

Port Of Vancouver WCD-Kiewit Marine Yard

Coquitlam,BC

Lighting System

Pole / Fixture Summary							
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Avg Load	Max Load	Circuit
P1	24.4	24.4	4	TLC-LED-550	1.94 kW	2.16 kW	A
P2-P7	24.4	24.4	5	TLC-LED-550	2.43 kW	2.70 kW	A
7			34		16.52 kW	18.36 kW	

Circuit Summary				
Circuit	Description	Avg Load	Max Load	Fixture Qty
A	Port	16.52 kW	18.36 kW	34

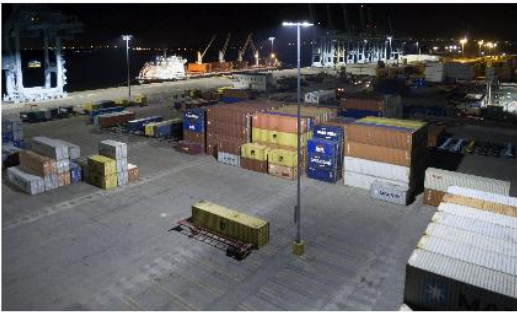
Fixture Type Summary						
Type	Source	Avg Wattage	Max Wattage	Constant Lumens	Application	Quantity
TLC-LED-550	LED 5700K - 75 CRI	486W	540W	56,950	100K	34

Single Luminaire Amperage Draw Chart							
Driver (.90 min power factor)		Max Line Amperage Per Luminaire					
Single Phase Voltage		208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	480 (60)
TLC-LED-550		3.2	3.0	2.8	2.4	1.9	1.8

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
2 Lux Min	Horizontal	46.4	13.8	94.3	6.82	3.35	A	34
Port	Horizontal	51.9	18.1	89.5	4.95	2.87	A	34
Spill Grid	Horizontal	5.95	0.18	40.2	224.51	33.25	A	34
Spill Grid	Max Candela (by Fixture)	22550	1704	148404	87.10	13.23	A	34

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EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	P1	24.4m	-	24.4m	TLC-LED-550	4	4	0
5	P2-P4 P6-P7	24.4m	-	24.4m	TLC-LED-550	5	5	0
1	P5	24.4m	4m	28.38m	TLC-LED-550	5	5	0
7	TOTALS					34	34	0

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Coquitlam,BC

GRID SUMMARY	
Name:	Port
Size:	0.0m x 0.0m
Spacing:	10.0m x 10.0m
Height:	0.0m above grade

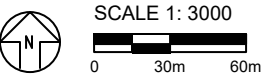
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL LUX	
	Entire Grid
Scan Average:	51.89
Maximum:	89.48
Minimum:	18.09
Avg / Min:	2.87
Max / Min:	4.95
UG (adjacent pts):	3.42
CU:	0.76
No. of Points:	284
LUMINAIRE INFORMATION	
Applied Circuits:	A
Design Usage Hours:	100,000
No. of Luminaires:	34
Avg Load:	16.52 kW
Max Load:	18.36 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



ENGINEERED DESIGN By: A.Hibler · File #229513G · 21-Mar-24

Pole location(s) ⚓ dimensions are relative to 0,0 reference point(s) ⊗



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	P1	24.4m	-	24.4m	TLC-LED-550	4	4	0
5	P2-P4 P6-P7	24.4m	-	24.4m	TLC-LED-550	5	5	0
1	P5	24.4m	4m	28.38m	TLC-LED-550	5	5	0
7	TOTALS					34	34	0

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GRID SUMMARY	
Name:	2 Lux Min
Size:	0.0m x 0.0m
Spacing:	2.0m x 2.0m
Height:	0.0m above grade

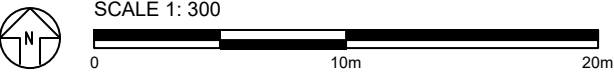
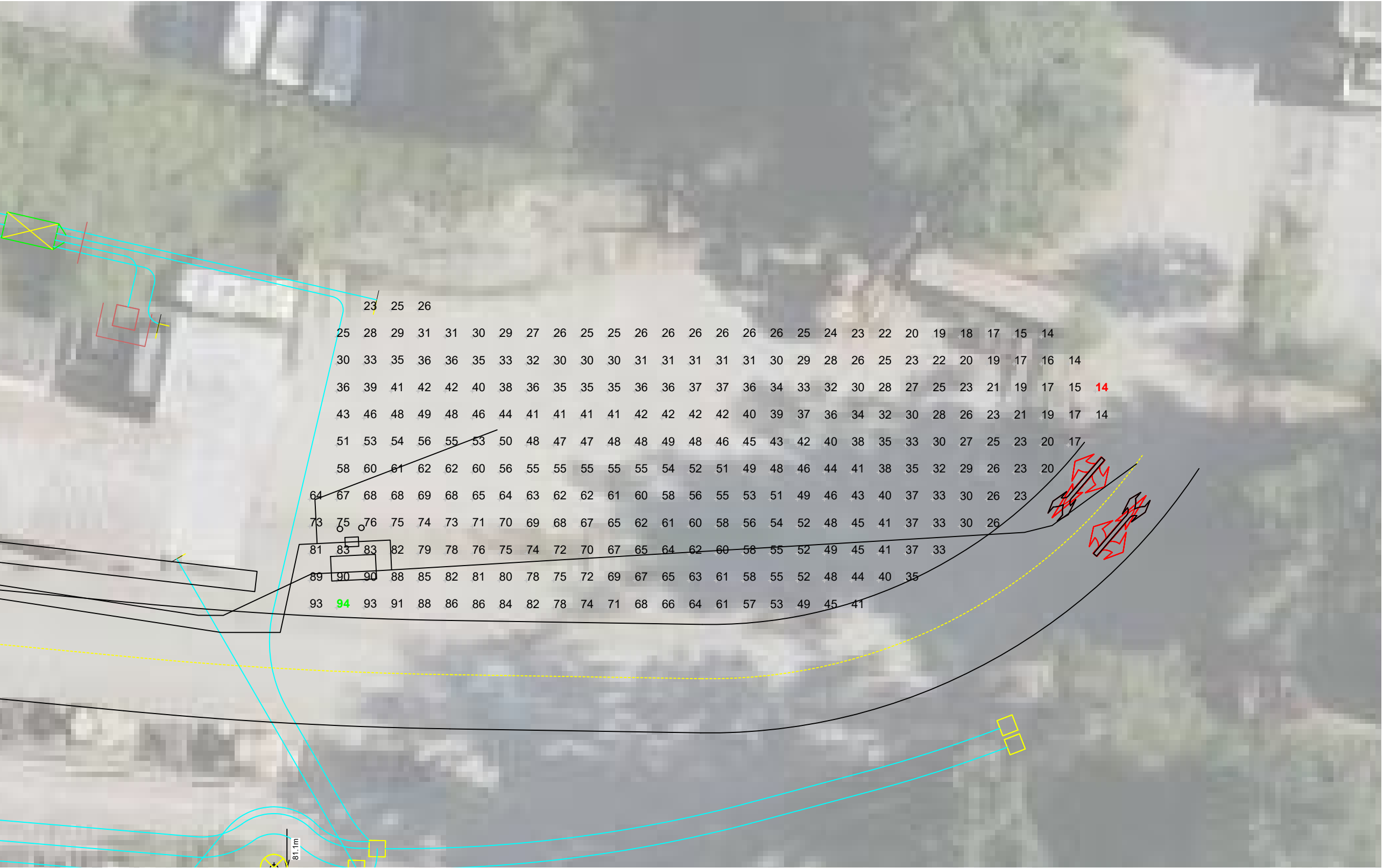
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL LUX	
	Entire Grid
Scan Average:	46.36
Maximum:	94.25
Minimum:	13.83
Avg / Min:	3.35
Max / Min:	6.82
UG (adjacent pts):	1.20
CU:	0.03
No. of Points:	292
LUMINAIRE INFORMATION	
Applied Circuits:	A
Design Usage Hours:	100,000
No. of Luminaires:	34
Avg Load:	16.52 kW
Max Load:	18.36 kW

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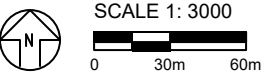


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ILLUMINATION SUMMARY

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Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	P1	24.4m	-	24.4m	TLC-LED-550	4	4	0
5	P2-P4 P6-P7	24.4m	-	24.4m	TLC-LED-550	5	5	0
1	P5	24.4m	4m	28.38m	TLC-LED-550	5	5	0
7	TOTALS					34	34	0



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GRID SUMMARY	
Name:	Spill Grid
Spacing:	10.0m
Height:	3.0m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	Entire Grid 5.9546
Maximum:	40.2082
Minimum:	0.1791
No. of Points:	70
LUMINAIRE INFORMATION	
Applied Circuits:	A
Design Usage Hours:	100,000
No. of Luminaires:	34
Avg Load:	16.52 kW
Max Load:	18.36 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY

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1	P1	24.4m	-	24.4m	TLC-LED-550	4	4	0
5	P2-P4 P6-P7	24.4m	-	24.4m	TLC-LED-550	5	5	0
1	P5	24.4m	4m	28.38m	TLC-LED-550	5	5	0
7	TOTALS					34	34	0

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GRID SUMMARY	
Name:	Spill Grid
Spacing:	10.0m
Height:	3.0m above grade

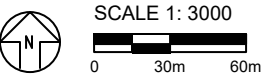
ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 22550.1074
Maximum:	148403.9375
Minimum:	1703.8472
No. of Points:	70
LUMINAIRE INFORMATION	
Applied Circuits:	A
Design Usage Hours:	100,000
No. of Luminaires:	34
Avg Load:	16.52 kW
Max Load:	18.36 kW

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Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



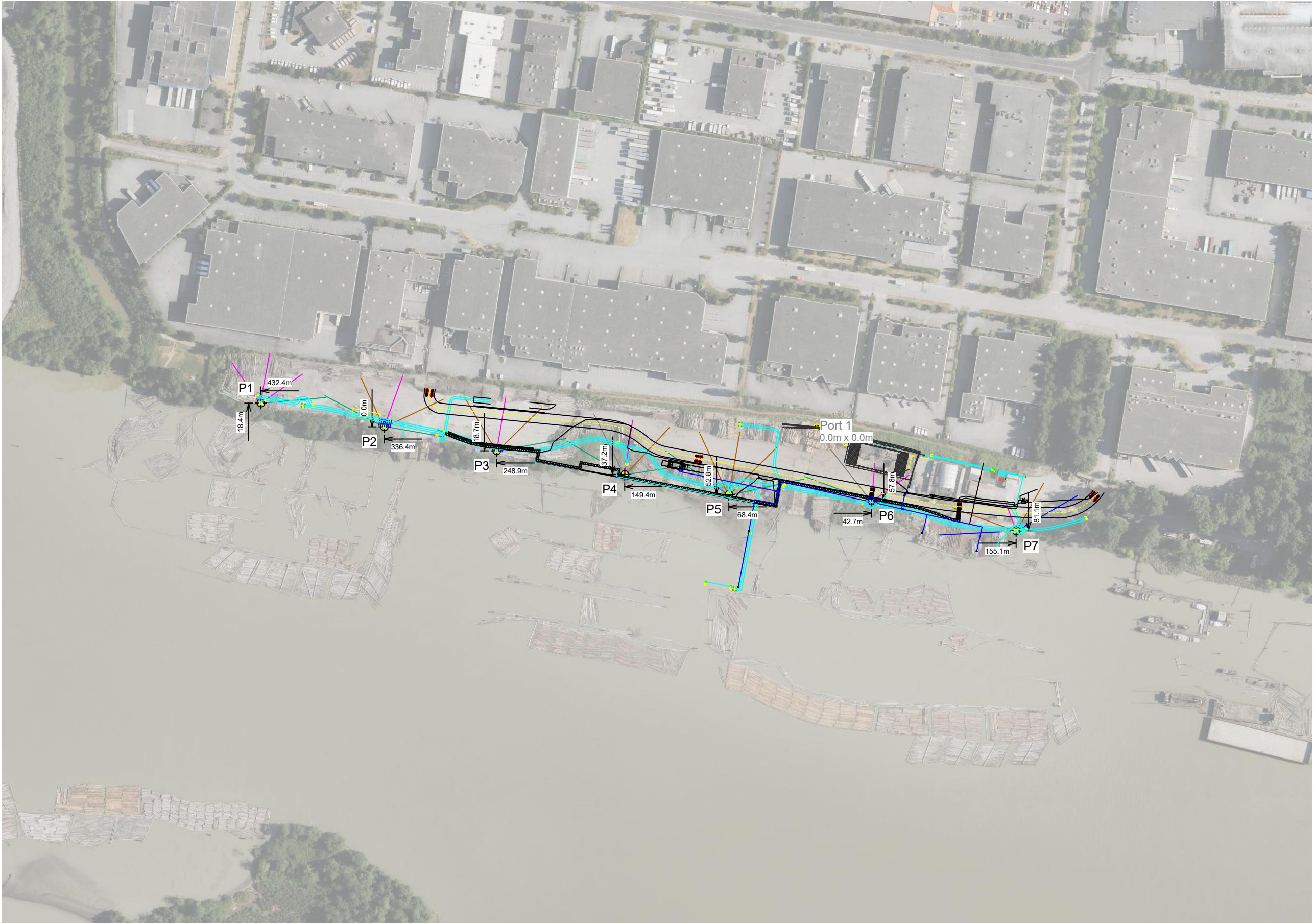
Pole location(s) ⚓ dimensions are relative to 0,0 reference point(s) ⊗



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ILLUMINATION SUMMARY



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EQUIPMENT LAYOUT

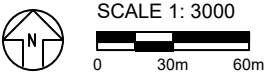
INCLUDES:
· Port 1

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

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EQUIPMENT LIST FOR AREAS SHOWN						
Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
1	P1	24.4m	-	24.4m	TLC-LED-550	4
5	P2-P4 P6-P7	24.4m	-	24.4m	TLC-LED-550	5
1	P5	24.4m	4m	28.38m	TLC-LED-550	5
7	TOTALS					34

SINGLE LUMINAIRE AMPERAGE DRAW CHART							
Driver (.90 min power factor)		Line Amperage Per Luminaire (max draw)					
Single Phase Voltage		208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)
TLC-LED-550		3.2	3.0	2.8	2.4	1.9	1.8



ENGINEERED DESIGN By: A.Hibler · File #229513G · 21-Mar-24

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GLARE IMPACT

Summary

Map indicates the maximum candela an observer would see when facing the brightest light source from any direction.

A well-designed lighting system controls light to provide maximum useful on-field illumination with minimal destructive off-site glare.

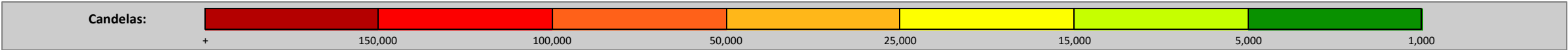
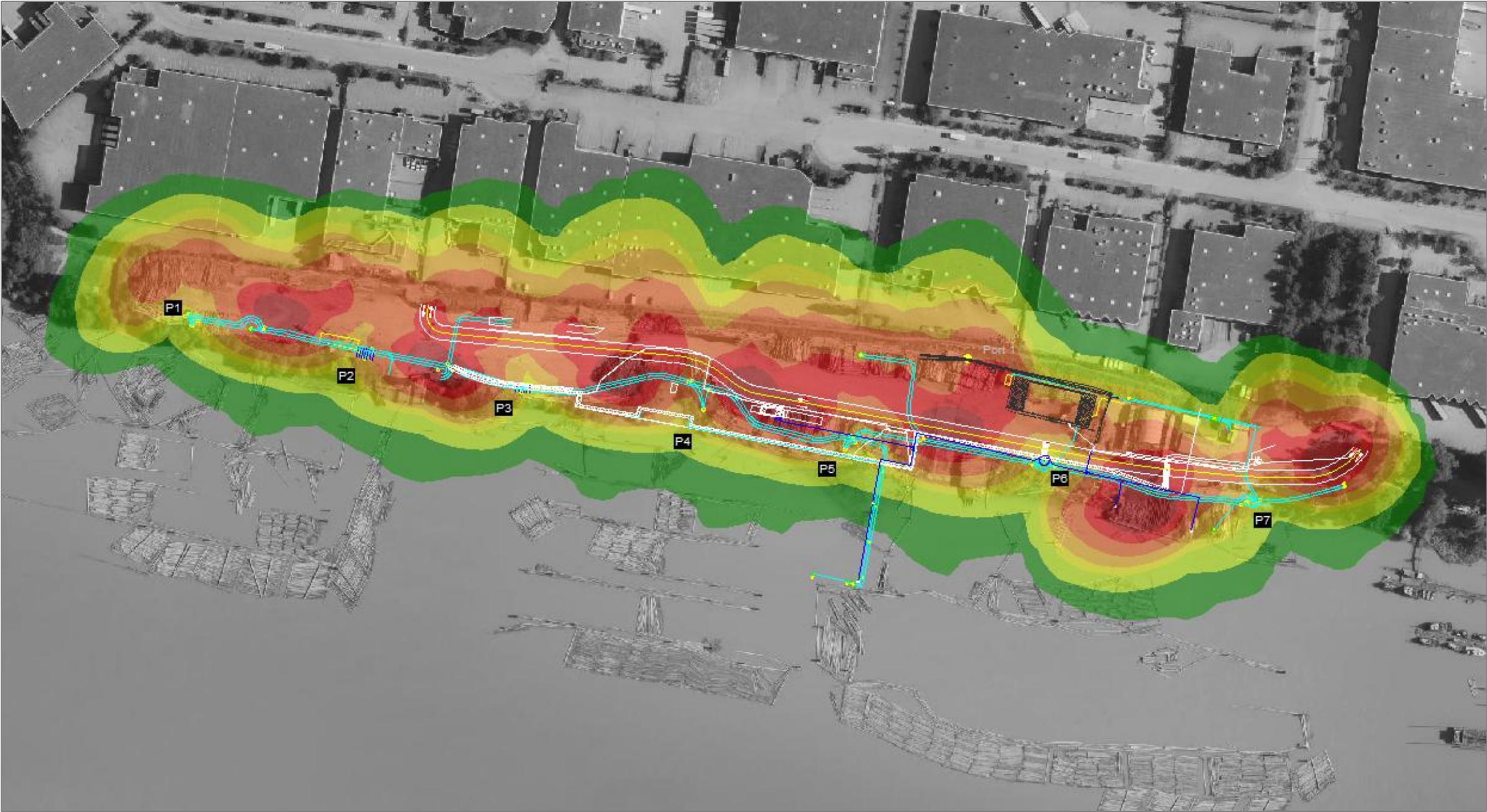
GLARE

Candela Levels

High Glare: 150,000 or more candela
Should only occur on or very near the lit area where the light source is in direct view. Care must be taken to minimize high glare zones.

Significant Glare: 25,000 to 75,000 candela
Equivalent to high beam headlights of a car.

Minimal to No Glare: 500 or less candela
Equivalent to 100W incandescent light bulb.



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