

SITE PLAN NOTES:

S1) ELECTRICAL CONTRACTOR SHALL ROUTE ALL UNDERGROUND CONDUCTORS ACCORDING TO DETAILS. CONFIRM ON SITE WITH OWNER EXACT ROUTING OF UNDERGROUND CONDUCTORS.

52) ELECTRICAL CONTRACTOR SHALL PROVIDE FROST FREE CONCRETE PAD FOR GENERATOR. CONFIRM ON SITE WITH OWNER EXACT LOCATION OF GENERATOR PAD.

§3) ELECTRICAL CONTRACTOR SHALL PROVIDE BONDING BACK TO MAIN SYSTEM GROUND.

S4 ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING SERVICE INCLUDING BUT NOT LIMITED TO MAIN PANEL AND DISCONNECT IN GARAGE AS SHOWN ON SITE PLAN AND SINGLE LINE DIAGRAM. ELECTRICAL CONTRACTOR TO REPLACE EQUIPMENT WITH NEW EQUIPMENT RATED FOR 600A. REFER TO SINGLE LINE DEMOLITION AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.

S5 NEW HYDRO POLE SHOWN IN APPROX AREA. HYDRO ONE TO PROVIDE WOODEN HYDRO POLE. CONFIRM WITH HYDRO ONE ALL REQUIREMENTS FOR SERVICE INTO BUILDING. SERVICE INTO BUILDING SHALL BE ON A SEPARATE METER FROM CENTRAL

S6 CONFIRM COMMUNICATIONS ROUTING FROM EFFLUENT
TREATMENT BUILDING TO NEW BUILDING. COMMUNICATIONS
CONTRACTOR SHALL PROVIDE COMMUNICATION CABLING



NOTE TO USER: DO NOT SCALE DRAWINGS. ALL DRAWINGS REMAIN THE PROPERTY OF ROMBALD INC. AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT WRITTEN PERMISSION.





 $\mathbf S$ YSTEMS INC.extstyle -**BIOENGINEERING TECHNOLOGIES & BUSINESS MANAGEMENT SOLUTIONS** 

| 5 | 09/18/23                      |          |
|---|-------------------------------|----------|
| 4 | ISSUED FOR HYDRO COORDINATION | 07/06/23 |
| 3 | ISSUED FOR REVIEW             | 07/06/23 |
| 2 | ISSUED FOR REVIEW             | 06/05/23 |
| 1 | ISSUED FOR REVIEW             | 05/23/23 |
| # | DESCRIPTION                   | MM/DD/YY |
|   | <u> </u>                      |          |

#### CODRINGTON RESEARCH **FACILITY**

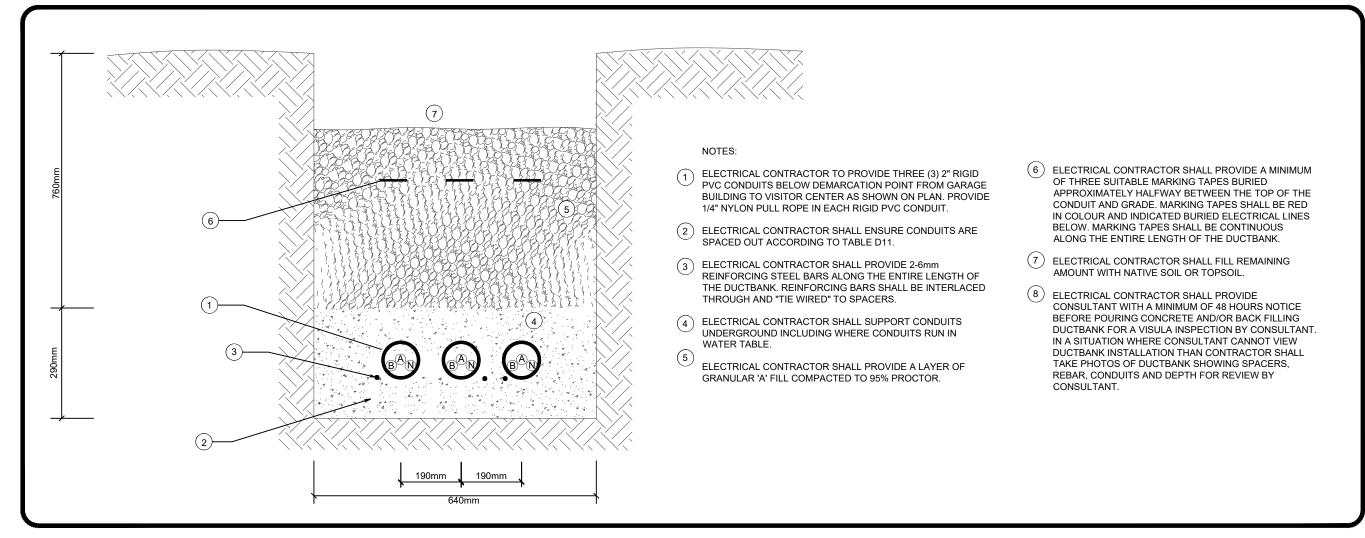
15 FISH HATCHERY RD CODRINGTON, ON

# ELECTRICAL SITE PLAN

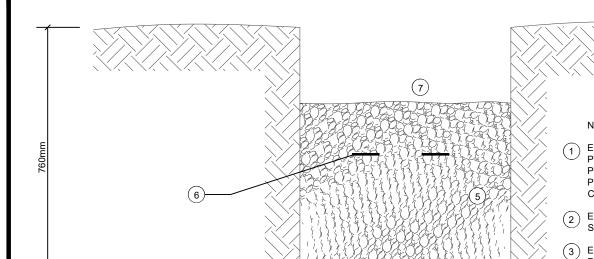
| DRAWN BY:         | CHECKED | BY:         | APPROVED BY: |  |
|-------------------|---------|-------------|--------------|--|
| N. RUTTAN M. KRZE |         | MINSKI      | B. WIRZBA    |  |
| SCALE:            |         | SHEET SIZE: |              |  |
| AS NOTED          | )       | ARCH D      |              |  |
| PROJECT #:        |         | SHEET #:    |              |  |

22-250

ES.1



1 POWER DUCTBANK DETAIL
ES.2 NTS



#### NOTES:

- 1 ELECTRICAL CONTRACTOR TO PROVIDE TWO (2) 2" RIGID PVC CONDUITS BELOW DEMARCATION POINT FROM HYDRO POLE TO EXISTING SINGLE STOREY BUILDING AS SHOWN ON PLAN. PROVIDE 1/4" NYLON PULL ROPE IN EACH RIGID PVC
- 2) ELECTRICAL CONTRACTOR SHALL ENSURE CONDUITS ARE
- SPACED OUT ACCORDING TO TABLE D11.

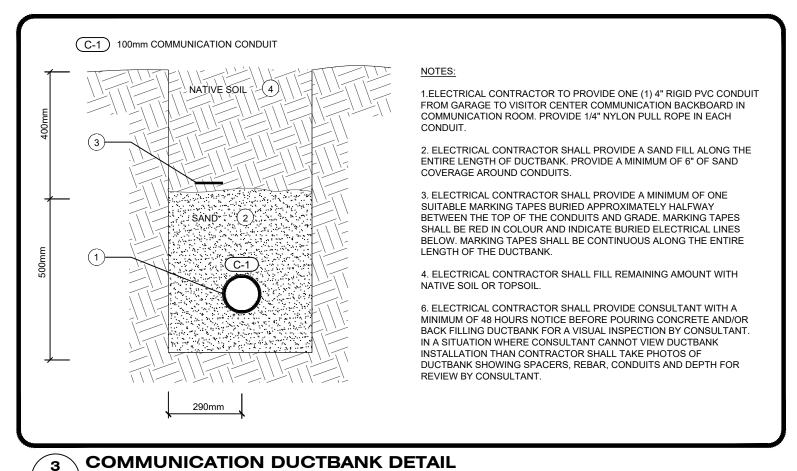
  3 ELECTRICAL CONTRACTOR SHALL PROVIDE 2-6mm
  REINFORCING STEEL BARS ALONG THE ENTIRE LENGTH OF
  THE DUCTBANK. REINFORCING BARS SHALL BE INTERLACED
- (4) ELECTRICAL CONTRACTOR SHALL PROVIDE A LAYER OF SAND FILL.

THROUGH AND "TIE WIRED" TO SPACERS.

- (5) ELECTRICAL CONTRACTOR SHALL PROVIDE A LAYER OF GRANULAR 'A' FILL COMPACTED TO 95% PROCTOR.
- 6 ELECTRICAL CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO SUITABLE MARKING TAPES BURIED APPROXIMATELY HALFWAY BETWEEN THE TOP OF THE CONDUIT AND GRADE. MARKING TAPES SHALL BE RED IN COLOUR AND INDICATED BURIED ELECTRICAL LINES BELOW. MARKING TAPES SHALL BE CONTINUOUS ALONG THE ENTIRE LENGTH OF THE DUCTBANK.
- 7 ELECTRICAL CONTRACTOR SHALL FILL REMAINING AMOUNT WITH NATIVE SOIL OR TOPSOIL.
- 8 ELECTRICAL CONTRACTOR SHALL PROVIDE CONSULTANT WITH A MINIMUM OF 48 HOURS NOTICE BEFORE POURING CONCRETE AND/OR BACK FILLING DUCTBANK FOR A VISULA INSPECTION BY CONSULTANT. IN A SITUATION WHERE CONSULTANT CANNOT VIEW DUCTBANK INSTALLATION THAN CONTRACTOR SHALL TAKE PHOTOS OF DUCTBANK SHOWING SPACERS, REBAR, CONDUITS AND DEPTH FOR REVIEW BY

POWER DUCTBANK DETAIL

FS 2 NTS



190mm

3 COMMUNICATION DOCTBANK DETAIL

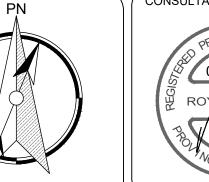
ES.2 NTS



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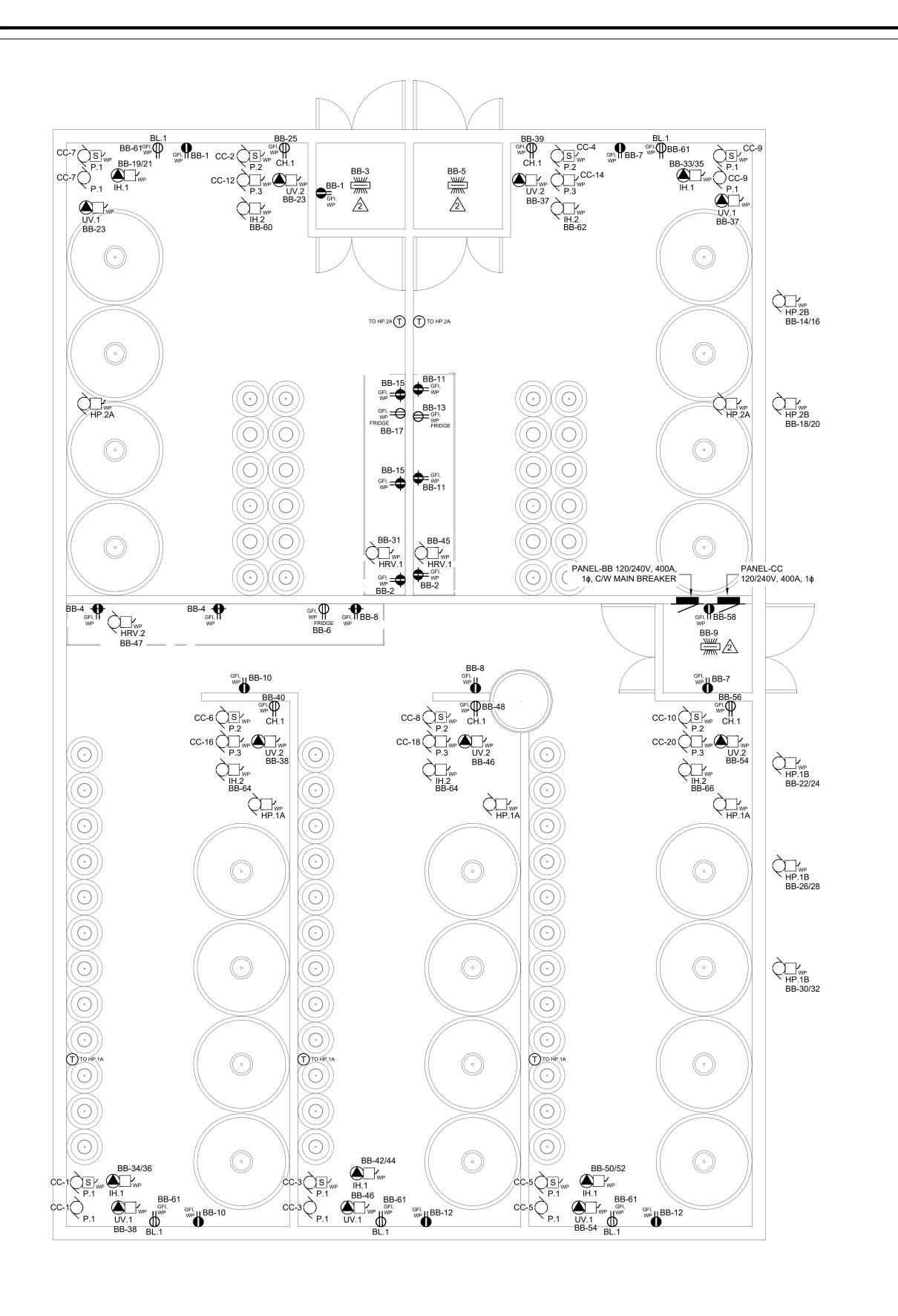
# CODRINGTON RESEARCH FACILITY

15 FISH HATCHERY RD CODRINGTON, ON

PAWING TITI

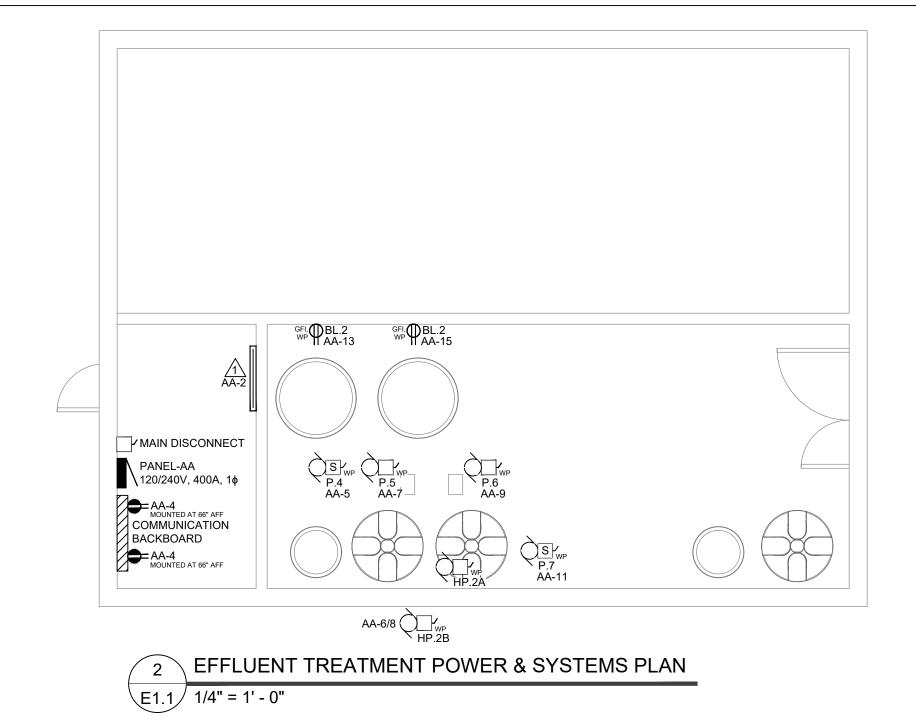
# ELECTRICAL SITE DUCTBANK DETAILS

| 22-250            |                     | ES.         | 2            |  |
|-------------------|---------------------|-------------|--------------|--|
| PROJECT #:        |                     | SHEET #:    |              |  |
| AS NOTED          |                     | ARC         | H D          |  |
| SCALE:            |                     | SHEET SIZE: |              |  |
| N. RUTTAN M. KRZE |                     | MINSKI      | B. WIRZBA    |  |
| DRAWN BY:         | DRAWN BY: CHECKED I |             | APPROVED BY: |  |
|                   |                     |             |              |  |



POWER & SYSTEMS PLAN

E1.1 1/4" = 1' - 0"



#### **POWER & SYSTEM NOTES:**

P1 ELECTRICAL CONTRACTOR SHALL PROVIDE TELECOMMUNICATION GROUNDING BUSBARS AT COMMUNICATIONS BACKBOARD. PROVIDE BONDING OF MAIN BACKBOARD AS PER DETAILS. MAIN BACKBOARD TO BE CONNECTED TO MAIN BUILDING GROUND.

- P2 ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EXISTING BREAKERS WILL WORK IN CONJUNCTION WITH NEW PANEL-G. IF BREAKERS WILL NOT FIT IN NEW PANEL THAN ELECTRICAL CONTRACTOR TO PROVIDE NEW BREAKERS FOR PANEL-G FOR ALL BREAKERS LABELLED AS EXISTING BREAKER.
- P3 ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING SERVICE INCLUDING BUT NOT LIMITED TO MAIN PANEL AND DISCONNECT IN GARAGE AS SHOWN ON SITE PLAN AND SINGLE LINE DIAGRAM. ELECTRICAL CONTRACTOR TO REPLACE EQUIPMENT WITH NEW EQUIPMENT RATED FOR 600A. REFER TO SINGLE LINE DEMOLITION AND SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
- P4 ELECTRICAL CONTRACTOR SHALL CONFIRM ALL REQUIREMENTS WITH HYDRO ONE FOR SERVICE UPGRADE. CONFIRM WITH HYDRO
- ONE POLE MOUNTED TRANSFORMER UPGRADE. P5 ELECTRICAL CONTACTOR SHALL INSTALL ALL EQUIPMENT IN TANK ROOM ACCORDING TO SECTION 22-800 AND 22-808 OF THE 2021

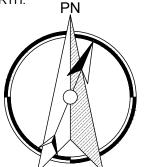
ONTARIO ELECTRICAL CODE BOOK.

FOR WEATHER TIGHT INSTALLATIONS.

- P6 ELECTRICAL CONTRACTOR SHALL PROVIDE WEATHER TIGHT INSTALLATIONS IN ALL LOCATIONS SHOWN ON FLOOR PLANS. A WEATHER TIGHT INSTALLATION INCLUDES BUT IS NOT LIMITED TO PVC CONDUIT FOR ALL CONDUCTOR RUNS, WEATHER PROOF BOXES AND ENCLOSURES FOR ALL ELECTRICAL DEVICES. ELECTRICAL CONTACTOR SHALL FOLLOW OESC-2021 SECTION 22
- P7) ELECTRICAL CONTRACTOR SHALL CONFIRM WITH MECHANICAL CONTRACTOR ALL MECHANICAL CONTROLS AND ALARMS PRIOR
- P8 ELECTRICAL CONTRACTOR SHALL PROVIDE A WEATHER PROOF NEMA 4 RATED BOX FOR WIFI ROUTER. CONFIRM ON SITE WITH OWNER EXACT LOCATION AND REQUIREMENTS FOR ROUTER. ELECTRICAL CONTRACTOR SHALL ENSURE
- P9 ALL WIRING THROUGHOUT SPACE SHALL BE INSTALLED IN PVC. PVC SHALL BE ROUTED TO AVOID ALL INTERFERENCES WITH MECHANICAL PIPES. CONFIRM ON SITE WITH MECHANICAL CONTRACTOR ALL PIPE LOCATIONS.
- P10 ELECTRICAL CONTRACTOR SHALL PROVIDE GROUNDING FOR COMMUNICATION BACKBOARD BACK TO MAIN COMMUNICATION
- (P11) CONFIRM EXACT WALL BOX LOCATIONS FOR THERMOSTATS ALL THERMOSTATS SHALL BE EQUIPPED WITH SINGLE GANG BOX AND 16mm PVC CONDUIT C/W PULL STRING.
- P12 ELECTRICAL CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EQUIPMENT DISCONNECTS WITH MECHANICAL CONTRACTOR AND TANK LOCATIONS. ALL DISCONNECTS SHALL MEET OESC 2021 REQUIREMENTS.
- P13 ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS FOR PUMPS ACCORDING TO MECHANICAL EQUIPMENT SCHEDULE. CONFIRM WITH MANUFACTURE AND MECHANICAL CONTRACTOR ALL REQUIREMENTS FOR COMPLETE PUMP INSTALLATIONS.



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## CODRINGTON RESEARCH **FACILITY**

15 FISH HATCHERY RD CODRINGTON, ON

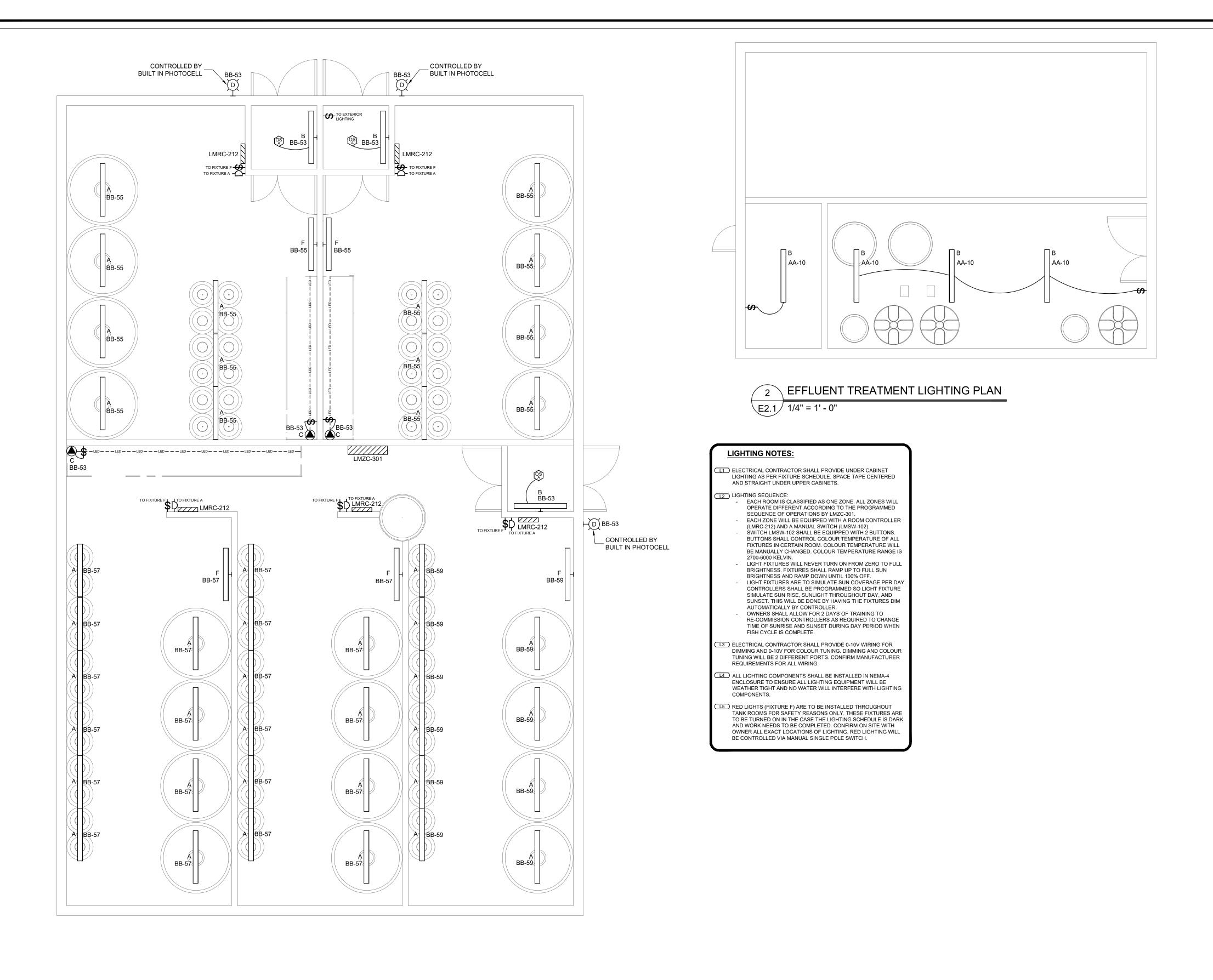
# POWER & SYSTEMS PLANS

| AS NOTED  | )          | ARCH D     |              |
|-----------|------------|------------|--------------|
| SCALE:    |            | SHFFT SIZI | <u> </u>     |
| N. RUTTAN | M. KRZE    | MINSKI     | B. WIRZBA    |
| DRAWN BY: | CHECKED    | BY:        | APPROVED BY: |
| DDAWN BV: | CHECKED BA |            | ADDDOVED BV: |

SHEET #:

ASINOTED PROJECT #:

E1.1 22-250

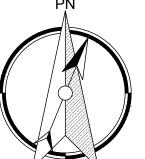


\ LIGHTING PLAN



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|   |                               |          |

### CODRINGTON RESEARCH FACILITY

15 FISH HATCHERY RD CODRINGTON, ON

DRAWING TITLE

# LIGHTING PLANS

| DRAWN BY: CHECKED I |           | APPROVED BY:                                 |
|---------------------|-----------|--|
| N. RUTTAN M. KRZE   |           | B. WIRZBA                                    |
|                     | SHEET SIZ | E:   |
| )                   | ARC       | H D  |
|                     | M. KRZE   | CHECKED BY:  M. KRZEMINSKI  SHEET SIZE  ARCH |

SHEET #:

22-250

60 | E2.

| SYMBOL              | DESCRIPTION  | MTD. HEIG |
|---------------------|--|-----------|
| OTWIDOL             | LIGHTING DEVICES   | WI DITIE  |
| HAA HA              | LIGHT FIXTURE ( WALL MOUNTED TYPE AS PER SCHEDULE )          |           |
| A                   | LIGHT FIXTURE ( CEILING OR SUSPENDED MOUNTED TYPE AS PER SCI | HEDULE )  |
|                     | LIGHT FIXTURE ( CEILING OR SUSPENDED MOUNTED TYPE AS PER SCI | HEDULE )  |
|                     | LIGHTING CONTROL DEVICES                                     |           |
| \$                  | COMMERCIAL GRADE SINGLE-POLE SWITCH 15 AMP                   | 1050mr    |
| <u> </u>            | TUNABLE WHITE SWITCH - LMSW-102                              | 1050mr    |
|                     | OCCUPANCY SENSOR - DT-355                                    | N/A       |
| ·                   | POWER DEVICES  |           |
| <del></del>         | RECEPTACLE- COUNTERTOP (ABOVE BACKSPLASH OR COUNTER)         | 175mm     |
| ₩ GFI               | RECEPTACLE - GROUND FAULT INTERRUPTER                        | 400mm     |
| •                   | RECEPTACLE - 20 AMP T-SLOT                                   | 400mm     |
|                     | DIRECT CONNECTION  | N/A       |
| <i>\( \)</i>        | MOTOR  | N/A       |
| s s/                | STARTER & STARTER/DISCONNECT COMBO                           | TBC       |
|                     | DISCONNECT & FUSED DISCONNECT                                | TBC       |
| RP-A                | DISTRIBUTION PANEL - RECESSED (TO TOP)                       | 1900mi    |
| RP-A                | DISTRIBUTION PANEL - SURFACE MOUNTED (TO TOP)                | 1900mi    |
|                     | CEILING MOUNTED FAN-FORCED HEATER (SIZE AS NOTED)            | N/A       |
|                     | WALL MOUNTED FAN-FORCED HEATER (SIZE AS NOTED) TO BOTTOM     | 100mm     |
|                     | BASEBOARD HEATER (SIZE AS NOTED)                             | 50mm      |
| SP                  | SPEED CONTROL  | 1150m     |
| $\langle T \rangle$ | LINE VOLTAGE THERMOSTAT - 120V                               | MECH      |
| $R_{T}$             | REVERSE ACTING LINE VOLTAGE THERMOSTAT - 120V                | MECH      |
| T                   | LOW VOLTAGE THERMOSTAT                                       | MECH      |
| JB                  | JUNCTION BOX   | ТВС       |

| TBR | TO BE REMOVED             | REL | RELOCATED                      |
|-----|---------------------------|-----|--------------------------------|
| EXR | EXISTING TO REMAIN        | RAR | REMOVE AND RE-INSTALL EXISTING |
| CTE | CONNECT TO EXISTING       | AFF | ABOVE FINISHED FLOOR           |
| O/H | OVERHEAD                  | AGF | ABOVE GROUND FLOOR             |
| AFG | ABOVE FINISHED GRADE      | U/F | UNDER FLOOR                    |
| RPL | REPLACE EXISTING WITH NEW | U/G | UNDER GROUND                   |
|     |                           |     |                                |

#### DRAWING IDENTIFIERS

P6 NOTE TAG IDENTIFIER REFRIGERATION SYSTEM TAG (11.11) EQUIPMENT I.D. TAG

#### **CONDUIT & TRAY TYPES**

| U/G         | UNDERGROUND CONDUIT (SIZE AS PER PLAN) |
|-------------|--|
| O/H         | OVERHEAD CONDUIT (SIZE AS PER PLAN)    |
| ሁ           | CONDUIT STUB DOWN                      |
| •           | CONDUIT STUB UP                        |
| Ъ           | CONDUIT CAP OFF                        |
| 7           | CONDUIT CONTINUATION                   |
| DISCLAIMER: |  |

2. DEVICE MOUNTING HEIGHTS TO CENTRE-LINE OF DEVICES UNLESS OTHERWISE NOTED ON PLANS. CONFIRM ALL MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS

PRIOR TO INSTALLATION. NOTIFY CONSULTANT OF ANY DISCREPANCIES.

1. CONDUIT TYPES AS NOTED ON DRAWING

#### **GENERAL CONDITIONS:**

- THE CANADIAN STANDARD FORM OF CONSTRUCTION CONTRACT AND GENERAL CONDITIONS GOVERNING THE SAME CCDC ARTICLES 1 TO 45 INCLUSIVE ARE HEREBY MADE A PART OF THIS SPECIFICATION.
- ALL WORK SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO ELECTRICAL CODE, LOCAL POWER COMMISSION AND THE LOCAL INSPECTION DEPARTMENT REQUIREMENTS.
- ELECTRICAL CONTRACTOR SHALL INCLUDE FOR GENERAL ESA FEES. ELECTRICAL CONSULTANT WILL BE RESPONSIBLE FOR ANY ASSOCIATED FEES FOR THE ESA PLAN REVIEW.

THIS CONTRACTOR SHALL MAINTAIN ADEQUATE LIABILITY

- ALL WORKMANSHIP SHALL BE EXECUTED TO A STANDARD DETERMINED BY GOOD PRACTICE. THE ELECTRICAL CONTRACTOR SHALL GUARANTEE THE INSTALLATION FOR ONE
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ELECTRIC SHOP DRAWINGS TO THE ENGINEER. MATERIALS SHALL NOT BE ORDERED UNTIL REVIEW HAS BEEN COMPLETED. APPROVAL IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY.
- THE OWNERS RESERVE THE RIGHT TO ALTER THE LOCATION OF ANY ITEM UP TO TEN (10) FEET (3M) WITHOUT INCURRING AN EXTRA COST, PROVIDED HE DOES SO BEFORE THE ITEM IS INSTALLED.
- ALL MATERIAL AND EQUIPMENT USED ON THIS PROJECT SHALL BE C.S.A. APPROVED.
- THE CUTTING AND PATCHING FOR ELECTRICAL WORK SHALL BE DONE BY THE GENERAL CONTRACTOR AT THE ELECTRICAL
- . THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE

CONTRACTOR'S EXPENSE.

- SUBMITTING HIS TENDER PRICE. I. ALL DIMENSIONS SHALL BE TAKEN FROM THE ARCHITECTURAL
- DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL LABOUR AND MATERIALS TO PROVIDE ELECTRIC SERVICE COMPLETE WITH ALL BRANCH CIRCUITS AND FINAL CONNECTIONS TO ALL ELECTRICAL
- . SEE DESIGNER DRAWINGS FOR MOUNTING HEIGHTS

EQUIPMENT AS SHOWN ON PLANS.

- 4. PROVIDE LABELLING OF ALL ELECTRICAL DEVICES AND EQUIPMENT.
- ALL COMMUNICATION CABLING AND CONTROL WIRING SHALL BE FT-6 (CMP) RATED RUNNING THROUGH RETURN AIR PLENUM. COMMUNICATION CABLING AND CONTROL WIRING SHALL BE FT-4 (CMR) RATED RUNNING THROUGH CEILING SPACE NOT BEING USED AS A RETURN PLENUM OR COMPLETELY IN CONDUIT FROM END TO END.
- 6. ELECTRICAL CONTRACTOR SHALL COORDINATE AND FACILITATE ALL POWER AND COMMUNICATION SERVICING TO BUILDING. COORDINATE WITH LOCAL PUC AND COMMUNICATION VENDORS AS REQUIRED. ALL COORDINATION SHALL BE COMPLETED PRIOR TO INSTALLATION OF CONDUITS/EQUIPMENT. NOTIFY CONSULTANT OF ANY DISCREPANCIES.
- THE FOLLOWING DOCUMENTS ARE REQUIRED TO BE SUBMITTED BY THE ELECTRICAL CONTRACTOR TO THE ELECTRICAL CONSULTANT WHERE APPLICABLE. THE DOCUMENTS SHALL BE SUBMITTED AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL CLOSEOUT DOCUMENTATION IS ISSUED FROM THE CONSULTANT.
- 17.2. TRANSFER SWITCH TESTING REPORT 17.3. GENERATOR TESTING REPORT

17.1. ESA FINAL CERTIFICATE

#### **GENERAL POWER & SYSTEM NOTES:**

- ALL EXPOSED EMT CONDUITS ROUTING SHALL BE ROUTED NEATLY AND INLINE WITH BUILDING GRID LINES C/W 90 DEGREE BENDS, WHERE POSSIBLE, ROUTE MOST CONDUIT AT PERIMETER AREAS AND OUT OF SIGHT. MINIMIZE EXPOSED CONDUIT RUNS THROUGH THE CENTER CEILING SPACE UNLESS
- REQUIRED FOR CONNECTION TO EQUIPMENT. ELECTRICAL CONTRACTOR SHALL PROVIDE AN APPROVED WET LOCATION "IN-USE" HEAVY DUTY COVER PLATE EQUIVALENT TO INTERMATIC PART #WP1000HGC.
- ELECTRICAL CONTRACTOR SHALL PROVIDE PULL STRINGS FOR ALL EMPTY CONDUITS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE LABELLING OF ALL ELECTRICAL DEVICES AND EQUIPMENT.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED FIRE STOPPING FOR ALL FIRE RATED ASSEMBLY PENETRATIONS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE NEW ELECTRICAL PANELS AND BREAKERS ACCORDING TO PANEL SCHEDULE AND DISTRIBUTION SINGLE-LINE DETAIL.
- ELECTRICAL BOXES ON EXTERIOR WALLS AND ROOFTOP PENETRATIONS SHALL BE SUITABLE FOR A VAPOUR BARRIER INSTALLATION.
- ELECTRICAL CONTRACTOR TO COORDINATE ALL MECHANICAL EQUIPMENT LOCATIONS AND THEIR RESPECTIVE CHARACTERISTICS WITH THE MECHANICAL CONTRACTOR ON SITE PRIOR TO ROUGH-IN. NOTIFY ELECTRICAL CONSULTANT OF ANY DISCREPANCIES BETWEEN TENDER INFORMATION AND MECHANICAL EQUIPMENT.

#### **GENERAL LIGHTING NOTES:**

- ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL LIGHTING CIRCUITS SHALL HAVE SEPARATE NEUTRALS.
- NOTE THAT THE MOUNTING HEIGHTS OF THE SUSPENDED AND WALL MOUNTED FIXTURES DENOTE THE HEIGHT OF THE BOTTOM OF THE FIXTURE FROM FINISHED FLOOR. COORDINATE MOUNTING HEIGHT OF WALL FIXTURES ONSITE.

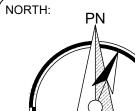
| ELECTRIC HEATER SCHEDULE |              |       |                     |         |         |       |  |
|--------------------------|--------------|-------|---------------------|---------|---------|-------|--|
| TYPE                     | MANUFACTURER | MODEL | CATALOGUE<br>NUMBER | WATTAGE | VOLTAGE | PHASE | REMARKS                                  |
| A                        | STELPRO      | BRAVA | B1001+SIBT1         | 1000W   | 120V    | 1     | PROVIDE BUILT-IN T'STAT FINISH BY OWNER. |
| 2                        | STELPRO      | CF    | CF1501T             | 1500W   | 120V    | 1     | PROVIDE BUILT-IN T'STAT FINISH BY OWNER. |

| $\bigcap$ |             |                  |                                    |                             | FIXT       | JRE SC       | HEDU     | LE                 |  |                          |                  |
|-----------|-------------|------------------|------------------------------------|-----------------------------|------------|--------------|----------|--------------------|--|--------------------------|------------------|
| TYPE      | MANUFACTURE | MODEL            | CATALOGUE<br>NUMBER                | NUMBER AND TYPE<br>OF LAMPS | LAMP COLOR | VOLTAGE      | MOUNTING | MOUNTING<br>HEIGHT | REMARKS  | ALTERNATE<br>MANUFACTURE | TYPICAL LOCATION |
| Α         | VISCOR      | CRV              | CRV48-LED82765KT050LUNV            | 41W LED                     | TUNNABLE   | 120V         | SURFACE  | N/A                | TUNNABLE WHITE FIXTURE. AUTOMATIC DIMMING            | NOT ACCEPTED             | TANKS            |
| В         | VISCOR      | LCOM             | LCOMN48-LED840K040LUNV             | 31W LED                     | 4000K      | 120V         | WALL     | 8' 0" AFF          | CONFIRM MOUNTING ON SITE WITH OWNER                  | -                        | BACK OF HOUSE    |
| С         | ELITE       | LB201 RGB SERIES | LB201-15F-RGB-12VDC                | LED                         | TBD        | 120V / 12VDC | SURFACE  | N/A                | PROVIDE WALL CONTROLLER AND ALL REQUIRED ACCESSORIES | -                        | UNDER CABINET    |
| D         | GARDCO      | LED MINI SCONCE  | 111L-16L-200-WW-G3-3-UNV-PCB-F1-BK | 12W LED                     | 3000K      | 120V         | SURFACE  | 8' 0" AFF          | CONFIRM MOUNTING HEIGHT WITH OWNER                   | -                        | EXTERIOR         |
| F         | VISCOR      | CRV              | CRV48-LED-RED040LUNV-V81           | 35W LED                     | RED LED    | 120V         | SURFACE  | 2' 0" AFF          | RED LED FOR SAFETY                                   | NOT ACCEPTED             | TANK ROOMS       |
|           | •           | •                |                                    | •                           |            | •            | •        |                    |  |                          |                  |

|        |                          |         |                             |                      |           |       |             |        | W        | /IRI | IN     | G         | FC    | R          | М                         | EC      | H         | <b>4N</b> | IC     | AL        | E          | QU            | IJР           | M          | EN                       | T 8     | SCI       | HE  | DULE   |
|--------|--------------------------|---------|-----------------------------|----------------------|-----------|-------|-------------|--------|----------|------|--------|-----------|-------|------------|---------------------------|---------|-----------|-----------|--------|-----------|------------|---------------|---------------|------------|--------------------------|---------|-----------|-----|--|
|        | EQUIPMENT                |         |                             | мотс                 | )R        |       |             |        |          |      | s      | TARTE     | RS    |            |                           |         |           | ISOLA     | ATIO   | N SW      | <i>1</i> . |               |               | REN        | иоте                     | ITEMS   |           |     | REMARKS  |
| MECHID | NAME OR<br>DESCRIPTION   | VOLTAGE | HORSEPOWER<br>MC AMPS OR KW | FUSE/BREAKER<br>SIZE | WIRE SIZE | PHASE | NEMA RATING | MANUAL | MAGNETIC |      | H.O.A. | ON/OFF SS | PILOT | PUSHBUTTON | EMERG. STOP<br>PUSHBUTTON | VOLTAGE | WIRING BY | SWITCHES  | SWITCH | WIRING BY | T-STAT     | SPEED CONTROL | F.A. SHUTDOWN | TIME CLOCK | REVERSE<br>ACTING T-STAT | MISC. 1 | INTERLOCK |     | EQUIPMENT SUPPLIED OR CONNECTED BY :<br>E- ELECTRICAL CONTRACTOR<br>M- MECHANICAL CONTRACTOR |
| HP.1A  | HEAT PUMP - INDOOR       | 240V    | N/A                         | N/A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | E         |            |               |               |            |                          |         | HP        | .1B | POWERED BY OUTDOOR UNIT  |
| HP.1B  | HEAT PUMP - OUTDOOR      | 240V    | 16A                         | 25A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         | М          |               |               |            |                          |         | HP        | .1A |  |
| HP.2A  | HEAT PUMP - INDOOR       | 240V    | N/A                         | N/A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | E      | Е         |            |               |               |            |                          |         | HP        | .2B | POWERED BY OUTDOOR UNIT  |
| HP.2B  | HEAT PUMP - OUTDOOR      | 240V    | 25A                         | 35A                  | #10       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         | М          |               |               |            |                          |         | HP        | .2A |  |
| HRV.1  | HEAT RECOVERY VENTILATOR | 120V    | 1.3A                        | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         | М          |               |               |            |                          |         |           |     |  |
| HRV.2  | HEAT RECOVERY VENTILATOR | 120V    | 2.89A                       | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         | М          |               |               |            |                          |         |           |     |  |
| UV.1   | ULTRAVIOLET FILTER       | 120V    | 150W                        | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | E      | E         |            |               |               |            |                          |         |           |     |  |
| UV.2   | ULTRAVIOLET FILTER       | 120V    | 18W                         | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | E         |            |               |               |            |                          |         |           |     |  |
| CH.1   | AIR-COOLED CHILLER       | 120V    | 828W                        | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           |        |           |            |               |               |            |                          |         |           |     | POWER CORD PROVIDED BY OTHERS  |
| IH.1   | IMMERSION HEATER         | 240V    | 3000W                       | 20A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | E      | Е         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| IH.2   | IMMERSION HEATER         | 120V    | 1000W                       | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | E      | Е         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| BL.1   | SUMP TANK BLOWER         | 120V    | 50W                         | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | E      | Е         | М          |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| BL.2   | SUMP TANK BLOWER         | 120V    | 50W                         | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | E      | E         | М          |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| P.1    | MAIN SUMP PUMPS          | 120V    | 450W                        | 15A                  | #12       | 1     | 00          | Е      |          |      |        |           |       |            |                           |         |           |           | E      | Е         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| P.2    | INCUBATION STACK PUMP    | 120V    | 3A                          | 15A                  | #12       | 1     | 00          | Е      |          |      |        |           |       |            |                           |         |           |           | Е      | E         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| P.3    | CHILLER PUMP             | 120V    | 3A                          | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         |            |               |               |            |                          |         | Р         | .3  | INTERLOCK WITH CH.1 SO P.3 BECOMES POWERED WHEN CH.1 BECOMES POWERED.                        |
| P.4    | QUAR. TREATMENT PUMP     | 120V    | 0.5HP                       | 20A                  | #12       | 1     | 00          |        |          |      | Е      |           |       |            | 1                         | ВС      |           |           | Е      | E         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| P.5    | CHLORINE DOSING PUMP     | 120V    | 0.6A                        | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| P.6    | CHLORINE DOSING PUMP     | 120V    | 0.6A                        | 15A                  | #12       | 1     |             |        |          |      |        |           |       |            |                           |         |           |           | Е      | Е         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |
| P.7    | QUAR. TREATMENT PUMP     | 120V    | 0.5HP                       | 20A                  | #12       | 1     | 00          |        |          |      | Е      |           |       |            | 1                         | ВС      |           |           | Е      | E         |            |               |               |            |                          |         |           |     | CONFIRM CONTROLS WITH MECH CONTRACTOR  |



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| 5 | ISSUED FOR TENDER             | 09/18/23 |
|---|-------------------------------|----------|
| 4 | ISSUED FOR HYDRO COORDINATION | 07/06/23 |
| 3 | ISSUED FOR REVIEW             | 07/06/23 |
| 2 | ISSUED FOR REVIEW             | 06/05/23 |
| 1 | ISSUED FOR REVIEW             | 05/23/23 |
| # | DESCRIPTION                   | MM/DD/YY |
|   |                               |          |

CODRINGTON RESEARCH **FACILITY** 

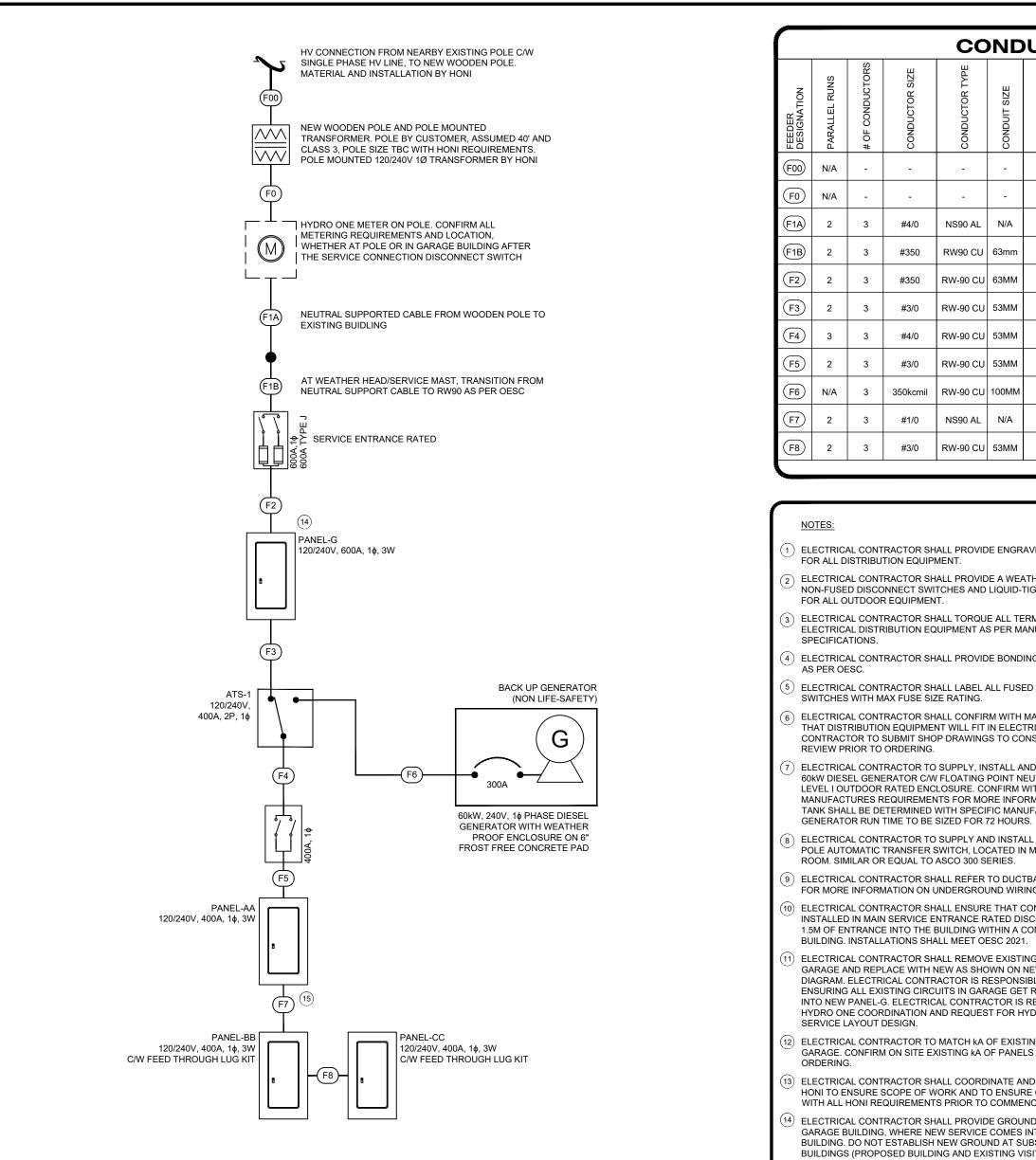
> 15 FISH HATCHERY RD CODRINGTON, ON

**ELECTRICAL NOTES** & DETAILS

| DRAWN BY:<br>N. RUTTAN | M. KRZE    |             | APPROVED BY:  B. WIRZBA |
|------------------------|------------|-------------|-------------------------|
| IN. INOTTAN            | IVI. KINZL | MINORI      | B. WIINZBA              |
| SCALE:                 |            | SHEET SIZI  | E:                      |
| AS NOTED               | )          | <b>ARCH</b> | H D                     |

AS NOTED 22-250

E3.1



|                       |               |                 |                | CO             | ND           | UIT          | FEE                    | DE                            | R SCHEDULE  |
|-----------------------|---------------|-----------------|----------------|----------------|--------------|--------------|------------------------|-------------------------------|---|
| FEEDER<br>DESIGNATION | PARALLEL RUNS | # OF CONDUCTORS | CONDUCTOR SIZE | CONDUCTOR TYPE | CONDUIT SIZE | CONDUIT TYPE | BOND CONDUCTOR<br>SIZE | PRIMARY FUSE/<br>BREAKER SIZE | REMARKS   |
| F00                   | N/A           | -               | -              | -              | -            | -            | -                      | -                             | FROM HV LINE TO TRANSFORMER BY HONI                                   |
| F0                    | N/A           | -               | -              | -              | -            | -            | -                      | -                             | SECONDARY TRANSFORMER TO METER BY HONI                                |
| (F1A)                 | 2             | 3               | #4/0           | NS90 AL        | N/A          | N/A          | OESC                   | 600A                          | NS90 CABLE, SIZED PER TABLE 36A                                       |
| F1B                   | 2             | 3               | #350           | RW90 CU        | 63mm         | TBC          | OESC                   | 600A                          | CABLE FROM NEUTRAL SUPPORTED CABLE TO MAIN DISC                       |
| F2                    | 2             | 3               | #350           | RW-90 CU       | 63MM         | EMT          | OESC                   | 600A                          | TO PANEL-G  |
| F3                    | 2             | 3               | #3/0           | RW-90 CU       | 53MM         | EMT          | OESC                   | 400A                          | FROM PANEL-G TO ATS   |
| F4                    | 3             | 3               | #4/0           | RW-90 CU       | 53MM         | DB2          | OESC                   | 400A                          | FROM GARAGE ATS TO VISITOR CENTER DISCONNECT (SIZED FOR VOLTAGE DROP) |
| (F5)                  | 2             | 3               | #3/0           | RW-90 CU       | 53MM         | EMT          | OESC                   | 400A                          |   |
| F6                    | N/A           | 3               | 350kcmil       | RW-90 CU       | 100MM        | RPVC         | OESC                   | 300A                          | FROM GENERATOR TO ATS   |
| F7                    | 2             | 3               | #1/0           | NS90 AL        | N/A          | N/A          | OESC                   | 400A                          | NS90 CABLE, SIZED PER TABLE 36A                                       |
| F8                    | 2             | 3               | #3/0           | RW-90 CU       | 53MM         | PVC          | OESC                   | 400A                          | FEED THROUGH LUG KIT  |
|                       |               |                 |                |                |              |              | 1                      |                               |   |

| 1    | ELECTRICAL CONTRACTOR SHALL PROVIDE ENGRAVED LAMACOIDS FOR ALL DISTRIBUTION EQUIPMENT.  |
|------|---|
| 2    | ELECTRICAL CONTRACTOR SHALL PROVIDE A WEATHER-PROOF NON-FUSED DISCONNECT SWITCHES AND LIQUID-TIGHT CONDUITS FOR ALL OUTDOOR EQUIPMENT.  |
| 3    | ELECTRICAL CONTRACTOR SHALL TORQUE ALL TERMINATIONS OF ELECTRICAL DISTRIBUTION EQUIPMENT AS PER MANUFACTURER'S SPECIFICATIONS.  |
| 4    | ELECTRICAL CONTRACTOR SHALL PROVIDE BONDING CONDUCTORS AS PER OESC.   |
| 5    | ELECTRICAL CONTRACTOR SHALL LABEL ALL FUSED DISCONNECT SWITCHES WITH MAX FUSE SIZE RATING.  |
| 6    | ELECTRICAL CONTRACTOR SHALL CONFIRM WITH MANUFACTURER THAT DISTRIBUTION EQUIPMENT WILL FIT IN ELECTRICAL ROOM. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO CONSULTANT FOR REVIEW PRIOR TO ORDERING.   |
| 7    | ELECTRICAL CONTRACTOR TO SUPPLY, INSTALL AND COMMISSION A 60kW DIESEL GENERATOR C/W FLOATING POINT NEUTRAL, AND LEVEL I OUTDOOR RATED ENCLOSURE. CONFIRM WITH MANUFACTURES REQUIREMENTS FOR MORE INFORMATION. SIZE OF TANK SHALL BE DETERMINED WITH SPECIFIC MANUFACTURER. GENERATOR RUN TIME TO BE SIZED FOR 72 HOURS.   |
| 8    | ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL A 240V, 400A, 2<br>POLE AUTOMATIC TRANSFER SWITCH, LOCATED IN MAIN ELECTRICAL<br>ROOM. SIMILAR OR EQUAL TO ASCO 300 SERIES.   |
| 9    | ELECTRICAL CONTRACTOR SHALL REFER TO DUCTBANK DETAILS FOR MORE INFORMATION ON UNDERGROUND WIRING.   |
| 10   | ELECTRICAL CONTRACTOR SHALL ENSURE THAT CONDUCTORS ARE INSTALLED IN MAIN SERVICE ENTRANCE RATED DISCONNECT WITHIN 1.5M OF ENTRANCE INTO THE BUILDING WITHIN A COMBUSTIBLE BUILDING. INSTALLATIONS SHALL MEET OESC 2021.   |
| (11) | ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING MAIN PANEL IN GARAGE AND REPLACE WITH NEW AS SHOWN ON NEW SINGLE LINE DIAGRAM. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL EXISTING CIRCUITS IN GARAGE GET RECONNECTED INTO NEW PANEL-G. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR HYDRO ONE COORDINATION AND REQUEST FOR HYDRO ONE SERVICE LAYOUT DESIGN. |
| 12   | ELECTRICAL CONTRACTOR TO MATCH KA OF EXISTING PANELS IN GARAGE. CONFIRM ON SITE EXISTING KA OF PANELS PRIOR TO ORDERING.  |
| 13)  | ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM WITH HONI TO ENSURE SCOPE OF WORK AND TO ENSURE COMPLIANCE WITH ALL HONI REQUIREMENTS PRIOR TO COMMENCING WORK.  |
| 14)  | ELECTRICAL CONTRACTOR SHALL PROVIDE GROUNDING AT EXISTING GARAGE BUILDING, WHERE NEW SERVICE COMES INTO THE BUILDING. DO NOT ESTABLISH NEW GROUND AT SUBSEQUENT BUILDINGS (PROPOSED BUILDING AND EXISTING VISITOR CENTRE), PROVIDE A BONDING CONDUCTOR FROM NEW SERVICE AT GARAGE BUILDING. CONFIRM GROUNDING REQUIREMENTS WITH HONI FOR WOODEN POLE LOCATION.  |

ENSURE O/H NEUTRAL SUPPORTED CABLE IS INSTALLED ACCORDING

TO ALL OESC RULES. PROVIDE REQUIRED EQUIPMENT TO TRANSITION FROM INSIDE THE BUILDING TO O/H TO ADJACENT

|               |                     | o´                 | 0 49        | 50 0            | o <u>IH.1</u>  | _               |
|---------------|---------------------|--------------------|-------------|-----------------|--|-----------------|
|               |                     |                    |             | 52              | ^  |                 |
| •             | LIGHTING            |                    | 15A 53      | 54 0 15A        | O  |                 |
| -             |                     | <u> </u>           | IDA I       | 15A             | <u> </u>   | _               |
| -             | LIGHTING            | <u></u>            | 15A 0 55    | 56 o 20A        | o <u>CH.1</u>  | _               |
| -             | LIGHTING            | ′                  | 57          | 58              | o # COMMS REC  | _               |
| _             | LIGHTING            |                    | 15A 59      | 60 15A          | O  | _               |
|               | BL.1                | _                  | 15A 61      | 62 15A          | IH 2   |                 |
| -             |                     |                    | 15A         | 15A             | <u> </u>   | _               |
| -             | IH.2                |                    | 63          | 64<br>15A       | o  | _               |
| -             |                     | — ´                | 65          | 66              | o <u>IH.2</u>  | _               |
|               |                     |                    | ▲.          |                 |  |                 |
|               |                     |                    |             |                 |  |                 |
|               |                     |                    |             |                 |  |                 |
|               |                     |                    |             |                 |  |                 |
|               | PANEL INFORMATION   | Т                  | ACCESS      | ORIES           | LEGEND   | $\overline{}$   |
| PANEL         |                     | 一                  | DRIP HOOL   |                 | ^ BREAKER LOCK   |                 |
| VOLTA         |                     |                    | I IG BAR    |                 | ^ Y BREAKER LOCK - YELL  | .OW             |
| PHASE         |                     | _  -               | _           | D00D            | ^ R BREAKER LOCK - RED   |                 |
| MAINS         |                     | <u> </u>           | LOCKABLE    |                 | # 20A T-SLOT RECEPTAC  |                 |
| MOUN          |                     | $\dashv \Box$      | FEED THO    | JGH LUG KIT     | <ul><li>♦ ISOLATED GROUND CII</li><li>@ AFCI BREAKER</li></ul> | RCUIT           |
|               | Y FROM: SERVICE     | $\dashv \sqsubset$ | KA RATING   | : EX            | [-] GFCI BREAKER   |                 |
|               |                     |                    |             | <u> </u>        | 1.1  |                 |
|               |                     |                    | (10         | _               |  |                 |
|               |                     |                    |             |                 |  |                 |
|               | CIRCUIT             |                    |             |                 | CIRCUIT  |                 |
| I             | DESCRIPTION         |                    | A           |                 | DESCRIPTION  |                 |
|               | PANEL-AA            |                    | 400A 1      | 2 15A           | EXISTING BREAKER   | (P2)            |
| -             | I ANLL-NA           | <u> </u>           | 1 0         | 15A             | <u> </u>   |                 |
|               | _                   | —ó                 | 15A 0 3     | 4 o 15A         | o EXISTING BREAKER   | _ (P2)          |
| P2 .          | EXISTING BREAKER    | <u> </u>           | 5           | 6               | O EXISTING BREAKER   | _ (P2)          |
|               |                     | _                  | 7           | 8 15A           | EXISTING BREAKER   | P2              |
| (P2)          | EVICTING PREAKER    | <u> </u>           | 13/1        | 15A             | <u> </u>   | -<br>(P2)       |
| . (           | EXISTING BREAKER    | <u> </u>           | 9           | 10 0 20A        | O EXISTING BREAKER   |                 |
|               | _                   | ^                  | 20A 0 11    | 12 o 20A        | O EXISTING BREAKER   | _ (P2)          |
| P2            | EXISTING BREAKER    | _                  | 0 13        | 14 20A          | O EXISTING BREAKER   | P2              |
| -             |                     |                    | 1 1         | 16              |  | _               |
|               | _                   | <b>⊸</b>           | 20A 0 15    | 20A             | <b></b>  |                 |
| <u>P2</u> ) . | EXISTING BREAKER    | ∘´                 | 20A 0 17    | 18 <sub>0</sub> | O EXISTING BREAKER   | _ ( <u>P2</u> ) |
| P2 .          | EXISTING BREAKER    |                    | 0 19        | 20 150          | o  |                 |
|               |                     | _                  |             | 22 0 15A        | EVISTING PREAKER   | P2              |
| D0            |                     | <u> </u>           | 15A 0 21    | 1               | 0 EXISTING BREAKER   |                 |
| P2 .          | EXISTING BREAKER    | <b>⊸</b> ´         | O 23        | 24 0            | o  | _               |
|               | _                   | <b></b> ^          | 25          | 26_0            | o  | _               |
| P2 )          | EXISTING BREAKER    | _                  | 15A 0 27    | 28              |  |                 |
|               | EXTORING BILL WEIGH | <u> </u>           | 1 1         | 1               | 0  | _               |
|               | _                   | <u></u>            | 0 29        | 30_0            | o  | _               |
| -             |                     | <b></b> ^          | O 31        | 32 0            | o  | _               |
|               |                     | _                  | 33          | 34              | _  |                 |
| •             |                     | <u> </u>           | I           | 1               | o  | _               |
| -             |                     | <u> </u>           | O 35        | 36 o            | o  | _               |
| -             |                     |                    | ○ 37        | 38_0            | o  | _               |
|               |                     | _                  | 0 39        | 40              | ^  |                 |
| -             |                     | <b>⊸</b> ^         | <b>I</b>    | 1               | o  | _               |
| -             |                     | <b>⊸</b> ົ         | o 41        | 1               | o—   | -               |
| -             |                     |                    | O 43        | 44_0            | o  | _               |
|               |                     | _                  | 45          | 46 0            | ^  |                 |
| -             |                     | <b>一</b> 。/        | <b>I</b>    | 1               | o  | _               |
| -             |                     | <u> </u>           | o 47        | 1               | o <u> </u>   | _               |
| -             |                     | ^                  | O 49        | 50_0            | <u> </u>   | _               |
|               |                     | _ ^                | O 51        | 52              |  | _               |
| -             |                     | <u> </u>           | <del></del> |                 | <u> </u>   | _               |

PANEL INFURMATION ACCESSORIES

PANEL: PANEL-BB

VOLTAGE: 120/240V

PHASE: 1Ø,3W

MAINS: 400A

NO. OF CIRCUITS: 66CCT

MOUNTING: RECESSED

SUPPLY FROM: PANEL-AA

ACCESSORIES

LEGEND

^ BREAKER LOCK

^ Y BREAKER LOCK - YELLOW

^ R BREAKER LOCK - RED

# 20A T-SLOT RECEPTACLE

◇ ISOLATED GROUND CIRCUIT

@ AFCI BREAKER

[-] GFCI BREAKER

[-] GFCI BREAKER

CIRCUIT DESCRIPTION

CIRCUIT DESCRIPTION

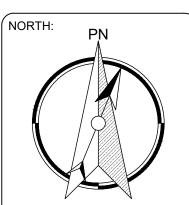
HRV.2 0 15A 0 45 46 0 15A 0 UV.1, UV.2 HRV.1 0 0 49 50 0 HI.1

| PANEL INFO          |                                 | <u> </u>        | ACCES                                     |   |            | LEGEND                             |
|---------------------|---------------------------------|-----------------|---|---|------------|------------------------------------|
| PANEL:<br>VOLTAGE:  | PANEL-CC<br>120/240V            | +               | DRIP HOO                                  | D                                       |            | BREAKER LOCK BREAKER LOCK - YELLOW |
| PHASE:              | 1Ø,3W                           | $\Box$          | IG BAR                                    |   | -          | BREAKER LOCK - RED                 |
| MAINS:              | 400A                            | $\exists \Box$  | LOCKABLE                                  | DOOR                                    | -          | 20A T-SLOT RECEPTACLE              |
| NO. OF CIRCUITS:    | 66CCT                           | 1=              |   | UGH LUG KIT                             | $\Diamond$ | ISOLATED GROUND CIRCUIT            |
| MOUNTING:           | RECESSED                        |                 |   |   |            | AFCI BREAKER                       |
| SUPPLY FROM:        | PANEL-AA                        |                 | KA RATINO                                 | j: EX                                   | [-]        | GFCI BREAKER                       |
| CIRCUIT DESCRIPTION | P.1<br>P.1<br>P.1<br>P.1<br>P.1 |                 | 5A 0 1 5 5A 0 3 5 5A 0 7 5A 0 9 0 11 0 13 | 15A<br>10 0 15A<br>12 0 15A<br>14 0 15A | o          | P.2 P.2 P.2 P.2 P.2 P.2 P.3 P.3    |
|                     |                                 | -o´             | o 15                                      | T 15A                                   | <b>о</b> — | P.3                                |
|                     |                                 | ~               | <sub>0_17</sub> ↓                         | 18                                      | o          | P.3                                |
|                     |                                 | _               | _ <sub>0_19</sub>                         | 20 15A                                  | •          | P.3                                |
|                     |                                 | <b>^</b> _      | ~ I                                       |   | o—         |                                    |
|                     |                                 | <b>→</b> _      | o 21                                      | _                                       | o          |                                    |
|                     |                                 | ~               | 0 23                                      | 24 0                                    | o—         | -                                  |
|                     |                                 | -\              | O 25                                      | 26_0                                    | <b>о</b> — |                                    |
|                     |                                 | _               |   | 28                                      | -          |                                    |
|                     |                                 | ^_              |   |   | <b>-</b>   |                                    |
| -                   |                                 | -0              | o 29                                      |   | <b>О</b>   | <del>-</del>                       |
| -                   |                                 | -o <sup>-</sup> | O 31                                      | 32 0                                    | <b>о</b> — |                                    |
|                     |                                 |                 | 33  | 34_0                                    | <u> </u>   |                                    |
|                     |                                 | _               | 35  | 36                                      | _          |                                    |
|                     |                                 | <b>→</b> _      |   |   | <u> </u>   | -                                  |
| -                   |                                 | ~´              | o 37                                      | 38 0                                    | <u> </u>   |                                    |
|                     |                                 | -o^             |   | 40                                      | o          |                                    |
|                     |                                 | _               | 0 41                                      | 12                                      | _          |                                    |
|                     |                                 | ^_              |   |   | <b>О</b>   |                                    |
| -                   |                                 | <b>-</b> 0      | 0 43                                      | T -                                     | <u> </u>   | <del>-</del>                       |
|                     |                                 | ~               | o 45                                      | 46 0                                    | <u> </u>   | <u> </u>                           |
|                     |                                 | ~               | O 47                                      | 48                                      | <u> </u>   |                                    |
|                     |                                 | _               |   | 50                                      | -          |                                    |
|                     |                                 | ^_              | I .                                       |   | <b>-</b>   |                                    |
| -                   |                                 | ⊸˙_             | o 51                                      | -                                       | <b>о</b> — | <del>-</del>                       |
|                     |                                 | ~               | o 53                                      | 54_0                                    | <b>о</b> — | <u> </u>                           |
|                     |                                 |                 | <sub>0_55</sub>                           | 56                                      | o          |                                    |
| <del></del>         |                                 | ~               |   | 58                                      | -          |                                    |
| -                   |                                 |                 | _ T                                       |   | <b>О</b>   |                                    |
|                     |                                 | -               | _ 59                                      | 60                                      | o          | <del>-</del>                       |
|                     |                                 |                 | 61  | 62                                      | <u> </u>   |                                    |
|                     |                                 | _               | — <sub>63</sub> [                         | 64                                      |            |                                    |
|                     |                                 |                 |   |   | о <u> </u> |                                    |
|                     |                                 | _               | 65  | 66                                      | o—         | <del>-</del>                       |
|                     |                                 |                 | <u> </u>                                  | <b>A</b>                                |            |                                    |
| DANIEL IN           | FORMATION                       | ī               | ACC                                       | ESSORIES                                |            | LEGEND                             |
| PANEL IN            | PANEL-AA                        | Г               | _   |   | -          | ^ BREAKER LOCK                     |
| VOLTAGE:            | 120/240V                        | <u> </u>        | DRIP H                                    |   |            | Y BREAKER LOCK - YELLOW            |
| PHASE:              | 1Ø,3W                           |                 | IG BAR                                    |   |            | R BREAKER LOCK - RED               |
| MAINS:              | 400A                            | [               | LOCKA                                     | BLE DOOR                                |            | # 20A T-SLOT RECEPTACLE            |
| NO. OF CIRCUIT      | S: 156CCT                       | In              | ¬   |   | a- I (     | ☐ ISOLATED GROUND CIRCU            |

|  |     | PANEL:              | PANEL-AA                           | $\neg$     | DRIP HOC   | חח   | ٨          | BREAKER LOCK   |
|--|-----|---------------------|------------------------------------|------------|--|--|------------|--|
| W  |     | VOLTAGE:            | 120/240V                           | ヿ゚゚        |  | ,,,  |            | BREAKER LOCK - YELLOW                                      |
|  |     | PHASE:              | 1Ø,3W                              |            | IG BAR   |  |            | BREAKER LOCK - RED   |
| ≣  |     | MAINS:              | 400A                               |            | LOCKABLI   | E DOOR                                       | #          | 20A T-SLOT RECEPTACLE                                      |
| CUIT   |     | NO. OF CIRCUITS:    | 56CCT                              |            | l FEED THO   | OUGH LUG KIT                                 | $\Diamond$ | ISOLATED GROUND CIRCUIT                                    |
|  |     | MOUNTING:           | SURFACE                            | _          |  |  | @          | AFCI BREAKER   |
|  |     | SUPPLY FROM:        | PANEL-G                            |            | KA RATIN   | G: EX  | [-]        | GFCI BREAKER   |
| P2<br>P2<br>P2<br>P2<br>P2<br>P2<br>P2<br>P2 |     | CIRCUIT DESCRIPTION | PANEL-BB  P.4  P.5  P.6  P.7  BL.1 |            | 000A 0 1 1 200A 0 5 15A 0 7 15A 0 9 200A 0 11 15A 0 13 | B 15A 2 0 20A 4 0 35A 6 0 15A 10 0 12 0 14 0 | 0 #<br>0 — | CIRCUIT DESCRIPTION  BB HEATER  COMMS REC  HP.2B  LIGHTING |
| (P2)   |     |                     | BL.1                               | <b>~</b> ( | o 15   | 16   | ·—         |  |
| (FZ)   |     |                     |                                    |            | o 17<br>o 19   | 18 0   | ·          |  |
| P2   |     |                     |                                    | °_         | o 21   | 22_0   | ·          |  |
|  |     |                     |                                    | <b>⊸</b> Ć | O 23   | 24 0   | ·—         |  |
|  |     |                     |                                    |            | 0 25   | 26   | ·          |  |
|  |     |                     |                                    |            | O 27   | 28   | ·<br>•——   |  |
|  |     |                     |                                    |            | O 29   | 30_0   | ·          | _  |
|  |     |                     |                                    | _          | o_31   | 32   |            |  |
|  |     |                     |                                    | <b>⊸</b> _ |  | 34   |            |  |
|  |     |                     |                                    | <b>⊸</b> _ | 0 33   |  | <u> </u>   | <del></del>  |
|  |     | -                   |                                    | <u></u>    | o 35   | 36   | ·—         | <del>-</del> <del></del>                                   |
|  |     |                     |                                    |            | O 37   | 38   | ·          |  |
|  |     | -                   |                                    |            |  | 40   | ·<br>•——   |  |
|  |     |                     |                                    | _          | O 41   | 42   |            |  |
|  |     |                     |                                    | <b>⊸</b> ⁄ |  |  | ·—         | _  |
|  |     |                     |                                    | <u> </u>   | o 43   | 44 0   | <u> </u>   |  |
|  |     |                     |                                    | <b>⊸</b> ´ | o 45   | 46   | ·—         | <del>-</del>   |
|  |     |                     |                                    | <b>—</b> ( | O 47   | 48   | ·—         | - <del></del>  |
|  |     |                     |                                    |            | O 49   | 50   | ·          | -,   |
|  |     |                     |                                    |            | O 51   | 52   | •          |  |
|  |     |                     |                                    |            | O 53   | 54   | ·<br>·—    |  |
|  |     |                     |                                    |            |  | 56   |            |  |
|  |     |                     |                                    | <u> </u>   | 0 33   | <del>• ••</del>                              | <u> </u>   |  |
|  |     |                     |                                    |            | 1  |  |            |  |
|  |     |                     |                                    |            | _  | _  |            |  |
|  | , , |                     |                                    |            |  |  |            |  |



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| 5 | ISSUED FOR TENDER             | 09/18/23 |
|---|-------------------------------|----------|
| 4 | ISSUED FOR HYDRO COORDINATION | 07/06/23 |
| 3 | ISSUED FOR REVIEW             | 07/06/23 |
| 2 | ISSUED FOR REVIEW             | 06/05/23 |
| 1 | ISSUED FOR REVIEW             | 05/23/23 |
| # | DESCRIPTION                   | MM/DD/YY |
|   |                               |          |

**CODRINGTON RESEARCH FACILITY** 

> 15 FISH HATCHERY RD CODRINGTON, ON

ELECTRICAL NOTES & DETAILS

|           |         |            | . –          |
|-----------|---------|------------|--------------|
| SCALE:    |         | SHEET SIZI | ≣:           |
| N. RUTTAN | M. KRZE | MINSKI     | B. WIRZBA    |
| DRAWN BY: | CHECKED | BY:        | APPROVED BY: |

AS NOTED ARCH D 22-250 E3.2

| EXR PANEL B  120/240V, 2004, 16, 3W  COW MAIN BREAKER  2004, 240V, 16, 3W  120/240V, 60A, 16, 3W  120/240V, 60A, 16, 3W  120/240V, 60A, 16, 3W   |                                       |                                       |   | TO HYDRO POLE MOUNTED TRANSFORMER  EXR HYDR CENTRAL I     | O ONE OWNED<br>METER |                |
|--|---------------------------------------|---------------------------------------|---|---|----------------------|----------------|
| TBR PANEL B 120/240V, 200A, 1¢, 3W C/W MAIN BREAKER  EXR PANEL B 120/240V, 200A, 1¢, 3W C/W MAIN BREAKER  EXR PANEL B 120/240V, 60A, 1¢, 3W  EXR PANEL B 120/240V, 60A, 1¢, 3W  120/240V, 60A, 1¢, 3W  120/240V, 60A, 1¢, 3W |                                       |                                       |   |   | EXR DISCONNECT       | EXR DISCONNECT |
|  | EXR SPLITTER 200A, 240V, 1¢, 3W       | 400A TYPE J                           | TBR PANEL-B<br>120/240V, 200A, 1¢, 3W<br>C/W MAIN BREAKER | EXR PANEL-B<br>120/240V, 200A, 1¢, 3W<br>C/W MAIN BREAKER | EXR PANEL            | EXR PANEL      |
| 120/240V, 200A, 1¢, 3W 120/240V, 200A, 1¢, 3W 1  | EXR PANEL-A<br>120/240V, 200A, 1¢, 3W | EXR PANEL-B<br>120/240V, 200A, 1¢, 3W |   |   |                      |                |

▼ ELECTRICAL SINGLE LINE DIAGRAM

2 DEMOLITION SINGLE LINE DIAGRAM