

COQUITLAM CITY HALL - OFFICE RENOVATION

3000 GUILFORD WAY, COQUITLAM, B.C.

| SYMBOL LEGEND | | | |
|---|--|--|--|
| LIGHTING | POWER | FIRE ALARM | SINGLE LINE |
| EMERGENCY LUMINAIRE | SINGLE RECEPTACLE | SMOKE DETECTOR | FEEDER/CONDUCTOR |
| SURFACE MOUNTED LUMINAIRE | DUPLEX RECEPTACLE | THERMAL DETECTOR | BUSBAR/CDP |
| CEILING RECESSED LUMINAIRE | ABOVE COUNTER DUPLEX RECEPTACLE | PIEZO SILENCE SWITCH | POWER CIRCUIT BREAKER (VACUUM OR SF6) |
| CEILING SUSPENDED LINEAR LUMINAIRE | 5-20R DUPLEX RECEPTACLE (T-SLOT) | FIRE ALARM HORN (WISTROBE) | DRAW OUT BREAKER |
| FLUORESCENT STRIP LIGHT | ABOVE COUNTER 5-20R DUPLEX RECEPTACLE (T-SLOT) | FIRE ALARM PULL STATION | BREAKER |
| SURFACE MOUNTED LUMINAIRE | GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE | FIRE ALARM BELL | GANG OPERATED DISCONNECT SWITCH |
| RECESSED DOWN LIGHT | ABOVE COUNTER GFCI DUPLEX RECEPTACLE | FIRE ALARM GONG | FUSE |
| WALL MOUNTED DOWN LIGHT | FLOOR MOUNTED DUPLEX RECEPTACLE | FIRE ALARM STROBE | RELAY |
| RECESSED STEP LIGHT | FLOOR MOUNTED POKE-THRU FOUR PLEX RECEPTACLE | CEILING MOUNTED FIRE ALARM SPEAKER | GROUND |
| PENDANT LUMINAIRE | CEILING MOUNTED DUPLEX RECEPTACLE | WALL MOUNTED FIRE ALARM SPEAKER | METERING TRANSFORMER |
| UNDER CUPBOARD STRIP/PUCK LIGHT | JUNCTION BOX | COMMUNICATIONS | |
| POLE LUMINAIRE | MECHANICAL EQUIPMENT DIRECT CONNECTION | TELEPHONE OUTLET | SERVICE PROVIDER METER |
| TWO HEAD POLE LUMINAIRE | KITCHEN EQUIPMENT CONNECTION | COMBINATION TELEPHONE AND DATA OUTLET WALL | DIGITAL METERING UNIT |
| BOLLARD | MECHANICAL MOTOR CONNECTION | INTERCOM OUTLET | TRANSFORMER (DRY TYPE) |
| SINGLE POLE TOGGLE SWITCH, GANGED AS SHOWN | DISCONNECT SWITCH | CEILING MOUNTED SPEAKER | GENERATOR |
| LOW VOLTAGE SWITCH, GANGED AS SHOWN | GROUND BUS | WALL MOUNTED SPEAKER | TRANSFER SWITCH |
| OCCUPANCY SENSOR, WALL MOUNTED | PANEL BOARD | SECURITY | |
| OCCUPANCY SENSOR, CEILING MOUNTED | CONDUIT RUN UP | CCTV | LSIG LONG, SHORT, INSTANTANEOUS, & GROUND TRIP UNIT LV LOW VOLTAGE LIGHTING RELAY CABINET |
| LOW VOLTAGE OCCUPANCY SENSOR, CEILING MOUNTED | CONDUIT RUN DOWN | DOOR CONTACT | |
| DIMMER SWITCH | PUSH BUTTON | CARD READER | WP WEATHER PROOF |
| EXIT SIGN - ARROWS AS INDICATED | EMERGENCY PUSH BUTTON | ELECTRIC STRIKE | E EXISTING DEVICE TO REMAIN |
| EXIT SIGN - SINGLE SIDED | POKE THRU FLOOR BOX CW FURNITURE WHIP | KEY PAD | R EXISTING DEVICE TO BE REMOVED |
| EMERGENCY BATTERY PACK | WALL MOUNTED FURNITURE WHIP | REQUEST TO EXIT SENSOR | RR EXISTING DEVICE TO BE REMOVED AND RELOCATED |
| DUAL REMOTE EMERGENCY HEADS, CEILING MOUNTED | | INTRUSION MOTION DETECTOR 180° | RE EXISTING DEVICE IN NEW RELOCATED POSITION |
| DUAL REMOTE EMERGENCY HEADS, WALL MOUNTED | | INTRUSION MOTION DETECTOR WALL MOUNTED | ABBREVIATIONS |

| DRAWING LIST | |
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| DWG NO. | DESCRIPTION |
| E000 | COVER PAGE, SYMBOL LEGEND & DRAWING LIST |
| E100 | DEMOLITION PLAN |
| E101 | NEW ELECTRICAL PLAN |
| E200 | ELECTRICAL DETAILS |
| E300 | SPECIFICATIONS |

| | |
|---|-----------------------------------|
| Electrical Power, Lighting, Other Equipment Design (Energy) | |
| British Columbia Building Code: | 2024 |
| Electrical Design: | |
| Energy Standard/Code: | ASHRAE 90.1-2019 |
| Power Compliance Path: | Prescriptive |
| In accordance with: | 8.1.4 Additions to Existing Bldgs |
| Lighting Compliance Path: | Prescriptive |
| Lighting Design Method: | Building Area Method |
| In accordance with: | 9.2.2.2 |
| Other Equipment Path: | N/A (no other equip. work) |
| In accordance with: | N/A |



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|-----|------------|-------------------|
| 3. | 07/05/2025 | ISSUED FOR TENDER |
| 2. | 30/04/2025 | ISSUED FOR BP |
| 1. | 15/04/2025 | ISSUED FOR 60% CD |
| No. | DATE | REVISION |
| | (dd/mm/yr) | |

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| PROJECT TITLE |
| COQUITLAM CITY HALL P&D DEPT OFFICE RENOVATION 3000 GUILDFORD WY COQUITLAM, BC |

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cta: date:

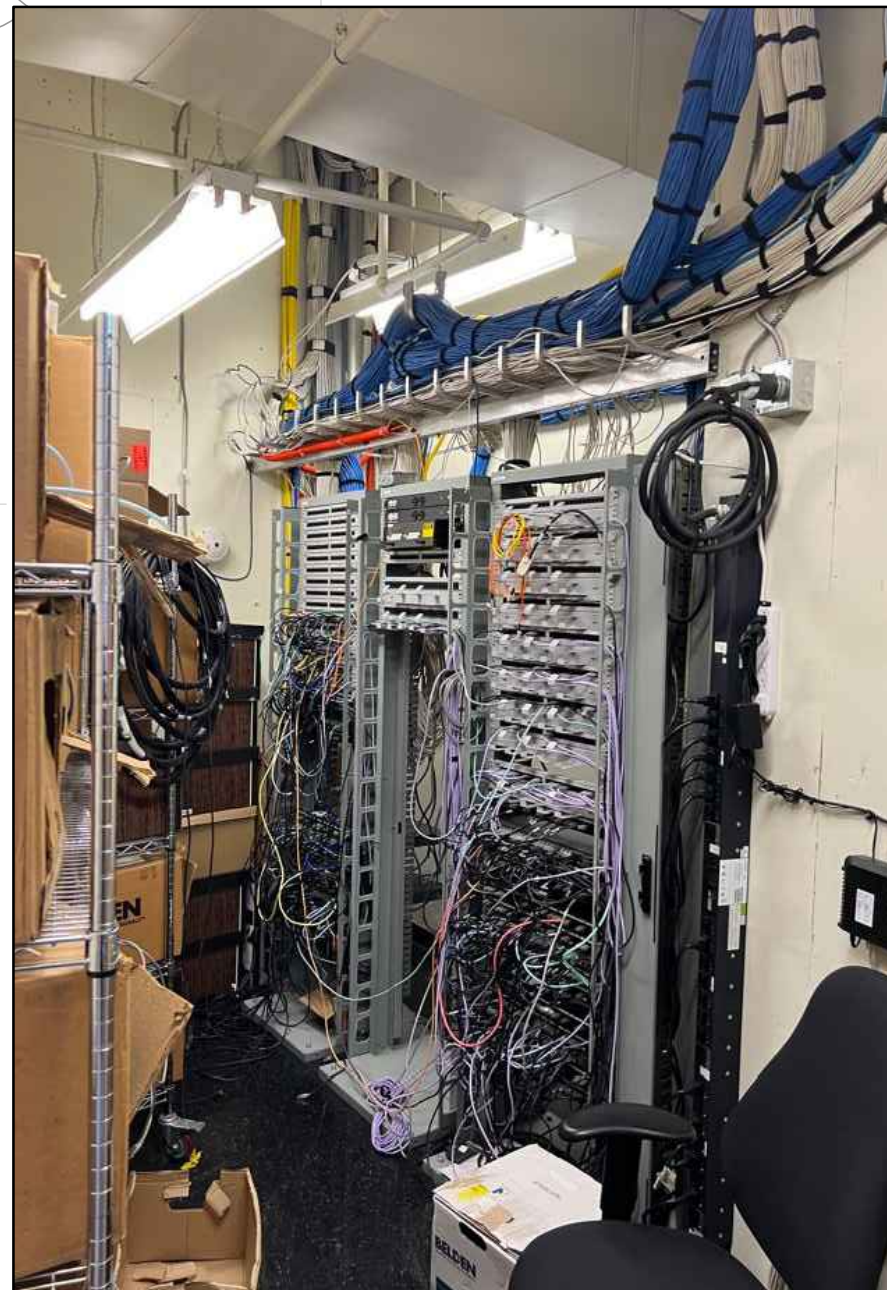
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| SHEET TITLE |
| COVER PAGE, SYMBOL LEGEND & DRAWING LIST |

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| PROJECT No. | 0225.00B2 |
| DRAWN | RH |
| CHECKED | RH |
| SCALE | AS NOTED |
| DATE | MAR, 2025 |
| PRINTED | - |

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| REVISION No. |
| E000 |

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CHERNOFF THOMPSON ARCHITECTS



2 EXISTING DATA ROOM
NTS

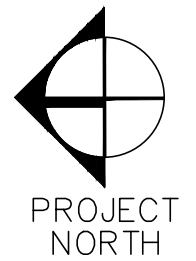
1 DEMOLITION PLAN
1:100

DEMOLITION NOTES

- ALL REDUNDANT AND UNUSED WIRING INCLUDING ANY WIRING IN THE CEILING SPACE IS TO BE REMOVED BY THE CONTRACTOR.
- PROVIDE UL-LISTED FIRESTOPPING TO ALL WALL PENETRATIONS TO ENSURE FIRE RATING OF THE ASSEMBLIES ARE MAINTAINED. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF FIRE-RATED ASSEMBLIES. PROVIDE SHOP DRAWINGS FOR THE PROPOSED FIRESTOPPING PRODUCT. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.
- FOR ALL EXISTING DEVICES INDICATED TO REMAIN, OR NOT INDICATED TO REMOVE, REINSTALL TO ALLOW CONSTRUCTION AS NECESSARY.
- FOR ALL ITEMS INDICATED AS REMOVE, REMOVE ITEMS INCLUDING CONDUIT AND WIRING ALL THE WAY TO THE SOURCE AND MAKE IT SAFE. DISPOSE OF ALL WASTE MATERIALS. FIRE STOP ALL OPENINGS. THE CONTRACTOR IS TO ALLOW FOR SITE VISITS, PRIOR TO SUBMITTING TENDER, TO VERIFY ALL ITEMS THAT ARE TO BE REMOVED.
- THE INTENT OF THESE DRAWINGS IS TO AID BIDDING CONTRACTORS IN DETERMINING THE APPROXIMATE EXTENT OF THE EXISTING EQUIPMENT TO BE REMOVED AND THE EQUIPMENT TO BE RE-USED. EXACT COUNTS AND EXTENT OF WIRING TO BE REMOVED, RE-USED, RELOCATED IS TO BE DETERMINED ON SITE BY THE CONTRACTOR. CONTRACTOR SHALL ALLOW FOR RELOCATION, RE-WIRING OF OUTLETS AND DEVICES WHICH ARE NOT SHOWN ON DRAWINGS BUT WHICH MAY BE FOUND AS WORK PROCEEDS. CONTRACTOR TO USE HIS EXPERIENCE AND BEST JUDGMENT FROM SITE VISIT AND WORK OF A SIMILAR NATURE TO DETERMINE HOW MUCH WORK THIS WILL ENTAIL. MAKE ALLOWANCE IN TENDER PRICE AS NECESSARY.
- CONTRACTOR SHALL LAY OUT CAREFULLY FOR TRADESMAN ON SITE. WHAT IS TO BE DONE WITH EACH AND EVERY EXISTING OUTLET, DEVICE, ETC. TO PRECLUDE MISUNDERSTANDINGS REGARDING EQUIPMENT TO BE RETAINED IN OPERATION, RE-FED, RELOCATED, ETC. FURTHER, OUTLETS TO BE INSTALLED IN EXISTING WALLS RETAINED SHALL BE INDICATED TO ENSURE COMPLETE UNDERSTANDING OF CONCEALMENT OF WIRING ETC., PER SPECIFICATION AND THE NEED TO CUT AND PATCH EXISTING WALLS.

DRAWING KEY NOTES

- REMOVE EXISTING FURNITURE WHIP FLOOR BOX. REMOVE ALL ASSOCIATED POWER CIRCUITS BACK TO PANEL AND DATA CABLING BACK TO RACK. CUT CONDUIT FLUSH WITH FLOOR. PROVIDE FIRESTOPPING AND INSTALL SURFACE MOUNT STAINLESS STEEL COVER PLATE FLUSH WITH CARPET TO COVER FLOOR OPENING. (TYPICAL)
- REMOVE EXISTING WALL-MOUNTED POWER AND DATA FURNITURE WHIP. REMOVE ALL ASSOCIATED POWER CIRCUITS BACK TO PANEL AND DATA CABLING BACK TO RACK. INSTALL STAINLESS STEEL COVER PLATE ON ALL UNUSED BOXES (TYPICAL)



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COQUITLAM
CITY HALL P&D
DEPT OFFICE
RENOVATION
3000 GUILDFORD WY
COQUITLAM, BC

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cto:

date:

SHEET TITLE
DEMOLITION PLAN

| | |
|-------------|-----------|
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| DRAWN | RH |
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E100

1 NEW ELECTRICAL PLAN

A. CIRCUIT NUMBERS SHOWN ARE FOR GROUPING PURPOSES ONLY TO CONTRACTOR TO UTILIZE THE NEXT AVAILABLE CIRCUIT IN THE PANEL. PROVIDE AND INSTALL NEW BREAKERS AS REQUIRED.

B. CONTRACTOR SHALL VERIFY ALL EXISTING ELECTRICAL CONDITIONS PRIOR TO SUBMITTING THEIR BID. AT THIS TIME, ANY DISCREPANCIES BETWEEN ACTUAL SITE CONDITIONS AND INFORMATION IN THE ELECTRICAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER FOR REVIEW AND ACTION.

C. FOR ALL EXISTING DEVICES INDICATED TO REMAIN, OR NOT INDICATED TO REMOVE, REINSTALL TO ALLOW CONSTRUCTION AS NECESSARY.

D. CONTRACTOR SHALL LAY OUT CAREFULLY FOR TRADESMAN ON SITE. WHAT IS TO BE DONE WITH EACH AND EVERY EXISTING OUTLET, DEVICE, ETC. TO PRECLUDE MISUNDERSTANDINGS REGARDING EQUIPMENT TO BE RETAINED IN OPERATION, RE-USED, RELOCATED, ETC. FURTHER, OUTLETS TO BE INSTALLED IN EXISTING WALLS RETAINED SHALL BE INDICATED TO ENSURE COMPLETE UNDERSTANDING OF CONCEALMENT OF WIRING ETC. PER SPECIFICATION AND THE NEED TO CUT AND PATCH EXISTING WALLS.

E. PROVIDE UPDATED AND TYPEWRITTEN PANEL SCHEDULES INDICATING NEW LOADS.

F. PROVIDE UL-LISTED FITTINGS FOR ALL WALL PENETRATIONS TO ENSURE FIRE RATING OF THE ASSEMBLIES ARE MAINTAINED. REFER TO THE ELECTRICAL DRAWINGS FOR THE LOCATION OF FIRE-RATED ASSEMBLIES. PROVIDE SHOP DRAWINGS FOR THE PROPOSED FIRESTOPPING PRODUCT. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.

G. RETAIN A QUALIFIED PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA TO DESIGN AND REVIEW SEISMIC RESTRAINTS FOR ALL WORK ASSOCIATED WITH DIVISION 26 (CONDUIT SUPPORTS, ETC.). THE STRUCTURAL ENGINEER'S DESIGN, REVIEW, SUPERVISORY FUNCTIONS AND SUBMIT THE REQUIRED LETTERS OF ASSURANCE (SCHEDULES 'S' & 'C') TO THE ELECTRICAL AND RUMER ENGINEER.

H. ALL NEW WIRING TO BE CONCEALED IN RUN IN EMT CONDUIT. CONDUITS ARE TO BE RUN IN A NEAT AND TYPICAL MANNER TO GET INTO THE WALLS.

I. DO NOT USE THE T-BAR CEILING SUPPORTS TO ANCHOR ELECTRICAL DEVICES/EQUIPMENT/CONDUIT/WIRING. ALL ELECTRICAL SHALL HAVE ITS OWN INDEPENDENT ANCHOR SUPPORTS.

J. PROVIDE 1/2" SLOTTED RECEPTACLES. CONTRACTOR TO PROVIDE 20A-1P BREAKER IN THE PANEL.

K. WHERE RECEPTACLES ARE MOUNTED BACK-TO-BACK IN WALLS, STAGGER THE MOUNTING OF THESE DEVICES TO MINIMIZE THE SOUND TRANSMISSION.

L. LABEL ALL OUTLETS WITH THEIR ASSOCIATED CIRCUIT NUMBER ON THE OUTLET FACEPLATE.

M. ALL EXPOSED ELECTRICAL INFRASTRUCTURE IN THE OPEN CEILING AREA IS TO BE PAINTED TO MATCH CEILING. REFER TO ARCHITECTURAL.

N. ALL DATA PATHWAYS TO MEET CITY OF COQUITLAM DIV 27 GUIDELINES.

O. CONTRACTOR TO INSTALL STAINLESS STEEL COVER PLATES OVER ALL UN-USED BOXES.

P. CONTRACTOR TO REFER TO EXISTING DRAWINGS FROM THE CITY FOR EXISTING CABLE TRAY LAYOUT.

- 1 PROVIDE FLOOR MOUNTED POKE THRU FURNITURE SYSTEM CONNECTION FOR POWER AND TELECOM WH/P. POKE THRU DEVICE TO BE LEGRAND WIREMOLD EVOLUTION 6ATCF5 SERIES RECESSED FURNITURE FEED ASSEMBLY WITH SURFACE STYLE COVER OR APPROVED EQUIV. PROVIDE WORK REQUIRED FOR ALL TERMINATIONS OF FURNITURE SYSTEM RECEPTACLES AND COMMUNICATION OUTLETS MOUNTED IN THE FURNITURE. CONTRACTOR TO SUPPLY AND INSTALL DATA COVER PLATES AT EACH DESK. POWER COVER PLATE TO BE PROVIDED BY OTHERS. IN AREAS WHERE CORING IS REQUIRED, ALLOW FOR AFTER HOUR WORK FOR THE INSTALLATION OF CONDUITS IN THE TENANT FLOOR CEILING BELD AND ENSURE THAT PROPER X-RAY PROCEDURES ARE PERFORMED TO ENSURE SAFE CORING. COORDINATE EXACT LOCATIONS WITH FURNITURE CONTRACTOR ON SITE. FURNITURE PROVIDED BY OTHERS.
- 2 PROVIDE WALL MOUNTED FURNITURE SYSTEM CONNECTION FOR POWER AND TELECOM WH/P. PROVIDE WORK REQUIRED FOR ALL TERMINATIONS OF FURNITURE SYSTEM RECEPTACLES AND COMMUNICATION OUTLETS MOUNTED IN THE FURNITURE. CONTRACTOR TO SUPPLY AND INSTALL DATA COVER PLATES AT EACH DESK. POWER COVER PLATE TO BE PROVIDED BY OTHERS. COORDINATE EXACT LOCATIONS WITH FURNITURE CONTRACTOR ON SITE. FURNITURE PROVIDED BY OTHERS.
- 3 FURNITURE SYSTEM RECEPTACLES AND COMMUNICATION OUTLETS MOUNTED IN THE FURNITURE. MAXIMUM OF 3 DESKS PER CIRCUIT. (TYPICAL)
- 4 PROVIDE 120V, 15A POWER CONNECTION FOR FUTURE DIGITAL DISPLAY.
- 5 EXISTING POT LIGHTS IN THE BULKHEAD TO BE SHIFTED TO MATCH NEW STOREFRONT. REFER TO ARCHITECTURAL FOR FURTHER DETAILS. (TYPICAL)
- 6 PROVIDE FLOOR MOUNTED POKE THRU DEVICE FOR POWER AND DATA. POKE THRU DEVICE TO BE LEGRAND WIREMOLD RCL POKE THRU OR APPROVED EQUIV. IN AREAS WHERE CORING IS REQUIRED, ALLOW FOR AFTER HOUR WORK FOR THE INSTALLATION OF CONDUITS IN THE TENANT FLOOR CEILING BELD AND ENSURE THAT PROPER X-RAY PROCEDURES ARE PERFORMED TO ENSURE SAFE CORING. COORDINATE EXACT LOCATIONS WITH FURNITURE CONTRACTOR ON SITE.
- 7 NEW EXIT SIGNS TO BE INSTALLED IN THE EXISTING LOCATIONS. CONTRACTOR TO REPLACE ALL EXISTING EXIT SIGNS. CONTRACTOR TO REUSE EXISTING CIRCUITS FOR NEW EXIT SIGNS. (TYPICAL)
- 8 PAC-PLOT TO BE SUPPLIED AND INSTALLED BY OTHERS TO FEED FURNITURE SYSTEM CONNECTION FOR POWER AND TELECOM WH/P. PROVIDE WORK REQUIRED FOR ALL TERMINATIONS OF FURNITURE SYSTEM RECEPTACLES AND COMMUNICATION OUTLETS MOUNTED IN THE FURNITURE. CONTRACTOR TO SUPPLY AND INSTALL DATA COVER PLATES AT EACH DESK. POWER COVER PLATE TO BE PROVIDED BY OTHERS. COORDINATE EXACT LOCATIONS WITH FURNITURE CONTRACTOR ON SITE. FURNITURE PROVIDED BY OTHERS.

E101



3 PANEL SCHEDULE '2F'

4 PANEL SCHEDULE '2G'

5 MECH SCHEDULE
NTS

6 LUMINAIRE SCHEDULE

REVISION No.

E200

ELECTRICAL SPECIFICATION

1. GENERAL

1. GENERAL REQUIREMENTS, INSTRUCTIONS TO BIDDERS, THIS SPECIFICATION AND ANY ADDENDA HERETO FORM PART OF THE CONTRACT DOCUMENTS AND SHALL BE READ IN CONJUNCTION WITH THEM. WORK TO INCLUDE THE FURNISHING OF ALL LABOR AND MATERIALS, UNLESS SPECIFIED OTHERWISE, TO COMPLETE AND PUT INTO OPERATING CONDITION ALL ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
2. IT IS THE INTENT OF THE WORK TO PROVIDE COMPLETE, NEATLY FINISHED, AND OPERATIONAL SYSTEMS AND ANY LABOR, MATERIAL, PERMITS, LICENSES, APPROVALS AND INSPECTIONS REQUIRED FOR COMPLETION OF THE WORK, WHETHER SPECIFICALLY MENTIONED IN THE DRAWINGS OR SPECIFICATIONS OR NOT, ARE TO BE INCLUDED IN THE TENDERED PRICE.
3. RESPONSIBILITY AS TO WHICH TRADE PROVIDES REQUIRED ARTICLES OR MATERIALS RESTS SOLELY WITH THE GENERAL CONTRACT TRADE. EXTRAS WILL NOT BE CONSIDERED BASED ON GROUNDS OF DIFFERENCE OF INTERPRETATION OF SPECIFICATIONS AS TO WHICH TRADE INVOLVED SHALL PROVIDE CERTAIN SPECIALTIES OR MATERIALS.
4. THE DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE WORKS, INCLUDING ALL OF THOSE RELATED TO OTHER TRADES ARE TO BE EXAMINED BEFORE SUBMITTING TENDERS. ALL ELECTRICAL AND COMMUNICATIONS REQUIREMENTS INDICATED ARE TO BE INCLUDED IN THE SCOPE OF THE WORK.
5. CLEAN UP AND REMOVE ALL UNUSED WIRING AND CONDUITS.
6. REMOVE AND REINSTALL EXISTING DEVICES TO FACILITATE CONSTRUCTION AS REQUIRED.
7. CONFIRM OUTLET LOCATIONS AND MOUNTING HEIGHT WITH PROJECT COORDINATOR ON SITE PRIOR TO INSTALLATION.
8. FIRE PROOF ALL FIRE RATED PENETRATIONS AFTER INSTALLATION AS PER SECTION 39.
9. COORDINATE WITH AND GET APPROVAL FROM LANDLORD FOR ALL DRILLING, CORING AND CUTTING OF BUILDING STRUCTURE. COORDINATE LOCATIONS ON SITE PRIOR TO CARRYING OUT THE WORK. ALLOW FOR ALL COSTS FOR X-RAYING/SCANNING. CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM THE LANDLORD STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF THE WORK.
10. PROVIDE ALL NECESSARY TEMPORARY POWER AND LIGHTING.
11. WHERE TENANT SPACES ARE OCCUPIED BY THE CLIENT, ALL NOISY WORK SUCH AS (BUT NOT RESTRICTED TO) WIRING AND CABLING PULLING, INSTALLATION OF CONDUIT SHALL BE DONE AFTER HOURS. WIRING CONNECTIONS TO SYSTEMS FURNITURE TO BE DONE ON WEEKEND, INCLUDING CABLING TERMINATIONS

2. DRAWINGS AND SPECIFICATIONS

1. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER AND WHAT IS CALLED FOR BY ONE IS TO BE BINDING AS IF CALLED FOR BY BOTH.
2. SHOULD ANY DISCREPANCY APPEAR BETWEEN DRAWINGS AND SPECIFICATIONS THAT LEAVES THE ELECTRICAL TRADE IN DOUBT AS TO TRUE INTENT AND MEANING, OBTAIN RULING FROM THE ENGINEER BEFORE SUBMITTING TENDER, OR ALLOW FOR THE MOST EXPENSIVE ALTERNATIVE.

3. EXAMINATION OF OTHER DRAWINGS

1. THE ELECTRICAL CONTRACTOR IS TO EXAMINE CAREFULLY STRUCTURAL, ARCHITECTURAL AND MECHANICAL DRAWINGS, AND THE WORK OF OTHER TRADES AND SATISFY HIMSELF THAT THE WORK UNDER THIS CONTRACT CAN BE SATISFACTORILY CARRIED OUT WITHOUT CHANGES TO THE BUILDING AS SHOWN ON THE PLANS. SHOULD ANY DIFFICULTY ARISE SHOWING CONFLICT WITH, OR REQUIRING ADDITIONAL WORK BEYOND THE WORK OF THESE DRAWINGS, BRING THIS MATTER TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING TENDER.

4. UNIFORMITY OF EQUIPMENT

1. UNLESS OTHERWISE SPECIFIED, UNIFORMITY OF MANUFACTURE IS TO BE MAINTAINED FOR ANY PARTICULAR ITEM THROUGHOUT.

5. STANDARDS OF MATERIAL AND WORKMANSHIP

1. ALL MATERIALS ARE TO BE NEW AND OF THE QUALITY SPECIFIED, AND SHALL BE APPROVED BY CSA OR EQUIVALENT AGENCY RECOGNIZED IN BRITISH COLUMBIA.
2. ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER BY QUALIFIED TRADESMEN. THE ELECTRICAL CONTRACTOR SHALL KEEP A COMPETENT FOREMAN AND NECESSARY ASSISTANTS ON THE SITE DURING THE PROGRESS OF THE WORK.
3. ALL MATERIAL AND INSTALLATION SHALL MATCH BUILDING STANDARD UNLESS IT IS NOTED OTHERWISE ON THE DRAWINGS.

6. RECORD PLANS & MAINTENANCE MANUALS

1. THE ENGINEER WILL FURNISH TO THE ELECTRICAL TRADE ONE SET OF DRAWINGS TO BE USED FOR RECORD PURPOSES. THE ELECTRICAL TRADE IS TO ACCURATELY RECORD ON THESE PRINTS ALL REVISIONS TO THE ORIGINAL PLANS THAT ARE MADE ON SITE DURING CONSTRUCTION.
2. THE ELECTRICAL TRADE IS TO PRODUCE AT HIS OWN EXPENSE A SET OF RED LINE MARK-UP DRAWINGS, INCLUDING ALL CHANGES TO THE ORIGINAL TENDER DRAWINGS COVERED BY ADDENDA, CHANGE ORDERS, FIELD CHANGES, AND JOB CONDITIONS, AND TURN THESE OVER TO THE ENGINEER IN HARD COPY FORM. COMPLETED RECORD DRAWINGS ARE TO BE CLEARLY MARKED "RECORD DRAWINGS". REFER TO LINE ITEM 3.
3. THIS CONTRACTOR SHALL ALLOW FOR A COST OF \$350 PER DRAWING FOR TRANSFERRING RED LINE MARK-UPS TO ELECTRONIC AUTOCAD RECORD DRAWINGS AND THIS AMOUNT SHALL INCLUDED IN THE TENDER BID. CONTRACTOR MAY HIRE AES TO PRODUCE THE RECORD CAD DRAWINGS IF DESIRED.
4. THIS CONTRACTOR SHALL PROVIDE 3 THREE-RING BINDERS FOR MAINTENANCE MANUALS. MANUALS SHALL CONTAIN ALL WARRANTIES, SHOP DRAWINGS, INSPECTION LETTERS, PANEL SCHEDULES, ETC.
7. SHOP DRAWINGS
1. THE ELECTRICAL CONTRACTOR IS TO SUBMIT TO THE ENGINEER FOR REVIEW, SHOP DRAWINGS OF MAJOR ELECTRICAL EQUIPMENT. SUCH EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO SWITCHGEAR, PANELBOARDS, SERIES-RATED BREAKER COMBINATIONS, FIXTURES AND FITTINGS NOT PROVIDED BY THE OWNER.
2. ALL DRAWINGS ARE TO BE SUBMITTED IN TRIPLICATE AND TWO COPIES WILL BE RETURNED TO THE ELECTRICAL TRADE. SUBMIT ADDITIONAL COPIES FOR APPROVAL AS MAY BE REQUIRED.
3. THE ENGINEER'S REVIEW OF SHOP DRAWINGS IS TO BE FOR GENERAL DESIGN ONLY AND WILL NOT RELIEVE THE ELECTRICAL TRADE OR SUPPLIERS FROM RESPONSIBILITY FOR ERRORS, PROPER FITTING, CONSTRUCTION OF WORK, AND FURNISHING OF MATERIALS. REVIEW WILL NOT BE CONSIDERED AS APPROVING DEPARTURES FROM CONTRACT DOCUMENT REQUIREMENTS IF SUCH DEPARTURES ARE NOT SPECIFICALLY NOTED. THE ELECTRICAL TRADE IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS.
4. DEVIATIONS FROM THE SPECIFIED LUMINAIRE AND CONTROL PACKAGE WILL REQUIRE ASHRAE 90.1-2016 COMPLIANCE FORMS TO BE REVISED AND RESUBMITTED TO THE AUTHORITY HAVING JURISDICTION BY THE ELECTRICAL ENGINEER OF RECORD FOR THE PROJECT. THE COST OF REVISING AND RESUBMITTING THESE FORMS WILL BE AT THE EXPENSE OF THE CONTRACTOR. ALLOW FOR THE FOLLOWING TO BE PAYABLE TO THE ELECTRICAL CONSULTANT, FOR THE WORK TO BE COMPLETED:
- \$5,000 PER ALTERNATE PACKAGE SUBMISSION TO REVIEW AND ENSURE ENERGY AND CONTROL TARGETS ARE NOT DEVIATED FROM.
 - \$8,000 TO COMPLETE THE COMPLIANCE FORMS WITH THE ACCEPTED ALTERNATE LUMINAIRES/CONTROL PACKAGE.

8. GUARANTEE WARRANTY

1. THE ELECTRICAL TRADE SHALL FURNISH A WRITTEN GUARANTEE WARRANTY, SIGNED BY AUTHORIZED PERSONNEL, STATING:
1. THAT ALL WORK EXECUTED UNDER THIS CONTRACT WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM DATE OF FINAL ACCEPTANCE.
2. THE ABOVE PARTIES FURTHER AGREE TO, AT THEIR OWN EXPENSE, REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK, AND OTHER WORK DAMAGED THEREBY, WHICH FAILS OR BECOMES DEFECTIVE DURING THE TERM OF THE GUARANTEE WARRANTY PROVIDED THAT SUCH FAILURE IS NOT DUE TO IMPROPER USAGE.
3. THE PERIOD OF THE GUARANTEE SPECIFIED WILL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD BUT BE BINDING ON WORK NOT OTHERWISE COVERED.

9. SETTING OUT OF THE WORK

1. THE ELECTRICAL TRADE IS RESPONSIBLE FOR CORRECTING ALL WORK COMPLETED CONTRARY TO THE INTENT OF DRAWINGS AND SPECIFICATIONS AND SHALL BEAR ALL COSTS INVOLVED IN MAKING THE CORRECTIONS, WHERE INTENT OF DRAWINGS AND SPECIFICATIONS IS NOT CLEAR, OBTAIN CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING WITH WORK.
2. THE ELECTRICAL TRADE IS TO GIVE WORK HIS PERSONAL SUPERVISION, LAY OUT HIS OWN WORK, DO ALL NECESSARY LEVELING AND MEASURING OR EMPLOY A COMPETENT ENGINEER TO DO SO. FIGURES, FULL SIZE AND DETAIL DRAWINGS TO TAKE PRECEDENCE OVER SCALE MEASUREMENTS.
3. THE ELECTRICAL TRADE SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE OWNER OR ANY OTHER TRADE BY IMPROPER LOCATION OR CARRYING OUT OF HIS WORK.
4. THE ELECTRICAL TRADE, IN THE SETTING OUT OF HIS WORK, IS TO MAKE REFERENCE TO ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS. HE SHALL CONSULT WITH ALL RELEVANT TRADES IN SETTING OUT LOCATIONS FOR CONDUIT RUNS, LIGHTING FIXTURES, PANEL ASSEMBLIES, AND ALL OTHER ELECTRICAL EQUIPMENT, SO THAT CONFLICTS ARE AVOIDED AND SYMMETRICAL SPACING IS MAINTAINED.
5. THE ELECTRICAL TRADE SHALL CONFIRM OUTLET LOCATIONS AND MOUNTING HEIGHTS WITH THE PROJECT COORDINATOR ON SITE PRIOR TO INSTALLATION.
6. WHERE RECEPTACLES ARE MOUNTED ABOVE COUNTERS, BENCHES, SPLASHBACKS, OR OTHER FIXTURES, THEIR LOCATIONS AND MOUNTING HEIGHTS ARE TO BE COORDINATED WITH THE BUILT-IN UNITS. REFER TO ARCHITECTURAL DETAILS. WHERE RECEPTACLES OCCUR IN OUTSIDE WALLS WHERE HEATING UNITS ALSO OCCUR, RECEPTACLE HEIGHT TO BE ADJUSTED TO COORDINATE WITH THE HEATING UNITS.
7. SWITCH MOUNTING HEIGHTS ARE TO BE COORDINATED WITH ARCHITECTURAL DETAILS AND SHALL BE ADJUSTED, IF REQUIRED, TO COORDINATE WITH PANELING, DADOS, MASONRY COURSE LINES, OR OTHER RELEVANT BUILDING FEATURES.
8. WHERE OUTLET BOXES OCCUR IN EXTERIOR WALLS, THE ELECTRICAL TRADE IS TO ENSURE THAT THERE IS INSULATION BEHIND THE OUTLET BOXES TO PREVENT CONDENSATION THROUGH THE BOXES.
9. ALLOW FOR WORK AFTER HOURS AS REQUIRED AND COORDINATE WITH OWNER/TENANTS IF APPLICABLE.
10. CONTRACTOR TO COORDINATE ANY INTERRUPTIONS TO ADJOINING TENANTS IN ORDER TO AVOID ANY INCONVENIENCES TO SAID TENANT. IF NECESSARY CONTRACTOR TO DO ANY REQUIRED CONNECTIONS ON OFF HOURS

10. EXAMINATION OF THE SITE

1. PRIOR TO SUBMITTING TENDER, THE ELECTRICAL TRADE SHALL CAREFULLY EXAMINE THE SITE AND ASCERTAIN ALL CONDITIONS WHICH MAY AFFECT HIS TRADE. NO ADDITIONAL MONEY WILL BE ALLOWED FOR WORK RESULTING FROM CONDITIONS THAT SHOULD HAVE BEEN NOTICED AND ACCOUNTED FOR DURING A THOROUGH EXAMINATION OF THE SITE.

11. CUTTING AND PATCHING

1. THE GENERAL TRADE WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL INSTALLATION. STRUCTURAL MEMBERS MUST NOT BE CUT WITHOUT CONSENT OF THE ENGINEER.
2. WHERE WORK DONE BY THE ELECTRICAL TRADE DAMAGES THE WORK OF OTHER TRADES, THE ELECTRICAL TRADE SHALL REPAIR AND MAKE GOOD SUCH DAMAGE TO THE SATISFACTION OF EACH TRADE CONCERNED AND THE ENGINEER.
3. ALL PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE STOP MATERIAL.

12. CLEANUP

1. THE ELECTRICAL TRADE AND HIS SUB-TRADES ARE TO KEEP THE SITE FREE DURING CONSTRUCTION OF DEBRIS, BOXES, PACKING, AND OTHER MATERIALS ASSOCIATED WITH THE WORK OF THIS TRADE. ALL WASTE MATERIAL IS TO BE DISPOSED OF IN A SAFE AND ENVIRONMENTALLY RESPONSIBLE MANNER.
2. UPON COMPLETION OF WORK, THE ELECTRICAL INSTALLATION SHALL BE LEFT IN A CLEAN AND FINISHED CONDITION TO THE SATISFACTION OF THE ENGINEER.

13. ACCESS DOORS

1. THE ELECTRICAL TRADE IS TO SUPPLY AND INSTALL ACCESS DOORS AS REQUIRED FOR PROPER SERVICING OF ALL ELECTRICAL WORK. ACCESS DOORS SHALL BE COMPLETE WITH NECESSARY FRAMES AND HINGED DOORS HELD CLOSED WITH CAPTIVE STUDS. ACCESS PANEL TO BE OF NOT LESS THAN 14 GAUGE STEEL, PRIME COAT FINISHED AND PAINTED ON THE JOB TO MATCH THE WALL OR CEILING FINISH.
2. THE NUMBER OF ACCESS DOORS SHALL BE KEPT TO A MINIMUM.
3. THE ELECTRICAL TRADE SHALL PROVIDE ACCESS PANELS IN THE DRYWALL CEILINGS FOR ALL ELECTRICAL JUNCTION BOXES AND EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODES.

14. CODES, PERMITS AND INSPECTION

1. THE ENTIRE INSTALLATION, INCLUSIVE OF MATERIAL AND LABOR, IS TO COMPLY WITH ALL THE REQUIREMENTS OF ALL BUILDING CODES AND AUTHORITIES HAVING JURISDICTION, THE CANADIAN ELECTRICAL CODE, AND REGULATIONS OF THE LOCAL INSPECTION DEPARTMENT.
2. THE ELECTRICAL TRADE IS TO OBTAIN ALL PERMITS REQUIRED FOR EACH STAGE OF WORK, AND AFTER COMPLETION OF THE ENTIRE INSTALLATION FURNISH TO THE ENGINEER A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE ELECTRICAL INSPECTION DEPARTMENT OF THE LOCAL AUTHORITY.

15. MECHANICAL EQUIPMENT

1. UNLESS SPECIFIED OTHERWISE, THE ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL ALL REQUIRED CONDUIT, WIRING, ELECTRICAL FITTINGS AND CONNECTIONS FOR ALL MOTORS AND OTHER ELECTRICAL EQUIPMENT. EVEN THOUGH SUCH MOTORS AND OTHER ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS, WHERE REQUIRED BY THE DRAWINGS OR APPLICABLE REGULATIONS, DISCONNECT SWITCHES, STARTERS, OVERLOAD RELAYS AND OTHER NECESSARY PROTECTIVE DEVICES ARE TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. MOTORS AND CONTROLS SHALL BE FURNISHED BY THE SUPPLIER OF THE DRIVEN EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL.
2. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, STOREFRONT AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS.
3. THE ELECTRICAL CONTRACTOR IS TO CONFIRM MOTOR (OR OTHER EQUIPMENT) LOCATION AND SIZES WITH THE TRADE SUPPLYING THE MOTOR (OR OTHER EQUIPMENT) BEFORE COMMENCING ANY ASSOCIATED ELECTRICAL WORK.

16. TESTS

1. ALL PORTIONS OF ELECTRICAL WORK ARE TO BE TESTED FOR SATISFACTORY OPERATION.
2. BEFORE ENERGIZING ANY PORTION OF THE ELECTRICAL SYSTEM, THE ELECTRICAL TRADE SHALL PERFORM MEGGER TESTS ON ALL FEEDERS AND BRANCH CIRCUITS. ANY PROBLEMS DISCOVERED BY SUCH TESTING ARE TO BE CORRECTED BY THE ELECTRICAL TRADE AND THE CIRCUITS IN QUESTION RETESTED. THE RESULTS OF ALL FINAL TESTING SHALL BE PROVIDED TO THE ENGINEER IN REPORT FORM.
3. UPON PROJECT COMPLETION, AND IMMEDIATELY PRIOR TO FINAL INSPECTION AND TAKEOVER, THE ELECTRICAL TRADE SHALL CHECK THE LOAD BALANCE ON ALL FEEDERS AND AT DISTRIBUTION CENTRES, LOAD CENTRES, AND PANELS. THESE CHECKS ARE TO BE CARRIED OUT BY TURNING ON ALL LOADS AND CHECKING LOAD CURRENT BALANCE. IF LOAD UNBALANCE EXCEEDS 15 %, THE CIRCUITS ARE TO BE RECONFIGURED AS NECESSARY TO BALANCE THE LOADS.

17. PAINTING AND FINISHES

1. ALL ELECTRICAL FITTINGS, SUPPORTS, HANGER RODS, PULLBOXES, CHANNEL, FRAMES, CONDUIT RACKS, OUTLET BOXES, BRACKETS, AND CLAMPS ARE TO HAVE A GALVANIZED FINISH OR A PAINT FINISH OVER CORROSION-RESISTANT PRIMER.
2. ALL PANELS ARE TO BE FACTORY-FINISHED WITH SPRAY-ON AIR DRY ENAMEL. ALL CHANNEL TO BE APPLIED OVER CORROSION-RESISTANT PRIMER. MATTE OR FLAT TYPE FINISH PAINT WILL NOT BE ACCEPTED. ALL PANELS OR SIMILAR FACTORY-FINISHED UNITS THAT ARE SCRATCHED OR MARKED DURING INSTALLATION ARE TO BE TOUCHED UP WITH MATCHING SPRAY-ON AIR DRY LACQUER AND, IF REQUIRED TO PROVIDE A SATISFACTORY JOB, TO BE COMPLETELY REFINISHED.
3. ALL 120/208 V PANELBOARDS, PULLBOXES, AND OTHER ELECTRICAL CABINETS AND BOXES ARE TO BE FINISHED IN GRAY ENAMEL.

18. EMT CONDUIT

1. WHERE REQUIRED BY THE CANADIAN ELECTRICAL CODE, ALL WIRE AND CABLE IS TO BE INSTALLED IN EMT CONDUIT.
2. UNLESS OTHERWISE NOTED, EMT CONDUIT ARE TO BE CONCEALED IN ALL FINISHED AREAS, IN SERVICE AREAS, CONDUIT AND EMT SHALL BE RUN ON SURFACE UNLESS INDICATED OTHERWISE.
3. SURFACE MOUNTED EMT CONDUIT ARE TO BE INSTALLED PARALLEL TO STRUCTURAL LINES, AND, WHERE BENDS OCCUR IN PARALLEL RUNS, THEY SHALL BE CONCENTRIC.
4. RACEWAYS ARE TO BE INSTALLED FREE FROM DENTS AND BRUISES AND SHALL HAVE THEIR ENDS CAPPED, PLUGGED, OR SEALED AS NECESSARY TO PREVENT ENTRANCE OF DIRT OR MOISTURE.
5. IN ALL AREAS SUBJECT TO MOISTURE, WATERTIGHT FITTINGS MUST BE USED.
6. ALL RACEWAY, EXCEPT WHERE OTHERWISE INDICATED, SHALL BE SIZED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.
7. TEC90 OR SEAL, TIGHT FLEXIBLE CONDUIT IS BE UTILIZED FOR CONNECTIONS TO MOTORS AND MOTOR CONTROLLERS.
8. ALL UNDERGROUND CONDUIT SYSTEMS ARE TO BE OF APPROVED RPVVC SCHEDULE 40 CONDUIT, COMPLETE WITH INSTALLED BONDING CONDUCTOR, AND INSTALLED AT OR BELOW THE DEPTH REQUIRED BY CODE. PROVIDE 150mm CLEAN SAND BEDDING ABOVE AND 75mm BELOW CONDUITS AND CONTINUOUS MARKING TAPE 300mm BELOW GRADE. PROVIDE SUITABLE BACKFILL AND COMPACTION.

19. EXPANSION JOINTS

1. WHERE CONDUITS ARE INSTALLED IN CONCRETE SLABS OR CROSS STRUCTURAL EXPANSION JOINTS, AN APPROVED EXPANSION FITTING SHALL BE INSTALLED.

20. WIRE AND CABLE

1. ALL BUILDING WIRING IS TO BE RW90, 600V, COPPER, EXCEPT WHERE NOTED OTHERWISE.
2. A MINIMUM CONDUCTOR SIZE OF #12 AWG COPPER IS TO BE USED, EXCEPT WHERE NOTED OTHERWISE.
3. ALL CONDUCTORS ARE TO BE COLOR CODED THROUGHOUT THE INSTALLATION AS FOLLOWS:
- EQUIPMENT GROUNDING CONDUCTOR - GREEN
 - NEUTRAL CONDUCTOR - WHITE
 - 120/208V PHASE WIRES - RED, BLACK, AND BLUE
 - 347/600V PHASE WIRES - RED, BLACK, AND BLUE
4. ALL WIRING AND CABLING IN EXPOSED OR OPEN CEILING AREAS IS TO BE INSTALLED IN EMT CONDUIT.

21. WIRING DEVICES & BOXES

1. ALIGN ALL DEVICES AND PLATES PLUMB AND LEVEL WITH BUILDING STRUCTURAL LINES.
2. ALL OUTLET BOXES ARE TO BE FLUSH MOUNTED EXCEPT WHERE SPECIFIED OTHERWISE.
3. ALL JUNCTION BOXES ARE TO HAVE VISIBLE P-TOUCH LABELS INDICATING THE CIRCUIT NUMBERS UTILIZED; PEN OR FELT IS NOT ACCEPTABLE.
4. SUPPLY AND INSTALL BLANK COVER PLATES FOR ALL UNUSED JUNCTION BOXES, INCLUDING EXISTING.

22. LOCATION OF OUTLETS

1. THE ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION OF OUTLETS TO WITHIN 3 M OF POINTS INDICATED ON PLANS WITHOUT EXTRA CHARGE, PROVIDED THE ELECTRICAL CONTRACTOR IS ADVISED BEFORE INSTALLATION IS MADE.
2. ELECTRICAL TRADE TO REFER TO ARCHITECTURAL ROOM ELEVATIONS FOR POSITIONS, AND MOUNTING HEIGHTS OF ALL OUTLETS, SWITCHES, INTERCOMMUNICATION, TELEPHONES, SPEAKERS, CLOCKS, ETC. POSITIONS SHOWN ON ARCHITECTURAL PLANS TO TAKE PRECEDENCE OVER POSITIONS OR MOUNTING HEIGHTS SHOWN ON ELECTRICAL PLANS.

23. PULL BOXES

1. THE ELECTRICAL TRADE SHALL SUPPLY AND INSTALL PULLBOXES AS REQUIRED TO SUIT JOB CONDITIONS. PULLBOXES SHALL CONFORM TO CANADIAN ELECTRICAL CODE REQUIREMENTS. PULLBOXES TO BE BE FINISHED IN ENAMEL OVER CORROSION-RESISTANT PRIMER WITH SCREW-ON OR HINGED COVER, IN REMOVABLE CEILING AREAS, PULLBOXES ARE TO BE INSTALLED ABOVE THE CEILING.

24. SWITCHES AND RECEPTACLES

1. ALL SWITCHES AND RECEPTACLES SHALL BE COMMERCIAL GRADE, MATCH EXISTING STANDARD WHERE STANDARD IS PRESENT. WHERE NO STANDARD IS PRESENT, PROVIDE WHITE DECORA SWITCHES AND RECEPTACLES AND WHITE DECORA FACEPLATES.
2. PROVIDE P-TOUCH LABELS FOR ALL RECEPTACLE LABELS.
3. FOR ALL RECEPTACLES OTHER THAN STANDARD 15A DUPLEX RECEPTACLES, PROVIDE LAMACOID NAMETAGS GIVING AMP RATING, PHASE AND VOLTAGE.
4. GROUND FAULT CIRCUIT INTERRUPTING (GFI) DUPLEX RECEPTACLES SHALL BE COMMERCIAL GRADE.
5. ISOLATED GROUND (IG) RECEPTACLES SHALL BE COMMERCIAL GRADE.

25. SUPPORTS

1. ALL CONDUIT, RACEWAYS, AND OTHER ELECTRICAL EQUIPMENT SHALL BE SECURELY AND ADEQUATELY SUPPORTED, IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.
2. WHERE INSERTS ARE REQUIRED IN CONCRETE, EXPANSION INSERTS, LEAD INSERTS OR PLASTIC INSERTS ARE TO BE USED IN DRILLED HOLES. SHOT DRIVEN PINS MAY BE USED IN STRUCTURAL CONCRETE ONLY WITH THE PERMISSION OF THE ENGINEER.

26. GROUNDING AND BONDING

1. A COMPLETE GROUNDING AND BONDING SYSTEM SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE AND THE ELECTRICAL INSPECTION DEPARTMENT.
2. ALL METAL PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUITS, EQUIPMENT AND PANELBOARD ENCLOSURES, METAL RACEWAYS, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METAL RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS WHERE NECESSARY TO PROVIDE GROUND CONTINUITY.
3. A SEPARATE GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAY FEEDER RUNS, FLEXIBLE CONDUIT, AND IN CONDUIT INSTALLED IN SLAB OR UNDERGROUND.
4. THIS CONTRACTOR IS RESPONSIBLE FOR THE GROUNDING OF ALL THE EQUIPMENT RACKS IN THE SERVER ROOM, THE CABLE TRAY, ELECTRICAL EQUIPMENT AND ANY CONDUIT. ALL GROUNDING OF SERVER RACKS MUST BE IN ACCORDANCE TO MANUFACTURERS GUIDELINES AND RECOMMENDATIONS.

27. PANELS

1. PROVIDE COMPLETE PANELBOARDS, UNLESS OTHERWISE INDICATED. PANELBOARDS ARE TO BE 120/208V, 3PH, 4W OR 347/600V, 3Ø, 4W SOLID NEUTRAL, DESIGN WITH SEQUENCE STYLE BUSSING AND FULL CAPACITY NEUTRAL WITH BOLT-ON CIRCUIT BREAKERS. WHERE DOUBLE NEUTRALS ARE INDICATED ON THE SINGLE LINE DIAGRAM, PROVIDE 200% RATED NEUTRAL PANELBOARDS.
2. PROVIDE ALL CIRCUIT BREAKERS INDICATED PLUS A MINIMUM OF 2x15A 1P SPARES IN EACH PANEL. CIRCUIT BREAKERS TO BE RATED MINIMUM 25KA I.C. UNLESS OTHERWISE INDICATED AND BE SERIES RATED.
3. PANELS ARE TO BE FLUSH MOUNTED IN PUBLIC AREAS AND SURFACE MOUNTED IN SERVICE ROOMS, ALL COMPLETE WITH ALL TRIM, LOCKABLE DOORS AND INSTALLATION HARDWARE. PROVIDE DRIP SHIELDS IN AREAS WITH SPRINKLERS.
4. UPDATED TYPEWRITTEN PANEL DIRECTORIES SHALL BE PROVIDED FOR ALL PANELS.
5. UTILIZE EXISTING PANELBOARDS AS INDICATED ON THE DRAWING. REUSE EXISTING BREAKERS WHERE POSSIBLE. PROVIDE NEW BREAKERS AS REQUIRED.
6. BALANCE PANEL LOAD FOR EACH PHASE A, B, & C. ALLOW FOR RELOCATING CIRCUITS WITHIN PANEL BOARD TO BALANCE THE LOAD.

28. SEISMIC PROTECTION

1. THE ELECTRICAL TRADE SHALL PROVIDE SEISMIC RESTRAINT AND ANCHORAGE FOR ALL EQUIPMENT AND SERVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE B.C. BUILDING CODE, AND ALL APPLICABLE BUILDING BYLAWS.
2. IF REQUESTED PROVIDE CERTIFIED PROFESSIONALLY SEALED SHOP AND PLACEMENT DRAWINGS WHERE APPLICABLE FOR ALL ELECTRICAL EQUIPMENT AND EQUIPMENT ASSEMBLIES SHOWING THE METHODS OF ATTACHMENT TO THE PARTICULAR STRUCTURE FOR EACH PIECE OF EQUIPMENT AND ASSEMBLY AND PROVIDE ANCHORAGE/ATTACHMENT DETAILS APPROVED AND SEALED BY A B.C. REGISTERED PROFESSIONAL ENGINEER.
3. INCLUDE IN THE TENDERED PRICE ALL SERVICES OF A PROFESSIONAL ENGINEER INCLUDING BUT NOT LIMITED TO PROVIDING LETTERS OF ASSURANCE FOR THE PROJECT IN RESPECT OF THE SEISMIC RESTRAINT OF ALL ELECTRICAL MATERIALS AND EQUIPMENT, CONDUCTING THE NECESSARY SITE REVIEWS AND PROVIDING A LETTER AT THE CONCLUSION OF THE PROJECT, CONFIRMING THAT ALL SEISMIC RESTRAINTS FOR THE ELECTRICAL WORKS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE ENGINEER'S INSTRUCTIONS. PAY ALL ASSOCIATED FEES AS REQUIRED. SEISMIC ENGINEER SHALL PROVIDE PROOF OF INSURANCE AND CREDENTIALS IF REQUESTED.

COMMUNICATIONS (VOICE, DATA & TV) & SECURITY ROUGH-IN

1. NO CONDUIT RUN SHALL EXCEED TWO 90 DEGREE BENDS AND ONE 45 DEGREE SWEEPING BEND.
2. ALL COMMUNICATION BACKBOARDS ARE TO BE 21mm THICK, G15, AND PAINTED WITH FIRE RETARDANT PAINT TO MATCH COLOR OF THE ROOM.
3. THE INSTALLATION OF COMMUNICATIONS EQUIPMENT, AND CONDUIT TO BE USED FOR COMMUNICATION WIRES, SHALL COMPLY IN ALL RESPECTS WITH THE REQUIREMENTS OF TELUS AND SHAW AND TO EIA/TIA TELECOMMUNICATION STANDARDS.
4. PROVIDE DOUBLE GANG BOX CW SINGLE GANG MUD RING, OUTLET BOXES AND EMPTY CONDUITS CW PULL STRING FOR COMMUNICATIONS OUTLETS AS SHOWN ON THE DRAWINGS.
5. INSTALL 3/4" EMT CONDUITS FROM EACH WALL OR FLOOR MOUNTED COMMUNICATION OUTLET (UNLESS NOTED OTHERWISE) TO THE ACCESSIBLE CEILING SPACE ABOVE CW BUSHING AT BOTH ENDS.
29. IDENTIFICATION
1. IDENTIFY ALL MAJOR PIECES OF EQUIPMENT, INCLUDING BUT NOT LIMITED TO PANELBOARDS, ELECTRICAL CABINETS, AND BREAKERS IN PANELBOARDS WITH ENGRAVED LAMACOID LABELS, BLACK LETTERING ON WHITE BACKGROUND.
2. PROVIDE TYPEWRITTEN DIRECTORIES IN ALL PANELS.
3. PROVIDE LAMACOID NAMEPLATE ON EACH PANEL COVER TO IDENTIFY PANEL NAME, NUMBER OF PHASES, VOLTAGE, CURRENT RATING AND SOURCE OF FEEDER.
4. IDENTIFY BRANCH CIRCUIT WIRES TO MEET CODE REQUIREMENTS.
5. FIRE ALARM BREAKER TO BE PAINTED RED AND CLEARLY IDENTIFIED.

30. ALTERNATES

1. ALL REQUESTS FOR ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER NOT LESS THAN 5 DAYS PRIOR TO THE CLOSE OF TENDER.
2. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ENSURING THAT ALTERNATE PRODUCTS MEET ALL SPACE, WEIGHT, CONNECTION, POWER, WIRING, AND PERFORMANCE REQUIREMENTS.

31. POWER DISTRIBUTION

1. INSTALL A COMPLETE POWER DISTRIBUTION SYSTEM INCLUDING UNDERSLAB CONDUIT, SERVICE CONNECTIONS, GROUNDING, DISTRIBUTION EQUIPMENT, AND PANELBOARDS.

32. COMMUNICATION CABLING

1. CAT 6 UTP CABLE SHALL BE FOUR PAIR, UNSHIELDED, TWISTED, 22 AWG TO 24 AWG, 100 OHM FT4, SOLID COPPER BY PANDUIT OR APPROVED EQUAL. TRANSMISSION REQUIREMENTS SHALL MEET OR EXCEED ALL REQUIREMENTS OF TIA/EIA-568-B.2 FOR CATEGORY 6 CABLEING AND COMPONENTS.
3. PATCH PANELS SHALL BE MODULAR PATCH PANEL, 24-PORT OR 48-PORT, HIGH DENSITY INDIVIDUAL CUT-OUTS FOR SNAP IN TYPE FEMALE 8P8W.
4. FREE STANDING EQUIPMENT RACKS (QUANTITY REQUIRED AS PER DRAWINGS): FREE STANDING 2133.6MM (84") HIGH RACK UNITS, GANGABLE. MUST PROVIDE 482.6MM (19") RACK MOUNTED CAPABILITY FOR RACK MOUNTABLE COMPONENTS. MUST PROVIDE 1955.8MM (77") OF VERTICAL MOUNTING SPACE. MUST HAVE THREADED MOUNTING HOLES (EIA) FRONT AND REAR. MUST BE SEISMIC ZONE 4 RATED.
5. CAT 3 SHALL BE 24 AWG, SOLID COPPER, CAT. 3, FT4.

33. FIRE STOP

1. AFTER INSTALLATION OF THE ELECTRICAL, ALL PENETRATIONS OF FIRE ZONES FOR CONDUITS, SLEEVES, CABLE TRAYS, POKETHRUS ETC, SHALL BE SEALED USING MATERIAL AND METHODS THAT MEET THE REQUIREMENTS OF ULC STANDARDS CANULC-S115 AND INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. THE FIRE STOP MATERIAL SHALL ALLOW FOR RE-ENTERABLE ACCESS. CSA T530 APPENDIX B SHALL BE USED AS A GUIDE. BEFORE INSTALLATION, CONTRACTOR SHALL IDENTIFY A FIRE STOPPING SYSTEM SUITABLE FOR THE INSTALLATION. CONTRACTOR SHALL OBTAIN SHOP DRAWINGS OF THE FIRE STOP SYSTEM FROM MANUFACTURER AND SHOULD ON SITE, UPON REQUEST, BE ABLE TO PRODUCE FIRE STOP SHOP DRAWINGS FOR CONSULTANT. ALLOW FOR 2% DESTRUCTIVE TESTING OF THE FIRE STOPPING INSTALLATION.
2. LABEL FIRE STOP PENETRATIONS WITH PRODUCT USED AND cUL SYSTEM NUMBER WITH STICKER.

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|-----|------------|-------------------|
| 3. | 07/05/2025 | ISSUED FOR TENDER |
| 2. | 30/04/2025 | ISSUED FOR BP |
| 1. | 15/04/2025 | ISSUED FOR 60% CD |
| No. | DATE | REVISION |
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PROJECT TITLE
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CITY HALL P&D
DEPT OFFICE
RENOVATION
3000 GUILDFORD WY
COQUITLAM, BC

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SHEET TITLE
SPECIFICATIONS

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