

09-18-2015 LETTING ITEM 059

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED  
ILLINOIS TRANSPORTATION ENHANCEMENT PROGRAM PROJECT  
MULTI-USE TRAIL

SECTION 13-00130-00-BT  
PROJECT TE-00D7(066)  
JOB NO. C-97-065-13  
CONTRACT 95767  
CITY OF EFFINGHAM

SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	1
CONTRACT NO. 95767			

Joint Utility Locating Information for Excavators  
JULIE 1-800-892-0123

INDEX OF SHEETS

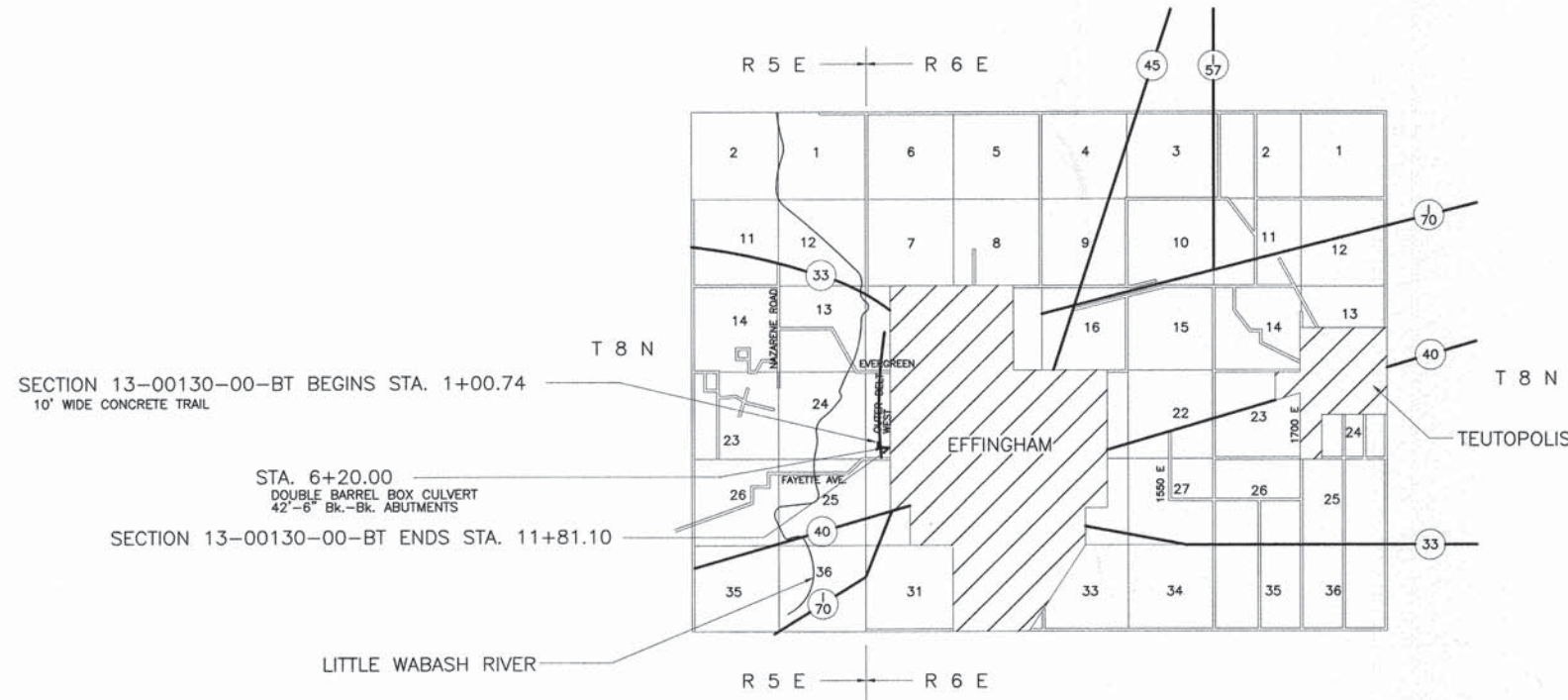
SHEET	ITEM
1	COVER SHEET
2	SUMMARY OF QUANTITIES/TYPICAL SECTIONS
3	WOOD GUARD RAIL DETAILS/CURVE DATA
4	PLAN & PROFILE
5	BOX CULVERT DETAILS
6-10	CROSS SECTIONS

- STANDARD DRAWINGS
- STANDARD 00001-06
  - STANDARD 280001-07
  - STANDARD 515001-03
  - STANDARD 542301-03
  - STANDARD 701001-02
  - STANDARD 701006-05
  - STANDARD 701201-04
  - STANDARD 701901-04
  - STANDARD 720001-01
  - STANDARD 720006-04
  - STANDARD 728001-01
  - STANDARD 780001-05
  - STANDARD BLR21-9

PLAN	0 50' 100'
PROFILE HOR.	0 50' 100'
PROFILE VERT.	0 10' 20'
CROSS SECTIONS	
HOR.	0 5' 10'
VERT.	0 5' 10'



License Exp. 11-30-2015



NET LENGTH SECTION 13-00130-00-BT = 1,080.36 Ft. = 0.205 Mi.

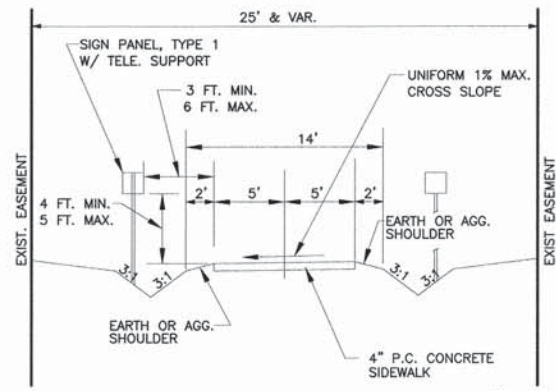
**CHARLESTON ENGINEERING, INC.**  
CONSULTING ENGINEERS  
105 NORTH KITCHELL  
P.O. BOX 397  
OLNEY, ILLINOIS 62450  
(618) 392-0736  
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184.003513

APPROVED JULY 2, 2015  
*[Signature]*  
MAYOR - CITY OF EFFINGHAM

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
PASSED 7-16 2015  
*[Signature]*  
DISTRICT SEVEN ENGINEER OF  
LOCAL ROADS AND STREETS

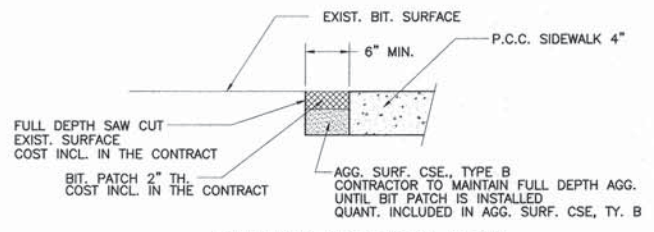
Releasing For  
Bid Based on  
Limited Review  
7-16 2015  
*[Signature]*  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FOUR ENGINEER

SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	2
CONTRACT NO. 95767			



TYPICAL SECTION - P.C.C. SIDEWALK 4"

THE DIRECTION OF THE CROSS SLOPE VARIES THROUGHOUT THE PROJECT



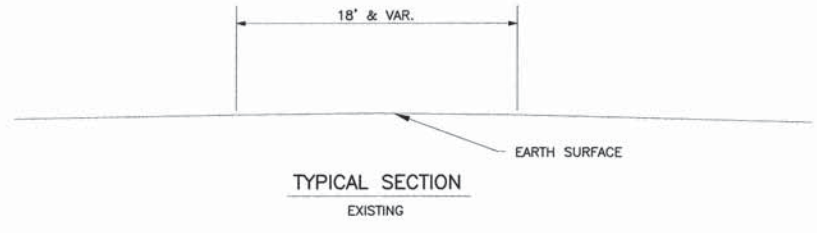
PAVEMENT TRANSITION DETAIL

EARTHWORK SUMMARY

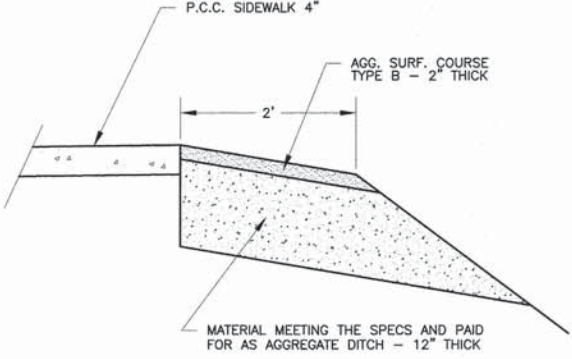
LOCATION	STR. EXCAVATION	EARTH EXCAVATION	EMBANKMENT
TRAIL	0	70	1400
AGG. SHOULDERS	0	100	0
STRUCTURE	100	0	0
TOTALS	100	170	1400

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
Δ F30021Y2	SEEDLING-ACER RUBRUM (RED MAPLE), 2 YEAR OLD, BARE ROOT	UNIT	0.08
Δ F30030Y2	SEEDLING-BETULA NIGRA (RIVER BIRCH), 2 YEAR OLD, BARE ROOT	UNIT	0.08
Δ F30040Y2	SEEDLING-CARYA OVATA (SHAGBARK HICKORY), 2 YEAR OLD, BARE ROOT	UNIT	0.08
Δ F30050Y2	SEEDLING-CELTIS OCCIDENTALIS (HACKBERRY), 2 YEAR OLD, BARE ROOT	UNIT	0.08
Δ F30090Y2	SEEDLING-PLATANUS OCCIDENTALIS (SYCAMORE), 2 YEAR OLD, BARE ROOT	UNIT	0.08
Δ F30120Y2	SEEDLING-QUERCUS ALBA (WHITE OAK), 2 YEAR OLD, BARE ROOT	UNIT	0.08
Δ X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.65
X5020200	STRUCTURE EXCAVATION (SPECIAL)	CU YD	100
X5150110	NAME PLATES (SPECIAL)	EACH	2
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	110
XX001532	PROJECT SIGN	EACH	1
XX008550	REMOVE AND REPLACE STONE RIPRAP	SQ YD	35
XX008837	STRUCTURE MARKER SIGN	EACH	1
Z0003850	BENCHES	EACH	2
Δ Z0077740	WOOD GUARDRAIL	FOOT	176
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	173
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	88
20200100	EARTH EXCAVATION	CU YD	170
20400800	FURNISHED EXCAVATION	CU YD	1,200
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100
28000305	TEMPORARY DITCH CHECKS	FOOT	63
28000400	PERIMETER EROSION BARRIER	FOOT	730
28000500	INLET AND PIPE PROTECTION	EACH	1
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	80
28300400	AGGREGATE DITCH	TON	250
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	30
42400100	PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH	SQ FT	11,250
42400800	DETECTABLE WARNINGS	SQ FT	60
50800105	REINFORCEMENT BARS	POUND	13,880
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	78.4
542A0235	PIPE CULVERTS, CLASS A, TYPE 1 30"	FOOT	40
54213675	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 30"	EACH	2
67100100	MOBILIZATION	L SUM	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
72000100	SIGN PANEL, TYPE 1	SQ FT	47.7
72800100	TELESCOPING STEEL SIGN SUPPORT	FOOT	140
Δ 78001100	PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	21.3

Δ SPECIALTY ITEMS

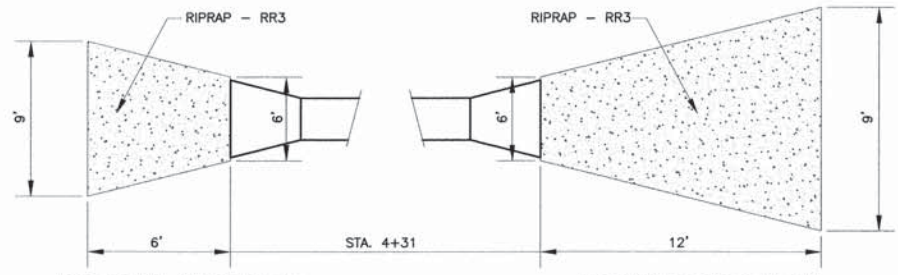


TYPICAL SECTION EXISTING

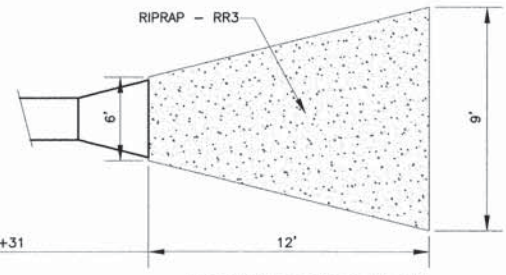


AGGREGATE SHOULDER DETAIL

LT. & RT. STA. 3+50 TO 9+00 - 200 TON AGG. DIT. - 25 TON AGG. SURF.  
LT. & RT. STA. 10+50 TO 11+00 - 20 TON AGG. DIT. - 5 TON AGG. SURF.



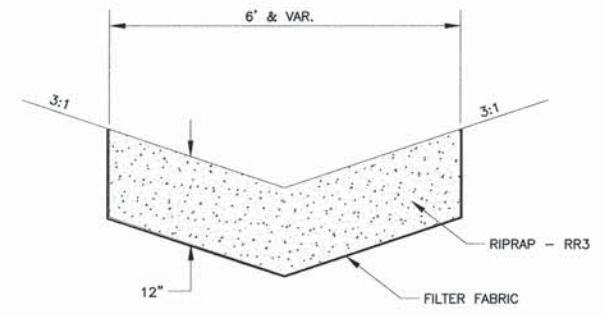
AGGREGATE DITCH DETAIL AT PIPE CULVERT INLET - 4 TON



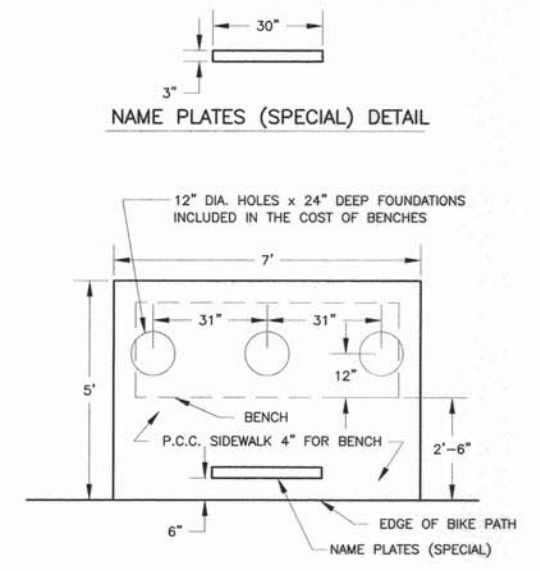
AGGREGATE DITCH DETAIL AT PIPE CULVERT OUTLET - 6 TON

SIGN DETAILS

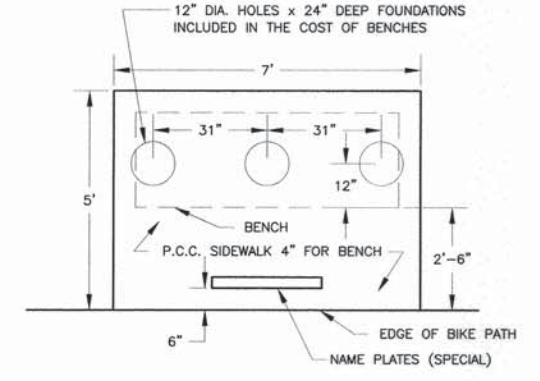
SIGN	LOCATION	SIGNS TO INSTALL	SIGN PANEL, TY. 1	TELE. STL. SIGN SUP.
①	RT. STA. 1+10	D11-1 SIGN M4-11 SIGN	3.0 SQ. FT. 0.3 SQ. FT.	14 FT.
②	RT. STA. 1+20	R5-3 SIGN	4.0 SQ. FT.	14 FT.
③	RT. STA. 1+30	W7-5 SIGN W7-5a SIGN W7-3 SIGN (5% GRADE) W13-1 SIGN (5 MPH) USE 2 POSTS	4.3 SQ. FT. 0.8 SQ. FT. 3.0 SQ. FT. 2.3 SQ. FT.	28 FT.
④	RT. STA. 3+35	W1-2L SIGN W13-1 SIGN (10 MPH)	4.3 SQ. FT. 2.3 SQ. FT.	14 FT.
⑤	LT. STA. 5+15	W1-2R SIGN W13-1 SIGN (10 MPH)	4.3 SQ. FT. 2.3 SQ. FT.	14 FT.
⑥	RT. STA. 11+45	D11-1 SIGN M4-12 SIGN	3.0 SQ. FT. 0.3 SQ. FT.	14 FT.
⑦	LT. STA. 11+45	R5-3 SIGN	4.0 SQ. FT.	14 FT.
⑧	RT. STA. 11+65	R1-1 SIGN	6.2 SQ. FT.	14 FT.
⑨	LT. STA. 11+55	D11-1 SIGN M4-11 SIGN	3.0 SQ. FT. 0.3 SQ. FT.	14 FT.
			47.7 SQ. FT.	140 FT.



AGGREGATE DITCH DETAIL AT STA. 6+50 TO 7+05 - 20 TON



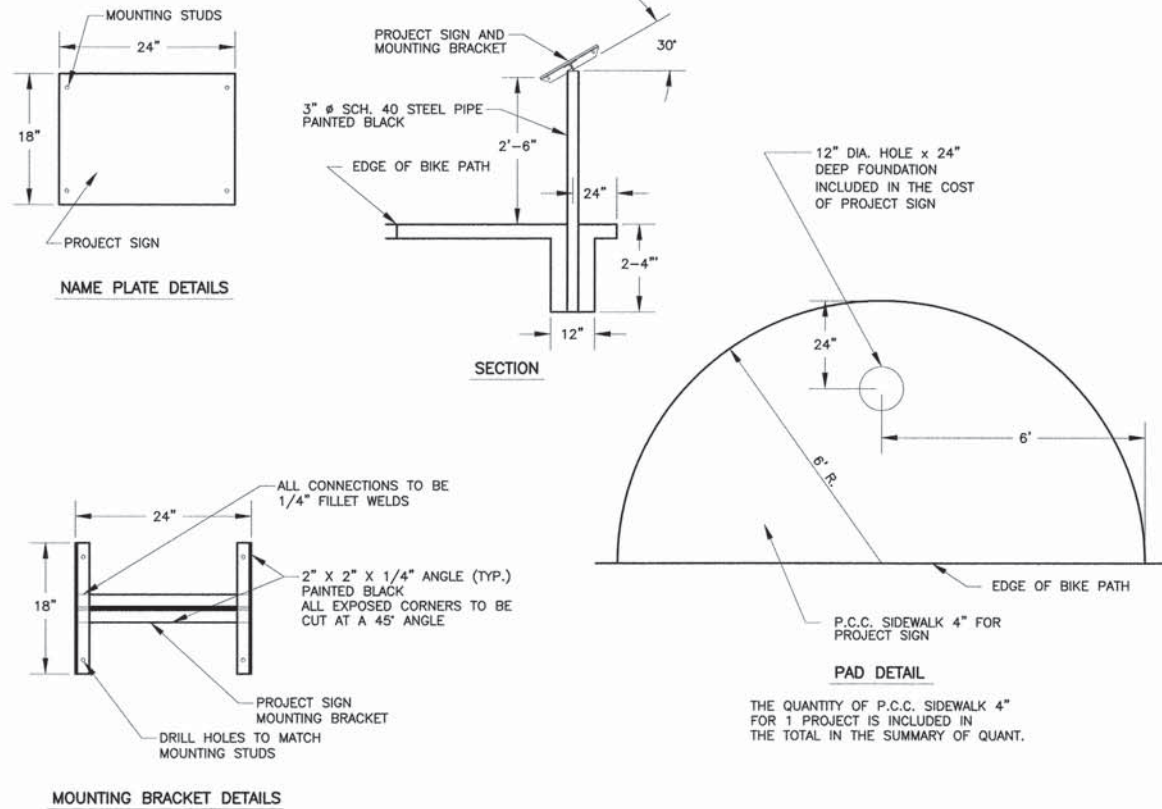
NAME PLATES (SPECIAL) DETAIL



BENCH AND PAD DETAIL

THE QUANTITY OF P.C.C. SIDEWALK 4" FOR 2 BENCHES IS INCLUDED IN THE TOTAL IN THE SUMMARY OF QUANT.

SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	3
CONTRACT NO. 95767			

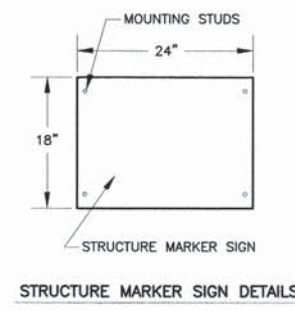


**CURVE DATA**

CURVE 1	CURVE 2	CURVE 3	CURVE 4
D = 31'10'42"	D = 31'10'42"	D = 81'40'54"	D = 49'22'13"
Da = 57'17'45"	Da = 57'17'45"	Da = 57'17'45"	Da = 57'17'45"
Dc = 60'00'00"	Dc = 60'00'00"	Dc = 60'00'00"	Dc = 60'00'00"
T = 27.90	T = 27.90	T = 86.44	T = 45.96
R = 100.00	R = 100.00	R = 100.00	R = 100.00
L = 54.42	L = 54.42	L = 142.56	L = 86.17
C = 53.75	C = 53.75	C = 130.79	C = 83.53
E = 3.82	E = 3.82	E = 32.18	E = 10.06
M = 3.68	M = 3.68	M = 24.35	M = 9.14
PI Sta = 1+28.64	PI Sta = 1+83.06	PI Sta = 4+40.05	PI Sta = 8+12.85

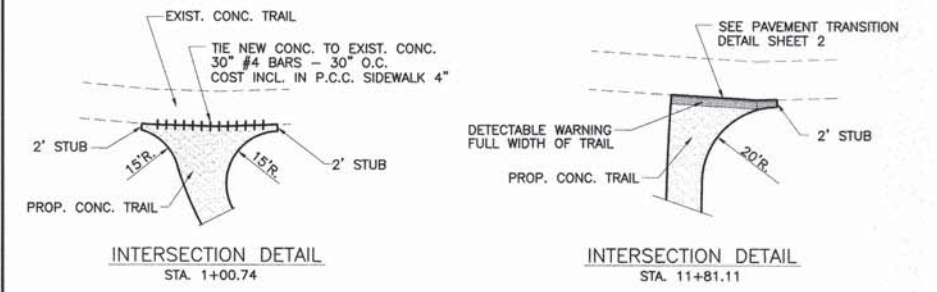
  

CURVE 5	CURVE 6	CURVE 7	CURVE 8
D = 51'52'06"	D = 18'48'11"	D = 11'22'02"	D = 10'38'41"
Da = 57'17'45"	Da = 46'10'51"	Da = 09'31'22"	Da = 16'06'06"
Dc = 60'00'00"	Dc = 47'31'55"	Dc = 09'32'02"	Dc = 16'09'18"
T = 48.63	T = 20.54	T = 59.88	T = 33.15
R = 100.00	R = 124.07	R = 601.67	R = 355.84
L = 90.53	L = 40.72	L = 119.37	L = 66.11
C = 87.47	C = 40.53	C = 119.17	C = 66.01
E = 11.20	E = 1.69	E = 2.97	E = 1.54
M = 10.07	M = 1.67	M = 2.96	M = 1.53
PI Sta = 9+01.68	PI Sta = 9+64.12	PI Sta = 10+44.18	PI Sta = 11+36.81

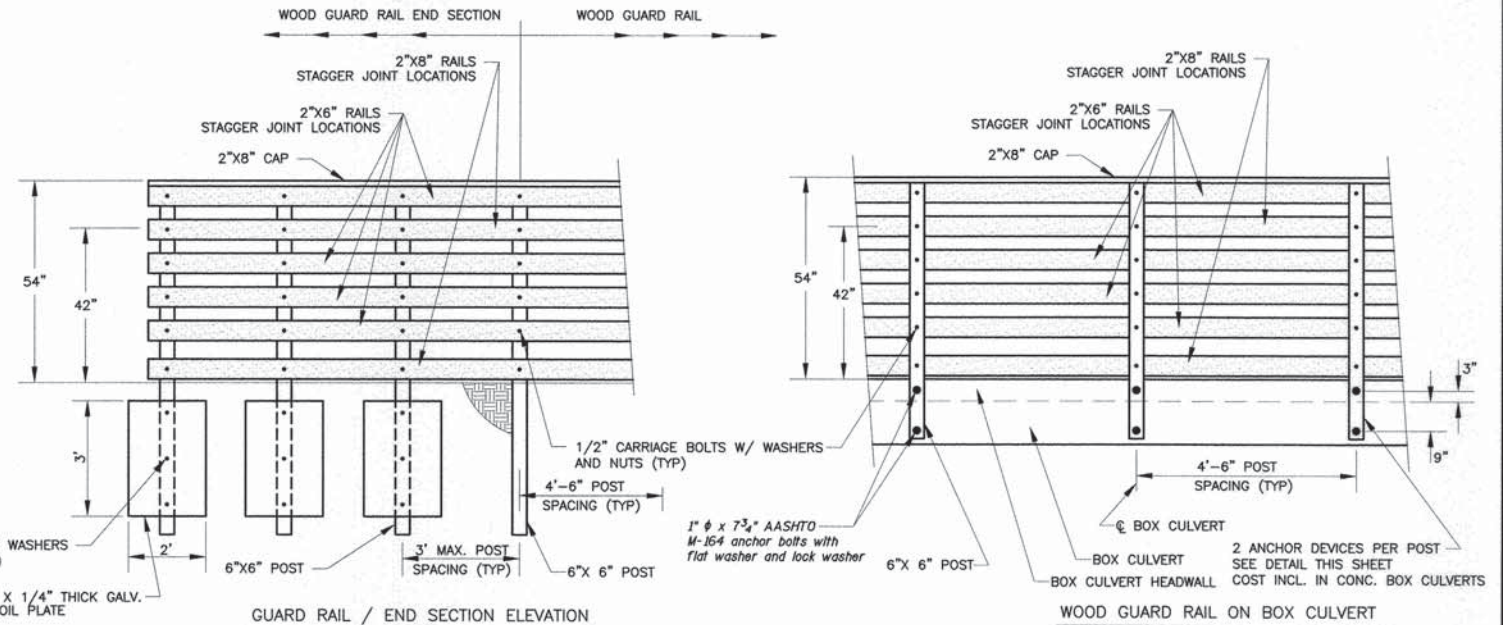
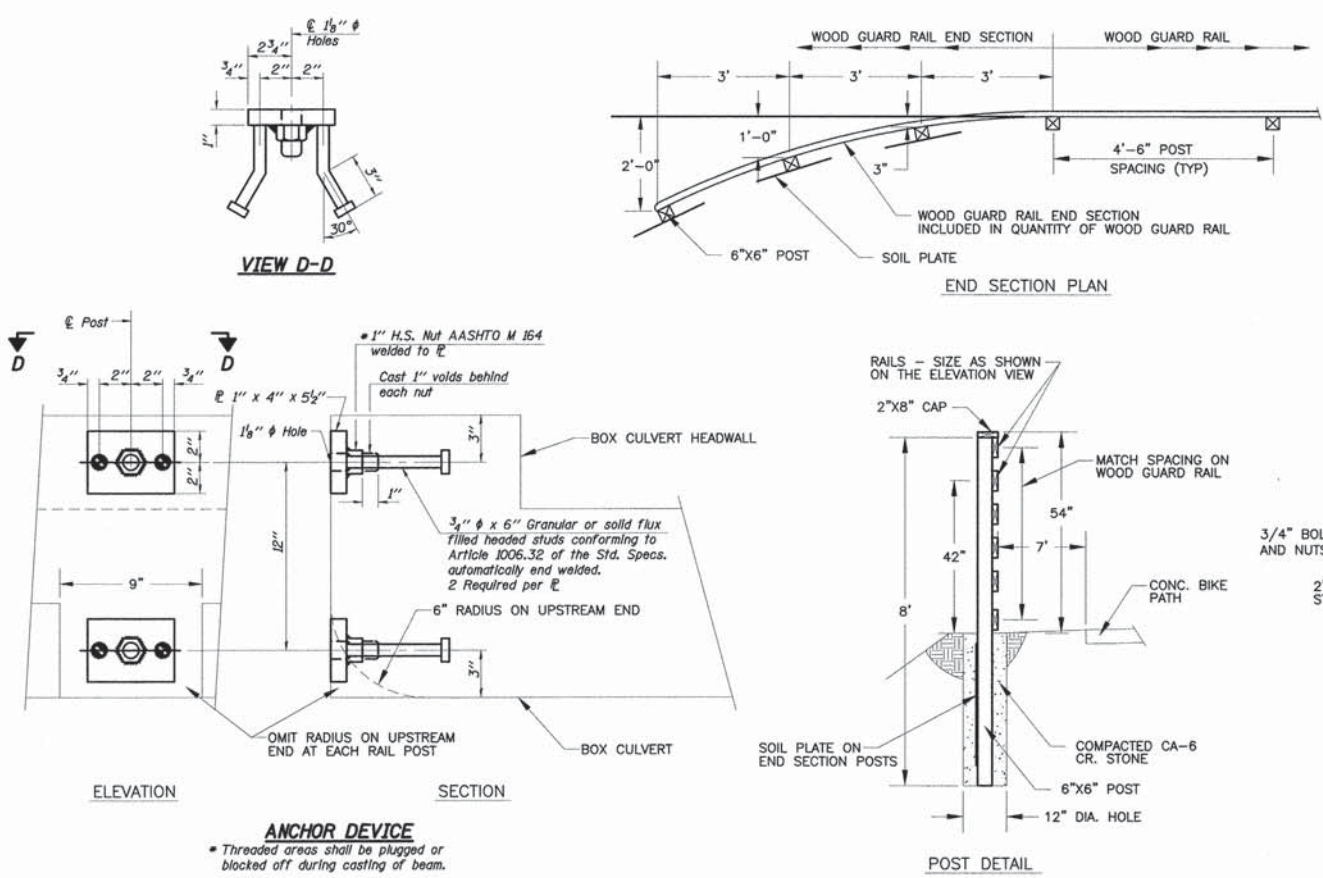


**STRUCTURE MARKER SIGN DETAILS**

- UPSET THREADS ON MOUNTING STUDS AFTER INSTALLING ON WOOD GUARDRAIL

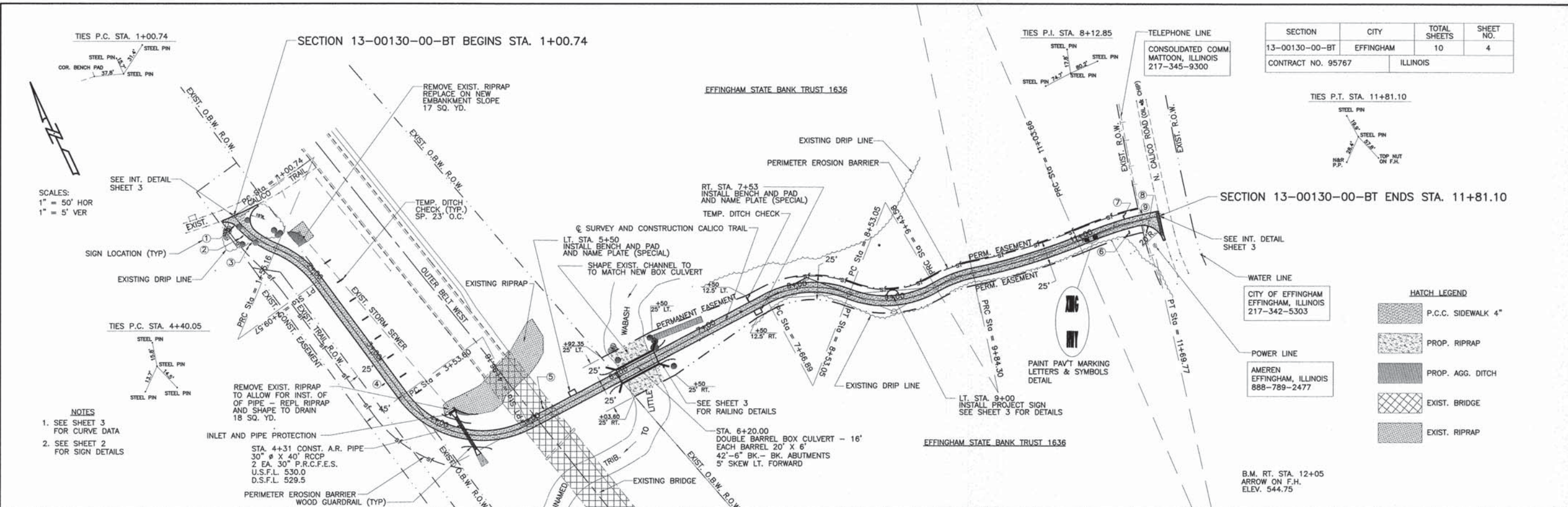


**INTERSECTION DETAILS**



**WOOD GUARD RAIL DETAIL**

- ALL LUMBER USED IN THE RAILING SHALL BE PRESSURE TREATED.
- ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL, NO EXCEPTIONS.
- ALL EXTERIOR CORNERS ON THE RAILS SHALL BE ROUNDED - 1 1/2" RADIUS.
- ALL RAIL JOINTS SHALL BE FLUSH.
- ALL LUMBER DIMENSIONS ARE NOMINAL.
- SPLICE 2 X 8 CAP OVER POSTS.

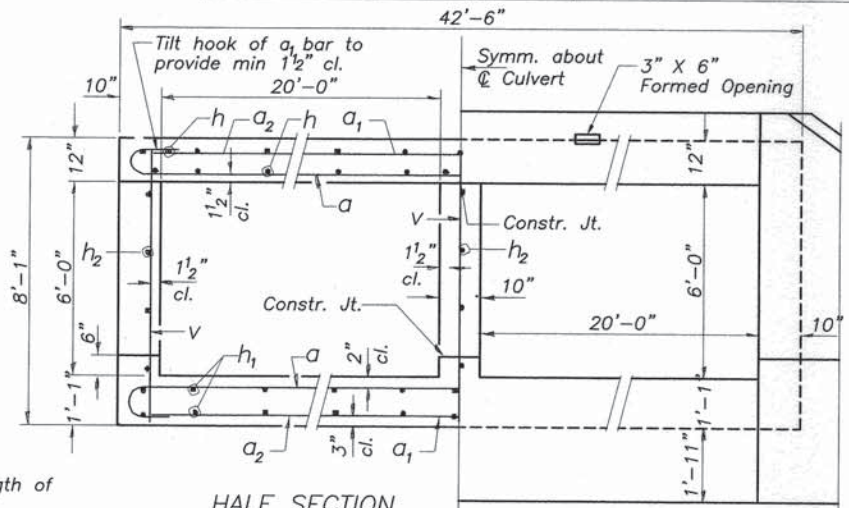
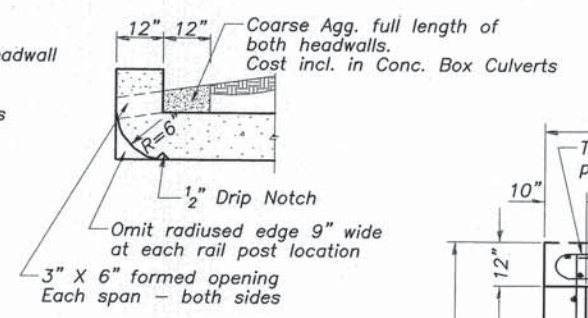
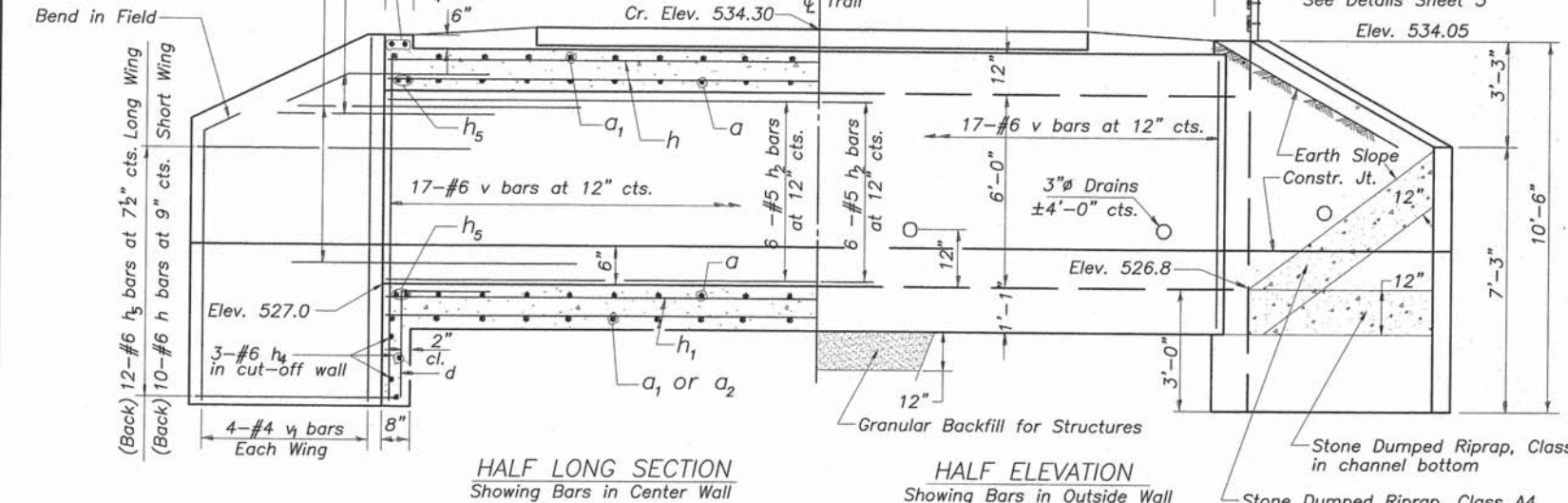


Station	Description	Quantity	Unit	Station	Description	Quantity	Unit
1+00	SEEDING, CLASS 2 (SPECIAL)	0.65	ACRE	11+81.10	WOOD GUARD RAIL	560	FOOT
2+00	TEMPORARY DITCH CHECKS	63	FOOT	11+81.10	WOOD GUARD RAIL	20	FOOT
3+00				11+81.10	WOOD GUARD RAIL	20	FOOT
4+00				11+81.10	WOOD GUARD RAIL	27	FOOT
5+00				11+81.10	WOOD GUARD RAIL	27	FOOT
6+00				11+81.10	WOOD GUARD RAIL	27	FOOT
7+00				11+81.10	WOOD GUARD RAIL	27	FOOT
8+00				11+81.10	WOOD GUARD RAIL	27	FOOT
9+00				11+81.10	WOOD GUARD RAIL	27	FOOT
10+00				11+81.10	WOOD GUARD RAIL	27	FOOT
11+00				11+81.10	WOOD GUARD RAIL	27	FOOT
11+81.10	TOTAL	97	FT				
1+00	DETECTABLE WARNINGS	60	SQ. FT.	11+78	DETECTABLE WARNINGS	60	SQ. FT.
4+00	INLET & PIPE PROTECTION	1	EACH	4+00	INLET & PIPE PROTECTION	1	EACH
1+00	P.C. CONCRETE SIDEWALK 4"	11,120	SQ. FT.	11+81.10	EARTHWORK	170	CU. YD.
1+00	PERIMETER EROSION BARRIER	380	FOOT	11+81.10	EARTH EXCAVATION	100	CU. YD.
1+00		350	FOOT	11+81.10	STRUCTURE EXCAVATION	1200	CU. YD.
1+00		730	FOOT	11+81.10	FURNISHED EXCAVATION	1400	CU. YD.
1+00				11+81.10	EMBANKMENT		
539.2				539.4			
546.01				541.01			
538.0				538.6			
543.53				538.85			
536.1				539.4			
541.06				541.01			
534.3							
538.59							
533.6							
536.40							
532.4							
534.67							
532.4							
534.18							
534.3							
534.22							
533.6							
534.27							
533.3							
534.30							
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533.0							
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533.32							
533.9							
533.99							
535.4							
535.45							
536.5							
536.48							
536.8							
536.78							
536.5							
536.66							
537.5							
537.55							
538.6							
538.65							

SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	5
CONTRACT 95767	ILLINOIS		

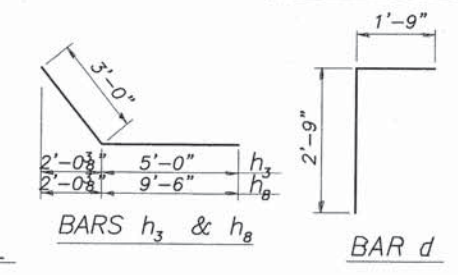
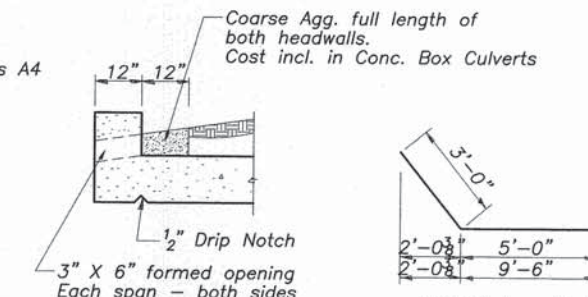
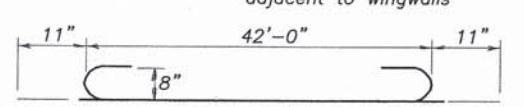
(Back)  
3-#6 h<sub>3</sub> bars at 9" cts. Short Wing  
4-#6 h<sub>7</sub> bars at 7½" cts. Long Wing

(Front)  
8-#6 h<sub>3</sub> bars at 9" cts. Short Wing  
10-#6 h<sub>3</sub> bars at 7½" cts. Long Wing



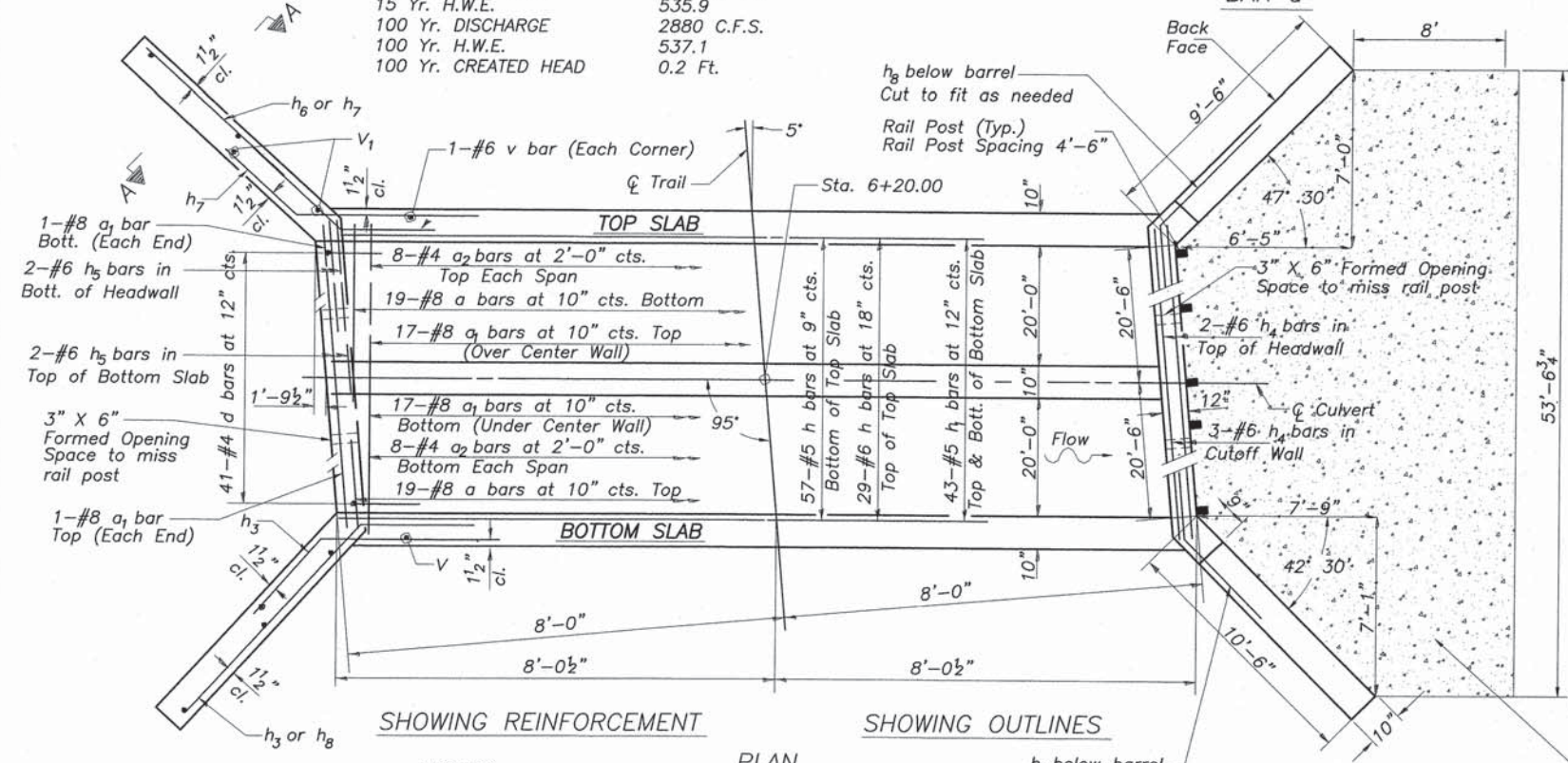
**WATERWAY INFORMATION**

DRAINAGE AREA	2.4 Sq. Mi.
DESIGN DISCHARGE (15 Yr.)	1908 C.F.S
PROPOSED OPENING	240 Sq. Ft.
15 Yr. H.W.E.	535.9
100 Yr. DISCHARGE	2880 C.F.S.
100 Yr. H.W.E.	537.1
100 Yr. CREATED HEAD	0.2 Ft.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	38	#8	43'-10"	C
a <sub>1</sub>	38	#8	18'-0"	—
a <sub>2</sub>	32	#4	14'-0"	—
d	82	#4	4'-6"	—
h	86	#6	15'-8"	—
h <sub>1</sub>	86	#5	15'-8"	—
h <sub>2</sub>	18	#5	15'-8"	—
h <sub>3</sub>	22	#6	8'-0"	—
h <sub>4</sub>	10	#6	41'-6"	—
h <sub>5</sub>	12	#6	41'-6"	—
h <sub>6</sub>	24	#6	13'-6"	—
h <sub>7</sub>	28	#6	8'-0"	—
h <sub>8</sub>	20	#6	12'-6"	—
v	55	#6	7'-9"	—
v <sub>1</sub>	16	#4	10'-0"	—
Concrete Box Culv.		Cu. Yd.	78.4	
Reinforcement Bars		Pound	13,880	
Struct. Excav. Spl.		Cu. Yd.	100	
Gran. B'fill. for Str.		Cu. Yd.	110	
St. Dump Riprap A4		Ton	80	
Wood Guardrail		Foot	82	
Name Plates		Each	1	
Struct. Marker Sign		Each	1	



**NOTES**

Not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.

All construction joints shall be bonded.

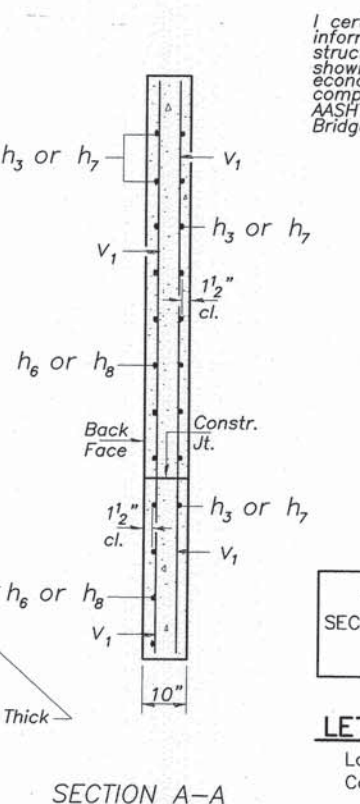
Cut a bars to fit skew. Use balance of bar in opposite end.

**DESIGN STRESSES**

f<sub>y</sub> = 60,000 psi  
f'<sub>c</sub> = 3,500 psi

Stone Dumped Riprap, Class A4. 12" Thick  
Typical Both Ends of Culvert

**LOADING H-10**



I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

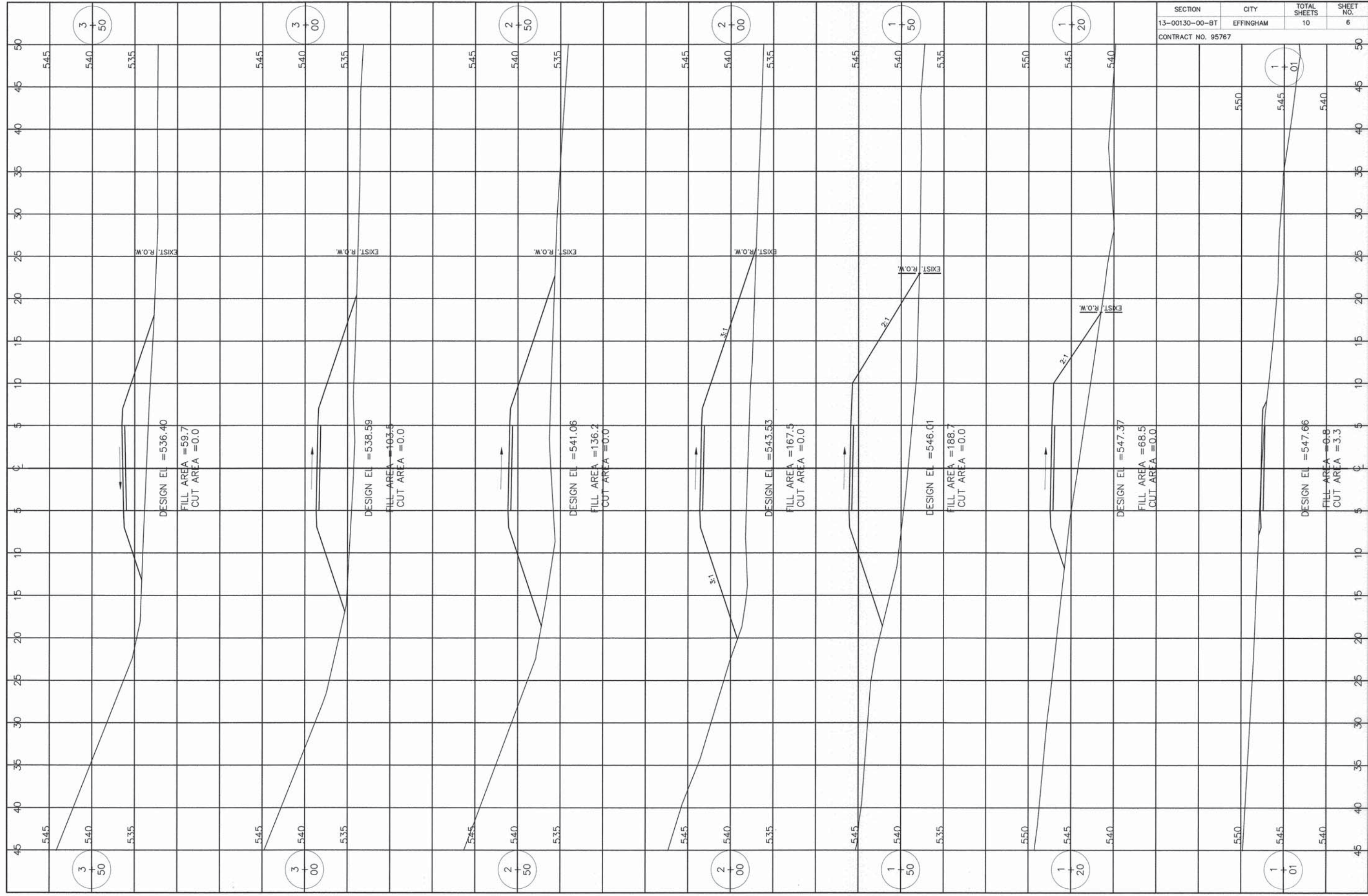


STATION 6+20.00  
TRIB. TO LITTLE WABASH RIVER  
SEC. 13-00130-00-BT BUILT 2011  
CITY OF EFFINGHAM  
LOADING H-10

**LETTERING FOR NAME PLATE**

Locate Name Plate at S.W.  
Corner of Culvert (See Std. 515001)

**CALICO TRAIL**  
**SEC. 13-00130-00-BT**  
**CITY OF EFFINGHAM**  
**STA. 6+20**



3  
540  
50

3  
540  
00

2  
540  
50

2  
540  
00

1  
540  
50

1  
545  
20

1  
545  
01

3  
540  
50

3  
540  
00

2  
540  
50

2  
540  
00

1  
540  
50

1  
545  
20

1  
545  
01

DESIGN EL = 536.40  
FILL AREA = 59.7  
CUT AREA = 0.0

DESIGN EL = 538.59  
FILL AREA = 103.5  
CUT AREA = 0.0

DESIGN EL = 541.06  
FILL AREA = 136.2  
CUT AREA = 0.0

DESIGN EL = 543.53  
FILL AREA = 167.5  
CUT AREA = 0.0

DESIGN EL = 546.01  
FILL AREA = 188.7  
CUT AREA = 0.0

DESIGN EL = 547.37  
FILL AREA = 68.5  
CUT AREA = 0.0

DESIGN EL = 547.66  
FILL AREA = 0.8  
CUT AREA = 3.3

EXIST. R.O.W.

EXIST. R.O.W.

EXIST. R.O.W.

EXIST. R.O.W.

EXIST. R.O.W.

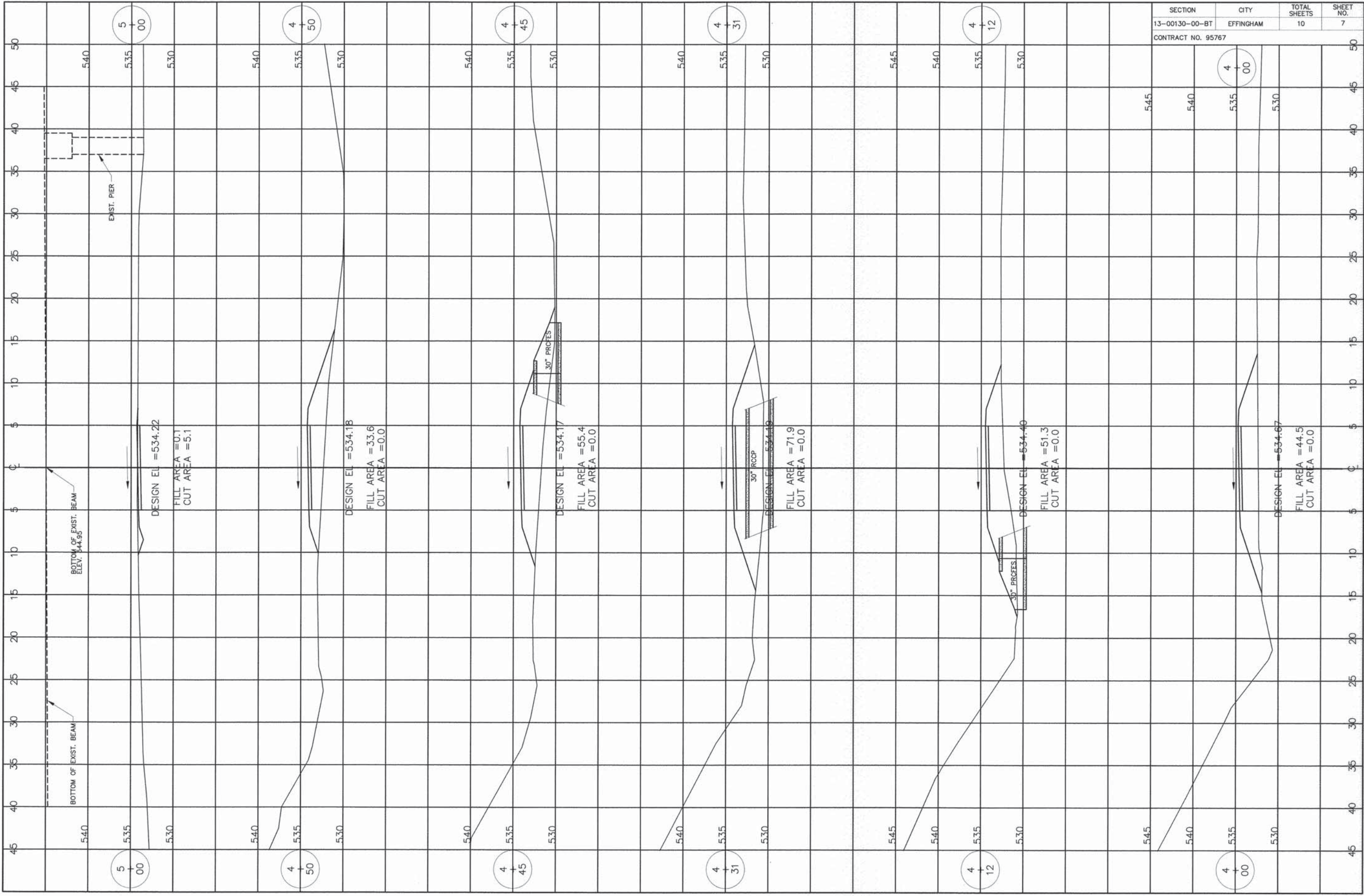
EXIST. R.O.W.

3:1

2:1

2:1

2:1



SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	7
CONTRACT NO. 95767			

4  
+  
00

4  
+  
00

4  
+  
31

4  
+  
31

4  
+  
45

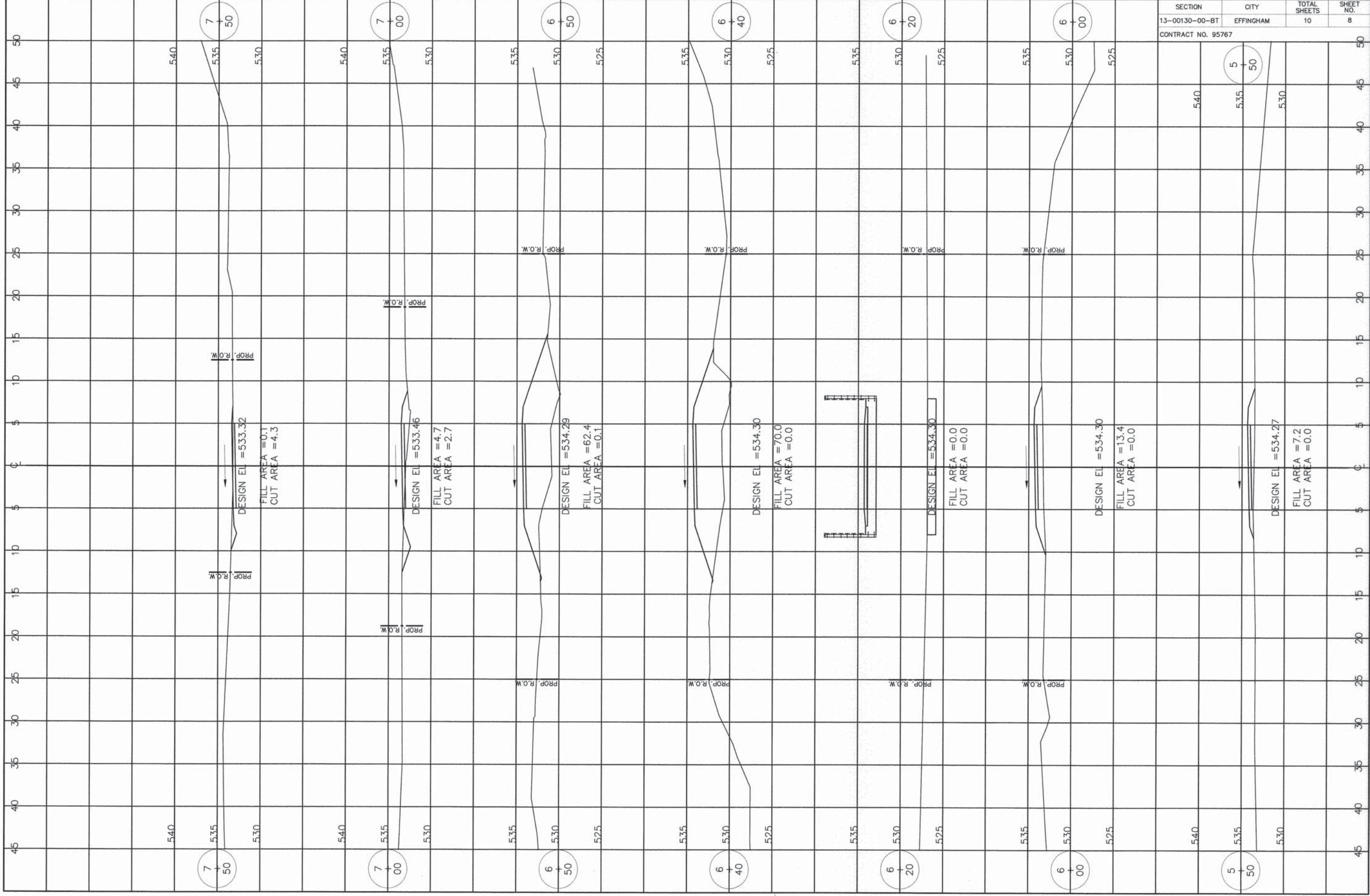
4  
+  
45

4  
+  
50

4  
+  
50

4  
+  
12

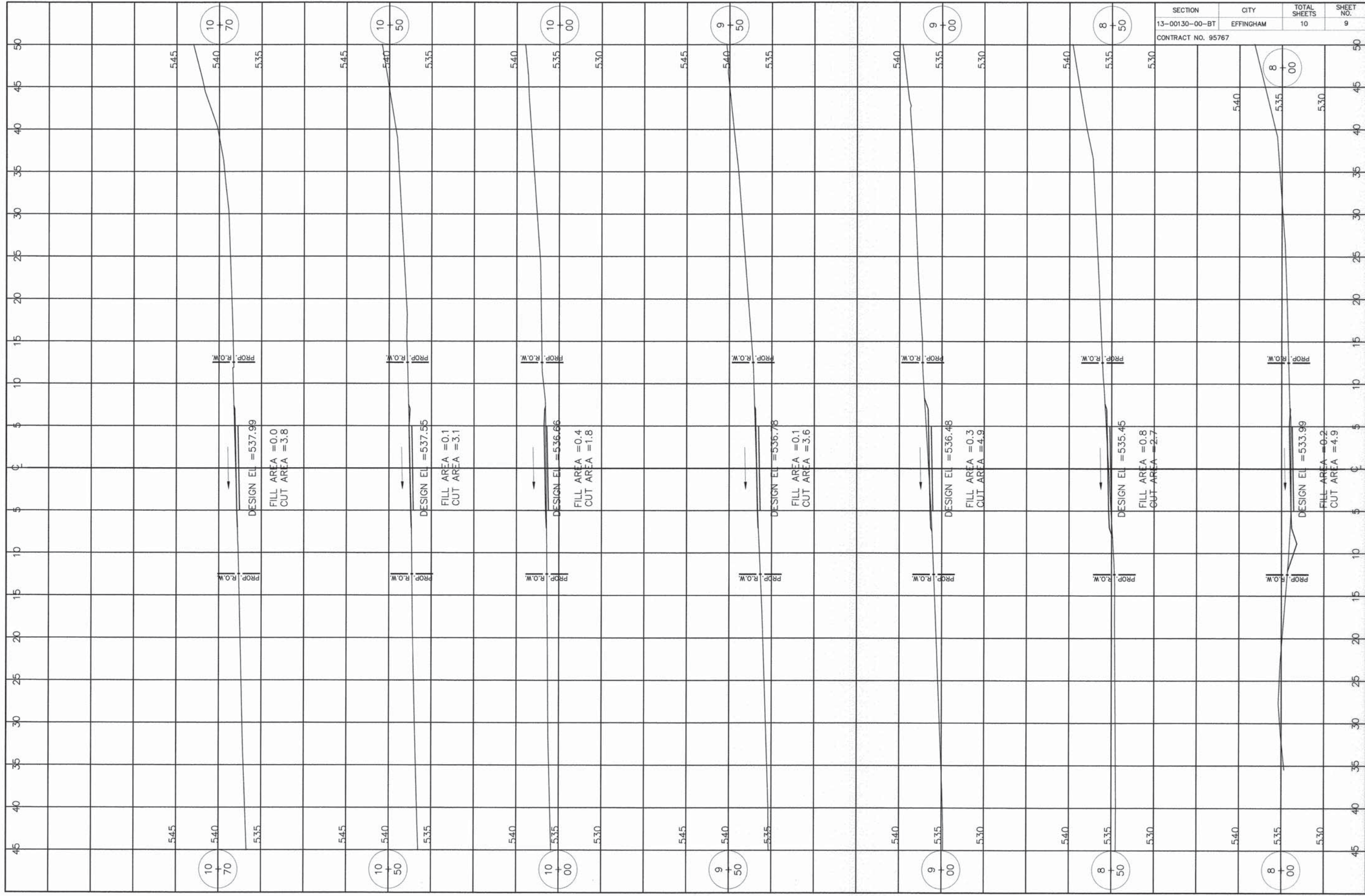
4  
+  
12



SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	8

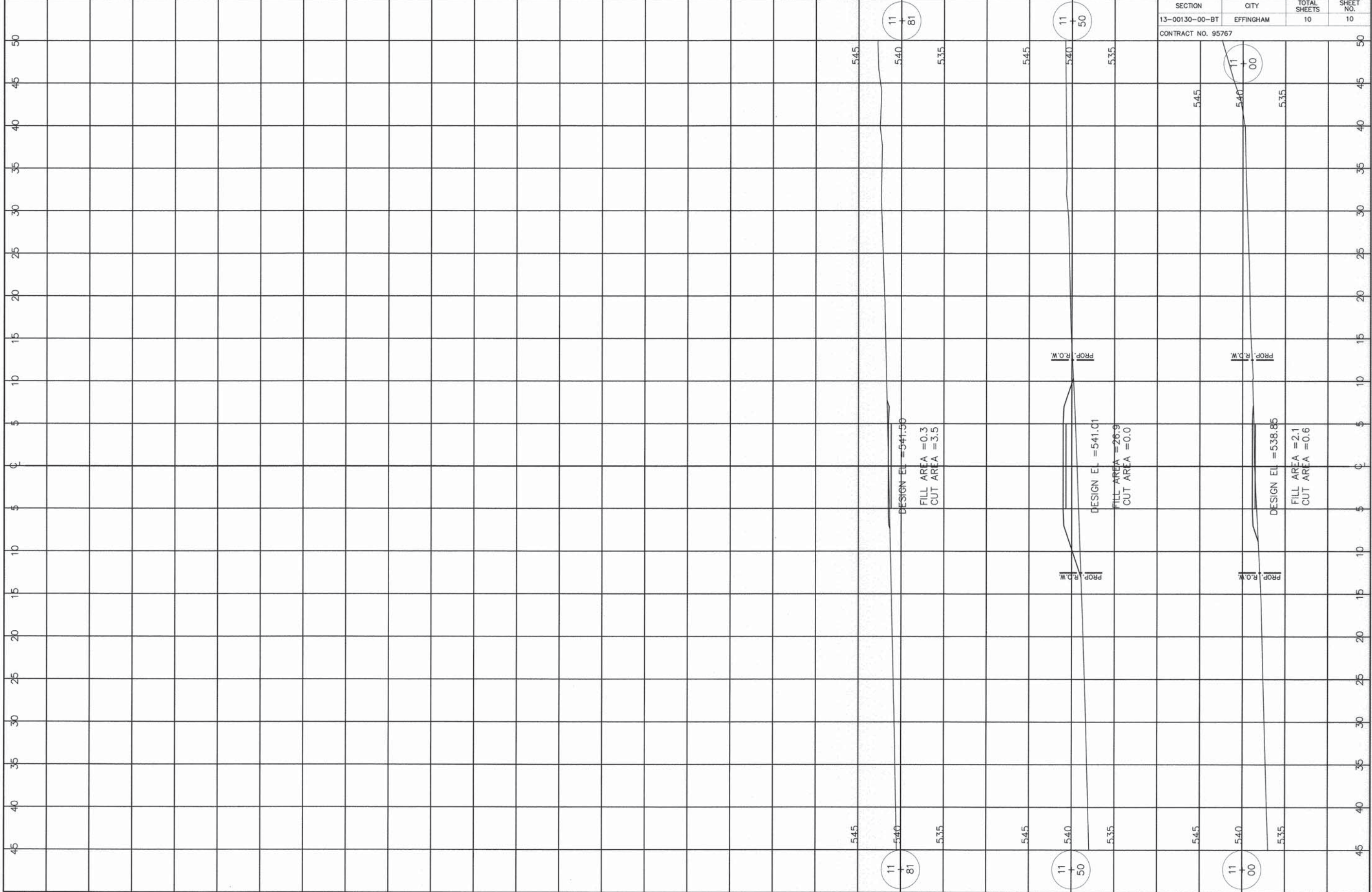
CONTRACT NO. 95767





SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	9

CONTRACT NO. 95767



SECTION	CITY	TOTAL SHEETS	SHEET NO.
13-00130-00-BT	EFFINGHAM	10	10

CONTRACT NO. 95767

11  
+  
81

11  
+  
50

11  
+  
00

11  
+  
81

11  
+  
50

11  
+  
00

DESIGN EL = 541.50  
FILL AREA = 0.3  
CUT AREA = 3.5

DESIGN EL = 541.01  
FILL AREA = 26.9  
CUT AREA = 0.0

DESIGN EL = 538.85  
FILL AREA = 2.1  
CUT AREA = 0.6

PROP. R.O.W.

PROP. R.O.W.

PROP. R.O.W.

PROP. R.O.W.

545

540

535

545

540

535

545

540

535

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540

535

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540

535

45 50

45 50

5

10

15

20

25

30

35

40

45

5

10

15

20

25

30

35

40

45