

1. General Conditions

2. Scope of Work
The work shall consist of, but not limited to the following:
 - a) Lighting and power distribution system as shown on the drawings.
 - b) Design, supply and installation of lighting fixtures and lamps, switches and accessories.
 - c) Motor circuits.
 - d) All necessary wiring and connections for a complete installation.
 - e) Connection of all mechanical equipment as shown on the drawings.
3. Codes, Permits And Inspections.
 - a) This contractor shall obtain all required permits, inspections, etc., and pay for same as required.
 - b) All permits shall be delivered to the Owner at the completion of work.
4. Drawings
This contractor shall prepare at his own expense any large scale of working drawings which may be required by the examining authorities.
5. As Built Drawings
This contractor shall keep a separate set of prints on the site and note all changes and deviations from the original design. Two sets of drawings showing all as-built conditions shall be forwarded to the Owner at the completion of this contract and be used applying for final payments.
6. Shop Drawings
Submit 5 copies of manufacturer's shop drawings for approval, these shop drawings will consist of distribution equipment, lighting equipment and all other equipment to be installed. All shop drawings to be submitted to Engineer no later than 2 weeks after the awarding of the contract.
7. Examination of Site
a) This contractor shall visit the site of the project and familiarize himself with all conditions pertaining to his work prior to submitting his tender.
b) Any deviation from the distribution diagram(s) shown on drawings shall be reported to the Engineer's representative before submitting tender.
8. Construction Schedule
This contractor shall schedule and perform his work to meet the completion schedule. Any overtime work shall be included in his tender.
9. Materials and Extras
a) Nothing shall be charged over the contract price will be paid unless on the drawings or specifications a material is specified.
b) Any material not specified or order is issued by the Engineer/Claims for extras shall be submitted with a complete breakdown of material, labour, hourly rates, etc.
10. Clean Up
This contractor shall be responsible for cleaning of his installation. He shall clean lighting reflectors, lenses and other lighting surfaces that have been exposed to construction dust and dirt. He shall touch up any dry scratches on painted equipment, using rust paint where necessary.
11. Cutting And Patching
Electrical contractor shall be responsible for all cutting and patching, openings, etc., but the job install service or openings required in sufficient time to prevent unnecessary cutting.
12. Delivery Dates
This contractor shall place on order for all material and equipment immediately after signing of the contract. He shall submit a list of delivery dates for each type of equipment within 10 days of the awarding of the contract. The list shall include manufacturers' names.
13. Equipment And Material
All equipment and material unless specifically noted otherwise shall be new and without blemish or defect. All material and equipment shall be of the type suitable to factory make. Underwriters' Laboratories of Canada or Canadian Standards Association's inspection and approval shall be used (ULC or C.S.A. labels).
14. Testing
a) Performance Test on each system to the satisfaction of the Engineer and submit test results for approval prior to the final acceptance of the system.
b) poles shall be balanced within 5%.
c) test power system neutral for grounds. Remove all grounds until neutral measures clean.
d) test all system grounding conductors for phase to ground loads, overvoltage shall read less than one ohm.
e) voltage drop calculation shall be done prior to installation of any wiring.
15. Demonstration of System
Demonstrate the function and operation of each system to the maintenance staff or Owner's representative.
16. Identification
Provide tampered identification nameplates. These shall be black with white engraved letters and shall be installed with screws on all equipment, disconnect switches, panels, etc., indicated the load served. Each panel shall have a typewriter directory showing lights or equipment connected to each circuit. Identification shall be mounted on the inside of the panel door with a transparent plastic cover.
17. Co-Ordination
This contractor shall be responsible for coordinating the installation of equipment, control, work, lighting fixtures, etc., with the other trades prior to the actual installation.
18. Accessibility
All work shall be installed so as to be readily accessible for operation maintenance and repairs.
19. Responsibility
This contractor shall be responsible for his work until the completion and final acceptance for replacing and item, that may be defective, damaged lost or stolen without additional cost to the Owner or delay the completion of the project.

21. Conduit, race shall be as indicated on the drawings and shall not be reduced in size without authorization. Conduit in finished area shall be concealed.
22. Pull And Junction Boxes
- a) Boxes shall be code gauge and sized to meet the electrical code requirements. Sheet steel boxes for concealed work and cast iron boxes for exposed work.
 - b) Provide barriers in boxes where different voltages are used and identify clearly.
 - c) Provide pull boxes on feeders at 50-foot intervals.
 - d) Boxes shall be supported independently of conduit.
 - e) Provide installed outdoors shall be of the type weathertight (W/P) with gasket.
23. Installation of Outlets
- a) Determine location of outlets, exact locations shall be coordinated on the site with owner, architectural drawings, etc. Outlets inaccurately located shall be readjusted or relocated at the contractor's expense. Unless otherwise noted on the drawings.
- 1. Receptacles and telephone outlets 12' above finished floor.
 - 2. Outlets over counter, 42" above floor and coordinated on job.
 - 3. Light switches 54" above floor.
 - 4. Light switches 54" above floor.
 - 5. Current codes and standards.
24. Wire And Cable
- a) Cable rated all wires shall be copper RM-90. No aluminum wire is to be used.
- b) The minimum permissible size for branch circuit wiring shall be #12, except where special permission is given.
- c) Branch wiring exceeding 100 feet to further's outlet from a lighting panel shall be #10 to 120 volts.
- d) All wiring shall be new and delivered to the site in their original packaging. Wires #10 and larger shall be stranded. Wires shall be factory terminated, size shall be as indicated on drawings.
- e) Provide dedicated neutrals for each 120V and 240V circuit.
- f) Final connections to lighting fixtures shall originate from an outlet box - connections - fixture body to fixture body is not acceptable.
- g) Code approved wire shall be for final fixture or appliance connections.
- h) Where branch circuit wiring is run in partitions, ceilings, floors, etc., armored cable (BX) will be accepted, depending on electrical code restrictions.
25. Connectors For Wires
- a) Provide an approved type wire connector similar to ideal or super-ideal.
26. Grounding
- a) The entire electrical system shall be grounded and bonded in accordance with the requirements of the electrical code and local utility authorities.
27. Power Distribution Systems
- a) The electrical system shall be as shown on the drawings and as hereinafter specified.
- 1. Heavy duty, (table, quick-make, quick-break, variable cover switches) shall be provided in the locations as required.
 - b) Safety Switches
 - 1. Heavy duty, (table, quick-make, quick-break, variable cover switches) shall be provided in the locations as required.
 - 2. Switches as required to suit ciding and wire loads specified. - c) Enclosure shall be CEMA 1 except where weatherproof switches or all switches shall be of the same manufacturer.
 - d) Main service switch shall be approved for such usage.
 - e) Panels
 - 1. Panels shall be of the voltage indicated in the drawings complete with circuit breakers, meters shall be as shown on drawings and maximum branch breakers. Buss to be copper.
 - 2. Flush or surface as indicated and confirmed with architect and/or electrical floor plans complete with keyed lock, lock key and key.
 - 3. Circuit breakers shall be thermal magnetic with bimetallic elements for the delay overfload protection. Two pole breakers shall have internal common trip. Breakers shall be bolt-in field interlocking type.
 - 4. All panels shall be of the same manufacturer.
 - 5. Provide typed panel legends showing all branch circuits.
28. Motors And Controls
- a) Confirm all motor and starters with div. 15. Starters as shown on the drawings shall be provided by the electrical trades. electrical terminals with a disconnect switch. All starters not provided by Division 15 to be supplied and installed by Division 16. All control low voltage wiring shall be by Division 15 the mechanical trades unless otherwise noted on drawings.
29. Wiring Devices
- a) Data, receptacles shall be heavy grounding type rated for 15A, 120V. Dupont Cat #5252-1 or equal. These shall have break-off line to allow for split wiring on 2 circuits.
 - b) Single receptacles shall be of the specification grade type.
 - c) Cover plated shall be ivory.
 - d) Receptacle cover plates shall be as above except with building.
 - e) Receptacles shall be fitted with W/P, ground and ground ground.
 - f) Confirm color of all coverplates, switches and receptacles, with architect/Owner.
30. Low Voltage Fuses
- a) Fuse strips shall be as indicated on the drawings. Any changes needed to convert the equipment to hold the specified fuses shall be at the contractor's expense.
 - b) Fuses shall be CSA, approved HRC. Voltage as required FORM 1, class 3 non-renewable, dual element cartridge.
31. Provide fixtures and lamps as indicated on the lighting schedule and these shall be completed with all necessary plaster, frames, hangers, trims, louvers, diffusers, compass, supports, etc. For fixture types specified (if an equivalent manufacturer is named, it is mandatory that the fixture be equivalent in all respects, i.e., same lens, equivalent frame, performance point finish ballast, construction quality, etc.) as indicated on drawings. The contractor shall be responsible for providing all materials, labor only, to the base bid, with the amount of savings stated in the tender. Low bidder will be determined on the basis of the specified items noted on the "tolerance notes".
- a) Fluorescent ballasts shall be rated over 50% power factor, sound and vibration free, minimum thermal protection, electronic with T8C-202.
 - b) Incandescent ballasts shall be rated over 50% power factor, sound and vibration free, minimum thermal protection, electronic with T8C-202.
32. Telephone, Communication and TV Conduit System
- a) Provide proper Conduit, sizes as shown, on the drawings or required by the utility companies.
 - b) This contractor shall provide conduit or co-ordinate the types, sizes and location of the incoming conduits with the telephone and TV companies.
 - c) Confirm mounting heights and locations of all light fixtures with architect.
 - d) Metal holder ballasts to be HFC, outdoor units to be rated for -40 C. Indoor units are to be equipped with quartz.
 - e) A poly rope shall be pulled and left in each conduit run to facilitate the future pulling of wires.
33. Miscellaneous
- a) Aluminum conduit shall not be used in concrete slab. Where EMT conduit is used in slab use concrete light couplings.
34. Notes
- a) The drawings for the work accompanying these specifications are prepared by the contractor and are subject to change without notice. The contractor shall be responsible for supplementing and clarifying the general contract drawings. No claim for extra payment on account of the difference of actual and estimated dimensions shall be allowed.
- b) The contractor shall be responsible for providing all materials, labor only, to the base bid, with the amount of savings stated in the tender. Low bidder will be determined on the basis of the specified items noted on the "tolerance notes".
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35. Heaters
- a) Supply and install all electric heaters as shown, on electrical drawings.
 - b) Provide thermostats as shown, on drawings. Where no thermostat is shown, on the drawings, assume there is to be a wall mounted thermostat.
 - c) Provide disconnect switches for the forced heaters as required.
 - d) Contractor shall confirm on site that heaters will fit in locations shown on drawings in case of discrepancies in building construction. Notify Engineer immediately after discovery of discrepancies.
36. Connectors
- a) Lighting connectors, EEMAC 1 enclosure, 600vac/30amp/3pole c/w #12 or #10.
 - b) Provide outdoor rated at 347vac/1500va to control all contractor coils for outdoor lighting.

1. All dimensions and conditions must be verified on site

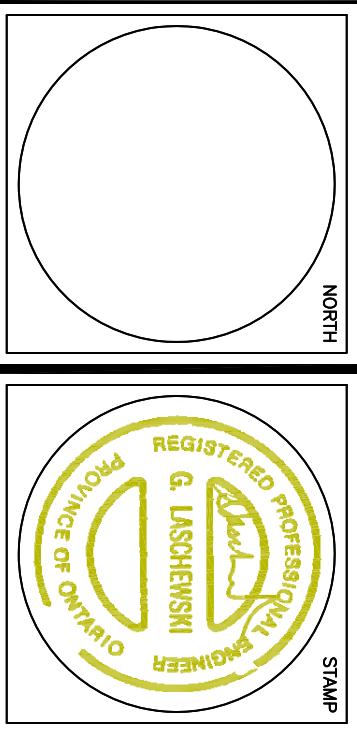
2. Reproduction of this drawing is not permitted without the written authorization of EVEREST ENGINEERING LIMITED.

NORSEPOWER AND AMPLIFIERS OF GARAGE EQUIPMENT IS ASSUMED FOR ESTIMATING AND DESIGN PURPOSES. CONFIRM ALL EQUIPMENT WITH OWNER PRIOR TO ROUGH-IN.

1. All
contact

2. All exterior lighting, & powerline signage to be controlled by a photo cell and timer. Contractor to provide a relay with sufficient number of poles. A manual override switch for the photo cell.
3. Contractor to provide sufficient breakers and increase the panel size as required to accommodate equipment shown plus a 10% spare capacity for future expansion.
4. Contractor to circuit in accordance to electrical code.
5. Contractor to increase the wire size as required to compensate for any voltage drops beyond allowed code.

4	REVISED TO MATCH ARCHITECT	MAR 25/25
3	ISSUED FOR BUILDING	OCT 11/24
1	ISSUED FOR BUILDING PERMIT	OCT. 18/23
0	PRELIMINARY REVIEW	APRIL 2023
NO.	REVISION/ISSUE	DATE



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SCALE	NTS	DRAWN BY	C.V.A.
ISSUED		CHECKED BY	G.L.
DATE	MAR. 2023	PROJECT NO.	

DRAWING NUMBER	REV. NO.
E-4 OF 4	

ROOF PLAN