

FILE NAME: 20131710210.dwg DATE: 2014.10.06 PROJECT No.: 2013-171-02 SHEET TITLE: ADDITION ELECTRICAL SPECIFICATIONS ADDRESS: 603 REDWOOD AVENUE

ELECTRICAL SPECIFICATIONS
SCOPE OF WORK

THE SCOPE OF WORK FOR THIS PROJECT IS TO SUPPLY AND INSTALL ALL REQUIRED ELECTRICAL ITEMS FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS AND ALL APPLICABLE CODES. THESE ITEMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
 -SUPPLY AND INSTALL ALL DISTRIBUTION EQUIPMENT IN ACCORDANCE WITH THE DRAWINGS.
 -SUPPLY AND INSTALL CONDUIT RUN FROM MAIN DISTRIBUTION TO NEW PANEL. CORE HOLES AS INDICATED ON DRAWINGS.
 -SUPPLY AND INSTALL ALL PRIMARY AND SECONDARY GROUNDING SYSTEMS.
 -SUPPLY AND INSTALL ALL LIGHTING INDICATED WITH CONTROL AS INDICATED.
 -SUPPLY AND INSTALL ALL EMERGENCY LIGHTING AS INDICATED ON DRAWINGS.
 -SUPPLY AND INSTALL ALL RECEPTACLES AS INDICATED.
 -SUPPLY AND INSTALL ALL POWER FEEDER REQUIREMENTS FOR NEW MECHANICAL EQUIPMENT. ALL MECHANICAL EQUIPMENT SHALL BE COMPLETE WITH LOCAL DISCONNECT SWITCHES.
 -SUPPLY AND INSTALL ALL NEW ELECTRIC HEATERS. REVIEW MECHANICAL DRAWINGS TO DETERMINE ALL REQUIREMENTS.
 -SUPPLY AND INSTALL SPEAKERS FOR INTERCOM AND PA SYSTEM AND WIRE BACK TO EQUIPMENT.
 -SUPPLY AND INSTALL ROUGH-IN FOR CARD ACCESS CONTROLLER.
 -PROVIDE LABELLING FOR ALL RECEPTACLES, PANELS AND SWITCHES. LABELLING SHALL BE INDICATED ON "AS-BUILT" DRAWINGS. SWITCHES WHICH CONTROL CONTACTORS AND OTHER AREAS SHALL BE CLEARLY LABELLED TO THE CONTRACT ADMINISTRATOR'S APPROVAL.
 -THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER COORDINATION OF ALL ITEMS WITH OTHER TRADES TO ENSURE THAT ALL ITEMS REQUIRING ELECTRICAL ARE INSTALLED AS REQUIRED.

EXECUTION SPECIFICATION

THE CONTRACT INCLUDES THE FURNISHING OF LABOUR, MATERIAL, EQUIPMENT, AND SERVICES NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND OPERATING TO THE COMPLETE SATISFACTION OF THE CONTRACT ADMINISTRATOR.

ALL ELECTRICAL WORK AND MATERIAL SHALL CONFORM WITH THE CURRENT RELEVANT AND/OR APPLICABLE BUILDING CODE, CANADIAN ELECTRICAL CODE AND TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AND THE DESIGN PROFESSIONAL. FOR THE PURPOSE OF THIS SPECIFICATION INTERPRETATION OF THE WORD "CODE" SHALL MEAN ALL CODES, REGULATIONS AND REQUIREMENTS AS STATED ABOVE.

EXAMINE THE SITE, BUILDING AND LOCAL CONDITIONS AFFECTING WORK OF THIS CONTRACT. EXAMINE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL CONDITIONS TO ENSURE WORK CAN BE PERFORMED WITHOUT CHANGES, AS SHOWN ON CONTRACT DRAWINGS. NO ALLOWANCE SHALL BE MADE LATER FOR NECESSARY CHANGES, UNLESS IT HAS BEEN BROUGHT TO CONTRACT ADMINISTRATOR'S ATTENTION IN WRITING, PRIOR TO CLOSING OF BIDS IN ACCORDANCE WITH B3 INQUIRIES.

APPLY FOR ALL PERMITS, SERVICES, FEES AND INSPECTIONS AND PAY FOR ALL FEES TO THE AUTHORITIES HAVING JURISDICTION. INCLUDE ALL COSTS IN BID QUOTE.

OBTAIN APPROVALS FROM THE ELECTRICAL INSPECTION AUTHORITY AND NOTIFY THE CONTRACT ADMINISTRATOR OF ANY CHANGES REQUESTED BY THE INSPECTION AUTHORITY.

WHERE DOUBT EXISTS AS TO THE MEANING OF THE DRAWINGS OR SPECIFICATIONS, OBTAIN CLARIFICATION PRIOR TO BID.

ALL MATERIALS USED SHALL BE NEW, OF THE TYPE SPECIFIED, AND APPROVED BY CERTIFICATION AGENCY RECOGNIZED BY THE AUTHORITY HAVING JURISDICTION, AND FREE FROM DEFECTS.

ALL ELECTRICAL EQUIPMENT INSTALLED OR CONNECTED SHALL BE IDENTIFIED BY MEANS OF WHITE LAMACOID LABELS C/W MINIMUM 3/8" BLACK LETTERING.

CLEAN ALL EQUIPMENT DURING CONSTRUCTION AND AGAIN ON COMPLETION OF THE CONTRACT.

REMOVE ALL SURPLUS MATERIALS, CUTTINGS, PACKAGING AND DEBRIS FROM THE SITE DURING THE PROGRESS AND AT FINAL COMPLETION OF THE WORK.

EXECUTE WORK IN A FIRST-CLASS AND WORKMANLIKE MANNER.

COORDINATE WITH ALL TRADES AND ARRANGE EQUIPMENT IN PROPER RELATION WITH OTHER APPARATUS, DUCTS, PIPES, ETC. AND WITH BUILDING CONSTRUCTION AND ARCHITECTURAL FINISHES.

ALL RECEPTACLE COVER PLATES, SWITCH COVER AND EXHAUST FAN SWITCH COVERS TO BE C/W LAMACOID LABELS INDICATING PANEL NAME AND CIRCUIT NUMBERS

BUILDING ENVELOPE PENETRATION OF ANY ELECTRICAL COMPONENT (I.E. CONDUIT, BOXES, CABLES, ETC.) SHALL BE EXECUTED SO INTEGRITY OF ASSEMBLY IS NOT COMPROMISED. PROVIDE ADEQUATE SEALING, COVERS, GASKETS, CAPS, ETC. COORDINATE WORK AND REQUIREMENTS WITH ALL OTHER RELEVANT CONTRACTORS, SUBCONTRACTORS AND CONTRACT ADMINISTRATORS.

DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT SHOW ALL DETAILS. INFORMATION INVOLVING ACCURATE MEASUREMENTS OF THE BUILDING, STRUCTURAL STEEL, EXISTING WALLS, ETC. ARE TO BE TAKEN IN THE FIELD. THE CONTRACTOR SHALL MAKE, WITHOUT ADDITIONAL EXPENSE TO THE CITY, NECESSARY CHANGES OR ADDITIONS TO RUNS TO ACCOMMODATE STRUCTURAL OR ARCHITECTURAL CONDITIONS.

LOCATION OF DEVICES MAY BE ALTERED WITHOUT CHARGE TO CONTRACT ADMINISTRATOR. PROVIDED THE CHANGE IS MADE BEFORE FINAL INSTALLATION, IT DOES NOT NECESSITATE ADDITIONAL MATERIALS, AND ALL SUCH CHANGES ARE RATIFIED BY CONTRACT ADMINISTRATOR. RECORD CHANGES ON RECORD SET OF DRAWINGS.

DRAWING SHOWS GENERAL LOCATION FOR EQUIPMENT AND CIRCUITS. INSTALL THEM IN SUCH A WAY AS TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF SPACE THROUGH WHICH THEY PASS.

ALL PAINTING AND PATCHING SHALL BE DONE BY QUALIFIED LABOURERS.

ALL PENETRATIONS THROUGH FIRE SEPARATIONS SHALL BE RATED TO MATCH FIRE RATING.

1M SHALL BE KEPT CLEAR IN FRONT OF ALL ELECTRICAL PANELS AS PER CEC.

INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS, THE CANADIAN ELECTRICAL CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO ENSURE PROPER INSTALLATION.

CONTRACTOR SHALL KEEP AN ONGOING SET OF 'RECORD' DRAWINGS ON SITE FOR REVIEW BY CONTRACT ADMINISTRATOR AT ANY TIME. DRAWINGS TO BE TURNED OVER UPON COMPLETION OF PROJECT.

CONDUITS SHALL NOT HAVE MORE THAN ONE VOLTAGE LEVEL OF WIRING RUNNING WITHIN THEM.

SUBMITTALS

SUBMIT PRODUCT DATA FOR ALL EQUIPMENT. ACCEPTABLE MATERIALS SHALL BE AS SPECIFIED AND CODE APPROVED. ALL MATERIAL SHALL BE NEW, UNLESS SPECIFIED OTHERWISE.

LIGHTING FIXTURES LISTED ARE PREFERRED. CONTRACTOR MAY, HOWEVER, SUBMIT ALTERNATES TO CONTRACT ADMINISTRATOR FOR APPROVAL AS EQUIVALENT IN ACCORDANCE WITH 'B7'. SUBMISSION SHALL INCLUDE FOOT CANDLE (FC) DISTRIBUTION WITH STATED LIGHT LOSS FACTOR (LLF).

SHOP DRAWINGS FOR ELECTRICAL EQUIPMENT/MATERIALS SHALL BE SUBMITTED FOR REVIEW BY THE CONTRACT ADMINISTRATOR BEFORE MANUFACTURING AND INSTALLATION CAN PROCEED.

SUBMIT TO THE CONTRACT ADMINISTRATOR UPON COMPLETION OF THE CONTRACT, ONE MARKED UP SET OF RECORD DRAWINGS AND THREE SETS OF MAINTENANCE MANUALS FOR SERVICE, DISTRIBUTION PANELS, LIGHT FIXTURES, LAMPS, EXITS, EMERGENCY UNITS, AND EMERGENCY HEADS.

SUBMIT TO THE CONTRACT ADMINISTRATOR A CERTIFICATE VERIFYING THAT THE EMERGENCY LIGHTING SYSTEM HAS BEEN TESTED UNDER FULL LOAD AS PER CODE REQUIREMENTS.

AFTER WORK IS COMPLETED, FURNISH TO THE CITY A WRITTEN GUARANTEE THAT FOR ONE YEAR FROM DATE OF ACCEPTANCE, ANY DEFECTS IN MATERIALS OR WORKMANSHIP WILL BE CORRECTED AT NO COST TO THE CITY. SUBMIT COPY OF GUARANTEE TO CONTRACT ADMINISTRATOR.

SUBMIT COPIES OF FIRE ALARM VERIFICATION AND TESTING REPORT TO THE CONTRACT ADMINISTRATOR PRIOR TO FINAL ACCEPTANCE. THESE SHALL BE PROVIDED THREE WORKING DAYS BEFORE CONTRACT ADMINISTRATORS FINAL OCCUPANCY REVIEW.

COORDINATION

THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE SCOPE OF WORK REQUIRED FOR EACH TRADE. WORK SHALL BE DONE BY THE APPROPRIATE SKILLED TRADE. ALL TRADES MUST COORDINATE WORK TO ENSURE THAT THE ENTIRE SCOPE OF THE PROJECT IS COVERED. THERE SHALL BE NO ALLOWANCES PROVIDED FOR ITEMS WHICH RESULT FROM A FAILURE TO COORDINATE. THE CONTRACTOR WILL REVIEW THE DRAWINGS WITH ALL TRADES PRIOR TO BID SUBMISSION TO RESOLVE ALL COORDINATION ISSUES.

RESPONSIBILITY TO DETERMINE WHICH DIVISION OR SECTION PROVIDES VARIOUS PRODUCTS AND WORK, RESTS WITH THE CONTRACTOR. ADDITIONAL COMPENSATION WILL NOT BE CONSIDERED BECAUSE OF DIFFERENCES IN INTERPRETATION OF TECHNICAL PROVISIONS.

THE CONTRACTOR SHALL COORDINATE WITH THE CONTRACT ADMINISTRATOR DURING ANY DEMOLITION AND CONSTRUCTION PHASES OF THE WORK FOR ALL TEMPORARY ELECTRICAL CONNECTIONS REQUIRED AND FOR THE REMOVAL OF EXISTING POWER SERVICES AND THE INSTALLATION OF NEW SERVICES. CONTRACTOR SHALL COMPLETE ALL PRELIMINARY WORK PRIOR TO ANY POWER OUTAGES.

CONTRACTOR SHALL COORDINATE, NOTIFY AND ARRANGE WITH THE CONTRACT ADMINISTRATOR ALL STAGING REQUIREMENTS TO MINIMIZE ALL POWER DISRUPTIONS AND ANY POWER OUTAGES NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST.

PRODUCT SPECIFICATIONS:

DISCONNECT SWITCHES

NON-FUSIBLE, HORSEPOWER RATED DISCONNECT SWITCH IN CSA (WEATHERPROOF WHERE INSTALLED OUTSIDE) ENCLOSURE.

- PROVISION FOR PADLOCKING IN SWITCH OFF POSITION.
- MECHANICALLY INTERLOCKED DOOR TO PREVENT OPENING WHEN HANDLE IS ON POSITION.
- QUICK-MAKE, QUICK-BREAK ACTION
- ON-OFF SWITCH POSITION INDICATION ON SWITCH ENCLOSURE COVER.
- ACCEPTABLE MANUFACTURER: SQUARE 'D', CUTLER HAMMER.

PANELBOARDS

LIGHTING AND POWER PANELS TO BE CIRCUIT BREAKER TYPE AND AS SHOWN ON DRAWINGS: PANELS SHALL CONTAIN THE FOLLOWING:

- BOLT-ON MOLDED CASE CIRCUIT BREAKERS: QUICK-MAKE, QUICK-BREAK TYPE, FOR MANUAL AND AUTOMATIC OPERATION WITH TEMPERATURE COMPENSATION FOR 40C AMBIENT.
- MULTI-POLE BREAKERS TO HAVE COMMON TRIP (THE HANDLE SHALL NOT BE ACCEPTED).
- BREAKERS USED FOR SWITCHING LIGHTS SHALL BE RATED FOR SWITCHING THAT DUTY.
- PANEL AND BREAKERS TO BE OF ONE MANUFACTURER. CIRCUIT BREAKERS SHALL BE INSTALLED IN PANELBOARDS BEFORE SHIPMENT,
- COPPER BUS WITH NEUTRAL OF SAME AMPERE RATING AS MAINS,
- DEAD FRONT TYPE,
- CODE GAUGE STEEL ENCLOSURE,
- TRIM WITH CONCEALED FRONT BOLTS AND HINGES AND DOOR
- FINISHED FACTORY PAINT CSA GRAY 61 ENAMEL,
- FIT WITH PLASTIC COVERED TYPED DIRECTORY IN FRAME ON INSIDE OF DOOR COVER,
- DIRECTORY TO INDICATE CIRCUITS SERVED AS PER FINAL WIRING CONNECTIONS,
- IN ADDITION TO CSA REQUIREMENTS MANUFACTURER'S NAMEPLATE SHALL SHOW FAULT CURRENT THAT THE PANEL INCLUDING BREAKERS HAVE BEEN BUILT TO WITHSTAND AND INTERRUPT.
- PANELS SHALL BE WEATHERPROOF NEMA 3R.
- TWO KEYS SHALL BE PROVIDED FOR EACH PANELBOARD AND ALL PANELBOARDS SHALL BE KEYPED ALIKE FOR THE ENTIRE SITE

PROVIDE LOCK-ON DEVICES ON BREAKERS FOR THE FOLLOWING SYSTEMS.

- EXIT LIGHTS
- NIGHT LIGHTS

ACCEPTABLE MANUFACTURER: SQUARE 'D', CUTLER HAMMER, OR MATCH EXISTING.

CONDUIT, WIRE AND CONNECTIONS

DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHOWN INDICATE POINTS TO BE JOINED. RUNS MAY BE ALTERED BY THE CONTRACTOR TO SUIT ACTUAL FIELD CONDITIONS. ELECTRICAL DRAWINGS ONLY GIVE INDICATION OF OTHER TRADES EQUIPMENT.

WIRING DEVICES IN FINISHED AREAS SHALL BE RECESSED MOUNTED AND FOR ALL UNFINISHED AREAS MAY BE SURFACE MOUNTED.

A WARNING SIGN SHALL BE PLACED NEAR ALL MOTORS WITH THE FOLLOWING WORDING: "DO NOT SERVICE UNTIL DISCONNECTS ARE LOCKED OFF".

EXPOSED WIRING AND CONDUIT SHALL BE WATERTIGHT.

FINAL CONNECTIONS TO MOTORS SHALL BE WITH MIN. 18" LONG FLEX CONDUIT, PROVIDE DISCONNECTS AS PER CODE REQUIREMENTS.

UNLESS OTHERWISE NOTED, FOR ALL OUTSIDE LIGHTING, USE MINIMUM #10 RW90 RUN IN 1" RIGID PVC CONDUIT C/W BOND WIRE. INCREASE WIRE GAUGE ACCORDING TO LOAD AND DISTANCE.

TEST SYSTEM AND RECORD SAME FOR THE CONTRACT ADMINISTRATOR'S APPROVAL:

- VOLTAGE DROP
- PHASE BALANCE
- INSULATION RESISTANCE
- GROUND RESISTANCE

ALL WIRE AND CABLE SHALL BE COPPER, 98% CONDUCTIVITY, COLOUR CODED, NEW AND MARKED AS PER CODE REQUIREMENTS AND INSTALLED IN RACEWAYS. WIRES SHALL BE RATED MINIMUM 600V TYPE TWH OR R90X-LINK. RWU90 SHALL BE USED FOR UNDERGROUND RACEWAY INSTALLATIONS.

ALL WIRING SHALL BE SIZED AS PER CODE MINIMUM ALLOWABLE WIRE SIZE IS #12 AWG. USE MINIMUM #14 AWG FOR LIGHT FIXTURE CONNECTIONS. CONDUCTORS #8 AWG AND LARGER TO BE STRANDED. ALL WIRES INSTALLED IN CONDUIT SHALL BE PULLED IN AT THE SAME TIME. ONLY APPROVED PULLING LUBRICANT SHALL BE USED. COLOUR CODE CONDUCTORS WITH DIFFERENT COLOURS FOR EACH PHASE, NEUTRAL, GROUND AND BOND WIRES AS REQUIRED BY CODE.

MAXIMUM VOLTAGE DROP SHALL BE AS PER CODE REQUIREMENTS.

ALL CONDUITS, CABLES AND WIRES, ETC., TO BE RATED EITHER FT1 FOR COMBUSTIBLE BUILDINGS, FT4 FOR NON COMBUSTIBLE BUILDINGS AND FT6 FOR PLENUM AND AS REQUIRED BY THE CODE.

ALL WIRE CONNECTIONS TO BE SECURELY FASTENED BY MEANS OF APPROVED CONNECTORS.

ALL NON-CURRENT CARRYING METAL PARTS SHALL BE GROUNDED AND/OR BONDED IN ACCORDANCE WITH THE CODE.

THE BUILDING STRUCTURAL STEEL SHALL BE BONDED TO THE GROUND SYSTEM.

OPENINGS IN ALL ELECTRICAL METAL BOXES SHALL BE PUNCHED OR CUT. BURNING OF HOLES SHALL NOT BE PERMITTED.

INSTALL ALL CONDUITS, ETC. TO ACCOUNT FOR EXPANSION AND INSTALL APPROVED EXPANSION JOINTS WHERE REQUIRED.

RACEWAYS SHALL BE RIGID METAL CONDUITS, EMT OR FLEXIBLE CONDUIT AS SHOWN ON THE DRAWINGS. ALL CONDUIT INSTALLED IN CONCRETE FLOOR SHALL BE RIGID PVC OR RIGID GALVANIZED STEEL CONDUIT C/W BOND CONDUCTOR.

EMT COUPLINGS AND CONNECTORS TO BE T & B STEEL, TAPE ALL JOINTS FOR ALL IN-SLAB INSTALLATIONS. STEEL SHALL BE USED ABOVE GRADE.

ALL CONDUITS MUST BE SECURELY FASTENED WITH APPROVED CLIPS AND SCREWS IN PARTITIONS AND CADDY CLIPS IN CEILING. NAILS SHALL NOT BE ACCEPTED.

EXPOSED CONDUITS IN FINISHED AREAS SHALL NOT BE ACCEPTED UNLESS APPROVED BY THE CONTRACT ADMINISTRATOR. WHERE CONDUITS RUN EXPOSED ON EXISTING SURFACES PAINT TO MATCH WALL FINISH.

CONDUITS MOUNTED EXPOSED UP TO 5'-0" A.F.F. SHALL BE RIGID STEEL GALVANIZED STANDARD WEIGHT WITH GALVANIZED THREADED COUPLINGS.

CONTACTOR

PROVIDE A NEW 6 POLE 20A WEATHERPROOF LIGHTING CONTACTOR CSA RATED, LED INDICATOR AND HAND/OFF/AUTO SWITCH.

PROVIDE OUTLET BOXES FOR CONNECTING TO DEVICES AND EQUIPMENT AS REQUIRED OR AS INDICATED ON DRAWINGS. LOCATIONS OF OUTLETS MAY BE CHANGED UP TO 15'-0" WITHOUT EXTRA CHARGE PROVIDED THAT INSTRUCTIONS FOR CHANGE ARE ISSUED BEFORE INSTALLATION OF THE OUTLET.

ALL CONDUIT, CONDUCTORS, WIRES, ETC. SHALL BE LABELLED IN INDELIBLE INK AT PANEL AND JUNCTION BOXES INDICATING DEVICE FED, PANEL NAME AND CIRCUIT NUMBER.

PRIOR TO INSTALLATION OF ANY CONDUIT IN CONCRETE SLABS, ELECTRICAL SUBCONTRACTOR SHALL COORDINATE LAYOUT AND REQUIREMENTS WITH CONTRACT ADMINISTRATOR.

RECEPTACLES

- SINGLE RECEPTACLES, DUPLEX RECEPTACLES, CSA TYPE 5-15 R, 125 V, 15 A, U GROUND GFI
- SUITABLE FOR NO. 10 AWG FOR BACK AND SIDE WIRING.
 - EIGHT BACK WIRED ENTRANCES, FOUR SIDE WIRING SCREWS.
 - TRIPLE WIPE CONTACTS AND RIVETED GROUNDING CONTACTS.

SUPPLY AND INSTALL 15-20A RECEPTACLES WHERE INDICATED. ALL RECEPTACLES SHALL BE MINIMUM SPECIFICATION GRADE. ALL RECEPTACLES TO BE GFI.

WHERE ROOF MOUNTED HVAC EQUIPMENT IS INSTALLED PROVIDE A DEDICATED CIRCUIT GFCI WEATHERPROOF RECEPTACLE WITHIN 10 FEET.

ALL COVER PLATES SHALL BE WEATHERPROOF.

LUMINAIRES, LAMPS AND BALLAST, SWITCHES

LUMINAIRES SHALL BE AS DETAILED ON THE FIXTURE SCHEDULE AND INSTALLED AS INDICATED IN LOCATIONS SHOWN. INSTALL COMPLETE WITH LAMPS, BALLAST, DIFFUSERS, HANGERS, GASKETS, CANOPIES AND SUPPORTS FOR A COMPLETE AND FINISHED OPERATION. FINAL LAYOUT OF LUMINAIRES SHALL BE MADE AFTER DUCTING, PIPING, AND SHELVING LAYOUTS ARE FULLY COORDINATED WITH OTHER TRADES. ALL LUMINAIRES TO BE ADEQUATELY ATTACHED DIRECTLY TO THE BUILDING STRUCTURE.

UNLESS OTHERWISE INDICATED, BALLAST SHALL BE HIGH POWER FACTOR RAPID START SOUND RATING "A" SUITABLE FOR 120V OPERATION.

PROVIDE LAMPS FOR ALL FIXTURES. LAMPS SHALL BE PROVIDED AS INDICATED IN THE FIXTURE SCHEDULE.

ALL FIRE RESISTANCE RATED ASSEMBLIES (I.E. WALLS, CEILING, ETC.) WHICH CONTAIN RECESSED LIGHTING FIXTURES SHALL BE C/W FIRE RATED BACKING TO MAINTAIN THE INTEGRITY OF THE FIRE RESISTANCE. (THIS WORK SHALL BE PERFORMED OUTSIDE ELECTRICAL SCOPE OF WORK)

SWITCHES SHALL ALL BE WEATHERPROOF.

EMERGENCY LIGHTING

SUPPLY AND INSTALL EMERGENCY BATTERY UNITS AND EMERGENCY LIGHTING FIXTURES AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN.

UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL BATTERY UNITS SHALL HAVE THE FOLLOWING FEATURES:

- SEALED 10 YEARS LIFE LEAD BATTERIES
- COMPLETE MAINTENANCE-FREE BATTERIES
- VOLTAGE SENSITIVE DEMAND CHARGER
- SEALED DUST-TIGHT TRANSFER RELAY
- LOW VOLTAGE BATTERY DISCONNECT
- DUAL DIAGNOSTIC INDICATOR LIGHTS
- TEST SWITCH
- TEMPERATURE COMPENSATED
- CURRENT REGULATED
- FUSE PROTECTED OUTPUT CIRCUITS
- VOLTAGE REGULATED
- FULLY AUTOMATIC
- SOLID STATE
- 12V OR 24V DC SECONDARY OPERATION
- LUMINAIRE VOLTAGE TO SUITE PRIMARY OPERATION VOLTAGE

UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL EMERGENCY LIGHT HEADS SHALL BE 12V MINIMUM 5W AND OF LED CONSTRUCTION.

UNLESS OTHERWISE NOTED THE TOTAL LOAD (LIGHTING HEADS CONNECTED) CONNECTED TO THE BATTERY SHALL OPERATE FOR TIME AS REQUIRED BY ARTICLE 3.2.7.4 OF BUILDING CODE WITH A MINIMUM OF 87.5% OF THE RATED BATTERY VOLTAGE OUTPUT.

UNLESS OTHERWISE NOTED, ALL EMERGENCY LIGHTING HEADS SHALL BE LOCATED ON CEILING AT WALL AND SHALL BE COORDINATED WITH WALL AND CEILING DETAILS AND FINISHES. CONTRACTOR SHALL SUPPLY AND INSTALL ALL WIRING FROM BATTERY PACK TO REMOTE HEADS AS REQUIRED. ENSURE WIRE SIZE IS ADEQUATE FOR VOLTAGE DROP (MAXIMUM 5%).

ALL EXIT SIGN LIGHTS MUST BE CONNECTED TO BOTH NORMAL POWER SOURCE AND APPROVED EMERGENCY POWER SOURCE.

EMERGENCY BATTERY UNITS MUST BE CONNECTED TO THE SAME CIRCUIT AS NORMAL LIGHTING TO THE AREA THEY SERVE AS PER CEC SECTION 46.

FIRE STOPPING

ALL ELECTRICAL WIRES, CABLES, NONCOMBUSTIBLE RACEWAYS, OUTLET BOXES AND OTHER SIMILAR SERVICES THAT PENETRATE FIRE WALL, FIRE SEPARATION OR ASSEMBLY REQUIRED TO HAVE A FIRE RESISTANCE RATING OR FIRE SEPARATION, SHALL BE SEALED BY FIRE STOP SYSTEM WHICH HAS AN "F" AND/OR "FT" RATING NOT LESS THAN REQUIRED FIRE PROTECTION RATING OF FIRE SEPARATION.

CONTRACTOR SHALL ONLY USE LISTED MATERIALS AND METHODS.

SERVICE PENETRATION AND FIRE STOPPING OF SERVICE PENETRATION IN FIRE SEPARATION AND FIRE RATED ASSEMBLIES SHALL COMPLY WITH THE CURRENT BUILDING CODE.

PROVIDE FOR FIRE STOPS IN CONCEALED SPACES AS REQUIRED BY THE CURRENT BUILDING CODE.

ALL FIRE RESISTANCE RATED ASSEMBLIES (I.E. WALLS CEILING, ETC.) WHICH CONTAIN PANEL BOARDS, BACK BOXES, RECESSED LIGHTING FIXTURES, ETC. SHALL BE C/W FIRE RATED BACKING TO MAINTAIN THE INTEGRITY OF THE FIRE RESISTANCE.

STARTERS

SUPPLY AND INSTALL A STARTER FOR EXHAUST FAN EF-11 COMPLETE WITH A HAND-OFF-AUTO SELECTOR SWITCH. FAN SHALL RUN CONTINUOUSLY IN HAND MODE. IN AUTO MODE, FAN SHALL RUN ONLY WHEN ACTIVATED FROM THE HUMIDISTAT OR THE LOW LIMIT THERMOSTAT. COORDINATE WITH MECHANICAL. STARTER TO BE WEATHERPROOF.

NOTES:

0	ISSUED FOR CONSTRUCTION	AP	MAY 11 2015
No.	REVISION/DESCRIPTION	BY	DATE

SEAL

DRAWN	860	CHECKED	DESIGNED	APPROVED
DATE	2014.10.06	USER APPROVAL		

THE CITY OF WINNIPEG
 PLANNING, PROPERTY AND
 DEVELOPMENT DEPARTMENT
 MUNICIPAL ACCOMMODATIONS DIVISION
 3-65 GARRY STREET, R3C 4K4

PROJECT
 WINNIPEG FIRE PARAMEDIC SERVICES
 ADDITIONAL APPARATUS ROOM BAYS

KGS GROUP CONSULTING ENGINEERS
 Certificate of Authorization
 KGS Group
 No. 245

603 REDWOOD AVENUE	SHEET TITLE	SCALE	PROJECT No:	SHEET No:
ADDITION ELECTRICAL SPECIFICATIONS	AS SHOWN	2013-0171-02	E3	