

FEEDER SCHEDULE/VOLTAGE DROP/WIRE SIZE CALCULATIONS												
CABLE #	LOADS	LOCATION	BRK. RATING	VOLTAGE	RATED CURRENT	CIRCUIT	DISTANCE METER (FT)	VOLTAGE DROP	FEEDER SIZE	CONDUIT SIZE	JUNCTION BOX SIZE	
①	RECEPTACLE #R1	POWER CENTRE #1	20 AMP	120V	16 AMPS	B-2	72.5M (238.0')	3.13V - 2.61%	2#6 AWG RW90 Cu.	78mm	200mm x 200mm x 100mm (8"x8"x4") MOUNTED ON SHROUD #1	
②	RECEPTACLE #R2	POWER CENTRE #1	20 AMP	120V	16 AMPS	B-4	72.5M (238.0')	3.13V - 2.61%	2#6 AWG RW90 Cu.			
③	RECEPTACLE #R3	POWER CENTRE #2	30 AMP	120V	24 AMPS	B-1	86M (282.0')	2.36V - 1.97%	2#2 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #2	
④	RECEPTACLE #R4	POWER CENTRE #2	30 AMP	120V	24 AMPS	B-3	86M (282.0')	2.36V - 1.97%	2#2 AWG RW90 Cu.			
⑤	RECEPTACLE #R5	POWER CENTRE #2	30 AMP	120V	24 AMPS	B-5	86M (282.0')	2.36V - 1.97%	2#2 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #3	
⑥	RECEPTACLE #R6	POWER CENTRE #3	30 AMP	120V	24 AMPS	B-7	109.5M (359.0')	3.00V - 2.50%	2#2 AWG RW90 Cu.			
⑦	RECEPTACLE #R7	POWER CENTRE #3	30 AMP	120V	24 AMPS	B-9	109.5M (359.0')	3.00V - 2.50%	2#2 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #4	
⑧	RECEPTACLE #R8	POWER CENTRE #3	30 AMP	120V	24 AMPS	B-11	109.5M (359.0')	3.00V - 2.50%	2#2 AWG RW90 Cu.			
⑨	RECEPTACLE #R9	POWER CENTRE #4	30 AMP	120V	24 AMPS	B-13	129.5M (425.0')	3.56V - 2.96%	2#2 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #5	
⑩	RECEPTACLE #R10	POWER CENTRE #4	30 AMP	120V	24 AMPS	B-15	129.5M (425.0')	3.56V - 2.96%	2#2 AWG RW90 Cu.			
⑪	RECEPTACLE #R11	POWER CENTRE #4	30 AMP	120V	24 AMPS	B-17	129.5M (425.0')	3.56V - 2.96%	2#2 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #6	
⑫	RECEPTACLE #R12	POWER CENTRE #5	30 AMP	120V	24 AMPS	B-19	151.5M (497.0')	3.17V - 2.64%	2#1 AWG RW90 Cu.			
⑬	RECEPTACLE #R13	POWER CENTRE #5	30 AMP	120V	24 AMPS	B-21	151.5M (497.0')	3.17V - 2.64%	2#1 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #7	
⑭	RECEPTACLE #R14	POWER CENTRE #5	30 AMP	120V	24 AMPS	B-23	151.5M (497.0')	3.17V - 2.64%	2#1 AWG RW90 Cu.			
⑮	RECEPTACLE #R15	POWER CENTRE #6	30 AMP	120V	24 AMPS	B-25	146M (479.0')	3.06V - 2.55%	2#1 AWG RW90 Cu.	78mm	300mm x 300mm x 100mm (12"x12"x4") MOUNTED ON SHROUD #8	
⑯	RECEPTACLE #R16	POWER CENTRE #6	30 AMP	120V	24 AMPS	B-27	146M (479.0')	3.06V - 2.55%	2#1 AWG RW90 Cu.			
⑰	NOT USED											
⑱	AREA LIGHTING	WHARF - POLES P9 → P15	15 AMP	347V	3.872 AMPS	A-2	N/A	9.40V - 2.71%	2#8 AWG RW90 Cu.	27mm	100mm x 100mm x 50mm (4"x4"x2") ON EACH POLE	
⑲	FLOOD LIGHTING	WHARF - POLES P14 AND P15	15 AMP	120V	1.020 AMPS	A-4	N/A	3.78V - 1.09%	2#12 AWG RW90 Cu.			
⑳	DERRICK	WHARF	40 AMP	208V	16.7 AMPS	B-6,8,10	182.5M (599.0')	4.61V - 2.21%	3#4 AWG RW90 Cu.	78mm	COMBINATION STARTER	

#### LOAD CALCULATION (DEMAND) - UPPER PORT LATOUR WHARF

##### 1. RECEPTACLE LOAD (CEC 78-056)

14 - 120V, 30 AMP TWIST LOCK RECEPTACLES  
2 - 120 VOLT, 20 AMP GFCI DUPLEX RECEPTACLES

• (4 x 30A x 120)	100%	=	14.400 kW
• (4 x 30A x 120)	65%	=	9.360 kW
• (5 x 30A x 120)	50%	=	9.000 kW
• (1 x 30A x 120)	25%	=	0.900 kW
• (2 x 20A x 120)	25%	=	1.200 kW

SUBTOTAL = 34.860 kW

##### 2. WHARF LIGHTING

8 - 168 WATT AREA LIGHTS = 8 x 168 = 1,344 kW  
2 - 177 WATT FLOOD LIGHTS = 1 x 177 = 0.354 kW

SUBTOTAL = 1.698 kW

##### 3. WINCH (NON-CONTINUOUS LOAD)

1 x 5.0HP x 746W = 3.370 kW x 80%

TOTAL DERRICK LOAD = 2.984 kW

##### 4. SHED LOADING (PER SHED)

• LIGHTING	=	170 WATTS
• RECEPTACLES	=	600 WATTS
• HEATER	=	1000 WATTS
• T/C & CONTACTOR	=	500 WATTS

SUBTOTAL = 2270 WATTS > 2.270 kW

RECEPTACLES = 34.860 kW

LIGHTS = 1.698 kW

WINCH = 2.984 kW

ELECT BLDG = 2.270 kW

TOTAL = 41.812 kW

TOTAL = 41.812 kW @ 600 VOLTS, 3φ x 1.25 = 52.265 kVA

SERVICE LOADING = 52.265 kVA/600 VOLTS, 3φ = 50.29012 AMPS

NOTES	VOLTS	347/600	PANEL	'A'	TYPE	EEMAC 1	MAINS	100	AMPS
	PHASE	3	LOCATION	ELECTRICAL SHED	MAIN BREAKER	100	AMPS	(ADJ. TRIP SET AT 60 AMPS)	
	WIRE	4	FED FROM	-	BRANCH BREAKER I.C.	22kA	MTG. SURFACE		
	DESIGNATION	KW	WIRE SIZE	CIR NO.	BKR	A	B	C	BKR
PANEL B		46.465		1		20A	2	10/12/13.44	WHARF AREA LIGHTING
				3		20A	4	12	WHARF FLOOD LIGHTING
				7					
				9					
				11					
				13					
				15					
				17					
NOTES	φ "A" TOTAL	18879	WATTS						
	φ "B" TOTAL	18169	WATTS						
	φ "C" TOTAL	14115	WATTS						
	TOTAL LOAD	51.163	KW	49.231	AMPS @ 600V, 3φ				

NOTES	VOLTS	120/208		PANEL	'A'			TYPE	EEMAC 1		MAINS	225		AMPS											
	PHASE	3		LOCATION	ELECTRICAL SHED			MAIN BREAKER 200 AMPS (ADJ. TRIP SET AT 150 AMPS)																	
	WIRE	4		FED FROM	75kVA TRANSFORMER			BRANCH BREAKER I.C. 22kA MTG. SURFACE																	
	DESIGNATION			KW			WIRE SIZE	CIR NO.	BKR	A	B	C	BKR	CIR NO.	WIRE SIZE	KW			DESIGNATION						
				A	B	C										A	B	C							
	1/3	RECEPTACLE R3 – POWER CENTRE #2			2.880			10/2/10	1	20A	○				20A	2	12/6/12	1.920		RECEPTACLE R1 – POWER CENTRE #1			2		
	1/3	RECEPTACLE R4 – POWER CENTRE #2			2.880			10/2/10	3	20A					20A	4	12/6/12	1.920		RECEPTACLE R2 – POWER CENTRE #1			2		
	1/3	RECEPTACLE R5 – POWER CENTRE #2			2.880			10/2/10	5	20A			○			6									
	1/3	RECEPTACLE R6 – POWER CENTRE #3			2.880			10/2/10	7	20A					3P	8	12/4/12	2.984		DERRICK					
	1/3	RECEPTACLE R7 – POWER CENTRE #3			2.880			10/2/10	9	20A					40A	10									
	1/3	RECEPTACLE R8 – POWER CENTRE #3			2.880			10/2/10	11	20A						12			0.600	RECEPTACLES – ELECTRICAL SHED					
	1/3	RECEPTACLE R9 – POWER CENTRE #4			2.880			10/2/10	13	20A						14	0.170			LIGHTING – ELECTRICAL SHED					
	1/3	RECEPTACLE R10 – POWER CENTRE #4			2.880			10/2/10	15	20A						16			0.500	LIGHTING CONTACTOR					
	1/3	RECEPTACLE R11 – POWER CENTRE #4			2.880			10/2/10	17	20A						18			1.000	HEATER – ELECTRICAL SHED					
	1/3	RECEPTACLE R12 – POWER CENTRE #5			2.880			10/1/10	19	20A						20	0.050			EXHAUST FAN – 1/20 HP					
	1/3	RECEPTACLE R13 – POWER CENTRE #5			2.880			10/1/10	21	20A						22	12	0.750		RECEPTACLE FOR SUB-METERING					
	1/3	RECEPTACLE R14 – POWER CENTRE #5			2.880			10/1/10	23	20A	○					24									
1/3	RECEPTACLE R15 – POWER CENTRE #6			2.880			10/1/10	25	20A	○					26										
1/3	RECEPTACLE R16 – POWER CENTRE #6			2.880			10/1/10	27	20A	○					28										
															30										
															31										
															33										
															35										
															37										
															39										
															41										
ø "A" TOTAL 17535 WATTS																						NOTES:		1. 30A TWIST LOCK RECEPTACLE	
ø "B" TOTAL 18565 WATTS																								2. 20A GFCI T-SLOT RECEPTACLE	
ø "C" TOTAL 14115 WATTS																								3. CUSTOMER SUB-METERING INTERFACE	
																						FEEDER		4#3/0 MCM RW90 + 1#4 AWG RW90 GREEN BOND	
																								IN 53mm (2") EMT CONDUIT.	
TOTAL LOAD		50.215		KW		139.3829		AMPS		ø 208V, 3ø															

NOTES: 1. 30A TWIST LOCK RECEPTACLE  
2. 20A GFCI T-SLOT RECEPTACLE  
3. CUSTOMER SUB-METERING INTERFACE

FEEDER 4#3/0 MCM RW90 + 1#4 AWG RW90 GREEN BOND  
IN 53mm (2") EMT CONDUIT.

