

| SERVICE CALCULATION (CNC RULE 78) | | | | |
|---|---|------------|--------------------|--|
| ITEM # | DESCRIPTION | LOAD WATTS | TOTAL LOAD - WATTS | |
| 1 | DETERMINE LOADS | | | |
| 1-15-20R RECEPTACLES | 16A x 120V | 1,920 | 11,520 | |
| 6-15-30R RECEPTACLES | 24A x 120V | 2,880 | 17,280 | |
| 1-16-50R RECEPTACLE | 40A x 240V | 9,600 | 9,600 | |
| 1-PANEL SYSTEM | 40A x 240V | 9,600 | 9,600 | |
| 1-50A BUILDING RECEPT & LVS | 16A x 240V | 1,920 | 3,840 | |
| 10-391W LED LVS | | 391 | 3,910 | |
| 1-ELEC. BUILDING RECEPT & LVS | 16A x 120V | 1,920 | 15,360 | |
| 1-WELL PUMP 1HP | 8.4A x 240V | 2,016 | 2,016 | |
| 1-WINCH 30A, 240V | 24A x 240V | 5,760 | 5,760 | |
| | TOTAL CONNECTED LOAD | | 78,888 | |
| 2 | FEDDER LOADS | | | |
| 1. 4 HIGHEST RATED LOADS AT 100% | | | | |
| 1. 1-100A 2P R.A. BUILDING R13 (MAX LOAD 50%) | 1 x 40A x 240V x 100% | 9,600 | | |
| 2. 1-50A 2P RECEPT | 1 x 40A x 240V x 100% | 9,600 | | |
| 3. 1-50A 2P PUMP SYSTEM R14 | 1 x 40A x 240V x 100% | 9,600 | | |
| 4. 1-50A 2P RECEPT WINCH R15 | 1 x 40A x 240V x 100% | 9,600 | 38,400 | |
| 2 NEXT 4 HIGHEST RATED LOADS AT 65% | | | | |
| 1. 1-20A 2P WELL PUMP | 1 x 8.4A x 240V x 65% | 1,310 | | |
| 2. 3-30A 1P RECEPT R3,R4,R7 | 3 x 24A x 120V x 65% | 5,616 | 6,926 | |
| 3 NEXT 5 HIGHEST RATED LOADS AT 50% | | | | |
| 1. 3-30A 1P RECEPT R8,R11,R12 | 3 x 24A x 120V x 50% | 4,320 | | |
| 2. 2-20A 1P RECEPT R1,R2 | 2 x 16A x 120V x 50% | 1,920 | 6,240 | |
| 4 NEXT 16 HIGHEST RATED LOADS AT 25% | | | | |
| 1. 4-20A 1P RECEPT R5,R6,R9,R10 | 4 x 16A x 120V x 25% | 1,928 | 1,928 | |
| 5 10-391W LED LIGHTS EXISTING AT 100% | | 3,910 | 3,910 | |
| 5 10-391W LED LIGHTS & RECEPTACLES AT 50% | | 2,000 | 2,000 | |
| | TOTAL | | 59,404 | |
| 3 | ADD 25% SPARE CAPACITY FOR FUTURE LOADS | | 14,851 | |
| | TOTAL | | 74,255 | |
| 4 | DETERMINE SERVICE SIZE OF PANEL 'A' | | | |
| | 74,255W/240V = 309.40A x 1.25 = 387A | | | |
| | SERVICE FOR PANEL A TO BE 400A, 120/240V 1Ø 3 PLS | | | |
| | MINIMUM CONDUIT SIZE TABLE 2-75C-TABLE 16, D11A | | | |
| | 1 RUN OF 38500 MCM - 489A x 0.885 = 433A | | | |
| | DISTANCE FROM PANEL A TO ELECTRICAL SERVICE POLE IS 10 METERS | | | |
| | 400A 2P SERVICE RATED FOR 100% TAKING VOLTAGE DROP INTO CONSIDERATION AS PER TABLE D3 AT 2% | | | |
| | 1 RUN OF 38500 MCM IN 1Ø38M CONDUIT | | | |

SERVICE CALCULATION CALCUL DE SERVICE

SCALE : N.T.S.
ÉCHELLE : P. À É.

| CALCUL DES SERVICES (RÈGLEMENT 78 DU « CEC ») | | | | |
|--|--|--------------|---------------------|--|
| ITEM # | DESCRIPTION | CHARGE WATTS | CHARGE TOTALE WATTS | |
| 1 | CHARGES, À DÉTERMINER. | | | |
| 1-15-20R RECEPTACLES | 16A x 120V | 1,920 | 11,520 | |
| 6-15-30R RECEPTACLES | 24A x 120V | 2,880 | 17,280 | |
| 1-16-50R RECEPTACLE | 40A x 240V | 9,600 | 9,600 | |
| 1-SYSTEME DE CARBURANT | 40A x 240V | 9,600 | 9,600 | |
| 1-RECEPT BATIMENT AP & LUM | 16A x 240V | 1,920 | 3,840 | |
| 10-391W DEL LUM | | 391 | 3,910 | |
| 1-BATIMENT RECEPT & LI | 16A x 120V | 1,920 | 15,360 | |
| 1-POMPE PUIT 1 CV | 8.4A x 240V | 2,016 | 2,016 | |
| 1-TREUIL 30A, 240V | 24A x 240V | 5,760 | 5,760 | |
| | CHARGE TOTALE BRANCHÉE | | | |
| 2 | CHARGES D'ARTÈRES | | | |
| 1. 4 PRISES DE COURANT, CALIBRÉES EN FONCTION DES PLUS GRANDES VALEURS ET CE, À 100 P. 100 | 1 x 40A x 240V x 100% | 9,600 | | |
| 1. 1-100A 2P BATIMENT AP R13 (MAX LOAD 50%) | 1 x 40A x 240V x 100% | 9,600 | | |
| 2. 1-50A 2P RECEPT | 1 x 40A x 240V x 100% | 9,600 | | |
| 3. 1-50A 2P SYSTEME CARR R14 | 1 x 40A x 240V x 100% | 9,600 | | |
| 4. 1-50A 2P RECEPT TREUIL R15 | 1 x 40A x 240V x 100% | 9,600 | 38,400 | |
| 2.4 PROCHAINES PRISES DE COURANT, CALIBRÉES EN FONCTION DES PLUS GRANDES VALEURS ET CE, À 65 P. 100 | 1 x 8.4A x 240V x 65% | 1,310 | | |
| 2. 3-30A 1P RECEPT R3,R4,R7 | 3 x 24A x 120V x 65% | 5,616 | 6,926 | |
| 3.5 PROCHAINES PRISES DE COURANT, CALIBRÉES EN FONCTION DES PLUS GRANDES VALEURS ET CE, À 50 P. 100 | 3 x 24A x 120V x 50% | 4,320 | | |
| 1. 3-30A 1P RECEPT R8,R11,R12 | 3 x 24A x 120V x 50% | 4,320 | 6,240 | |
| 2. 2-20A 1P RECEPT R1,R2 | 2 x 16A x 120V x 50% | 1,920 | | |
| 4.16 PROCHAINES PRISES DE COURANT, CALIBRÉES EN FONCTION DES PLUS GRANDES VALEURS ET CE, À 25 P. 100 | 4 x 16A x 120V x 25% | 1,928 | 1,928 | |
| 1. 4-20A 1P RECEPT R5,R6,R9,R10 | 4 x 16A x 120V x 25% | 1,928 | | |
| 5 10-391W LUMINAIRES DEL À 100% | | 3,910 | 3,910 | |
| 5 10-391W LUMINAIRES DEL & RECEPTACLES À 50% | | 2,000 | 2,000 | |
| | TOTAL | | 59,404 | |
| 3 | RAJOUT D'UNE CAPACITÉ D'UTILISATION ÉVENTUELLE ET CE, À 25 P. 100 | | 14,851 | |
| | TOTAL | | 74,255 | |
| 4 | DÉTERMINER LA GROSSEUR D'UN SERVICE PANNEAU 'A' | | | |
| | 74,255W/240V = 309.40A x 1.25 = 387A | | | |
| | SERVICE POUR PANNEAU 'A' À ÊTRE DE 400A, 120/240V 1Ø 3 PLS | | | |
| | GROSSEUR DE FIL MINIMUM - TABLE 2 - 75C - TABLE 16, D11A | | | |
| | 1 LONG DE 38500 MCM - 489A x 0.885 = 433A | | | |
| | DISTANCE DU PANNEAU 'A' AU POTEAU DE SERVICE EXISTANT, EST 10 MÈTRES | | | |
| | SERVICE 400A 2P COTÉ POUR 100% EN PRENANT EN CONSIDÉRATION LA CHUTE DE TENSION TEL QUE DÉCRIT À LA TABLE D3 À 2% | | | |
| | 1 LONGUEUR DE 38500 MCM DANS CONDUIT PVC DE 1Ø3 RM | | | |

| PANEL A | | | | | | | | | | ELECTRICAL ROOM | |
|------------------------------------|---------|-----|----|-------|---------|-----|----|-------|---------|-----------------------------------|---------------------------------------|
| POWER SUPPLY: 120/240V, 1PH, 3W | | | | | | | | | | | |
| MAINS: 400A | | | | | | | | | | | |
| NUMBER OF CCTS: 84 | | | | | | | | | | | |
| DESCRIPTION | WATTAGE | | # | PHASE | CIRCUIT | AMP | # | PHASE | WATTAGE | | DESCRIPTION |
| | A | B | | | | | | | A | B | |
| LIGHT POLE-L1-1 | 782 | | 1 | 15 | 1 | a | 2 | 1 | 1920 | | LIGHT POLE-L1 - 20A TL GRF RECEPT R1 |
| LIGHT POLE-L1-2 | | 782 | 1 | 15 | 3 | b | 4 | 20 | 1 | 1920 | LIGHT POLE-L1 - 20A TL GRF RECEPT R2 |
| LIGHT POLE-L1-3 | 361 | | 1 | 15 | 5 | a | 8 | 30 | 1 | 2880 | LIGHT POLE-L1 - 30A TL RECEPT R3 |
| LIGHT POLE-L1-2 | | 361 | 1 | 15 | 7 | b | 8 | 30 | 1 | 2880 | LIGHT POLE-L1 - 30A TL RECEPT R4 |
| LIGHT POLE-L1-1 | 782 | | 1 | 15 | 9 | a | 10 | 20 | 1 | 1920 | LIGHT POLE-L2 - 20A TL GRF RECEPT R5 |
| LIGHT POLE-L1-2 | | 782 | 1 | 15 | 11 | b | 12 | 20 | 1 | 1920 | LIGHT POLE-L2 - 20A TL GRF RECEPT R6 |
| LIGHTS - EXTERIOR WALL | 219 | | 1 | 15 | 13 | a | 14 | 30 | 1 | 2880 | LIGHT POLE-L2 - 30A TL RECEPT R7 |
| LIGHTS - ELCTC STORAGE RM | | 81 | 1 | 15 | 15 | b | 16 | 30 | 1 | 2880 | LIGHT POLE-L2 - 30A TL RECEPT R8 |
| SPARE | | | 1 | 15 | 17 | a | 18 | 20 | 1 | 1920 | LIGHT POLE-L3 - 20A TL GRF RECEPT R9 |
| SPARE | | | 1 | 15 | 19 | b | 20 | 20 | 1 | 1920 | LIGHT POLE-L3 - 20A TL GRF RECEPT R10 |
| SPARE | | | 1 | 15 | 21 | a | 22 | 30 | 1 | 2880 | LIGHT POLE-L3 - 30A TL RECEPT R11 |
| PHOTOCELL CONTACT TIME CLOCK | 100 | 1 | 15 | 23 | b | 24 | 30 | 1 | 2880 | LIGHT POLE-L3 - 30A TL RECEPT R12 | |
| | | | | 25 | a | 26 | 20 | 1 | 480 | | RECEPTS - ELECTRICAL RM |
| | | | | 27 | b | 28 | 20 | 1 | 480 | | RECEPTS - STORAGE RM |
| | | | | 29 | a | 30 | 20 | 1 | 120 | | RECEPT - EXTERIOR ELEC. RM |
| | | | | 31 | b | 32 | 30 | 1 | | | SPARE |
| | | | | 33 | a | 34 | 20 | 1 | | | SPARE |
| | | | | 35 | b | 36 | 20 | 20 | 1 | | SPARE |
| | | | | 37 | a | 38 | 30 | 1 | | | SPARE |
| | | | | 39 | b | 40 | 30 | 1 | | | SPARE |
| | | | | 41 | a | 42 | 20 | 1 | | | SPARE |
| | | | | 43 | b | 44 | 20 | 1 | | | SPARE |
| | | | | 45 | a | 46 | 20 | 1 | | | SPARE |
| | | | | 47 | b | 48 | 20 | 1 | | | SPARE |
| | | | | 49 | a | 50 | 50 | 2 | 4800 | | BOAT RAMF RECEPT R13 |
| | | | | 51 | b | 52 | 50 | 2 | 4800 | 4800 | 50A, 120/240V, 1ø, 4W |
| | | | | 53 | a | 54 | 50 | 2 | 4800 | | RUB. SYSTEM RECEPT R14 |
| | | | | 55 | b | 56 | 50 | 2 | 4800 | 4800 | 50A, 120/240V, 1ø, 4W |
| | | | | 57 | a | 58 | 30 | 2 | 2880 | | WINCH RECEPT R15 |
| | | | | 59 | b | 60 | 30 | 2 | 2880 | 2880 | 30A, 120/240V, 1ø, 4W |
| | | | | 61 | a | 62 | 20 | 2 | 1008 | | SUBMERSIBLE WATER PUMP |
| | | | | 63 | b | 64 | 20 | 2 | 1008 | 1008 | 1HP, 8 A4, 240V |
| | | | | 65 | a | 66 | | | | | |
| | | | | 67 | b | 68 | | | | | |
| | | | | 69 | a | 70 | | | | | |
| | | | | 71 | b | 72 | | | 100 | 2000 | |
| | | | | 73 | a | 74 | | | | 2000 | H.A. BUILDING PANEL 'B' |
| | | | | 75 | b | 76 | | | | | |
| | | | | 77 | a | 78 | | | | | |
| | | | | 79 | b | 80 | | | | | |
| | | | | 81 | a | 82 | | | | | |
| | | | | 83 | b | 84 | | | | | |
| PHASE LOADS: 2174 2136 30488 30088 | | | | | | | | | | | |
| TOTAL LOAD: 65198 | | | | | | | | | | | |
| TOTAL PHASE LOADS: 30890 32504 | | | | | | | | | | | |
| +/- 5% 31031 34212 | | | | | | | | | | | |
| CURRENT (IA) @ 208V 3131 | | | | | | | | | | | |

(-) - EXISTING CIRCUIT RECONNECTED

(GR) - GROUND FAULT INTERRUPT BREAKER

(-) - LOCKING BREAKER