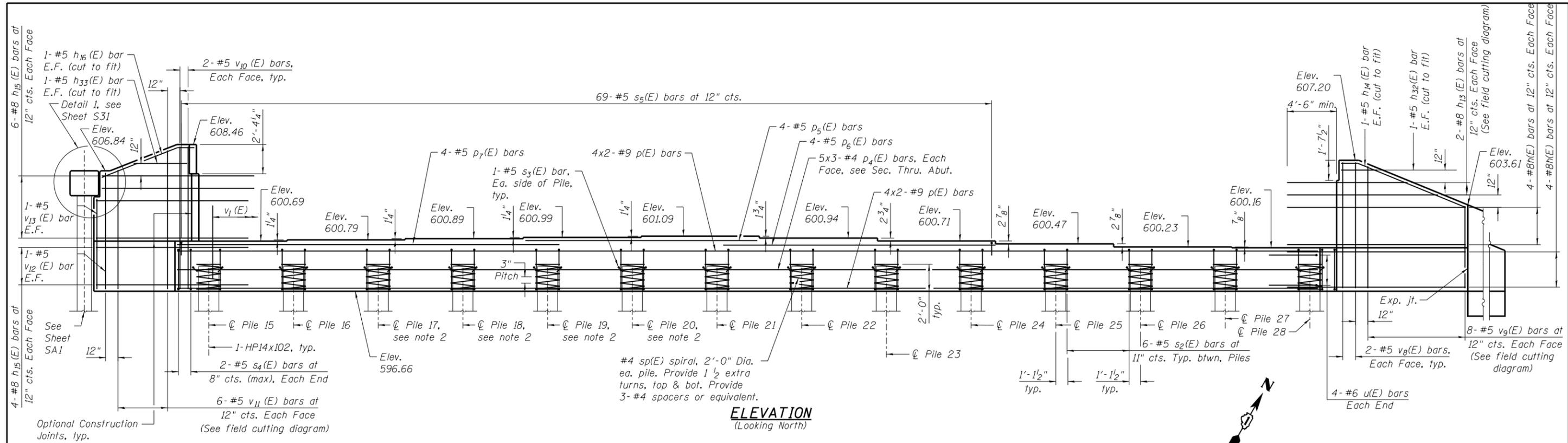
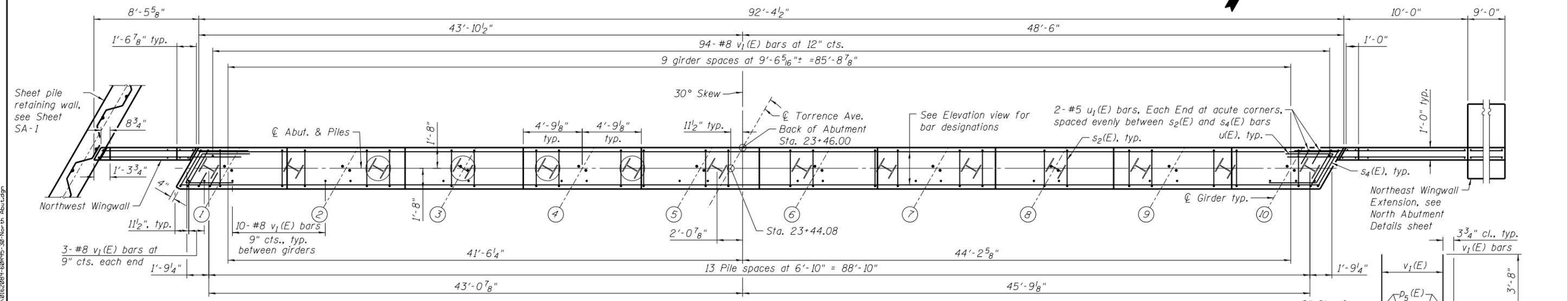


FILE NAME = I:\Projects\4016179\_0001\90\_Cad\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-30-North Abut.dgn



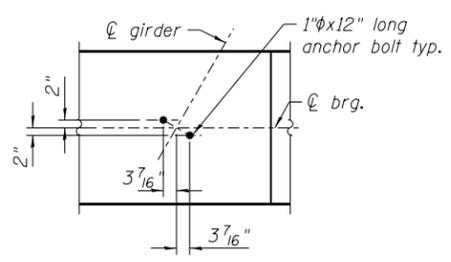
**ELEVATION**  
(Looking North)



**PLAN**

**PILE DATA**

Type: HP14x102  
 Nominal Required Bearing: 677 kips  
 Factored Resistance Available: 270 kips  
 Est. Length: 86'  
 No. Production Piles: 13  
 No. Test Piles: 1



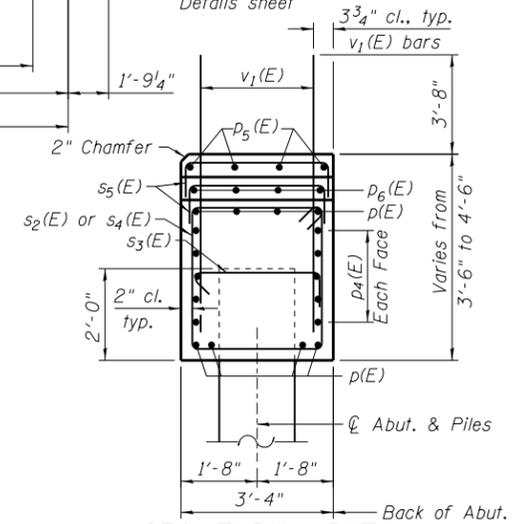
**TYPICAL - BEARING ANCHOR BOLT DETAIL**

**MIN. BAR LAP**

#4 bar = 2'-4"  
 #5 bar = 2'-11"  
 #9 bar = 9'-8"

**Notes:**

1. Pour steps monolithically with abutment cap.
2. All piles shall be driven through 2'-0"  $\phi$  pre-cored holes in accordance with article 512.09c of the Standard Specifications. Pre-cored holes for Piles noted  $\text{\textcircled{P}}$  shall extend to elevation 563.0 $\pm$ , through the existing concrete footing, holes for all other piles shall extend to elevation 590.0 $\pm$ . Cost to be included in Driving Piles.
3. Bars indicated thus 4X2-#9 etc. indicates 4 lines of bars with 2 lengths per line.
4. Space stirrups and longitudinal bars to miss anchor bolts.
5. Test pile to be driven in production pile location.



**SEC. THRU. ABUT.**

Dimensions at right angles to abutment



USER NAME = PattisJM	DESIGNED - STB	REVISED - AAA
	CHECKED - AAA	REVISED - AAA
PLOT SCALE =	DRAWN - STB	REVISED - AAA
PLOT DATE = 6/29/2015	CHECKED - AAA	REVISED - AAA

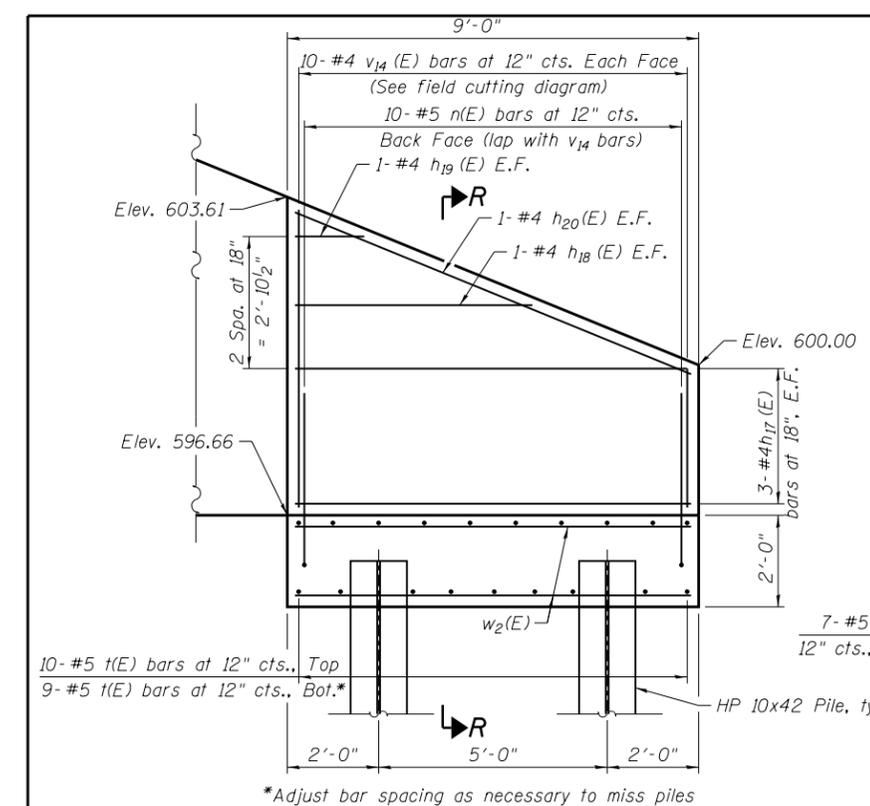
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT PLAN & ELEVATION**  
**STRUCTURE NO. 016-2089**

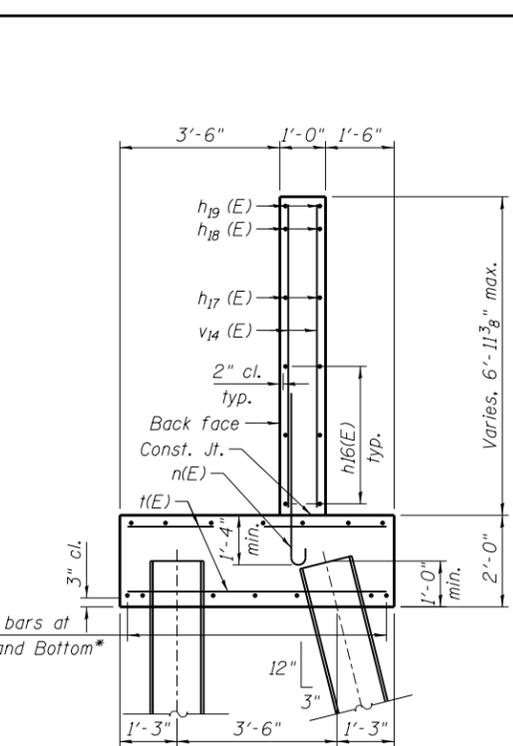
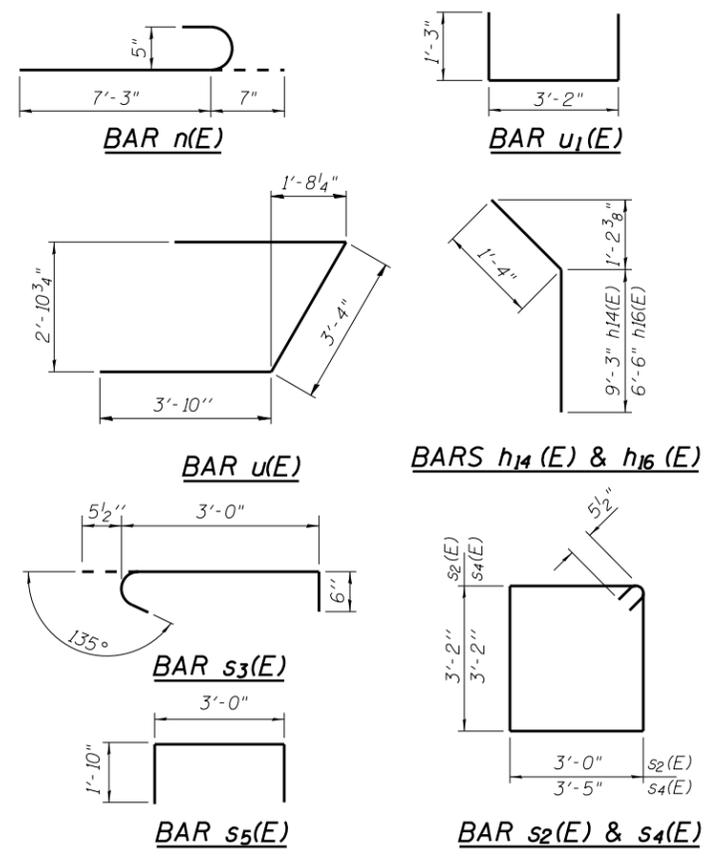
SHEET NO. S30 OF S48 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	101
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

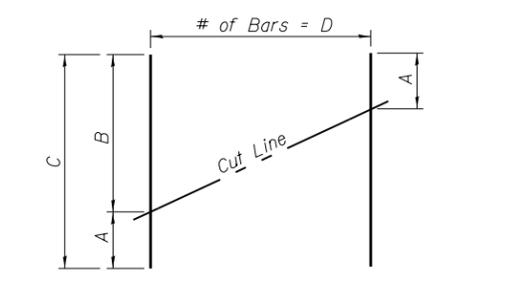
FILE NAME = I:\Projects\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\01620895-60R95-31-North\_Abut\_Details.dgn



**NORTHEAST WINGWALL EXTENSION**



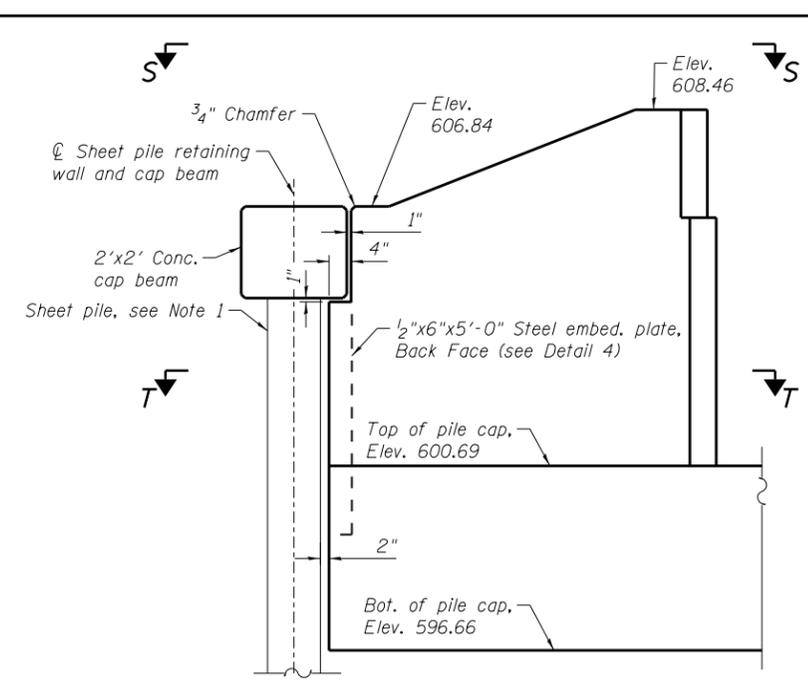
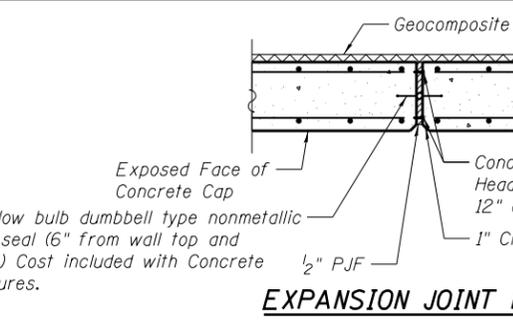
**SECTION R-R**



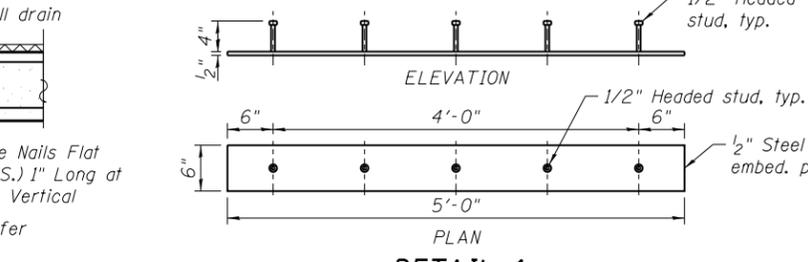
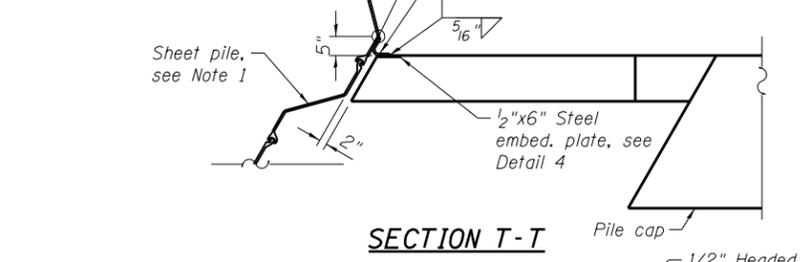
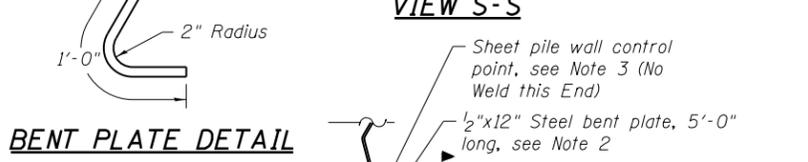
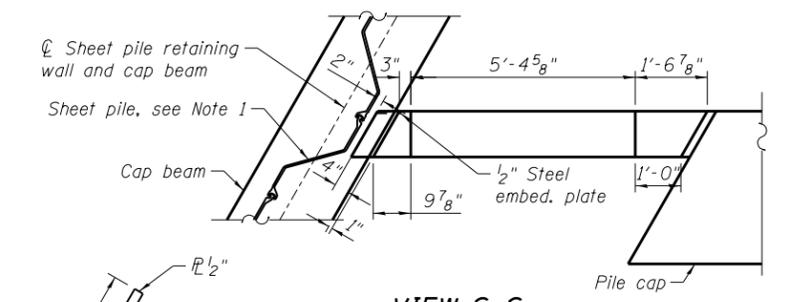
**BARS h13(E), v9(E), v11(E), v14(E) FIELD CUTTING DIAGRAM**

Order bars full length (dim. "C"). Cut as shown and use remainder of bars in opposite face.

Bar Designation	A	B	C	D
h13(E)	10'-0"	12'-6"	22'-6"	2
v9(E)	6'-8"	9'-10"	16'-6"	9
v11(E)	9'-7"	11'-2"	20'-9"	5
v14(E)	3'-0"	6'-6"	9'-6"	10



**DETAIL 3**



**DETAIL 4**

Note: All dimensions above are perpendicular to sheet pile wall.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	16	#8	14'-9"	
h13(E)	2	#8	22'-6"	
h14(E)	2	#5	10'-8"	
h15(E)	24	#8	12'-6"	
h16(E)	2	#5	8'-4"	
h17(E)	6	#4	8'-8"	
h18(E)	2	#4	5'-2"	
h19(E)	2	#4	1'-6"	
h20(E)	2	#4	9'-4"	
h32(E)	2	#5	3'-1"	
h33(E)	2	#5	5'-0"	
n(E)	16	#5	5'-4"	
p(E)	16	#9	51'-0"	
p4(E)	30	#4	32'-8"	
p5(E)	4	#5	18'-8"	
p6(E)	4	#5	22'-9"	
p7(E)	4	#5	31'-9"	
s2(E)	76	#5	13'-3"	
s3(E)	28	#5	4'-0"	
s4(E)	76	#5	14'-1"	
s5(E)	69	#5	6'-8"	
sp(E)	14	#4	2'-0"	***
t(E)	19	#5	5'-8"	
u(E)	8	#6	11'-0"	
u1(E)	4	#5	5'-8"	
v1(E)	190	#8	8'-0"	
v8(E)	4	#5	10'-2"	
v9(E)	9	#5	16'-6"	
v10(E)	4	#5	11'-5"	
v11(E)	6	#5	20'-9"	
v12(E)	2	#5	9'-10"	
v13(E)	2	#5	7'-9"	
v14(E)	10	#4	9'-6"	
w1(E)	14	#5	8'-8"	
Structure Excavation		Cu. Yd.	54	
Concrete Structures		Cu. Yd.	58.5	
Reinforcement Bars, Epoxy Coated		Pound	12,780	
Furnishing - Piles, HP10x42		Foot	104	
Furnishing - Piles, HP14x102		Foot	1,118	
Driving Piles		Foot	1,222	
Test Pile, HP14x102		Each	1	
Granular Backfill for Structures		Cu. Yd.	252	
Pipe Underdrain for Structures, 4"		Foot	134	

\*\*\* Length is height of spiral. For details of piles see sheet S36. Bill of material shown is for north abutment and wingwalls.

**PILE DATA - WINGWALL EXTENSION**

- Type: HP 10x42  
 Nominal Required Bearing: 73 kips  
 Factored Resistance Available: 40 kips  
 Est. Length: 26 ft  
 No. Production Piles: 4
- Notes:
- Wingwall dimensions are based on a 12" deep sheet pile section used to construct sheet pile wall. If sheet pile depth varies, dimensions of wingwall at sheet pile wall connection may vary accordingly.
  - Bent plate shall be placed so that one leg is in contact with face of sheet piling.
  - Sheet pile wall control point is established to provide closed gap between wingwall and sheet pile wall during thermally induced movement of the abutment and wingwalls once steel bent plate is in place. See sheet SA1.
  - Steel for embedded plate and bent plate shall be AASHTO M270 Grade 50, and shall be galvanized in accordance with AASHTO M111. The cost shall be included in the cost of Concrete Structures.
  - For drainage details behind wingwall extension, see Sheet S29

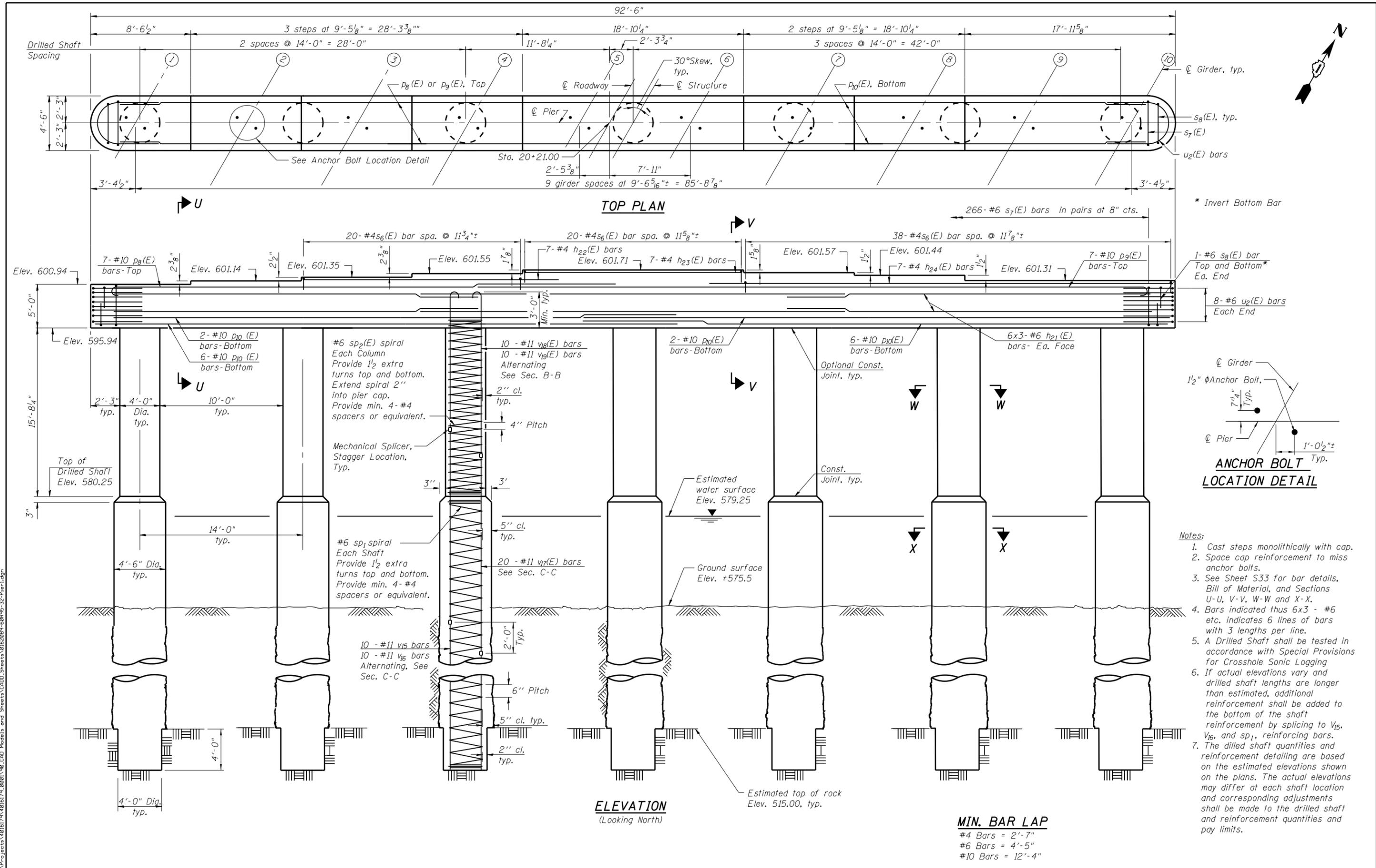


USER NAME = PattisJM	DESIGNED - STB	REVISION
PLOT SCALE =	CHECKED - RDW	REVISION
PLOT DATE = 6/29/2015	DRAWN - STB	REVISION
	CHECKED - RDW	REVISION

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT DETAILS  
 STRUCTURE NO. 016-2089  
 SHEET NO. S31 OF S48 SHEETS

F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	102
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				



- Notes:**
1. Cast steps monolithically with cap.
  2. Space cap reinforcement to miss anchor bolts.
  3. See Sheet S33 for bar details, Bill of Material, and Sections U-U, V-V, W-W and X-X.
  4. Bars indicated thus 6x3 - #6 etc. indicates 6 lines of bars with 3 lengths per line.
  5. A Drilled Shaft shall be tested in accordance with Special Provisions for Crosshole Sonic Logging.
  6. If actual elevations vary and drilled shaft lengths are longer than estimated, additional reinforcement shall be added to the bottom of the shaft reinforcement by splicing to V<sub>15</sub>, V<sub>16</sub>, and sp<sub>1</sub>, reinforcing bars.
  7. The drilled shaft quantities and reinforcement detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft location and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and pay limits.

**MIN. BAR LAP**  
 #4 Bars = 2'-7"  
 #6 Bars = 4'-5"  
 #10 Bars = 12'-4"

FILE NAME = I:\Projects\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\01620895-60R95-32-Pier1.dgn



USER NAME = PattisJM	DESIGNED - JMP	REVISED
	CHECKED - RDW	REVISED
PLOT SCALE =	DRAWN - JMP	REVISED
PLOT DATE = 6/29/2015	CHECKED - RDW	REVISED

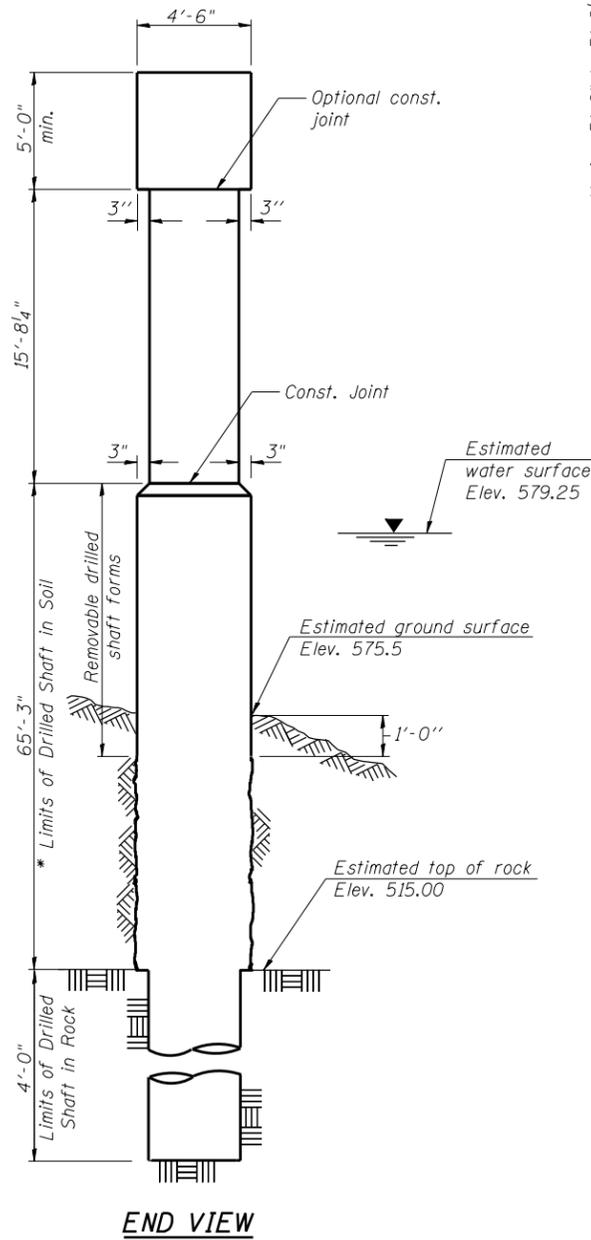
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 1 PLAN & ELEVATION  
STRUCTURE NO. 016-2089**

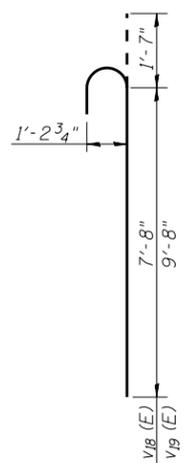
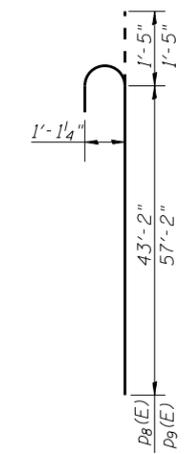
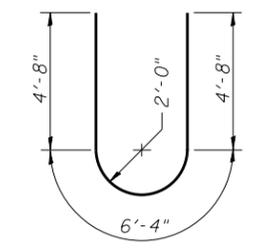
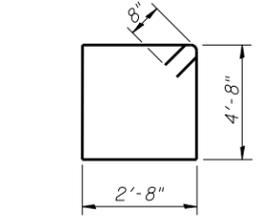
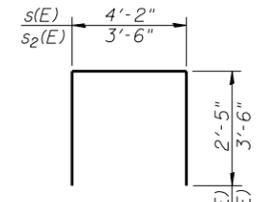
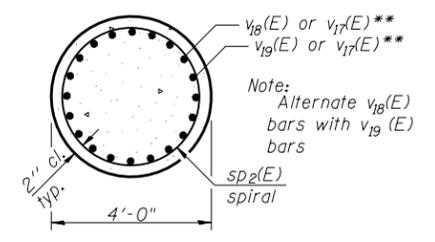
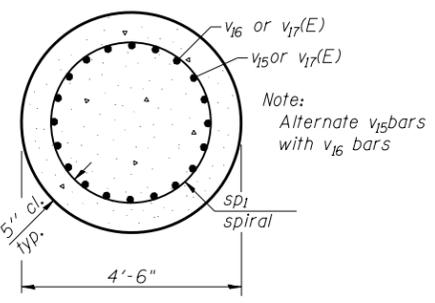
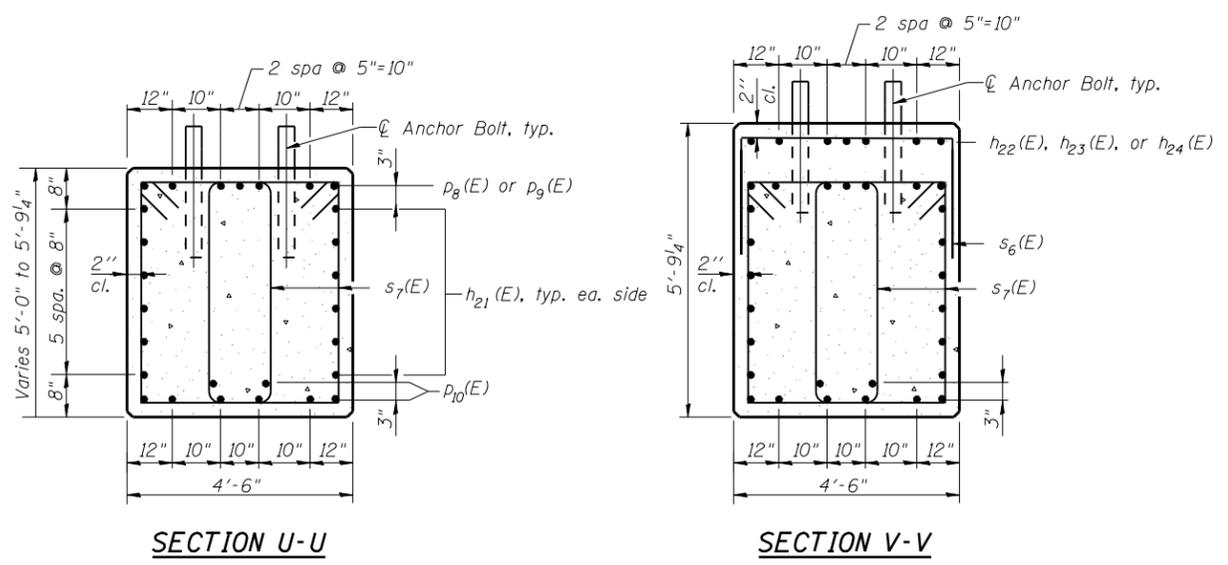
SHEET NO. S32 OF S48 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	103
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

FILE NAME = I:\Projects\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-33-Pier1D1.sxdgn



\* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>21</sub> (E)	36	#6	32'-4"	—
h <sub>22</sub> (E)	7	#4	21'-9"	—
h <sub>23</sub> (E)	7	#4	18'-6"	—
h <sub>24</sub> (E)	7	#4	39'-8"	—
p <sub>8</sub> (E)	9	#10	44'-7"	⌋
p <sub>9</sub> (E)	9	#10	58'-7"	⌋
p <sub>10</sub> (E)	16	#10	49'-5"	—
s <sub>6</sub> (E)	66	#4	9'-0"	U
s <sub>7</sub> (E)	266	#6	16'-0"	⊠
s <sub>8</sub> (E)	4	#6	10'-6"	U
SD <sub>1</sub>	7	#6	69'-1"	⌋
SD <sub>2</sub> (E)	7	#6	15'-11"	⌋
u <sub>2</sub> (E)	16	#6	15'-8"	U
v <sub>15</sub>	70	#11	18'-4"	—
v <sub>16</sub>	70	#11	20'-4"	—
v <sub>17</sub> (E)	140	#11	60'-0"	—
v <sub>18</sub> (E)	70	#11	9'-3"	⌋
v <sub>19</sub> (E)	70	#11	11'-3"	⌋
Concrete Structures	Cu. Yd.	136.1		
Reinforcement Bars, Epoxy Coated	Pound	74,220		
Reinforcement Bars	Pounds	31,205		
Drilled Shaft in Soil	Cu. Yd.	269.0		
Drilled Shaft in Rock	Cu. Yd.	13.0		
Crosshole Sonic Logging	Each	1		

Cast steps monolithically with cap.  
Space cap reinforcement to miss anchor bolts.  
\*\* Length is height of spiral.  
Minimum lap for spirals = 3'-10" (Epoxy), 2'-7" (Non-Epoxy)

- Notes:
1. Drilled Shaft Factored Resistance = 1332 kips
  2. Each longitudinal bar shall be supported by a 3" high bolster of non corrosive, durable material.
  3. Place bars symmetrically about the shaft.



USER NAME = PattisJM	DESIGNED - JMP	REVISED
	CHECKED - RDW	REVISED
PLOT SCALE =	DRAWN - JMP	REVISED
PLOT DATE = 6/29/2015	CHECKED - RDW	REVISED

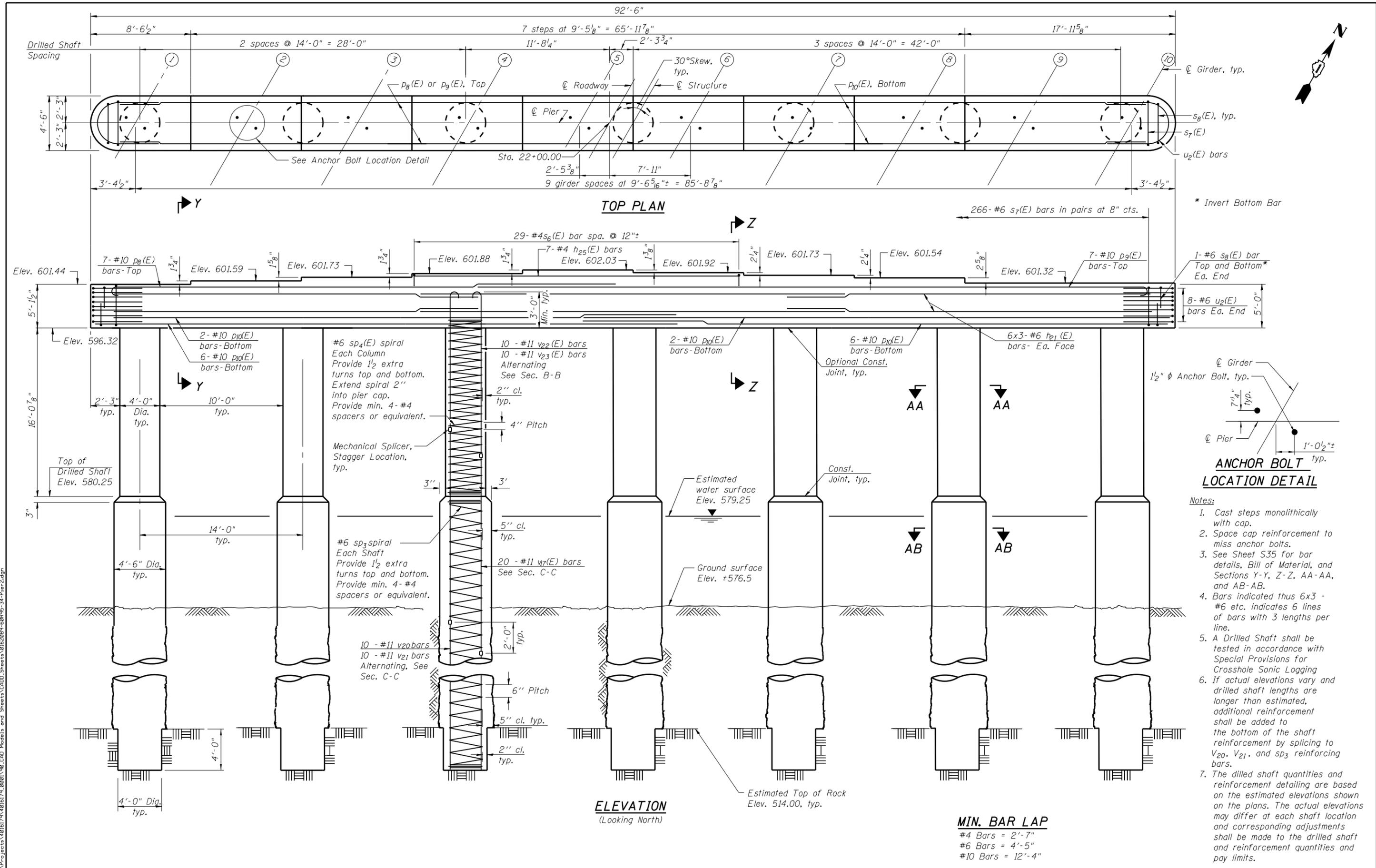
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 1 DETAILS  
STRUCTURE NO. 016-2089

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	104
CONTRACT NO. 60R95				

SHEET NO. S33 OF S48 SHEETS

ILLINOIS FED. AID PROJECT



FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162085-60R95-34-Pier2.dgn



USER NAME = PattsJM	DESIGNED - JMP	REVISED
PLOT SCALE =	CHECKED - RDW	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

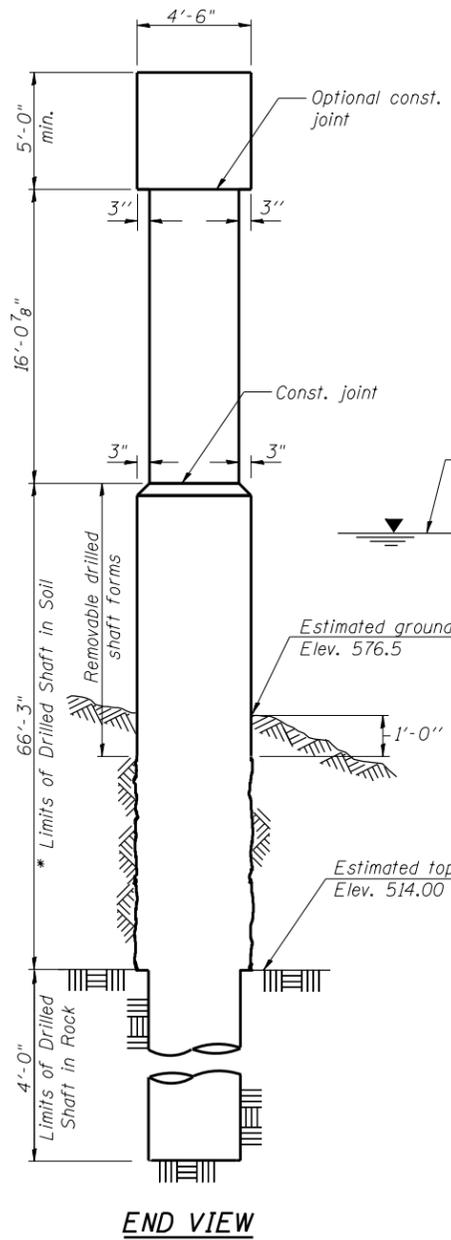
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2 PLAN & ELEVATION  
STRUCTURE NO. 016-2089

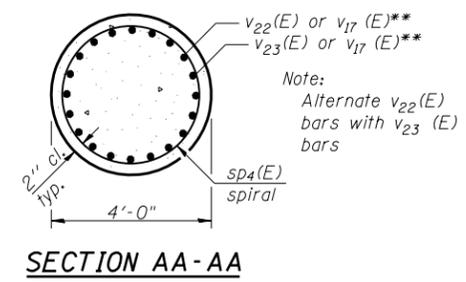
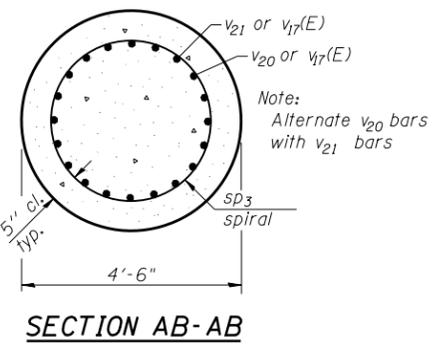
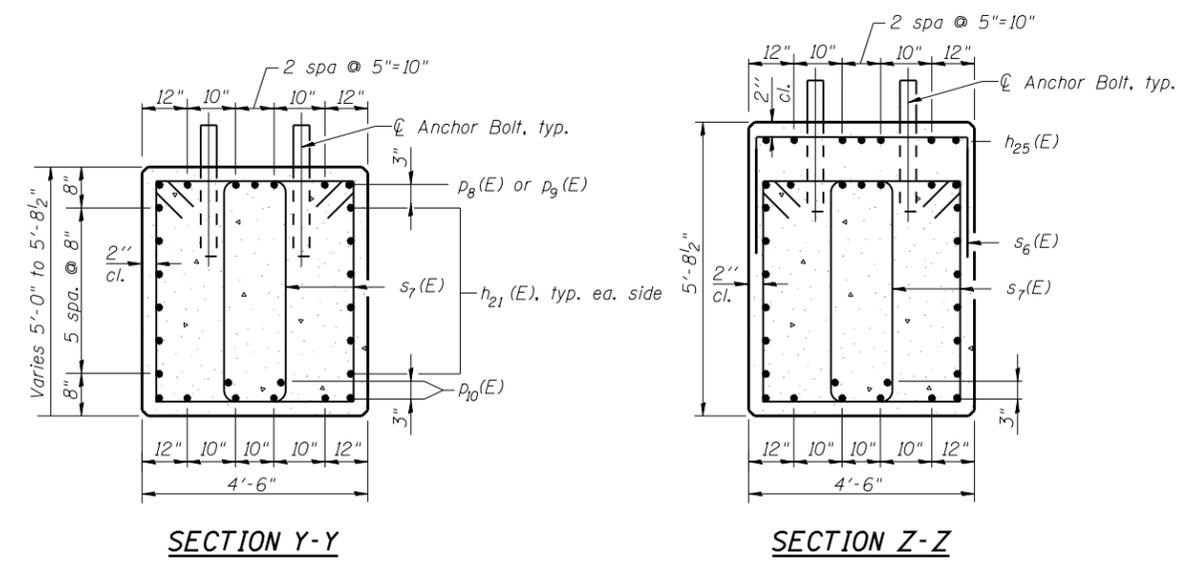
SHEET NO. S34 OF S48 SHEETS

F.A.P. RTE. 358	SECTION 1112.1B-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 105
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

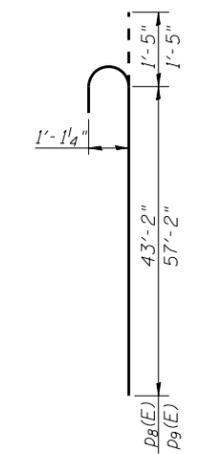
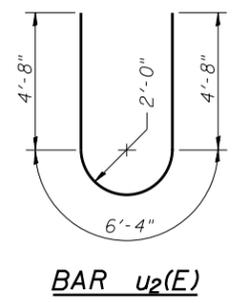
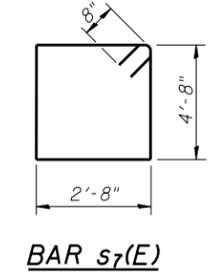
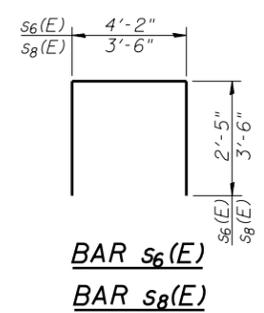
FILE NAME = I:\Projects\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-35-Pier-2011.dgn



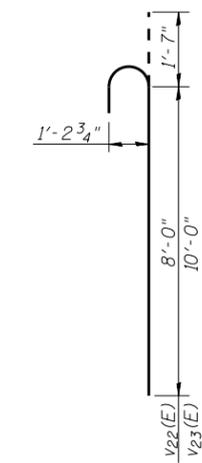
\* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.



\*\* v23(E) bars are placed in bar run with v20 bars.  
v22(E) bars are placed in bar run with v21 bars.



BAR p8(E) and p9(E)



BAR v22(E) and v23(E)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h21(E)	36	#6	32'-4"	—
h25(E)	7	#4	27'-11"	—
p8(E)	9	#10	44'-7"	U
p9(E)	9	#10	58'-7"	U
p10(E)	16	#10	49'-5"	—
s6(E)	66	#4	9'-0"	U
s7(E)	266	#6	16'-0"	□
s8(E)	4	#6	10'-6"	U
SD3	7	#6	70'-1"	W
SD4(E)	7	#6	16'-3"	W
u2(E)	16	#6	15'-8"	U
v17(E)	140	#11	60'-0"	—
v20	70	#11	19'-4"	—
v21	70	#11	21'-4"	—
v22(E)	70	#11	9'-7"	—
v23(E)	70	#11	11'-7"	—
Concrete Structures		Cu. Yd.	135.3	
Reinforcement Bars, Epoxy Coated		Pound	74,060	
Reinforcement Bars		Pounds	32,185	
Drilled Shaft in Soil		Cu. Yd.	273.0	
Drilled Shaft in Rock		Cu. Yd.	13.0	
Crosshole Sonic Logging		Each	1	

Cast steps monolithically with cap.  
Space cap reinforcement to miss anchor bolts.  
\*\* Length is height of spiral.  
Minimum lap splice for spirals = 3'-10" (Epoxy), 2'-7" (Non-Epoxy)

**Notes:**

1. Drilled Shaft Factored Resistance = 1332 kips
2. Each longitudinal bar shall be supported by a 3" high bolster of non corrosive, durable material.
3. Place bars symmetrically about the shaft.



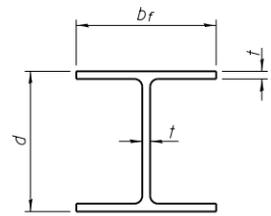
USER NAME = PattisJM	DESIGNED - JMP	REVISED
	CHECKED - RDW	REVISED
PLOT SCALE =	DRAWN - JMP	REVISED
PLOT DATE = 6/29/2015	CHECKED - RDW	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2 DETAILS  
STRUCTURE NO. 016-2089

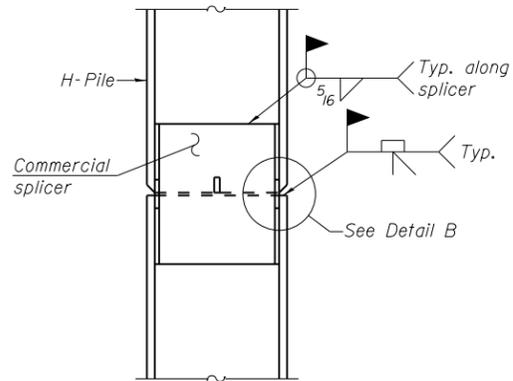
SHEET NO. S35 OF S48 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	106
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

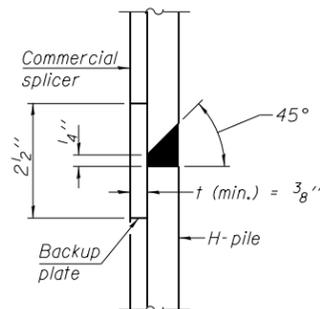


**STEEL PILE TABLE**

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

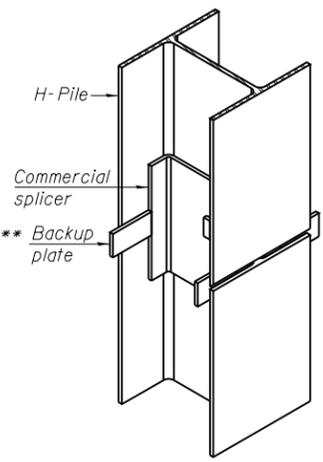


**ELEVATION**

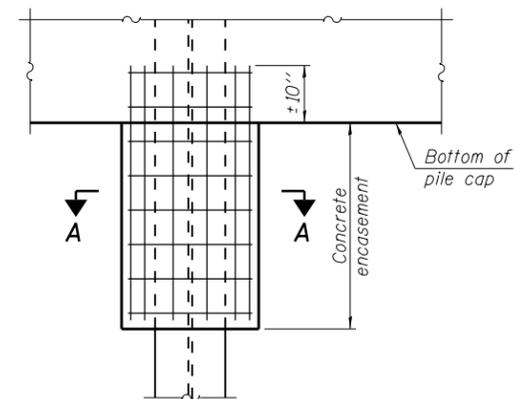


**DETAIL "B"**

**WELDED COMMERCIAL SPLICE**

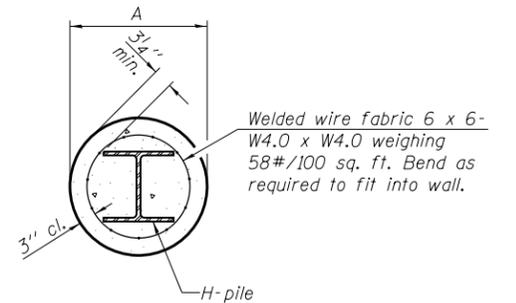


**ISOMETRIC VIEW**



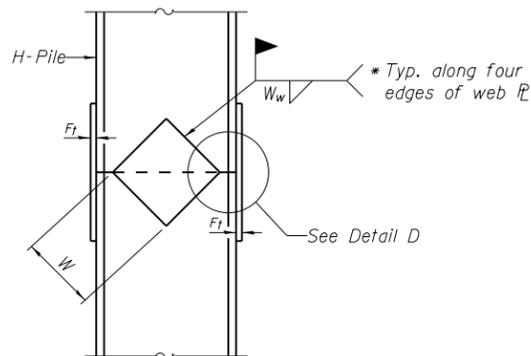
**ELEVATION**

**PILE ENCASEMENT**

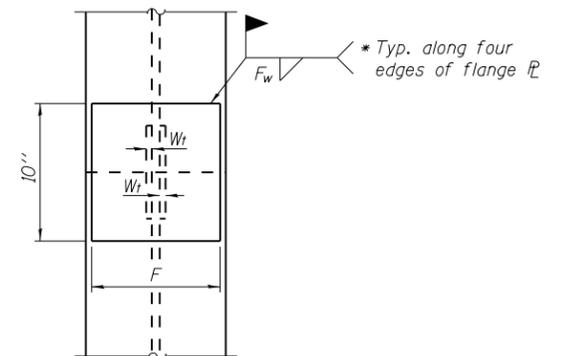


**SECTION A-A**

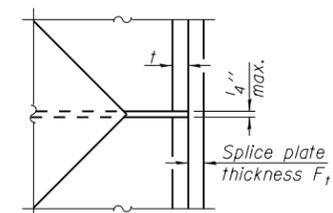
Note:  
Forms for encasement may be omitted when soil conditions permit.



**ELEVATION**



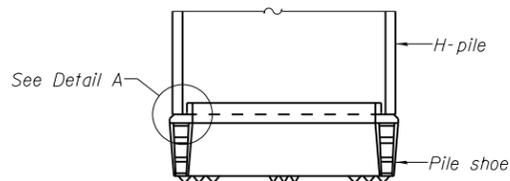
**END VIEW**



**DETAIL D**

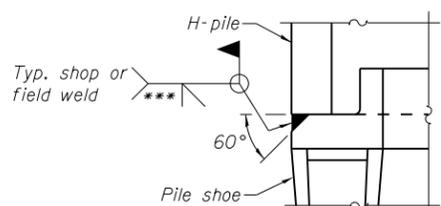
**WELDED PLATE FIELD SPLICE**

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 8/8"	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"

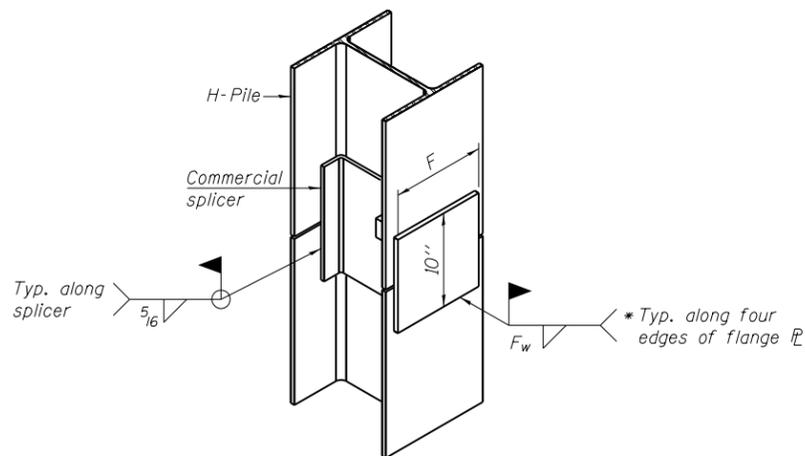


**ELEVATION**

**H-PILE SHOE ATTACHMENT**



**DETAIL A**



**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.

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

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-36-HP1\hp1.dgn

F-HP

1-27-12



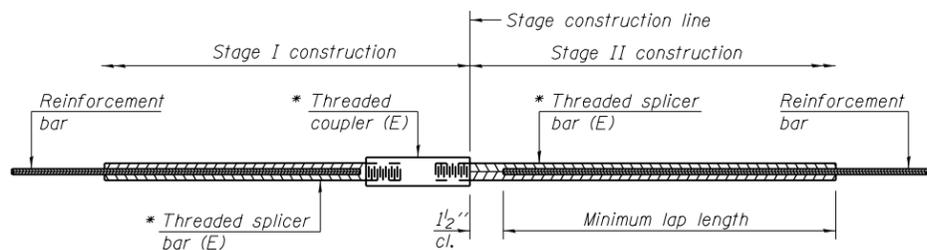
USER NAME = PattsJM	DESIGNED - STB	REVISED
PLOT SCALE =	CHECKED - RDW	REVISED
PLOT DATE = 6/29/2015	DRAWN - STB	REVISED
	CHECKED - RDW	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS  
STRUCTURE NO. 016-2089

SHEET NO. S36 OF S48 SHEETS

F.A.P. RTE. 358	SECTION 1112.IB-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 107
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				



**STANDARD BAR SPLICER ASSEMBLY**

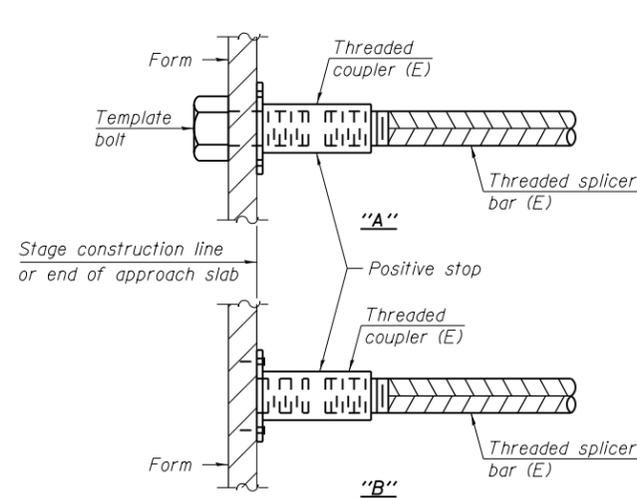
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

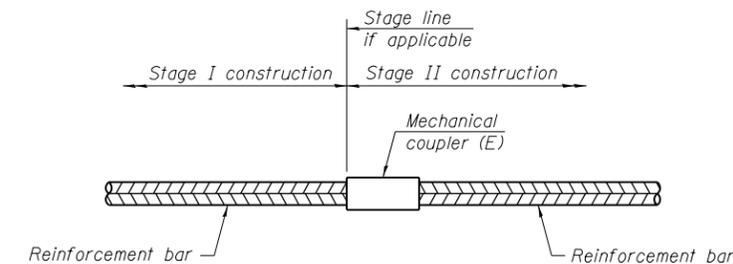
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



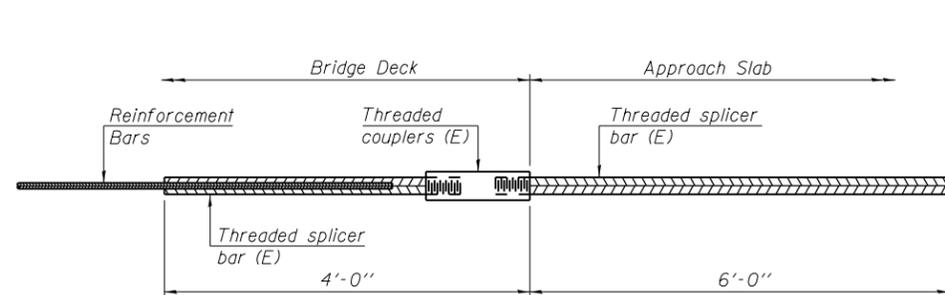
**INSTALLATION AND SETTING METHODS**

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



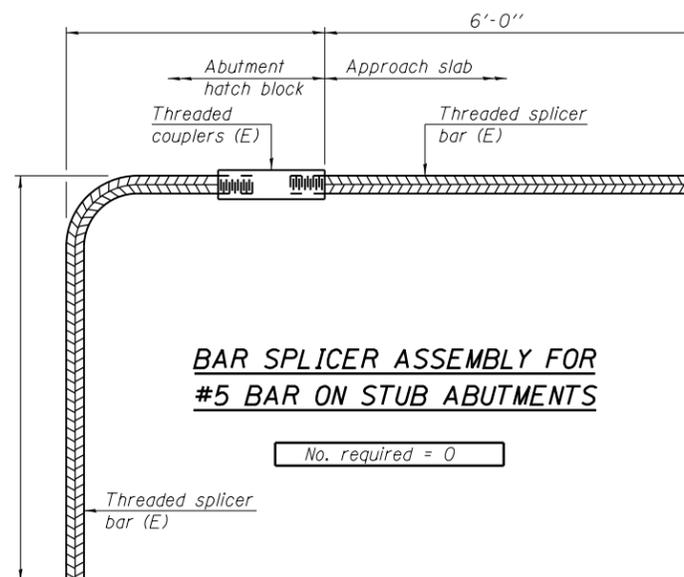
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required
Pier 1	#11	280
Pier 2	#11	280



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

No. required = 0



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required = 0

**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

8-31-12



USER NAME = PattsJM	DESIGNED - JMP	REVISED
PLOT SCALE =	CHECKED - RDW	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

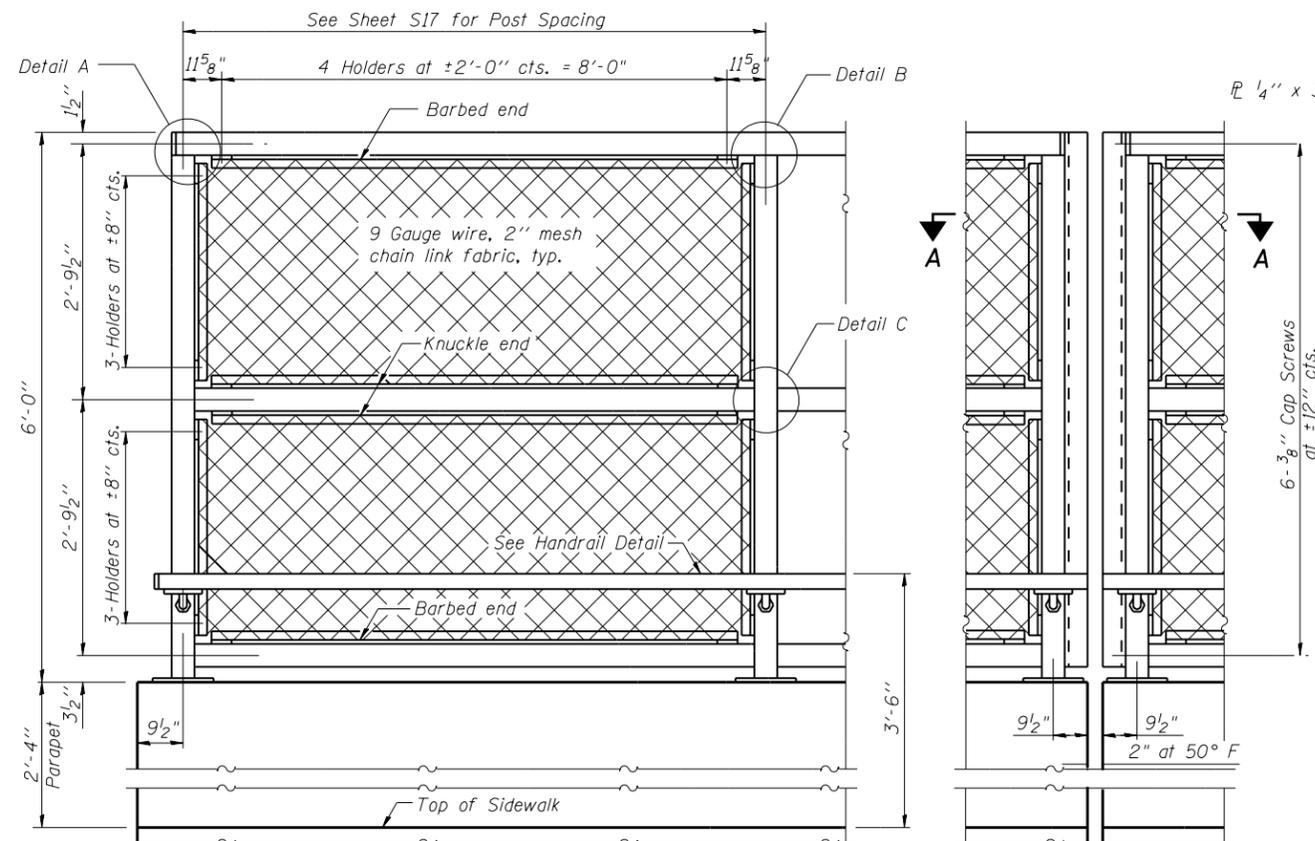
BAR SPLICER DETAILS  
STRUCTURE NO. 016-2089

SHEET NO. S37 OF S48 SHEETS

F.A.P. RTE. 358	SECTION 1112.IB-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 108
				CONTRACT NO. 60R95
ILLINOIS FED. AID PROJECT				

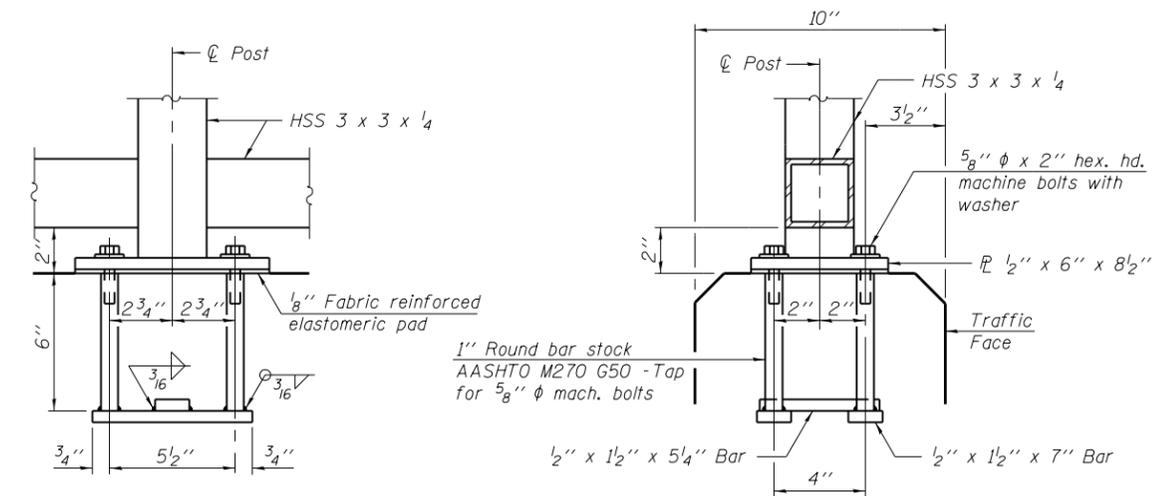
FILE NAME = I:\Projects\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-37-Bar-Splicer.dgn





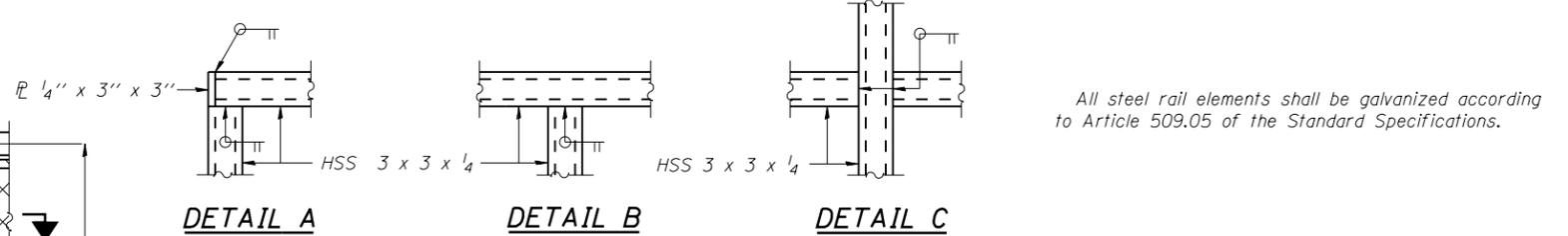
**ELEVATION**  
(Inside Face)

**ELEVATION**  
(At Abutment Joint)



**ANCHOR BOLT DETAILS**

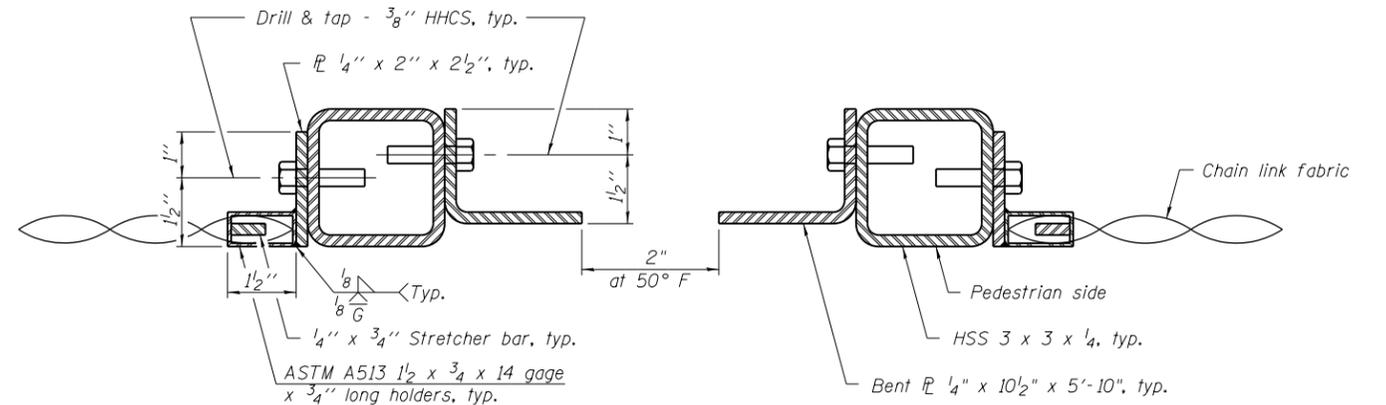
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8"  $\phi$  anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



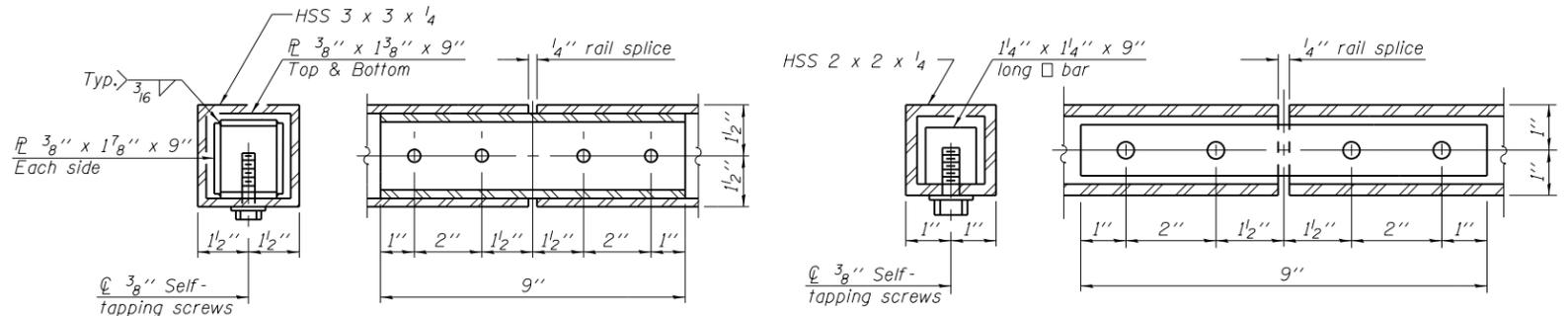
**DETAIL A**

**DETAIL B**

**DETAIL C**

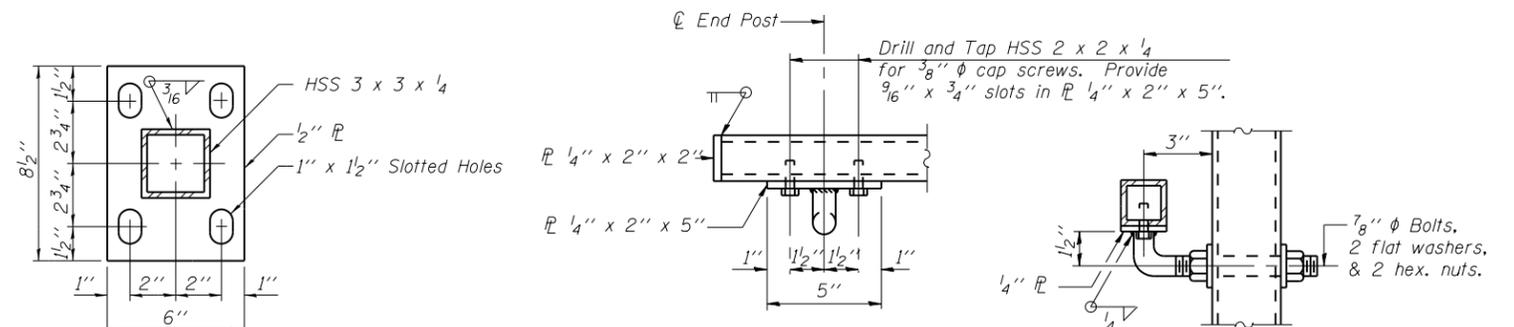


**SECTION A-A**



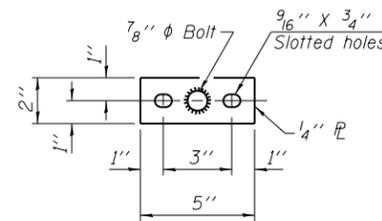
**RAIL SPLICE**

**HANDRAIL SPLICE**



**BASE PL**

**HANDRAIL DETAIL**



**BASE PL**

(Handrail)

**BILL OF MATERIAL**

Item	Unit	Quantity
Bridge Fence Railing	Foot	495

R-28

7-1-10 (10'-0" Maximum Post Spacing)



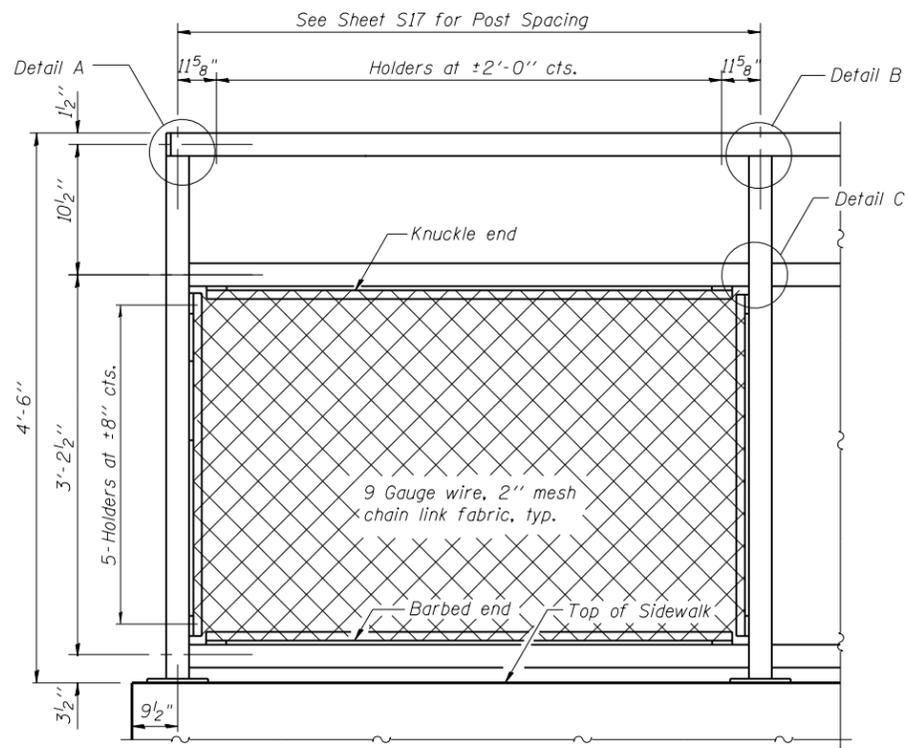
USER NAME = PattisJM	DESIGNED - JMP	REVISED
PLOT SCALE =	CHECKED - RDW	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

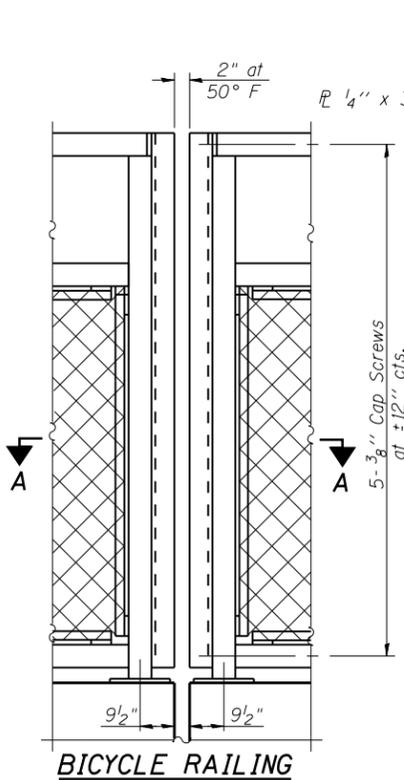
**BRIDGE FENCE RAILING**  
**STRUCTURE NO. 016-2089**

SHEET NO. S38 OF S48 SHEETS

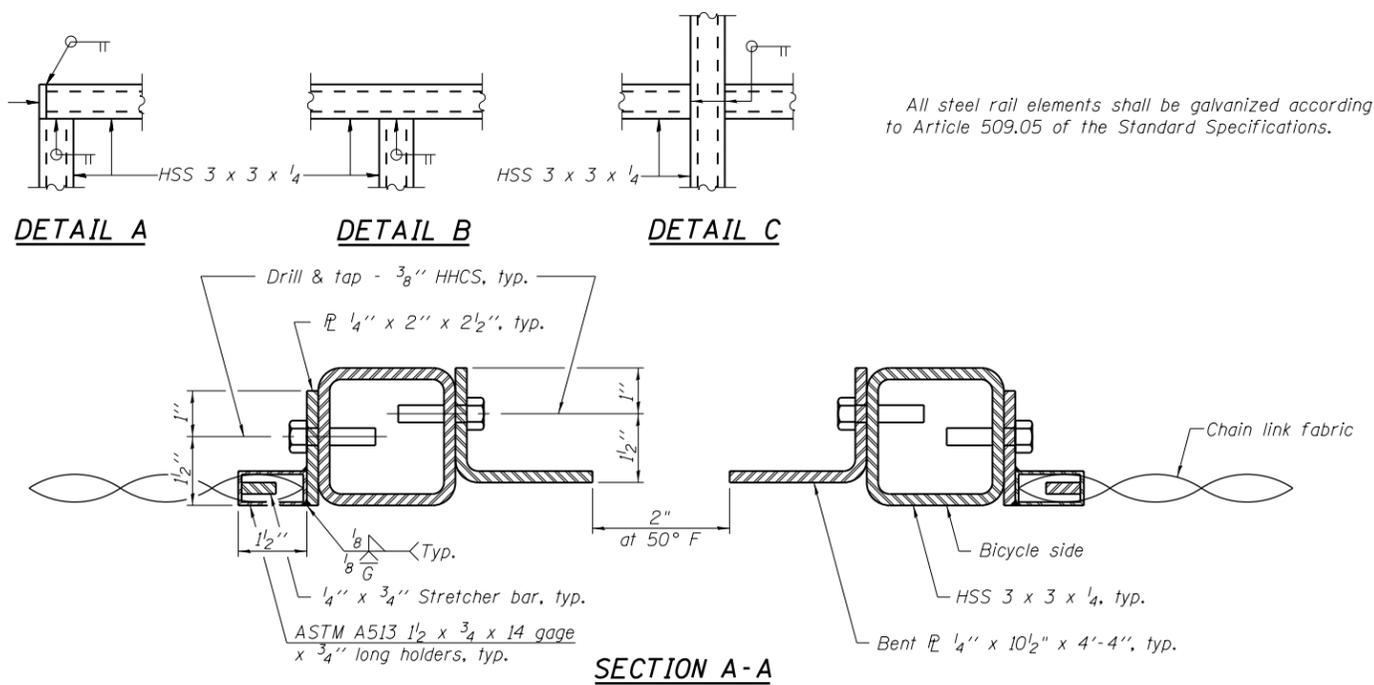
F.A.P. RTE. 358	SECTION 1112.IB-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 109
CONTRACT NO. 60R95				ILLINOIS FED. AID PROJECT



**BICYCLE RAILING**

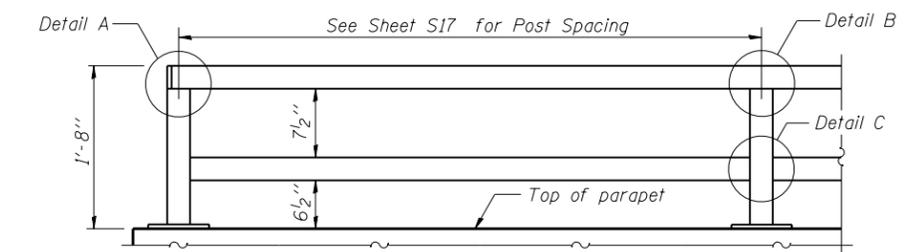


**BICYCLE RAILING**

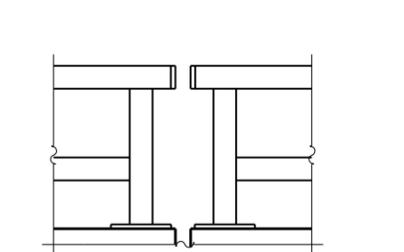


All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

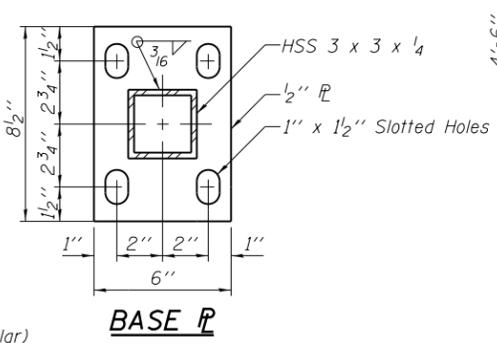
**SECTION A-A**



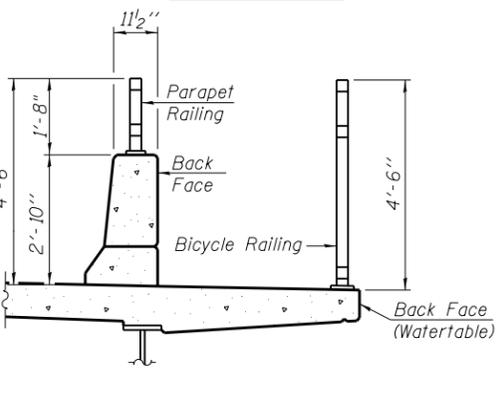
**PARAPET RAILING ELEVATION**  
(Inside Face of Two Element Rail)



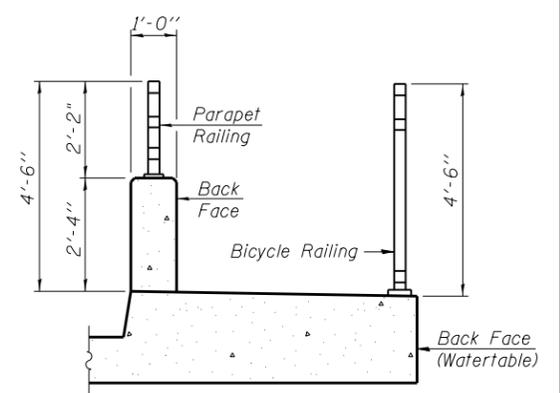
**PARAPET RAILING ELEVATION AT ABUTMENT**  
(Two Element Rail Shown - Three Element Rail Similar)



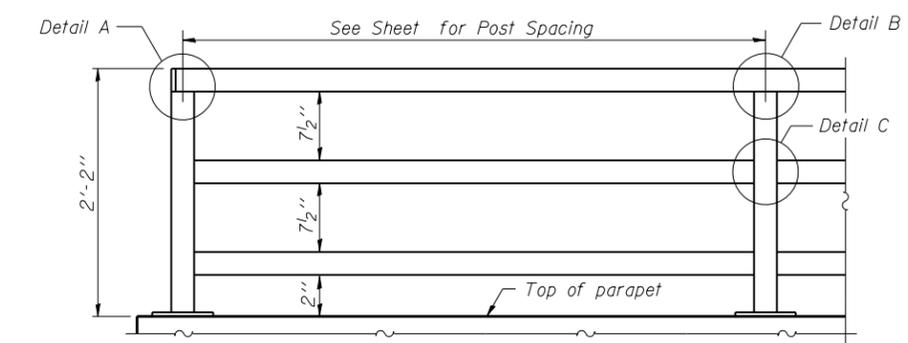
**BASE PLATE**



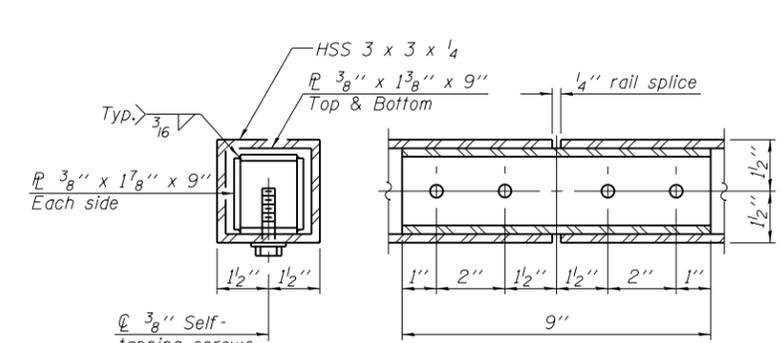
**SECTION THRU DECK**



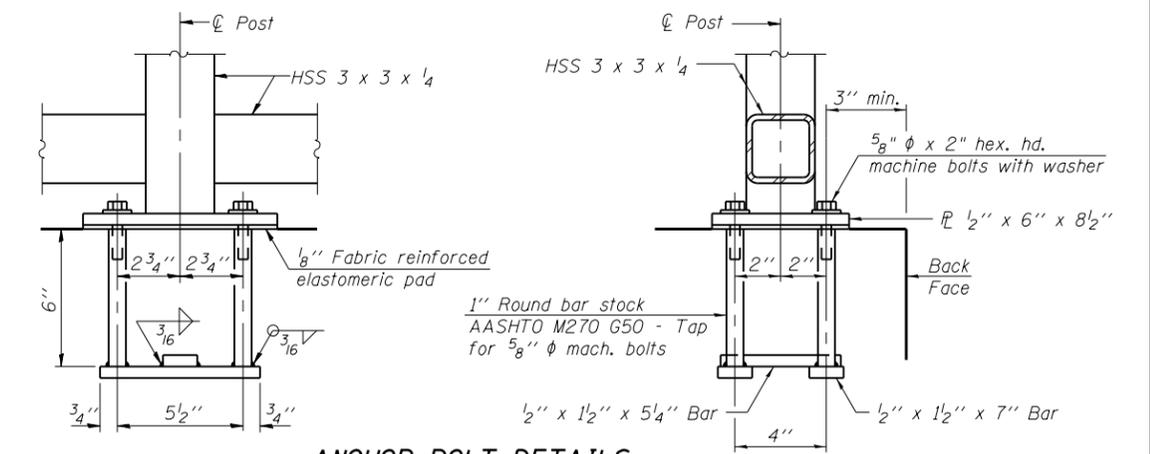
**SECTION THRU SIDEWALK**



**PARAPET RAILING ELEVATION**  
(Inside Face of Three Element Rail)



**RAIL SPLICE**



**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8 inch diameter anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing	Foot	526
Parapet Railing	Foot	527

R-29 1-27-12 (10'-0" Maximum Post Spacing)



USER NAME = PattsJM	DESIGNED - JMP	REVISED
PLOT SCALE =	CHECKED - RDW	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE RAILING  
STRUCTURE NO. 016-2089

SHEET NO. S39 OF S48 SHEETS

F.A.P. RTE. 358	SECTION 1112.IB-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 110
				CONTRACT NO. 60R95
ILLINOIS FED. AID PROJECT				



**BORING LOG BSB-01** Page 1 of 3

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

WEI Job No.: 272-18-01

Datum: NAVD88  
Elevation: 610.23 ft  
North: 1813804.16 ft  
East: 1195784.13 ft  
Station: 18+47.44  
Offset: 23.01 LT

Client: **STV Incorporated**  
Project: **Torrence Ave over Grand Calumet River - Phase II**  
Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Cu (pcf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Cu (pcf)	Moisture Content (%)
608.8	20-inch thick, white and brown GRAVELLY SAND							608.8	SI11.5	11			5	1.31	19
607.2	Very stiff, brown SILTY CLAY LOAM	1		1	6	NP		607.2	SI12.2	12		2	0.82	28	
604.1	Loose, brown GRAVELLY SAND, trace slag and shells	2		2	2	NP		604.1	SI20.5	20		2	2.13	25	
602.2	Very soft, brown and gray CLAY	3		3	0	0.25	30	602.2	SI25.5	25		2	2.13	25	
602.2	Very soft, black SILTY CLAY, trace gravel	4		4	0	0.16	36	602.2	SI25.5	25		2	2.13	25	
598.7	Loose, black GRAVELLY SAND to SANDY LOAM, trace slag, cinders and crushed stone	5		5	2	1.15	31	598.7	SI25.5	25		2	2.13	25	
		6		6	2	NP	27								
		7		7	2	NP	25								
		8		8	2	NP	20								
		9		9	3	NP	23								
		10		10	8	NP	27								

**GENERAL NOTES**

Begin Drilling 09-09-2013 Complete Drilling 09-09-2013

Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR

Driller R&J Logger A. Tomaras Checked by C. Marin

Drilling Method 2.25" HSA to 30' mud rotary thereafter, boring grouted upon completion

**WATER LEVEL DATA**

While Drilling  NA

At Completion of Drilling  NA

Time After Drilling NA

Depth to Water  NA

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

**BORING LOG BSB-01** Page 2 of 3

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

WEI Job No.: 272-18-01

Datum: NAVD88  
Elevation: 610.23 ft  
North: 1813804.16 ft  
East: 1195784.13 ft  
Station: 18+47.44  
Offset: 23.01 LT

Client: **STV Incorporated**  
Project: **Torrence Ave over Grand Calumet River - Phase II**  
Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Cu (pcf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Cu (pcf)	Moisture Content (%)
585.5	Medium stiff, gray SILT CLAY, trace gravel	17		17	4	0.98	15	585.5	SI17.5	17		4	0.98	15	
585.5	Medium dense, gray, medium SAND	18		18	7	NP	16	585.5	SI18.5	18		7	NP	16	
585.5	Very stiff, gray SILTY CLAY, trace gravel	19		19	5	5.03	20	585.5	SI19.5	19		5	5.03	20	
585.5	Medium dense, gray SILT	20		20	7	NP	18	585.5	SI20.5	20		7	NP	18	
585.5	Very stiff to hard, SILTY LOAM to SILTY CLAY LOAM, trace gravel	21		21	38	2.71	14	585.5	SI21.5	21		38	2.71	14	
		22		22	20	7.13	11								
		23		23	25	9.78	10								
		24		24	46	NP	10								
		25		25	50	NP									

**GENERAL NOTES**

Begin Drilling 09-09-2013 Complete Drilling 09-09-2013

Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR

Driller R&J Logger A. Tomaras Checked by C. Marin

Drilling Method 2.25" HSA to 30' mud rotary thereafter, boring grouted upon completion

**WATER LEVEL DATA**

While Drilling  NA

At Completion of Drilling  NA

Time After Drilling NA

Depth to Water  NA

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

**BORING LOG BSB-01** Page 3 of 3

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

WEI Job No.: 272-18-01

Datum: NAVD88  
Elevation: 610.23 ft  
North: 1813804.16 ft  
East: 1195784.13 ft  
Station: 18+47.44  
Offset: 23.01 LT

Client: **STV Incorporated**  
Project: **Torrence Ave over Grand Calumet River - Phase II**  
Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Cu (pcf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Cu (pcf)	Moisture Content (%)
585.5	moderately fragmented, vuggy and oherly							585.5	SI25.5	25					
	--Run 1: 96.0-106.0 ft--														
	--RECOVERY= 100%--														
	--RQD= 50%--														
	Boring terminated at 106.00 ft														

**GENERAL NOTES**

Begin Drilling 09-09-2013 Complete Drilling 09-09-2013

Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR

Driller R&J Logger A. Tomaras Checked by C. Marin

Drilling Method 2.25" HSA to 30' mud rotary thereafter, boring grouted upon completion

**WATER LEVEL DATA**

While Drilling  NA

At Completion of Drilling  NA

Time After Drilling NA

Depth to Water  NA

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

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\01620895-60R95-41-BoringLog.dwg



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1  
STRUCTURE NO. 016-2089  
SHEET NO. S41 OF S48 SHEETS

F.A.P. RTE. 358	SECTION 1112.1B-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 112
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

**BORING LOG BSB-02** Page 1 of 2

wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 955-9928  
Fax: 630 955-9938

WEI Job No.: 272-18-01

Client: STV Incorporated  
Project: Torrence Ave over Grand Calumet River - Phase II  
Location: Cook County, IL

Datum: NAVD88  
Elevation: 583.44 ft  
North: 1813885.75 ft  
East: 1195847.64 ft  
Station: 19+28.57  
Offset: 41.87 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
583.5	Black LOAM, with plant matter ---TOPSOIL---	0						583.5	Stiff to very stiff, gray CLAY to SILTY CLAY, trace gravel	11		11	5	1.31	15
582.7	CRUSHED STONE ---FILL---	1						582.7		12		5	1.97	23	
582.4	Medium dense, black and brown, SILTY LOAM, trace slag and brick ---FILL---	2						582.4		13		4	2.85	23	
582.2	Stiff, brown SILTY CLAY ---FILL---	3						582.2		14		6	3.77	18	
581.4	Very loose, black ORGANIC SILT, little plants and shells	3						581.4		15		10	4.43	13	
581.4	Soft, dark brown ORGANIC CLAY	4						581.4		16		25	6.23	15	
581.2	Loose, black SANDY LOAM, trace gravel, little organic matter, shells	5						581.2		17		25	6.72	13	
581.4	Stiff, gray CLAY, some SILT laminations	6						581.4		18		20	4.50	14	
581.4		7						581.4		19		25	6.23	15	
581.4		8						581.4		20		25	6.23	15	
581.4		9						581.4		21		25	6.23	15	
581.4		10						581.4		22		25	6.23	15	
581.4		25						581.4		23		25	6.23	15	

<b>GENERAL NOTES</b>				<b>WATER LEVEL DATA</b>			
Begin Drilling	09-04-2013	Complete Drilling	09-04-2013	While Drilling	<input checked="" type="checkbox"/>	NA	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	<input checked="" type="checkbox"/>	NA	
Driller	R&J	Logger	A. Tomaras	Checked by	C. Marin		
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring grouted upon completion			Depth to Water	<input checked="" type="checkbox"/>	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**BORING LOG BSB-02** Page 2 of 2

wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 955-9928  
Fax: 630 955-9938

WEI Job No.: 272-18-01

Client: STV Incorporated  
Project: Torrence Ave over Grand Calumet River - Phase II  
Location: Cook County, IL

Datum: NAVD88  
Elevation: 583.44 ft  
North: 1813885.75 ft  
East: 1195847.64 ft  
Station: 19+28.57  
Offset: 41.87 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
581.4		17			25	3.61	11	581.4		18		20	4.50	14	
581.4		18			23	10.25	11	581.4		19		25	6.72	13	
581.4		19			45	50/25		581.4		20		50/25			
581.4		20			25	4.50	14	581.4		21		25	6.23	15	
581.4		21			25	6.72	13	581.4		22		25	6.23	15	
581.4		22			25	6.72	13	581.4		23		25	6.23	15	
581.4		23			25	6.72	13	581.4		24		25	6.23	15	
581.4		24			25	6.72	13	581.4		25		25	6.23	15	
581.4		25			25	6.72	13	581.4		26		25	6.23	15	
581.4		26			25	6.72	13	581.4		27		25	6.23	15	
581.4		27			25	6.72	13	581.4		28		25	6.23	15	
581.4		28			25	6.72	13	581.4		29		25	6.23	15	
581.4		29			25	6.72	13	581.4		30		25	6.23	15	
581.4		30			25	6.72	13	581.4		31		25	6.23	15	
581.4		31			25	6.72	13	581.4		32		25	6.23	15	
581.4		32			25	6.72	13	581.4		33		25	6.23	15	
581.4		33			25	6.72	13	581.4		34		25	6.23	15	
581.4		34			25	6.72	13	581.4		35		25	6.23	15	
581.4		35			25	6.72	13	581.4		36		25	6.23	15	
581.4		36			25	6.72	13	581.4		37		25	6.23	15	
581.4		37			25	6.72	13	581.4		38		25	6.23	15	
581.4		38			25	6.72	13	581.4		39		25	6.23	15	
581.4		39			25	6.72	13	581.4		40		25	6.23	15	
581.4		40			25	6.72	13	581.4		41		25	6.23	15	
581.4		41			25	6.72	13	581.4		42		25	6.23	15	
581.4		42			25	6.72	13	581.4		43		25	6.23	15	
581.4		43			25	6.72	13	581.4		44		25	6.23	15	
581.4		44			25	6.72	13	581.4		45		25	6.23	15	
581.4		45			25	6.72	13	581.4		46		25	6.23	15	
581.4		46			25	6.72	13	581.4		47		25	6.23	15	
581.4		47			25	6.72	13	581.4		48		25	6.23	15	
581.4		48			25	6.72	13	581.4		49		25	6.23	15	
581.4		49			25	6.72	13	581.4		50		25	6.23	15	
581.4		50			25	6.72	13	581.4		51		25	6.23	15	
581.4		51			25	6.72	13	581.4		52		25	6.23	15	
581.4		52			25	6.72	13	581.4		53		25	6.23	15	
581.4		53			25	6.72	13	581.4		54		25	6.23	15	
581.4		54			25	6.72	13	581.4		55		25	6.23	15	
581.4		55			25	6.72	13	581.4		56		25	6.23	15	
581.4		56			25	6.72	13	581.4		57		25	6.23	15	
581.4		57			25	6.72	13	581.4		58		25	6.23	15	
581.4		58			25	6.72	13	581.4		59		25	6.23	15	
581.4		59			25	6.72	13	581.4		60		25	6.23	15	
581.4		60			25	6.72	13	581.4		61		25	6.23	15	
581.4		61			25	6.72	13	581.4		62		25	6.23	15	
581.4		62			25	6.72	13	581.4		63		25	6.23	15	
581.4		63			25	6.72	13	581.4		64		25	6.23	15	
581.4		64			25	6.72	13	581.4		65		25	6.23	15	
581.4		65			25	6.72	13	581.4		66		25	6.23	15	
581.4		66			25	6.72	13	581.4		67		25	6.23	15	
581.4		67			25	6.72	13	581.4		68		25	6.23	15	
581.4		68			25	6.72	13	581.4		69		25	6.23	15	
581.4		69			25	6.72	13	581.4		70		25	6.23	15	
581.4		70			25	6.72	13	581.4		71		25	6.23	15	
581.4		71			25	6.72	13	581.4		72		25	6.23	15	
581.4		72			25	6.72	13	581.4		73		25	6.23	15	
581.4		73			25	6.72	13	581.4		74		25	6.23	15	
581.4		74			25	6.72	13	581.4		75		25	6.23	15	

<b>GENERAL NOTES</b>				<b>WATER LEVEL DATA</b>			
Begin Drilling	09-04-2013	Complete Drilling	09-04-2013	While Drilling	<input checked="" type="checkbox"/>	NA	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	<input checked="" type="checkbox"/>	NA	
Driller	R&J	Logger	A. Tomaras	Checked by	C. Marin		
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring grouted upon completion			Depth to Water	<input checked="" type="checkbox"/>	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\01620895-60R95-42-BoringLog.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

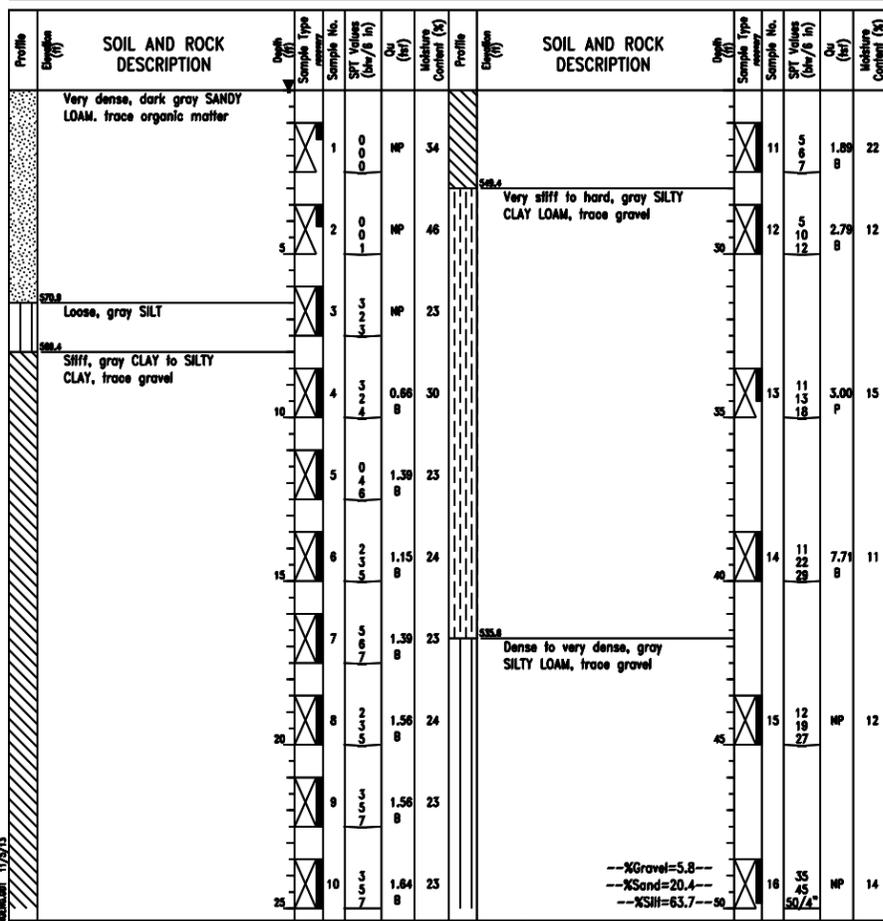
**BORING LOGS 2  
STRUCTURE NO. 016-2089**

SHEET NO. 542 OF 548 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	113
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

**BORING LOG BSB-03** Page 1 of 2

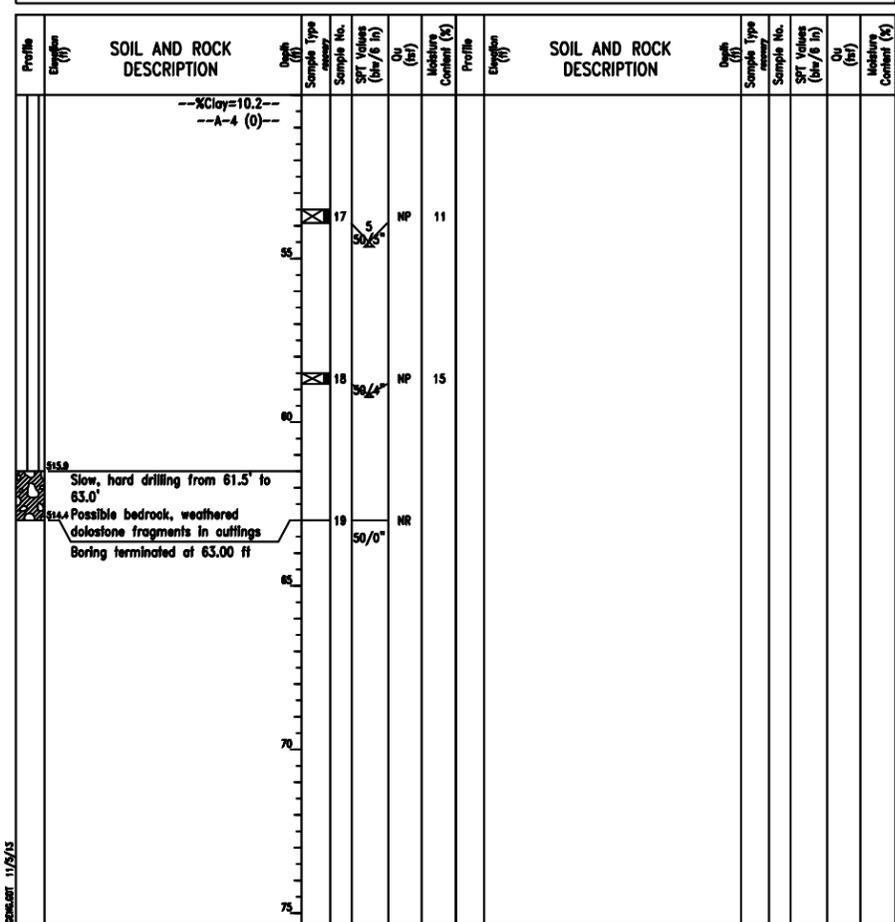
wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 Client: <u>STV Incorporated</u> Project: <u>Torrence Ave over Grand Calumet River - Phase II</u> Location: <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 577.39 ft North: 1813845.02 ft East: 1195787.34 ft Station: 19+88.25 Offset: 18.56 LT
--	---	---



<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	09-20-2013	Complete Drilling	09-20-2013
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&K	Logger	F. Bozza
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring	Depth to Water	NA
	grouted upon completion	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

**BORING LOG BSB-03** Page 2 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 Client: <u>STV Incorporated</u> Project: <u>Torrence Ave over Grand Calumet River - Phase II</u> Location: <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 577.39 ft North: 1813845.02 ft East: 1195787.34 ft Station: 19+88.25 Offset: 18.56 LT
--	---	---



<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	09-20-2013	Complete Drilling	09-20-2013
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&K	Logger	F. Bozza
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring	Depth to Water	NA
	grouted upon completion	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-43-BoringLog.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 3  
STRUCTURE NO. 016-2089**

SHEET NO. S43 OF S48 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	114
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

**BORING LOG BSB-04** Page 1 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 Client: <u>STV Incorporated</u> Project: <u>Torrence Ave over Grand Calumet River - Phase II</u> Location: <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 579.88 ft North: 1813965.31 ft East: 1185858.55 ft Station: 20+08.02 Offset: 52.79 RT
--	---	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
578.5	5-inch thick, brown SILTY LOAM --TOPSOIL-- Loose, brown, SILTY LOAM	0-5	1	1 2 2	NP	31	578.1	Hard, gray SILTY CLAY LOAM, trace gravel	11	11	1 6 4	1.64	21
578.8	Very loose, gray, fine SAND	5-10	2	1 1 1	NP	36	578.1	Hard, gray SILTY CLAY LOAM, trace gravel	12	12	1 6 4	1.72	24
577.8	-- 12-inches of black WOOD fragments -- Medium stiff to stiff, gray CLAY, trace silt laminations	10-15	3	1 1 2	NP	25	578.1	Dense to very dense, SILTY LOAM, trace gravel	13	13	4 8 13	4.28	14
577.8		15-20	4	1 2 3	0.74	25	578.1		14	14	9 18 19	NP	13
577.8		20-25	5	2 2 4	0.90	28	578.1		15	15	17 25 24	NP	12
577.8		25-30	6	2 2 2	1.31	35	578.1		16	16	31 32 43	NP	16
577.8	Stiff, gray SILTY CLAY, trace gravel	30-35	7	2 4 5	1.31	21	578.1		17	17	50/2"	NR	
577.8		35-40	8	3 5 4	0.98	24	578.1		18	18			
577.8		40-45	9	4 6 6	1.72	22	578.1		19	19			
577.8	Stiff, gray SILTY CLAY, trace gravel	45-50	10	1 2 5	1.07	19	578.1		20	20			
577.8		50-55					578.1		21	21			
577.8		55-60					578.1		22	22			
577.8		60-65					578.1		23	23			
577.8		65-70					578.1		24	24			
577.8		70-75					578.1		25	25			
577.8		75-80					578.1		26	26			
577.8		80-85					578.1		27	27			
577.8		85-90					578.1		28	28			
577.8		90-95					578.1		29	29			
577.8		95-100					578.1		30	30			

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	09-19-2013	Complete Drilling	09-19-2013
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&K	Logger	F. Bozga
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring grouted upon completion	Depth to Water	3.00 ft
		At Completion of Drilling	2.00 ft
		Time After Drilling	NA
		Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

**BORING LOG BSB-04** Page 2 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 Client: <u>STV Incorporated</u> Project: <u>Torrence Ave over Grand Calumet River - Phase II</u> Location: <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 579.88 ft North: 1813965.31 ft East: 1185858.55 ft Station: 20+08.02 Offset: 52.79 RT
--	---	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
578.1	--XClay=15.7-- --A-4 (0)-- Qu = 7,250 psi (at 75')	0-5					578.1	Hard, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel	17	17	18 22 23	4.92	13
578.1		5-10					578.1	Very dense, gray SILT	18	18	31 32 43	NP	16
578.1		10-15					578.1		19	19			
578.1		15-20					578.1		20	20			
578.1		20-25					578.1		21	21			
578.1		25-30					578.1		22	22			
578.1		30-35					578.1		23	23			
578.1		35-40					578.1		24	24			
578.1		40-45					578.1		25	25			
578.1		45-50					578.1		26	26			
578.1		50-55					578.1		27	27			
578.1		55-60					578.1		28	28			
578.1		60-65					578.1		29	29			
578.1		65-70					578.1		30	30			
578.1		70-75					578.1		31	31			
578.1		75-80					578.1		32	32			
578.1		80-85					578.1		33	33			
578.1		85-90					578.1		34	34			
578.1		90-95					578.1		35	35			
578.1		95-100					578.1		36	36			

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	09-19-2013	Complete Drilling	09-19-2013
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&K	Logger	F. Bozga
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring grouted upon completion	Depth to Water	3.00 ft
		At Completion of Drilling	2.00 ft
		Time After Drilling	NA
		Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-44-Borings.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
	CHECKED - WANG	REVISED
PLOT SCALE =	DRAWN - JMP	REVISED
PLOT DATE = 6/29/2015	CHECKED - RDW	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 4  
STRUCTURE NO. 016-2089**

SHEET NO. S44 OF S48 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	115
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

**BORING LOG BSB-05** Page 1 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 Client: <u>STV Incorporated</u> Project: <u>Torrence Ave over Grand Calumet River - Phase II</u> Location: <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 584.19 ft North: 1814251.41 ft East: 1195754.59 ft Station: 22+94.88 Offset: 49.05 LT
--	---	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (ksf)	Moisture Content (%)
585.3	Brown, SILTY LOAM, little gravel --TOPSOIL--	0		1	4	NP		585.3		0		11	7 3 4	1.39 B	35
581.2	Loose, brown SILTY LOAM, trace roots and gravel	4		2	4	NP		581.2	Stiff to very stiff, gray SILTY CLAY, trace gravel	4		12	3 3 4	1.31 B	22
	Very loose to medium dense, brown, medium SAND	8		3	5	NP				8		13	3 5 7	2.05 B	22
		10		4	1 2	NP				10		14	4 7 8	2.48 B	18
		15		5	5 4 5	NP				15		15	4 5 7	1.80 B	23
571.3	Medium stiff to stiff, gray SILTY CLAY	15		6	5 2	NP	1.39 B	568.2	Very stiff to hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	15		16	9 11 14	4.92 B	16
		20		7	4 4 8	NP	0.90 B			20		17	5 9 14	4.05 B	24
		25		8	4 4 6	NP	1.30 B			25		18	6 8 13	4.10 B	13
		30		9	2	NP	0.90 B			30		19	12 19 31	7.79 S	15
561.2	Stiff, gray CLAY, little silt laminations	30		10	1	NP	1.15 B			30		19	12 19 31	7.79 S	15

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	09-17-2013	Complete Drilling	09-17-2013
Drilling Contractor	Wang Testing Services	Drill Rig	D-25 ATV
Driller	P&N	Logger	A. Happel
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" HSA to 15' mud rotary thereafter, boring grouted upon completion	Depth to Water	NA

**BORING LOG BSB-05** Page 2 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 Client: <u>STV Incorporated</u> Project: <u>Torrence Ave over Grand Calumet River - Phase II</u> Location: <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 584.19 ft North: 1814251.41 ft East: 1195754.59 ft Station: 22+94.88 Offset: 49.05 LT
--	---	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (ksf)	Moisture Content (%)
585.2	Very dense, gray SILTY LOAM, trace gravel	0		20	12 31 44	3.89 S		585.2		0		20	12 31 44	3.89 S	13
		10		21	22 32 34	NP				10		21	22 32 34	NP	18
		15		22	25 31 39	NP				15		22	25 31 39	NP	17
		20		23	1	NP				20		23	1	NP	10
561.2	Strong, white, light gray, and dark gray, fair rock quality, horizontally bedded DOLOSTONE, thin bedded (<1" to 12"), joint spacing <0.5" to 12", slightly weathered joints with >0.2" non-cohesive infilling, slightly fragmented, laminated, vuggy and cherty, trace stylolites.	20		1		50/1" CORE		561.2		20		1		50/1" CORE	

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	09-17-2013	Complete Drilling	09-17-2013
Drilling Contractor	Wang Testing Services	Drill Rig	D-25 ATV
Driller	P&N	Logger	A. Happel
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" HSA to 15' mud rotary thereafter, boring grouted upon completion	Depth to Water	NA

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\01620895-60R95-45-BoringLog.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 5  
STRUCTURE NO. 016-2089**

SHEET NO. 545 OF 548 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	116
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				



**BORING LOG BSB-06** Page 1 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 <b>STV Incorporated</b> Project <u>Torrence Ave over Grand Calumet River - Phase II</u> Location <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 579.86 ft North: 1814227.08 ft East: 1195840.54 ft Station: 22+69.91 Offset: 36.72 RT
--	---	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Moisture Content (%)
579.86	12-inch thick, black SILTY LOAM	0				579.86		0			
	--TOPSOIL--										
	578.4 Brown and gray, SILTY LOAM, trace gravel	1	1	1	NP	578.4		1	4	7	1.64
	577.8 Medium stiff, gray CLAY LOAM	2	2	2	NP	577.8		2	4	7	1.15
	Loose, brown SILTY LOAM, trace roots	3	3	3	NP	577.8		3	4	7	1.15
	574.5 Very loose, gray SANDY LOAM, trace roots	5	2	2	NP	574.5		5	5	8	1.07
	572.8 Loose, gray and brown, medium SAND	10	5	5	NP	572.8		10	4	10	2.62
	568.8 Medium stiff to stiff, gray and brown, SILTY CLAY, trace gravel	15	2	2	NP	568.8		15	7	10	2.62
		15	4	4	NP	568.8		15	8	10	2.95
		15	5	5	NP	568.8		15	8	10	2.95
		15	7	7	NP	568.8		15	7	10	2.62
		15	8	8	NP	568.8		15	8	10	2.95
		15	9	9	NP	568.8		15	8	10	2.95
		15	10	10	NP	568.8		15	8	10	2.95
	557.8 Stiff, gray CLAY, trace gravel	25	2	2	NP	557.8		25	15	29	10.17
		25	3	3	NP	557.8		25	15	29	10.17
		25	5	5	NP	557.8		25	15	29	10.17

<b>GENERAL NOTES</b> Begin Drilling <u>09-16-2013</u> Complete Drilling <u>09-16-2013</u> Drilling Contractor <u>Wang Testing Services</u> Drill Rig <u>D-25 ATV</u> Driller <u>P&amp;N</u> Logger <u>A. Happel</u> Checked by <u>C. Marin</u> Drilling Method <u>2.25" HSA to 15', mud rotary thereafter, boring grouted upon completion</u>	<b>WATER LEVEL DATA</b> While Drilling <input checked="" type="checkbox"/> <u>5.50 ft</u> At Completion of Drilling <input checked="" type="checkbox"/> <u>5.50 ft</u> Time After Drilling <u>NA</u> Depth to Water <input checked="" type="checkbox"/> <u>NA</u> <small>The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.</small>
---	---

**BORING LOG BSB-06** Page 2 of 2

wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	WEI Job No.: 272-18-01 <b>STV Incorporated</b> Project <u>Torrence Ave over Grand Calumet River - Phase II</u> Location <u>Cook County, IL</u>	Datum: NAVD88 Elevation: 579.86 ft North: 1814227.08 ft East: 1195840.54 ft Station: 22+69.91 Offset: 36.72 RT
--	---	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Moisture Content (%)
579.86		0				579.86		0			
		55	18	28	9.35	55		18	28	9.35	14
		55	19	28	9.35	55		19	28	9.35	14
		55	20	29	2.21	55		20	29	2.21	22
		55	21	42	2.21	55		21	42	2.21	22
		55	22	38	2.21	55		22	38	2.21	22
		55	23	38	2.21	55		23	38	2.21	22
		55	24	38	2.21	55		24	38	2.21	22
		55	25	38	2.21	55		25	38	2.21	22
		55	26	38	2.21	55		26	38	2.21	22
		55	27	38	2.21	55		27	38	2.21	22
		55	28	38	2.21	55		28	38	2.21	22
		55	29	38	2.21	55		29	38	2.21	22
		55	30	38	2.21	55		30	38	2.21	22
		55	31	38	2.21	55		31	38	2.21	22
		55	32	38	2.21	55		32	38	2.21	22
		55	33	38	2.21	55		33	38	2.21	22
		55	34	38	2.21	55		34	38	2.21	22
		55	35	38	2.21	55		35	38	2.21	22
		55	36	38	2.21	55		36	38	2.21	22
		55	37	38	2.21	55		37	38	2.21	22
		55	38	38	2.21	55		38	38	2.21	22
		55	39	38	2.21	55		39	38	2.21	22
		55	40	38	2.21	55		40	38	2.21	22
		55	41	38	2.21	55		41	38	2.21	22
		55	42	38	2.21	55		42	38	2.21	22
		55	43	38	2.21	55		43	38	2.21	22
		55	44	38	2.21	55		44	38	2.21	22
		55	45	38	2.21	55		45	38	2.21	22
		55	46	38	2.21	55		46	38	2.21	22
		55	47	38	2.21	55		47	38	2.21	22
		55	48	38	2.21	55		48	38	2.21	22
		55	49	38	2.21	55		49	38	2.21	22
		55	50	38	2.21	55		50	38	2.21	22

<b>GENERAL NOTES</b> Begin Drilling <u>09-16-2013</u> Complete Drilling <u>09-16-2013</u> Drilling Contractor <u>Wang Testing Services</u> Drill Rig <u>D-25 ATV</u> Driller <u>P&amp;N</u> Logger <u>A. Happel</u> Checked by <u>C. Marin</u> Drilling Method <u>2.25" HSA to 15', mud rotary thereafter, boring grouted upon completion</u>	<b>WATER LEVEL DATA</b> While Drilling <input checked="" type="checkbox"/> <u>5.50 ft</u> At Completion of Drilling <input checked="" type="checkbox"/> <u>5.50 ft</u> Time After Drilling <u>NA</u> Depth to Water <input checked="" type="checkbox"/> <u>NA</u> <small>The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.</small>
---	---

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CAD\_Sheets\0162089-60R95-46-BoringLog.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 6  
STRUCTURE NO. 016-2089**

SHEET NO. 546 OF 548 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	117
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

**BORING LOG BSB-07** Page 1 of 2

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

WEI Job No.: 272-18-01

Client: STV Incorporated

Project: Torrence Ave over Grand Calumet River - Phase II

Location: Cook County, IL

Datum: NAVD88  
Elevation: 610.77 ft  
North: 1814348.20 ft  
East: 1195778.70 ft  
Station: 23+91.48  
Offset: 24.25 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Value (blows/6 in)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Value (blows/6 in)	Qu (ksf)	Moisture Content (%)
899.4	4-inch thick, white CRUSHED STONE						899.5	Loose, brown, fine SAND					
899.0	Brown GRAVELLY LOAM		1	4	NP	5			1	4	NP	23	
898.0	Medium dense, brown, fine SAND		2	4	NP	16			12	4	NP	24	
897.0	Medium stiff to stiff, brown SILTY CLAY, trace gravel, roots and organic matter		3	1.56	S	29			13	0.66	B	36	
896.5	Brown, fine SAND		4	0.74	S	28			14	1.48	B	29	
897.7	Medium stiff, gray SILTY CLAY, trace shells		5	0.48	B	35			15	1.56	B	23	
896.5	Brown, fine SAND		6	0.98	B	32			16	1.07	B	21	
895.3	Stiff, gray SILTY CLAY, trace gravel, organic matter and sand lenses		7	1.07	B	32			17	2.05	B	22	
			8	1.23	B	28			18	2.05	B	23	
			9	1.97	B	22			19	2.48	B	22	
			10	1.80	B	27			20	4.58	B	13	
									21	6.56	B	15	

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	09-16-2013	Complete Drilling	09-16-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	A. Tomaras
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" HSA to 25' mud rotary thereafter, boring grouted upon completion	Depth to Water	13.00 ft

**BORING LOG BSB-07** Page 2 of 2

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

WEI Job No.: 272-18-01

Client: STV Incorporated

Project: Torrence Ave over Grand Calumet River - Phase II

Location: Cook County, IL

Datum: NAVD88  
Elevation: 610.77 ft  
North: 1814348.20 ft  
East: 1195778.70 ft  
Station: 23+91.48  
Offset: 24.25 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Value (blows/6 in)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Value (blows/6 in)	Qu (ksf)	Moisture Content (%)
895.0	Medium dense, gray, fine SAND		22	13	15	8	895.0	Very dense, gray SILTY LOAM, trace gravel					
891.0	Stiff to very stiff, gray CLAY, trace gravel		23	28	25	34			23	28	25	34	
			24	17	19	24			24	17	19	24	
891.0	Hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel		25	20	27	38			25	20	27	38	
			26	100/1"	NR				26	100/1"	NR		

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	09-16-2013	Complete Drilling	09-16-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	A. Tomaras
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" HSA to 25' mud rotary thereafter, boring grouted upon completion	Depth to Water	13.00 ft

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0162089-60R95-47-BoringLog.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 7  
STRUCTURE NO. 016-2089**

SHEET NO. 547 OF 548 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	118
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

**BORING LOG BSB-08** Page 1 of 3

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

WEI Job No.: 272-18-01

Datum: NAVD88  
Elevation: 610.66 ft  
North: 1814362.07 ft  
East: 1195826.00 ft  
Station: 24+05.01  
Offset: 23.17 RT

Client: **STV Incorporated**  
Project: **Torrence Ave over Grand Calumet River - Phase II**  
Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
608.5	Brown LOAM, with roots and trace gravel --TOPSOIL--	0						608.2	Medium dense, gray, fine SAND	11		11	4 6 7	NP	12
607.7	Medium dense, brown GRAVELLY LOAM --FILL--	1						607.2	Stiff, gray SILTY CLAY LOAM, trace plants and gravel	12		12	3 6 6	1.80 B	29
605.3	Medium dense, brown SANDY LOAM, trace gravel, concrete and slag --FILL--	2						605.2	Medium dense to dense, gray, fine SAND, trace organic matter	13		13	5 7 11	NP	36
	Soft to stiff, dark gray SILTY CLAY, trace gravel --FILL--	3						603.2	Medium dense to dense, gray, fine SAND, trace organic matter	14		14	11 14 17	NP	33
		4						601.2	Soft to stiff, gray CLAY	15		15	7 10 8	NP	27
		5						599.2		16		16	3 3 5	0.98 B	24
		6						597.2		17		17	3 5 4	0.49 B	25
		7													
		8													
		9													
		10													
		11													
		12													
		13													
		14													
		15													
		16													
		17													
		18													
		19													
		20													
		21													
		22													
		23													
		24													
		25													

**GENERAL NOTES**

Begin Drilling 09-17-2013 Complete Drilling 09-18-2013

Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR

Driller R&J Logger A. Tomaras Checked by C. Marin

Drilling Method 2.25" HSA to 10', mud rotary thereafter, boring grouted upon completion

**WATER LEVEL DATA**

While Drilling  NA

At Completion of Drilling  NA

Time After Drilling NA

Depth to Water  NA

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

**BORING LOG BSB-08** Page 2 of 3

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

WEI Job No.: 272-18-01

Datum: NAVD88  
Elevation: 610.66 ft  
North: 1814362.07 ft  
East: 1195826.00 ft  
Station: 24+05.01  
Offset: 23.17 RT

Client: **STV Incorporated**  
Project: **Torrence Ave over Grand Calumet River - Phase II**  
Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
		18		18	0.82 B	33		600.2	Very dense, gray SILTY LOAM, trace gravel	24		24	18 15 18	3.50 P	14
		19		19	4 4 8	1.80 B	22	600.2		25		25	54 48 44	5.25 S	13
		20		20	3 6 9	1.80 B	22	598.2		26		26	31 60/6"	6.07 S	11
		21		21	4 9 10	2.21 B	21	596.2		27		27	47 60/5"	4.84 S	10
		22		22	5 7 14	3.38 B	18	594.2							
		23		23	7 17 18	2.25 P	17	592.2	Strong, white, light gray, and dark gray, fair rock quality, horizontally bedded DOLOSTONE with shale	100					

**GENERAL NOTES**

Begin Drilling 09-17-2013 Complete Drilling 09-18-2013

Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR

Driller R&J Logger A. Tomaras Checked by C. Marin

Drilling Method 2.25" HSA to 10', mud rotary thereafter, boring grouted upon completion

**WATER LEVEL DATA**

While Drilling  NA

At Completion of Drilling  NA

Time After Drilling NA

Depth to Water  NA

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

**BORING LOG BSB-08** Page 3 of 3

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

WEI Job No.: 272-18-01

Datum: NAVD88  
Elevation: 610.66 ft  
North: 1814362.07 ft  
East: 1195826.00 ft  
Station: 24+05.01  
Offset: 23.17 RT

Client: **STV Incorporated**  
Project: **Torrence Ave over Grand Calumet River - Phase II**  
Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Qu (ksf)	Moisture Content (%)
	partings, thin bedded (<1" to 11"), joint spacing <0.5" to 11", slightly weathered joints with >0.2" non-cohesive infilling, slightly fragmented, laminated, vuggy and cherty, trace siltstones and cemented brecciated shale and dolostone contact.	105		1				600.2		105					
		110						598.2		110					
		115						596.2		115					
		120						594.2		120					
		125						592.2		125					

**GENERAL NOTES**

Begin Drilling 09-17-2013 Complete Drilling 09-18-2013

Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR

Driller R&J Logger A. Tomaras Checked by C. Marin

Drilling Method 2.25" HSA to 10', mud rotary thereafter, boring grouted upon completion

**WATER LEVEL DATA**

While Drilling  NA

At Completion of Drilling  NA

Time After Drilling NA

Depth to Water  NA

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

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_Cad\_Models\_and\_Sheets\CADD\_Sheets\01620895-60R95-48-BoringLog.dgn



USER NAME = PatisJM	DESIGNED - WANG	REVISED
PLOT SCALE =	CHECKED - WANG	REVISED
PLOT DATE = 6/29/2015	DRAWN - JMP	REVISED
	CHECKED - RDW	REVISED

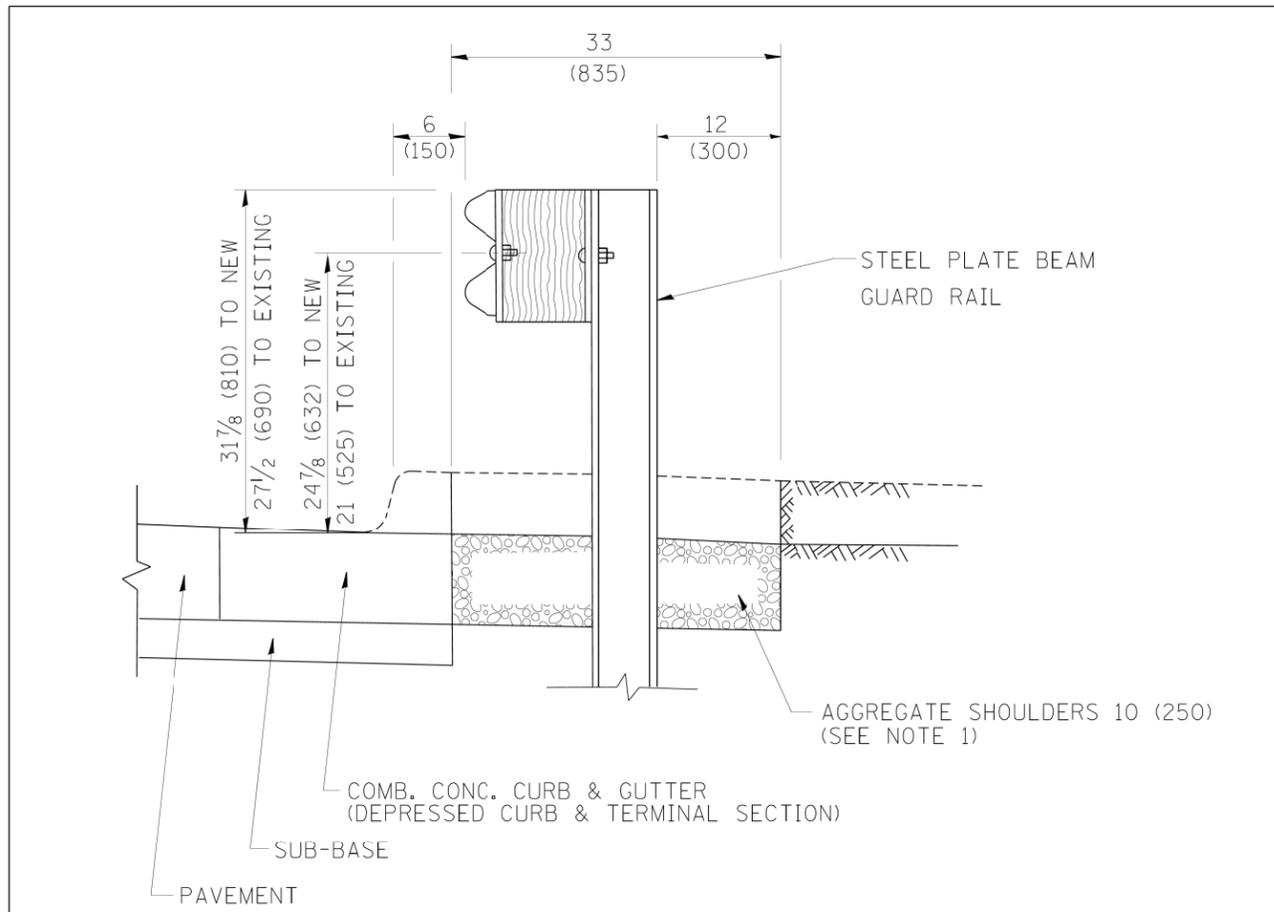
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 8  
STRUCTURE NO. 016-2089**

SHEET NO. 548 OF 548 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	119
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

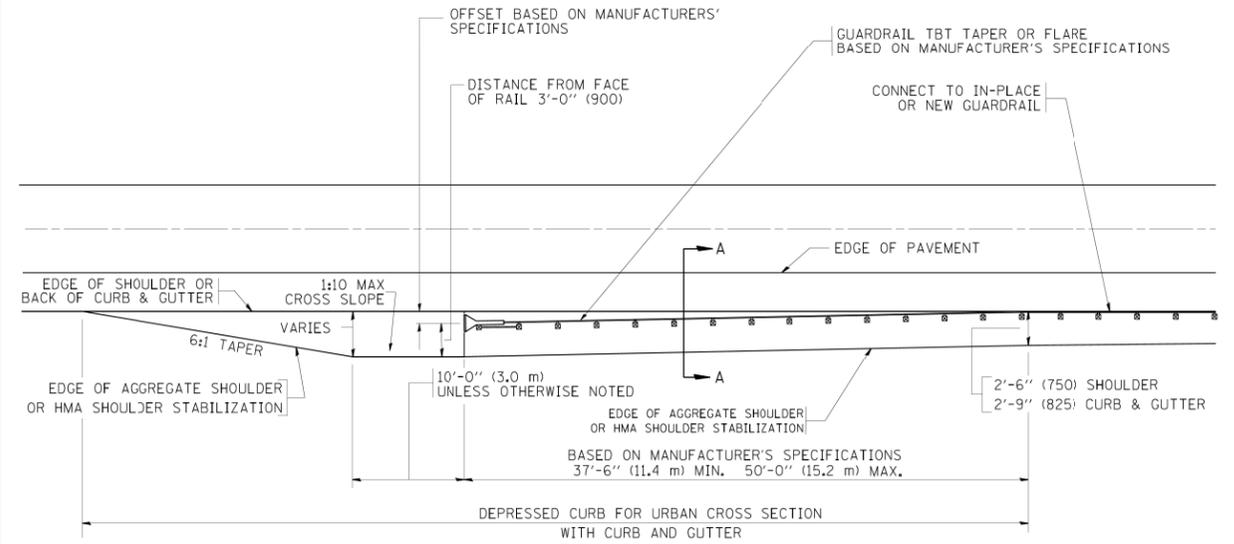




SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
  2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
  3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

**DETAILS FOR STEEL PLATE BEAM  
GUARD RAIL ADJACENT TO CURB AND GUTTER  
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]**



**DEPRESSED CURB AND GUTTER AND  
SHOULDER TREATMENT AT TBT TY. 1 SPL.**

**BASIS OF PAYMENT:** HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL  
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = c:\pwwork\pwwid\DRIVAKOS\08080315\08080315.dgn	USER NAME = drvakovgn	DESIGNED - M. DE YONG	REVISED - E. GOMEZ 08-28-00
		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 49.9999' / IN.	CHECKED -	REVISED - R. BORO 12-08-2008
	PLOT DATE = 9/21/2009	DATE - 09-22-90	REVISED - R. BORO 09-14-2009

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DETAILS FOR DEPRESSED CURB & GUTTER AND  
SHOULDER TREATMENT AT TBT TY 1 SPL.**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	121
CONTRACT NO. 60R95				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

USER NAME = waterhej	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/23/2015	DATE -	REVISED -

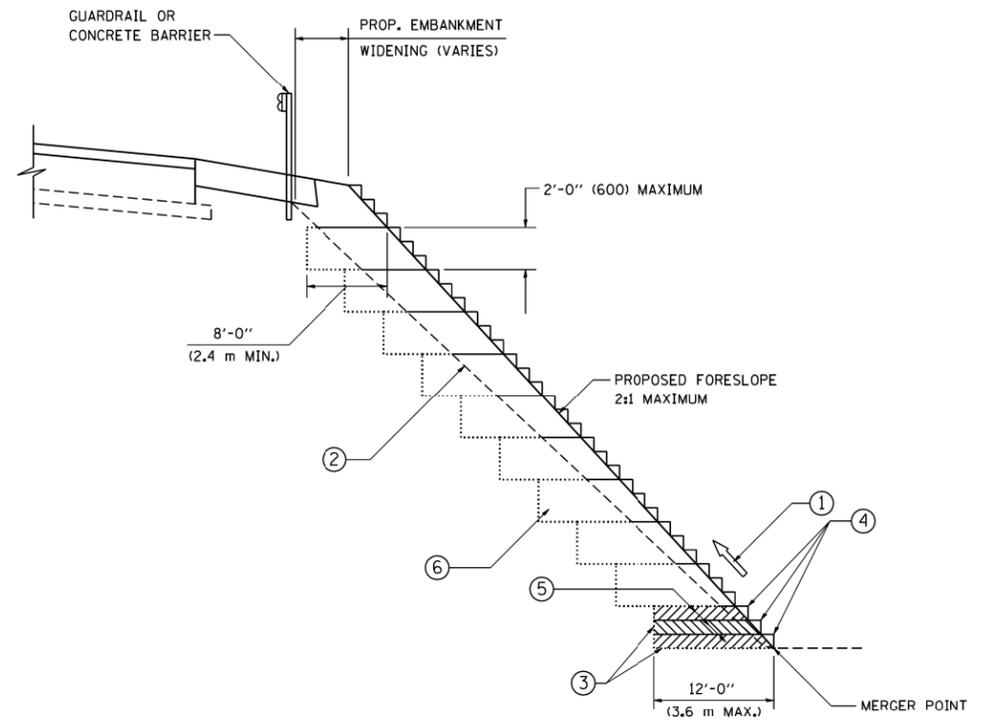
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TORRENCE AVENUE  
DISTRICT 1 DETAILS**

SCALE: NONE SHEET NO. 121 OF 152 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	121
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

FILE NAME = I:\Projects\11121B-R\11121B-R\11121B-R.dgn



TYPICAL BENCHING DETAIL  
FOR EMBANKMENT

**NOTES:**

- ① CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- ② EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
- ③ BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
- ④ TRIM TO FINAL SLOPE.
- ⑤ EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- ⑥ EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- ⑦ SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

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

FILE NAME = W:\diststd\22x34\bd51.dgn	USER NAME = gaglianobt	DESIGNED - DRAWN - CADD	REVISED - REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - S.E.B.	REVISED - REVISED -
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED - REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL FOR EMBANKMENT WIDENING			
SCALE: NONE	SHEET NO. 1	OF 1 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BD-51			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO.	

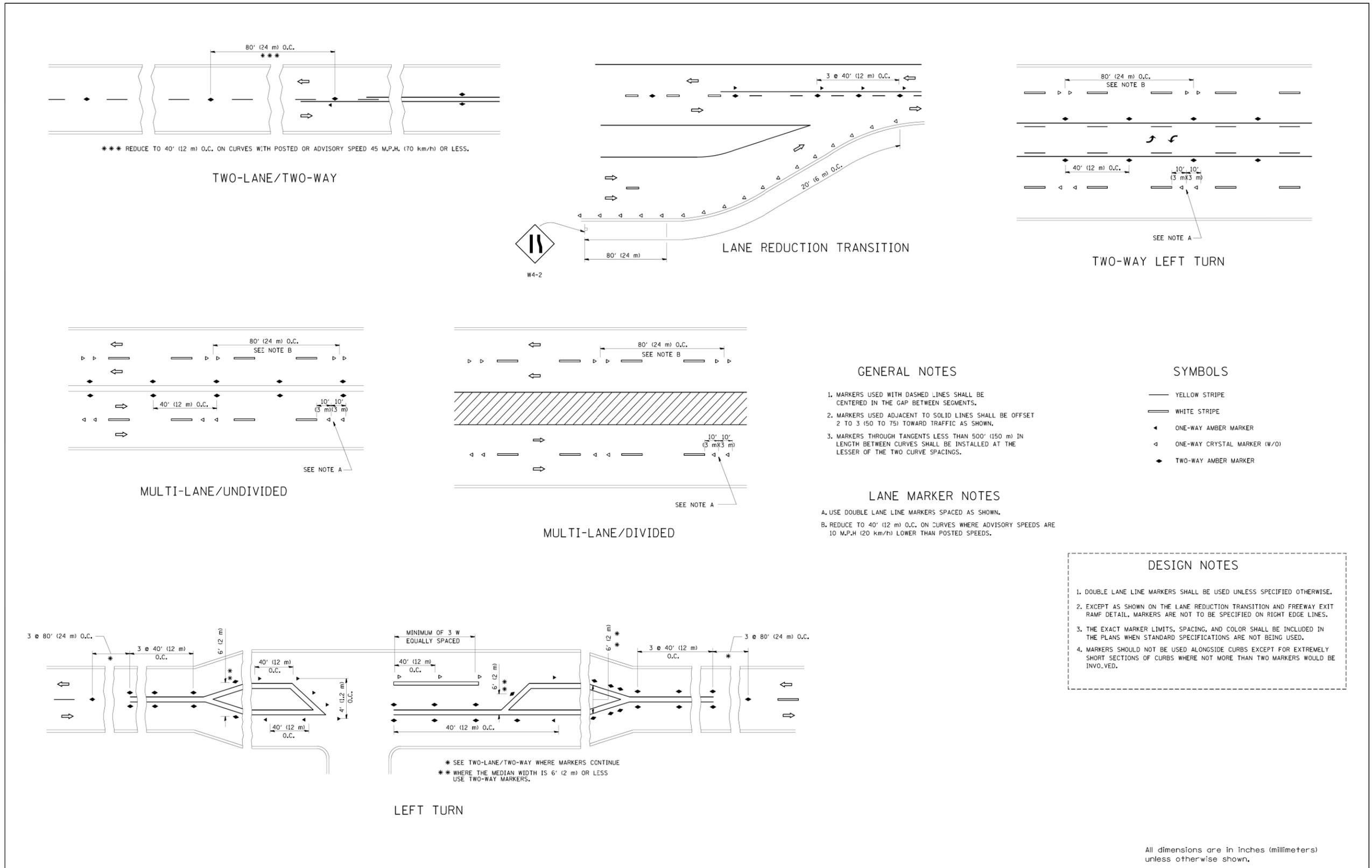
FILE NAME = I:\Projects\4016179\4016179\_0001\SP\_CADD\_Models\_and\_Sheets\CADD\_Sheets\0160995-sub-detail\01.dgn

USER NAME = waterhej	DESIGNED - DRAWN -	REVISED - REVISED -
	CHECKED - S.E.B.	REVISED - REVISED -
	DATE - 6/23/2015	REVISED - REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TORRENCE AVENUE DISTRICT 1 DETAILS			
SCALE: NONE	SHEET NO. 122	OF 152 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	122
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60R95	



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

**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.

**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**

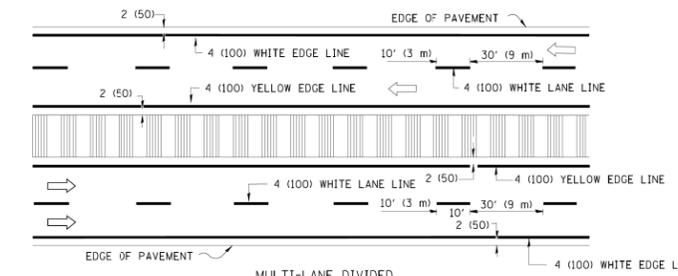
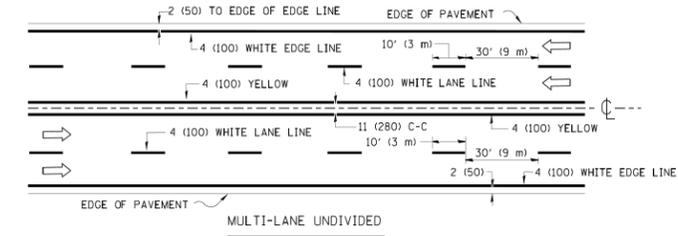
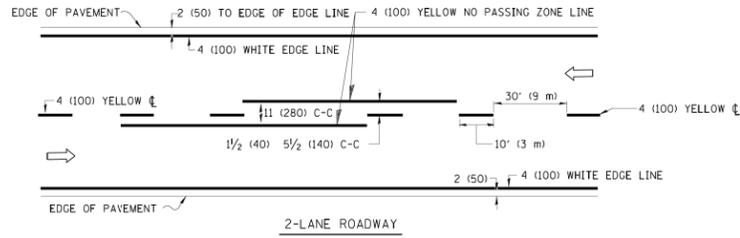
1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMF DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS 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.

FILE NAME = c:\pwwork\pwwidot\leusa\d8188315\1011.dgn	USER NAME = leusa	DESIGNED -	REVISED - T. RAMMACHER 09-19-94	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL APPLICATIONS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED - T. RAMMACHER 03-12-99		<b>RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)</b>			<b>TC-11</b>				
	PLOT DATE = 3/2/2011	CHECKED -	REVISED - T. RAMMACHER 01-06-00		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.			CONTRACT NO.				
		DATE -	REVISED - C. JUCIUS 09-09-09		SCALE: NONE SHEET NO. 123 OF 152 SHEETS STA. TO STA.			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

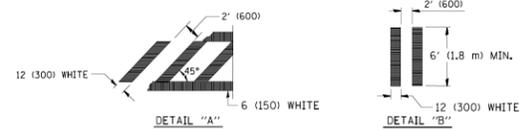
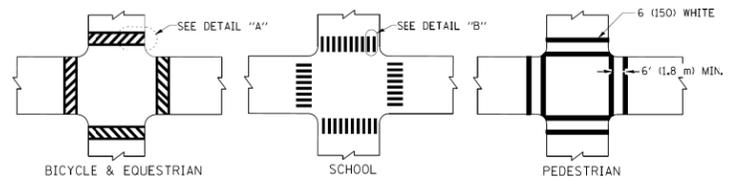
FILE NAME = I:\Projects\4816179\4816179\_0001\SP\_CAD\_Models\_and\_Sheets\0168995-subcontract\01.dgn

USER NAME = waterhej	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVENUE DISTRICT 1 DETAILS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -		SCALE: NONE SHEET NO. 123 OF 152 SHEETS STA. TO STA.			<b>CONTRACT NO. 60R95</b>				
	PLOT SCALE = 50.0000' / in.	CHECKED -		SCALE: NONE SHEET NO. 123 OF 152 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT				
	PLOT DATE = 6/23/2015	DATE -		SCALE: NONE SHEET NO. 123 OF 152 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT				

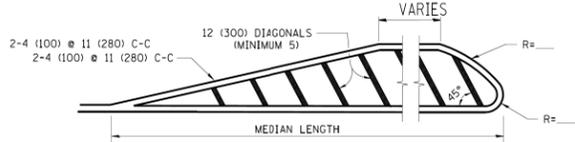
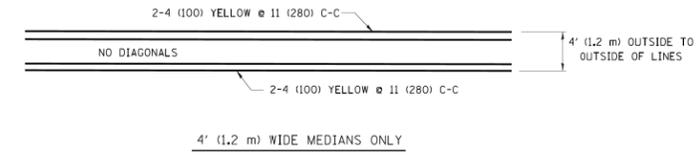


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

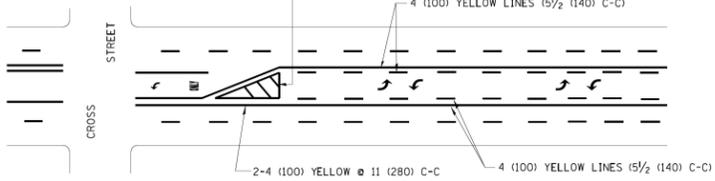


TYPICAL CROSSWALK MARKING

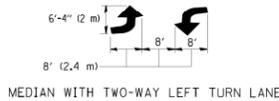


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.  
DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)  
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

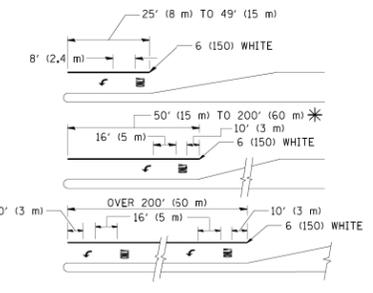
MEDIANS OVER 4' (1.2 m) WIDE



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.



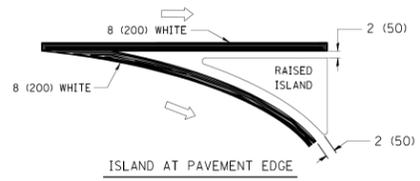
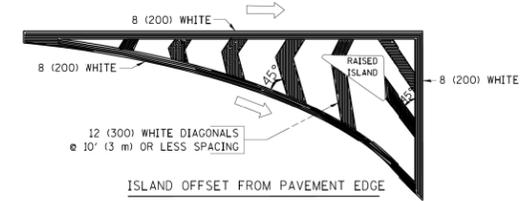
TYPICAL PAINTED MEDIAN MARKING



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)  
\* 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



TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 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 m) 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' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) 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° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) 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: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 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. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

FILE NAME =	USER NAME = drivakosgn	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
c:\pwwork\pwwork\drivakosgn\d0108315\td	3.dgn	DRAWN -	REVISED - C. JUCIUS 09-09-09
	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/9/2009	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-13			
CONTRACT NO.				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

USER NAME = waterhej	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/23/2015	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

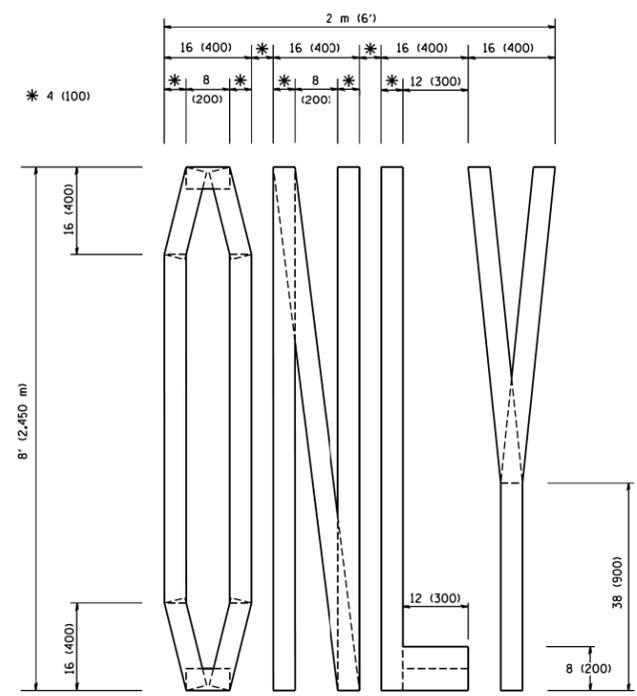
TORRENCE AVENUE DISTRICT 1 DETAILS			
SCALE: NONE	SHEET NO. 124 OF 152 SHEETS	STA. TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.IB-R	COOK	152	124
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

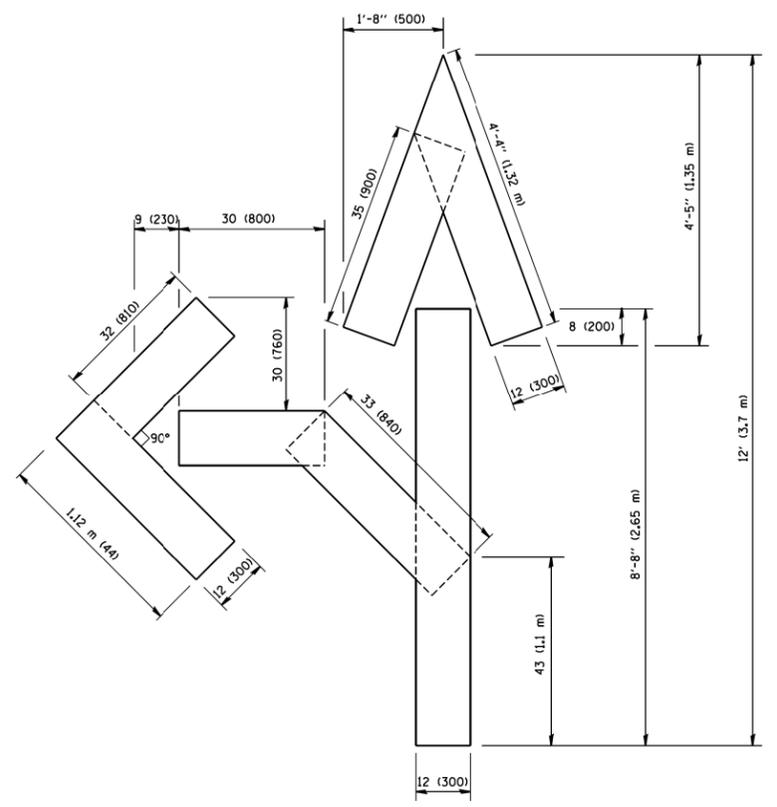
FILE NAME = I:\Projects\4016179\4016179\_0001\SP\_CAD\_Models\_and\_Sheets\016895-subcontract\01.dgn



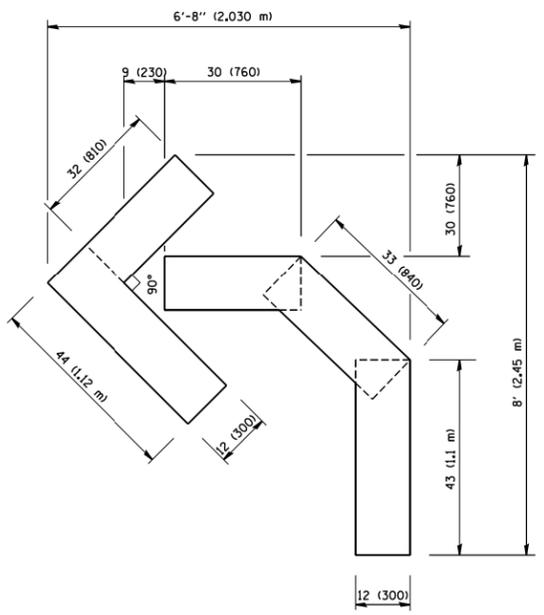
FILE NAME = I:\Projects\4016179\4016179\_0001\SP\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0160995-Subcontract\01.dgn



QUANTITY  
4 (100) LINE = 64.1 ft. (19.7 m)  
21.1 sq. ft. (1.97 sq. m)



QUANTITY  
4 (100) LINE = 82.5 ft. (25.3 m)  
27.5 sq. ft. (2.53 sq. m)



QUANTITY  
4 (100) LINE = 45.5 ft. (13.9 m)  
15.2 sq. ft. (1.39 sq. m)

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

FILE NAME = W:\dststd\22x34\16.dgn	USER NAME = geglienobt	DESIGNED - DRAWN -	REVISOR - REVISOR -
		DESIGNED - CHECKED -	REVISOR - REVISOR -
		DATE - DATE -	REVISOR - REVISOR -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING LETTERS AND SYMBOLS  
FOR TRAFFIC STAGING

SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
			TC-16					
			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO.	

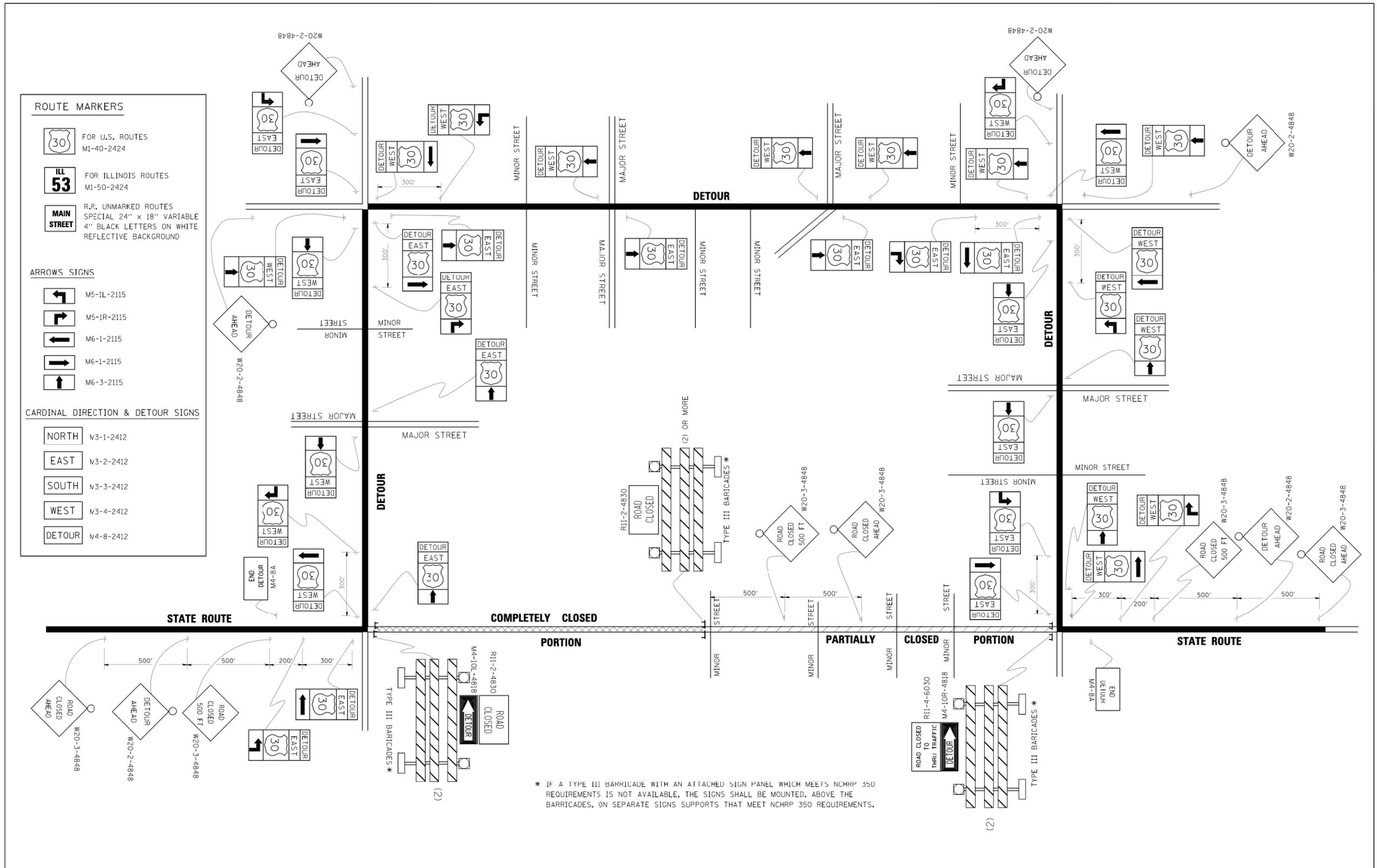
USER NAME = waterhej	DESIGNED - DRAWN -	REVISOR - REVISOR -
	CHECKED - CHECKED -	REVISOR - REVISOR -
	DATE - DATE -	REVISOR - REVISOR -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TORRENCE AVENUE  
DISTRICT 1 DETAILS

SCALE:	SHEET NO. 125 OF 152 SHEETS	STA. TO STA.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
			358	1112.1B-R	COOK	152	125	
			ILLINOIS FED. AID PROJECT				CONTRACT NO. 60R95	

FILE NAME = I:\Projects\4816179\4816179\_0001\SP\_CAD\_Models\_and\_Sheets\CADD\_Sheets\016895-act-detour\016895



\* 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.

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - 10-18-02
c:\pwworkspace\1616179\4816179_0001\SP_CAD_Models_and_Sheets\CADD_Sheets\016895-act-detour\016895.dwg		DRAWN -	REVISED - R. BORO 09-14-09
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DETOUR SIGNING  
FOR CLOSING STATE HIGHWAYS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	126
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

USER NAME = waterhej	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/23/2015	DATE -	REVISED -

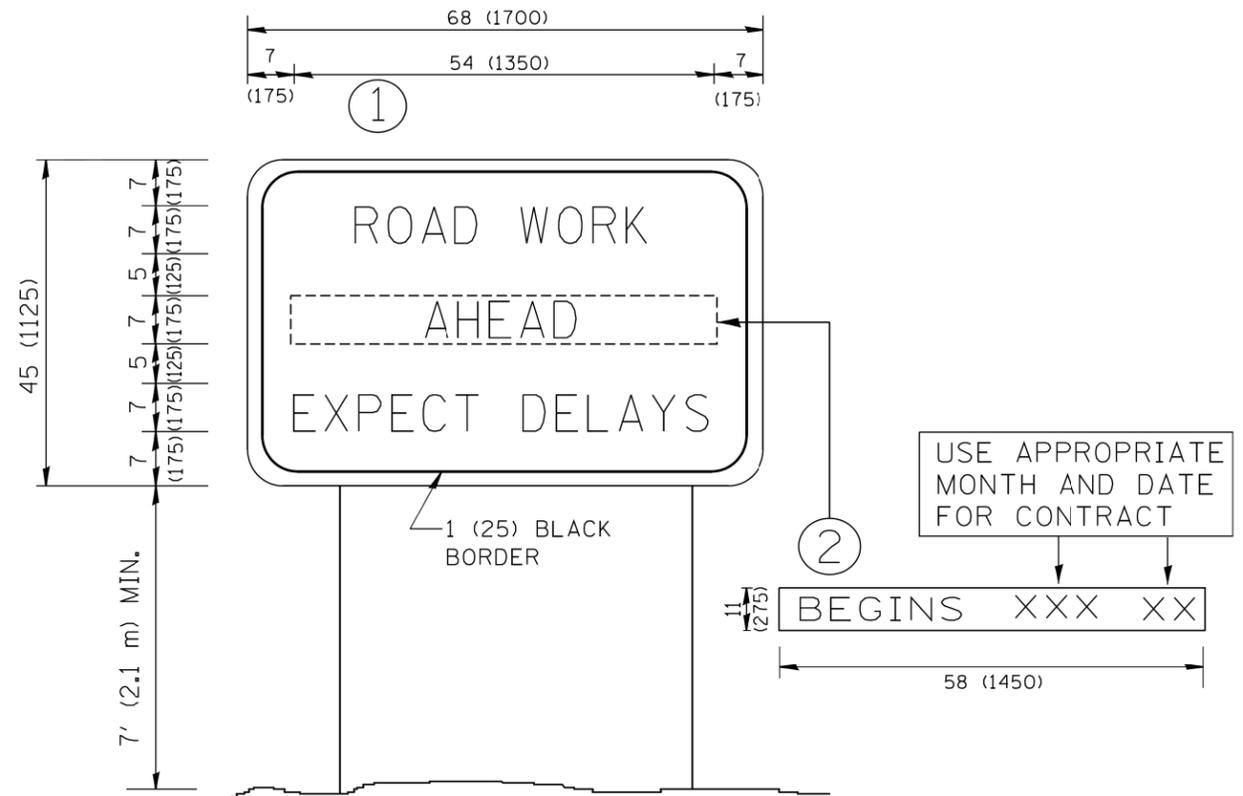
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TORRENCE AVENUE  
DISTRICT 1 DETAILS**

SCALE: SHEET NO. 126 OF 152 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	126
CONTRACT NO. 60R95				
ILLINOIS FED. AID PROJECT				

FILE NAME = I:\Projects\4016179\4016179\_0001\SP\_CAD\_Models\_and\_Sheets\CADD\_Sheets\0168995-act\detail01.dgn



**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.

FILE NAME = W:\dststd\22x34\to22.dgn	USER NAME = geglionobt	DESIGNED -	REVISED - R. MIRS 09-15-97	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ARTERIAL ROAD INFORMATION SIGN</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / in.	DRAWN -	REVISED - R. MIRS 12-11-97		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	<b>TC-22</b>		<b>CONTRACT NO.</b>	
	PLOT DATE = 1/4/2008	CHECKED -	REVISED - T. RAMMACHER 02-02-99		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
		DATE -	REVISED - C. JUCIUS 01-31-07									

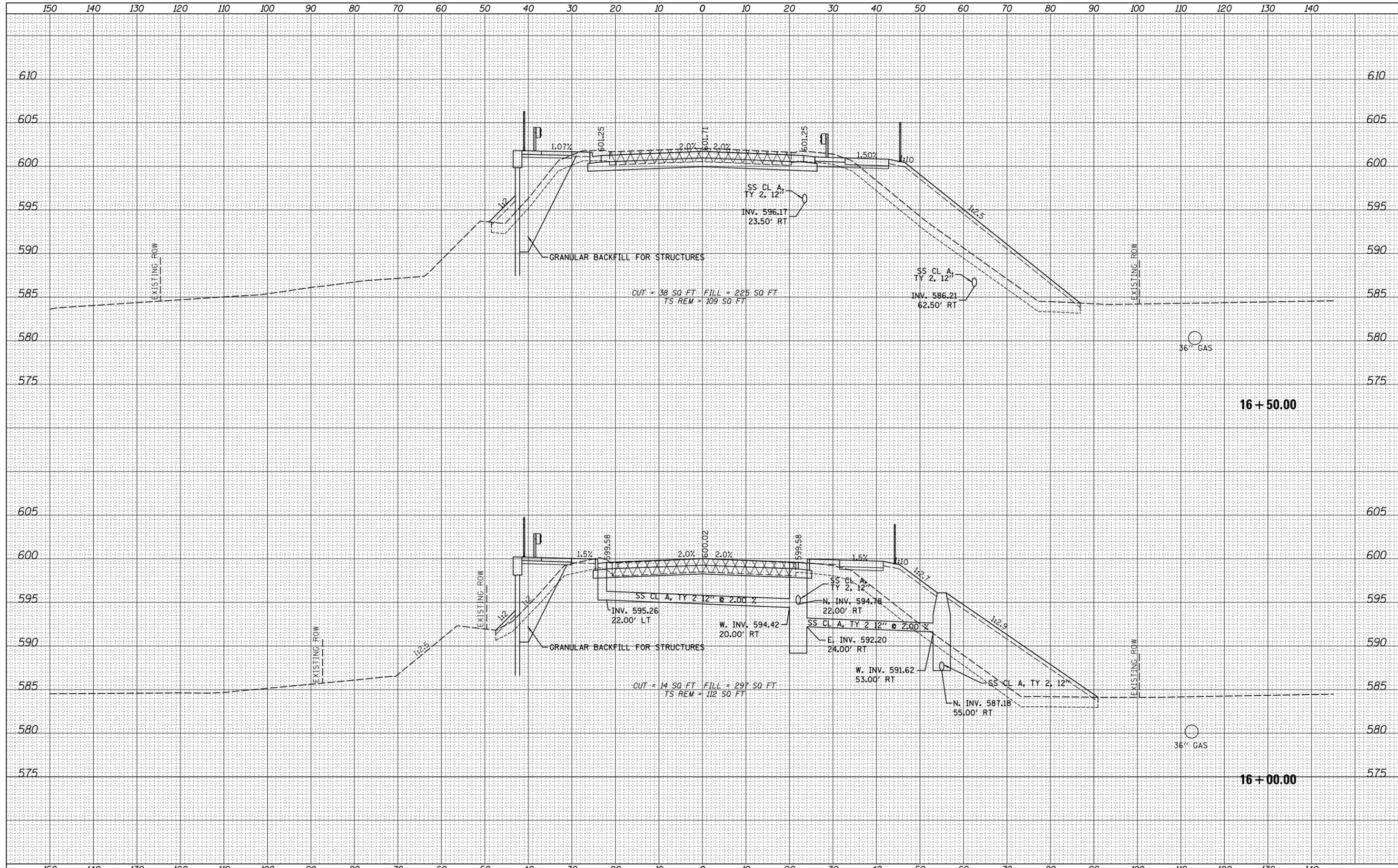
USER NAME = waterhej	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVENUE DISTRICT 1 DETAILS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 50.0000' / in.	DRAWN -	REVISED -		SCALE:	SHEET NO. 127 OF 152 SHEETS	STA.	TO STA.	358	1112.1B-R	COOK	152	127
PLOT DATE = 6/23/2015	CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT								
	DATE -	REVISED -		<b>CONTRACT NO. 60R95</b>								





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

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



FILE NAME = I:\Projects\4016179\4016179_0001\90_CAD Models and Sheets\CADD_Sheets\160R95-sht-xxsh01.dgn	USER NAME = waterhoj	DESIGNED - RDT	REVISIED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVE</b> <b>CROSS SECTIONS</b>	F.A.P. RTE. 358	SECTION 1112.1B-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 130		
PLOT SCALE = 20.0000' / in.	CHECKED - GC	REVISIED -	SCALE: H1"=10' V1"=5'			SHEET 130 OF 152 SHEETS	STA. 16+00.00 TO STA. 16+50.00	CONTRACT NO. 60R95		ILLINOIS FED. AID PROJECT		
*MODELNAME*	PLOT DATE = 6/23/2015	DATE - 6-15-2015	REVISIED -									

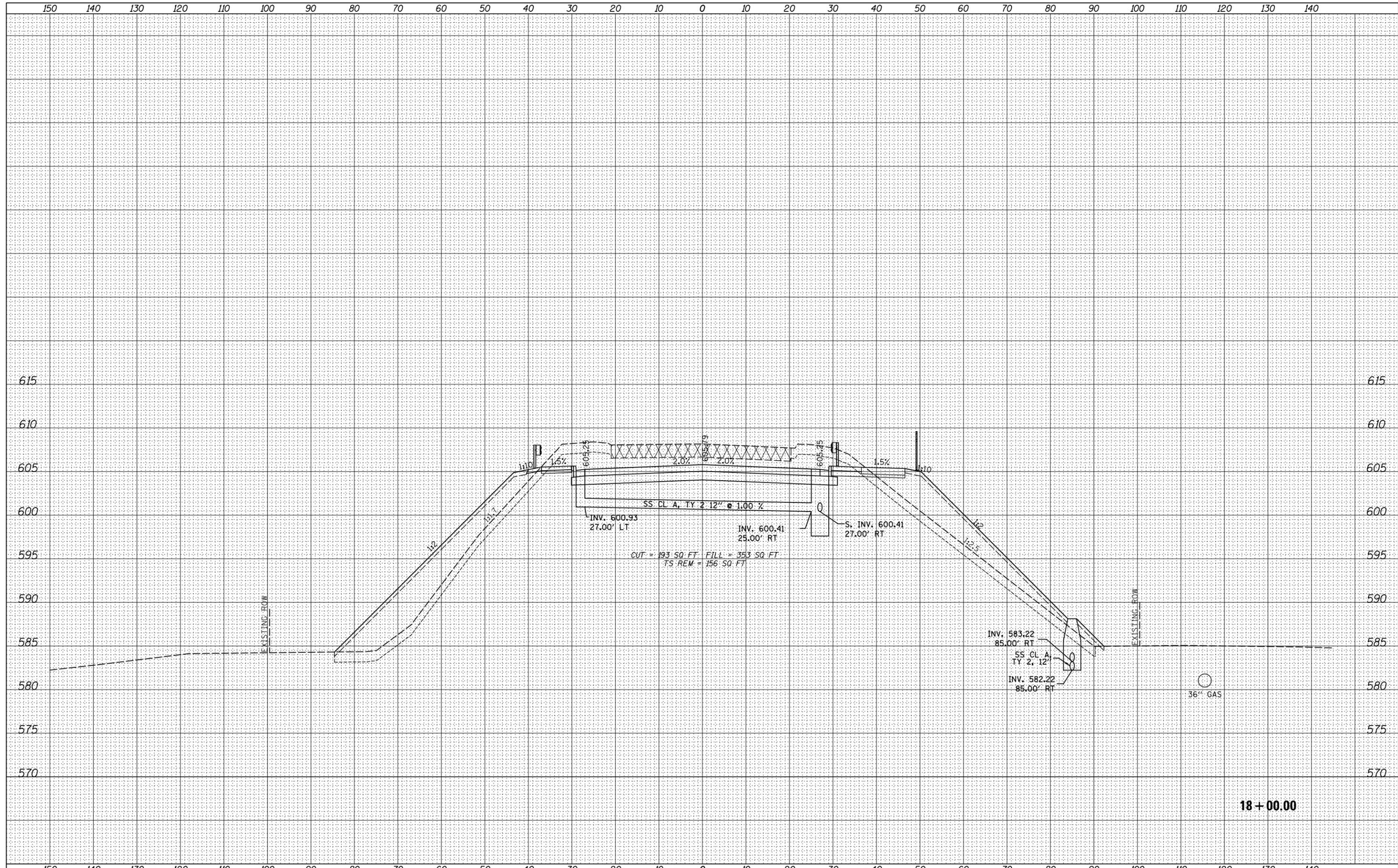






DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



18+00.00

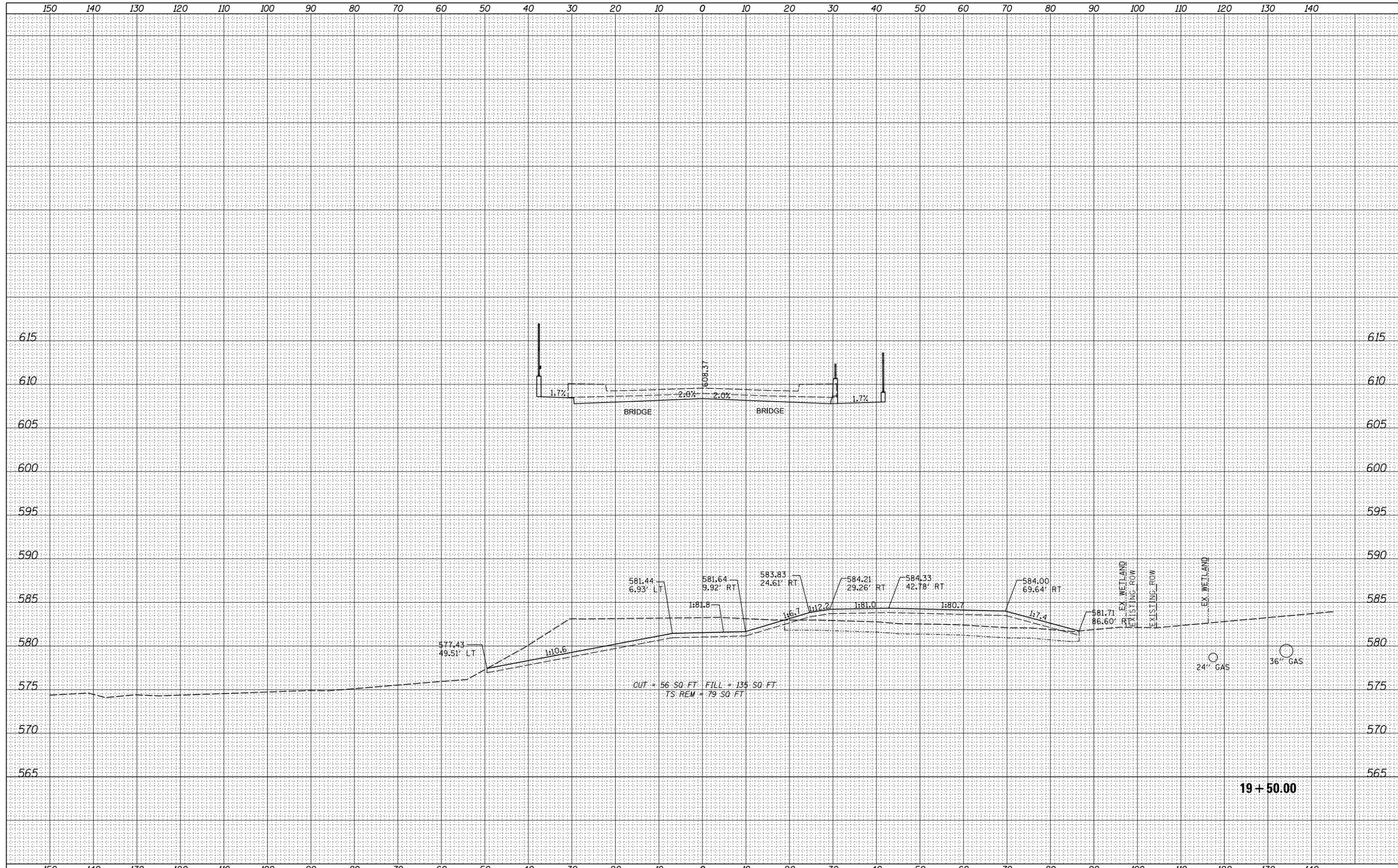
FILE NAME =	USER NAME = waterhej	DESIGNED - RDT	REVISED -	<p align="center"><b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b></p> <p align="center"><b>TORRENCE AVE</b> <b>CROSS SECTIONS</b></p>	F.A.P. RTE. 358	SECTION 1112.1B-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 133	
It:\Projects\4016179\4016179_0001\90_CAD Models and Sheets\CADD_Sheets\1620R95-sht-xxsh101.dgn		DRAWN - RDT	REVISED -		SCALE: H <sub>1</sub> "=10'	SHEET 133	OF 152 SHEETS	STA. 18+00.00	TO STA. 18+00.00	CONTRACT NO. 60R95
PLOT SCALE = 20.0000' / in.		CHECKED - GC	REVISED -		V <sub>1</sub> "=5'					ILLINOIS FED. AID PROJECT
*MODELNAME*		DATE - 6-15-2015	REVISED -							





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

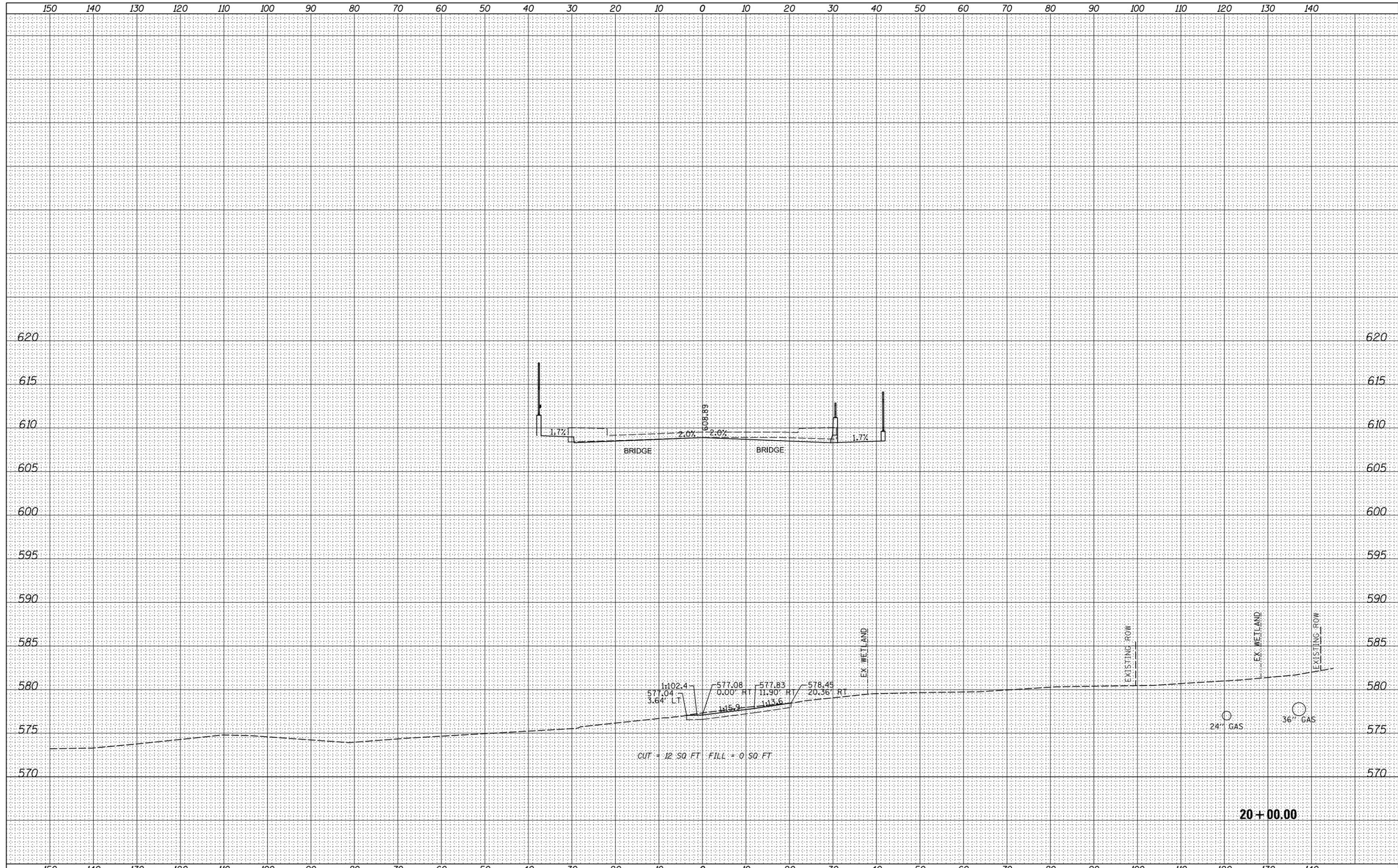
ORIGINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	
AREAS CHECKED	TEMPLATE	
	AREAS CHECKED	



FILE NAME =	USER NAME = waterhej	DESIGNED - RDT	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVE</b> <b>CROSS SECTIONS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I:\Projects\4016179\4016179_0001\90_CAD Models and Sheets\CADD_Sheets\1620R95-sht-xxsh101.dgn	DRAWN - RDT	REVISED -	358					1112.1B-R	COOK	152	136	
PLOT SCALE = 20.0000' / in.	CHECKED - GC	REVISED -	CONTRACT NO. 60R95									
*MODELNAME*	DATE - 6-15-2015	REVISED -	ILLINOIS FED. AID PROJECT									
SCALE: H:1"=10' V:1"=5'				SHEET 136 OF 152 SHEETS		STA. 19+50.00 TO STA. 19+50.00						

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

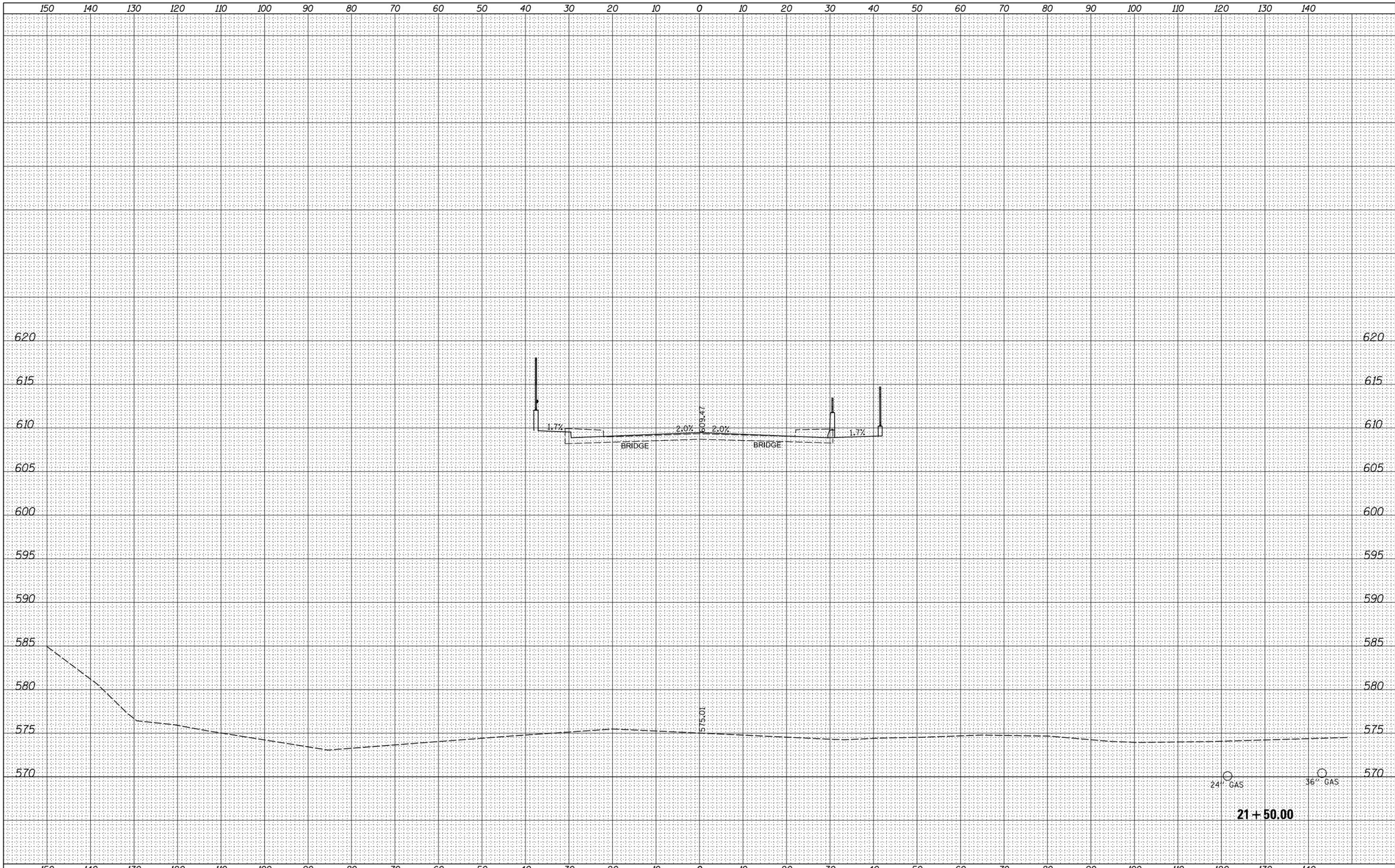
DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	



FILE NAME =	USER NAME = waterhej	DESIGNED - RDT	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVE</b> <b>CROSS SECTIONS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I:\Projects\4016179\4016179_0001\90_CAD Models and Sheets\CADD_Sheets\1620R95-sht-xxsh101.dgn	DRAWN - RDT	REVISED -	358			1112.1B-R	COOK	152	137	
PLOT SCALE = 20.0000' / in.	CHECKED - GC	REVISED -	CONTRACT NO. 60R95							
*MODELNAME*	DATE - 6-15-2015	REVISED -	ILLINOIS FED. AID PROJECT							
SCALE: H <sub>1</sub> "=10'		SHEET 137 OF 152 SHEETS		STA. 20+00.00 TO STA. 20+00.00						







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

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

FILE NAME = I:\Projects\4016179\4016179\_0001\90\_CAD Models and Sheets\CADD\_Sheets\11620R95-sht-xssh01.dgn

USER NAME = waterhej	DESIGNED - RDT	REVISED -
	DRAWN - RDT	REVISED -
PLOT SCALE = 20.0000' / in.	CHECKED - GC	REVISED -
PLOT DATE = 6/23/2015	DATE - 6-15-2015	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TORRENCE AVE  
CROSS SECTIONS**

SCALE:  $\frac{H_1}{V_1} = \frac{10'}{1"} = 10:1$   
 $\frac{H_2}{V_2} = \frac{5'}{1"} = 5:1$  SHEET 140 OF 152 SHEETS STA. 21+50.00 TO STA. 21+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
358	1112.1B-R	COOK	152	140
CONTRACT NO. 60R95				

21+50.00

24" GAS

36" GAS



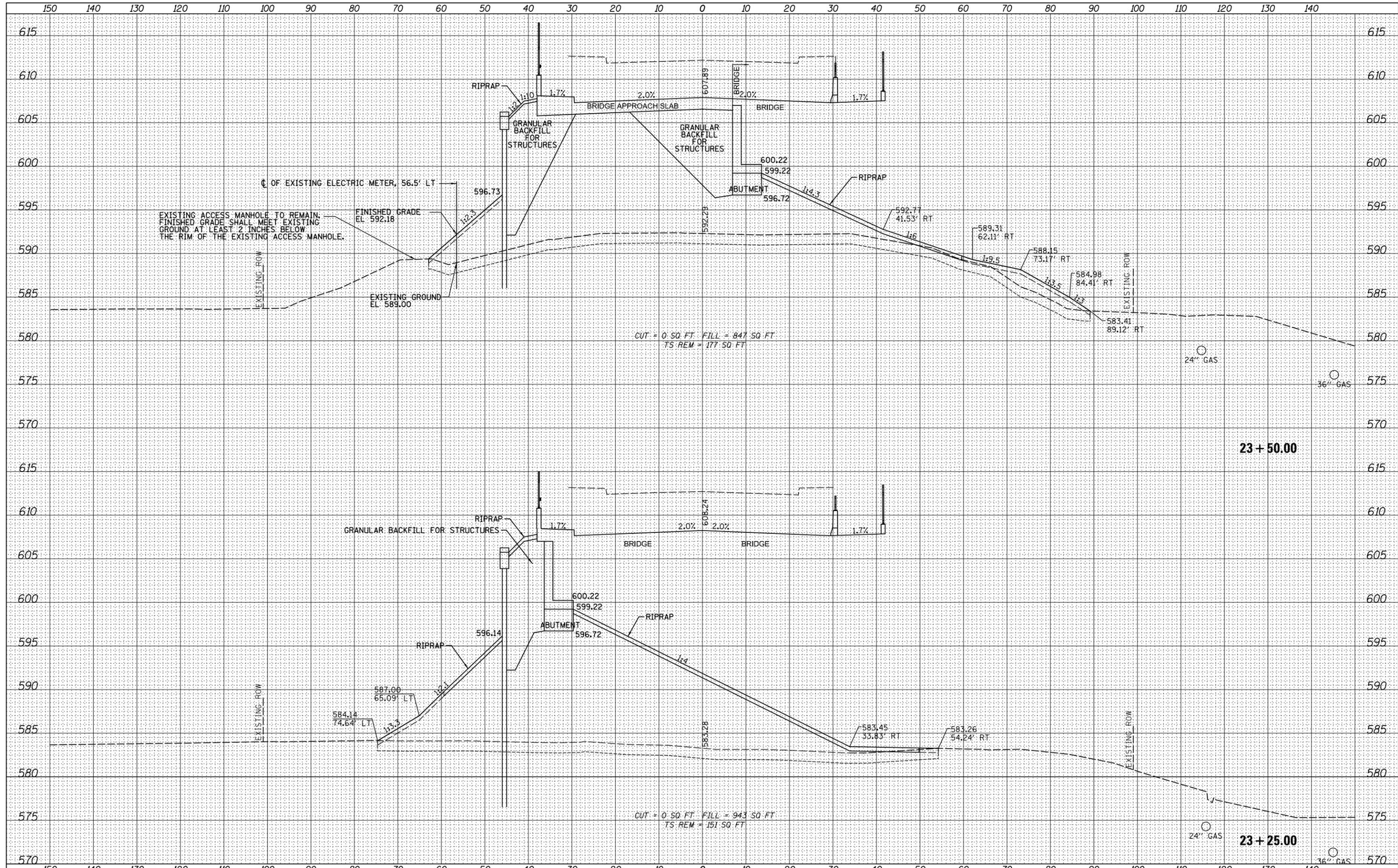






DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

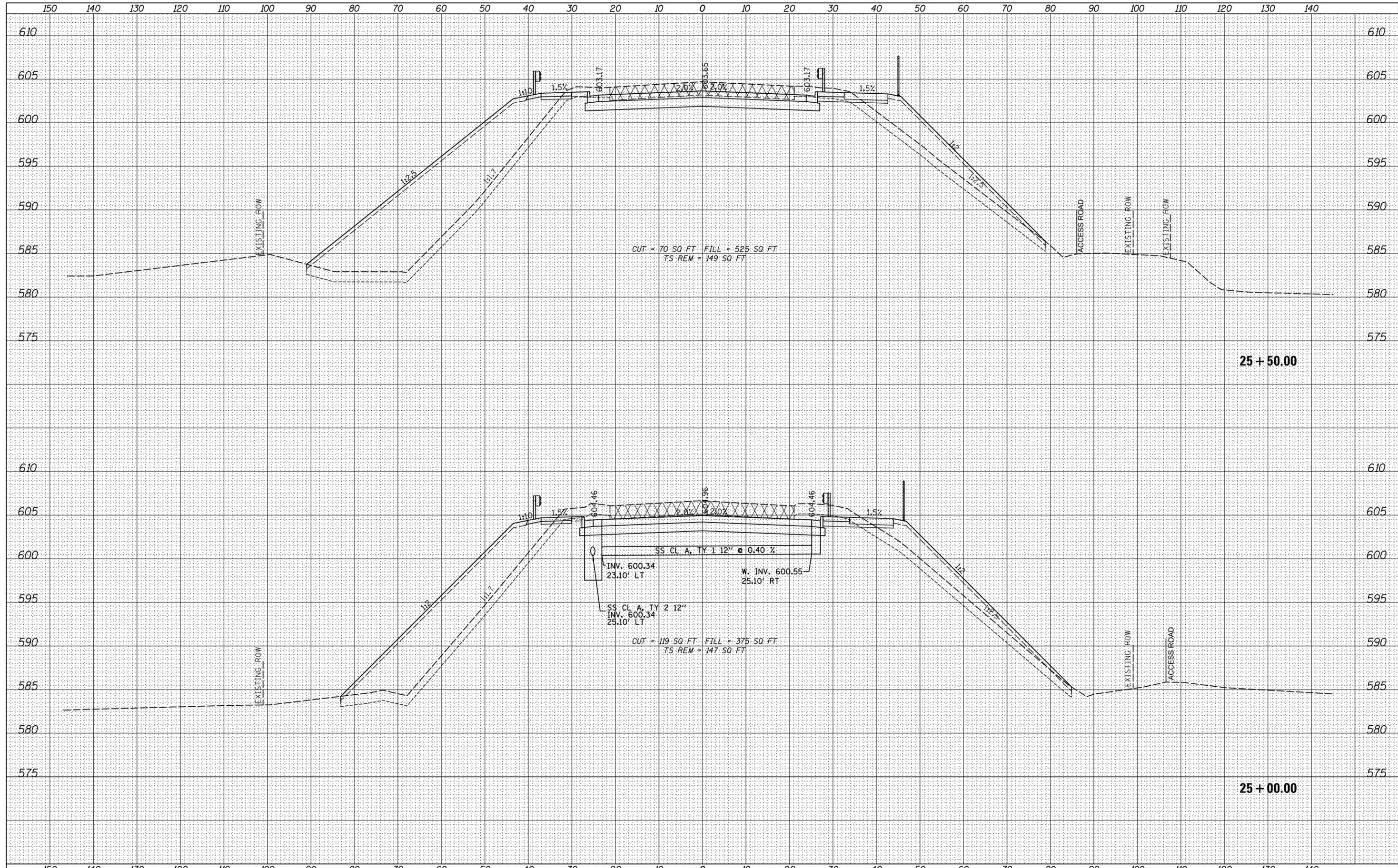






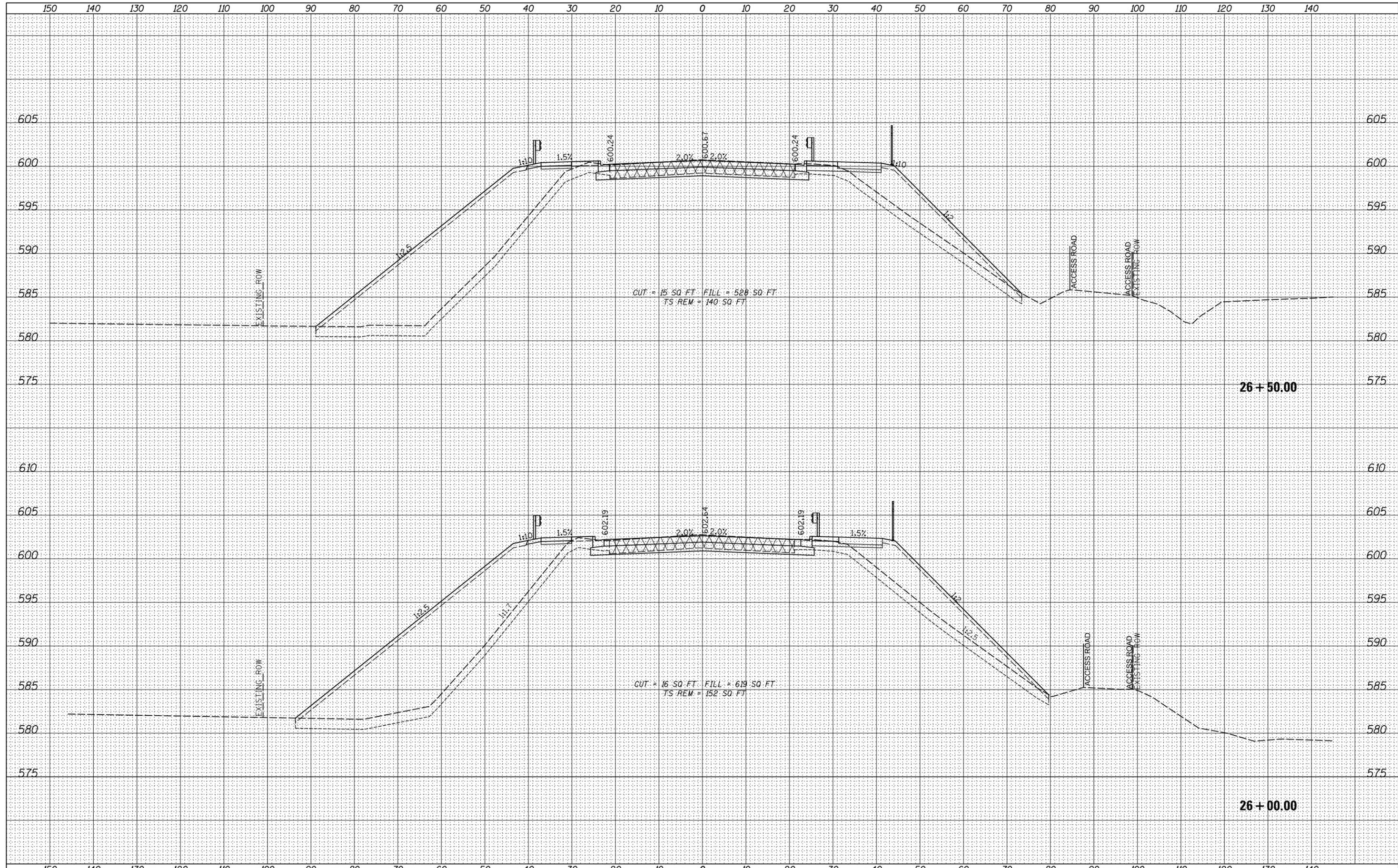
DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

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



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

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



FILE NAME = I:\Projects\4016179\4016179_0001\90_CAD Models and Sheets\CADD_Sheets\1620R95-sht-xxsh01.dgn	USER NAME = waterhoj	DESIGNED - RDT	REVISIED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVE</b> <b>CROSS SECTIONS</b>	F.A.P. RTE. 358	SECTION 1112.1B-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 148	
*MODELNAME*	PLOT SCALE = 20.0000' / in.	CHECKED - GC	REVISIED -			SCALE: H <sub>1</sub> "=10' / V <sub>1</sub> "=5'	SHEET 148 OF 152 SHEETS	STA. 26+00.00 TO STA. 26+50.00	CONTRACT NO. 60R95		
	PLOT DATE = 6/23/2015	DATE - 6-15-2015	REVISIED -			ILLINOIS FED. AID PROJECT					

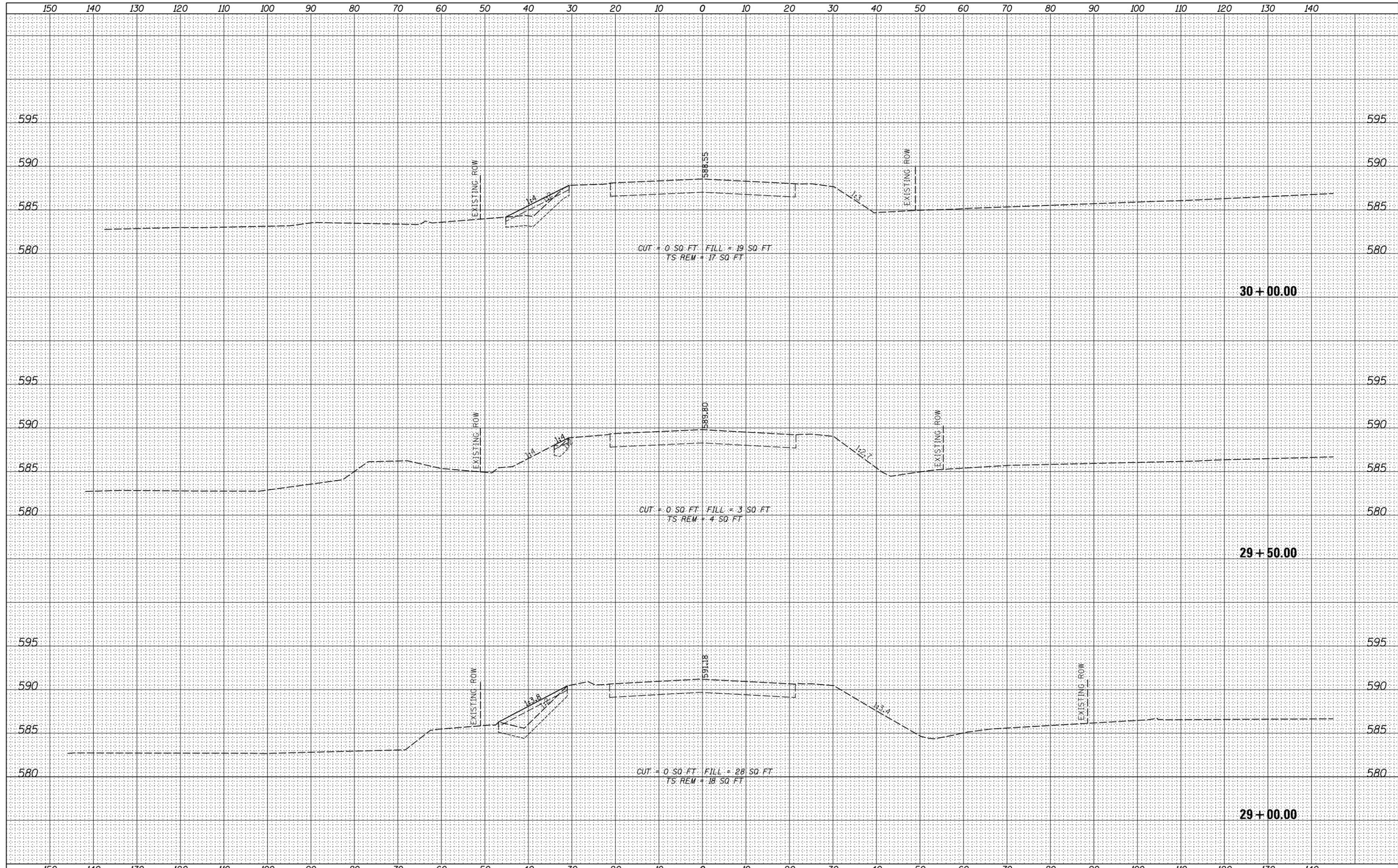






DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



FILE NAME = I:\Projects\4016179\4016179_0001\90_CAD Models and Sheets\CADD_Sheets\1162R95-sht-xxsh101.dgn	USER NAME = waterhvj	DESIGNED - RDT	REVISIED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TORRENCE AVE</b> <b>CROSS SECTIONS</b>	F.A.P. RTE. 358	SECTION 1112.1B-R	COUNTY COOK	TOTAL SHEETS 152	SHEET NO. 151	
*MODELNAME*	PLOT SCALE = 20.0000' / in.	CHECKED - GC	REVISIED -			SCALE: H:1"=10' V:1"=5'	SHEET 151 OF 152 SHEETS	STA. 29+00.00 TO STA. 30+00.00	CONTRACT NO. 60R95		
	PLOT DATE = 6/23/2015	DATE - 6-15-2015	REVISIED -			ILLINOIS FED. AID PROJECT					

