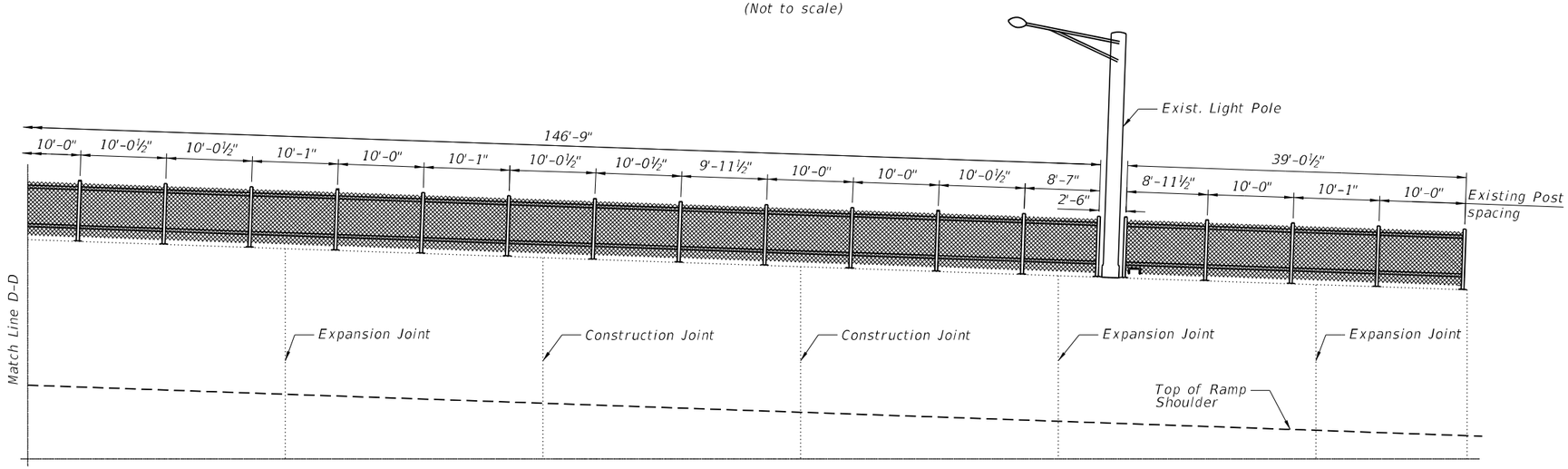
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE RAILING DETAILS (R-32)
STRUCTURE NO. 016-1669
SHEET 66 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	241
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		



NORTHEAST RETAINING WALL - INSIDE ELEVATION
NORTH FACE
(Not to scale)



NORTHEAST RETAINING WALL - INSIDE ELEVATION
NORTH FACE
(Not to scale)

Notes:

1. Material and installation of washers, base plates, and fabric reinforced elastomeric pads shall be included in the Contract unit price for Chain Link Fence, 4' Attached to Structure.

2 For Details A and B see Sheet S-05 of S-05.

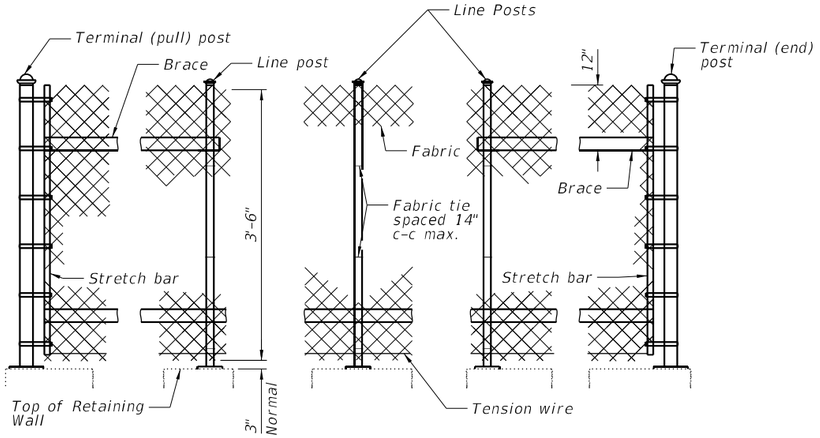
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Chain Link Fence Removal	Foot	347
Chain Link Fence, 4' Attached to Structure	Foot	347

Accurate GROUP, INC.

USER NAME = user	DESIGNED - IH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CHAIN LINK FENCE DETAILS 1 STRUCTURE NO. 016-1669
	CHECKED - MF	REVISED -		
PLOT SCALE =	DRAWN - IH	REVISED -		
PLOT DATE = 06/22/2022	CHECKED - MF	REVISED -		SHEET 67 OF 77 SHEETS

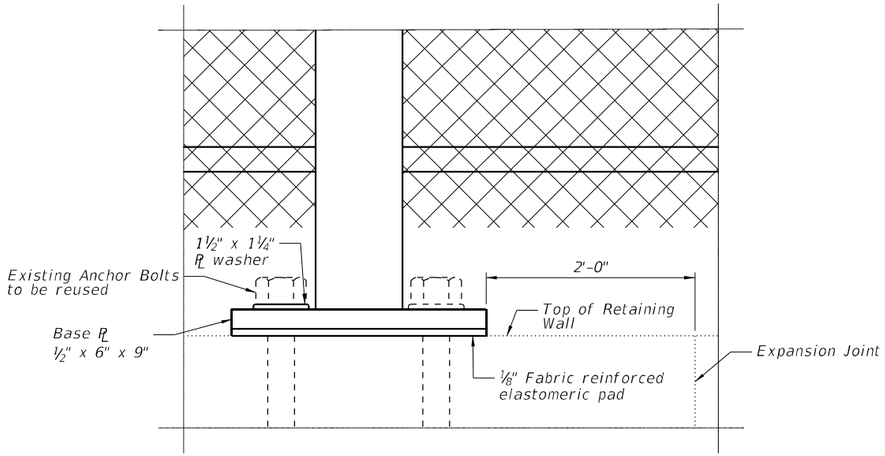
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	242
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			



PULL POST ARRANGEMENT

LINE POST ARRANGEMENT

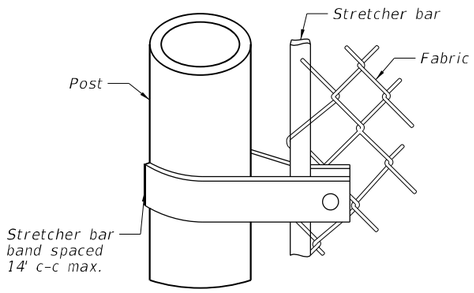
END POST ARRANGEMENT



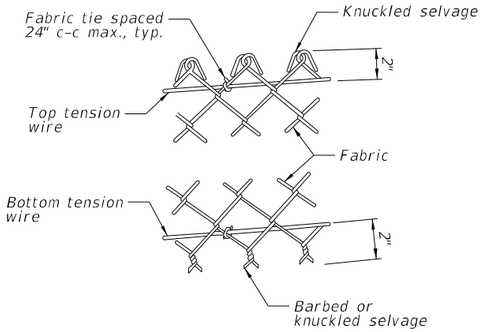
DETAIL A

NOTES:

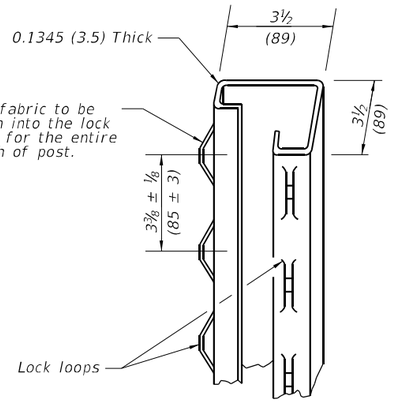
1. Material and installation of washers, base plates, and fabric reinforced elastomeric pads shall be included in the Contract unit price for Chain Link Fence, 4' Attached to Structure.
2. For additional Details, See Hwy. Std. 664001.



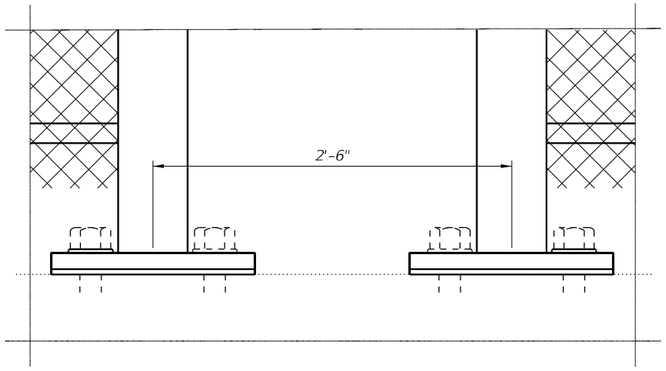
METHOD OF FASTENING STRETCHER BAR TO POST



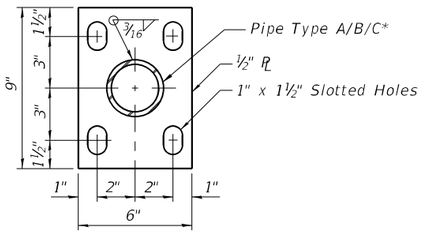
METHOD OF TYING FABRIC TO TENSION WIRES



ROLL FORMED SECTION OF TERMINAL POST

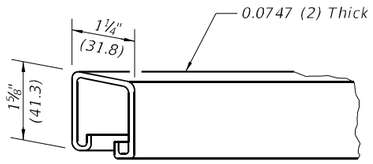


DETAIL B



BASE PL

*Pipe Type and O.D. determined by fencing contractor. See Hwy. Std.



ROLL FORMED SECTION OF BRACE

LINE POST	
Section	lbs./ft.
Pipe Type A 1.90 (48.3) O.D.	2.27
Pipe Type B 1.90 (48.3) O.D.	2.28
Pipe Type C 1.90 (48.3) O.D.	2.26
H 1.875X1.625 (47.6X41.3)	2.72

TERMINAL POST	
Section	lbs./ft.
Pipe Type A 2.375 O.D.	3.65
Pipe Type B 2.375 O.D.	3.11
Pipe Type C 2.375 O.D.	3.09
Roll Formed 3½x3½	See detail
Sq. Tubing 2½x2½	4.32

HORIZONTAL BRACES	
Section	lbs./ft.
Pipe Type A 1.66 O.D.	2.27
Pipe Type B 1.66 O.D.	1.83
Pipe Type C 1.66 O.D.	1.82
H 1.31x1.5	2.25
Roll Formed 1⅝x1¼	See detail

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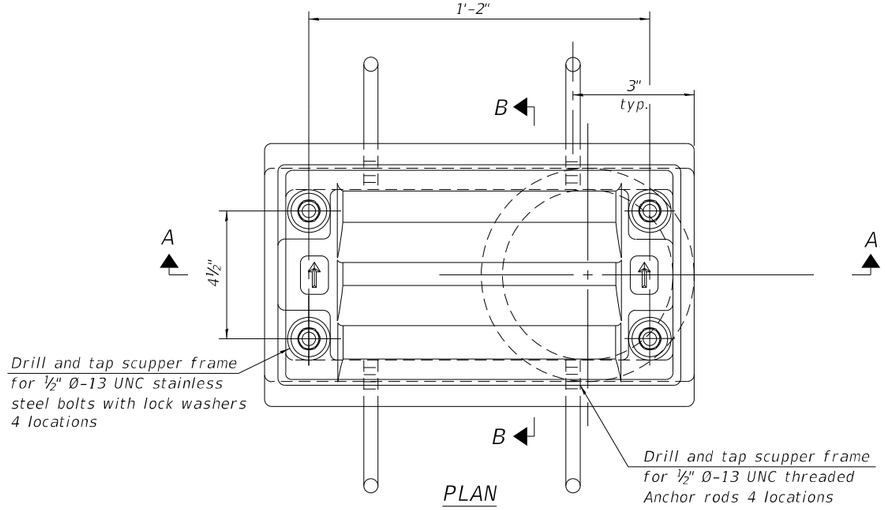
Accurate GROUP, INC.

USER NAME = user		DESIGNED - IH		REVISED -	
		CHECKED - MF		REVISED -	
PLOT SCALE =		DRAWN - IH		REVISED -	
PLOT DATE = 06/22/2022		CHECKED - MF		REVISED -	

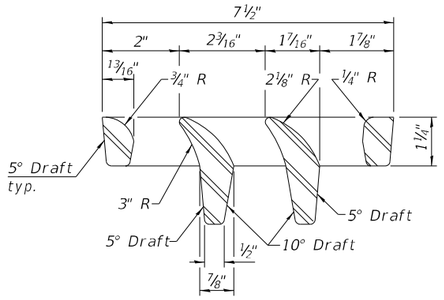
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE DETAILS 2
STRUCTURE NO. 016-1669
SHEET 68 OF 77 SHEETS

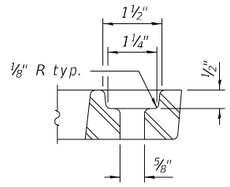
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	243
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XRIF(742)			



PLAN



VANE GRATE DETAIL



GRATE BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.

Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.

Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.

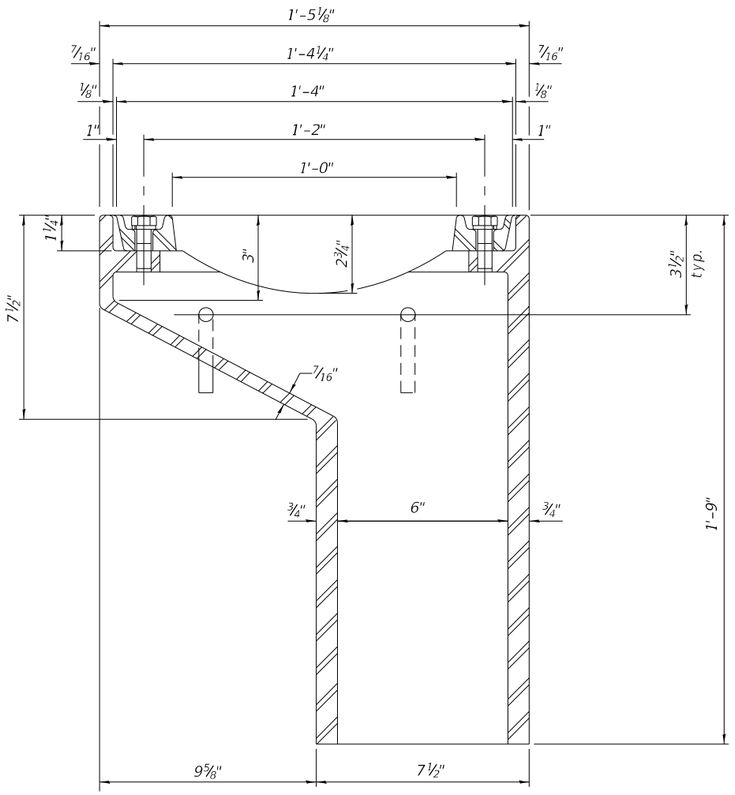
Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.

As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.

Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be treated as specified on sheet 3 of 77.

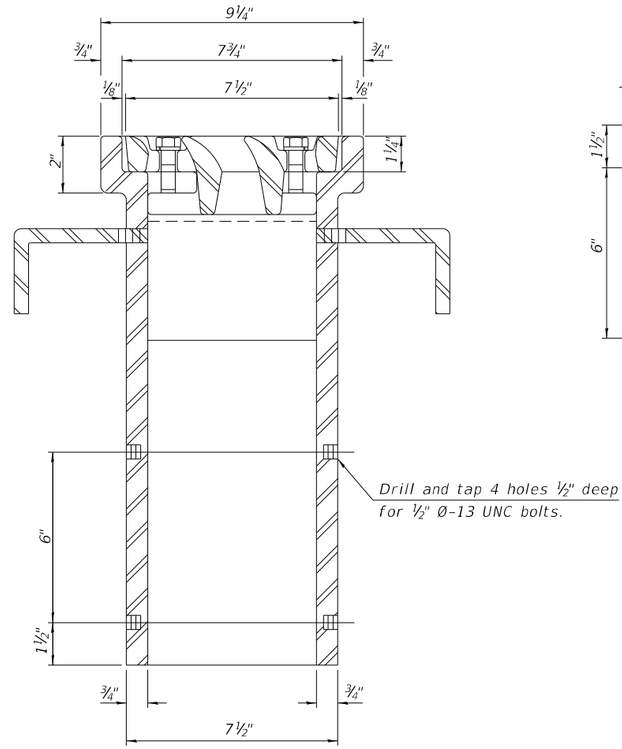
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-11.

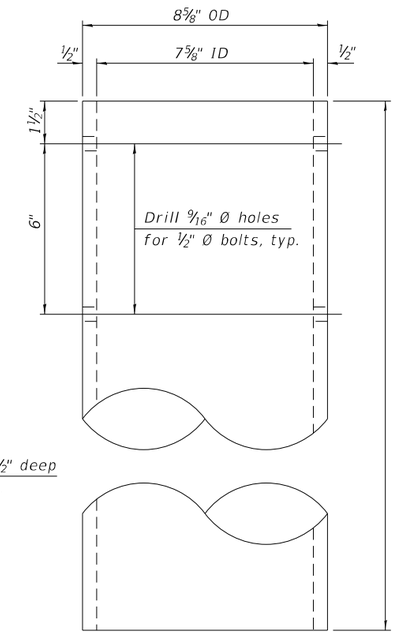


SECTION A-A

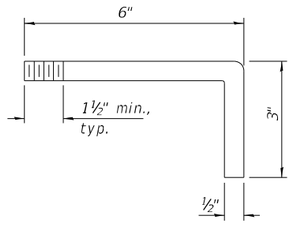
See sheet 18 of 77 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR ROD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	16

DS-11 1-1-2020

HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME =	DESIGNED - JM	REVISED -
	CHECKED - RGB	REVISED -
PLOT SCALE =	DRAWN - JM	REVISED -
PLOT DATE = 03/11/2024	CHECKED - RGB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER DS-11
STRUCTURE NO. 016-1669
SHEET 69 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	244
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		

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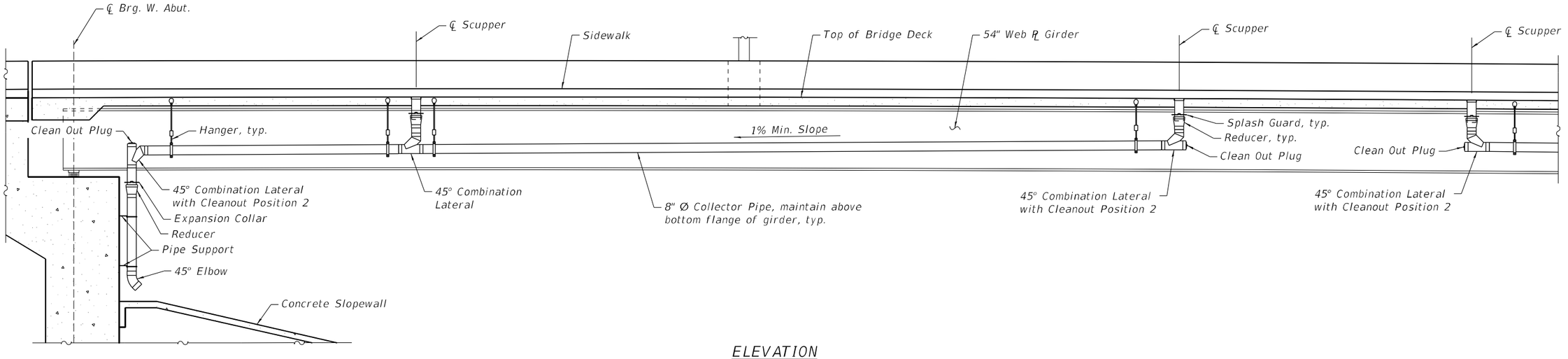
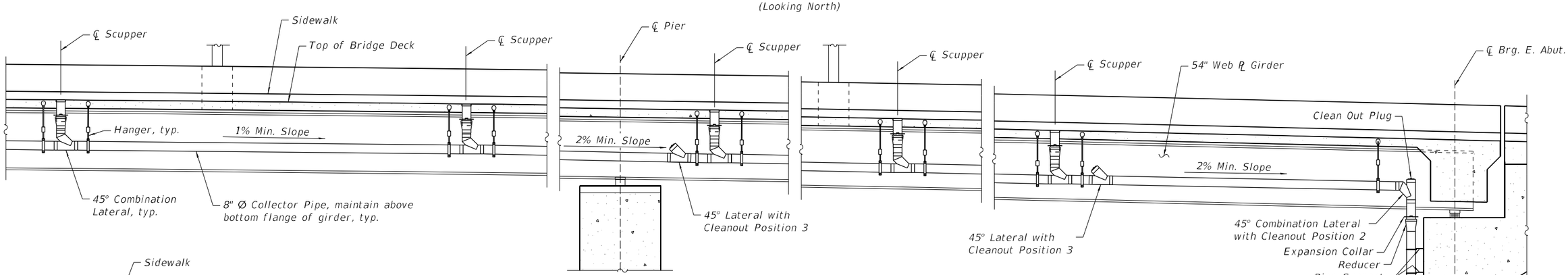
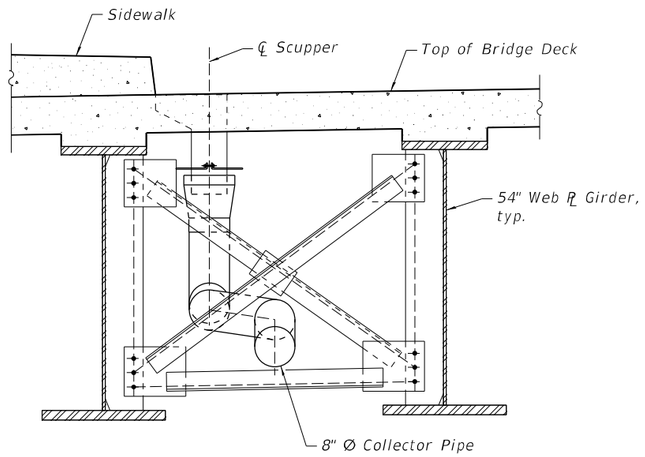


ELEVATION
(Looking North)





TYPICAL SECTION
(Showing drainage pipe route at cross frames)

ELEVATION
(Looking North)
(Details between Girders 2 and 3 shown.
Details between Girders 11 and 12 similar)

SCUPPER LOCATIONS

Station	Offset
10+70.00	29.50' Lt.
11+30.00	29.50' Rt. & Lt.
11+53.00	29.50' Rt. & Lt.
11+80.00	29.50' Rt. & Lt.
12+13.00	29.50' Rt. & Lt.
12+51.00	29.50' Rt. & Lt.
12+93.00	29.50' Rt. & Lt.
13+39.00	29.50' Rt.
13+41.00	29.50' Lt.
13+90.00	29.50' Rt.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage System For Structures	L. Sum	1

Notes:
1. All drain pipes and fittings shall be 8" Ø Reinforced Thermosetting Resin Pipe (RTRP) in accordance with Article 523.02 of the Standard Specifications.
2. All pipe hangers, supports and hardware shall be galvanized by the hot-dip process. The zinc coatings shall confirm to the requirements of AASHTO M232.
3. Pipe hangers/supports shall be provided on all horizontal/vertical pipes at each tee, elbow or change in direction and at intermediate spacings not to exceed those recommended by the manufacturer.
4. Hanger dimensions shall be adjusted in the field by the Engineer to fit existing conditions and to maximize slope.
5. Details shown are schematic only. Contractor to determine required fittings, provisions for expansion/contraction and routing of piping as required to pass through cross frames and maintain minimum slopes.

HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME =	DESIGNED – JM	REVISED –	
	CHECKED – MBQ	REVISED –	
PLOT SCALE =	DRAWN – JM	REVISED –	
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CLOSED DRAINAGE SYSTEM
STRUCTURE NO. 016-1669
SHEET 70 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	245
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)			

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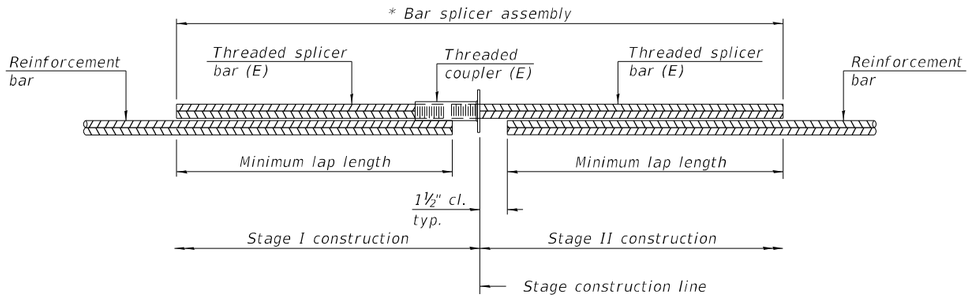


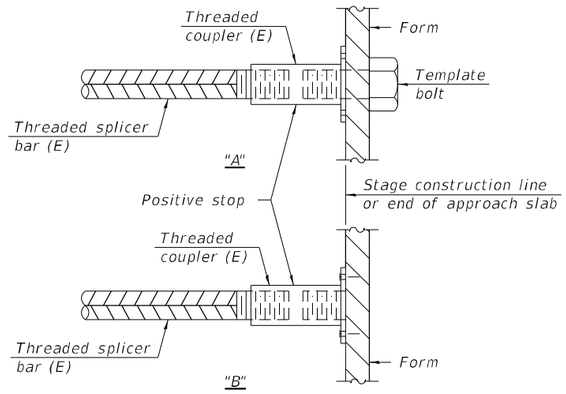
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

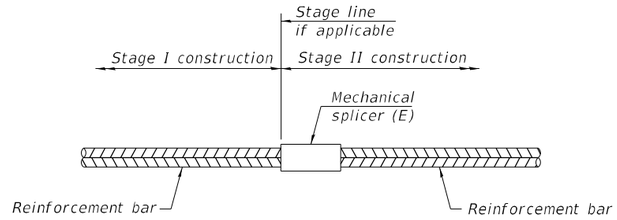
** Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.*

Location	Bar size	No. assemblies required	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
Pier	#10	288

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

BSD-1 1-1-2020

HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME =	DESIGNED – JM	REVISED –
	CHECKED – RGB	REVISED –
PLOT SCALE =	DRAWN – JM	REVISED –
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-1669

SHEET 71 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	246
		CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-X(IF(742)			

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: (630) 953-9928
Fax: (630) 953-9938

BORING LOG B-01

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 605.07 ft
North: 1934169.99 ft
East: 1137008.72 ft
Station: 13+67.56
Offset: 56.4520 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	594.8	3-inch thick ASPHALT --PAVEMENT--						
	594.1	9-inch thick CONCRETE --PAVEMENT--						
	593.6	Tan and gray SANDY GRAVEL; dry --AGGREGATE BASE--						
		Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace to little gravel; damp --RDR 2--	5		1	4 8 7	3.50 P	13
					2	3 3 5	2.62 B	18
					3	6 8 9	2.50 P	12
			10		4	3 6 6	NA	16
					5	5 9 13	5.00 B	14
	582.1	Hard, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel; damp --RDR 2-- --L_L(%)=22, P_I(%)=14-- --%Gravel=4.1-- --%Sand=26.0-- --%Silt=51.6-- --%Clay=18.3-- --A-4 (3)-- --0.5-inch thick, coarse sand lens; wet--	15		6	4 8 10	4.18 B	13
					7	6 10 12	5.33 B	13
			20		8	9 11 13	7.05 B	13

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	574.6	Hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--			9	9 12 14	8.69 B	19
		--silt lenses--	25		10	11 13 15	7.38 B	21
	569.6	Medium dense, gray SILT; saturated --RDR 2--			11	10 13 15		NP 19
			30		12	13 14 12		NP 18
	563.3	Very dense, gray SILTY LOAM to SILTY CLAY LOAM, little gravel; moist --RDR 2--			13	22 26 39		NP 11
	558.3	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel; damp --RDR 2 to 3--	40		14	11 14 16	6.40 B	12

GENERAL NOTES

Begin Drilling: 02-09-2020 Complete Drilling: 02-09-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 25.50 ft
At Completion of Drilling: ▼ Mud in borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: (630) 953-9928
Fax: (630) 953-9938

BORING LOG B-01

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 605.07 ft
North: 1934169.99 ft
East: 1137008.72 ft
Station: 13+67.56
Offset: 56.4520 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	550.8	Very dense, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel; wet to saturated --RDR 2 to 3--	45		15	11 18 33	NR	
		--%Gravel=10.5-- --%Sand=33.4-- --%Silt=52.7-- --%Clay=3.5-- --A-4 (0)--	50		16	26 38 50/5"	NP	9
	543.3	Very dense, gray SILT to SILTY LOAM; moist --RDR 2--	55		17	28 36 35	NP	16
	538.3	Hard, gray SILTY CLAY LOAM, trace gravel and possible cobbles; wet --RDR 2--	60		18	11 17 50/5"	6.23 S	23

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	533.3	Very dense, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel --RDR 2 to 3--	65		19	42 50/2"	NP	16
	529.1	--extremely hard drilling at 66 feet-- --RDR 4-5-- --possible bedrock--			20	50/0"	NR	
	526.1	--dolostone fragments in spoon-- Boring terminated at 69.00 ft	70					
			75					
			80					

GENERAL NOTES

Begin Drilling: 02-09-2020 Complete Drilling: 02-09-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 25.50 ft
At Completion of Drilling: ▼ Mud in borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Wang Engineering
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BORING LOG B-02

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 597.66 ft
North: 1934286.09 ft
East: 1136755.97 ft
Station: 11+15.83
Offset: 61.8315 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	597.3	3-inch thick ASPHALT --PAVEMENT--						
	596.4	12-inch thick CONCRETE --PAVEMENT--						
	595.9	Gray SANDY GRAVEL; dry --AGGREGATE BASE--						
		Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--	5		1	3 6 6	3.44 B	12
					2	9 9 8	4.50 P	14
					3	3 7 8	3.61 B	15
			10		4	4 4 7	3.85 B	15
					5	4 9 12	4.67 B	17
	582.2	Very stiff to hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel; damp --RDR 2-- --L_L(%)=25, P_I(%)=13-- --%Gravel=3.5-- --%Sand=22.0-- --%Silt=54.4-- --%Clay=20.1-- --A-6 (6)--	15		6	4 8 11	5.17 B	17
					7	4 6 8	2.13 B	14
			20		8	7 7 10	4.67 B	13

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--little gravel--			9	9 12 13	5.82 S	13
	574.7	Very stiff to hard, gray SILTY CLAY, trace gravel; damp --RDR 2--	25		10	7 10 16	7.38 B	17
		--Qu: 2.00 P--			11	5 7 12	6.07 B	22
	568.9	Medium dense, gray SILTY LOAM; wet --RDR 2--	30		12	5 7 9	NP	21
	565.9	Medium dense, gray, coarse SAND; saturated --RDR 2--	35		13	5 6 5	NP	28
	560.9	Medium dense to dense, gray SANDY GRAVEL; saturated --RDR 2 to 3--	40		14	7 9 11	NP	20

GENERAL NOTES

Begin Drilling: 02-10-2020 Complete Drilling: 02-10-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 32.00 ft
At Completion of Drilling: ▼ Mud in borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Note:
For location of Soil Boring, see sheet 1 of 77.

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BORING LOG B-02

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 607.66 ft
North: 1934286.09 ft
East: 1136755.97 ft
Station: 11+15.83
Offset: 61.8315 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45		15	10 15 21	NP	10
	550.9	Very dense, gray, Gravelly SILTY LOAM; damp --RDR 3-- --%Gravel=16.7-- --%Sand=29.0-- --%Silt=47.7-- --%Clay=6.6-- --A-4 (0)--	50		16	14 50/4"	NP	11
			55		17	50/5"	NP	15
			60		18	48 50/2"	NP	12
	535.9	Very dense, gray SANDY GRAVEL --WEATHERED BEDROCK-- --RDR 4--	65		19	50/2"	NP	
		--very hard drilling; possible cobbles--	70					
	530.7	Very strong, light bluish gray, fair quality, DOLOSTONE; closely spaced, slightly weathered, horizontal joints, with <0.05 inch opening, slightly rough walls, and no infill. Run 1: 67.0 to 77.0 feet Recovery= 100% RQD = 70% --Q_u= 12,570 psi--	75		20	C O R E		
	520.7	Boring terminated at 77.00 ft	80					

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

GENERAL NOTES

Begin Drilling: 02-10-2020 Complete Drilling: 02-10-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 32.00 ft
At Completion of Drilling: ▼ Mud in borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG B-03

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 610.73 ft
North: 1934194.49 ft
East: 1136690.81 ft
Station: 10+49.87
Offset: 29.2010 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	619.2	6-inch thick ASPHALT --PAVEMENT--						
	618.7	6-inch thick, brown SANDY GRAVEL --AGGREGATE BASE--			1	4 4 4	1.25 P	32
		Stiff, gray and black CLAY LOAM, trace gravel; damp --FILL-- --RDR 2--			2	3 4 5	1.39 B	22
	616.7	Stiff to hard, gray SILTY CLAY, trace gravel; damp --RDR 2--	5		3	2 5 4	1.07 B	22
			10		4	4 7 8	4.59 B	21
					5	5 6 9	3.28 B	19
		--L_L(%)=36, P_I(%)=17-- --%Gravel=4.1-- --%Sand=12.3-- --%Silt=49.0-- --%Clay=34.6-- --A-6 (15)--	15		6	4 6 8	2.54 B	18
					7	3 4 6	2.71 B	18
	601.7	Medium dense, gray SILTY LOAM; wet --RDR 2--	20		8	9 10 13	NP	19

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	599.2	Stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--			9	4 6 8	2.95 B	19
			25		10	7 10 13	2.87 B	16
					11	6 8 8	2.30 B	15
			30		12	5 11 14	3.36 B	16
			35		13	7 11 18	4.67 B	17
			40		14	9 11 15	4.26 B	13

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

GENERAL NOTES

Begin Drilling: 02-17-2020 Complete Drilling: 02-18-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: RR&KG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 49.50 ft
At Completion of Drilling: ▼ DRY
Time After Drilling: 24 hours
Depth to Water: ▼ 50.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG B-03

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 619.73 ft
North: 1934194.49 ft
East: 1136690.81 ft
Station: 10+49.87
Offset: 29.2010 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45		15	10 14 20	8.45 B	16
		--silt lenses; moist--			16	7 13 18	1.56 S	19
	570.2	Gray SILT; wet	50	▼				
	568.0	Very dense, gray SILTY LOAM, trace gravel; damp --RDR 2 to 4--						
			55		17	16 23 31	NP	11
			60		18	20 50/6"	NP	11

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			65		19	13 23 33	NP	11
	553.0	Hard, gray SILTY CLAY LOAM, little gravel; damp --RDR 3 to 4--						
			70		20	20 30 32	4.00 P	17
	548.0	Very dense, gray SILTY LOAM, trace to little gravel and cobbles; moist --RDR 3 to 4--						
			75		21	28 50/6"	NP	15
		--%Gravel=9.8-- --%Sand=22.1-- --%Silt=62.7--	80		22	11 34 50/4"	NP	15

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

GENERAL NOTES

Begin Drilling: 02-17-2020 Complete Drilling: 02-18-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: RR&KG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 49.50 ft
At Completion of Drilling: ▼ DRY
Time After Drilling: 24 hours
Depth to Water: ▼ 50.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Note:
For location of Soil Boring, see sheet 1 of 77.

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BORING LOG B-03

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 610.73 ft
North: 1934194.49 ft
East: 1136690.81 ft
Station: 10+49.87
Offset: 29.2010 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--%Clay=5.3-- --A-4 (0)--						
		--trace dolostone fragments--			23	60/5"		11
	534.7		85					
		Very strong, light bluish gray, poor to good quality, DOLOSTONE; closely spaced, moderately weathered, horizontal, oblique, and vertical joints, with 0.05 - 0.2 inch opening, slightly rough walls, and <0.2 inch thick clay infill. Run 1: 85.0 to 93.0 feet Recovery= 93% RQD = 44% --Q_u= 9,850 psi--	90		24	C C R E		
		Run 2: 93.0 to 100.0 feet Recovery= 100% RQD = 77%	95			C O R E		
	519.7	Boring terminated at 100.00 ft	100					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	02-17-2020	Complete Drilling	02-18-2020	While Drilling	▽ 49.50 ft
Drilling Contractor	Wang Testing Services	Drill Rig	17B57T [91%]	At Completion of Drilling	▼ DRY
Driller	RR&KG	Logger	M. Sadowski	Checked by	C. Marin
Drilling Method	3.25" IDA HSA; autohammer, boring backfilled upon completion			Time After Drilling	24 hours
				Depth to Water	▼ 50.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG B-04

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 610.75 ft
North: 1934250.07 ft
East: 1136620.55 ft
Station: 9+80.10
Offset: 26.9851 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	610.5	3-inch thick ASPHALT --PAVEMENT--						
	610.5	12-inch thick CONCRETE with rebars --PAVEMENT--						
	610.0	Brown SANDY GRAVEL --AGGREGATE BASE--			1	2 3 4	1.39 B	17
		Stiff to very stiff, black, brown and gray SILTY CLAY LOAM to CLAY LOAM, trace gravel; damp --FILL-- --RDR 2--	5		2	4 4 6	3.61 B	19
					3	3 4 4	3.69 S	14
	611.8	Very stiff to hard, brown to gray SILTY CLAY to SILTY CLAYLOAM, trace gravel, damp --RDR 2 - 3--	10		4	4 7 8	4.02 B	20
					5	4 11 11	3.69 B	17
		--L_L(%)=34, P_L(%)=16-- --%Gravel=2.4-- --%Sand=12.4-- --%Silt=49.0-- --%Clay=35.1-- --A-6 (14)--	15		6	3 5 6	3.28 B	19
					7	3 4 5	2.62 B	20
			20		8	3 4 5	2.71 B	20
			25		9	3 4 6	3.12 B	18
					10	4 6 7	3.03 B	16
					11	4 6 9	2.71 B	16
			30		12	3 5 8	3.61 B	17
			35		13	5 7 11	3.77 B	18
			40		14	5 7 9	3.05 B	14

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	03-02-2020	Complete Drilling	03-02-2020	While Drilling	▽ 54.50 ft
Drilling Contractor	Wang Testing Services	Drill Rig	17B57T [91%]	At Completion of Drilling	▼ Mud in borehole
Driller	RR&NC	Logger	M. Sadowski	Checked by	C. Marin
Drilling Method	2.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion			Time After Drilling	NA
				Depth to Water	▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG B-04

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 619.75 ft
North: 1934250.07 ft
East: 1136620.55 ft
Station: 9+80.10
Offset: 26.9851 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--%Clay=7.7-- --A-4 (0)--						
		--RDR 3--	45		15	7 9 13	8.28 S	17
	553.0	Hard, gray SILTY CLAY LOAM, little gravel --RDR 2 to 3--	50		16	7 10 10	4.18 S	18
	548.0	Very dense, gray SILTY LOAM, trace to little gravel and cobbles; moist to wet --RDR 3--						
	565.3	Very dense, gray, fine to coarse GRAVEL; saturated --RDR 3--	55		17	14 38 36	NP	15
	563.0	--rig chatter; possible cobbles-- Dense to very dense, gray SILT to SILTY LOAM, trace gravel; damp --RDR 3-- --%Gravel=1.8-- --%Sand=11.7-- --%Silt=78.8--	60		18	22 32 36	NP	18
			65		19	16 21 28	NP	11
			70		20	13 21 20	> 4.50 P	14
			75		21	32 45 50/5"	NP	14
			80		22	50/4"	NP	18

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	03-02-2020	Complete Drilling	03-02-2020	While Drilling	▽ 54.50 ft
Drilling Contractor	Wang Testing Services	Drill Rig	17B57T [91%]	At Completion of Drilling	▼ Mud in borehole
Driller	RR&NC	Logger	M. Sadowski	Checked by	C. Marin
Drilling Method	2.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion			Time After Drilling	NA
				Depth to Water	▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Note:
For location of Soil Boring, see sheet 1 of 77.

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BORING LOG B-04

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 619.75 ft
North: 1934250.07 ft
East: 1136620.55 ft
Station: 9+80.10
Offset: 26.9851 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--hard drilling; possible cobbles-- --slow auger advancement-- --possible bedrock at 83 feet--						
	536.8	Boring terminated at 83.00 ft	85 90 95 100					

GENERAL NOTES

Begin Drilling: 03-02-2020 Complete Drilling: 03-02-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: RR&NC Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 2.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 54.50 ft
At Completion of Drilling: Mud in borehole
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG B-05/ PC-12

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 614.47 ft
North: 1934198.40 ft
East: 1137138.64 ft
Station: 14+97.72
Offset: 29.1677 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	614.2	3-inch thick ASPHALT --PAVEMENT--						
	613.4	9.5-inch thick CONCRETE --PAVEMENT--						
	612.0	6-inch thick, brown SANDY GRAVEL --AGGREGATE BASE--						
		Stiff to hard, gray, brown and black SILTY CLAY LOAM to CLAY LOAM, trace gravel; damp --FILL-- --RDR 2--	5	1	3 4 5	4.02 B	19	
				2	5 1 2	1.23 B	21	
				3	2 3 1	1.80 B	22	
	607.0	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--	10	4	1 4 5	2.07 B	10	
				5	6 3 5	3.28 B	19	
		--L_L(%)=36, P_I(%)=18-- --%Gravel=3.6-- --%Sand=12.4-- --%Silt=49.0-- --%Clay=35.1-- --A-6 (14)--	15	6	2 5 5	2.95 B	20	
				7	3 4 6	2.62 B	21	
			20	8	4 5 9	3.20 B	21	
			25	9	5 8 9	4.84 B	17	
				10	4 6 9	4.10 B	17	
				11	4 7 9	3.28 B	16	
	582.7	Hard, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel; damp --RDR 2--	30	12	5 8 12	5.41 B	16	
			35	13	5 17 12	4.59 B	13	
		Very stiff to hard, gray SILTY CLAY, trace gravel; damp --RDR 2--						
			40	14	9 15 15	9.10 B	17	

GENERAL NOTES

Begin Drilling: 03-01-2020 Complete Drilling: 03-01-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: RR&NC Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 2.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: not observed
At Completion of Drilling: Mud in borehole
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

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BORING LOG B-05/ PC-12

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 614.47 ft
North: 1934108.40 ft
East: 1137138.64 ft
Station: 14+97.72
Offset: 29.1677 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--rig chatter; hard drilling--						
	552.7	Hard, gray SILTY CLAY LOAM, trace gravel; damp --RDR 3 to 4--						
		--L_L(%)=27, P_I(%)=17-- --%Gravel=1.6-- --%Sand=9.6-- --%Silt=64.1-- %Clay=24.7 --A-4 (7)--	45	15	5 6 8	2.38 B	22	
	547.7	Very dense, gray SILTY LOAM to SILTY CLAY LOAM, little to some gravel; damp --RDR 3 to 4--		19	11 16 21	6.07 S	18	
			50	16	16 24 25	NP	11	
			55	17	18 25 36	NP	12	
			60	18	10 10 21	NP	12	
			75	20	39 51/6"	NP	10	
				21	38 56/6"	NP	11	
		--dolostone fragments--	80	22	50/2"	NP		

GENERAL NOTES

Begin Drilling: 03-01-2020 Complete Drilling: 03-01-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: RR&NC Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 2.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: not observed
At Completion of Drilling: Mud in borehole
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Note:
For location of Soil Boring, see sheet 1 of 77.

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BORING LOG B-05/ PC-12

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 614.47 ft
North: 1934198.40 ft
East: 1137138.64 ft
Station: 14+97.72
Offset: 29.1677 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	532.5	--slow auger advancement-- --possible bedrock at 82 feet-- Boring terminated at 82.00 ft	85 90 95 100					

GENERAL NOTES

Begin Drilling: 03-01-2020 Complete Drilling: 03-01-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: RR&NC Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 2.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: not observed
At Completion of Drilling: Mud in borehole
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: (630) 953-9928
Fax: (630) 953-9938

BORING LOG B-06/TS-01/PC-11

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 615.90 ft
North: 1934275.35 ft
East: 1137027.48 ft
Station: 13+87.23
Offset: 48.7386 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	615.4	6.5-inch thick ASPHALT --PAVEMENT--						
	614.7	8-inch thick CONCRETE --PAVEMENT--						
	614.2	6-inch thick, gray SANDY GRAVEL --AGGREGATE BASE--			1	5 6 6 6	NP	6
		Loose to medium dense, brown SAND, little to some gravel; damp --FILL-- --RDR 2--	5		2	4 4 4 3	NP	6
	609.4	Very stiff to hard, gray SILTY CLAY LOAM, trace gavel; damp --RDR 2--			3	2 2 5 5	6.40 B	18
		--L_L(%)=31, P_L(%)=17-- --%Gravel=2.7-- --%Sand=12.6-- --%Silt=57.3-- --%Clay=27.4-- --A-6 (11)--			4	4 6 6 7	2.79 B	18
	605.4	Medium dense, gray SILTY LOAM, trace gravel; damp --RDR 2--			5	5 8 9	NP	13
	601.9	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--	15 20		6 7 8	5 5 5 4 5 6 5 5 6	3.44 B 2.38 B 2.50 P	19 19 21
			25 30 35 40		9 10 11 12 13 14	5 7 9 6 6 10 5 5 8 5 8 11 8 7 10 5 9 11	NR 3.28 B 2.95 B 4.76 B 4.43 B 7.13 B	17 17 17 14 16

GENERAL NOTES

Begin Drilling: 02-11-2020 Complete Drilling: 02-11-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 42.00 ft
At Completion of Drilling: Mud in borehole
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Wang Engineering
wangeng@wangeng.com
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Lombard, IL 60148
Telephone: (630) 953-9928
Fax: (630) 953-9938

BORING LOG B-06/TS-01/PC-11

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 615.90 ft
North: 1934275.35 ft
East: 1137027.48 ft
Station: 13+87.23
Offset: 48.7386 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	574.2	Very dense, gray SILT to SILTY LOAM; wet --RDR 2--	45		15	23 25 39	NP	16
	569.2	Dense to very dense, gray SILTY LOAM to SILTY CLAY LOAM, trace to little gravel, damp --RDR 2 to 3--	50		16	20 21 28	NP	11
		--L_L(%)=24, P_L(%)=15-- --%Gravel=4.6-- --%Sand=20.6-- --%Silt=56.8-- --%Clay=17.9-- --A-4 (4)--	65		19	13 21 31	NP	12
		--hard drilling; possible cobbles-- --RDR 3 to 4--	70		20	39 50/5"	NP	11
			75		21	50/4"	NP	10
	539.2	Very dense, gray SANDY GRAVEL; saturated --RDR 3 to 5--	80		22	50/2"	NP	21
			55 60		17 18	18 20 29 13 29 39	NP NP	10 13

GENERAL NOTES

Begin Drilling: 02-11-2020 Complete Drilling: 02-11-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 42.00 ft
At Completion of Drilling: Mud in borehole
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7511401.GPJ WANGENG.GDT 9/22/20

Note:
For location of Soil Boring, see sheet 1 of 77.

Wang Engineering
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1145 N Main Street
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Telephone: (630) 953-9928
Fax: (630) 953-9938

BORING LOG B-06/TS-01/PC-11

WEI Job No.: 751-14-01

Client: HDR Engineering, Inc.
Project: Foster Ave at I-90 SN 016-1669
Location: E1/2, SEC. 8, TWP: 40N, RNG: 13E, 3rd PM

Datum: NGVD
Elevation: 615.90 ft
North: 1934275.35 ft
East: 1137027.48 ft
Station: 13+87.23
Offset: 48.7386 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--hard and slow drilling; weathered bedrock--						
	631.0	Very strong, light bluish gray, fair to good quality, DOLOSTONE; closely spaced, slightly weathered, horizontal joints, with <0.05 inch opening, slightly rough walls, and <0.2 inch thick sand infill. Run 1: 84.0 to 94.0 feet Recovery= 98% RQD = 60% --Q_u= 9,350 psi--	85	CORE	23			
			90					
		Run 2: 94.0 to 99.0 feet Recovery= 100% RQD = 85%	95	CORE	24			
	516.9	Boring terminated at 99.00 ft	100					

GENERAL NOTES

Begin Drilling: 02-11-2020 Complete Drilling: 02-11-2020
Drilling Contractor: Wang Testing Services Drill Rig: 17B57T [91%]
Driller: NC&AG Logger: M. Sadowski Checked by: C. Marin
Drilling Method: 3.25" IDA HSA to 10'; mud rotary thereafter; autohammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 42.00 ft
At Completion of Drilling: ▼ Mud in borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 7514401.GPJ WANGENG.GDT 3/2020

Note:
For location of Soil Boring, see sheet 1 of 77.

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME =	DESIGNED – JM	REVISED –
	CHECKED – RGB	REVISED –
PLOT SCALE =	DRAWN – JM	REVISED –
PLOT DATE = 03/11/2024	CHECKED – RGB	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS (6 OF 6)
STRUCTURE NO. 016-1669
SHEET 77 OF 77 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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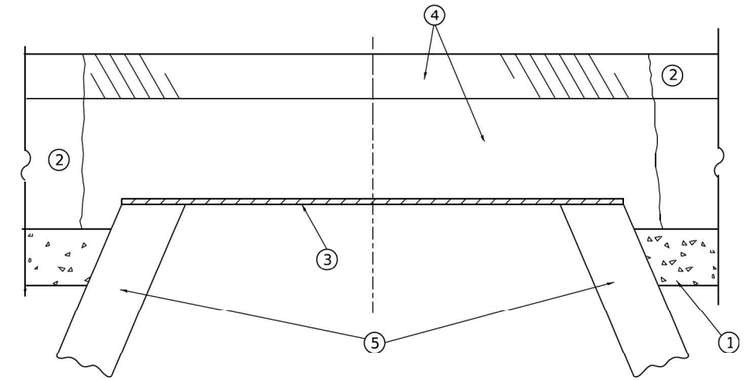
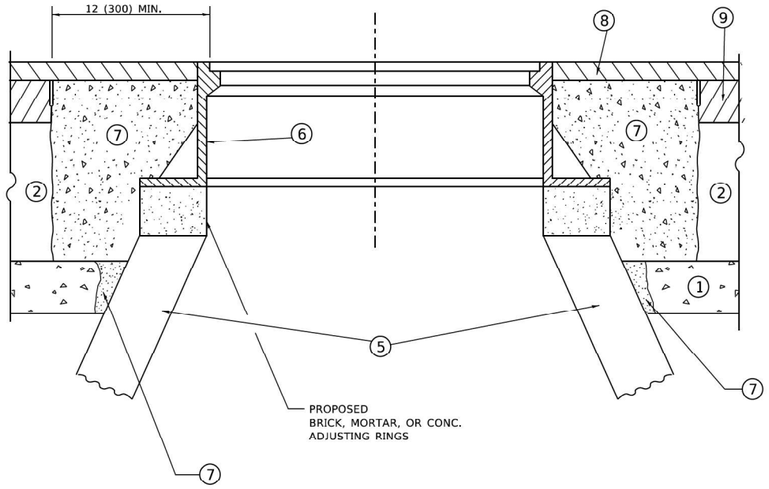
		CONTRACT NO. 62123		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		





DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

NOTES

1. EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

2. IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

3. CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

4. THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

5. THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES BY THE END OF EACH WORK SHIFT.

CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.

B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.

C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.

D) BACKFILL WITH CRUSHED STONE AND HMA SURFACE MIX APPROVED BY THE ENGINEER. (MIN. 3 (80) HMA TO REMAIN AFTER MILLING).

STAGE 2 (AFTER PAVEMENT MILLING)

A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.

B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.

C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-2* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

*UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

1. SUB-BASE GRANULAR MATERIAL
2. EXISTING PAVEMENT
3. 36 (900) DIAMETER METAL PLATE
4. PROPOSED CRUSHED STONE AND HMA SURFACE MIX
5. EXISTING STRUCTURE
6. FRAME AND LID (SEE NOTES)
7. CLASS PP-2* CONCRETE
8. PROPOSED HMA SURFACE COURSE
9. PROPOSED HMA BINDER COURSE

LOCATION OF STRUCTURES

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT

1. REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

2. THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

3. NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

4. WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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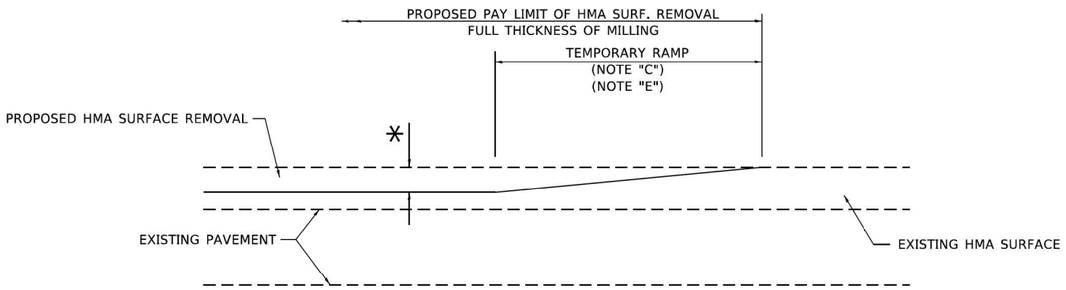
	DRAWN -	REVISED - R. BORO 12-06-11	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - K. SMITH 11-18-22	
PLOT DATE = 9/15/2023	DATE - 10-25-94	REVISED - K. SMITH 09-15-23	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

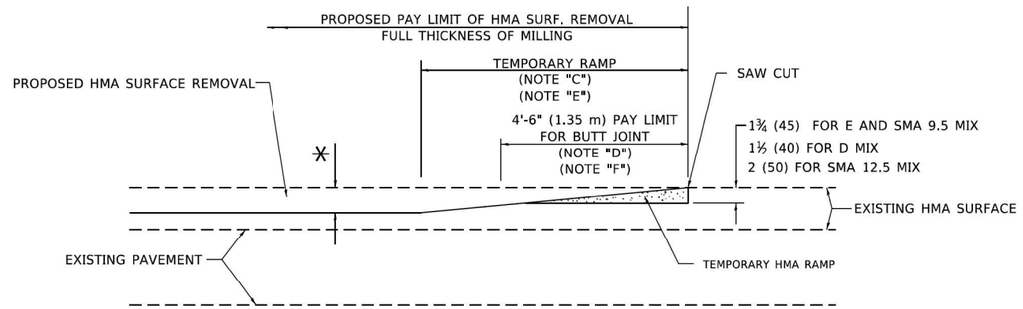
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	253
	BD600-03 (BD-08)	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

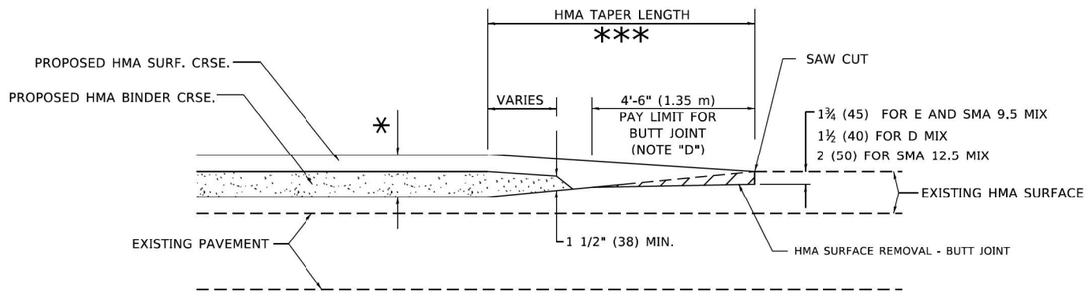


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

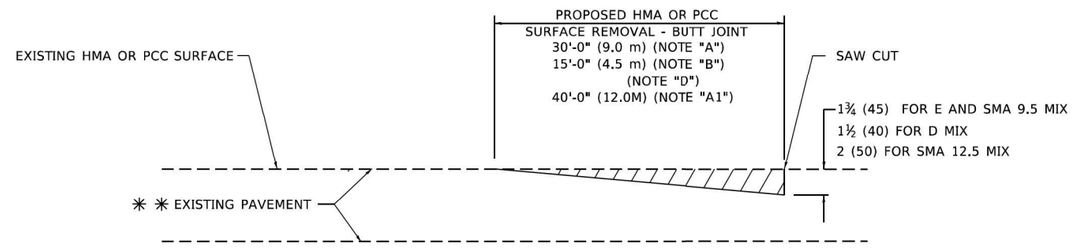
OPTION 2

TYPICAL TEMPORARY RAMP

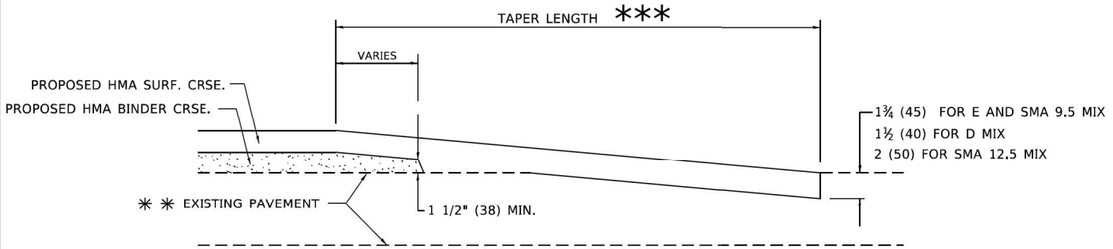


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

GENERAL NOTES

A. MAINLINE ARTERIAL ROADWAYS AND MAJOR SIDE ROADS.

A1. INTERSTATES

B. MINOR SIDE ROADS.

C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.

D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.

E. TAPER THE TEMP. RAMP AT A RATE OF 3' - 4" (1.02m) PER 1 INCH (25 mm) OF MILLING THICKNESS.

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

F. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT

1. THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

2. THE TEMPORARY RAMP AND SAW CUT SHALL BE INCLUDED IN THE UNIT COST FOR HMA OR PCC SURFACE REMOVAL-BUTT JOINT.

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

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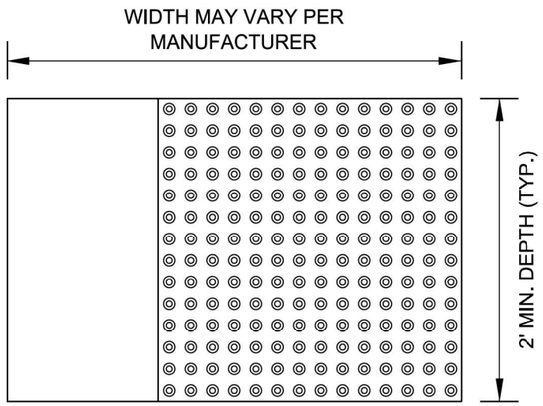
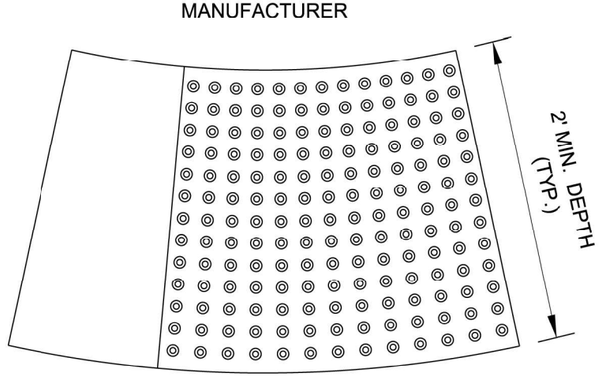
USER NAME = Lawrence,DeManche	DESIGNED - M. DE YONG	REVISED - A. ABBAS 03-21-97	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BUTT JOINT AND HMA TAPER DETAILS**	
	DRAWN -	REVISED - M. GOMEZ 04-06-01			
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET 1 OF 1 SHEETS STA. TO STA.
PLOT DATE = 11/18/2022	DATE - 06-13-90	REVISED - K. SMITH 11-18-22			

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	254
	BD400-05 BD-32	CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-4A2N(881)			

STRAIGHT DETECTABLE WARNING UNITS



RADIAL DETECTABLE WARNING UNITS

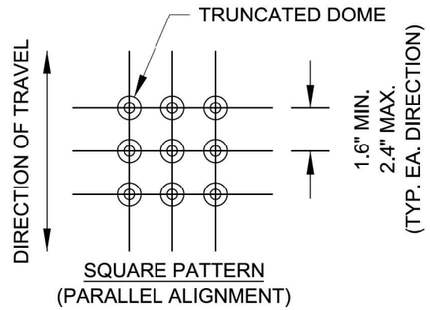


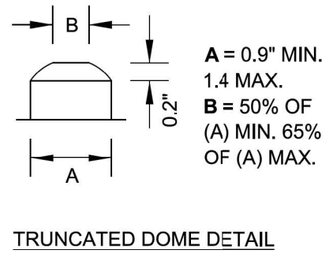
DETECTABLE WARNING UNIT SIZES

- VERIFY ALL DIMENSIONS WITH THE PRODUCT MANUFACTURER.

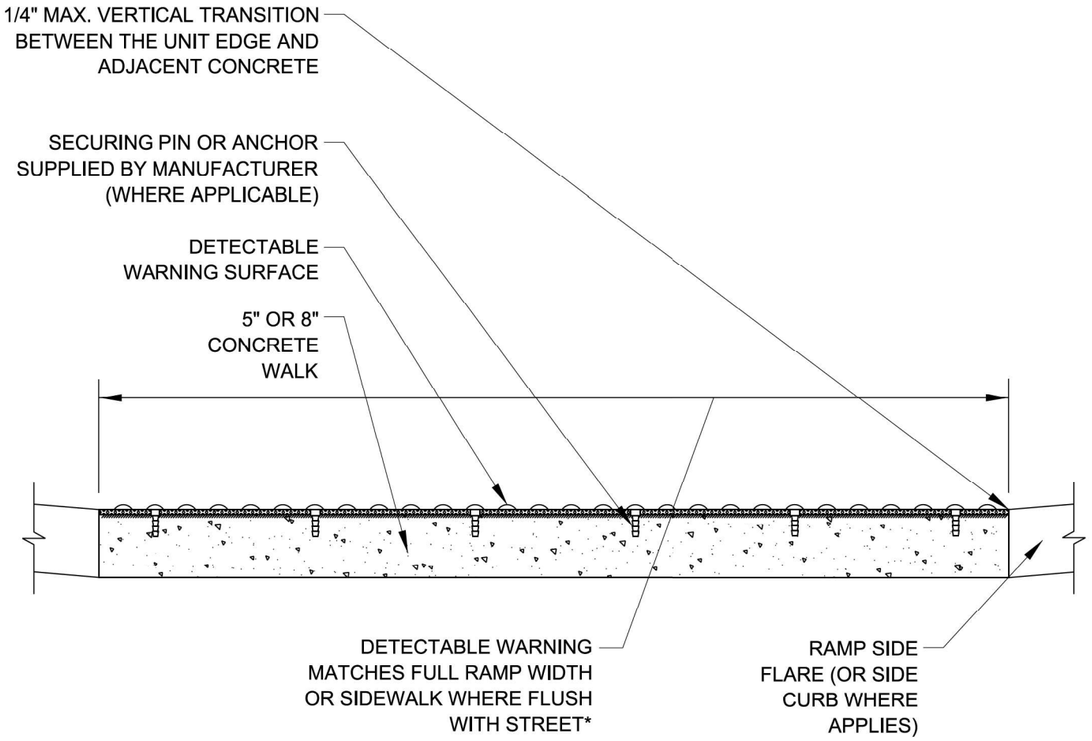
- IF USING RADIAL UNITS, VERIFY THAT THE CURB RADIUS MATCHES AVAILABLE UNIT RADII WITH THE PRODUCT MANUFACTURER.

GENERAL NOTE:
THE ROWS OF DOMES IN THE DETECTABLE WARNING MATERIAL MUST BE ALIGNED WITH THE PATH OF WHEELCHAIR TRAVEL WHICH IS REQUIRED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BOTTOM OF THE RAMP TO PERMIT TRACKING BETWEEN DOME ROWS. ON BLENDED TRANSITIONS OR FLUSH TRANSITIONS, WHERE RADIAL UNITS ARE SITUATED ABOUT THE CURB RADIUS, DOME ORIENTATION IS NOT SIGNIFICANT.





UNIT PATTERN & DOME DETAIL



*A BORDER OF 2 INCHES OR LESS AROUND THE DETECTABLE WARNING SURFACE IS ACCEPTABLE IF REQUIRED FOR PROPER INSTALLATION OF THE DETECTABLE WARNING SURFACE PRODUCT

DETECTABLE WARNING UNIT SECTION

MODEL: Default
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	DRAWN -	REVISED -	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED -	
PLOT DATE = 10/8/2019	DATE - 06-20-2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF CHICAGO
DETECTABLE WARNINGS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	255
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	ILLINOIS FED. AID PROJECT NO. NHPP-4A2N(881)			

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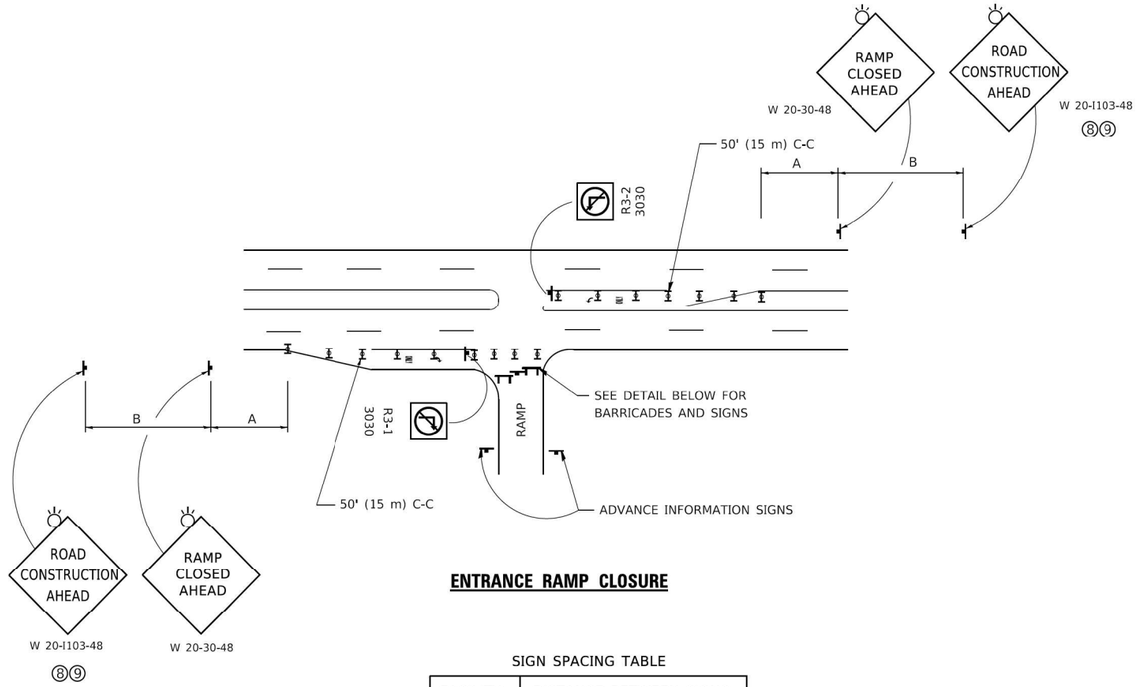
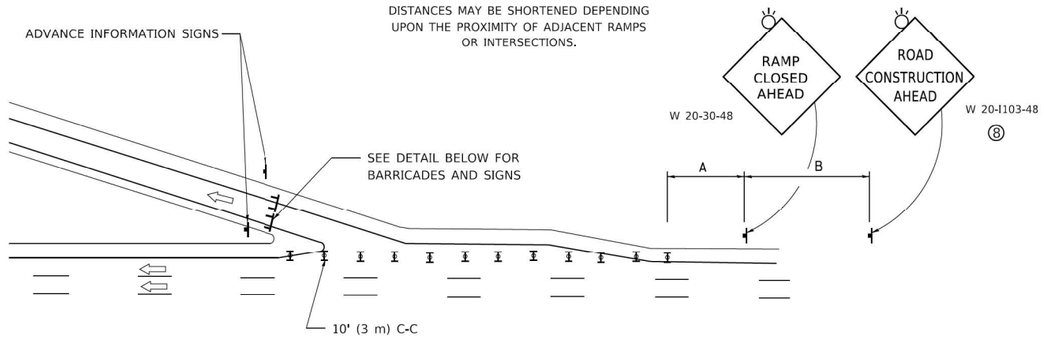


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.

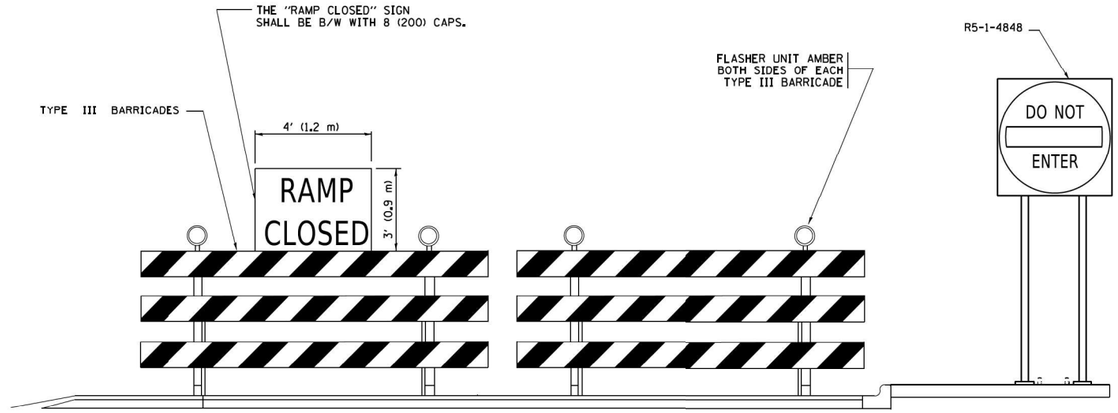


EXIT RAMP CLOSURE

SYMBOLS

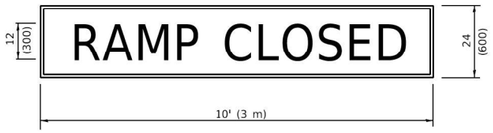
TYPE II BARRICADE OR DRUM

TYPE III BARRICADE WITH 2 FLASHING LIGHTS



DETAIL FOR REQUIRED BARRICADES & SIGNS

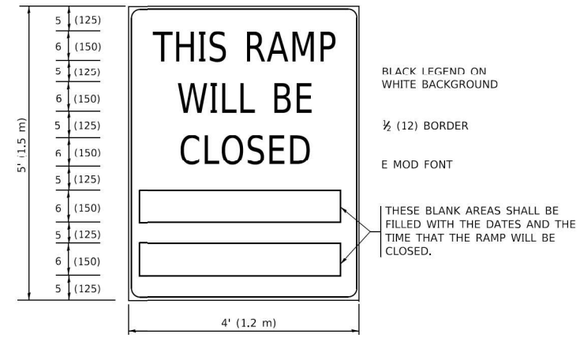
RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE BACKGROUND

½ (12) BORDER

E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

GENERAL NOTES:

1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
2. VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEEDED BY A W20-7 FLAGGER WARNING SIGN.
4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
5. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
7. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH
8. ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
9. ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

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

USER NAME = footemj	DESIGNED - D.W.S.	REVISED - S.P.B._01-07	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ENTRANCE_AND_EXIT_RAMP CLOSURE_DETAILS	
	DRAWN -	REVISED - S.P.B._12-09			
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - M.D._06-13			
PLOT DATE = 3/4/2019	DATE - 02-83	REVISED - M.D._01-18		SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.	

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	256
	TC-08	CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-4A2N(881)			

MODEL: Default
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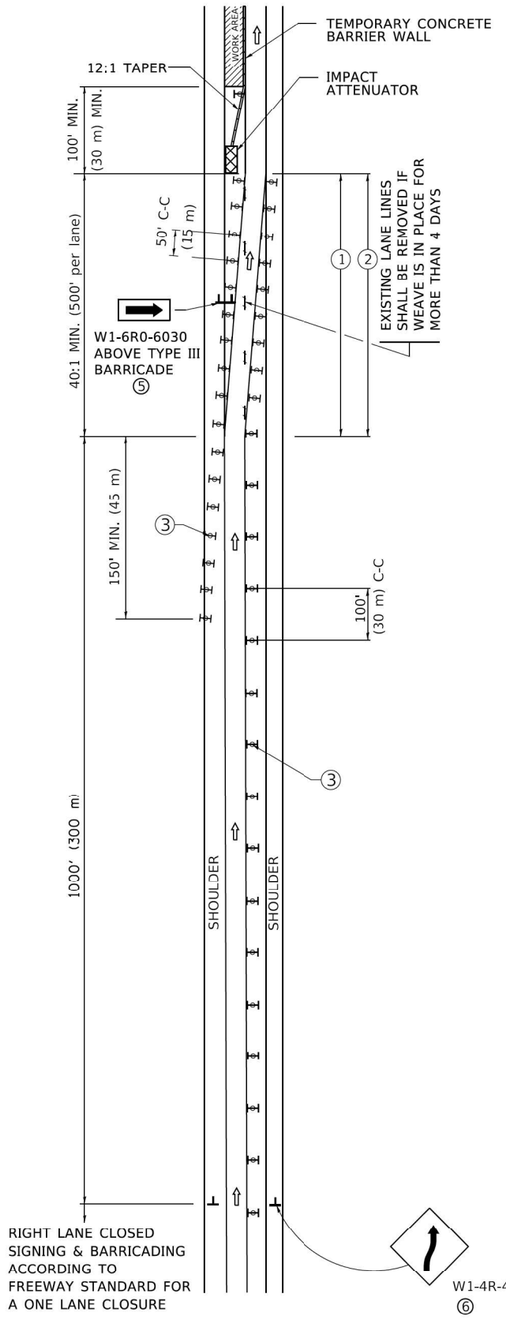
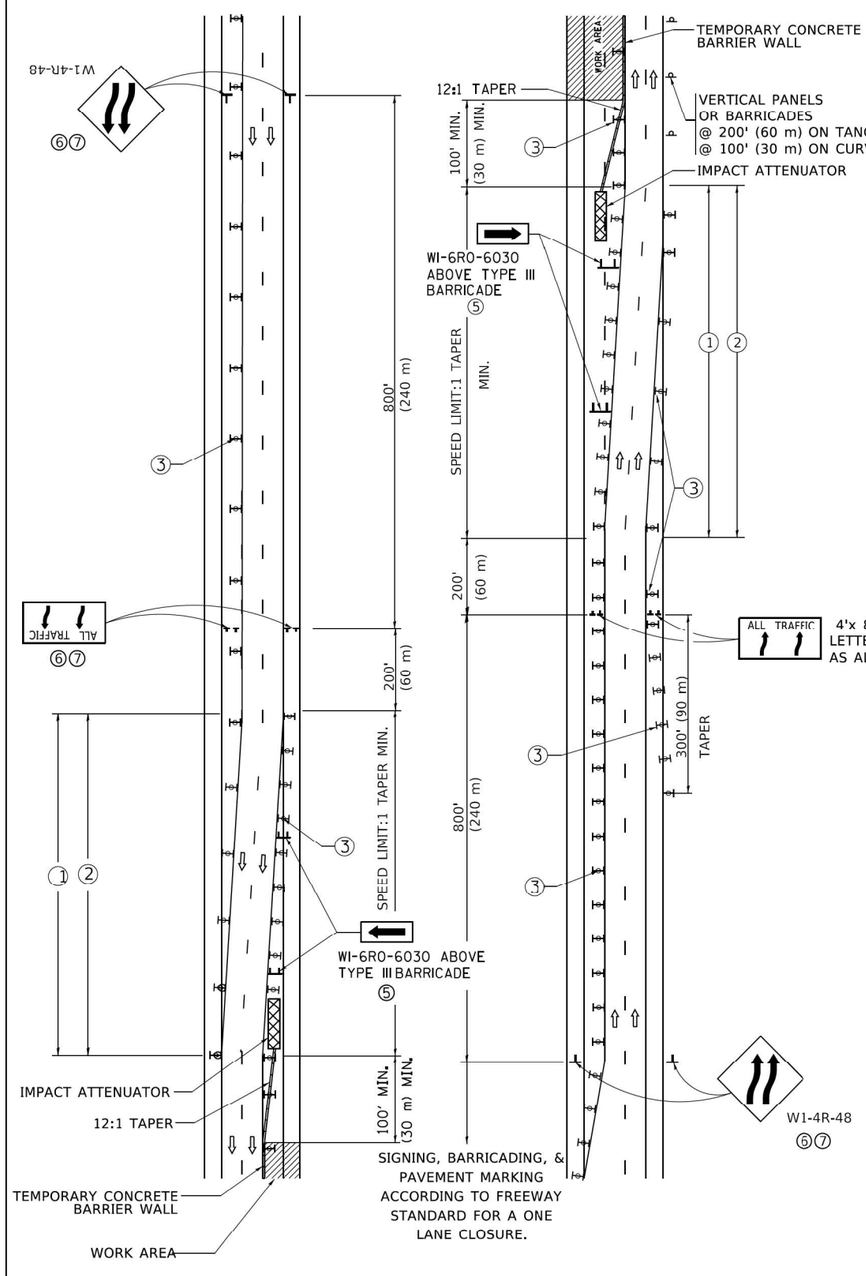
tc08.dgn 3/4/2019 10:22:32 AM lisa.footemj

SINGLE LANE WEAVE



MULTI–LANE WEAVE



ALL TRAFFIC — 4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

GENERAL NOTES:

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

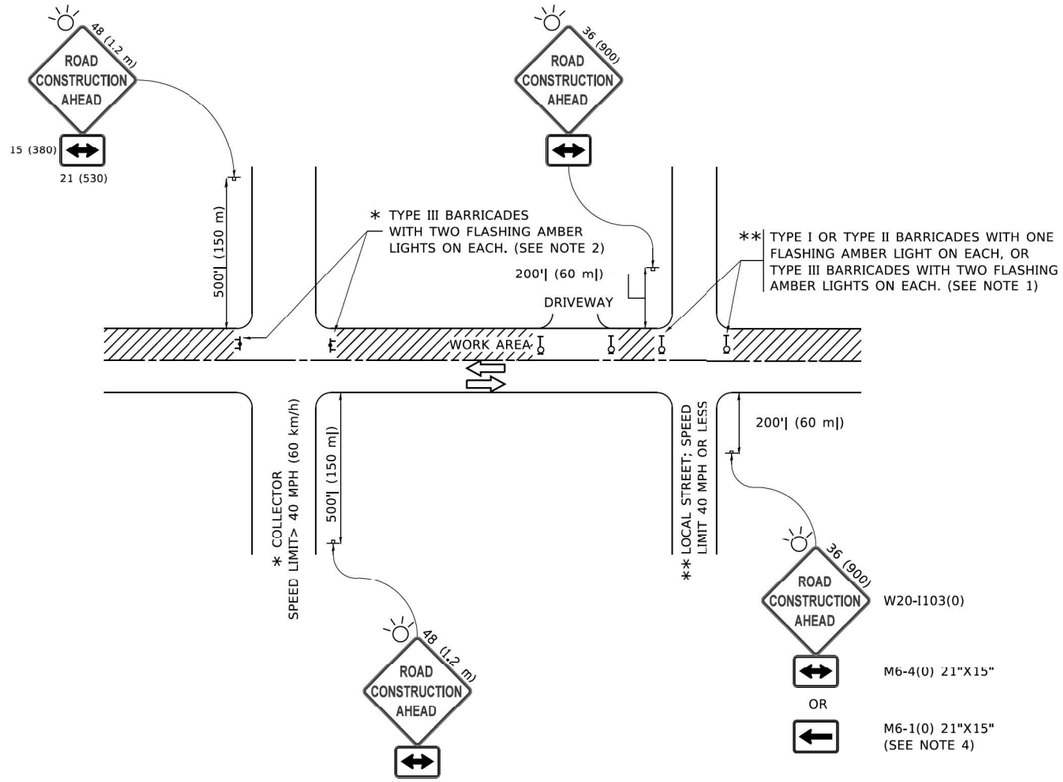
- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

USER NAME = footemj	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI–LANE WEAVE**	F.A.I RTE. 90 / SECTION 2019-045-BR&T / COUNTY COOK / TOTAL SHEETS 280 / SHEET NO. 257
	DRAWN -	REVISED - S.P.B. 01-07			CONTRACT NO. 62J23
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - S.P.B. 12-09		SCALE: NONE / SHEET 1 OF 1 SHEETS / STA. / TO STA.	ILLINOIS / FED. AID PROJECT NO. NHPP-4A2N(881)
PLOT DATE = 3/4/2019	DATE - 02-87	REVISED - M.D. 06-13			TC-09

MODE:: Default
FILE NAME: pw:\\IL084EBIDNTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 1\Projects\Dist5\d22x34\CADData\CADSheets\tc05.dgn

tc09.dgn 3/4/2019 10:24:46 AM User:footemj



NOTES:

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
   a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
   a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

USER NAME = footemj	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96	
	DRAWN -	REVISED - T. RAMMACHER 01-06-00	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED - A. SCHUETZE 07-01-13	
PLOT DATE = 3/4/2019	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	258
	TC-10	CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-4A2N(881)			

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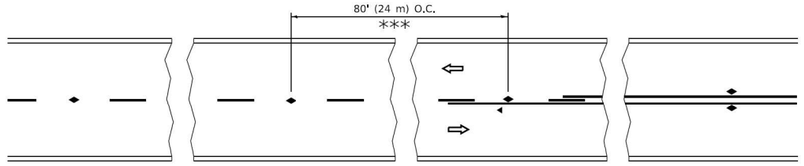
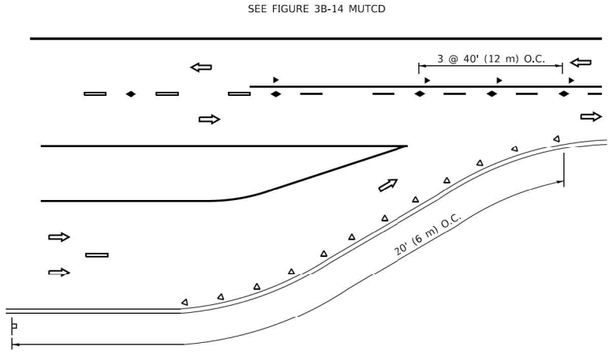
tc10.dgn 3/4/2019 10:27:07 AM User:footemj



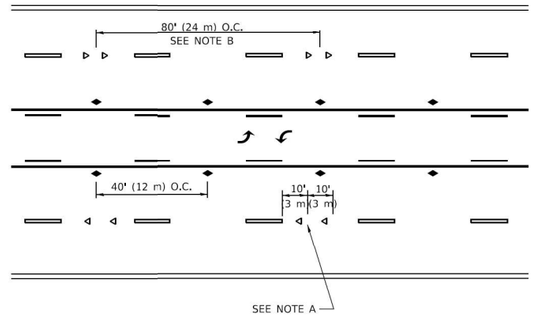
*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

TWO–LANE/TWO–WAY

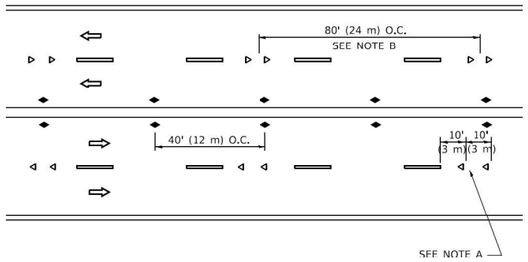
SEE FIGURE 3B-14 MUTCD



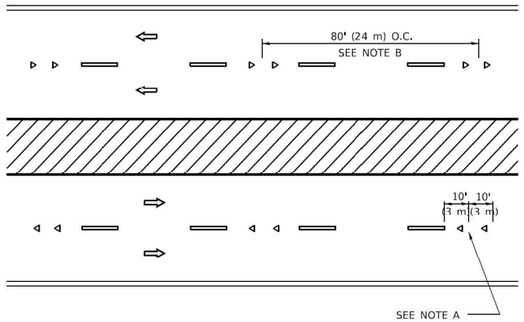
LANE REDUCTION TRANSITION



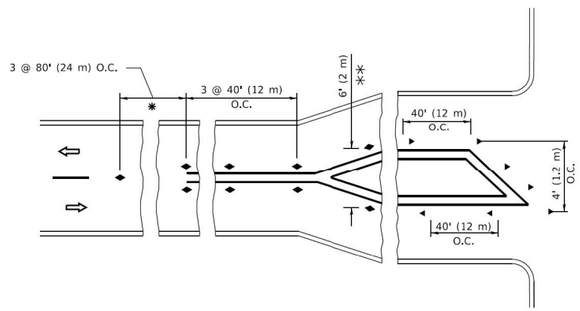
TWO–WAY LEFT TURN

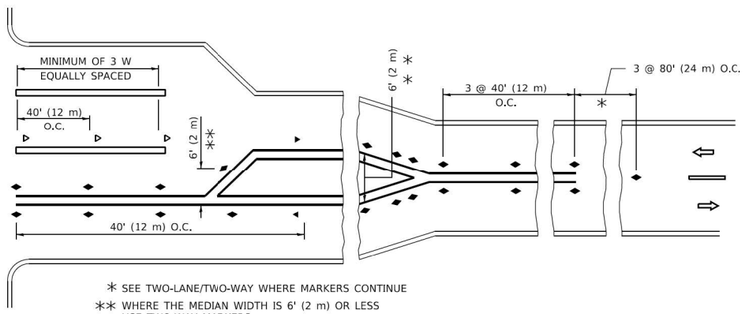


MULTI–LANE/UNDIVIDED



MULTI–LANE/DIVIDED





* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE

** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

TURN LANES

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

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

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	DRAWN -	REVISED - T. RAMMACHER 01-06-00	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 09-09-09	
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 07-01-13	

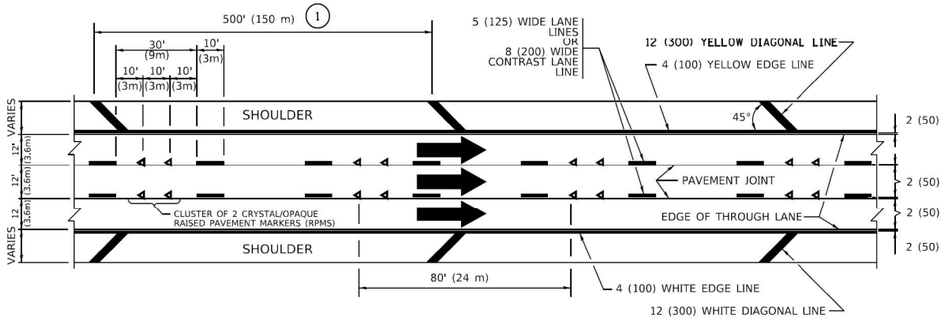
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW–PLOW RESISTANT)

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	259
	TC-11	CONTRACT NO. 62123		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

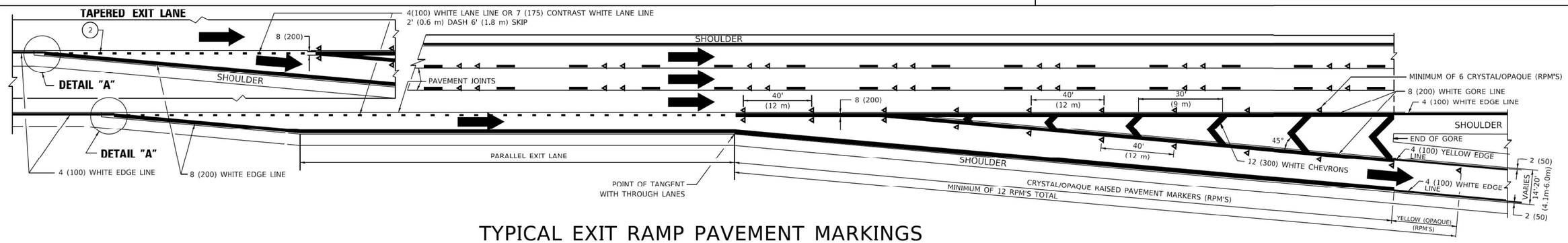
tc11.dgn 3/4/2019 10:29:08 AM User:footemj



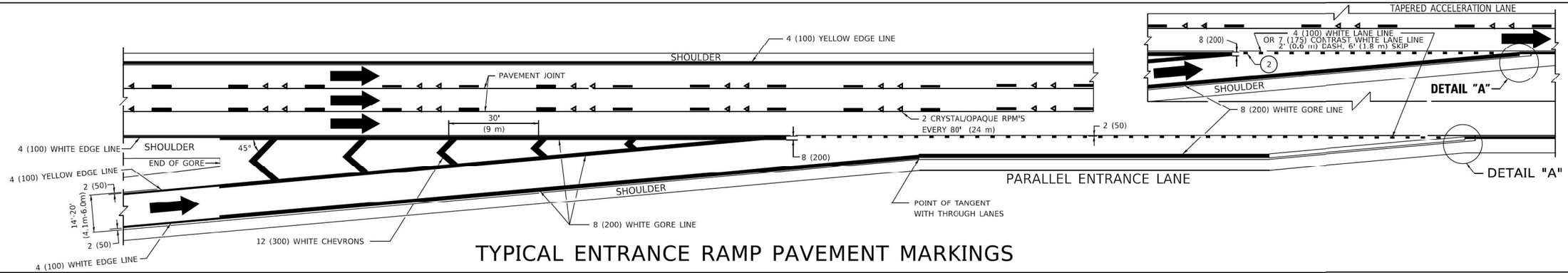
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

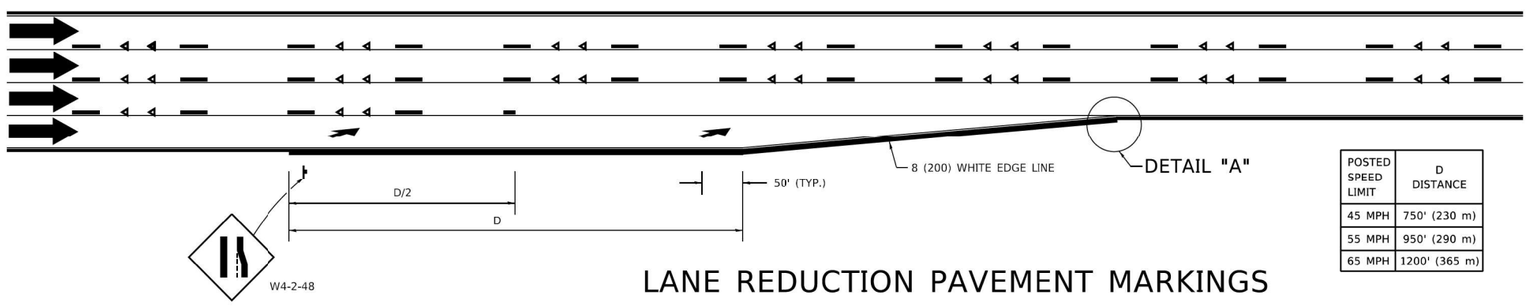
1. THERMOPLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON HMA PAVEMENTS.
2. POLYUREA OR MODIFIED URETHANE PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON PCC PAVEMENTS.
3. PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE D, INLAID OR GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENTS.
4. CONTRAST PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON PCC PAVEMENT.



TYPICAL EXIT RAMP PAVEMENT MARKINGS

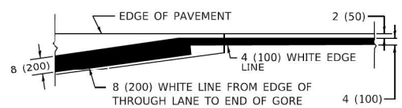


TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)

LANE REDUCTION PAVEMENT MARKINGS



DETAIL "A"

NOTES:

1. THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
2. 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

MODEL: Default
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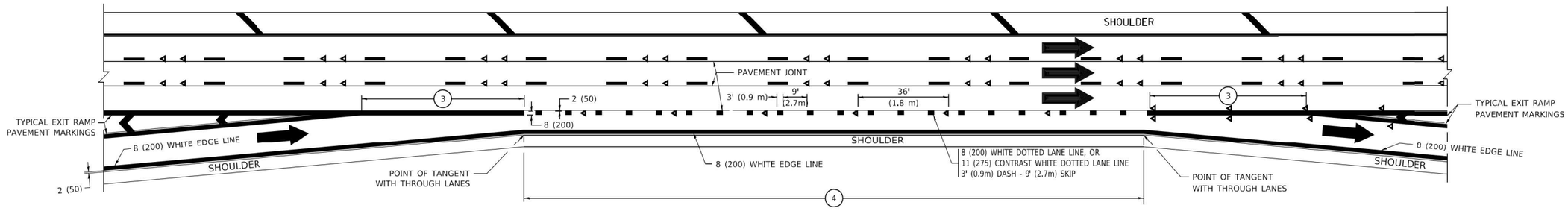
USER NAME = Lawrence.DeManche	DESIGNED - D.W.S.	REVISED - S.P.B. 01-10
	DRAWN -	REVISED - M.D. 05-13
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - M.D. 09-17
PLOT DATE = 11/18/2022	DATE - 01-90	REVISED - K. SMITH 11-18-22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

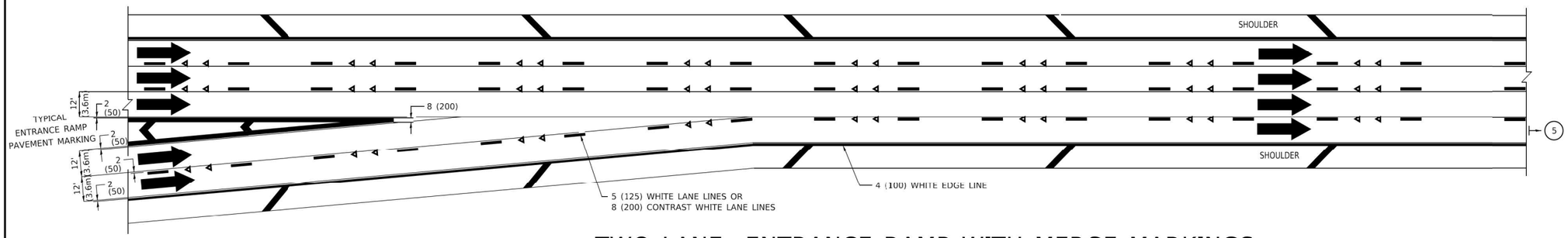
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. | TO STA.

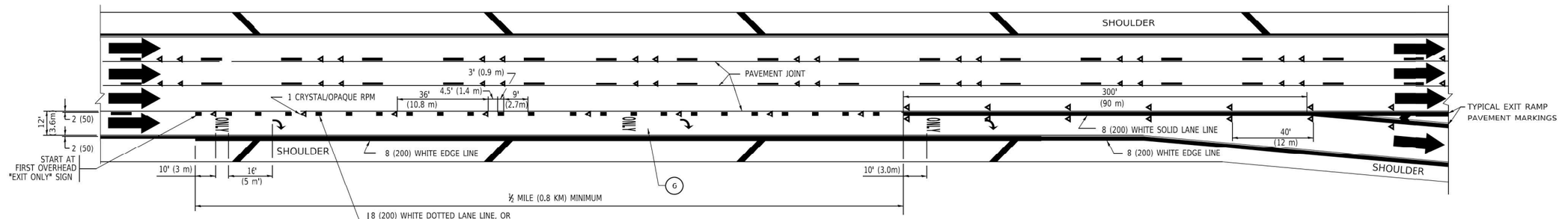
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	260
	TC-12	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		



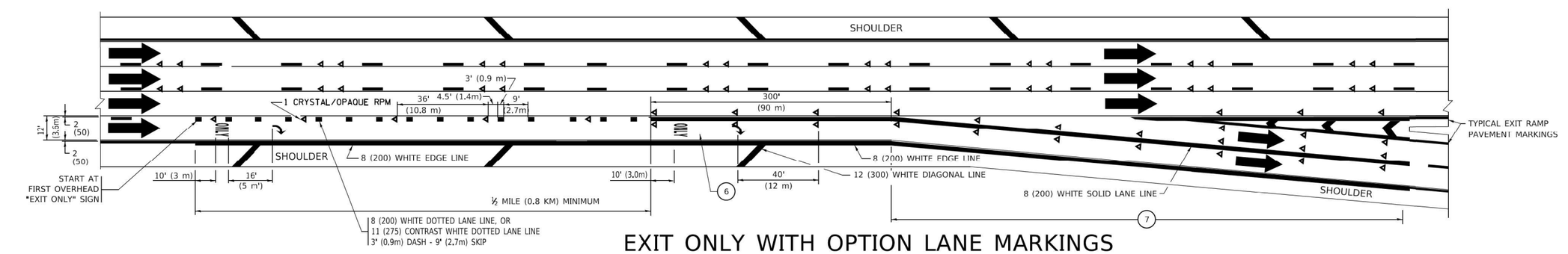
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

NOTES:

3. OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
4. 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
5. FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
6. ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED..
7. CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

USER NAME = footemj	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
	DRAWN -	REVISED - S.P.B. 01-07	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED - S.P.B. 01-10	
PLOT DATE = 3/4/2019	DATE - 01-90	REVISED - M.D. 09-17	

MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	261
	TC-12	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

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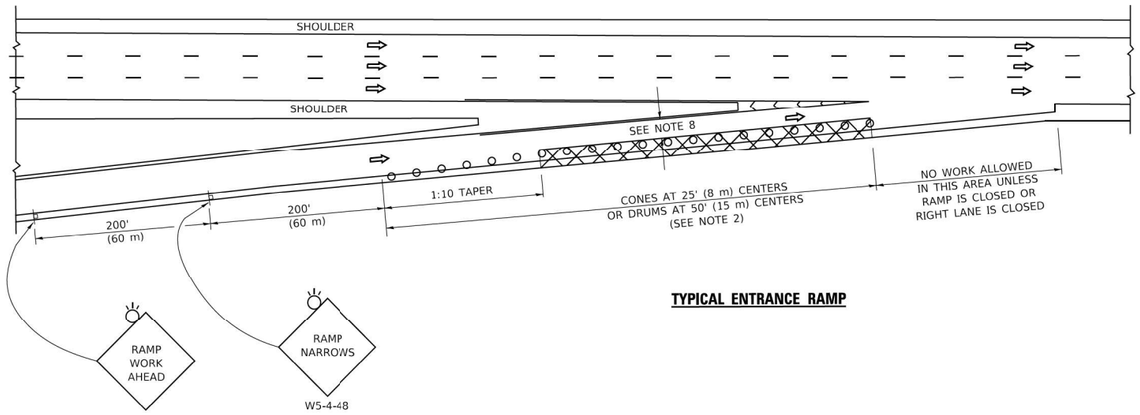
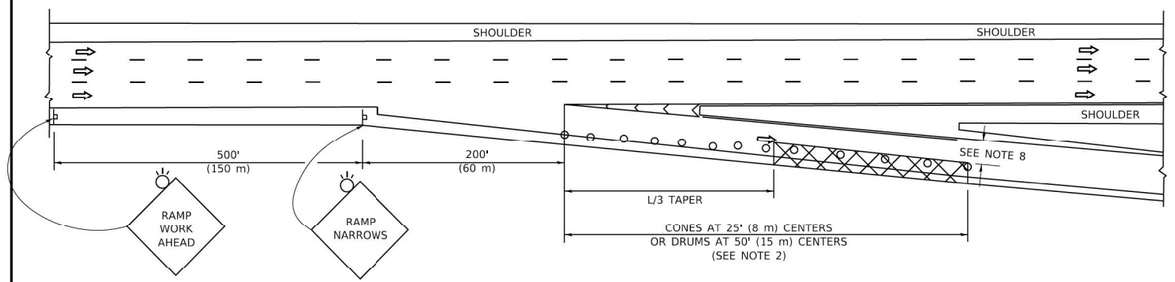
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



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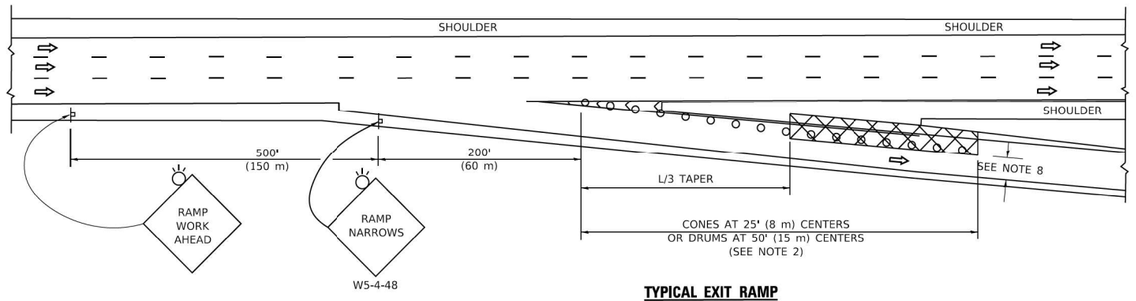
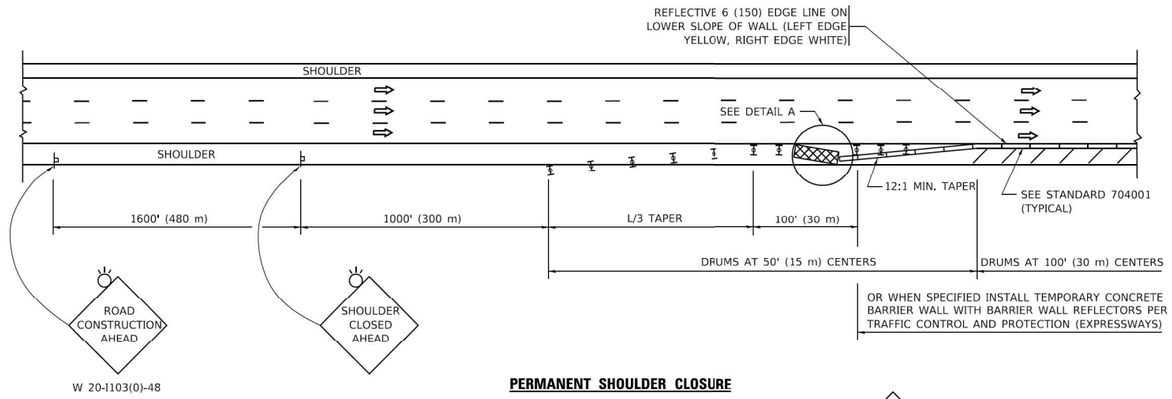
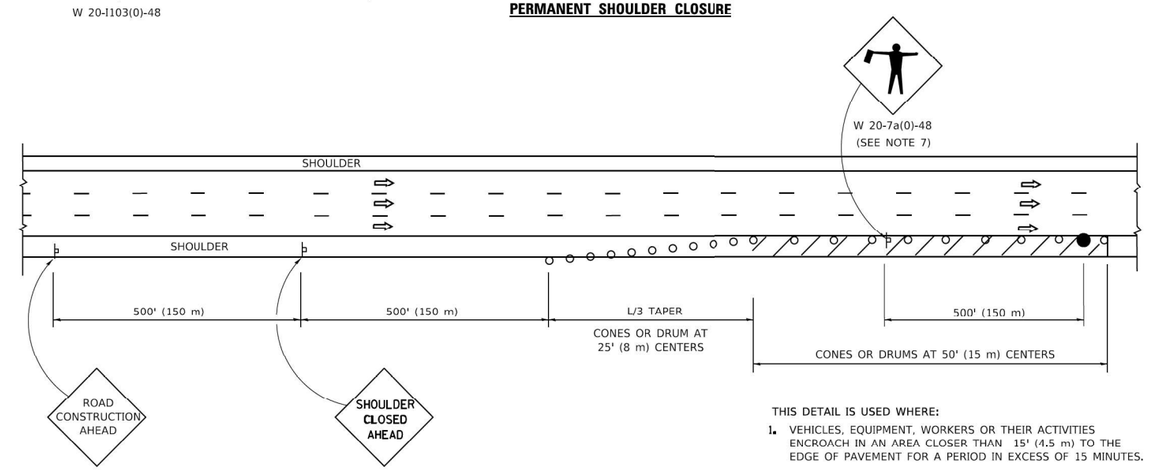


TYPICAL EXIT RAMP

SHOULDER CLOSURE DETAILS



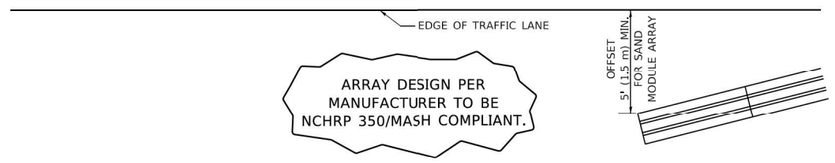
PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES:

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
45 mph (80 km/h) OR GREATER:	METRIC	ENGLISH
	L=0.65(W)(S)	L=(W)(S)

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTICLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN;
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
   16' MIN. WIDTH CURVE SECTION.

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

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PLOT SCALE = 50.0000 ' / In.	CHECKED -		REVISED -	M.D. 06-13	
PLOT DATE = 3/4/2019	DATE -	11-96	REVISED -	M.D. 01-18	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	262
	TC-17	CONTRACT NO. 62123		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

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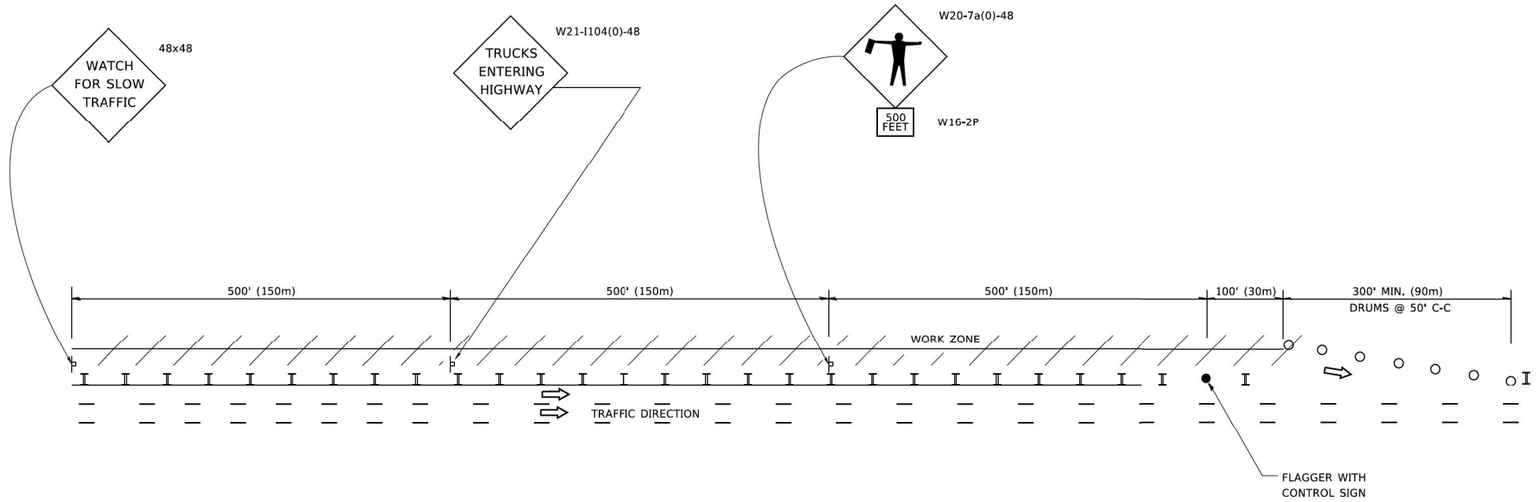
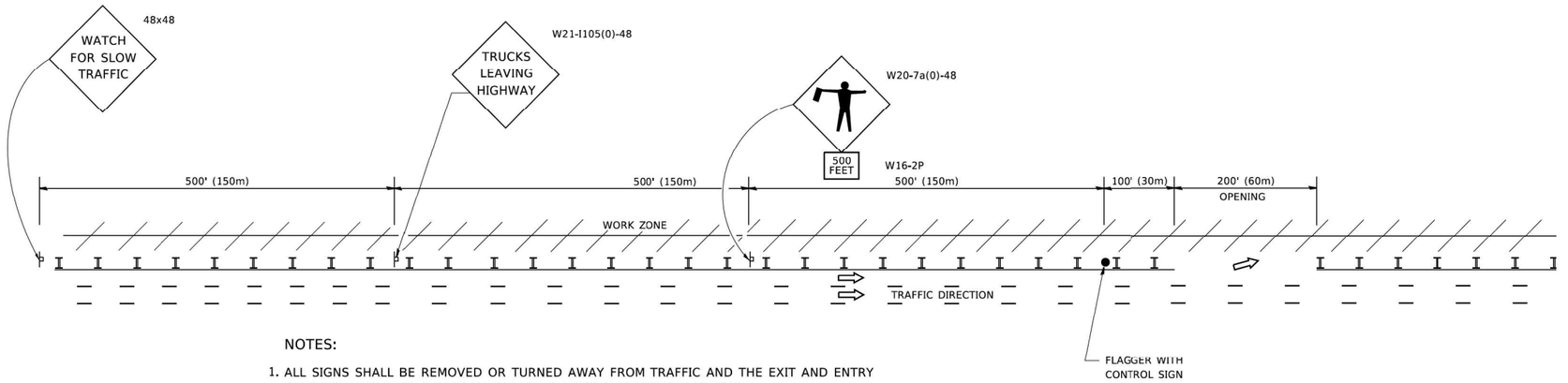
SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMPS.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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PLOT DATE = 3/4/2019	DATE -	REVISED -	M.D.06-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FREEWAY /EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS ON FREEWAYS /EXPRESSWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	263
	TC-18	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

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ROUTE MARKERS

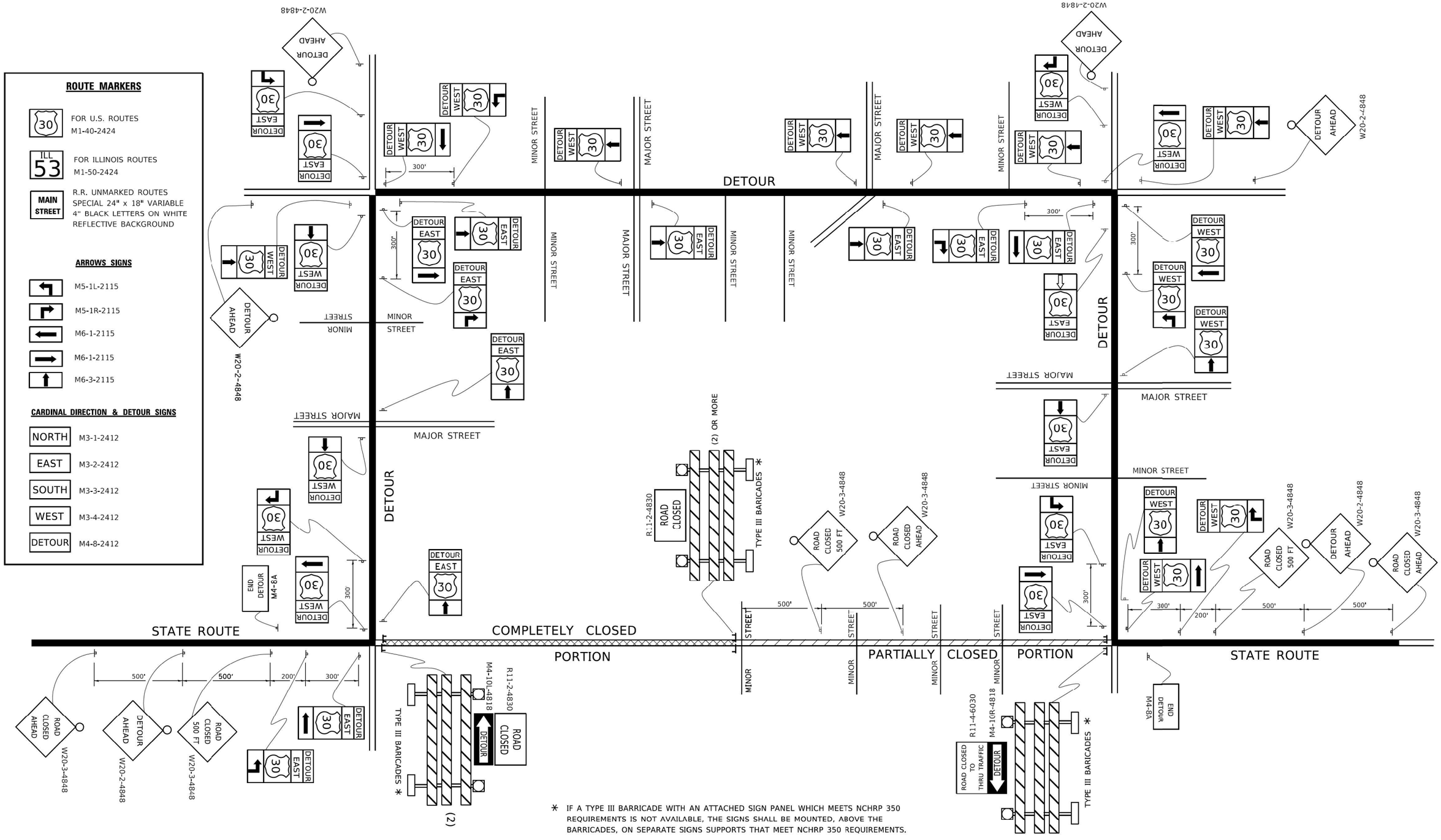
- 30 — FOR U.S. ROUTES M1-40-2424
- ILL 53 — FOR ILLINOIS ROUTES M1-50-2424
- MAIN STREET — R.R. UNMARKED ROUTES SPECIAL 24" x 18" VARIABLE 4" BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

ARROWS SIGNS

- M5-1L-2115
- M5-1R-2115
- M6-1-2115
- M6-1-2115
- M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

NORTH	M3-1-2412
EAST	M3-2-2412
SOUTH	M3-3-2412
WEST	M3-4-2412
DETOUR	M4-8-2412



* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

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PLOT DATE = 3/4/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING FOR CLOSING STATE HIGHWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	264
	TC-21	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

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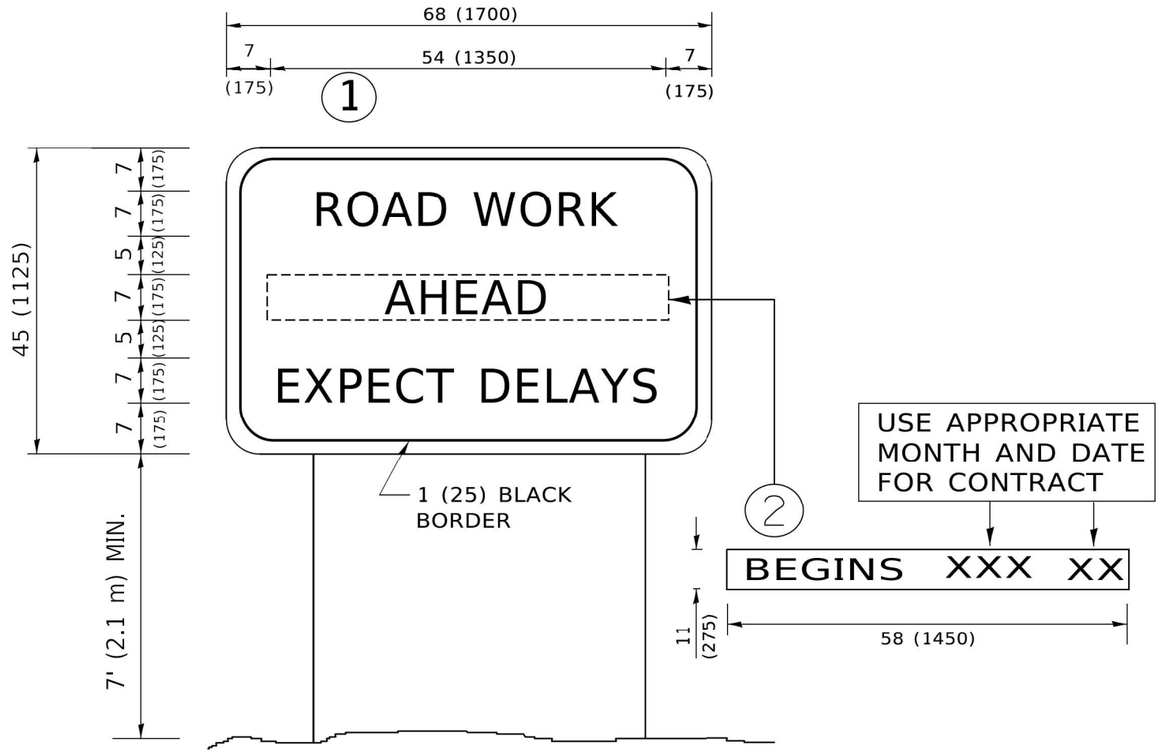

NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

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	DRAWN -	REVISED -	R. MIRS 12-11-97
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -	T. RAMMACHER 02-02-99
PLOT DATE = 3/4/2019	DATE -	REVISED -	C. JUCIUS 01-31-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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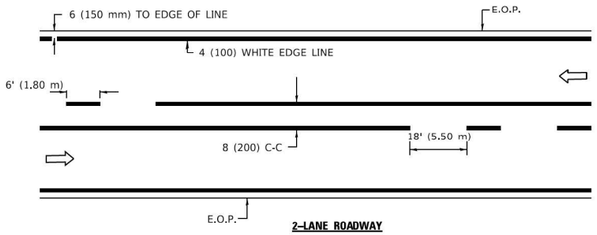
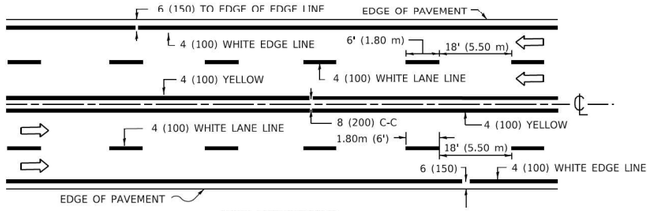
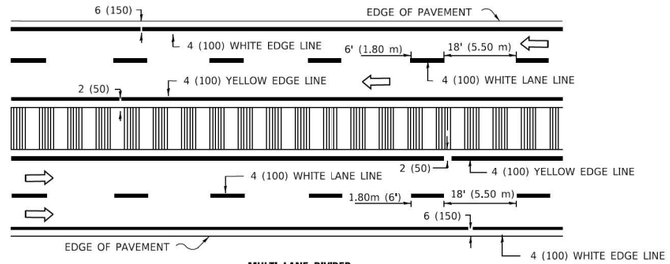
	TC-22	CONTRACT NO. 62J23		
	ILLINOIS FED. AID PROJECT NO. NHPP-4A2N(881)			



2–LANE ROADWAY



MULTI–LANE UNDIVIDED

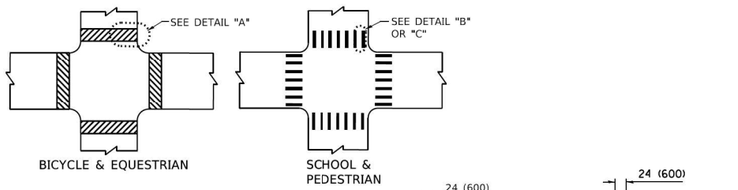


MULTI–LANE DIVIDED

WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

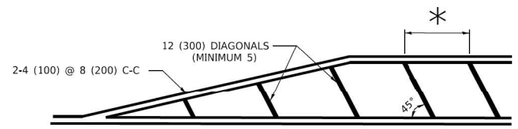
TYPICAL LANE AND EDGE LINE MARKING



DETAIL "A" **DETAIL "B"** **DETAIL "C"**

CENTRAL DOWNTOWN BUSINESS DISTRICT

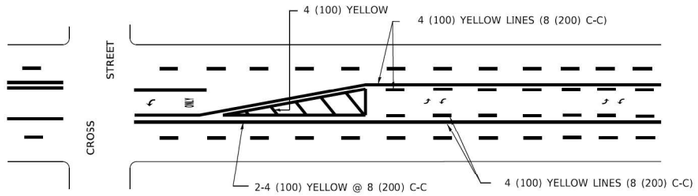
TYPICAL CROSSWALK MARKING



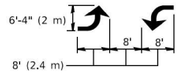
* FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

* DIAGONAL LINE SPACING: 20' (6.1 m) C-C

PAINTED MEDIANS

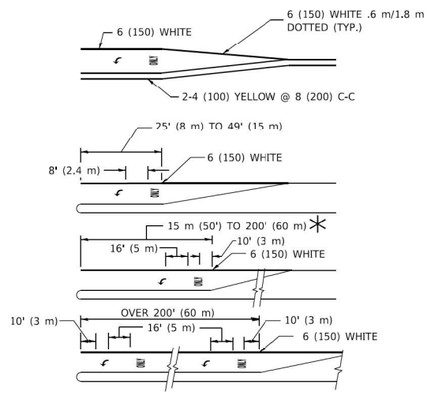


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED. WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO–WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

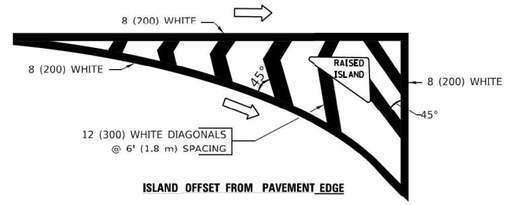


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.8 SQ. FT. (1.47 m²) ONLY AREA = 22.9 SQ. FT. (2.13 m²)

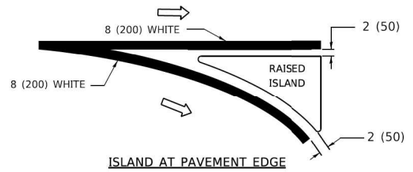
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	6' (1.80 m) LINE WITH 18' (5.50 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	8 (200) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	 4 (100) 2 @ 4 (100)	 SOLID SOLID	 YELLOW YELLOW	8 (200) C-C
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	6' (1.80 m) LINE WITH 18' (5.50 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4 m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4 m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	6' (1.8 m) LINE WITH 18' (5.50 m) SPACE FOR SKIP-DASH; 8 (200) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL & PEDESTRIAN)	 12 (300) @ 45° 24 (600) @ 90°	 SOLID SOLID	 WHITE WHITE	 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45°	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	8 (200) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 20' (6.1 m) (LESS THAN 30 MPH (50 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES, "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33m²) EACH "X"=54.0 SQ. FT. (5.0 m²)

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STREET MARKING STANDARDS, PRINTED BY CITY OF CHICAGO, DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC.

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

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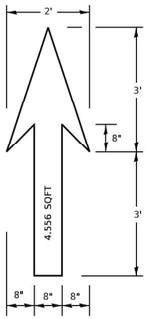
	DRAWN -	REVISED - K. ENG 02-28-12	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/4/2019	DATE -	REVISED -	

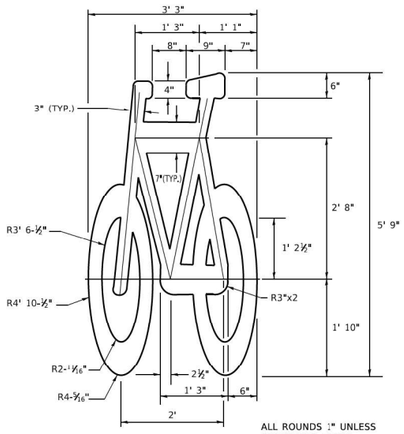
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF CHICAGO
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	266
	TC-24	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		





ALL ROUNDS 1" UNLESS OTHERWISE NOTED.

BICYCLE LANE SYMBOL

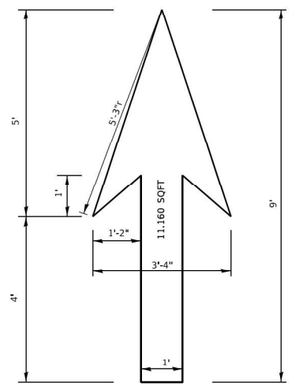
NOTE:

1. FOR BIKE LANE SYMBOLS ONLY, USE PRE-FORMED THERMOPLASTIC WITH A MINIMUM THICKNESS OF 90 MILS, MINIMUM SKID RESISTANCE VALUE OF 60 BPN, & A MINIMUM INDEX OF REFRACTION OF 1.50.

2. THE RESIDENT ENGINEER SHALL CONTACT MR. BEN GOMBERG AT 312-744-8093 AT LEAST ONE CALENDAR WEEK PRIOR TO INSTALLING BIKE LANE SYMBOLS.

TYPICAL BIKE LANE SYMBOLS
DRAWING #28

DRAWING #29



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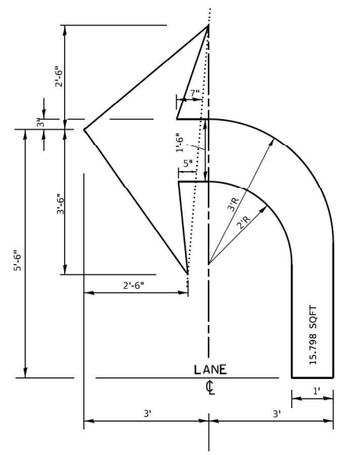

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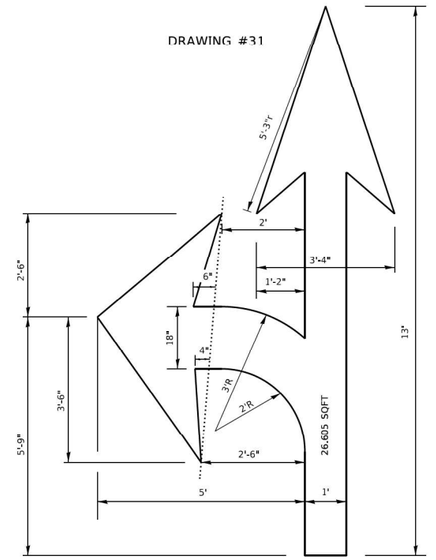
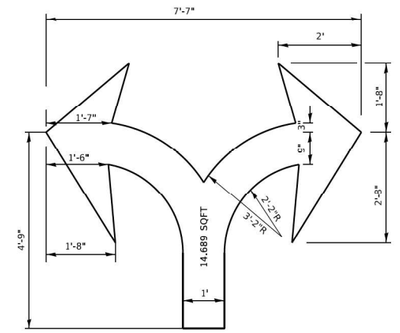


DRAWING #32



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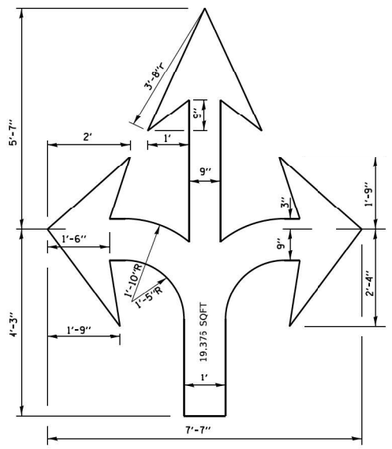

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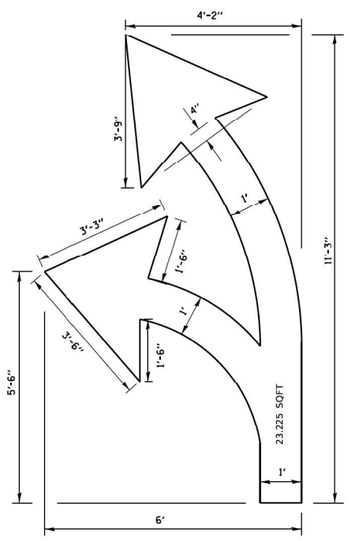

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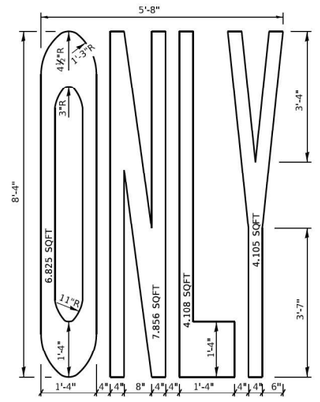

NOTE:

ALL MARKINGS SHALL BE SOLID WHITE UNLESS OTHERWISE NOTED IN THE PLANS

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	DRAWN -	REVISED -	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED -	
PLOT DATE = 3/4/2019	DATE -	REVISED -	

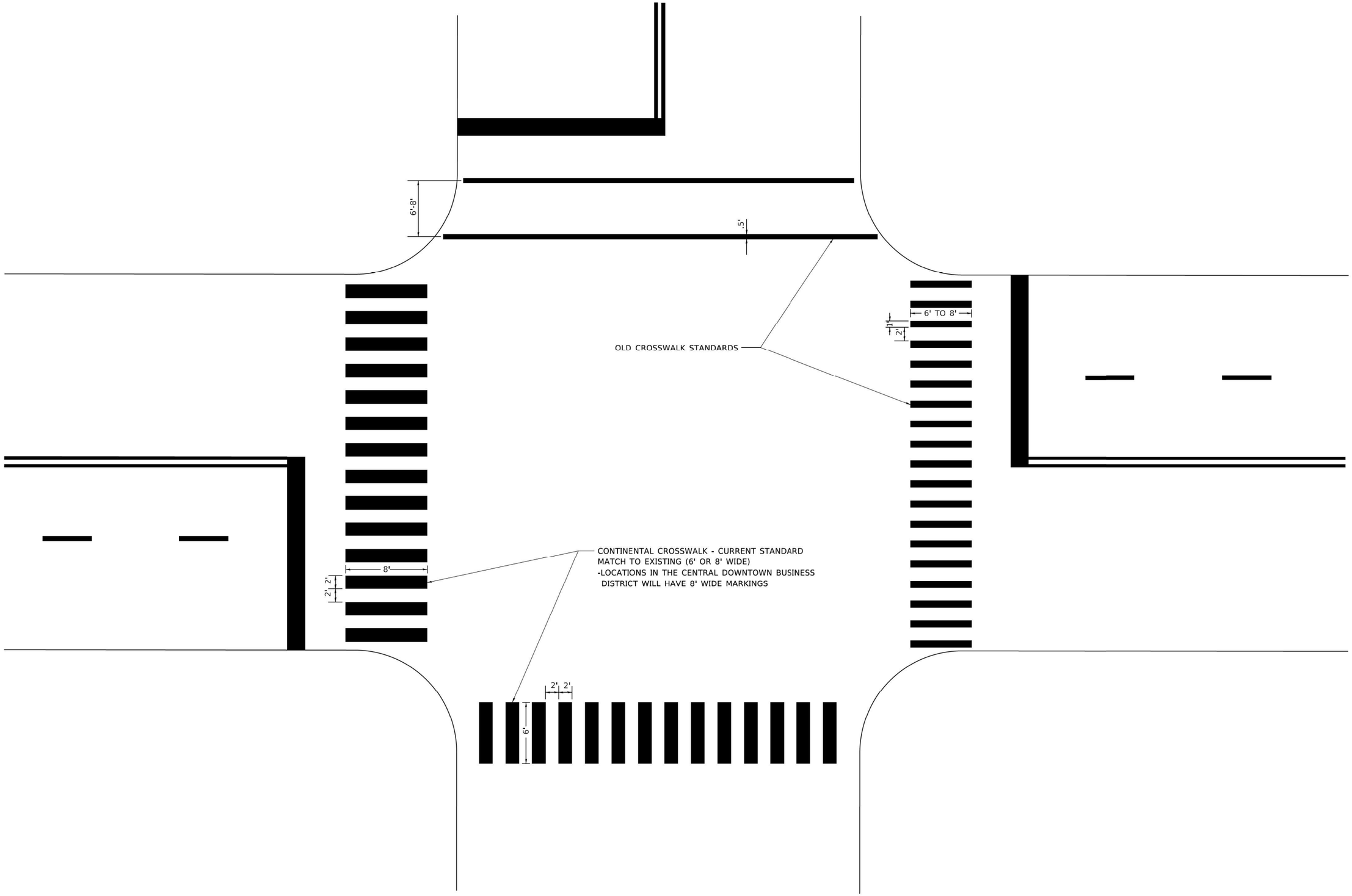
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF CHICAGO
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	267
	TC-24	CONTRACT NO. 62123		
		ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)	

tc24.dgn 3/4/2019 10:56:28 AM User:footemj



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	DRAWN -	REVISED -	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/4/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

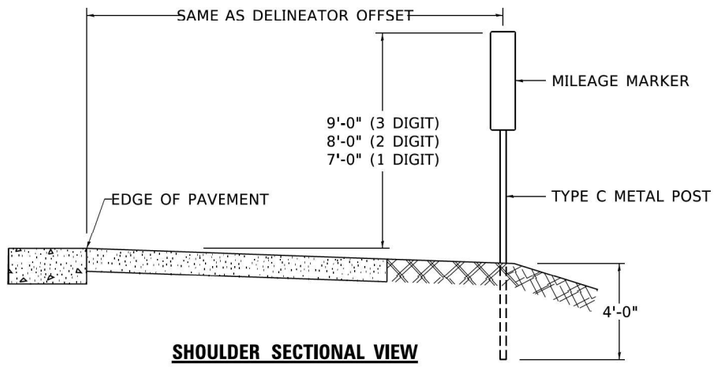
CITY OF CHICAGO
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET 3 OF 3 SHEETS | STA. | TO STA.

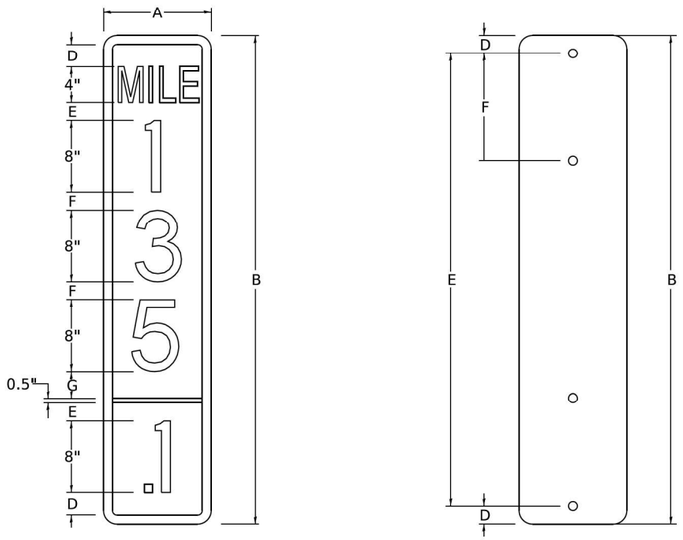
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	268
	TC-24	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

Added on 3/4/2019 10:56:02 AM User:footemj

STANDARD DESIGN FOR MILE POST



SHOULDER SECTIONAL VIEW

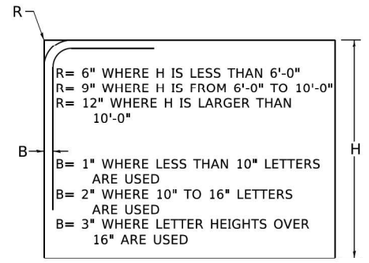


SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	DIGIT
12 x 24	12.0	24.0	1.5	1.5	1.5	N/A	1.5	1
12 x 36	12.0	36.0	1.5	2.0	2.0	2.0	1.5	2
12 x 48	12.0	48.0	1.5	2.5	2.0	2.0	2.5	3

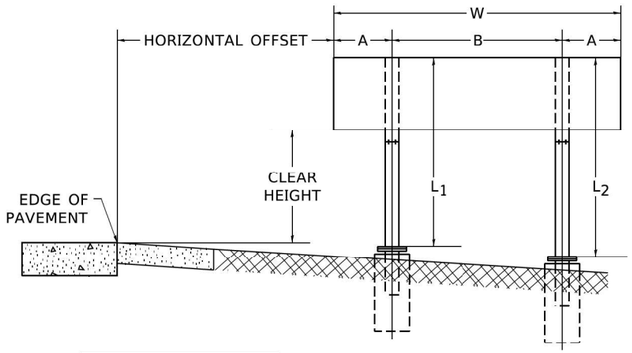
SIGN SIZE	SERIES LINES					BORDER	BLANK STD.
	1	2	3	4	5		
12 x 24	4C	8D	4C	N/A	N/A	0.5	B9-1224
12 x 36	4C	8D	8D	4C	N/A	0.5	B9-1236
12 x 48	4C	8D	8D	8D	4C	0.5	B9-1248

BLANK	A	B	C	D	E	F
B9-1224	12.0	24.0	1.5	2.0	20.0	N/A
B9-1236	12.0	36.0	1.5	2.0	32.0	12.0
B9-1248	12.0	48.0	1.5	2.0	44.0	12.0

BORDER AND RADIUS LAYOUT



MAJOR GUIDE SIGN LAYOUT

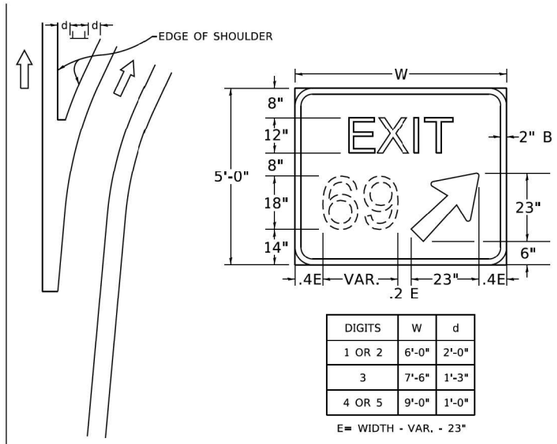


NUMBER OF STEEL SUPPORTS	A	B
2	.2 W	.6 W
3	.15 W	.35 W
4	.125 W	.25 W
5	.1 W	.2 W

"L_1 IS THE LENGTH OF SUPPORT, NOT INCLUDING THE STUB PROJECTION, CLOSEST TO THE EDGE OF THE PAVEMENT.

"A" IS THE DISTANCE FROM THE SIGN EDGE TO THE CENTERLINE OF THE NEAREST SUPPORT. "B" IS THE DISTANCE BETWEEN CENTERLINES OF SUPPORTS.

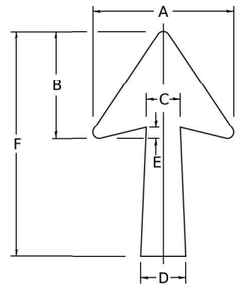
GORE SIGNS



DIGITS	W	d
1 OR 2	6'-0"	2'-0"
3	7'-6"	1'-3"
4 OR 5	9'-0"	1'-0"

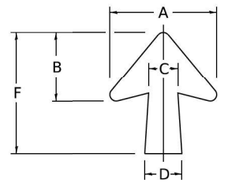
E= WIDTH - VAR. - 23"

STANDARD ARROWS FOR INTERSTATE GUIDE SIGNS



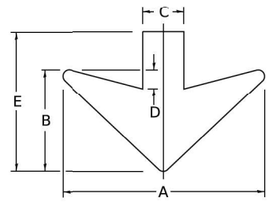
ARROW SYMBOL	A	B	C	D	E	F	R
24¼ x 15⅜	15⅜	11⁹⁄₁₆	3¾	5	1⁹⁄₁₆	24¼	¹³⁄₁₆
29¼ x 18¼	18¼	14	4½	6	1½	29¼	¾
35⅝ x 22½	22½	17	5⅜	7⅛	1¾	35⅝	1
18¼ x 11¼	11¼	8¾	3⅛	3⅜		18¼	

NOTE: D & F ARE RECOMMENDED DIMENSIONS. TAPER SHOULD BE HELD CONSTANT FOR LONGER OR SHORTER SHAFT LENGTHS



ARROW SYMBOL	A	B	C	D	E	F	R
17¼ x 14¼	14¼	9¹⁵⁄₁₆	3⅜	4½	⁵⁄₁₆	17¼	¾
20¼ x 17¼	17¼	11¾	4⅜	5⅝	1½	20¼	
25 x 21⅞	21⅞	14¼	5	6¾	1¾	25	1
9⅜ x 8⅞	8⅞	5⅞	2⅛	2⅝		9⅜	½

DOWN ARROWS



ARROW SYMBOL	A	B	C	D	E	R
16½ x 24	24	12	5	1½	16½	¾
22 x 32	32	16	6½	3	22	1

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PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/4/2019	DATE - 03-08-1984	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MILE POST MARKERS – GORE SIGNS
MAJOR GUIDE SIGN LAYOUT – ARROWS

SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	269
	TC-27 (TS-2341-1)	CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-4A2N(881)		

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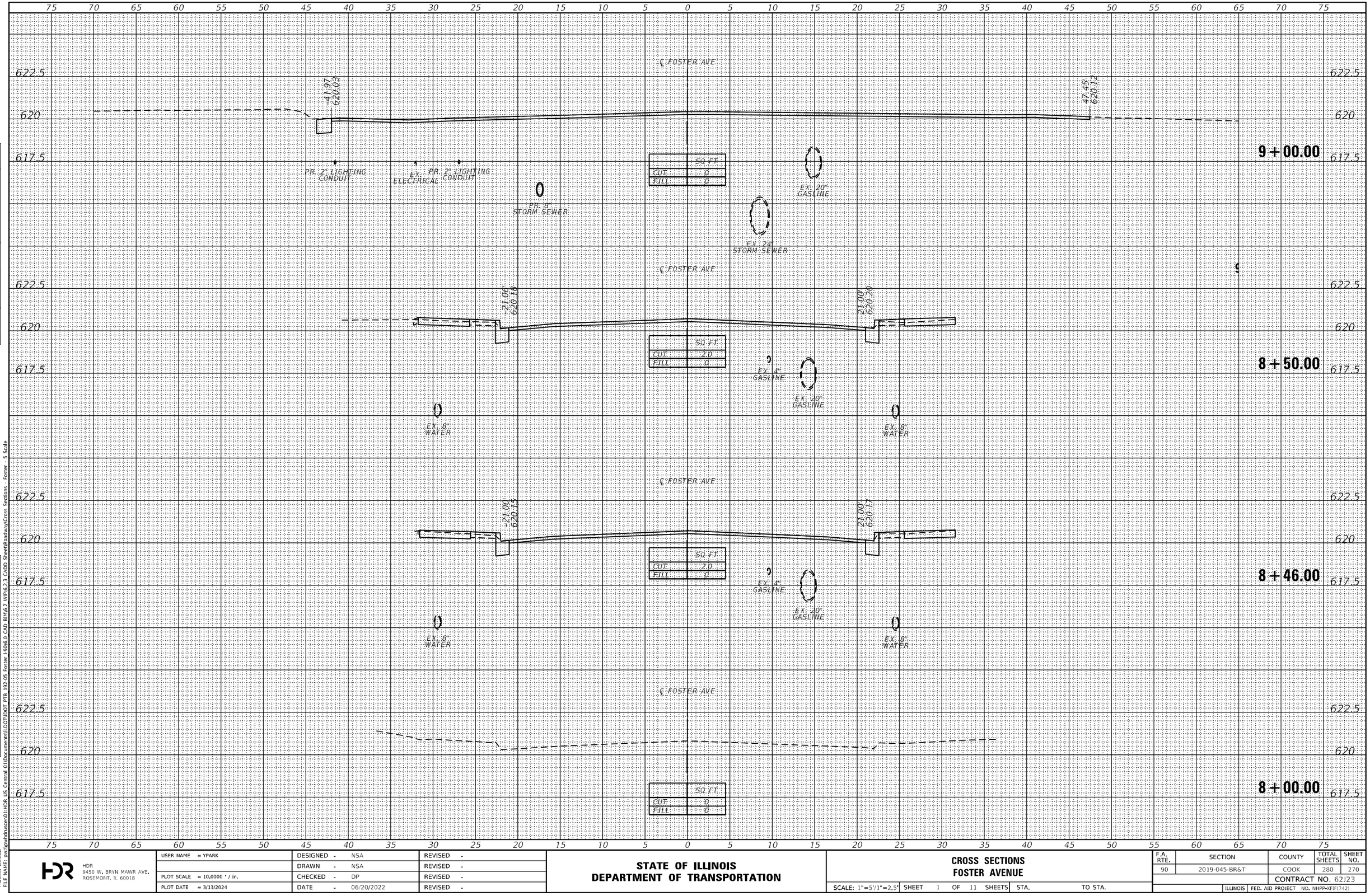

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

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

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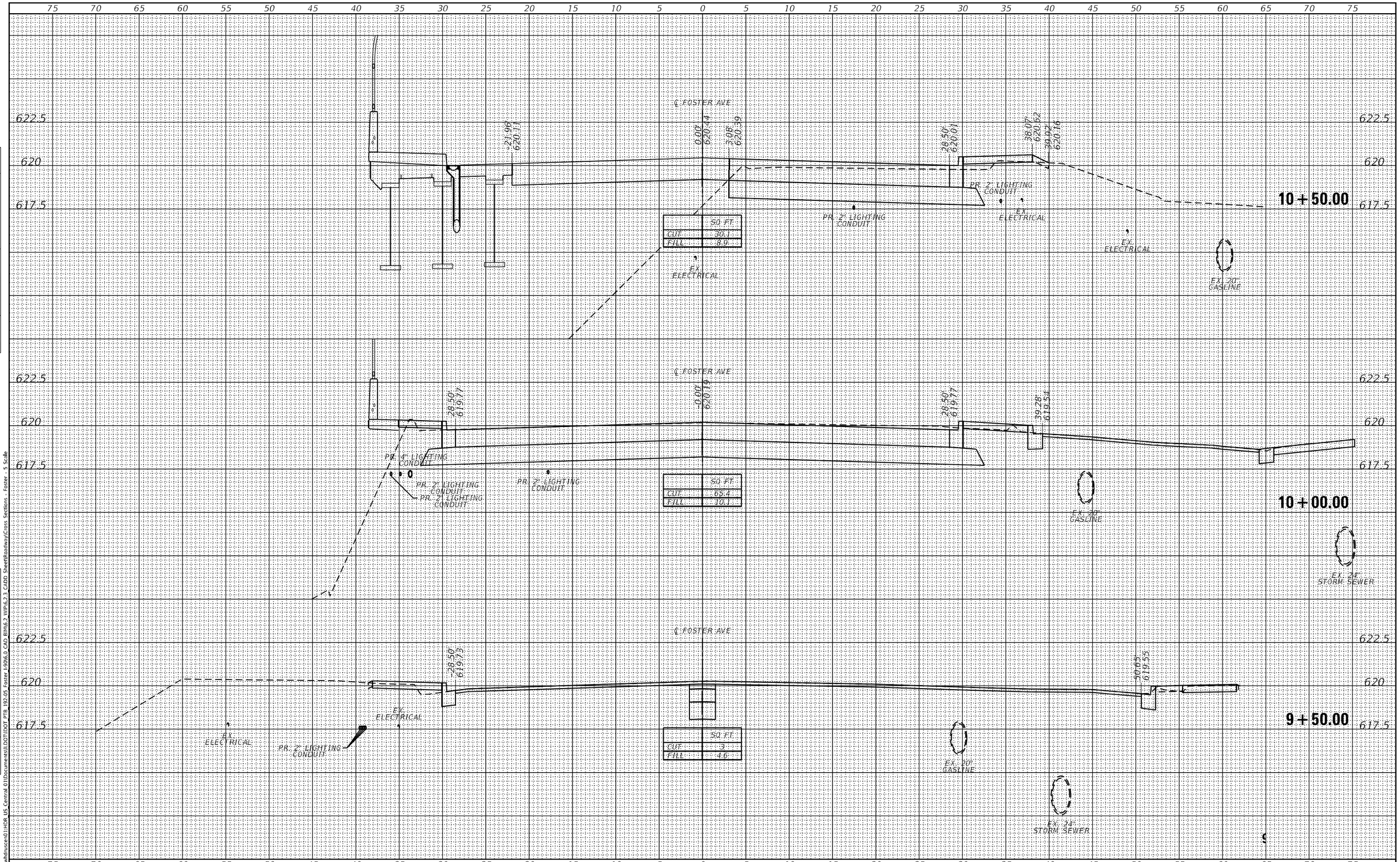
HDR 9450 W. BRYN MAWR AVE. ROSEMONT, IL 60018	USER NAME = YPARK	DESIGNED - NSA	REVISED -
		DRAWN - NSA	REVISED -
	PLOT SCALE = 10.0000 ' / in.	CHECKED - DP	REVISED -
	PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
FOSTER AVENUE

SCALE: 1"=5'/1"=2.5' | SHEET 1 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	270
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



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

BY	DATE

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

BY	DATE

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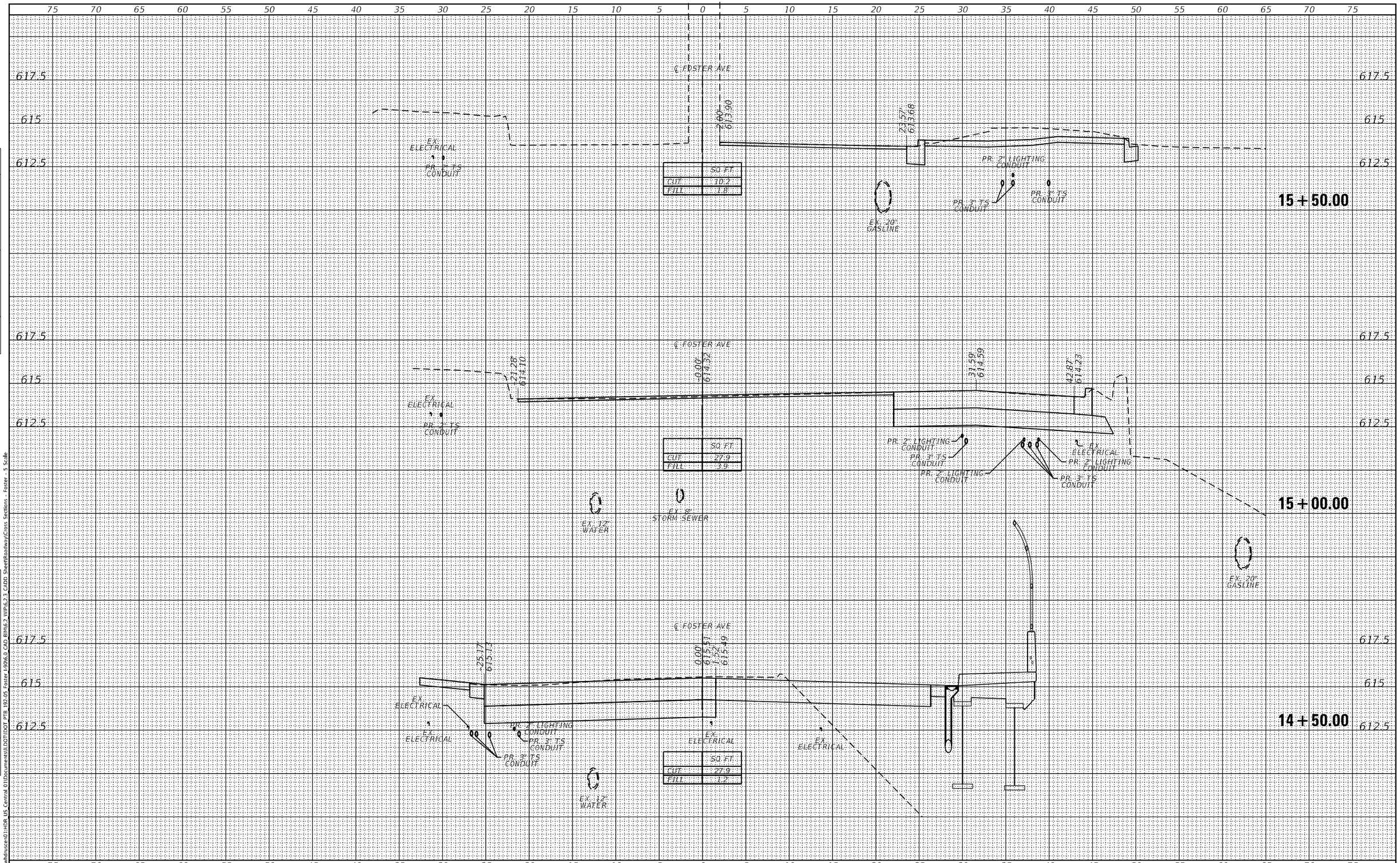
HDR 9450 W. BRYN MAWR AVE. ROSEMONT, IL 60018	USER NAME = YPARK	DESIGNED - NSA	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
		DRAWN - NSA	REVISED -	
	PLOT SCALE = 10.0000 ' / in.	CHECKED - DP	REVISED -	
	PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -	

CROSS SECTIONS
FOSTER AVENUE

SCALE: 1"=5'/1"=2.5' | SHEET 2 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	271
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



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

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

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = YPARK	DESIGNED - NSA	REVISED -	
	DRAWN - NSA	REVISED -	
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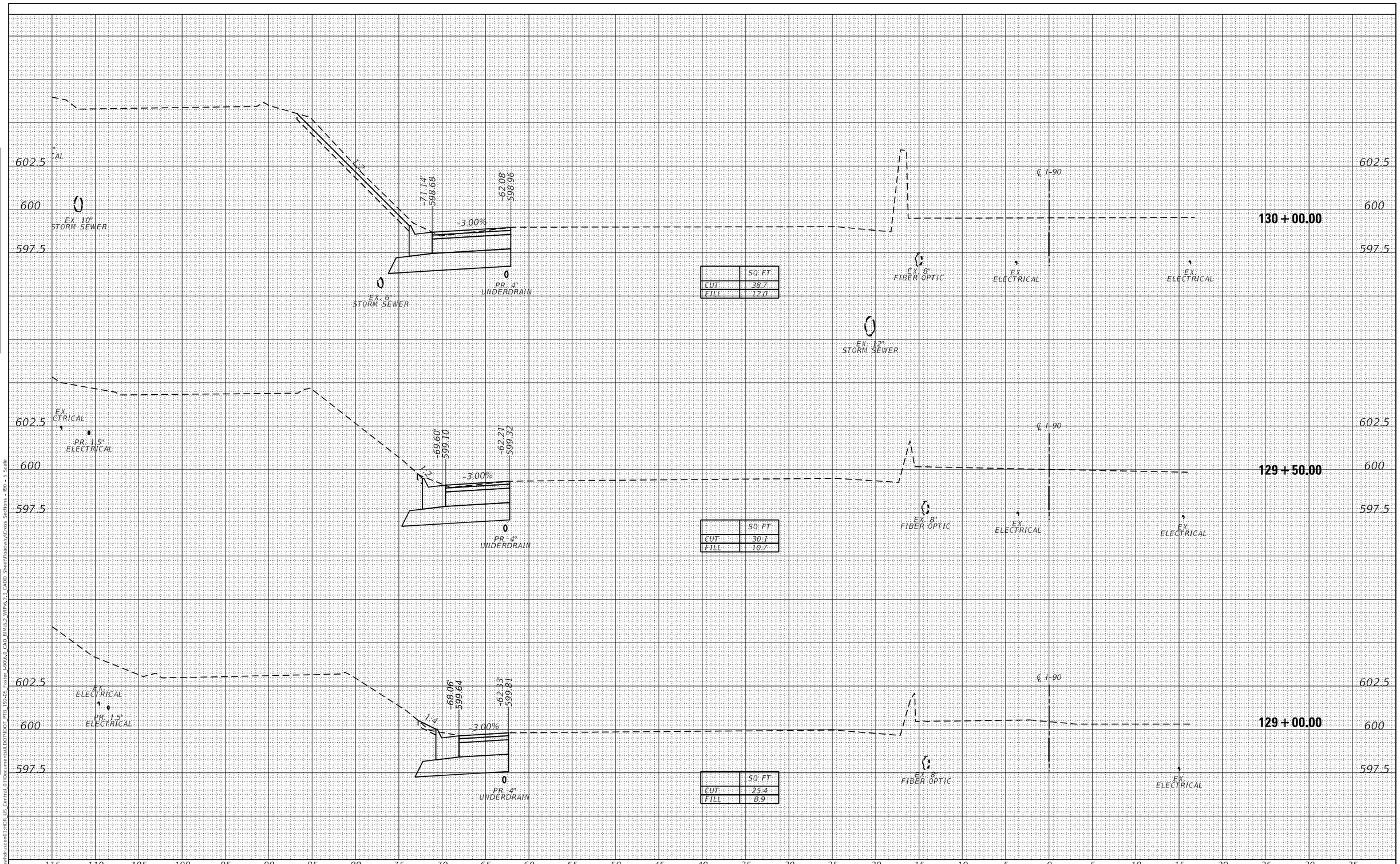
PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
FOSTER AVENUE

SCALE: 1"=5'/1"=2.5' | SHEET 3 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	272
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



FINAL SURVEY — ORIGINAL SURVEY

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

NOTE BOOK
NO.

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HDR 9450 W. BRYN MAWR AVE. ROSEMONT, IL 60018	USER NAME = YPARK	DESIGNED - NSA	REVISED -
		DRAWN - NSA	REVISED -
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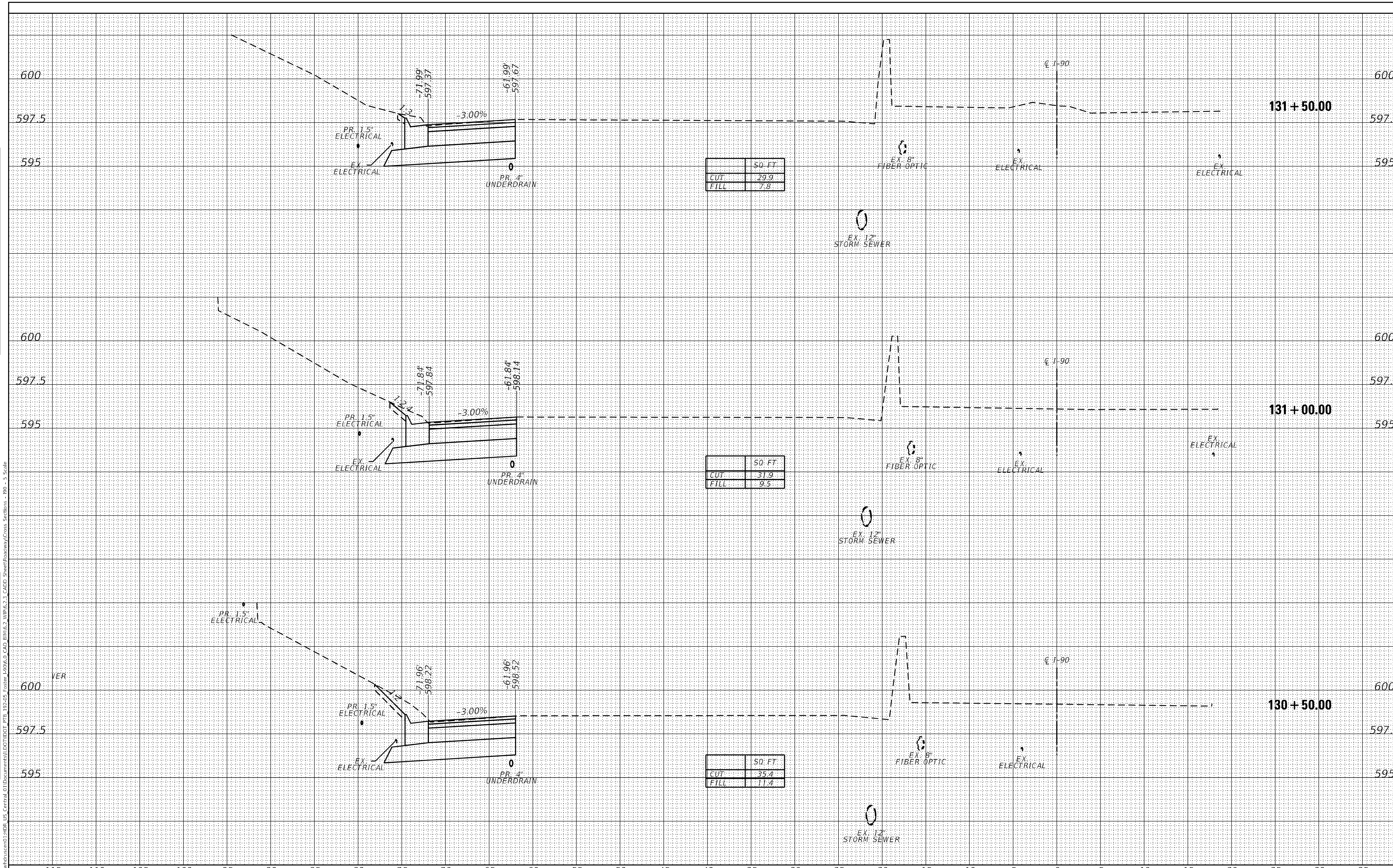
	PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' | SHEET 4 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	273
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



131 + 50.00

	SQ FT
CUT	29.9
FILL	7.8

131 + 00.00

	SQ FT
CUT	31.9
FILL	9.5

130 + 50.00

	SQ FT
CUT	35.4
FILL	11.4

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

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

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = YPARK	DESIGNED - NSA	REVISED -
	DRAWN - NSA	REVISED -
PLOT SCALE = 10.0005 ' / in.	CHECKED - DP	REVISED -
PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

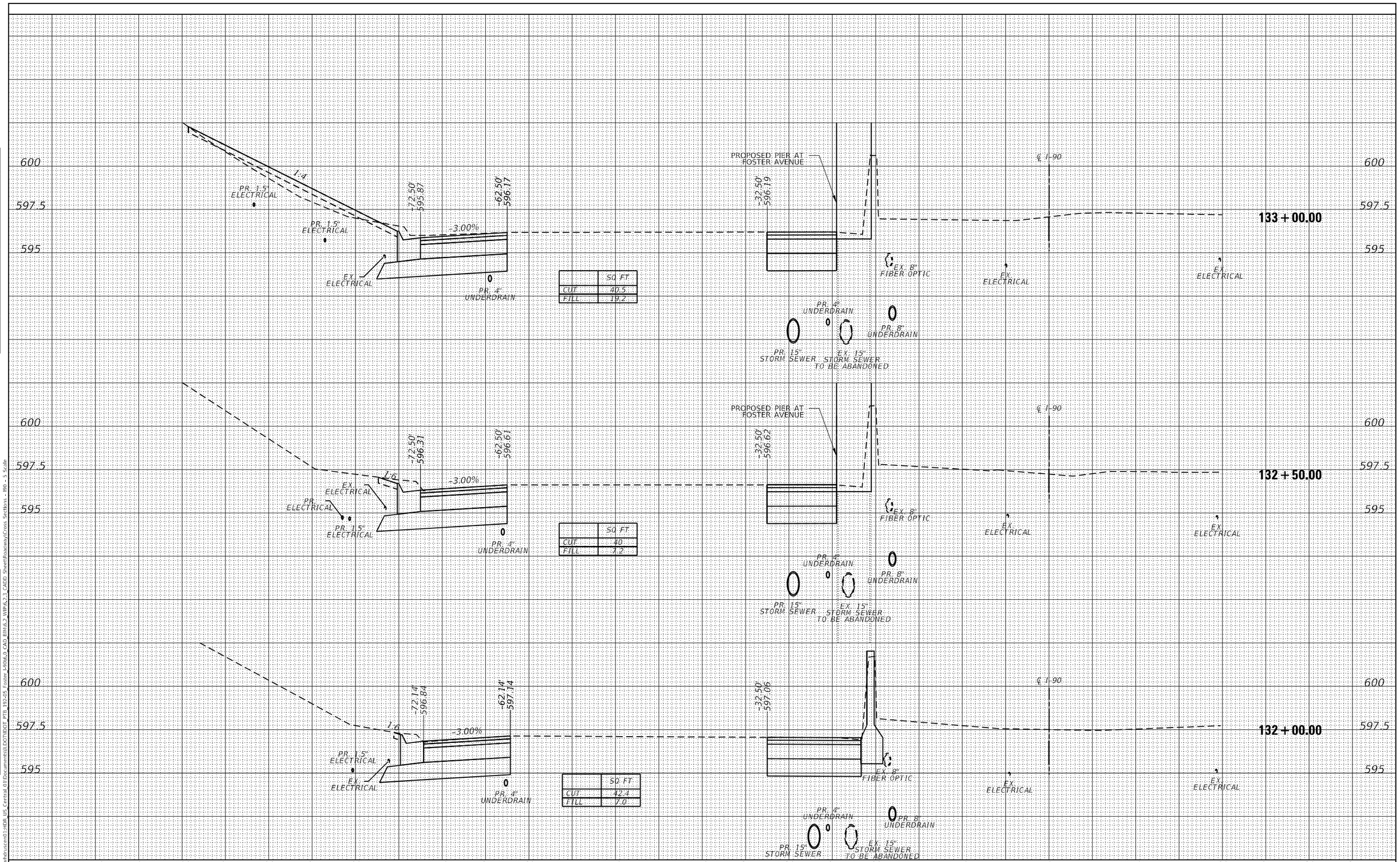
CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' SHEET 5 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	274

CONTRACT NO. 62J23

ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)



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

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

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HDR 9450 W. BRYN MAWR AVE. ROSEMONT, IL 60018	USER NAME = YPARK	DESIGNED - NSA	REVISED -
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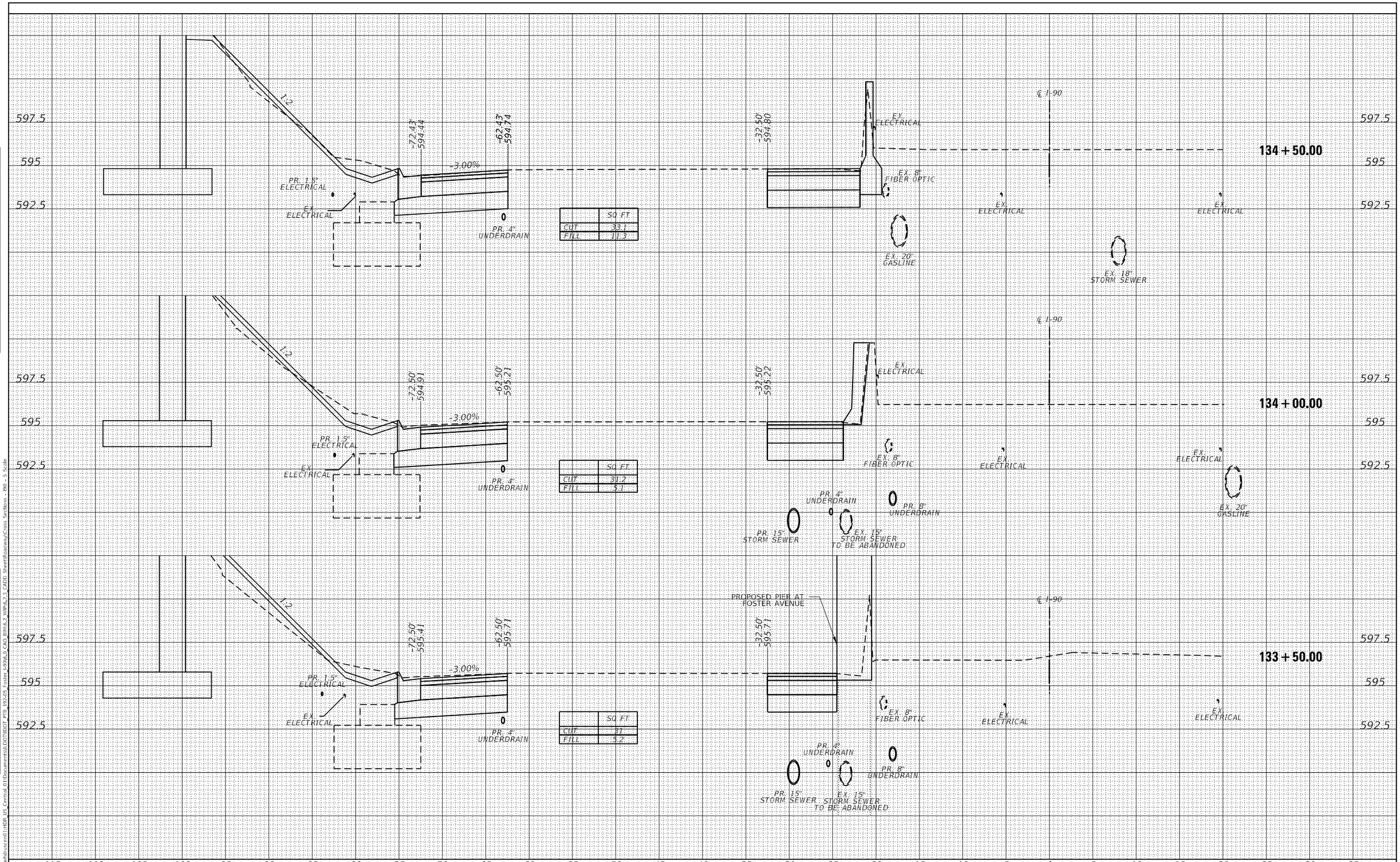
	PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' | SHEET 6 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	275
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



FINAL SURVEY | ORIGINAL SURVEY

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

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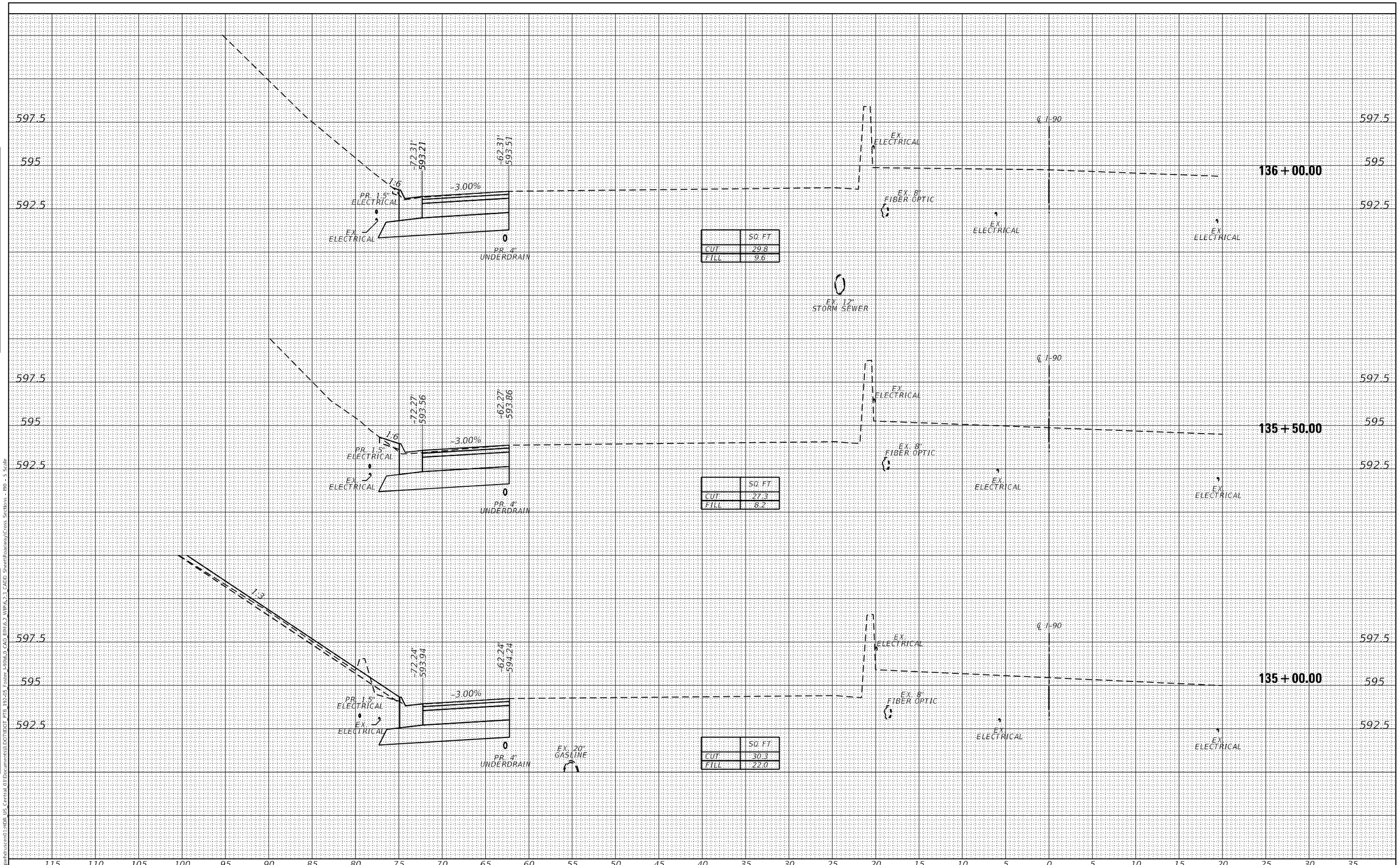
HDR 9450 W. BRYN MAWR AVE. ROSEMONT, IL 60018	USER NAME = YPARK	DESIGNED - NSA	REVISED -
		DRAWN - NSA	REVISED -
	PLOT SCALE = 10.0005 ' / In.	CHECKED - DP	REVISED -
	PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' | SHEET 7 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	276
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



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

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

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

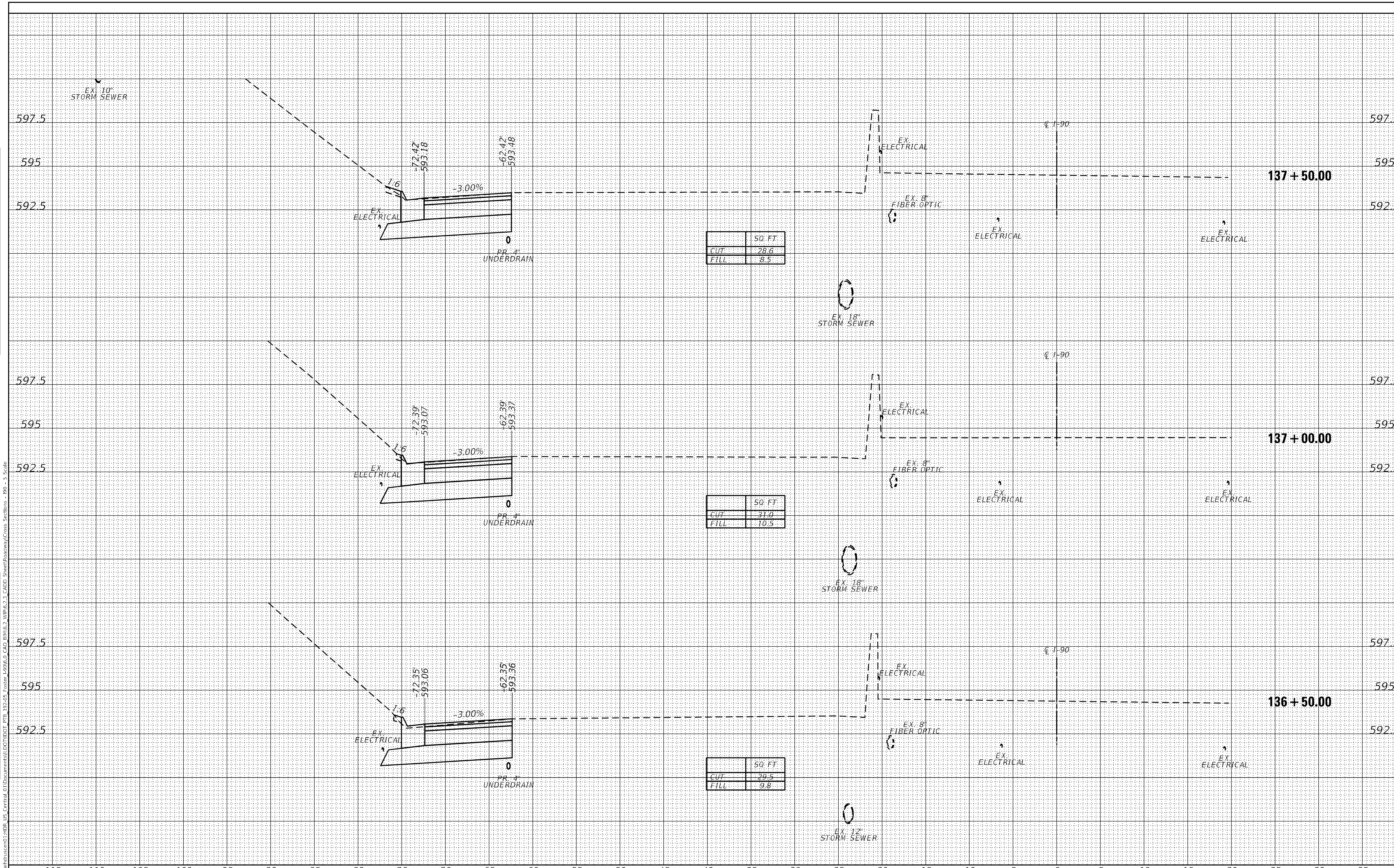
USER NAME = YPARK	DESIGNED - NSA	REVISED -	
	DRAWN - NSA	REVISED -	
PLOT SCALE = 10.0005 ' / In.	CHECKED - DP	REVISED -	
PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' | SHEET 8 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	277
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)	



137+50.00

	50 FT
CUT	28.6
FILL	8.5

137+00.00

	50 FT
CUT	31.0
FILL	10.5

136+50.00

	50 FT
CUT	29.5
FILL	9.8

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = YPARK	DESIGNED - NSA	REVISED -	
	DRAWN - NSA	REVISED -	
PLOT SCALE = 10.0005 ' / in.	CHECKED - DP	REVISED -	
PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

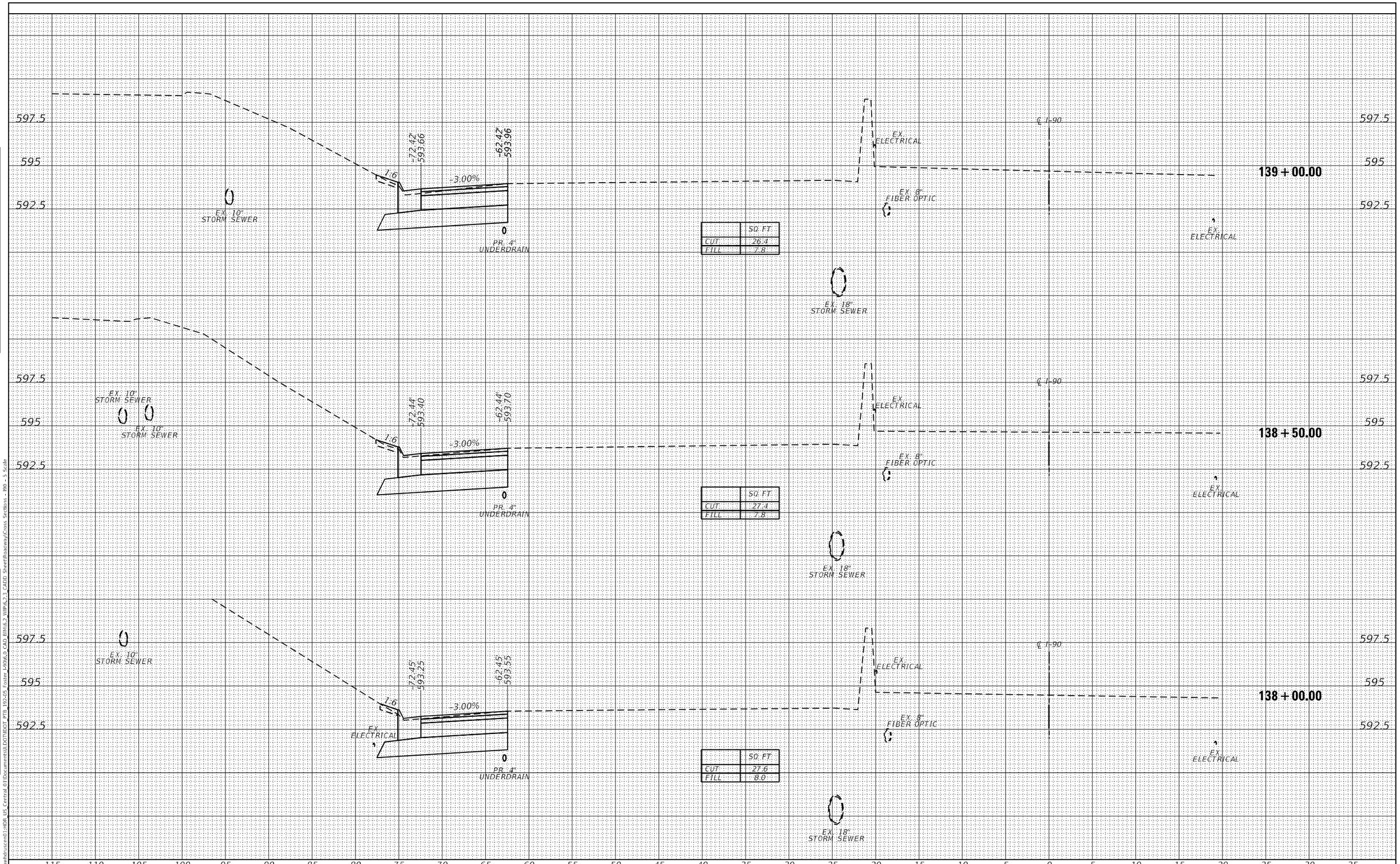
CROSS SECTIONS
I–90 WB

SCALE: 1"=5'/1"=2.5' SHEET 9 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	278

CONTRACT NO. 62J23

ILLINOIS FED. AID PROJECT NO. NHPP-XFIF(742)



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

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

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HDR
9450 W. BRYN MAWR AVE.
ROSEMONT, IL 60018

USER NAME = YPARK	DESIGNED - NSA	REVISED -	
	DRAWN - NSA	REVISED -	
PLOT SCALE = 10.0005 ' / In.	CHECKED - DP	REVISED -	
PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -	

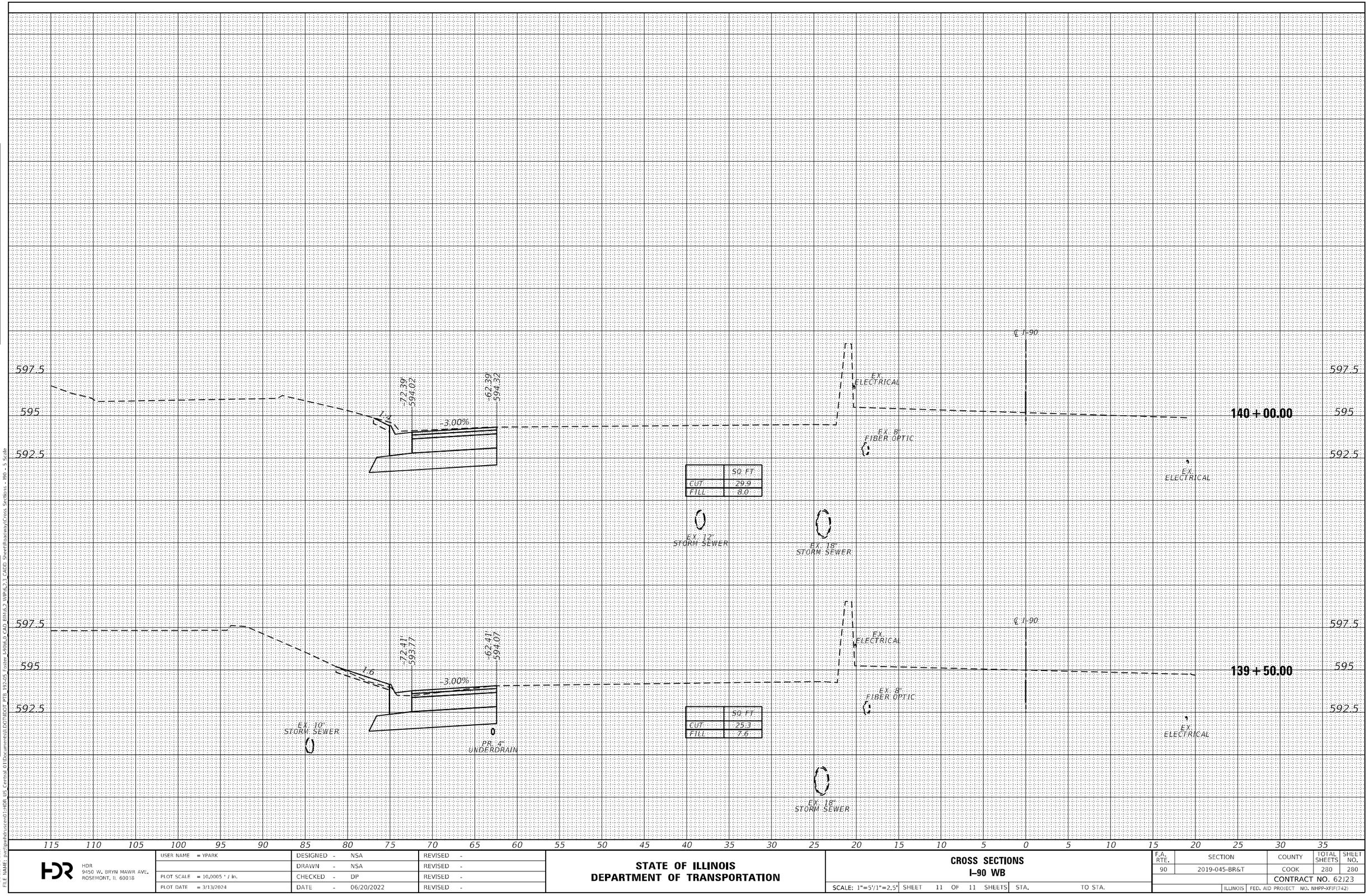
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' | SHEET 10 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	279
		CONTRACT NO. 62J23		
		ILLINOIS	FED. AID PROJECT NO. NHPP-XF1F(742)	

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



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

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HDR 9450 W. BRYN MAWR AVE. ROSEMONT, IL 60018	USER NAME = YPARK	DESIGNED - NSA	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
		DRAWN - NSA	REVISED -	
	PLOT SCALE = 10.0005 ' / in.	CHECKED - DP	REVISED -	
	PLOT DATE = 3/13/2024	DATE - 06/20/2022	REVISED -	

CROSS SECTIONS
I-90 WB

SCALE: 1"=5'/1"=2.5' | SHEET 11 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2019-045-BR&T	COOK	280	280
		CONTRACT NO. 62J23		
	ILLINOIS	FED. AID PROJECT NO. NHPP-XFIF(742)		