

# EAST NORTH STREET EXTENSION

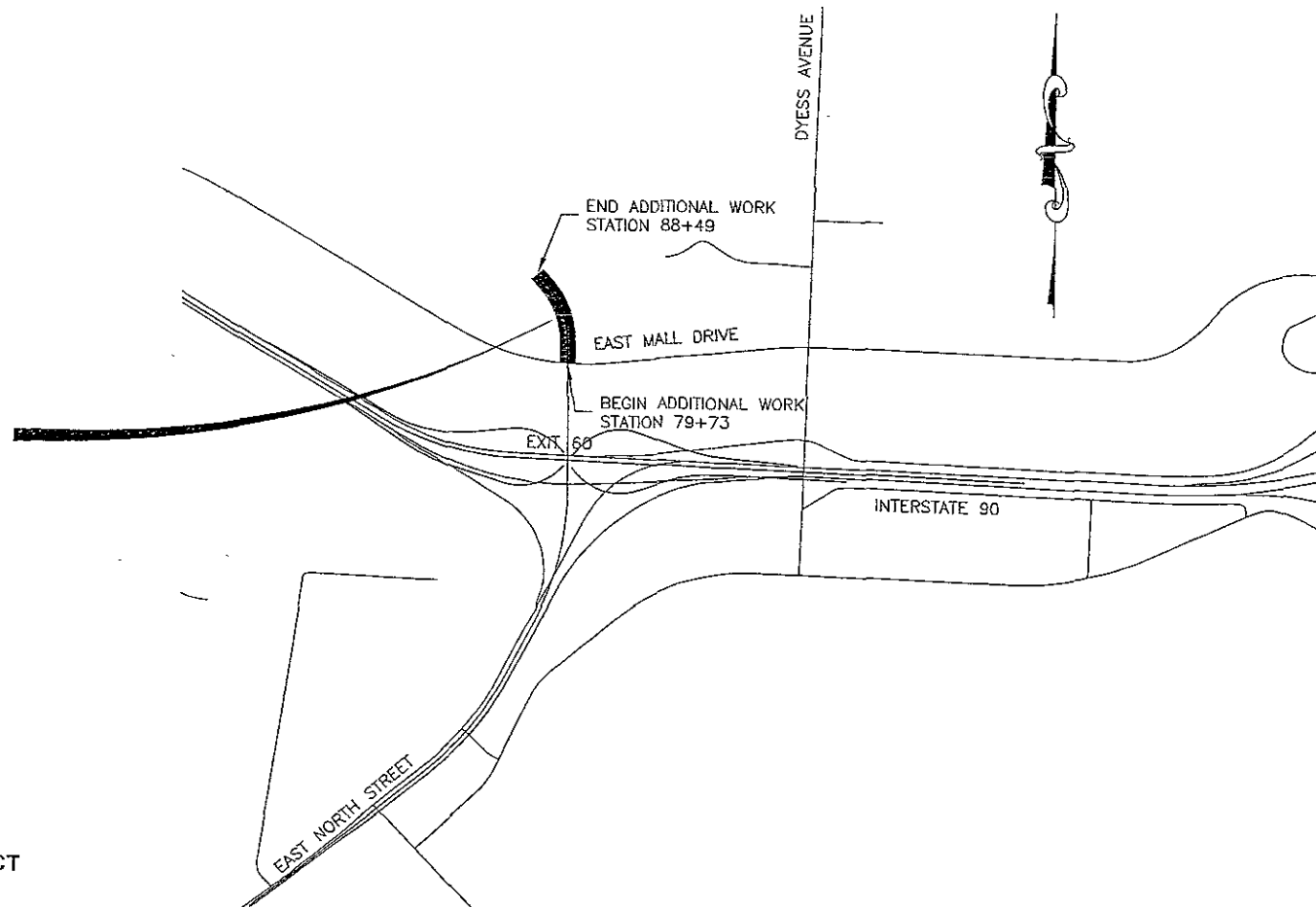
GRADING, C & G, STORM SEWER,  
PCC PAVEMENT, PAVEMENT MARKING,  
ROADWAY LIGHTING, AND SIGNING

ADDITIONAL WORK FOR  
PROJECT IM-P 90-2(134)59 & P 2016(13)71  
PCN 4259 & 6227

## INDEX OF SHEETS

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10	CURB, GUTTER AND JOINT LAYOUT
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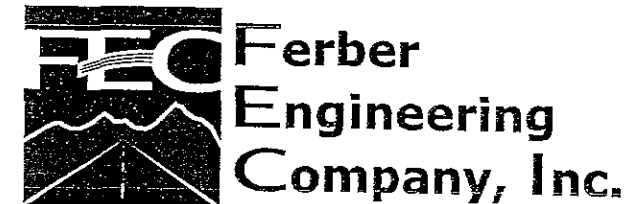
PROJECT  
LOCATION



### ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF SOUTH DAKOTA.

DAN FERBER, P E /L.S.  
REGISTRATION NUMBER 4783



Civil Engineering • Water Resources • Transportation • Land Surveying  
729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

NOTE: ALL ELEVATIONS SHOWN IN THIS PLAN SET ARE BASED ON THE NGVD 29 DATUM. CONVERSION TO NAVD 88 IN THIS PROJECT AREA IS: NGVD + 1.56' = NAVD 88

SITE MAP NOT TO SCALE

ONE CALL  
BEFORE DIGGING  
1-800-781-7474

PLOTTING DATE:

BID ITEM NUMBER	ITEM	QUANTITY THESE PLANS	QUANTITY REMOVED FROM PREVIOUS PLANS	TOTAL QUANTITY INCREASE	UNIT
009E3200	Construction Staking	Lump Sum			LS
120E0010	Unclassified Excavation	23830		23830	CuYd
120E2000	Undercutting	2100		2100	CuYd
120E6100	Water for Embankment	360		360	MGal
120E6200	Water for Granular Material	10		10	MGal
230E0010	Placing Topsoil	1955		1955	CuYd
250E0010	Incidental Work	Lump Sum			LS
260E2010	Gravel Cushion	1390		1390	Ton
380E0090	10" Nonreinforced PCC Pavement	4178		4178	SqYd
380E3540	8" PCC Approach Pavement	18		18	SqYd
380E8000	Dowel Bar	1998		1998	Each
450E0122	18" RCP Class 2, Furnish	504		504	Ft
450E0130	18" RCP, Install	504		504	Ft
450E0142	24" RCP Class 2, Furnish	306		306	Ft
450E0150	24" RCP, Install	306		306	Ft
462E0100	Class M6 Concrete	11.5		11.5	CuYd
480E0100	Reinforcing Steel	1162		1162	Lb
620E0020	Type 2 Right-of-Way Fence	1400		1400	Ft
620E1020	2 Post Panel	6		6	Each
632E1320	2.0"x2.0" Perforated Tube Post	90	10.5	79.5	Ft
632E3203	Flat Aluminum Sign, Nonremov. Copy High Intensity	45	7.5	37.5	SqFt
633E0010	Cold Applied Plastic Pvmnt Marking, 4"	2842	754	2088	Ft
633E0020	Cold Applied Plastic Pvmnt Marking, 8"	474	316	158	Ft
633E0030	Cold Applied Plastic Pvmnt Marking, 24"	497	65	432	Ft
633E0040	Cold Applied Plastic Pvmnt Marking, Arrow	13	4	9	Each
633E5000	Groove Pavement for Pavement Marking, 4"	2546		2546	Ft
633E5005	Groove Pavement for Pavement Marking, 8"	474		474	Ft
633E5015	Groove Pavement for Pavement Marking, 24"	521		521	Ft
633E5025	Groove Pavement for Pavement Marking, Arrow	13	4	9	Each
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mt Height	5		5	Each
635E3340	Roadway Luminaire, 400 Watt with Photoelectric Cell	5		5	Each
635E5020	2' Diameter Footing	50		50	Ft
635E5030	3' Diameter Footing	32		32	Ft
635E5318	18" Diameter Junction Box	14		14	Each
635E5324	24" Diameter Junction Box	4		4	Each
635E5330	30" Diameter Junction Box	1		1	Each
635E5530	Preformed Detector Loop	15		15	Each
635E8120	2" Rigid Conduit, Schedule 40	1160		1160	Ft
635E8150	5" Rigid Conduit, Schedule 80	20		20	Ft
635E8220	2" Rigid Conduit, Schedule 80	1135		1135	Ft
635E9016	1/C #6 AWG Copper Wire	5595		5595	Ft
635E9020	1/C #10 AWG Copper Wire	1900		1900	Ft
635E9519	19/C #14 AWG Copper Tray Cable, K2	3155		3155	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	4720		4720	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	434		434	Ft
650E0100	Type B610 Concrete Curb and Gutter	1590	307	1283	Ft
650E4700	Type P10 Concrete Gutter	28		28	Ft
651E0040	4" Concrete Sidewalk	7570		7570	SqFt
670E1200	Type B Frame and Grate Assembly	9		9	Each
670E5400	Precast Drop Inlet Collar	9		9	Each
700E0100	Class A Riprap	22		22	CuYd
730E1000	Permanent Seeding	65		65	Lb
731E0200	Fertilizing	0.5		0.5	Ton
732E0100	Mulching	7.5		7.5	Ton
734E0100	Standard Erosion Control Blanket	2500		2500	SqYd
734E0510	Shaping for Erosion Control Blanket	500		500	Ft
734E0604	High Flow Silt Fence	900		900	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	8		8	Each
831E0100	Type A Drainage Fabric	85		85	SqYd

**PROJECT NOTE**

THIS SET OF PLANS CONSTAINS ADDITIONAL WORK FOR PROJECT P 2016(13)71 WITH THE INTENT OF EXTENDING EAST NORTH STREET NORTH FROM IT'S INTERSECTION WITH EAST MALL DRIVE APPROXIMATELY 695'. PROPOSED WORK SHOWN ON THESE PLANS SUPERSEDES THE INFORMATION CONTAINED IN THE ORIGINAL PLAN SET CONCERNING THE INTERSECTION OF EAST NORTH STREET AND EAST MALL DRIVE.

**SPECIFICATIONS TO BE USED**

ALL WORK WITHIN THESE PLANS SHALL BE CONSTRUCTED, MEASURED AND PAID FOR AS CALLED FOR IN THE ORIGINAL PLAN SET.

**SILT FENCE**

A QUANTITY OF SILT FENCE IS INCLUDED IN THE ESTIMATE OF QUANTITIES FOR INSTALLATION ALONG THE FILL SLOPE ALONG THE RIGHT SIDE OF THE STREET. THE LOCATION OF THE PROPOSED SILT FENCE SHALL BE COORDINATED WITH THE SILT FENCE INSTALLED AS PART OF THE EAST MALL DRIVE PROJECT. SILT FENCE IS NOT SHOWN ON THE PLANS.

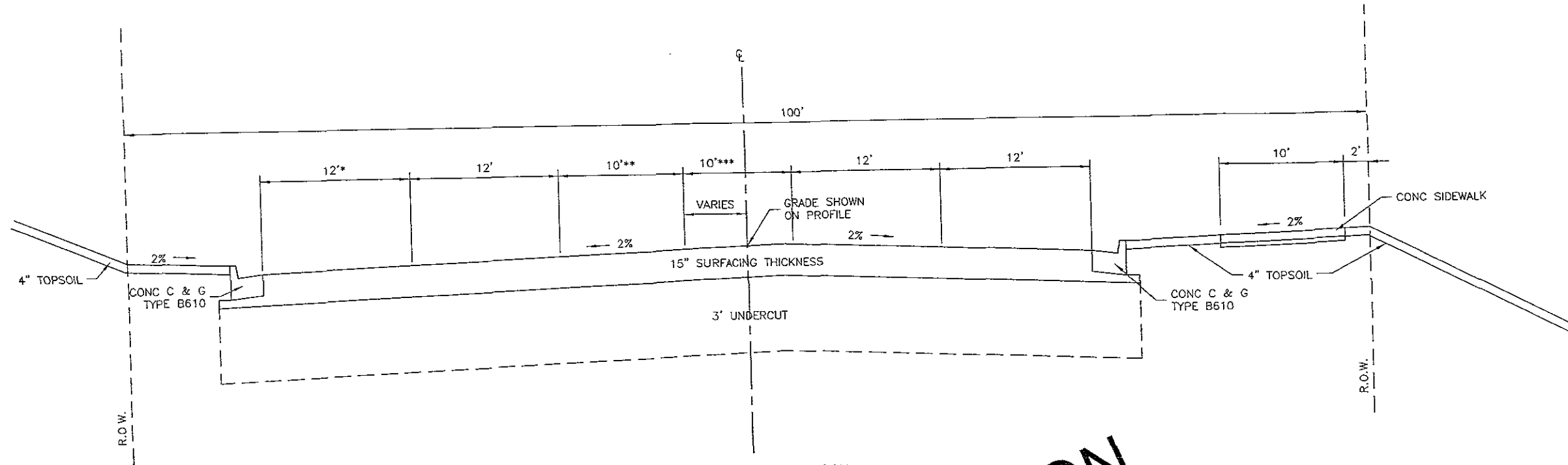
**PERMANENT ROW FENCE**

QUANTITIES OF TYPE 2 RIGHT OF WAY FENCE AND POST PANELS ARE INCLUDED FOR USE IN INSTALLING RIGHT OF WAY FENCE ALONG BOTH SIDES OF THE EAST NORTH STREET EXTENSION. REVISIONS TO PERMANENT FENCE CALLED FOR IN THE PREVIOUS PLANS AND PROPOSED FENCE CONSTRUCTION ARE NOT SHOWN IN THESE PLANS.

**TABLE OF UNCLASSIFIED EXCAVATION**

DESCRIPTION	EXCAVATION (CY)	UNDERCUT (CY)	TOPSOIL (CY)	WASTE (+) BORROW (-) (CY)	EMBANKMENT (CY)	25% SHRINK (CY)	UNDERCUT EMBANKMENT (CY)	UNDERCUT 25% SHRINK (CY)	TOPSOIL (CY)
NORTH STREET 79+73 TO 87+26	675	2100	1530	-19100	15400	3850	2100	525	1530
CHANNEL CHANGE	1400		425	1400					425
IMPORTED BORROW	17700			17700					
<b>TOTALS</b>	<b>19775</b>	<b>2100</b>	<b>1955</b>	<b>0</b>	<b>15400</b>	<b>3850</b>	<b>2100</b>	<b>525</b>	<b>1955</b>
<b>TOTAL UNCLASSIFIED EXCAVATION</b>			<b>23830</b>				<b>TOTAL EMBANKMENT</b>		<b>23830</b>

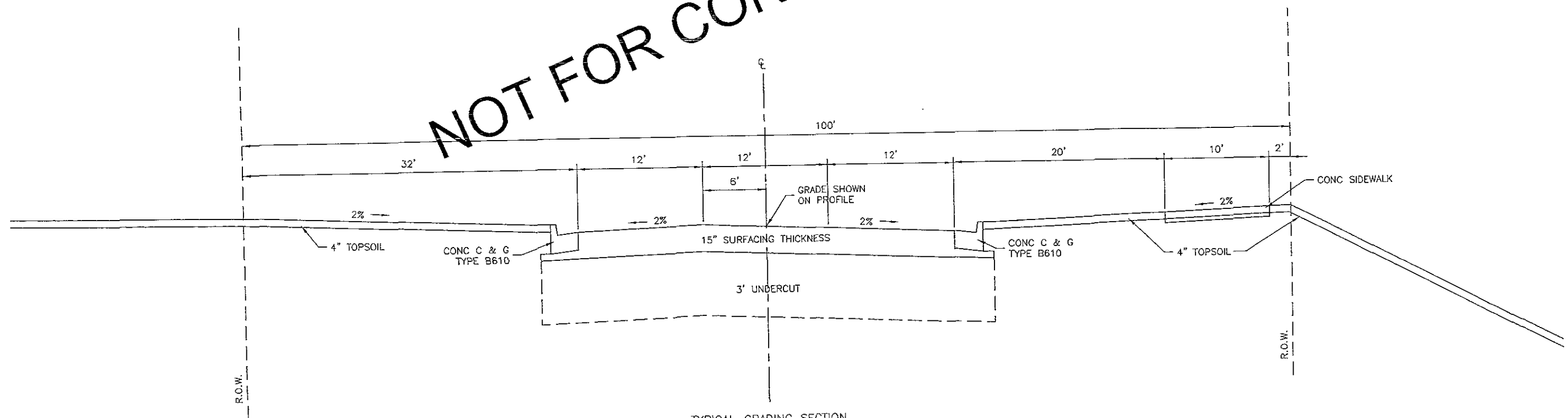
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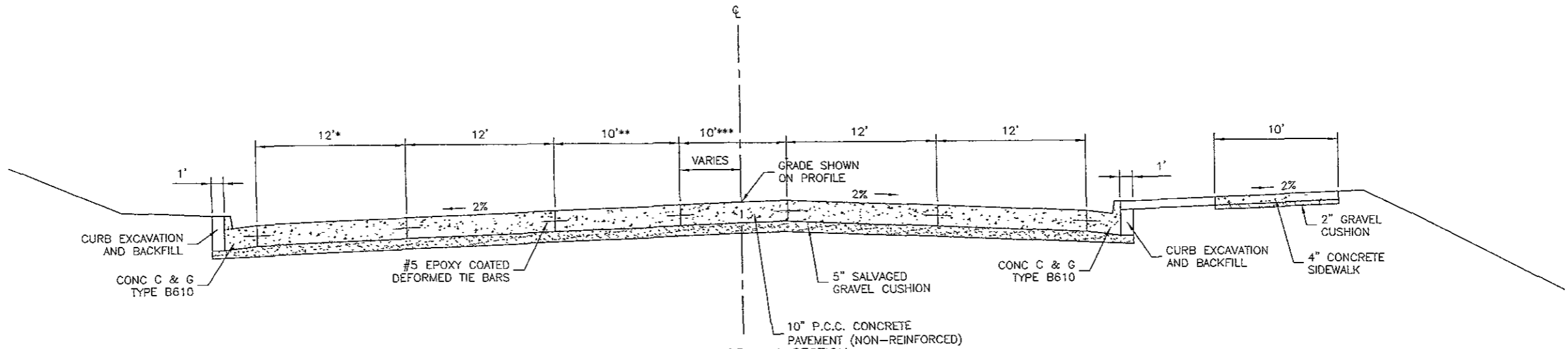
TYPICAL GRADING SECTION  
EAST NORTH STREET  
STA 79+70.4 TO STA 83+24.4

STA 79+70.4 TO STA 80+74.8 - CROWN @ 4' RT  
 STA 80+74.8 TO STA 83+24.4 CROWN TRANSITIONS FROM 4' RT TO 6' LT  
 \* STA 81+50.0 TO STA 82+70.0 TRANSITION FROM 12' TO 0'  
 \*\* STA 80+74.8 TO STA 82+10.2 TRANSITION FROM 10' TO 0'  
 \*\*\* STA 81+74.9 TO STA 83+24.4 TRANSITION FROM 10' TO 0'

**NOT FOR CONSTRUCTION**



TYPICAL GRADING SECTION  
EAST NORTH STREET STA 83+24.4 TO STA 87+16.0



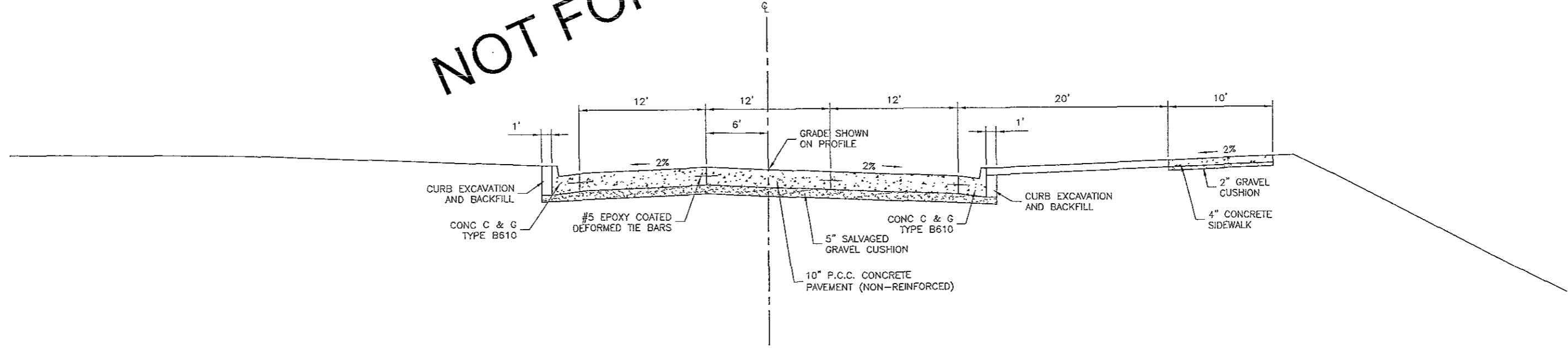
TYPICAL SURFACING SECTION

EAST NORTH STREET

STA 79+70.4 TO STA 83+24.4

- STA 79+70.4 TO STA 80+74.8 - CROWN @ 4' RT
- STA 80+74.8 TO STA 83+24.4 CROWN TRANSITIONS FROM 4' RT TO 6' RT
- \* STA 81+50.0 TO STA 82+70.0 TRANSITION FROM 12' TO 0'
- \*\* STA 80+74.8 TO STA 82+10.2 TRANSITION FROM 10' TO 0'
- \*\*\* STA 81+74.9 TO STA 83+24.4 TRANSITION FROM 10' TO 0'

NOT FOR CONSTRUCTION



TYPICAL SURFACING SECTION

EAST NORTH STREET STA 83+24.4 TO STA 87+16.0

STORM SEWER NOTES

81+00.0 - 29.4' R  
 INSTALL TYPE B 2'X3' DROP INLETS  
 WITH 6" CONCRETE COLLAR AND TYPE B  
 FRAME AND GRATE AT THE FOLLOWING LOCATIONS  
 79+95.5 - 119.5' L (RELOCATED)  
 81+00.0 - 29.4' R  
 81+00.0 - 40.7' L  
 82+80.0 - 21.5' R  
 82+80.0 - 21.5' L

79+85.2 - 120.6' L TO 79+95.5 - 119.5' L  
 INSTALL 18" - 10' RC PIPE  
 (BETWEEN PIPE CALLED FOR IN PREVIOUS PLANS AND  
 DROP INLET)

81+00.0 - 29.4' R TO 81+00.0 - 40.7' L  
 INSTALL 18"-68' RC PIPE  
 (BETWEEN DROP INLETS)

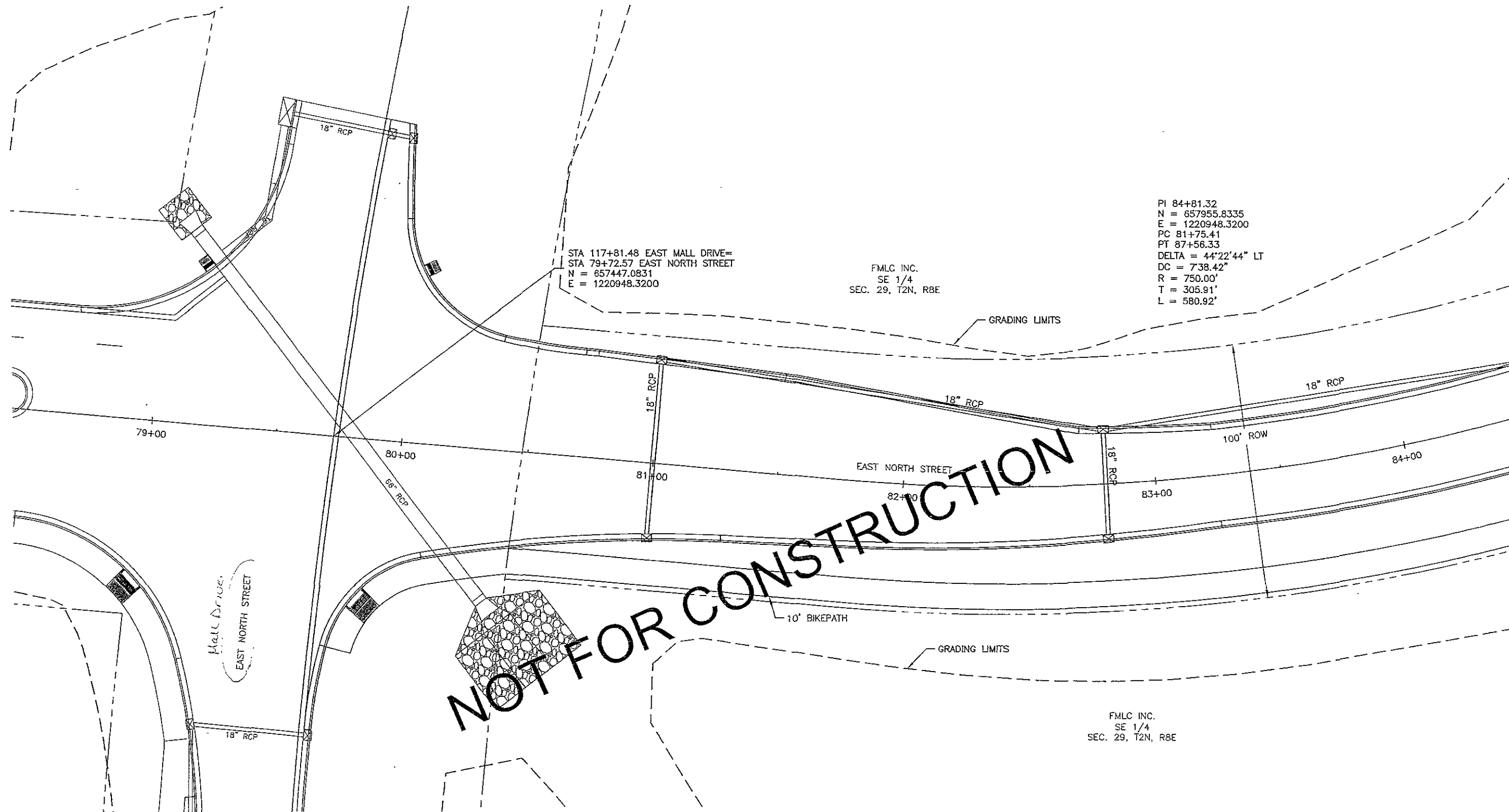
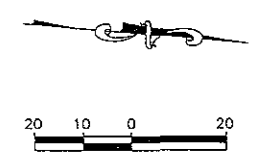
81+00.0 - 40.7' L TO 82+80.0 - 21.5' L  
 INSTALL 18"-174' RC PIPE  
 (BETWEEN DROP INLETS)

82+80.0 - 21.5' R TO 82+80.0-21.5' L  
 INSTALL 18"-42' RC PIPE  
 (BETWEEN DROP INLETS)

82+80.0 - 21.5' L TO 84+60.0 - 19.7' L  
 INSTALL 18"-172' RC PIPE  
 (BETWEEN DROP INLETS)

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO. 5	TOTAL SHEETS 18
	IM 90-2(134)59 P2016(13)71		

PLOTTING DATE: 08-04-05

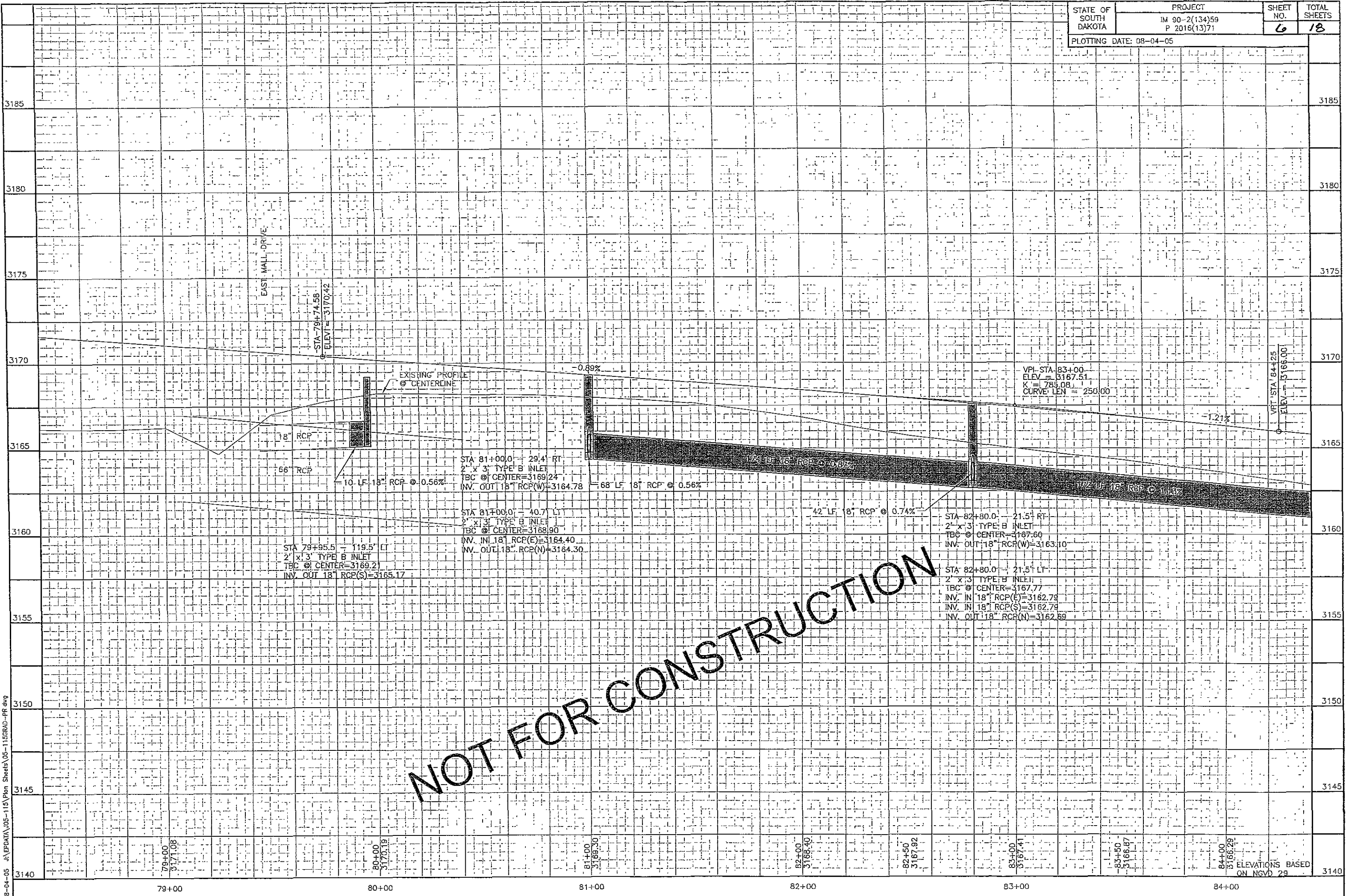


STA 117+81.48 EAST MALL DRIVE=  
 STA 79+72.57 EAST NORTH STREET  
 N = 657447.0831  
 E = 1220948.3200

FMLC INC.  
 SE 1/4  
 SEC. 29, T2N, R8E

PI 84+81.32  
 N = 657955.8335  
 E = 1220948.3200  
 PC 81+75.41  
 PT 87+56.33  
 DELTA = 44°22'44" LT  
 DC = 738.42'  
 R = 750.00'  
 T = 305.91'  
 L = 580.92'

**NOT FOR CONSTRUCTION**



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ELEVATIONS BASED ON NGVD 29

**STORM SEWER NOTES**

INSTALL TYPE B 2'X3' DROP INLETS WITH 6" CONCRETE COLLAR AND TYPE B FRAME AND GRATE AT THE FOLLOWING LOCATIONS  
84+60.0 - 19.7' R

INSTALL TYPE B 3'X4' DROP INLETS WITH 6" CONCRETE COLLAR AND TYPE B FRAME AND GRATE AT THE FOLLOWING LOCATIONS  
84+60.0 - 19.7' L  
86+75.0 - 19.7' L  
86+75.0 - 19.7' R

84+60.0 - 19.7' R TO 84+60.0 - 19.7' L  
INSTALL 18"-38' RC PIPE (BETWEEN DROP INLETS)

84+60.0 - 19.7' L TO 86+75.0 - 19.7' L  
INSTALL 24"-204' RC PIPE (BETWEEN DROP INLETS)

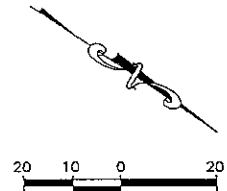
86+75.0 - 19.7' L TO 86+75.0 - 19.7' R  
INSTALL 24"-36' RC PIPE (BETWEEN DROP INLETS)

86+75.0 - 19.7' R TO 87+25.2 - 69.4' R  
INSTALL 24"-66' RC PIPE WITH FLARED END (BETWEEN DROP INLET AND OUTLET)

87+16.0 TO 87+26.0  
INSTALL CLASS A RIPRAP (16 CY) AND TYPE A DRAINAGE FABRIC (60 SY)

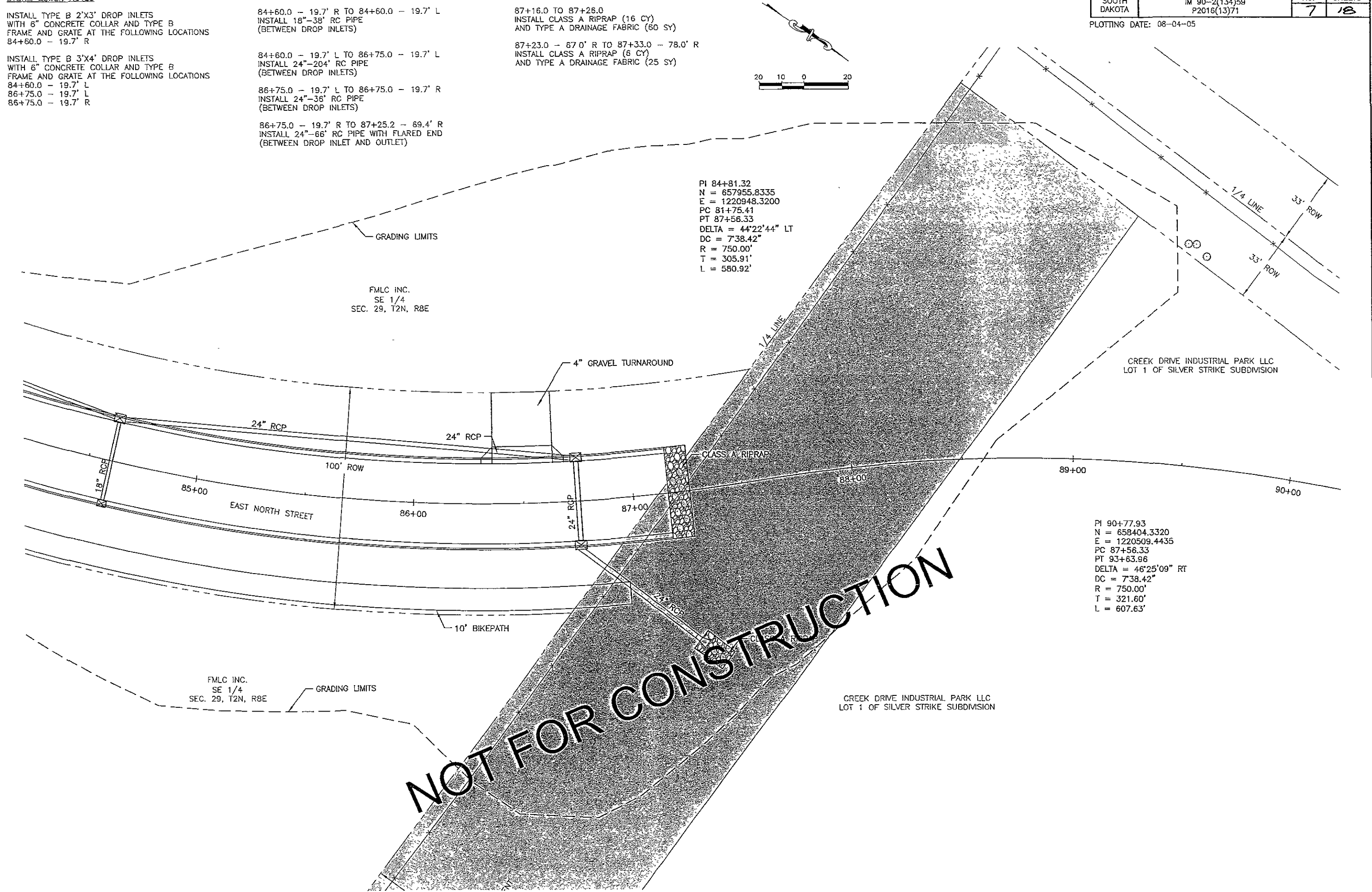
87+23.0 - 67.0' R TO 87+33.0 - 78.0' R  
INSTALL CLASS A RIPRAP (6 CY) AND TYPE A DRAINAGE FABRIC (25 SY)

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 90-2(134)59 P2016(13)71		
PLOTTING DATE: 08-04-05		7	18



PI 84+81.32  
N = 657955.8335  
E = 1220948.3200  
PC 81+75.41  
PT 87+56.33  
DELTA = 44°22'44" LT  
DC = 7°38.42"  
R = 750.00'  
T = 305.91'  
L = 580.92'

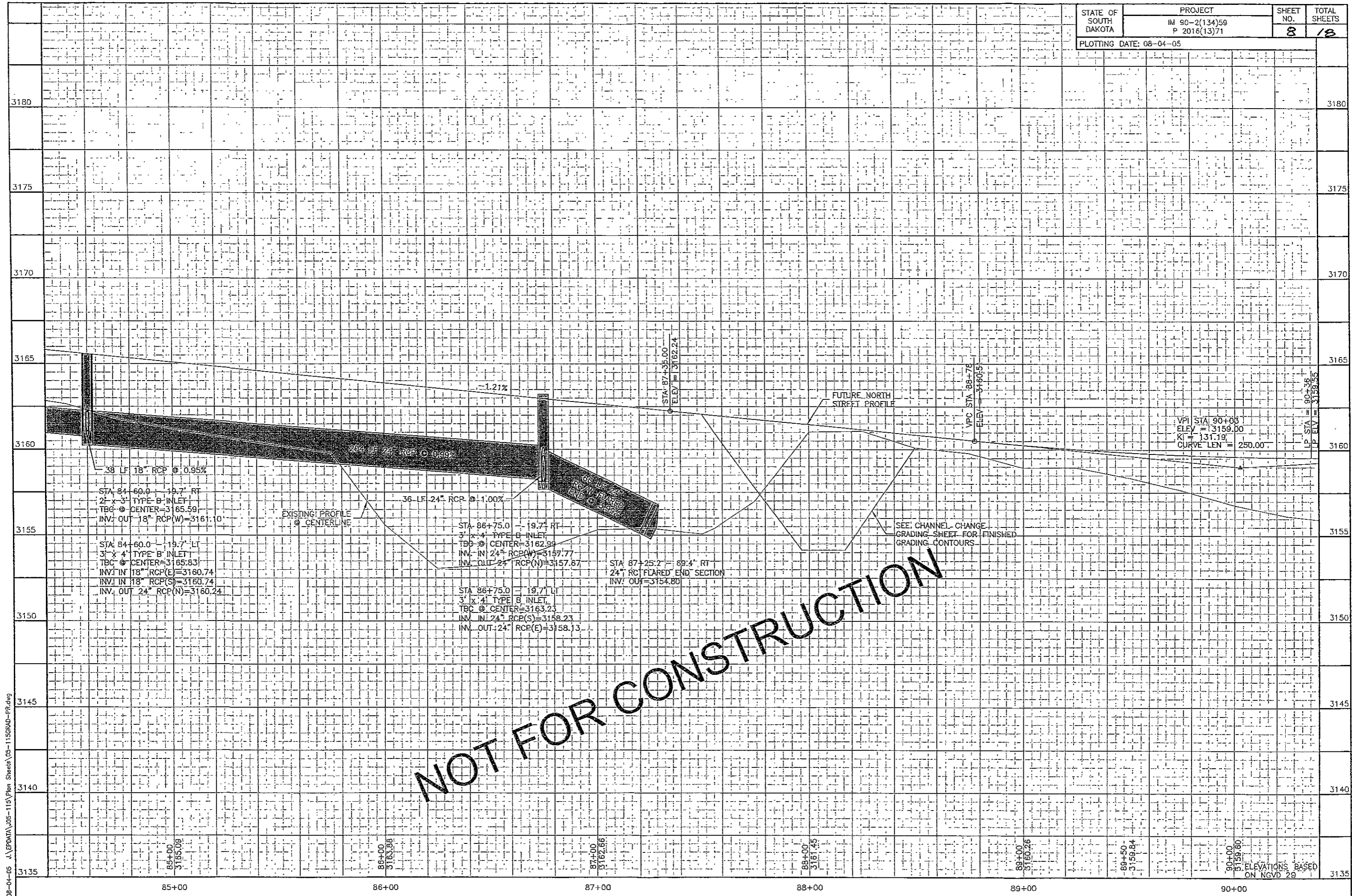
PI 90+77.93  
N = 658404.3320  
E = 1220509.4435  
PC 87+56.33  
PT 93+63.96  
DELTA = 46°25'09" RT  
DC = 7°38.42"  
R = 750.00'  
T = 321.60'  
L = 607.63'



**NOT FOR CONSTRUCTION**

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VPI STA 90+05  
ELEV = 3159.00  
KI = 131.19  
CURVE LEN = 250.00

LP STA = 90+36  
LP ELEV = 3159.95

SEE CHANNEL CHANGE  
GRADING SHEET FOR FINISHED  
GRADING CONTOURS

ELEVATIONS BASED  
ON NGVD 29



# CHANNEL CHANGE LAYOUT AND GRADING

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 90-2(134)59 P2016(13)71	9	18

PLOTTING DATE: 08-04-05

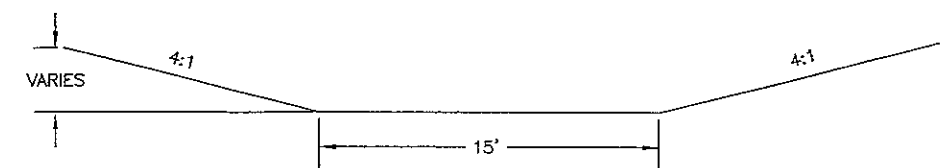
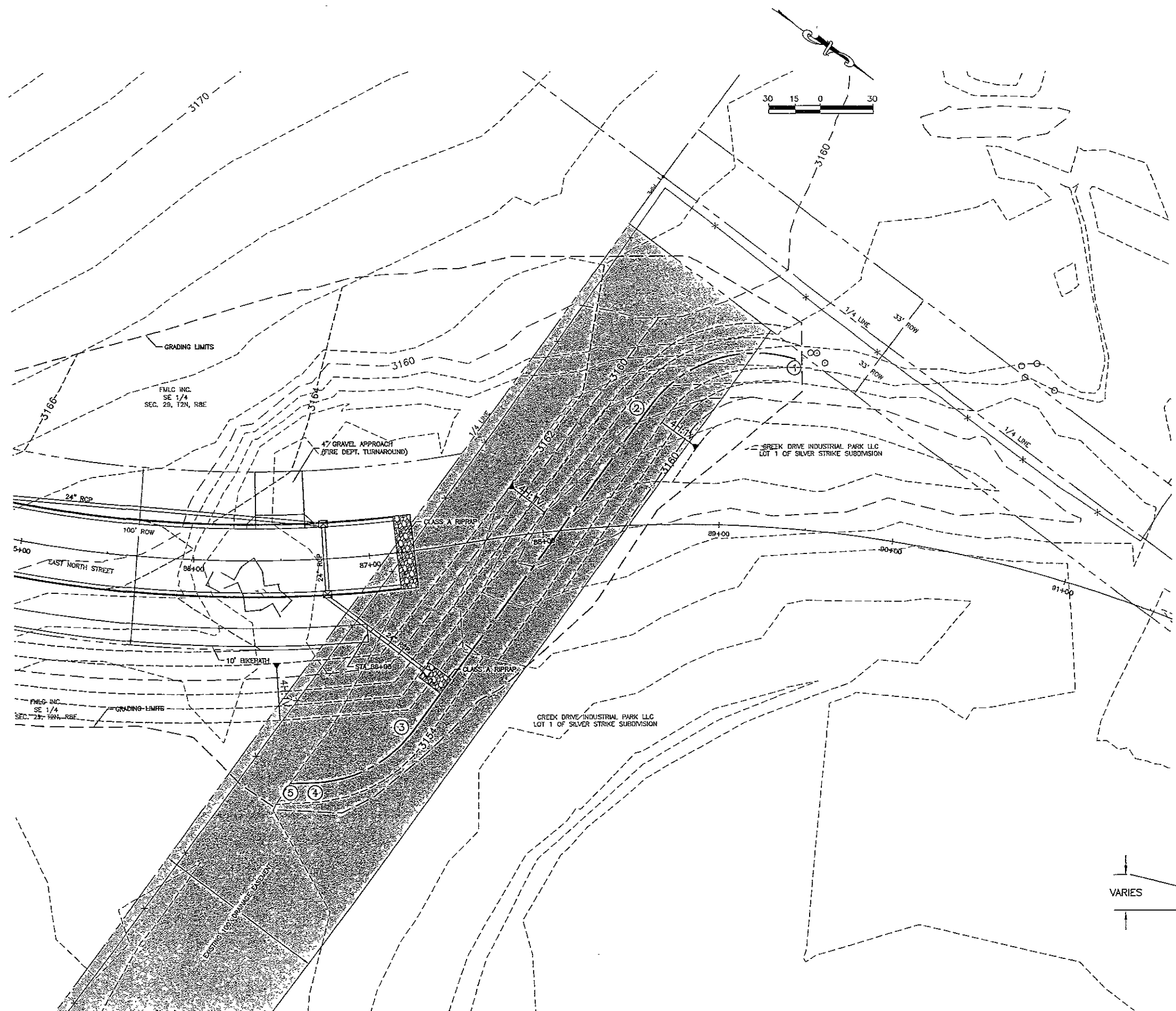
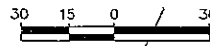
### 15' CHANNEL NOTES (EAST MALL DRIVE STATIONING)

	STATION	OFFSET	REMARK	BOTTOM ELEVATION
1	89+36	96' LT	BEGIN 75' RADIUS CURVE	3155.83
2	88+63	87' LT	END 75' RADIUS CURVE	3155.19
3	87+17	99' RT	BEGIN 75' RADIUS CURVE	3153.61
4	86+62	125' RT	END 75' RADIUS CURVE	3153.15
5	56+51	125' RT	END 15' CHANNEL	3153.05

TOTAL UNCLASSIFIED EXCAVATION = 1400 CY  
SLOPE = 0.70%

### NOTE:

EROSION CONTROL BLANKET SHALL BE PLACED ON THE BOTTOM OF THE CHANNEL AND ON ALL SIDE SLOPES THAT ARE 4:1 OR STEEPER FOR THE LENGTH OF THE DIVERTED CHANNEL. TOTAL QUANTITY = 2500 SY



15' CHANNEL TYPICAL SECTION

ELEVATIONS BASED ON NGVD 29

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# CURB, GUTTER AND JOINT LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 90-2(134)59 P2016(13)71	10	18

PLOTTING DATE: 08-04-05

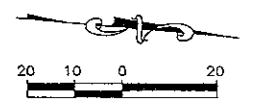
- LONGITUDINAL JOINT WITHOUT TIE-BARS (CONSTRUCTION OR SAWED) ———— L ————
- LONGITUDINAL JOINT WITH TIE BARS (CONSTRUCTION OR SAWED) ———— LT ———— LT ————
- TRANSVERSE CONTRACTION JOINT - - - - -
- STEEL BAR INSTALLATION IN LONGITUDINAL OR TRANSVERSE JOINT ———— SB ————
- AREAS TO BE POURED MONOLITHICALLY WITH ADJACENT CURB AND GUTTER ⊕ (SEE DETAIL B)
- TRANSVERSE CONTRACTION JOINTS WITHIN THESE AREAS SHALL NOT HAVE DOWEL BAR ASSEMBLIES. ALL OTHER TRANSVERSE CONTRACTION JOINTS SHALL HAVE DOWEL BAR ASSEMBLIES.

**NOTES:**

STATIONS, OFFSETS, AND RADII LISTED ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTES.

ALL CONCRETE CURB AND GUTTER SHOWN IS TYPE B610 UNLESS OTHERWISE NOTED.

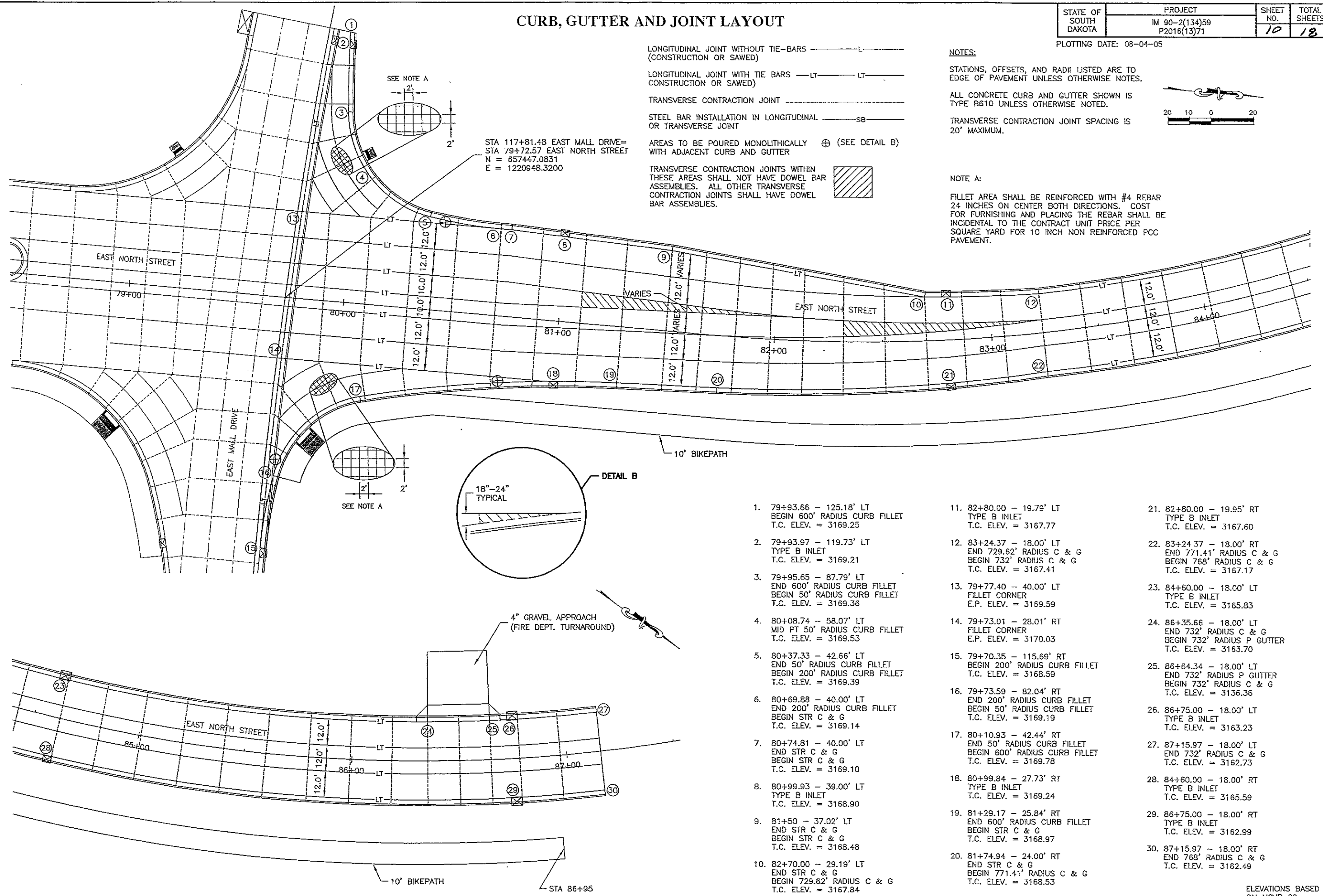
TRANSVERSE CONTRACTION JOINT SPACING IS 20" MAXIMUM.



**NOTE A:**

FILLET AREA SHALL BE REINFORCED WITH #4 REBAR 24 INCHES ON CENTER BOTH DIRECTIONS. COST FOR FURNISHING AND PLACING THE REBAR SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER SQUARE YARD FOR 10 INCH NON REINFORCED PCC PAVEMENT.

STA 117+81.48 EAST MALL DRIVE=  
STA 79+72.57 EAST NORTH STREET  
N = 657447.0831  
E = 1220948.3200



- |  |  |   |
|--|--|---|
| <p>1. 79+93.66 - 125.18' LT<br/>BEGIN 600' RADIUS CURB FILLET<br/>T.C. ELEV. = 3169.25</p> <p>2. 79+93.97 - 119.73' LT<br/>TYPE B INLET<br/>T.C. ELEV. = 3169.21</p> <p>3. 79+95.65 - 87.79' LT<br/>END 600' RADIUS CURB FILLET<br/>BEGIN 50' RADIUS CURB FILLET<br/>T.C. ELEV. = 3169.36</p> <p>4. 80+08.74 - 58.07' LT<br/>MID PT 50' RADIUS CURB FILLET<br/>T.C. ELEV. = 3169.53</p> <p>5. 80+37.33 - 42.66' LT<br/>END 50' RADIUS CURB FILLET<br/>BEGIN 200' RADIUS CURB FILLET<br/>T.C. ELEV. = 3169.39</p> <p>6. 80+69.88 - 40.00' LT<br/>END 200' RADIUS CURB FILLET<br/>BEGIN STR C &amp; G<br/>T.C. ELEV. = 3169.14</p> <p>7. 80+74.81 - 40.00' LT<br/>END STR C &amp; G<br/>BEGIN STR C &amp; G<br/>T.C. ELEV. = 3169.10</p> <p>8. 80+99.93 - 39.00' LT<br/>TYPE B INLET<br/>T.C. ELEV. = 3168.90</p> <p>9. 81+50 - 37.02' LT<br/>END STR C &amp; G<br/>BEGIN STR C &amp; G<br/>T.C. ELEV. = 3168.48</p> <p>10. 82+70.00 - 29.19' LT<br/>END STR C &amp; G<br/>BEGIN 729.62' RADIUS C &amp; G<br/>T.C. ELEV. = 3167.84</p> | <p>11. 82+80.00 - 19.79' RT<br/>TYPE B INLET<br/>T.C. ELEV. = 3167.77</p> <p>12. 83+24.37 - 18.00' LT<br/>END 729.62' RADIUS C &amp; G<br/>BEGIN 732' RADIUS C &amp; G<br/>T.C. ELEV. = 3167.41</p> <p>13. 79+77.40 - 40.00' LT<br/>FILLET CORNER<br/>E.P. ELEV. = 3169.59</p> <p>14. 79+73.01 - 28.01' RT<br/>FILLET CORNER<br/>E.P. ELEV. = 3170.03</p> <p>15. 79+70.35 - 115.69' RT<br/>BEGIN 200' RADIUS CURB FILLET<br/>T.C. ELEV. = 3168.59</p> <p>16. 79+73.59 - 82.04' RT<br/>END 200' RADIUS CURB FILLET<br/>BEGIN 50' RADIUS CURB FILLET<br/>T.C. ELEV. = 3169.19</p> <p>17. 80+10.93 - 42.44' RT<br/>END 50' RADIUS CURB FILLET<br/>BEGIN 600' RADIUS CURB FILLET<br/>T.C. ELEV. = 3169.78</p> <p>18. 80+99.84 - 27.73' RT<br/>TYPE B INLET<br/>T.C. ELEV. = 3169.24</p> <p>19. 81+29.17 - 25.84' RT<br/>END 600' RADIUS CURB FILLET<br/>BEGIN STR C &amp; G<br/>T.C. ELEV. = 3168.97</p> <p>20. 81+74.94 - 24.00' RT<br/>END STR C &amp; G<br/>BEGIN 771.41' RADIUS C &amp; G<br/>T.C. ELEV. = 3168.53</p> | <p>21. 82+80.00 - 19.95' RT<br/>TYPE B INLET<br/>T.C. ELEV. = 3167.60</p> <p>22. 83+24.37 - 18.00' RT<br/>END 771.41' RADIUS C &amp; G<br/>BEGIN 768' RADIUS C &amp; G<br/>T.C. ELEV. = 3167.17</p> <p>23. 84+60.00 - 18.00' LT<br/>TYPE B INLET<br/>T.C. ELEV. = 3165.83</p> <p>24. 86+35.66 - 18.00' LT<br/>END 732' RADIUS C &amp; G<br/>BEGIN 732' RADIUS P GUTTER<br/>T.C. ELEV. = 3163.70</p> <p>25. 86+64.34 - 18.00' LT<br/>END 732' RADIUS P GUTTER<br/>BEGIN 732' RADIUS C &amp; G<br/>T.C. ELEV. = 3136.36</p> <p>26. 86+75.00 - 18.00' LT<br/>TYPE B INLET<br/>T.C. ELEV. = 3163.23</p> <p>27. 87+15.97 - 18.00' LT<br/>END 732' RADIUS C &amp; G<br/>T.C. ELEV. = 3162.73</p> <p>28. 84+60.00 - 18.00' RT<br/>TYPE B INLET<br/>T.C. ELEV. = 3165.59</p> <p>29. 86+75.00 - 18.00' RT<br/>TYPE B INLET<br/>T.C. ELEV. = 3162.99</p> <p>30. 87+15.97 - 18.00' RT<br/>END 768' RADIUS C &amp; G<br/>T.C. ELEV. = 3162.49</p> |
|--|--|---|

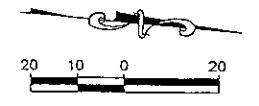
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ELEVATIONS BASED ON NGVD 29

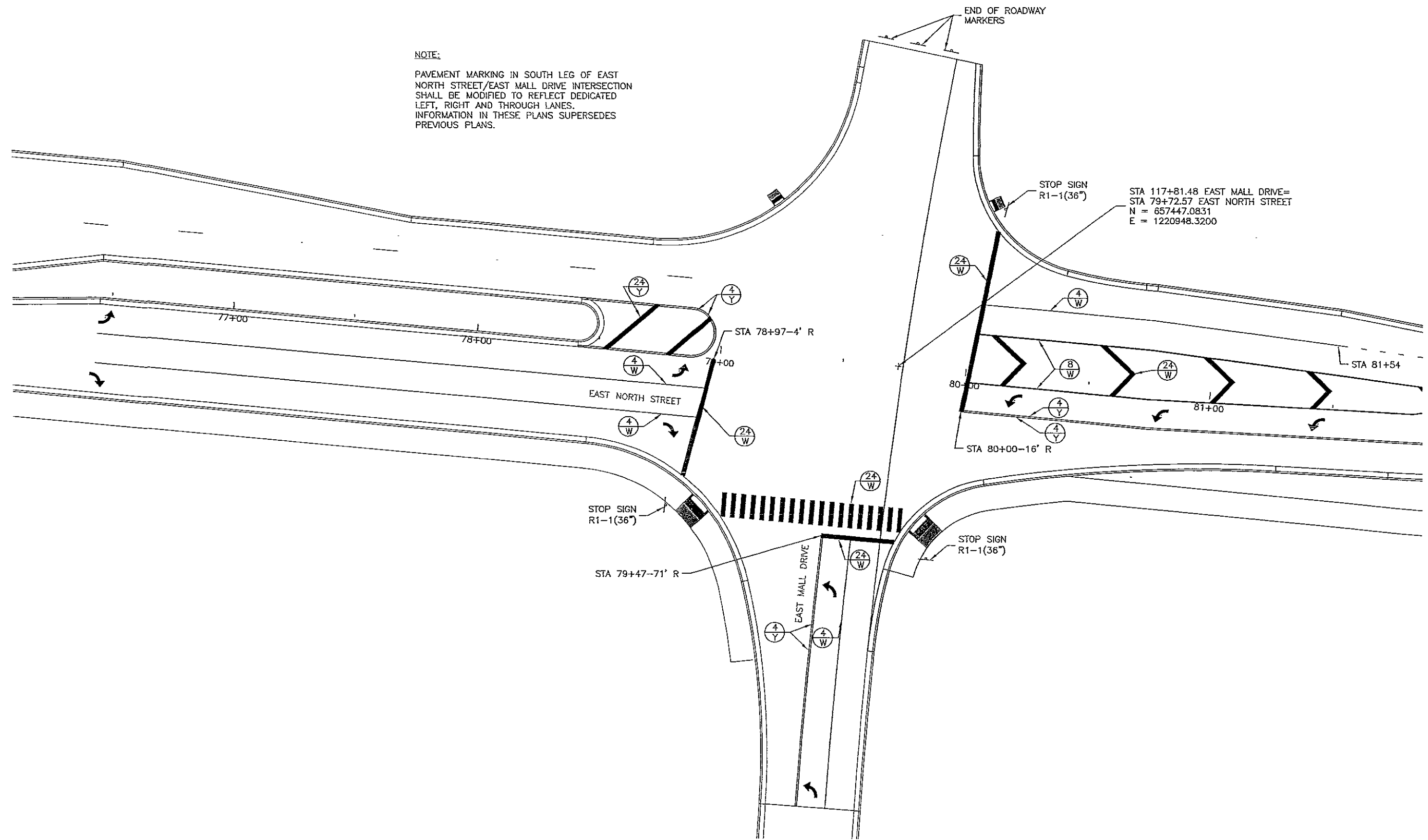
# PERMANENT SIGNING & PAVEMENT MARKINGS

STATE OF SOUTH DAKOTA	PROJECT IM 90-2(134)59 P2016(13)71	SHEET NO. 11	TOTAL SHEETS 18
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PLOTTING DATE: 08-05-05



**NOTE:**  
PAVEMENT MARKING IN SOUTH LEG OF EAST NORTH STREET/EAST MALL DRIVE INTERSECTION SHALL BE MODIFIED TO REFLECT DEDICATED LEFT, RIGHT AND THROUGH LANES. INFORMATION IN THESE PLANS SUPERSEDES PREVIOUS PLANS.

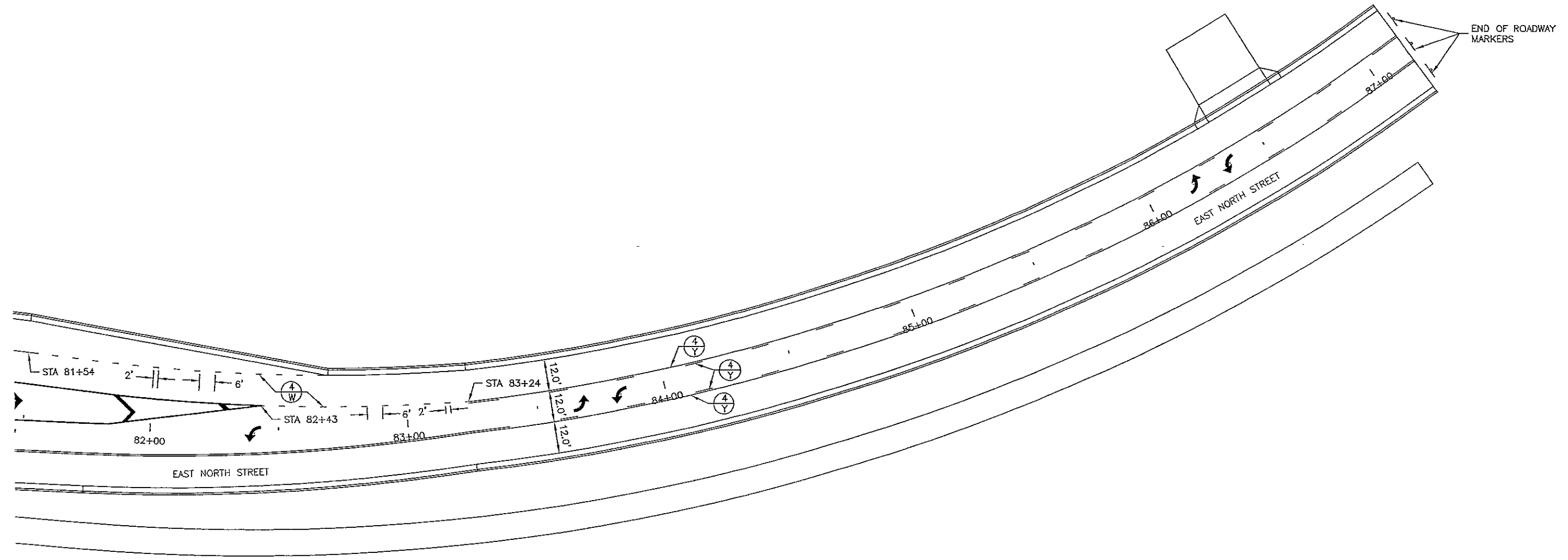
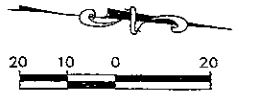


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# PERMANENT SIGNING & PAVEMENT MARKINGS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 90-2(134)59 P2016(13)71	12	18

PLOTTING DATE: 08-04-05



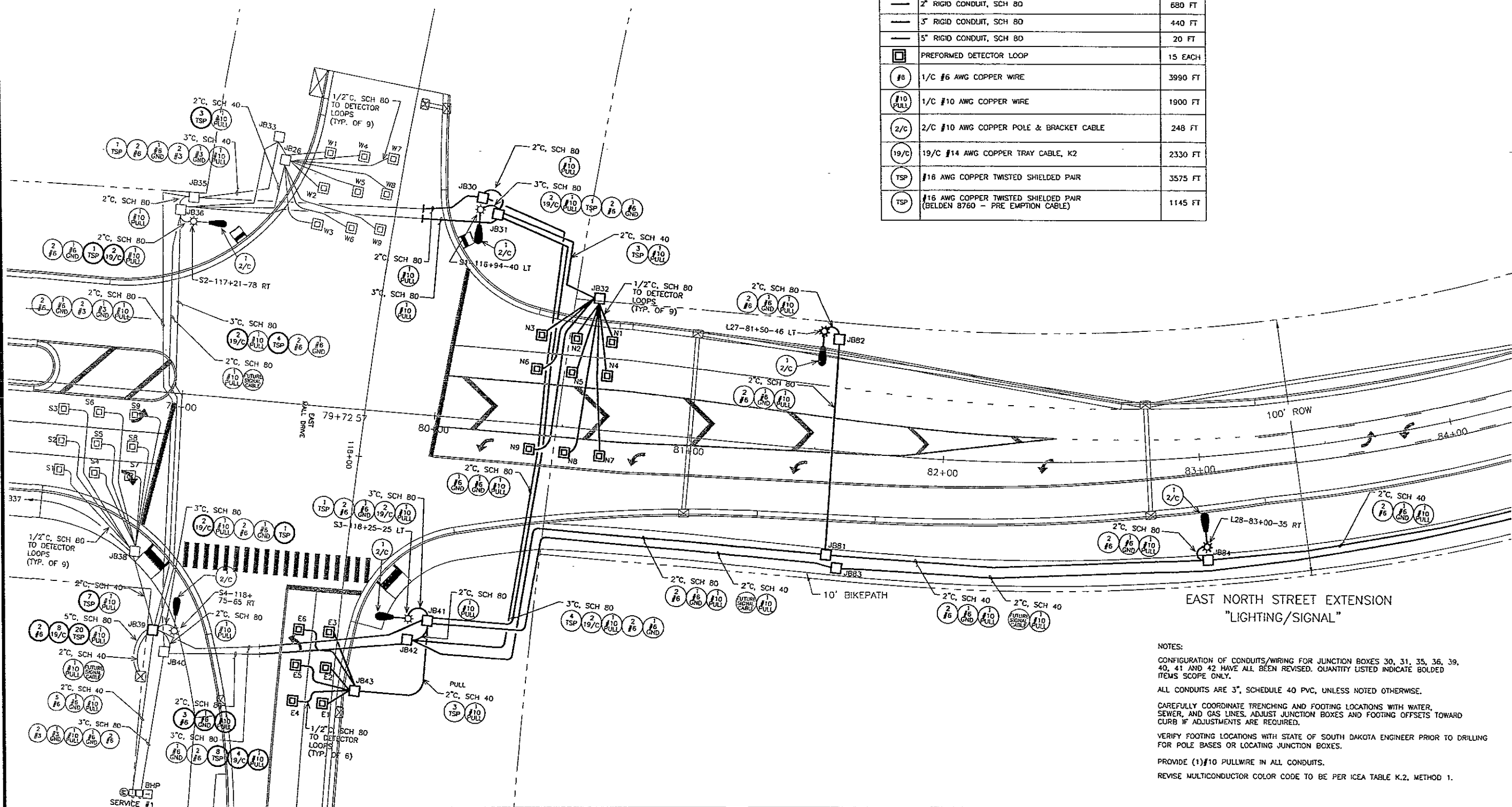
**TABLE OF ELECTRICAL JUNCTION BOXES**

DESIGNATION	STATION	OFFSET	LT/RT	TYPE	LID LABEL
JB30	116+92	32	LT	24" DIA.	ELECTRICAL
JB31	116+97	39	LT	24" DIA.	TRAFFIC SIGNAL
JB32	117+24	82	LT	18" DIA.	TRAFFIC SIGNAL
JB39	118+75	75	RT	30" DIA.	TRAFFIC SIGNAL
JB41	118+60	32	LT	24" DIA.	TRAFFIC SIGNAL
JB42	118+69	25	LT	24" DIA.	ELECTRICAL
JB43	118+90	43	LT	18" DIA.	TRAFFIC SIGNAL
JB81	81+53	38	RT	18" DIA.	ELECTRICAL
JB82	81+53	46	LT	18" DIA.	ELECTRICAL
JB83	81+56	41	RT	18" DIA.	TRAFFIC SIGNAL
JB84	83+00	38	RT	18" DIA.	ELECTRICAL

EAST-NORTH STREET AT (78+40 TO 84+40) BOLD ITEMS SYMBOLS/BOLD TEXT INCLUDED		
SIGNAL/LIGHTING PLAN		
KEY	ITEM	EST. QUANT.
	3' DIAMETER FOOTING	2 EACH
	BREAKAWAY BASE LUMINAIRE POLE WITH ARM, 50' MOUNTING HEIGHT	2 EACH
	ROADWAY LUMINAIRE - 400 WATT WITH PHOTOELECTRIC CELL	2 EACH
	24 INCH DIAMETER JUNCTION BOX	4 EACH
	18 INCH DIAMETER JUNCTION BOX	6 EACH
	30 INCH DIAMETER JUNCTION BOX	1 EACH
	2" RIGID CONDUIT, SCH 40	840 FT
	2" RIGID CONDUIT, SCH 80	680 FT
	3" RIGID CONDUIT, SCH 80	440 FT
	5" RIGID CONDUIT, SCH 80	20 FT
	PREFORMED DETECTOR LOOP	15 EACH
	1/2" #6 AWG COPPER WIRE	3990 FT
	1/2" #10 AWG COPPER WIRE	1900 FT
	2/C #10 AWG COPPER POLE & BRACKET CABLE	248 FT
	19/C #14 AWG COPPER TRAY CABLE, K2	2330 FT
	#16 AWG COPPER TWISTED SHIELDED PAIR	3575 FT
	#16 AWG COPPER TWISTED SHIELDED PAIR (BELDEN 8760 - PRE EMPTION CABLE)	1145 FT

PLOTTING DATE: 08-04-05

**SKYLINE ENGINEERING LLC**  
 615 12th Street Rapid City, SD 57701  
 Tel: 605.737.3800 Fax: 605.737.3859  
 Project No. 05020  
**NOT FOR CONSTRUCTION**



**EAST NORTH STREET EXTENSION "LIGHTING/SIGNAL"**

NOTES:  
 CONFIGURATION OF CONDUITS/WIRING FOR JUNCTION BOXES 30, 31, 35, 36, 39, 40, 41 AND 42 HAVE ALL BEEN REVISED. QUANTITY LISTED INDICATE BOLDIED ITEMS SCOPE ONLY.  
 ALL CONDUITS ARE 3", SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.  
 CAREFULLY COORDINATE TRENCHING AND FOOTING LOCATIONS WITH WATER, SEWER, AND GAS LINES. ADJUST JUNCTION BOXES AND FOOTING OFFSETS TOWARD CURB IF ADJUSTMENTS ARE REQUIRED.  
 VERIFY FOOTING LOCATIONS WITH STATE OF SOUTH DAKOTA ENGINEER PRIOR TO DRILLING FOR POLE BASES OR LOCATING JUNCTION BOXES.  
 PROVIDE (1) #10 PULLWIRE IN ALL CONDUITS.  
 REVISE MULTICONDUCTOR COLOR CODE TO BE PER ICEA TABLE K.2, METHOD 1.

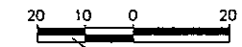
PLOTTING DATE: 08-04-05

**SKYLINE**  
ENGINEERING LLC

615 12th Street  
Rapid City, SD 57701  
Project No. 05020

Tel: 605.737.3800  
Fax: 605.737.3859

NOT FOR CONSTRUCTION



EAST-NORTH STREET AT (84+40 TO 90+40)		
LIGHTING PLAN		
KEY	ITEM	EST QUANT.
	2" DIAMETER FOOTING	3 EACH
	BREAKAWAY BASE LUMINAIRE POLE WITH ARM, 50" MOUNTING HEIGHT	3 EACH
	ROADWAY LUMINAIRE - 400 WATT WITH PHOTOELECTRIC CELL	3 EACH
	18 INCH DIAMETER JUNCTION BOX	8 EACH
	2" RIGID CONDUIT, SCH 40	320 FT
	2" RIGID CONDUIT, SCH 80	475 FT
	19/C #14 AWG COPPER TRAY CABLE, K2	825 FT
	2/C #10 AWG COPPER POLE & BKT CABLE	186 FT
	1/C #6 AWG COPPER WIRE	1070 FT
	1/C #6 AWG COPPER GROUND WIRE	535 FT

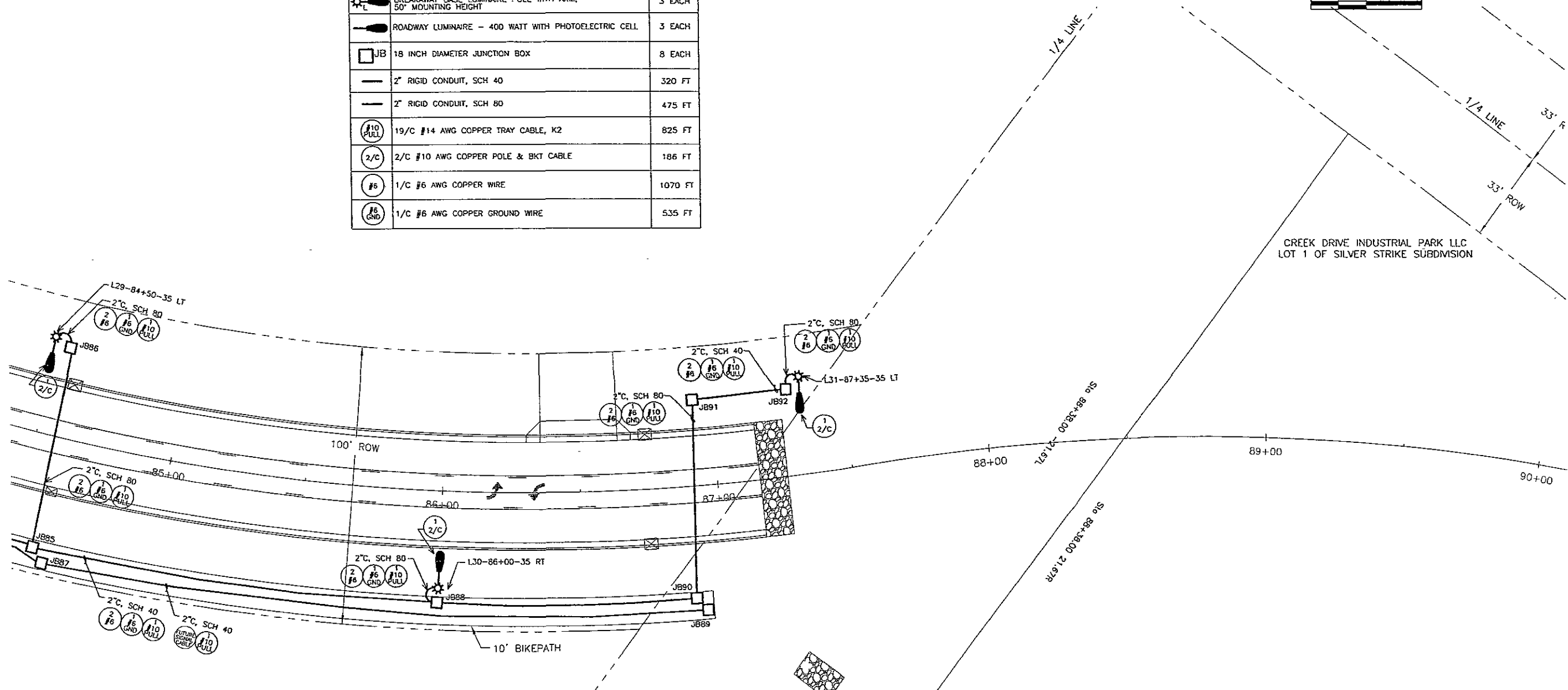


TABLE OF ELECTRICAL JUNCTION BOXES

DESIGNATION	STATION	OFFSET	LT/RT	TYPE	LID LABEL
JB85	84+53	38	RT	18" DIA.	ELECTRICAL
JB86	84+53	35	LT	18" DIA.	ELECTRICAL
JB87	84+56	41	RT	18" DIA.	TRAFFIC SIGNAL
JB88	86+00	38	RT	18" DIA.	ELECTRICAL
JB89	86+94	41	RT	18" DIA.	TRAFFIC SIGNAL
JB90	86+91	38	RT	18" DIA.	ELECTRICAL
JB91	86+81	35	LT	18" DIA.	ELECTRICAL
JB92	87+32	35	LT	18" DIA.	ELECTRICAL

CREEK DRIVE INDUSTRIAL PARK LLC  
LOT 1 OF SILVER STRIKE SUBDIVISION

EAST NORTH STREET EXTENSION  
"LIGHTING"

- NOTES:
- ALL CONDUITS ARE 3", SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.
  - CAREFULLY COORDINATE TRENCHING AND FOOTING LOCATIONS WITH WATER, SEWER, AND GAS LINES. ADJUST JUNCTION BOXES AND FOOTING OFFSETS TOWARD CURB IF ADJUSTMENTS ARE REQUIRED.
  - VERIFY FOOTING LOCATIONS WITH STATE OF SOUTH DAKOTA ENGINEER PRIOR TO DRILLING.
  - PROVIDE (1)#10 PULLWIRE IN ALL CONDUITS.

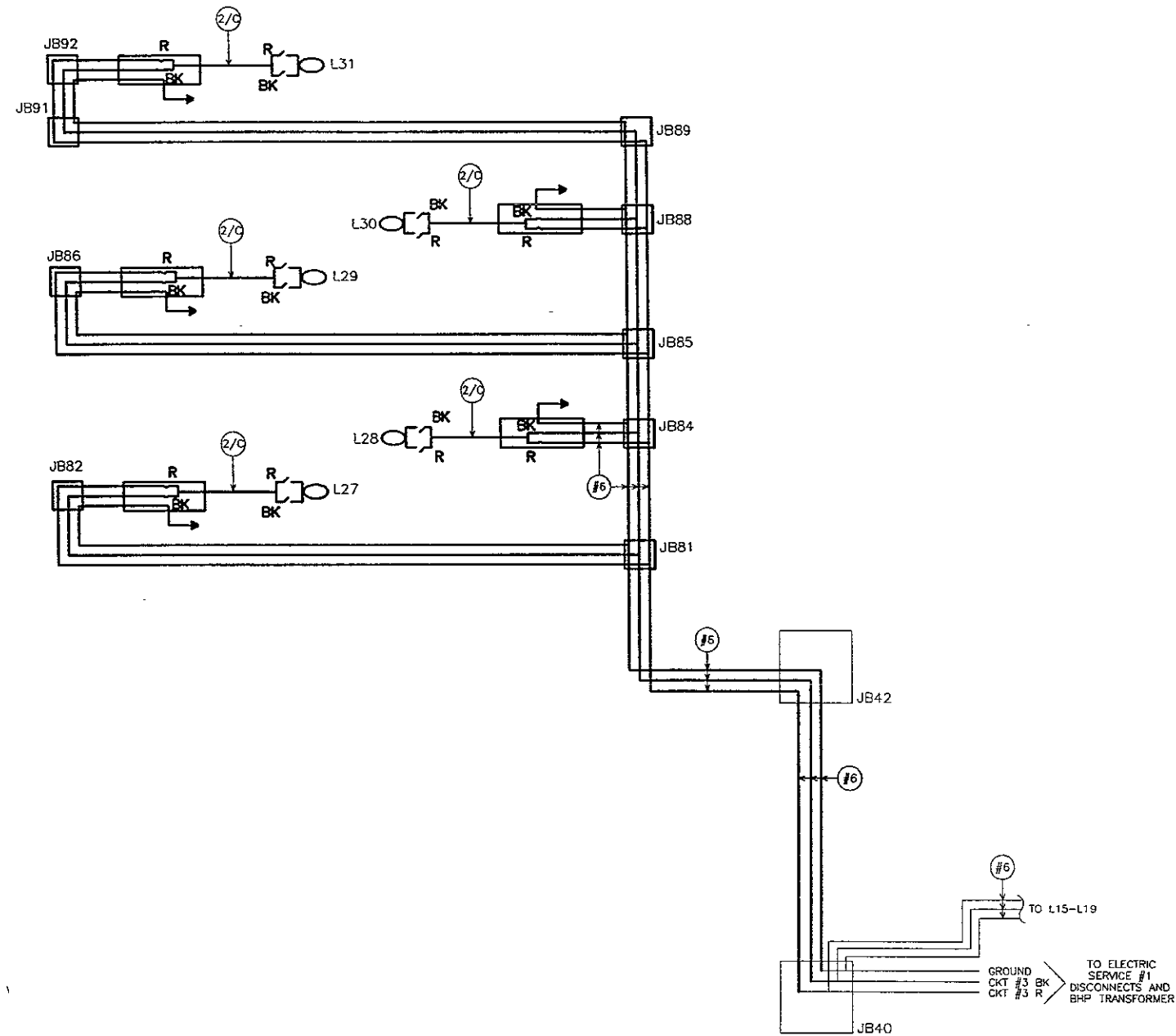
100' DRAINAGE EASEMENT



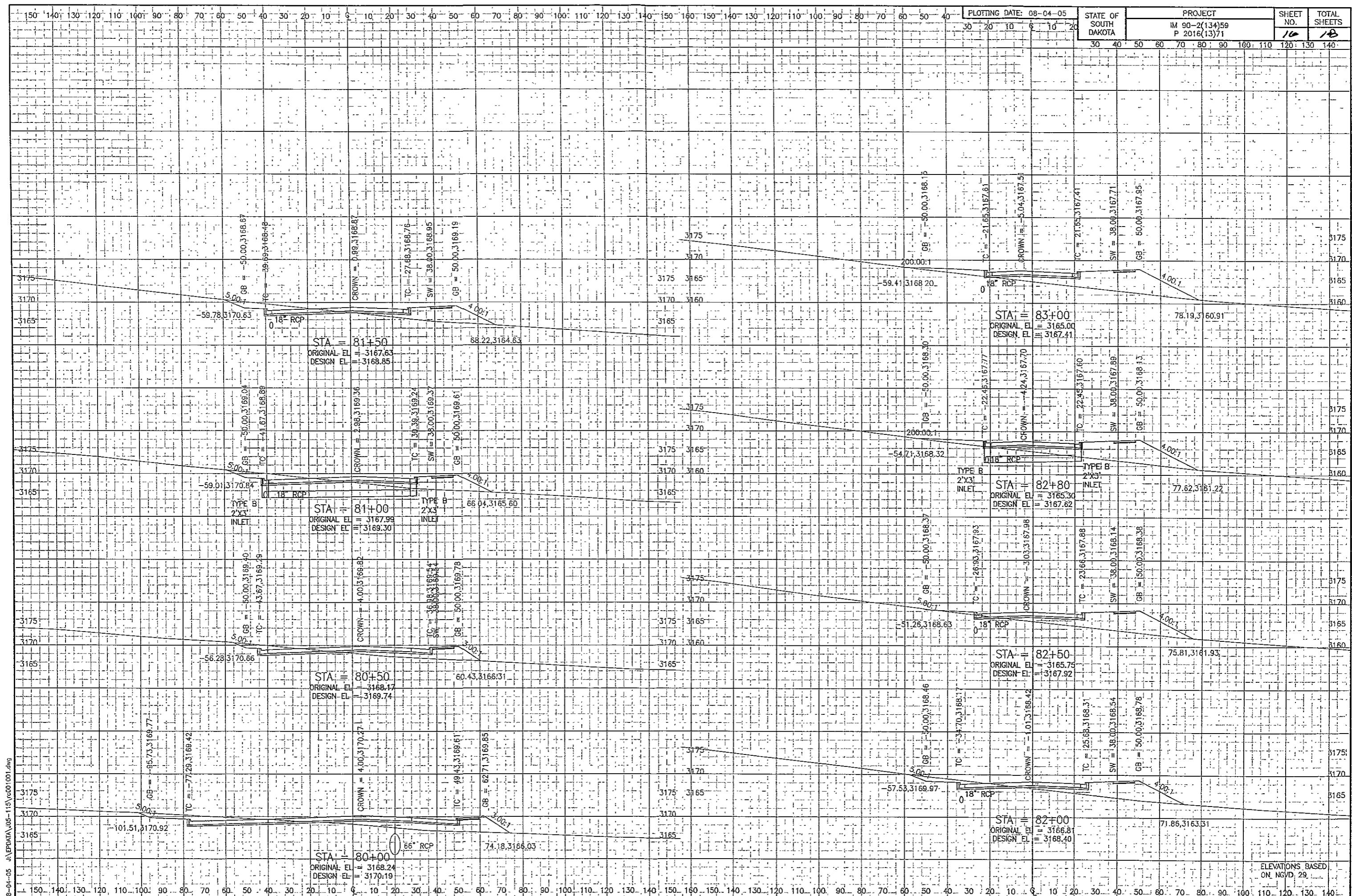
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 90-2(134)59 P2016(13)71	15	18

PLOTTING DATE: 08-05-05

**SKYLINE**  
ENGINEERING LLC  
615 12th Street  
Rapid City, SD 57701  
Project No. 05020  
Tel: 605.737.3800  
Fax: 605.737.3859  
NOT FOR CONSTRUCTION



**LIGHTING WIRING DIAGRAM (WEST TRANSFORMER)**  
NO SCALE



PLOTTING DATE: 08-04-05

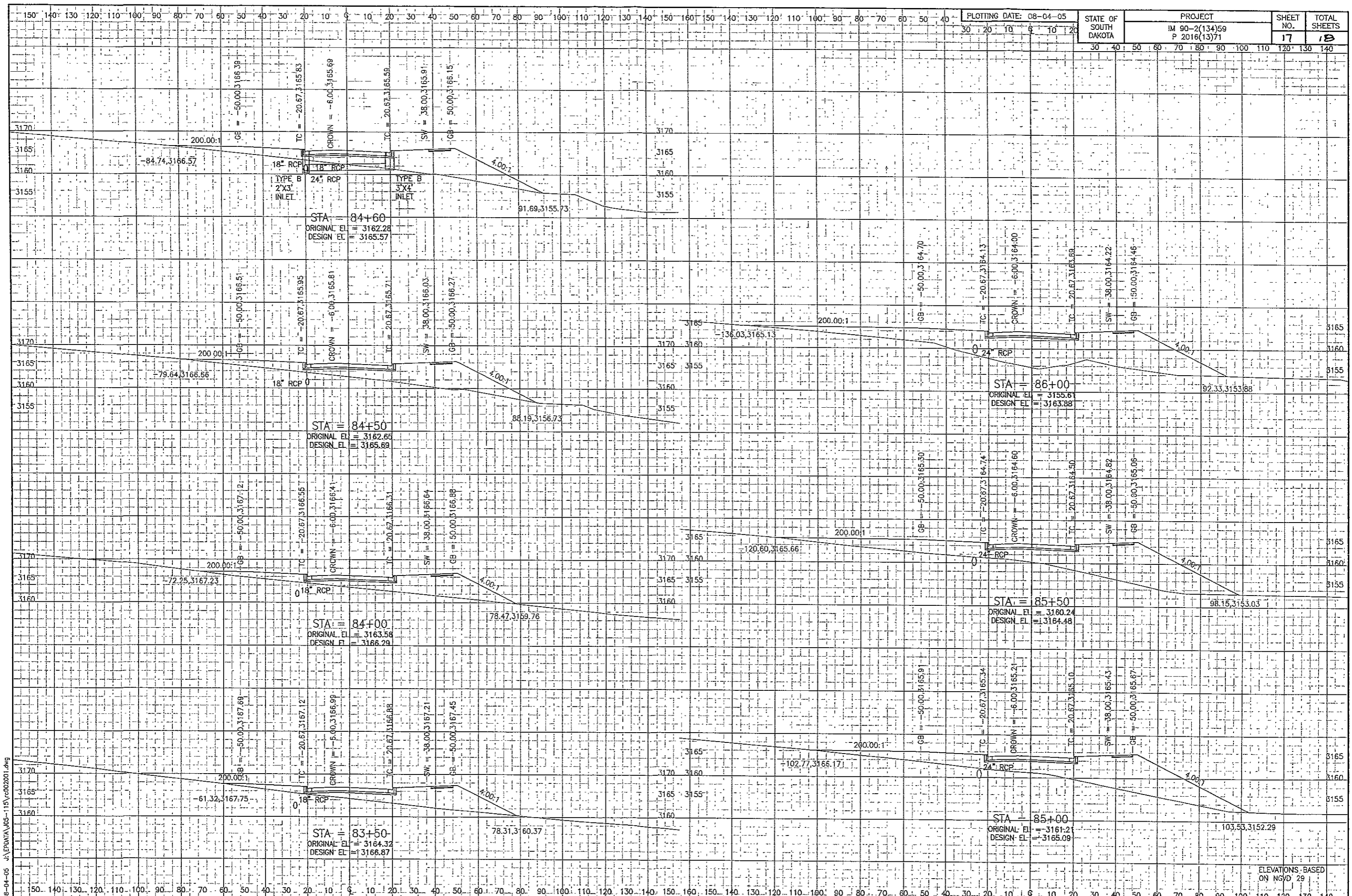
STATE OF SOUTH DAKOTA

PROJECT  
IM 90-2(134)59  
P 2016(13)71

SHEET NO.	TOTAL SHEETS
16	18

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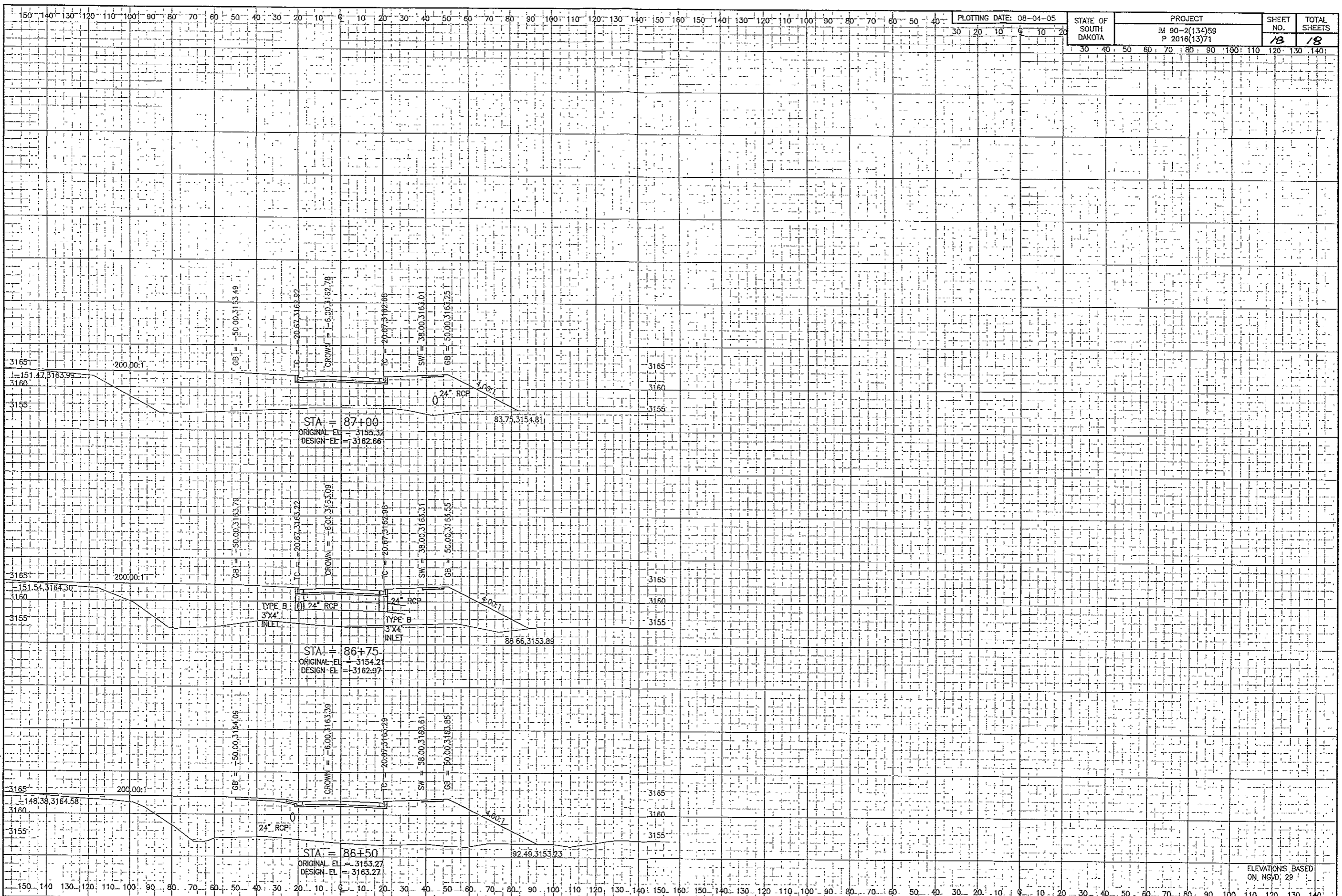
ELEVATIONS BASED ON NGVD 29



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ELEVATIONS BASED ON NGVD 29

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STATE OF SOUTH DAKOTA	PROJECT IM 90-2(134)59 P 2016(13)71	SHEET NO. 18	TOTAL SHEETS 18
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ELEVATIONS BASED ON NGVD, 29