



REQUEST FOR QUOTATION

WILD GOOSE PARK

ELECTRICAL SERVICE AND STREET LIGHTING PROJECT

Quote No. 2024-07

Bid Closing: May 9th, 2024

INVITATION TO QUOTE

The Municipality of Shuniah, is inviting qualified contractors to submit their bids, for a new electrical service and street lighting project located at Wild Goose Park, Fire #801 Lakeshore Drive , Shuniah, ON.

Owner: Municipality of Shuniah
420 Leslie Avenue
Thunder Bay, ON.
P7A 1X8
Ph: 807-683-4545
Fax: 807-683-6982

INTRODUCTION

The Municipality of Shuniah invites contractors to provide a quotation on the form attached as Schedule A (the "Quotation Bid Form") for the supply of goods (if any) and services described in Schedule B (the "Work"). The description of the Work sets out the minimum requirements of the Municipality. A person that submits a Quotation (the "Contractor") should prepare a Quotation that meets the minimum requirements, and may as it may choose, in addition, to also include goods, services or terms that exceed the minimum requirements.

BID SUBMISSION

1.0) The Contractor should submit the Quotation **electronically** in a single PDF file which must be submitted by email at: tenders@shuniah.org , on or before before 2:00 pm (local time) on May 9th, 2024.

1.1) Bids will be opened publicly immediately after the official closing time.

1.2) Bids received after the official closing time is considered LATE and will not be accepted and will be returned unopened to the bidder.

1.3) All pages contained in the bid documents form an integral part of this bid.

1.4) The lowest or any bid will not necessarily be accepted. The owner may decide, at its sole discretion, that no bid submitted will be accepted and no contract will be awarded pursuant to this bid process. If the owner elects to reject all bids, all bidders will be notified and the owner will not be liable to any bidder in preparing the bid, damages, loss of anticipated profit in connection with the work, or any matter whatsoever.

1.5) Bidders are required to check the Municipality of Shuniah website for addenda issued before the closing date and time. If the contract administrator determines that an amendment is required to the bid documents, the contract administrator will prepare an addendum and post it to the Municipality of Shuniah website.

1.6) Bidders may withdraw its bid at any time prior to closing provided the withdrawal: i) is in the form of a letter and, ii) state the name of the bidder and clearly identifies the bid that is being withdrawn and; iii) is signed by the bidder's duly authorized signing officer; BID DOCUMENT DISCREPENCIES AND OMISSION

1.7) Bidders are responsible to review the bid documents and to verify they are complete. If the bidder finds discrepancies or omissions from the drawings, specifications and other documents, the bidder should submit a written request for correction to the contract administrator. Any required correction, addition, deletion, or revision to the bid documents will be by written addenda to the bid documents issued by the contract administrator by posting to the Municipality of Shuniah website.

1.8) Partial or incomplete bids will not be considered.

1.9) In case of a corporation that has a corporate seal, the corporate seal shall be affixed to the bid form.

QUESTIONS AND CLARIFICATIONS

- 2.0) Enquiries, request for explanation, interpretations or clarifications must be submitted by email to Craig Baumann, Manager of Operations at pw@shuniah.org . Only those inquiries submitted by email will be considered. Emails submitted must include the quotation title and quotation reference number.
- 2.1) Enquiries will be received up to noon local time on May 3, 2024. Enquiries received after the date and time noted will not receive a response.

SITE CONDITIONS

- 3.0 Contractors are to examine the site prior to submitting a Quotation to fully acquaint themselves with all existing conditions reasonably inferable from examination of the site and its surroundings and the RFQ and to make allowance for such conditions in the Quotation. By submitting a Quotation, a Contractor represents that it has examined the site fully as to all conditions, contingencies, risks and circumstances, local or otherwise, which might influence or affect the performance or the cost of the work, including but not limited to: RFQ 2024 Wild Goose Park Electrical Service and Street Lighting Project. Fire #801 Lakeshore Drive location of the Contractor occupancy during the work, access and all other conditions that a competent Contractor experienced in work similar to the work would consider and take into account and is further deemed to have included in the contract price all costs occasioned thereby.

CONTRACTOR'S QUALIFICATIONS

- 4.0) By submitting a Quotation, a Contractor represents that it has the expertise, qualifications, resources, and relevant experience to supply the Goods and Services. Tradesmen engaged in the performance of the Services shall be qualified in accordance with the requirements of the Tradesman Qualification Act and all pertinent licensing requirements required by the Ministry of Municipal Affairs.

REQUEST OF APPROVED EQUALS AND ALTERNATIVES

- 5.0) Request for equals to the material, equipment or methods of fabrications specified, should be submitted in writing to the contract administrator. These requests should contain pertinent data such as specifications, construction and operational characteristics, cost savings etc. in order to assist the contract administrator in his decision. Approvals for equals will be in the form of addenda. The contract administrator is not obligated to review and approve equals prior to the bid closing time.

RFQ 2024-07
Schedule A – Bid Form

Owner

Legal Name: **The Corporation of the Municipality of Shuniah**
Address for Service: Wild Goose Park
801Lakeshore Drive

Bidder

Legal Name: -----
Address for Service: -----
City ----- Province ----- Postal Code -----

Bid Price

Having examined the bid documents as listed in Schedule “B” of RFQ 2024-07 to this Stipulated Price Bid and Addenda No. _____ to _____ inclusive, all as issued by **the Municipality of Shuniah**, and having visited the Place of the Work, we hereby offer to enter into a contract to perform the Work required by the bid documents for the stipulated price of:

..... /100 Dollars \$

In Canadian Funds excluding Provincial and Federal Taxes

Signatures

SIGNED AND SUBMITTED for and on behalf of:

Name of Bidder (please print)

Signature

Affix Seal Above

PREVIOUS EXPERIENCE

Please indicate three (3) past/current related work experience

All bidders must demonstrate similar experience by providing references from a government/public sector entity of similar nature. Bidders without or with insufficient government/public sector experience may be disqualified. Past experience with the Municipality will also be considered. Prior poor performance with the Municipality may result in disqualification. Decisions of disqualification by the Municipality will be deemed final and will be given to the bidder in writing.

Reference#1

Project Title & brief description of work:

Project start date: _____ Project end date: _____ Total value of contract awarded: \$ _____

Owner or Contractor who awarded contract: _____

Contact person: (Full Name) _____ Phone: _____

Reference#2

Project Title & brief description of work:

Project start date: _____ Project end date: _____ Total value of contract awarded: \$ _____

Owner or Contractor who awarded contract: _____

Contact person: (Full Name) _____ Phone: _____

PREVIOUS EXPERIENCE

Reference#3

Project Title & brief description of work: Project Title & brief description of work:

Project start date: _____ Project end date: _____ Total
value of contract awarded: \$ _____

Owner or Contractor who awarded contract: _____

Contact person: (Full Name) _____ Phone: _____

HEALTH & SAFETY

General: Contractor must comply with the Occupational Health and Safety Act (OHSA) and the Municipality of Shuniah safety policy.

Competent person: Contractor is responsible using their training, knowledge, and experience to protect the health and safety of their workers and others, reporting to their supervisor the absence of, or defect in any protective equipment or device, and reporting to their supervisor, any circumstances or conditions that may limit their ability to comply with the requirements of the OHSA and the Municipality of Shuniah Safety policy.

Equipment & tools: All equipment and tools used by the contractor shall conform to Canadian Standards Association (CSA) or manufacturer specifications. The Municipality of Shuniah reserves the right to prohibit the use of any equipment and methods or practices that do not conform to acceptable standards. Defective equipment and tools shall be removed from the work site premises immediately.

PPE: All workers must wear appropriate CSA approved eye protection, hearing protection, CSA approved hard hats, CSA approved foot protection and CSA approved gloves at all times while working in prescribed areas.

Reporting: Contractor must report immediately to the contract administrator all workplace incidents, near misses, injuries and illnesses and environmental damages. Contractor shall also report accidents/incidents to the Ministry of Labour or any other appropriate authority required by legislation.

Supervision: Contractor shall comply with OHSA regulations.

WSIB: Contractor shall provide the Municipality with a current WSIB Clearance Certificate within five (5) days of contract award.

GENERAL LIABILITY INSURANCE

The successful Bidder's General Liability Insurance policy shall not be less than \$5,000,000 (five million dollars) per occurrence. The successful Bidder agrees to provide proof of a General Liability insurance policy in the amount of not less than \$5,000,000, (five million dollars) per occurrence, to indemnify the Corporation of the Shuniah against any damages occasioned through any act, omission or neglect of the successful Bidder while carrying out the service under this Proposal.

The Municipality shall be included as an "additional insured" on the successful Respondent's insurance policy.

PROTECTION OF WORK & PROPERTY

The successful contractor shall provide continuous and adequate protection of all work from damage and shall protect the Municipality's property from injury or damage arising from or in connection with this work. The successful Respondent shall make good any such damage or injury.

PERFORMANCE

Any undue delays in the execution of the work and/or costs incurred by the Municipality due to inefficiencies in performance on behalf of the successful Respondent shall be deemed to be the

responsibility of that Respondent and as such, any and all costs, as deemed appropriate and reasonable compensation for the Municipality, will be assessed to the successful Respondent.

CHARACTER AND EMPLOYMENT OF STAFF

The successful contractor shall employ only orderly, competent, and skillful employees to ensure that the services are carried out in a respectable manner. Workmanship and services shall be of the best quality, executed by employees qualified, experienced and thoroughly skilled in the respective duties for which they are employed.

Decision as to the quality or professionalism of workmanship in case of any dispute rests solely with the contact administrator, whose decision is final.

Contractor will be informed about any unsatisfactory performance, as identified by the contractor administrator, and given a reasonable opportunity to remedy. Unresolved unsatisfactory performance issues may result in termination of the remainder of the contract. The Municipality reserves the right to disqualify a contractor due to the contractor's past performance on previous contracts awarded, failure to complete awarded work, or termination of previous contracts.

ASSIGNMENT OF CONTRACT

The successful contractor shall not assign transfer, convey, sublet or otherwise dispose of this contract or his/her right, title or interest therein, or his power to execute such contract, to any other person, company or Corporation, without the previous consent, in writing, of the Municipality's officials, which consent shall not be unreasonably withheld.

SUB-CONTRACTORS

No portion of the work under this award may be sub-contracted without the written authorization of the Municipality. The contractor is fully responsible to the Municipality for the acts and omissions of sub-respondents and/or persons directly or indirectly engaged by the contractor in respect to this work. Sub-contractor will be required to abide by all the requirements of the Proposal document as though the primary successful contractor (Insurance, WSIB, Health & Safety Policy, etc.). The contractor agrees to bind every sub-contractor by the terms of the RFQ documents as far as it is applicable to their work.

PAYMENT

All Invoices submitted by the Consultant must show the project name, the Project reference number and the Contract administrator's name.

Change orders will only be processed if submitted with a change order notice signed by the contract administrator.

Only original copy of invoices will be processed for payment. Invoices must indicate the landfill site and a detailed breakdown of hours.

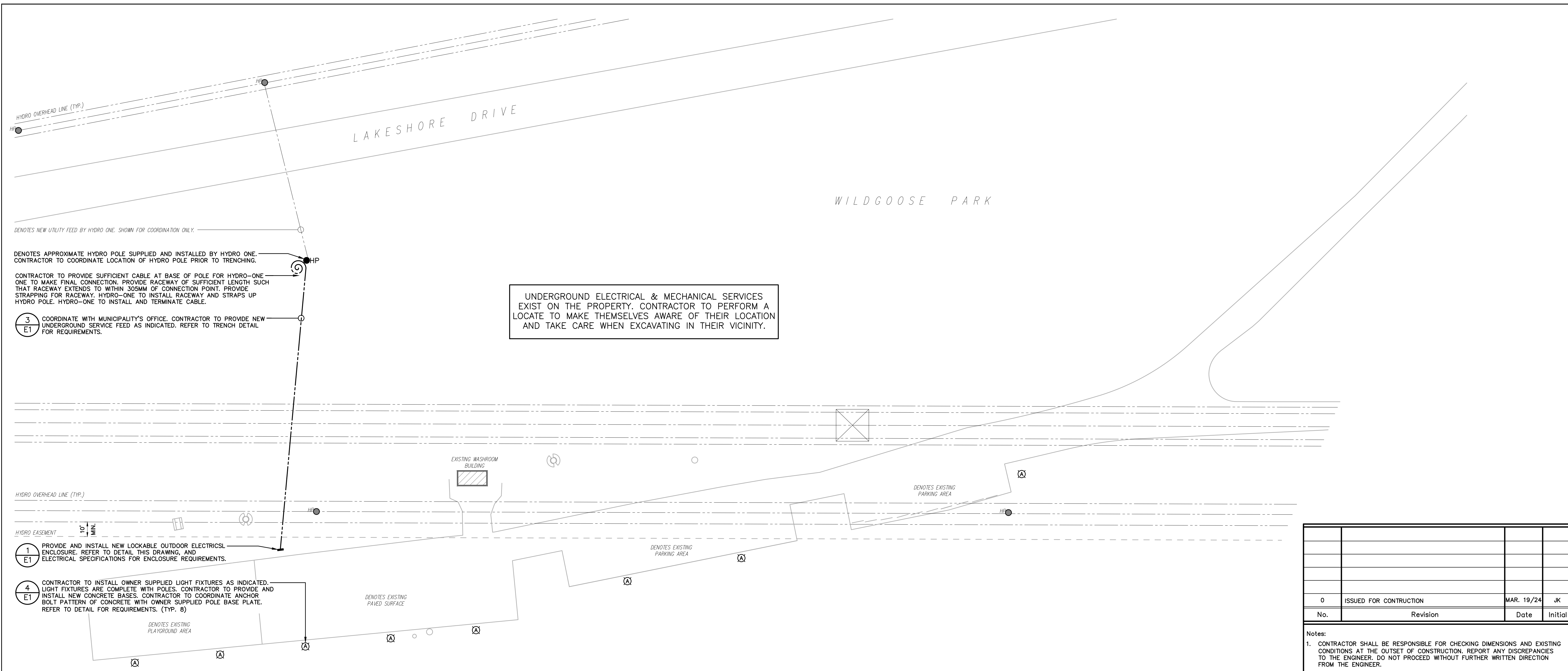
Contractor shall invoice on an equal monthly billing from November 1st to May 15th of each year for the duration of the 3-year contract.

TERMINATION

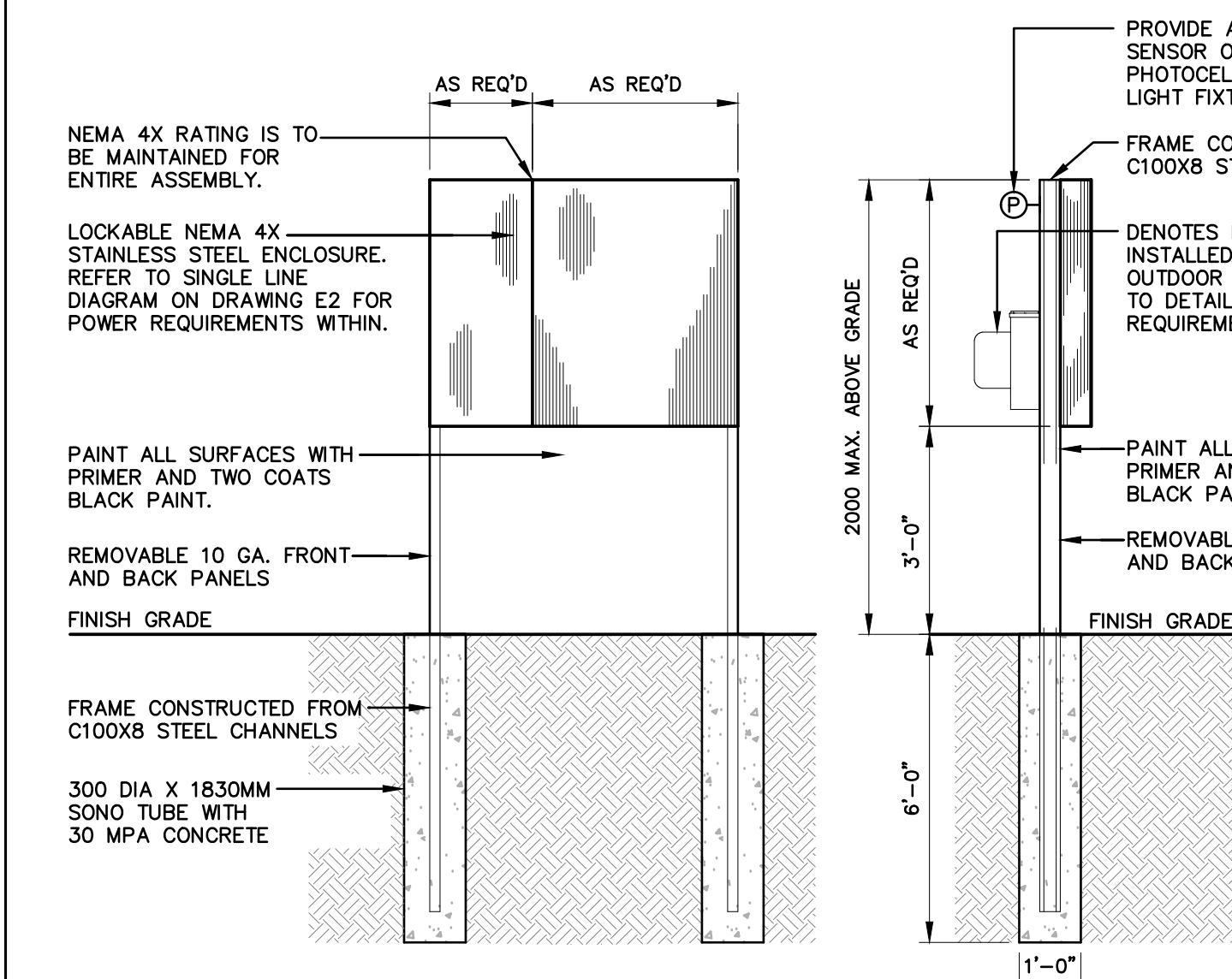
The owner shall have the right to terminate this project whenever and for whatever reason it chooses. Such termination shall be effective thirty (30) days following written termination notice to the contractor or at the time specified in such termination notice. The Owner shall pay the contractor for the portion of services completed up to the time of the termination.

SCHEDULE "B"

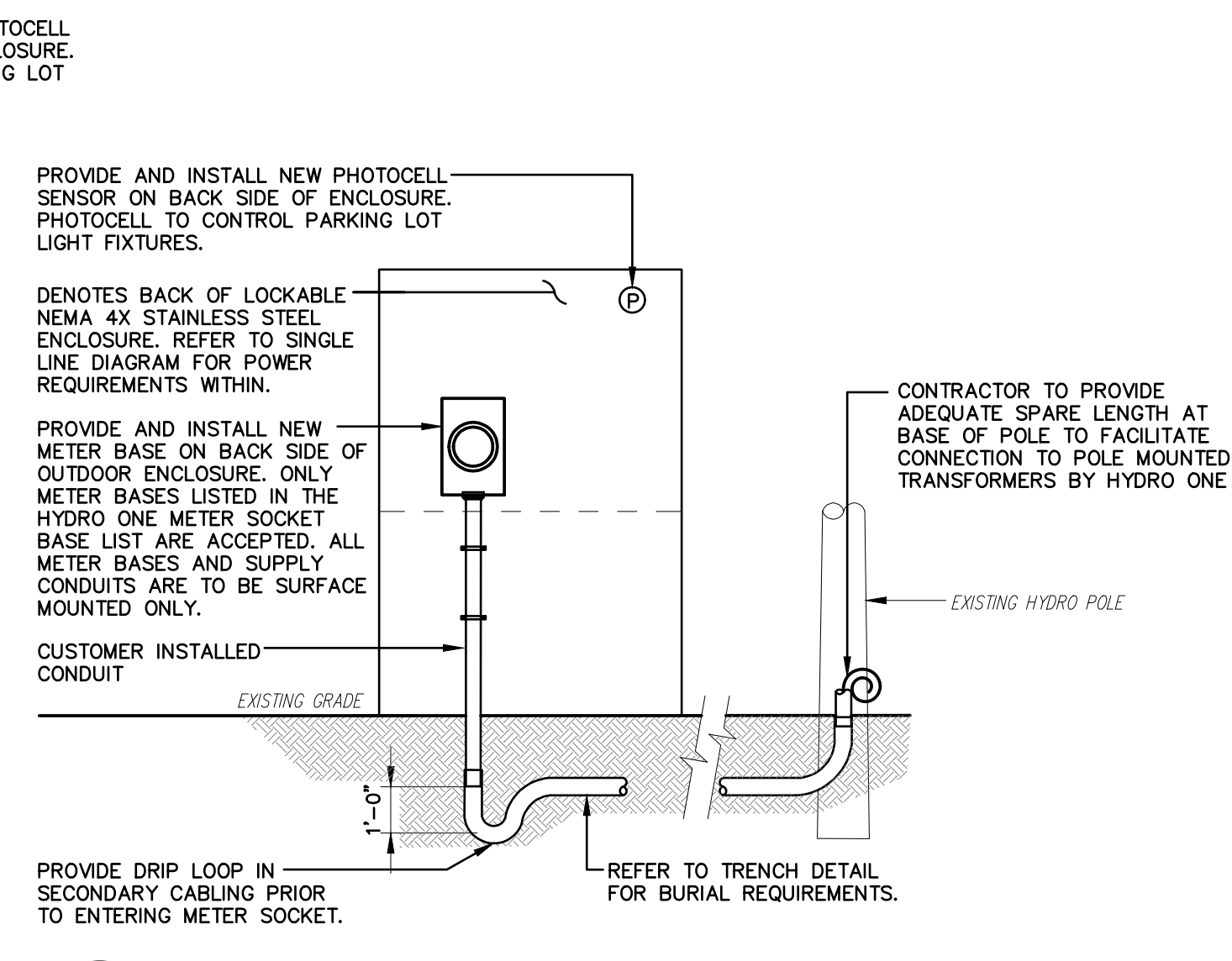
SCOPE OF WORK



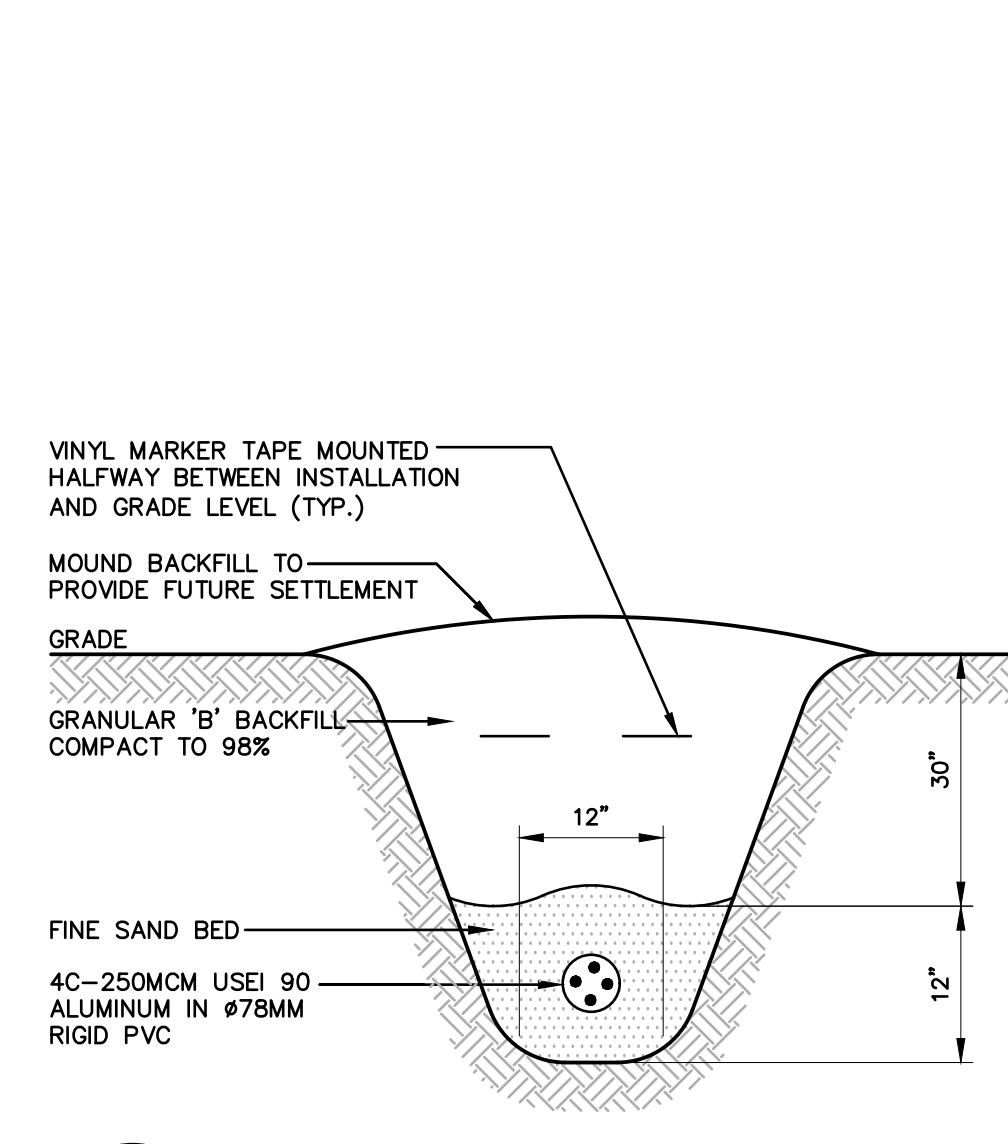
PARTIAL SITE PLAN - ELECTRICAL REQUIREMENTS
SCALE: N.T.S.



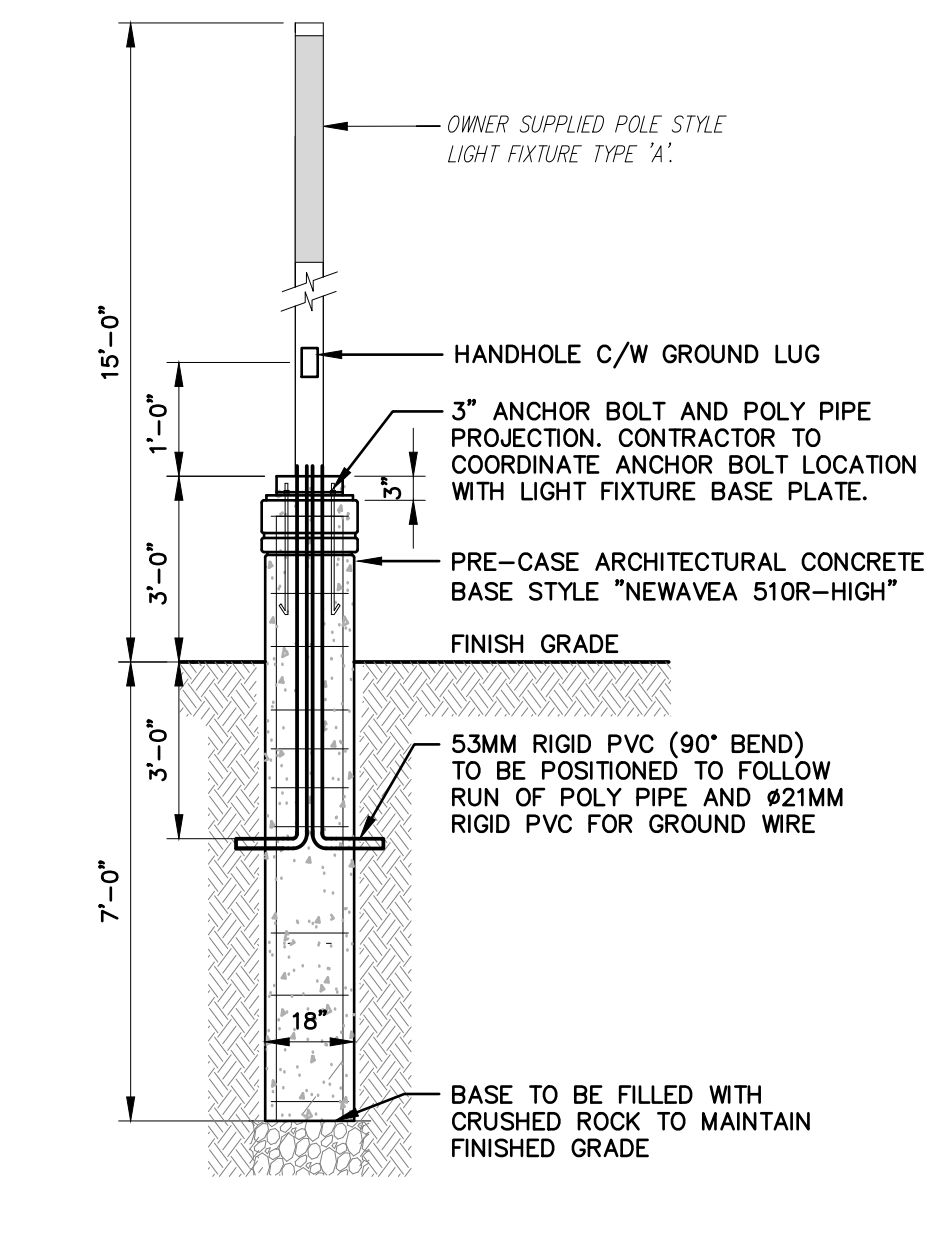
1 E1 DETAIL - NEMA 4X OUTDOOR ENCLOSURE
SCALE: N.T.S.



2 E1 DETAIL - SECONDARY CABLE INSTALLATION
SCALE: N.T.S.



3 E1 TRENCH DETAIL - NEW SERVICE FEED
SCALE: N.T.S.



4 E1 DETAIL - DECORATIVE LIGHT STANDARD
SCALE: N.T.S.

| No. | Revision | Date | Initial |
|-----|-------------------------|------------|---------|
| 0 | ISSUED FOR CONSTRUCTION | MAR. 19/24 | JK |

Notes:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING DIMENSIONS AND EXISTING CONDITIONS AT THE OUTSET OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. DO NOT PROCEED WITHOUT FURTHER WRITTEN DIRECTION FROM THE ENGINEER.
2. DRAWING SHOWS GENERAL ARRANGEMENT ONLY. DO NOT SCALE.

| | |
|----------|----------|
| Approved | Approved |
| | |

TBT ENGINEERING CONSULTING GROUP

Phone: (807) 624-5160
E-mail: info@tbt.ca

SHUNIAH MACGREGOR – WILDGOOSE PARK
Lakeshore Drive Lakeshore Drive,

ELECTRICAL
PARTIAL SITE PLAN, ELECTRICAL SERVICES DETAILS, LIGHTING REQUIREMENTS

| | | |
|-----------------|-----------------------------|------------------|
| Scale: AS NOTED | Drawn By: SP Ckd. By: JK | Date: MARCH 2024 |
| | Dwg. No.: 24-023-E1 | Rev. 0 |

ELECTRICAL SPECIFICATIONS

GENERAL INSTRUCTION

- THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL A COMPLETE ELECTRICAL SYSTEM INCLUDING ALL MATERIALS, EQUIPMENT, SERVICES AND LABOUR NECESSARY AS SHOWN OR IMPLIED FOR A COMPLETE INSTALLATION.
- ALL WORK SHALL COMPLY WITH THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE AND THE ONTARIO ELECTRICAL SAFETY CODE (OESC) 26TH EDITION 2015 AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
- FURNISH INSPECTION CERTIFICATES, PRIOR TO FINAL PAYMENT, TO SHOW INSTALLED WORK CONFORMS TO SPECIFICATIONS AND REGULATIONS. PAY ALL FEES AND PERMIT COSTS.
- ELECTRICAL CONTRACTOR SHALL VERIFY DIMENSIONS OF EQUIPMENT TO BE INSTALLED.
- EACH WORKING SPACE AROUND EQUIPMENT SHALL HAVE UNOBSTRUCTED MEANS OF EGRESS PER OESC RULE 2-310.
- MAINTAIN A MINIMUM WORKING SPACE OF 1 METER WITH SECURE FOOTING ABOUT ELECTRICAL EQUIPMENT SUCH AS SWITCHBOARDS, PANELBOARDS, CONTROL PANELS AND MOTOR CONTROL CENTERS WHICH ARE ENCLOSED IN METAL PER OESC RULE 2-308.
- ALL WORK AND MATERIAL SUPPLIED BY THE ELECTRICAL SUBCONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER THE COMPLETION OF THE PROJECT.
- ALL MATERIALS SHALL BE NEW AND CSA CERTIFIED.
- PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER.
- ELECTRICAL CONTRACTOR TO REPAIR ALL SURFACES DAMAGED DUE TO WORK PERFORMED TO THE SATISFACTION OF THE OWNER.
- MOUNTING HEIGHTS FOR DEVICES ARE TO BE PER CODE REQUIREMENTS. ELECTRICAL CONTRACTOR IS TO VERIFY DIMENSIONS SHOWN ON DRAWING.
- PROTECT EXISTING WORK AND EQUIPMENT DURING CONSTRUCTION.
- TEST ALL SYSTEM COMPONENTS FOR PROPER OPERATION AND SAFETY.
- DRAWINGS INDICATE GENERAL LOCATION, QUANTITY AND TYPE OF OUTLETS FOR ELECTRICAL SERVICES ONLY. DO NOT SCALE.
- CO-ORDINATE ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT SUPPLIED BY OWNER OR OTHER TRADES. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO INSTALLATION.
- CARRY OUT DEMOLITION AS SHOWN AND AS REQUIRED TO SUIT RENOVATIONS AND ALL NEW CONSTRUCTION REQUIREMENTS. DETERMINE EXTENT OF DEMOLITION ON SITE. REMOVE ALL CONDUIT AND WIRING BACK TO SOURCE. ALL MATERIALS REMOVED AND MADE REDUNDANT BY THIS WORK (UNLESS INDICATED OTHERWISE) SHALL BECOME PROPERTY OF CONTRACTOR.

EXISTING SERVICES

- OBTAIN LOCATES FOR UNDERGROUND SERVICES (I.E. GAS, TELEPHONE, ETC.). NOTIFY PUBLIC UTILITIES IN ADVANCE OF PLANNED EXCAVATIONS ADJACENT TO THEIR SERVICES. TAKE CARE NOT TO DAMAGE OR DISPLACE ENCOUNTERED SERVICES.
- AT LOCATIONS WHERE NEW PRIMARY CABLE TRENCH INTERSECTS AN EXISTING UNDERGROUND SERVICE INCREASE DEPTH OF TRENCH AS REQUIRED SUCH THAT THE PRIMARY CABLE DUCT IS ROUTED A MINIMUM OF 305 MM VERTICAL DISTANCE BELOW THE EXISTING UNDERGROUND SERVICE.

TRENCHING

- EXCAVATE TRENCH WITH SUITABLE MACHINERY TO DEPTHS AND DIMENSIONS AS SHOWN IN TRENCH DETAILS. TRENCH DETAILS ARE PROVIDED AS A GUIDE ONLY. ELECTRICAL CONTRACTOR TO CONFIRM ALL DEPTHS ARE COMPLIANT WITH SECTION 12-012 AND TABLE 53 OF THE ONTARIO ELECTRICAL SAFETY CODE.
- PLEASE NOTE, THE MINIMUM COVER REQUIREMENTS FOR ELECTRICAL CABLES MAY BE PERMITTED TO BE REDUCED BY 150MM WHERE MECHANICAL PROTECTION IS PLACED IN THE TRENCH OVER THE UNDERGROUND INSTALLATION (OESC SECTION 12-012(2)).
- PROVIDE VINYL MARKER TAPE MOUNTED HALFWAY BETWEEN CABLE INSTALLATION AND GRADE LEVEL. REFER TO OESC RULE 12-012(11) AND BULLETIN 12-2-15.
- CUT AND TRIM SIDES OF TRENCHES EVENLY AND AS NEAR VERTICAL AS POSSIBLE AND SHORE AS REQUIRED TO PREVENT CAVE-IN.
- KEEP BOTTOM OF TRENCH CLEAN AND CLEAR OF LOOSE MATERIAL AND SLOPE OR GRADE AS REQUIRED.
- SANDFILL SHALL BE UNIFORMLY GRADED CLEAN SAND WITH A MAXIMUM AGGREGATE SIZE OF 2.00 MM AND MAXIMUM OF 6% PASSING THE NUMBER OF 200 SIEVE.
- NO COVERING UP OR BACKFILLING OF ELECTRICAL EQUIPMENT SHALL BE PERFORMED UNTIL THE ESA INSPECTOR HAS BEEN NOTIFIED AND PERMISSION TO COVER HAS BEEN GRANTED AS PER OESC RULE 2-310.
- BACKFILL TRENCHES TO THE SATISFACTION OF THE OWNER.
- REPAIR ALL SURFACES DAMAGED DUE TO WORK PERFORMED TO THE SATISFACTION OF THE OWNER.

ELECTRICAL SPECIFICATIONS - CONTINUED

COORDINATION

- CO-ORDINATE ALL WORK WITH HYDRO-ONE, ESA, THE ENGINEER AND THE OWNER.
- CO-ORDINATE ALL WORK WITH UTILITIES.
- ESA TO INSPECT WORK AS REQUIRED.
- NECESSARY SERVICE INTERRUPTIONS TO PERFORM WORK SHALL BE CO-ORDINATED WITH OWNER, ENGINEER, ESA AND THUNDER BAY HYDRO. SERVICE INTERRUPTIONS SHALL BE PLANNED TO BE OF MINIMUM DURATION. ALL PARTIES INVOLVED SHALL BE CONTACTED 72 HOURS IN ADVANCE OF THE SERVICE INTERRUPTION.

METER SOCKET

- PROVIDE A 4-JAW, UL LISTED, 1-PHASE, 600VAC MAX, 200A RATED METER SOCKET C/W PROVISIONS FOR TEST SWITCHES OR BLOCKS AND TUNNEL STYLE LINE AND LOAD LUGS WHICH ACCOMMODATE #14-8 COPPER CABLING.
EATON CAT#: LMB3-IN OR APPROVED EQUAL

PANELBOARDS

- PANELBOARDS: TO CSA C22.2 NO. 29.
- 250 AND 600VOLT PANELBOARDS: BUS AND BREAKERS RATED FOR SYMMETRICAL INTERRUPTING CAPACITY AS INDICATED ON PANEL SCHEDULES (RMS SYMMETRICAL).
- PANELBOARDS: MAINS, NUMBER OF CIRCUITS, AND NUMBER AND SIZE OF BRANCH CIRCUIT BREAKERS AS INDICATED.
- COPPER BUS WITH FULL SIZE NEUTRAL.
- EQUIPMENT GROUND BUS TO MATCH NEUTRAL BUS. BOLTED DIRECTLY TO PANELBOARD ENCLOSURE.
- ISOLATED GROUND BUS WHERE INDICATED.
- MAINS SUITABLE FOR BOLT-ON BREAKERS.
- FINISH TRIM AND DOOR BAKED GREY ENAMEL.
- MOUNT PANELBOARDS AT 1980MM TO TOP.
- CONNECT LOADS TO CIRCUITS AS INDICATED.
- CONNECT NEUTRAL CONDUCTORS TO COMMON NEUTRAL BUS WITH RESPECTIVE CIRCUIT(S) IDENTIFIED.
- PROVIDE NEMA 3R RATED PANELBOARDS AS INDICATED.
- POW-R-LINE 1A, 2A AND 3A SERIES PANELBOARDS OR APPROVED EQUAL.
- AS INDICATED ON PANEL SCHEDULES, PROVIDE INTEGRAL SURGE PROTECTIVE DEVICE EQUAL TO EATON SPD SERIES WITH 120 KA SURGE CURRENT CAPACITY RATING. (IF REQUIRED)

CONDUITS

- RIGID POLY VINYL CHLORIDE (PVC) CONDUITS: CSA C22.2 NO. 211.2, UNPLASTICIZED, SCHEDULE 80 AND RIGID PVC BOXES AND FITTINGS: CAN/CSA C22.2 NO.85.
- PVC CONDUITS AND FITTINGS: USE FOR EXPOSED INSTALLATION IN CORROSIVE AREA, UNDER CONCRETE SLAB AND WHERE SPECIFIED OR INDICATED ON DRAWINGS.
- FOR EXTERIOR MOUNTED CONDUIT PROVIDE EXPANSION FITTINGS AS FOLLOWS:
 - WEATHERPROOF EXPANSION FITTINGS WITH INTERNAL BONDING ASSEMBLY SUITABLE FOR 100MM LINEAR EXPANSION.
 - WATERTIGHT EXPANSION FITTINGS WITH INTEGRAL BONDING JUMPER SUITABLE FOR LINEAR EXPANSION AND 10MM DEFLECTION IN ALL DIRECTIONS
 - WEATHERPROOF EXPANSION FITTINGS FOR LINEAR EXPANSION AT ENTRY TO PANELS.
- CONDUIT FITTINGS TO BE MANUFACTURED FOR USE WITH CONDUIT SPECIFIED. COATING TO BE THE SAME AS THE CONDUIT. FACTORY 'ELLS' WHERE 90 DEGREE BENDS ARE REQUIRED FOR 25MM AND LARGER CONDUITS. WATERTIGHT CONNECTORS AND COUPLINGS FOR EMT. INSTALL CONDUIT SEALING FITTINGS IN HAZARDOUS AREAS AND FILL WITH COMPOUND. USE EXPLOSION PROOF FLEXIBLE CONNECTIONS TO EXPLOSION PROOF MOTORS.
- INSTALL EXPOSED CONDUITS NEATLY, PARALLEL TO BUILDING LINES WITH CONCENTRIC RIGHT ANGLE BENDS.
- CLEARLY LABEL ALL EXPOSED CONDUIT, PULL BOXES, JUNCTION BOXES, ETC., TO INDICATE THE NATURE OF THE SERVICE.
- RACEWAY SYSTEMS TO BE COMPLETELY INSTALLED, DRY AND CLEAN BEFORE PULLING CONDUCTORS.
- PROVIDE, IN ALL CONDUITS, AN INSULATED GREEN GROUNDING CONDUCTOR (NO.12 AWG). RUN WITH CIRCUIT CONDUCTORS AND TO ALL ENCLOSURES.

ELECTRICAL SPECIFICATIONS - CONTINUED

WIRING

- SINGLE OR MULTI-CONDUCTOR TECK 90 CABLES TO CSA STANDARD C22.2 NO. 131. CABLES TO BE 1000 V INSULATION, ALUMINUM SHEATH AND OVERALL PVC JACKET. INSULATION TO BE 1000V CROSS-LINKED POLYETHYLENE SUITABLE FOR INSTALLATION AT A TEMPERATURE DOWN TO MINUS 40 °C COMPLETE WITH ALUMINUM SHEATH AND OVERALL PVC JACKET. TECK 90 CABLES TO BE COPPER UNLESS OTHERWISE INDICATED.
- 600 VOLT RW90 OR T90 RATING, COPPER CONDUCTORS, MINIMUM #12 AWG, EXCEPT AS OTHERWISE NOTED. 15AMP, 120 VOLT RECEPTACLE BRANCH CIRCUIT HOME RUNS SHALL BE MINIMUM #12 AWG. HOME RUNS OVER 75 FEET SHALL BE MINIMUM #10 AWG. MAXIMUM LENGTH OF BRANCH CIRCUIT FEEDER FROM PANEL TO FURTHEST RECEPTACLE SHALL BE 120 FT.
- CONDUCTORS REQUIRED FOR THE OPERATION OF LIFE SAFETY SYSTEMS, AS DESCRIBED IN OESC RULE 46-002, SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER CONDUCTORS AND EQUIPMENT AND SHALL NOT ENTER LUMINAIRE, RACEWAY, BOX, CABINET OR UNIT EQUIPMENT OCCUPIED BY OTHER CONDUCTORS EXCEPT WHERE NECESSARY IN GENERATOR TRANSFER SWITCHES, EXIT SIGNS AND EMERGENCY LIGHTS SUPPLIED BY TWO SOURCES, AS DETAILED IN OESC RULE 46-108(4).
- ENSURE VOLTAGE DROP DOES NOT EXCEED 2 PERCENT.
- WIRE CONNECTORS: TWIST-ON PRESSURE TYPE FOR #10 AND SMALLER. SPLIT-BOLT TYPE FOR #8 AND LARGER.

BOXES

- GALVANIZED SHEET STEEL BOXES WITH CONDUIT K.O.'S TO SUIT INSTALLATION. MASONRY FOR BLOCK WALLS, CONCRETE TIGHT FOR CONCRETE ENCASMENT, TYPE FS FOR SURFACE MOUNTING. JUNCTION AND PULL BOXES C/W SCREW-ON FLAT COVERS.
 - OPENINGS IN ALL ELECTRICAL METAL BOXES SHALL BE PUNCHED OR CUT. BURRING OF HOLES WILL NOT BE PERMITTED.
 - ALL CONDUITS AND CABLES MUST BE SECURELY FASTENED WITH APPROVED CLIPS AND SCREWS.
- IDENTIFICATION**
- IDENTIFY SOURCE, VOLTAGE AND LOAD ON ALL JUNCTION BOXES. USE OF INDELIBLE MARKER FOR THESE LOCATIONS IS ACCEPTABLE.
 - ALL CONDUCTORS TO BE COLOUR CODED IN ACCORDANCE WITH CSA 22.1 SECTION 4.036 AND EXISTING BUILDING WIRE COLOUR CODE SYSTEM.
 - CONTRACTOR TO PROVIDE A 'TYPED' PANEL SCHEDULE FOR ALL ELECTRICAL PANELS INSTALLED IN THIS CONTRACT.
 - IDENTIFY PANEL AND CIRCUIT NUMBER ON ALL NEW OR RELOCATED DUPLEX RECEPTACLE FACE PLATES WITH BLACK PRINTED LETTERING ON CLEAR LABELLING TABS (P-TABS).
 - CONDUIT IDENTIFICATION: CODE WITH PLASTIC TAPE OR PAINT AT POINTS WHERE CONDUITS ENTER WALLS, CEILINGS, OR FLOORS AT 3.0M INTERVALS.
 - IDENTIFY ALL ELECTRICAL EQUIPMENT WITH LAMACOID PLATES (BLACK WITH WHITE LETTERING), PANELBOARDS, DISCONNECTS, SPLITTERS, TRANSFORMERS, MOTOR STARTERS ETC.

GROUNDING

- GROUNDING EQUIPMENT TO CSA C22.2 NO. 41.
- COPPER GROUNDING CONDUCTORS TO: CSA 22.1 SECTION 10 LATEST EDITION.
- NON-CORRODING ACCESSORIES NECESSARY FOR GROUNDING SYSTEM.
- INSTALL COMPLETE PERMANENT, CONTINUOUS, SYSTEM AND CIRCUIT, EQUIPMENT, GROUNDING SYSTEMS, INCLUDING ELECTRODES, CONDUCTORS, CONNECTOR, ACCESSORIES, AS INDICATED, TO CONFORM TO REQUIREMENTS OF ENGINEER AND LOCAL AUTHORITY HAVING JURISDICTION OVER INSTALLATION.
- MAKE GROUNDING CONNECTIONS IN RADIAL CONFIGURATION ONLY, WITH ALL CONNECTIONS TERMINATING AT SINGLE GROUNDING POINT. AVOID LOOP CONNECTIONS. ENSURE UNIFORMITY OF GROUNDING PRACTICES THROUGHOUT INSTALLATION. INSTALL SYSTEM AND CIRCUIT GROUNDING CONNECTIONS TO THE NEUTRALS OF THE SECONDARY SYSTEMS.
- FOR STANDARD DUPLEX RECEPTACLES PROVIDE INSULATED GROUND CONDUCTOR, SIZE FOR EQUIPMENT GROUND IN ACCORDANCE WITH ELECTRICAL CODE MINIMUM CONDUCTOR SIZE #12 WITH GREEN INSULATION. GROUND CONDUCTOR TO BE CONNECTED UNDER A BONDING SCREW TO OUTLET BOX(ES) AND PANELBOARD.
- INSTALL SEPARATE "GREEN" GROUND CONDUCTOR IN SAME CONDUIT WITH CIRCUIT (POWER WIRING) CONDUCTORS. BOND SECURELY TO GROUND SCREW IN EACH OUTLET, JUNCTION, PULL BOX, AND EQUIPMENT ENCLOSURE GROUND CONDUCTOR EQUAL IN AMPACITY TO SIZE OF CIRCUIT AMPACITY OR IN ACCORDANCE WITH CODE FOR EQUIPMENT GROUNDING.
- INSTALL GROUNDING CONNECTIONS TO TYPICAL EQUIPMENT INCLUDING, BUT NOT NECESSARILY LIMITED TO: GENERATOR FRAME, PANELBOARDS, TRANSFER SWITCHES AND RECEPTACLES.

ELECTRICAL SPECIFICATIONS - CONTINUED

RECEPTACLES

- RECEPTACLES, PLUGS AND SIMILAR WRING DEVICES TO CSA C22.2 NO. 42.
- CSA TYPE 5-20R, 125V, 20A, T-SLOT, GROUND FAULT DUPLEX RECEPTACLES, INDUSTRIAL GRADE, FEED-THROUGH, EQUAL TO LEVITON GFNT2, BLACK COLOUR.
- POWER OUTLET BOX WITH CSA TYPE NEMA 14-50R, 125/250V, 50A, RECEPTACLE & TYPE 3R LOCKABLE WEATHERPROOF ENCLOSURE WITH PRE-PUNCHED KNOCKOUTS, ENCLOSURE TO ACCOMMODATE NORMAL 50A NEMA 14-50P LINE CORD. EQUAL TO MIDWEST CUL LISTED, U054P.
- WHERE EXPOSED TO THE WEATHER, RECEPTACLES OF CONFIGURATIONS 5-15R, 5-20R, 5-20RA, 6-15R, 6-20R, 6-20A, AND 14-50R, SHALL BE PROVIDED WITH COVER PLATES SUITABLE FOR WET LOCATIONS WHETHER OR NOT A PLUG IS INSERTED INTO THE RECEPTACLE (I.E. IN-USE COVER PLATES). REFERENCE RULE OESC 26-702(2).

LIGHTING

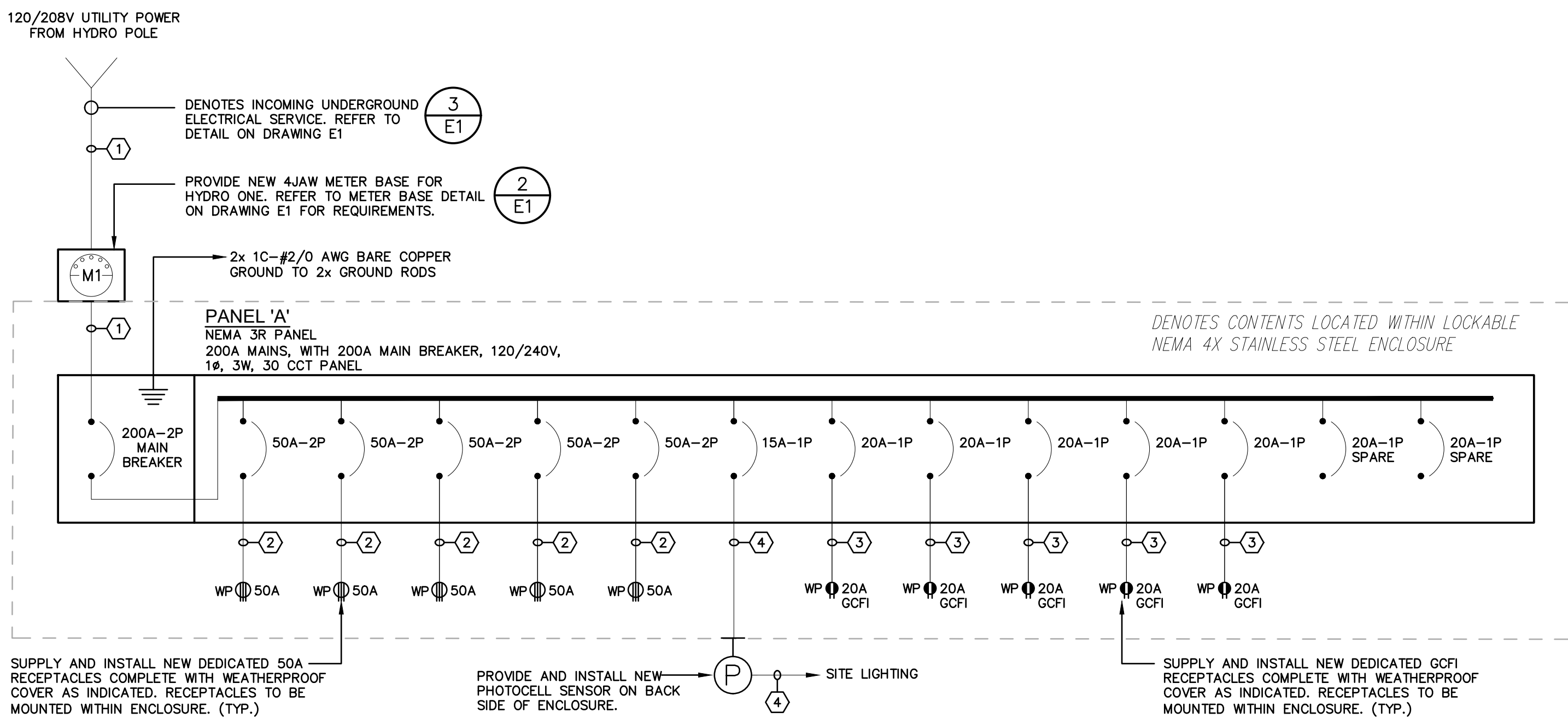
- INSTALL LUMINAIRES AS INDICATED ON DRAWINGS. NUMBER OF LUMINAIRES INDICATED ON DRAWINGS SHALL BE CHECKED FOR EXACT LOCATION AS APPROVED BY THE OWNER'S DESIGNEE PRIOR TO INSTALLATION.
- TYPE 'A'
CONTRACTOR TO INSTALL OWNER SUPPLIED LIGHT FIXTURES AS INDICATED.

PHOTOCCELL

- PROVIDE SURFACE MOUNTED THERMAL PHOTOELECTRIC CONTROL COMPLETE WITH WEATHER-RESISTANT HOUSING, DELAY OF UP TO TWO MINUTES PREVENTING FALSE SWITCHING, 120V, MOUNTED IN RECESSED BACK BOX WITH WEATHERPROOF GASKET TORK CAT. NO. 3000 OR APPROVED EQUAL

POWER AND CONTROL- GENERAL

- POWER WIRING FOR ALL EQUIPMENT LISTED ABOVE TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.



SINGLE LINE POWER DISTRIBUTION DIAGRAM

SCALE: N.T.S.

| 0 | ISSUED FOR CONSTRUCTION | MAR. 19/24 | JK |
|-----|-------------------------|------------|---------|
| No. | Revision | Date | Initial |

Notes:

- CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING DIMENSIONS AND EXISTING CONDITIONS AT THE OUTSET OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. DO NOT PROCEED WITHOUT FURTHER WRITTEN DIRECTION FROM THE ENGINEER.
- DRAWING SHOWS GENERAL ARRANGEMENT ONLY. DO NOT SCALE.

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| Approved | Approved |
| | |

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E-mail: info@tbte.ca

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Lakeshore Drive Lakeshore Drive,

ELECTRICAL

ELECTRICAL SPECIFICATIONS
SINGLE LINE DIAGRAM, POWER REQUIREMENTS

| | | |
|--------------------|-----------------------------|---------------------|
| Scale: AS NOTED | Drawn By: SP Ckd. By: JK | Date: MARCH 2024 |
| | Dwg. No.: 24-023-E2 | Rev. 0 |