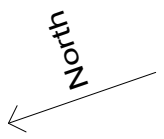
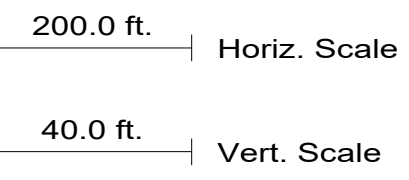
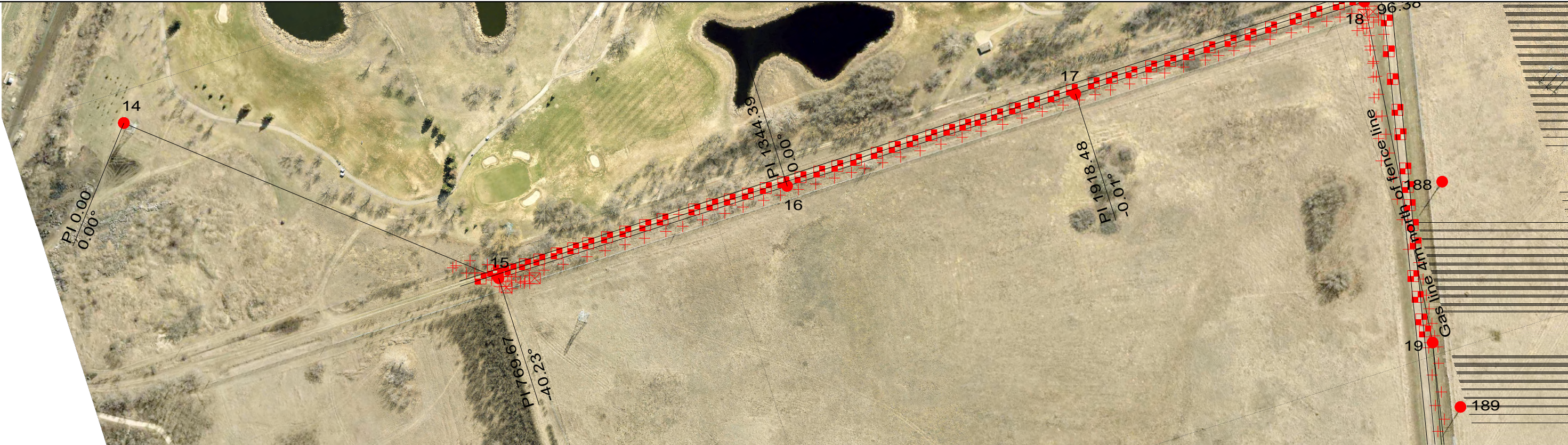


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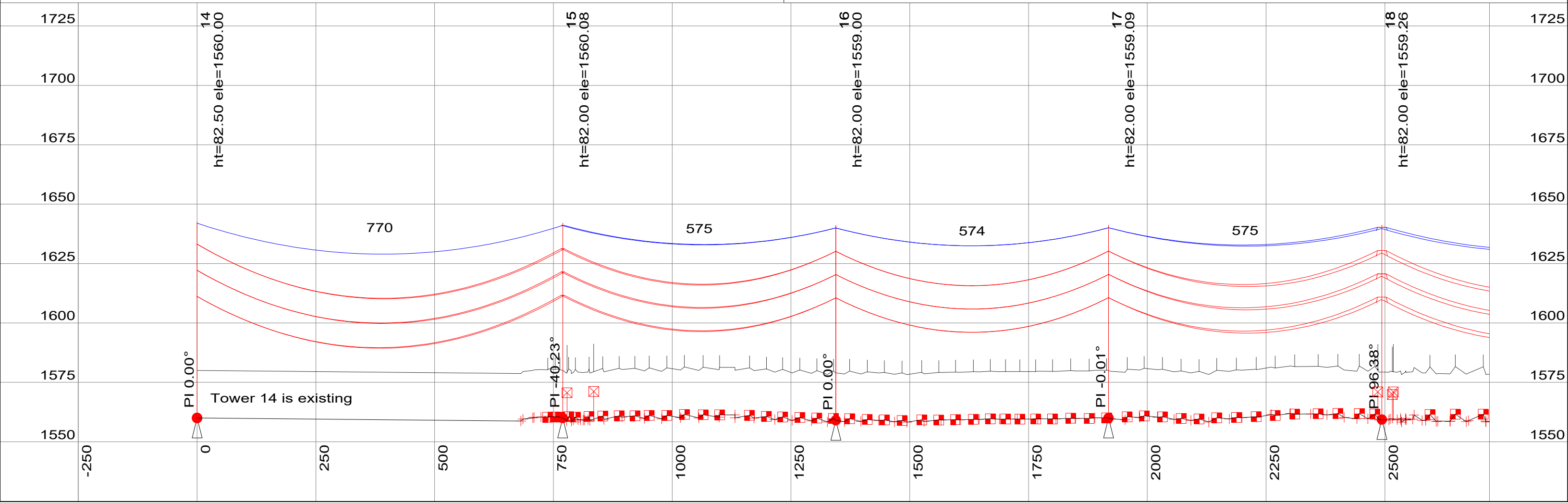
For a complete list of the Terms of Use please refer to the following link: [Terms of Use](#)

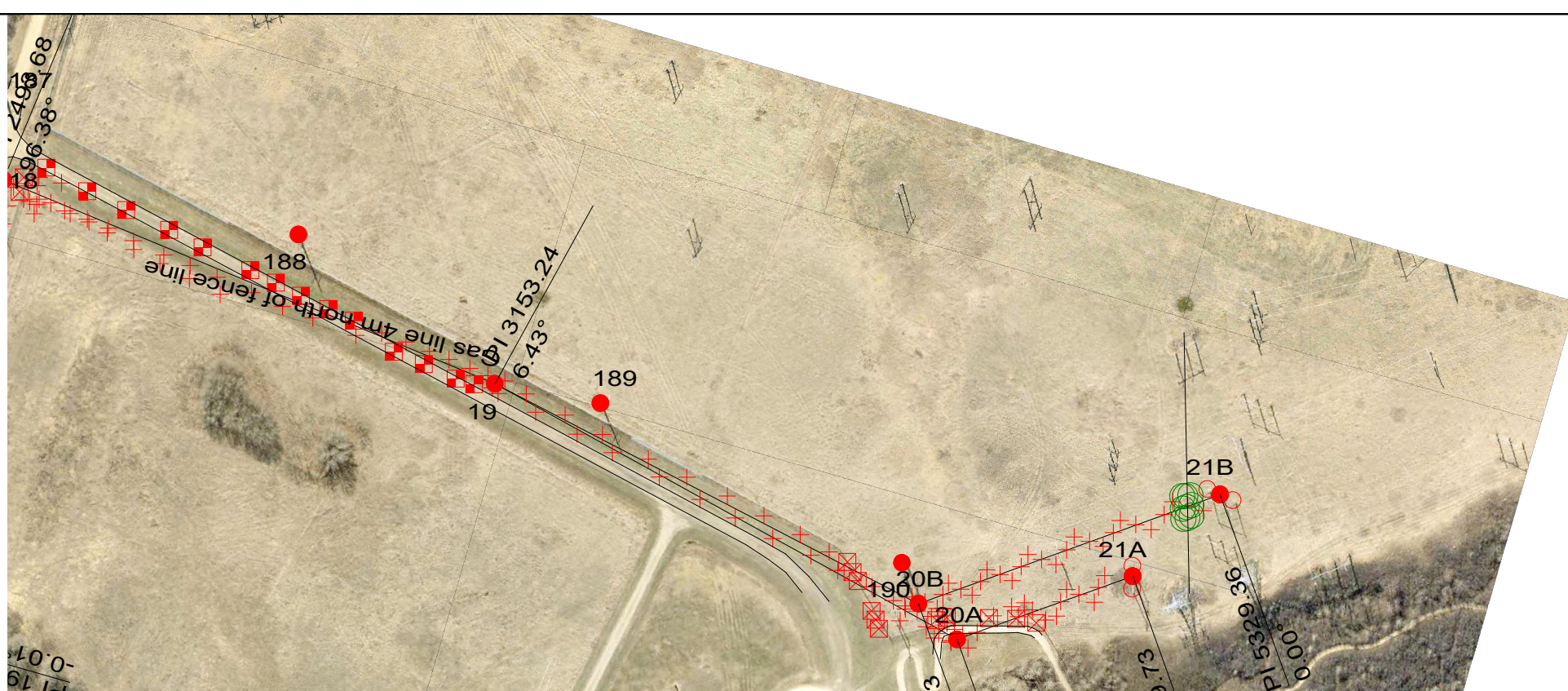


Q1A_Q2A Re-Route for WTP

Plan & Profile

Saskatoon Light & Power
2024-03-21



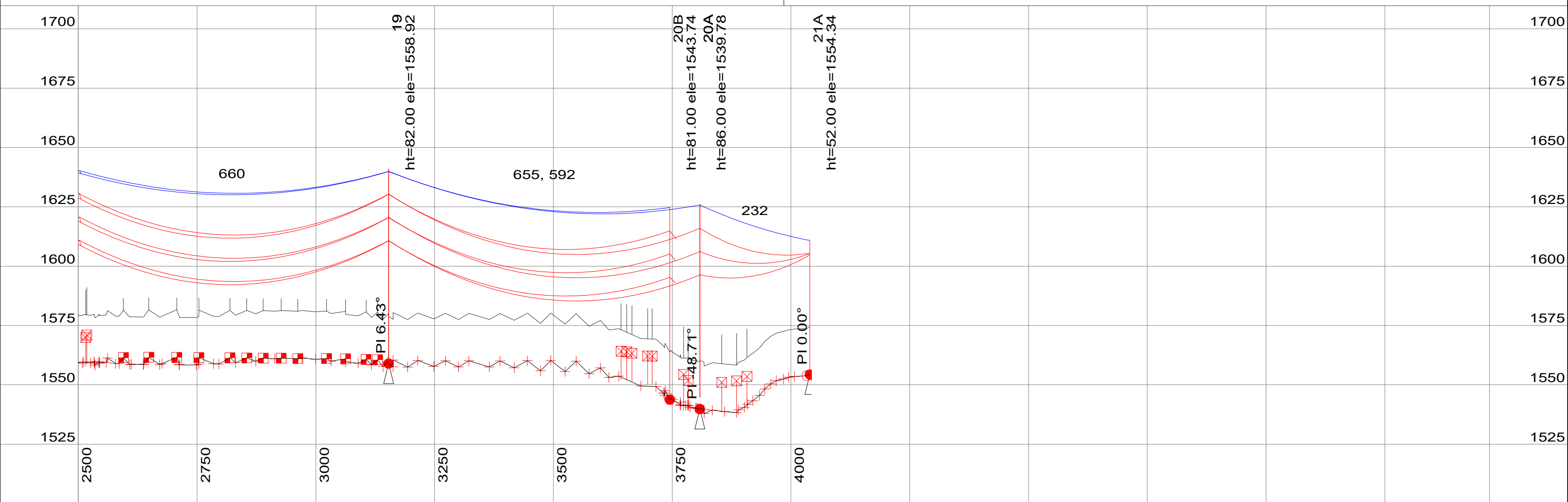


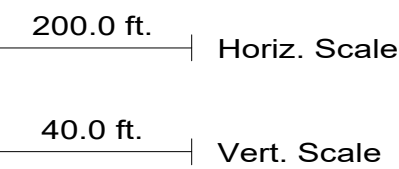
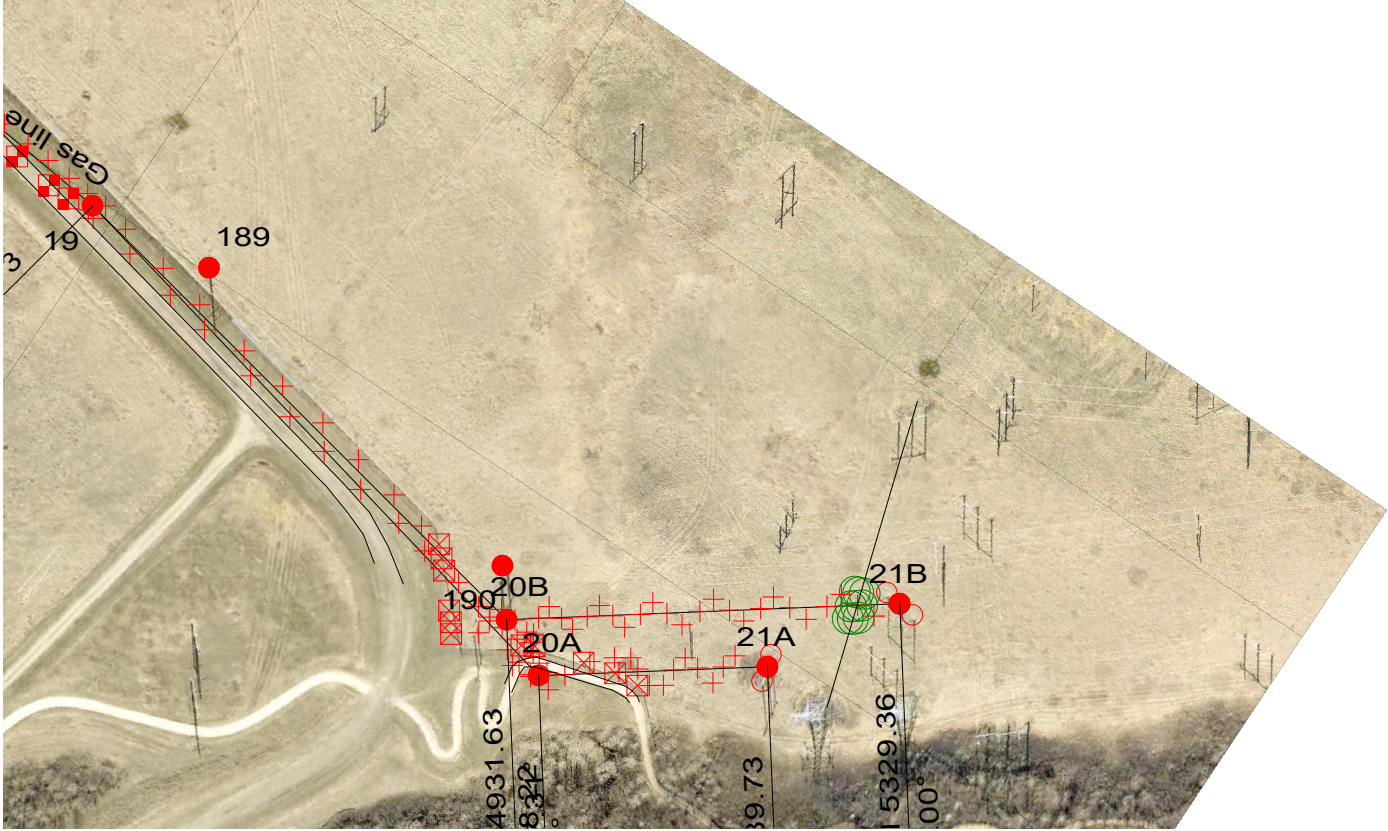
200.0 ft. Horiz. Scale

40.0 ft. Vert. Scale

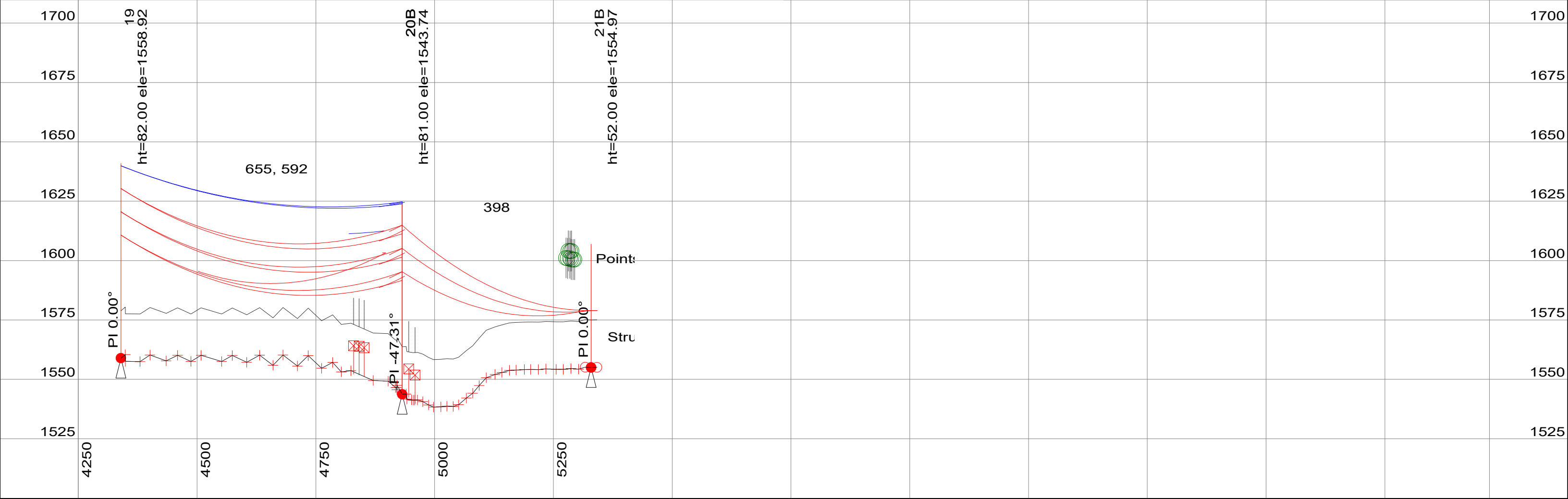
Q1A_Q2A Re-Route for WTP Plan & Profile

Saskatoon Light & Power
2024-03-21





Q1A_Q2A Re-Route for WTP
Plan & Profile
Saskatoon Light & Power
2024-03-21

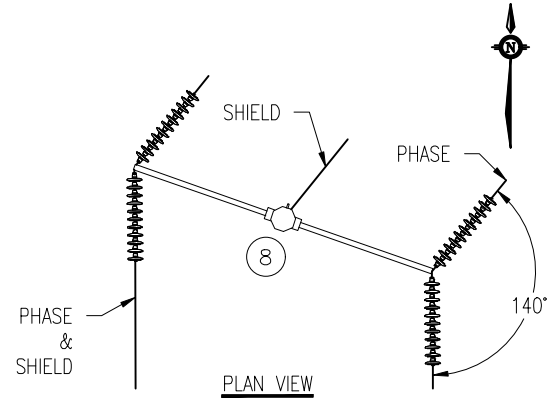
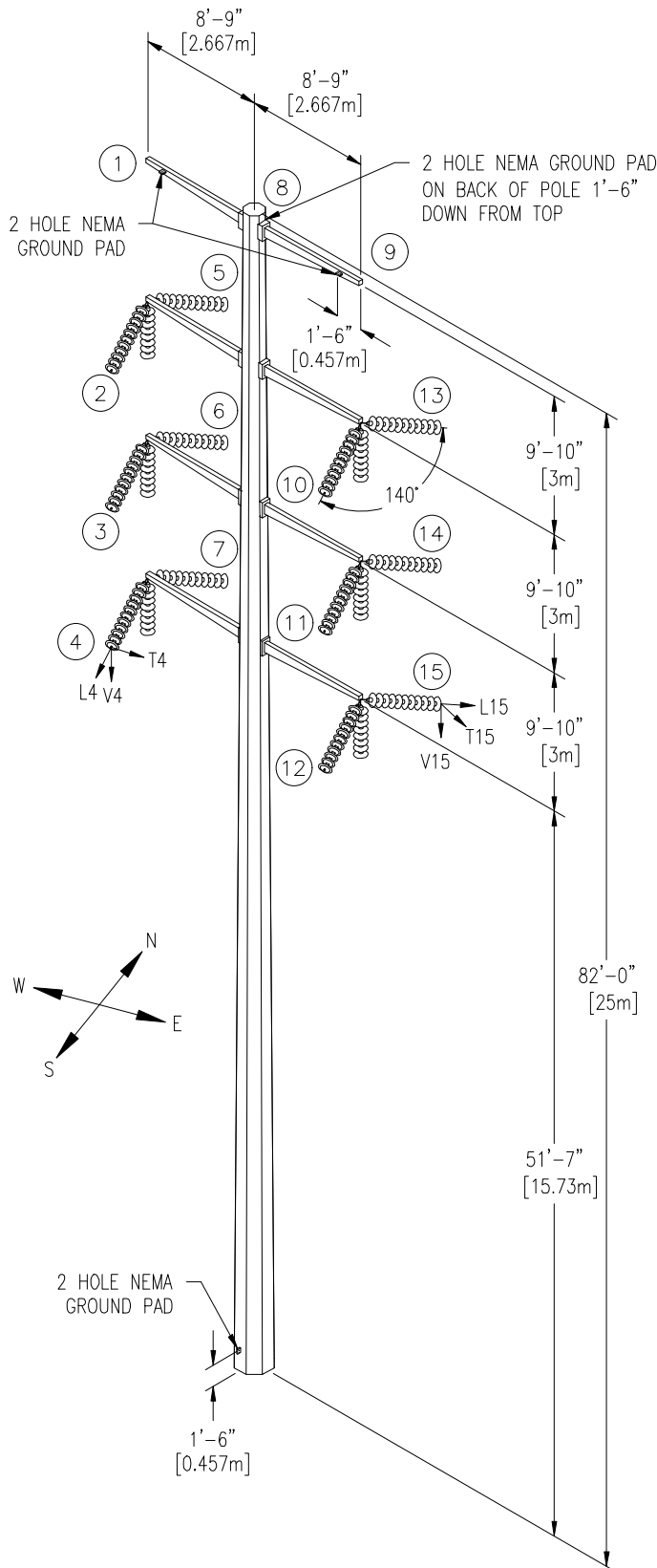


- GALVANIZED SELF-SUPPORTING STEEL MONOPOLE
- REINFORCED CONCRETE PILE FOUNDATION
- 138KV DOUBLE CIRCUIT
- DOUBLE DEADEND - 40° DEFLECTION
- STRAIN INSULATORS
- 266 MCM ACSR PARTRIDGE PHASE CONDUCTORS
- 5/16" HIGH STRENGTH STEEL SHIELD WIRE
- TENSIONED TO 20% UTS @ -18°C
- NORTHEAST SPAN LENGTH = 235m
- SOUTH SPAN LENGTH = 175m

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MAR 22 2024

Saskatoon
Light & Power



NOTES:

1. ALL LOADING VALUES PROVIDED ARE MINIMUMS
2. MANUFACTURER TO PROVIDE 1" MOUNTING HOLES FOR OWNER HARDWARE
3. THIS STRUCTURE MUST BE ABLE TO WITHSTAND DEADEND LOADING FROM SOUTH AND NORTHEAST DIRECTIONS
4. STRUCTURES TO INCLUDE STANDARD LADDER CLIPS, LIFTING POINTS, AND POLE LABELING
5. STRUCTURE SHALL BE BUILT TO ALL APPLICABLE CSA STANDARDS

ULTIMATE LOADS ON STRUCTURE MEMBER (INCLUDES O/L FACTORS AS LISTED)

LOADING CONDITIONS	NODE	VERTICAL FORCE, V KN (KIPS)	TRANSVERSE FORCE, T KN (KIPS)	LONGITUDINAL FORCE, L KN (KIPS)
A) CSA HEAVY LOADING O/L CAPACITY FACTORS USED V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,9	1.4 (0.31)	14.3 (3.22)	22.6 (5.08)
	2,3,4,10,11,12	2.8 (0.64)	19.7 (4.44)	31.8 (7.15)
	5,6,7,13,14,15	3.5 (0.79)	25.4 (5.71)	34.5 (7.76)
	8	1.8 (0.4)	18.4 (4.15)	24.7 (5.56)
B) HIGH WIND CONDITION V-OCF = 1.10 T-OCF = 1.10 L-OCF = 1.10	1,9	0.3 (0.07)	3.5 (0.79)	8.6 (1.93)
	2,3,4,10,11,12	1.1 (0.24)	6.2 (1.39)	14.5 (3.26)
	5,6,7,13,14,15	1.2 (0.28)	9.3 (2.09)	18.0 (4.05)
	8	0.4 (0.08)	5.2 (1.16)	10.5 (2.35)
C) ICE UNBALANCED CONDITION V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,9	1.4 (0.31)	14.9 (3.34)	23.2 (5.21)
	2,3,4,10,11,12	2.8 (0.64)	20.4 (4.58)	32.4 (7.29)
	5,6,7,13,14,15	2.4 (0.54)	19.8 (4.45)	27.6 (6.2)
	8	0.9 (0.21)	13.3 (2.98)	18.4 (4.13)

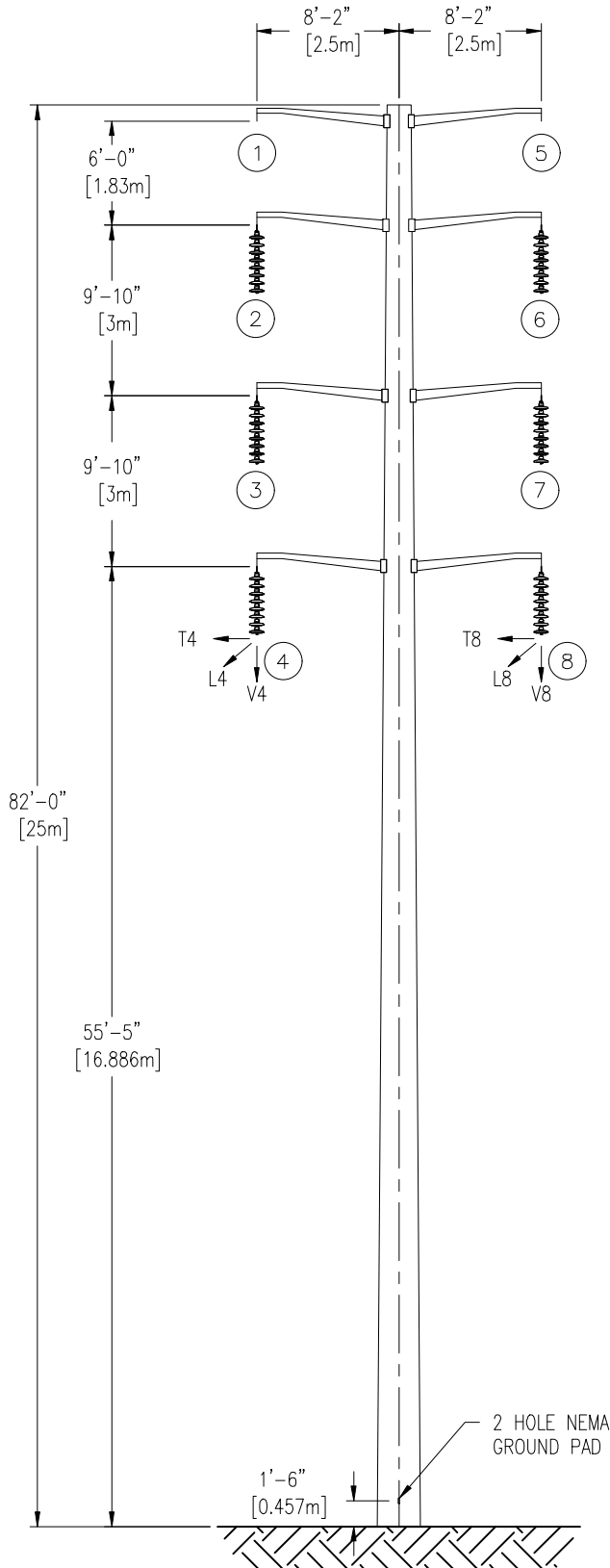
LATEST REVISION	ORIGINAL	SASKATOON LIGHT & POWER - City of Saskatoon -	REVISION DESCRIPTION	
REVISED BY _____ DATE _____	DRAWN BY RKP DATE MAR 13/24		SCALE Horizontal 3/32" = 1' Vertical -	REV NO 0
CHECKED BY _____ DATE _____	DESIGNED BY DJH DATE JAN 23/24	Q1A_Q2A TRANSMISSION LINE RE-ROUTE FOR NEW WATER TREATMENT PLANT STRUCTURE 15	DRAWING NUMBER Ts-254-01	
APPROVED BY _____ DATE _____	APPROVED BY _____ DATE _____			

- GALVANIZED SELF-SUPPORTING STEEL MONOPOLE
- REINFORCED CONCRETE PILE FOUNDATION
- 138KV DOUBLE CIRCUIT
- TANGENT - 0° DEFLECTION
- SUSPENSION INSULATORS
- 266 MCM ACSR PARTRIDGE PHASE CONDUCTORS
- 5/16" HIGH STRENGTH STEEL SHIELD WIRE
- TENSIONED TO 20% UTS @ -18°C
- SPAN LENGTHS = 175m

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Light & Power



NOTES:

1. ALL LOADING VALUES PROVIDED ARE MINIMUMS
2. MANUFACTURER TO PROVIDE 1" MOUNTING HOLES FOR OWNER HARDWARE
3. STRUCTURES TO INCLUDE STANDARD LADDER CLIPS, LIFTING POINTS, AND POLE LABELING
4. STRUCTURE SHALL BE BUILT TO ALL APPLICABLE CSA STANDARDS

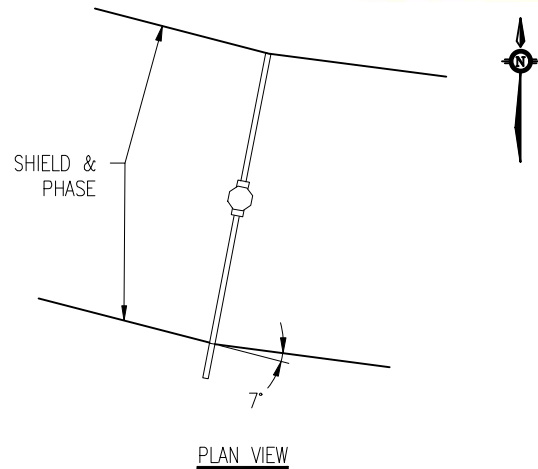
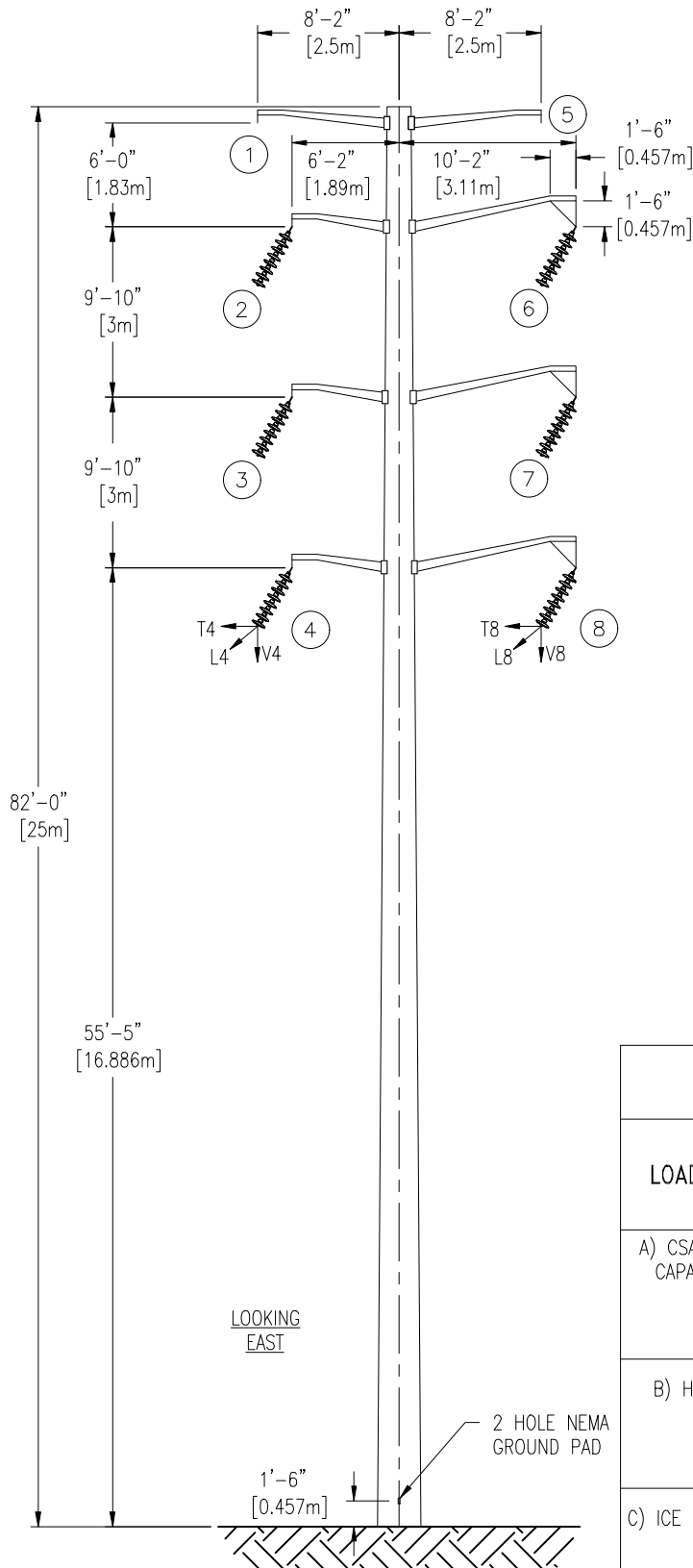
ULTIMATE LOADS ON STRUCTURE MEMBER (INCLUDES O/L FACTORS AS LISTED)

LOADING CONDITIONS	NODE	VERTICAL FORCE, V KN (KIPS)	TRANSVERSE FORCE, T KN (KIPS)	LONGITUDINAL FORCE, L KN (KIPS)
A) CSA HEAVY LOADING O/L CAPACITY FACTORS USED V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	2.7 (0.61)	5.9 (1.33)	0.0 (0.00)
	2,3,4,6,7,8	4.7 (1.05)	7.4 (1.66)	0.0 (0.00)
B) HIGH WIND CONDITION V-OCF = 1.10 T-OCF = 1.10 L-OCF = 1.10	1,5	0.6 (0.13)	1.5 (0.34)	0.0 (0.00)
	2,3,4,6,7,8	1.4 (0.32)	3.2 (0.71)	0.0 (0.00)
C) ICE UNBALANCED CONDITION V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	2.1 (0.47)	4.8 (1.08)	6.1 (1.37)
	2,3,4,6,7,8	3.8 (0.86)	6.3 (1.41)	6.4 (1.44)

LATEST REVISION		ORIGINAL		SASKATOON LIGHT & POWER - City of Saskatoon -		REVISION DESCRIPTION	
REVISED BY		DRAWN BY	RKP				
DATE		DATE	MAR 13/24			SCALE	REV NO
CHECKED BY		DESIGNED BY	DJH	Q1A_Q2A TRANSMISSION LINE RE-ROUTE FOR NEW WATER TREATMENT PLANT STRUCTURES 16 & 17		Horizontal 3/32" = 1'	0
DATE		DATE	JAN 23/24			Vertical -	
APPROVED BY		APPROVED BY				DRAWING NUMBER	
DATE		DATE				Ts-254-02	

- GALVANIZED SELF-SUPPORTING STEEL MONOPOLE
- REINFORCED CONCRETE PILE FOUNDATION
- 138KV DOUBLE CIRCUIT
- TANGENT - 7° DEFLECTION
- SUSPENSION INSULATORS
- 266 MCM ACSR PARTRIDGE PHASE CONDUCTORS
- 5/16" HIGH STRENGTH STEEL SHIELD WIRE
- TENSIONED TO 20% UTS @ -18°C
- SPAN LENGTHS = 200m

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NOTES:

1. ALL LOADING VALUES PROVIDED ARE MINIMUMS
2. MANUFACTURER TO PROVIDE 1" MOUNTING HOLES FOR OWNER HARDWARE
3. STRUCTURES TO INCLUDE STANDARD LADDER CLIPS, LIFTING POINTS, AND POLE LABELING
4. STRUCTURE SHALL BE BUILT TO ALL APPLICABLE CSA STANDARDS

ULTIMATE LOADS ON STRUCTURE MEMBER (INCLUDES O/L FACTORS AS LISTED)

LOADING CONDITIONS	NODE	VERTICAL FORCE, V KN (KIPS)	TRANSVERSE FORCE, T KN (KIPS)	LONGITUDINAL FORCE, L KN (KIPS)
A) CSA HEAVY LOADING O/L CAPACITY FACTORS USED V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	3.6 (0.80)	10.7 (2.40)	0.0 (0.00)
	2,3,4,6,7,8	5.9 (1.32)	14.2 (3.19)	0.0 (0.00)
B) HIGH WIND CONDITION V-OCF = 1.10 T-OCF = 1.10 L-OCF = 1.10	1,5	0.9 (0.20)	2.8 (0.63)	0.0 (0.00)
	2,3,4,6,7,8	2.0 (0.45)	5.5 (1.25)	0.0 (0.00)
C) ICE UNBALANCED CONDITION V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	2.9 (0.65)	9.0 (2.02)	6.5 (1.47)
	2,3,4,6,7,8	5.0 (1.12)	12.5 (2.81)	6.9 (1.55)

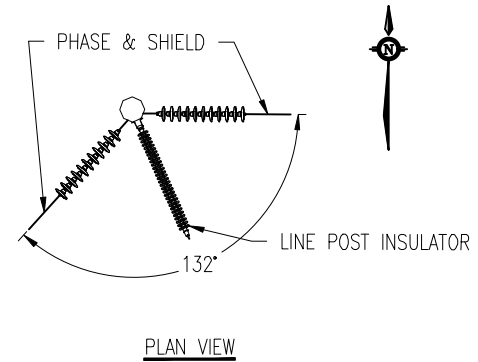
LATEST REVISION		ORIGINAL		SASKATOON LIGHT & POWER - City of Saskatoon -		REVISION DESCRIPTION	
REVISED BY		DRAWN BY	RKP				
DATE		DATE	MAR 13/24			SCALE	REV NO
CHECKED BY		DESIGNED BY	DJH	Q1A_Q2A TRANSMISSION LINE RE-ROUTE FOR NEW WATER TREATMENT PLANT STRUCTURE 19		Horizontal 3/32" = 1'	0
DATE		DATE	JAN 23/24			Vertical -	
APPROVED BY		APPROVED BY				DRAWING NUMBER	
DATE		DATE				Ts-254-04	

- GALVANIZED SELF-SUPPORTING STEEL MONOPOLE
- REINFORCED CONCRETE PILE FOUNDATION
- 138KV SINGLE CIRCUIT
- DOUBLE DEADEND - 48" DEFLECTION
- STRAIN INSULATORS
- 266 MCM ACSR PARTRIDGE PHASE CONDUCTORS
- 5/16" HIGH STRENGTH STEEL SHIELD WIRE
- TENSIONED TO 20% UTS @ -18°C
- EAST SPAN LENGTH = 200m
- SOUTHWEST SPAN LENGTH = 70m

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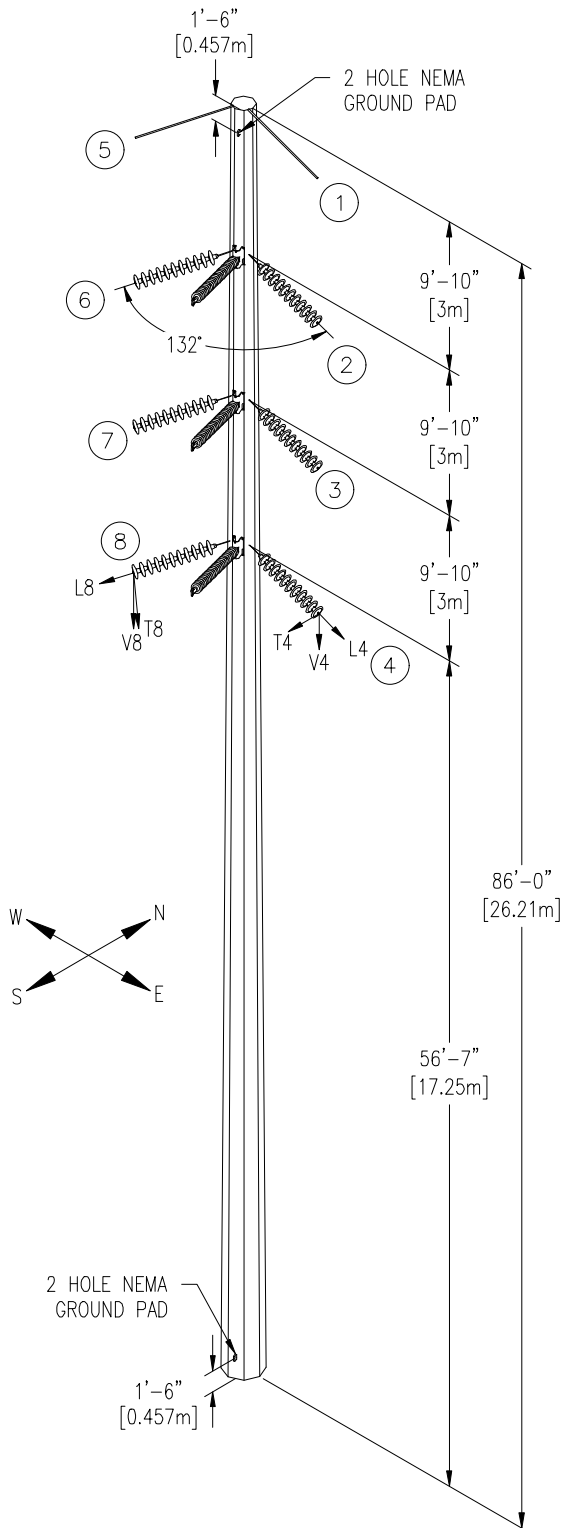


NOTES:

1. ALL LOADING VALUES PROVIDED ARE MINIMUMS
2. MANUFACTURER TO PROVIDE 1" MOUNTING HOLES FOR OWNER HARDWARE
3. THIS STRUCTURE MUST BE ABLE TO WITHSTAND DEADEND LOADING FROM SOUTHWEST AND EAST DIRECTIONS
4. STRUCTURE TO INCLUDE THREE BRACKETS IN-LINE WITH THE BISECT ANGLE FOR LINE POST INSULATORS (MACLEAN POWER H211075VX06) TO HOLD CONDUCTOR JUMPERS
5. STRUCTURE TO INCLUDE STANDARD LADDER CLIPS, LIFTING POINTS, AND POLE LABELING
6. STRUCTURE SHALL BE BUILT TO ALL APPLICABLE CSA STANDARDS

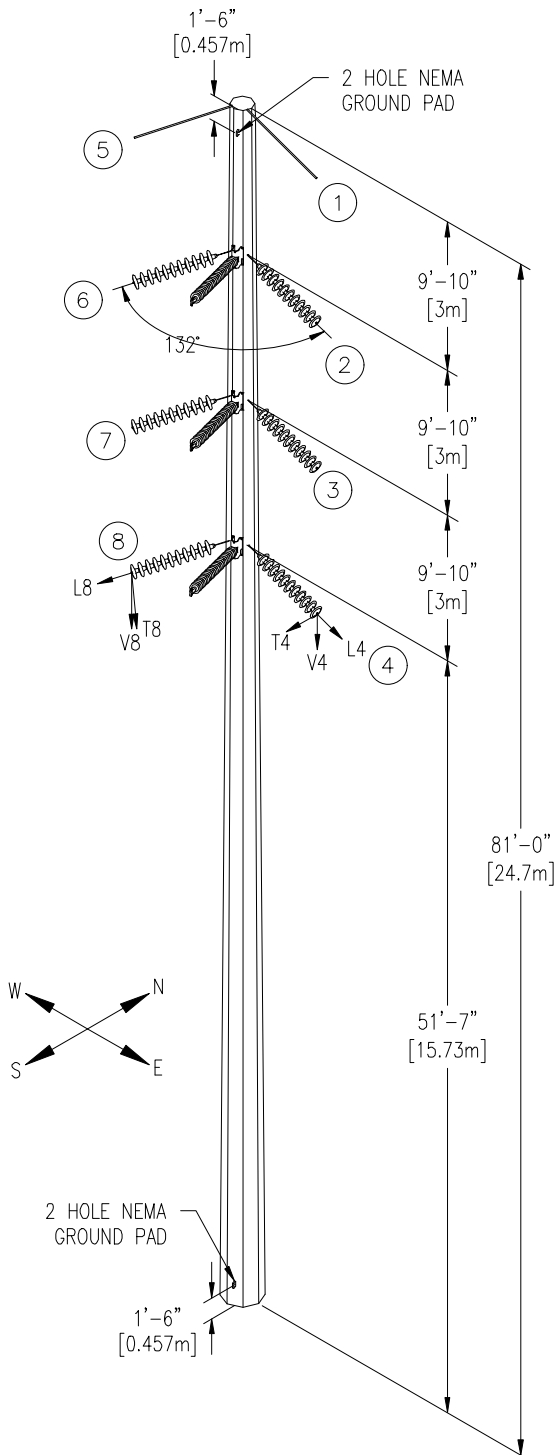
ULTIMATE LOADS ON STRUCTURE MEMBER (INCLUDES O/L FACTORS AS LISTED)

LOADING CONDITIONS	NODE	VERTICAL FORCE, V KN (KIPS)	TRANSVERSE FORCE, T KN (KIPS)	LONGITUDINAL FORCE, L KN (KIPS)
A) CSA HEAVY LOADING O/L CAPACITY FACTORS USED V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	1.4 (0.32)	19.5 (4.38)	23.5 (5.28)
	2,3,4,6,7,8	2.5 (0.57)	26.7 (6.01)	32.6 (7.32)
B) HIGH WIND CONDITION V-OCF = 1.10 T-OCF = 1.10 L-OCF = 1.10	1,5	0.5 (0.11)	5.3 (1.19)	9.7 (2.19)
	2,3,4,6,7,8	1.2 (0.26)	9.4 (2.11)	16.6 (3.72)
C) ICE UNBALANCED CONDITION V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	1.4 (0.32)	19.5 (4.38)	23.5 (5.28)
	2,3,4,6,7,8	2.5 (0.57)	26.7 (6.01)	32.6 (7.32)



LATEST REVISION		ORIGINAL		SASKATOON LIGHT & POWER - City of Saskatoon -		REVISION DESCRIPTION	
REVISED BY		DRAWN BY	RKP	Q1A_Q2A TRANSMISSION LINE RE-ROUTE FOR NEW WATER TREATMENT PLANT STRUCTURE 20A			
DATE		DATE	MAR 13/24				
CHECKED BY		DESIGNED BY	DJH				
DATE		DATE	JAN 23/24				
APPROVED BY		APPROVED BY				SCALE	REV NO
DATE		DATE				Horizontal	3/32" = 1'
						Vertical	-
						DRAWING NUMBER	
						Ts-254-05	

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ULTIMATE LOADS ON STRUCTURE MEMBER
(INCLUDES O/L FACTORS AS LISTED)

LOADING CONDITIONS	NODE	VERTICAL FORCE, V KN (KIPS)	TRANSVERSE FORCE, T KN (KIPS)	LONGITUDINAL FORCE, L KN (KIPS)
A) CSA HEAVY LOADING O/L CAPACITY FACTORS USED V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	0.8 (0.17)	19.8 (4.46)	23.0 (5.16)
	2,3,4,6,7,8	4.4 (0.98)	27.3 (6.13)	31.9 (7.16)
B) HIGH WIND CONDITION V-OCF = 1.10 T-OCF = 1.10 L-OCF = 1.10	1,5	0.0 (0.00)	5.4 (1.21)	9.5 (2.14)
	2,3,4,6,7,8	1.9 (0.43)	9.5 (2.14)	16.2 (3.64)
C) ICE UNBALANCED CONDITION V-OCF = 1.50 T-OCF = 2.50 L-OCF = 1.65	1,5	0.8 (0.17)	19.8 (4.46)	23.0 (5.16)
	2,3,4,6,7,8	4.4 (0.98)	27.3 (6.13)	31.9 (7.16)

LATEST REVISION		ORIGINAL		SASKATOON LIGHT & POWER - City of Saskatoon -		REVISION DESCRIPTION		
REVISED BY _____	DATE _____	DRAWN BY <u>RKP</u>	DATE <u>MAR 13/24</u>	Q1A_Q2A TRANSMISSION LINE RE-ROUTE FOR NEW WATER TREATMENT PLANT STRUCTURE 20B		SCALE		REV NO
CHECKED BY _____	DATE _____	DESIGNED BY <u>DJH</u>	DATE <u>JAN 23/24</u>			Horizontal <u>3/32" = 1'</u>		0
						Vertical <u>-</u>		
APPROVED BY _____	DATE _____	APPROVED BY _____	DATE _____			DRAWING NUMBER		
						Ts-254-06		