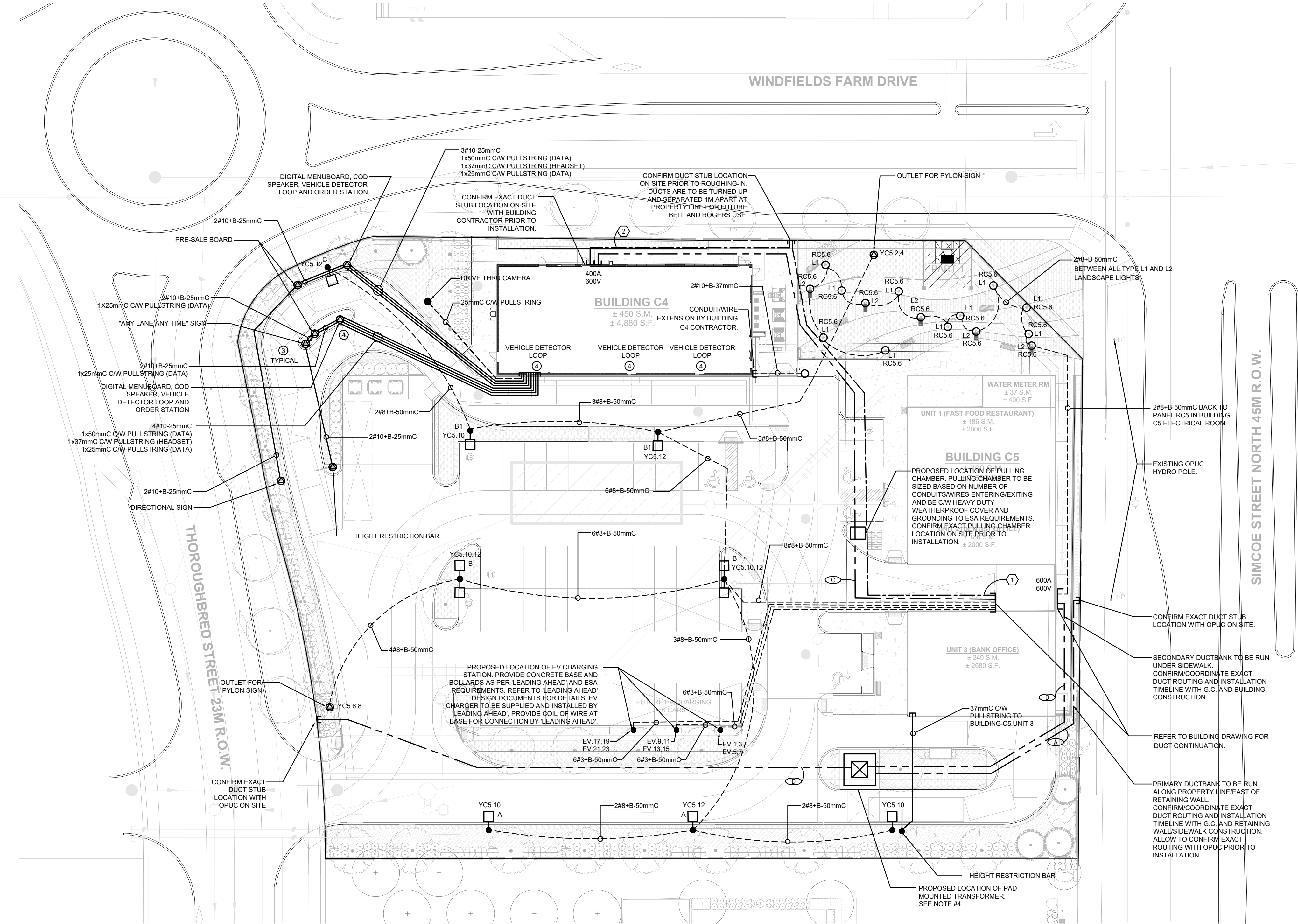


ELECTRICAL SPECIFICATIONS		
<p>1. GENERAL REQUIREMENTS:</p> <p>1.1. COMPLY WITH ALL DIVISION 1 GENERAL CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL FOLLOW REQUIREMENTS AS IDENTIFIED BY ARCHITECT AND OTHER CONSULTANTS. COORDINATE WITH ALL TRADES TO ENSURE THE ELECTRICAL CONTRACT IS APPLICABLE TO ALL CONSULTANT SPECIFICATIONS OF THE PROJECT.</p> <p>1.2. OBTAIN ALL APPROVALS FROM PUBLIC AUTHORITIES HAVING JURISDICTION BEFORE COMMENCING WORK AND PAY ALL INSPECTION FEES AND ALL PERMITS. THE ELECTRICAL CONTRACTOR SHALL BE THE LATEST EDITION OF THE APPLICABLE C.S.A. STANDARDS, BUILDING CODE, LOCAL ELECTRICAL SAFETY CODE APPLICABLE TO AREA HAVING JURISDICTION. APPLICATION OF THE STANDARDS, BUILDING CODE, REQUIREMENTS, SAFETY CERTIFICATE OF INSPECTION AND APPROVAL FROM ALL AUTHORITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.</p> <p>1.3. DO NOT REDUCE THE STANDARDS ESTABLISHED BY THE DRAWINGS AND SPECIFICATIONS BY APPLYING ANY OF THE CODES REFERRED TO HEREIN.</p> <p>1.4. PROVIDE PROOF OF PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE COVERAGE AND AMOUNT. SUBMIT WITH TENDER.</p> <p>1.5. THE ELECTRICAL BID, THE ELECTRICAL QUOTATIONS FOR ADDITIONAL WORK, AND ALL SUBMISSIONS RELATED TO THE ELECTRICAL SCOPE SHALL BE BY THE ELECTRICAL CONTRACTOR, OR SUBCONTRACTOR ENGAGED ON THE PROJECT BASED ON THE ELECTRICAL DRAWINGS SPECIFICATION. THE SUBMISSIONS SHALL BE ON THE ELECTRICAL OR SUBCONTRACTOR COMPANY LETTERHEAD, SUPPLEMENTED BY A GENERAL CONTRACTOR LETTERHEAD DOCUMENT WHERE GENERAL CONTRACTOR IS ENGAGED. ALL SUBMISSIONS SHALL BE SIGNED AND SEALED WHEN REQUIRED.</p> <p>1.6. ALL ITEMS STIPULATED AND DESIGNATED AS INSTRUCTIONS TO THE ELECTRICAL CONTRACTOR SCOPE OF WORK SHALL BE APPLICABLE TO ANY SUBCONTRACTOR ENGAGED ON THE PROJECT WHOSE SCOPE IS BASED ON THE HAMMERSCHLAG AND JOFFE ISSUE DRAWINGS.</p> <p>2. DRAWINGS:</p> <p>2.1. EXAMINE ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS BEFORE PROCEEDING WITH THE WORK.</p> <p>2.2. ANY DISCREPANCIES BETWEEN DRAWINGS AND WORK SPECIFICATIONS MUST BE REFERRED TO THE CONSULTANT BEFORE ANY AFFECTED WORK IS COMMENCED.</p> <p>2.3. PREPARE INTERFERENCE DRAWINGS IN CONJUNCTION WITH ALL TRADES CONCERNED, SHOWING SLEEVES, CABLES AND CONDUIT ROUTES, LIGHT FIXTURES AND OPENINGS FOR PASSAGE THROUGH STRUCTURE AND ALL INSERT SIZES AND LOCATIONS.</p> <p>2.4. REFER TO ARCHITECTURAL DRAWINGS FOR ACCT MOUNTING LOCATIONS OF ALL LIGHT FIXTURES AND DEVICES.</p> <p>2.5. ELECTRICAL DRAWINGS SHALL NOT BE USED FOR EQUIPMENT LAYOUT. DO NOT SCALE ELECTRICAL DRAWINGS. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL DRAWING.</p> <p>2.6. NOTE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECTION OF ANY ERROR INTENT BY REVIEWING ALL DRAWINGS RELATED TO THE PROJECT.</p> <p>2.7. IN CASE OF CONFLICT BETWEEN THE SPECIFICATION AND THE DRAWINGS THE GREATER REQUIREMENT SHALL PREVAIL.</p> <p>3. COMMON WORK REQUIREMENTS:</p> <p>3.1. ENSURE THAT ALL ELECTRICAL EQUIPMENT SUPPLIED BY OTHER TRADES IS SUITABLE FOR THE RESPECTIVE VOLTAGE. CONFIRM POWER REQUIREMENTS OF ALL OWNER SUPPLIED EQUIPMENT.</p> <p>3.2. ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION SHALL BE CARRIED OUT BY THE DIVISION, NO CHASING BLOCKWORK WILL BE ALLOWED.</p> <p>3.3. ALLOW TO SCAN THE FLOOR PRIOR TO CUTTING IN LOCATION OF EXISTING SERVICES. PROVIDE THE FOLLOWING MEASURES DURING CUTTING: DO NOT LEAVE ANY FLOOR TRENCHES OPEN DURING THE DAY. USE TRIP FREE COVERS WITH BEVELED EDGES.</p> <p>3.4. COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EQUIPMENT AND MATERIAL SUPPLIED. CONTRACTOR SHALL OBTAIN MANUFACTURER'S INSTRUCTIONS, IF NOT PROVIDED WITH EQUIPMENT SUPPLY, AND TERMINATIONS MADE WITH PROPER AND WRENCH. ENSURE ALL EQUIPMENT IS LEVELLED. MARK FASTENERS ONCE SET, TIGHTEN, EMPLOY USE OF TORQUE MEASURING TOOL.</p> <p>3.5. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BUILDING INCURRED BY WORK OF THIS DIVISION.</p> <p>3.6. SUBMIT THREE (3) COPIES OF SHOP DRAWINGS FOR REVIEW AND RECORDS, UNLESS ELECTRONIC SUBMISSION IS PROVIDED.</p> <p>3.7. CLEARLY MARK ALL EXPOSED CONDUIT, PULL BOXES, JUNCTION BOXES, ETC., TO INDICATE THE NATURE OF THE SERVICE.</p> <p>3.8. PROVIDE LAMACOID NAMEPLATES FOR ALL DISTRIBUTION EQUIPMENT IDENTIFYING SOURCE OF POWER AND EQUIPMENT BEING FED. PROVIDE TYPEWRITTEN DIRECTORIES FOR ALL PANELS.</p> <p>3.9. CONTRACTOR TO ENSURE THAT THE ELECTRICAL SYSTEMS ARE INSTALLED AND IN GOOD WORKING ORDER. PROVIDE THE FOLLOWING SPECIFICATIONS AND TO THE INTENT OF THE WORKING ELECTRICAL DRAWINGS:</p> <p>3.10. ALL EQUIPMENT SUPPLIED BY THIS ELECTRICAL CONTRACTOR SHALL CARRY CSA OR EQUIVALENT CANADIAN CERTIFICATION.</p> <p>3.11. SHOP DRAWINGS AND EQUIPMENT SUPPLIED BY THE ELECTRICAL CONTRACTOR SHALL BE REVIEWED AND CONFIRMED IN COMPLIANCE WITH THE PROJECT DOCUMENTS. SUBMITTED SHOP DRAWINGS SHALL BE STAMPED AND REVIEWED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF SUBMISSION.</p> <p>4. FINAL SUBMISSIONS:</p> <p>4.1. AS-BUILT DRAWINGS:</p> <p>4.1.1. AFTER COMPLETION OF THE WORK, PROVIDE THE LANDLORD AND OWNER WITH A SET OF REDUCED-SIZE AS-BUILT DRAWINGS. INCORPORATE ALL CHANGES WITH RECOGNIZED DRAFTING PROCEDURES. AUTOCAD 2007 OR LATER.</p> <p>4.2. AFTER COMPLETION OF WORK, PROVIDE THE FOLLOWING DOCUMENTS:</p> <ul style="list-style-type: none"> <li>- CERTIFICATE OF FIRE ALARM VERIFICATION</li> <li>- HYDRO INSPECTION CERTIFICATE</li> <li>- EMERGENCY LIGHTING TEST REPORT</li> <li>- TEST REPORT FOR ALL SPECIFIED TESTING</li> </ul> <p>4.3. OPERATION AND MAINTENANCE MANUALS:</p> <p>4.3.1. PROVIDE THREE (3) SETS OF OPERATION AND MAINTENANCE MANUALS SUBMITTED IN HARD COVER BINDERS.</p> <p>4.3.2. OPERATIONS AND MAINTENANCE MANUALS SHALL INCLUDE, HOWEVER NOT LIMITED TO THE FOLLOWING INFORMATION:</p> <ul style="list-style-type: none"> <li>- NAMES AND ADDRESS OF LOCAL SUPPLIERS FOR THE ITEMS INCLUDED</li> <li>- TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, MAINTENANCE REQUIREMENTS AND RECOMMENDED SCHEDULES, GROUNDING WIRE AND ELECTRICAL DESCRIPTION OF ITEMS, AND PARTS LIST</li> <li>- THE CONSULTANTS REVIEWED SHOP DRAWINGS</li> <li>- CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITY'S INSPECTION DEPARTMENT</li> <li>- VERIFICATION REPORTS AND CERTIFICATE(S) FOR FIRE ALARM COMPONENTS</li> <li>- LOAD BALANCE REPORT AND WIRING</li> <li>- MEGGER TESTING REPORT FOR GIG OHM (GΩ) VALUES</li> <li>- WRITTEN GUARANTEE</li> <li>- COORDINATION STUDY FOR EQUIPMENT INCLUDING LIGHT PROTECTION EQUIPMENT, SHORT CIRCUIT AND ARC FLASH EVALUATION IS MANDATORY FOR ALL PROJECTS</li> <li>- CONTACT INFORMATION</li> <li>- ELECTRICAL SAFETY INSPECTION REPORT</li> </ul> <p>4.3.3. OPERATION AND MAINTENANCE MANUALS SHALL FORM A COMPLETE DOCUMENTATION FOR THE SUBJECTED ELECTRICAL INSTALLATION AND WILL NOT BE LIMITED TO LINE VOLTAGE POWER EQUIPMENT.</p> <p>4.3.4. ANY SECURITY, TELEPHONE, OR OTHER MISCELLANEOUS SYSTEMS SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUALS.</p> <p>4.3.5. PROJECT SUBSTANTIAL COMPLETION AND PROJECT CLOSURE:</p> <p>4.3.5.1. AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE (1) YEAR EXCEPT WORKMANSHIP AND MATERIALS. REPAIR OR REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY DEFECTS DUE TO WORKMANSHIP OR MATERIALS WHICH, IN THE OWNER'S OPINION, ARE NOT DUE TO MISUSE OR NEGLIGENCE. LED LIGHTING SHALL HAVE THREE (3) YEARS INSTALLATION AND MANUFACTURERS WARRANTY.</p> <p>4.3.2. PROVIDE OWN LIST OF OUTSTANDING AND DEFICIENT WORK PRIOR TO SUBSTANTIAL COMPLETION.</p> <p>4.3.3. ADJUST AND RECORD LEVELS OF EMERGENCY LIGHTING THROUGHOUT THE FACILITY. ADJUST ADJUSTMENT SHALL BE COMPLETED AND ADJUSTED AS NECESSARY AND AS REQUIRED BY AHJ AND CONSULTANT. PROVIDE RECORD OF EMERGENCY LIGHTING TESTING AND EMERGENCY LIGHT LEVEL MEASUREMENTS PRIOR TO REQUEST FOR SUBSTANTIAL COMPLETION.</p> <p>4.3.4. PRIOR TO COMPLETING FIRE ALARM SYSTEM PROGRAMMING OBTAIN APPROVAL FOR SEQUENCE OF OPERATION BY LOCAL AHJ. ALLOW TO COMPLETE FIRE ALARM SYSTEM PROGRAMMING ADJUSTMENTS AS REQUESTED BY AHJ AT A LATER DATE.</p>	<p>4.3.5. CLEAN AND TEST ALL EQUIPMENT BEFORE FINAL ACCEPTANCE IS GIVEN FOR THE WORK.</p> <p>4.3.6. ARRANGE FOR FINAL ELECTRICAL INSPECTION BY ELECTRICAL CONSULTANT FOR ONE WEEK PRIOR TO COMPLETION OF WORK.</p> <p>5. VALUATION OF CHANGES:</p> <p>5.1. PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOUR, OVERHEAD, PROFIT, ETC., WHEN SUBMITTING QUOTATIONS FOR CHANGE NOTICES ON THIS PROJECT.</p> <p>5.2. THE HOURLY LABOUR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOUR FACTORS, HAND TOOLS, PAYROLL, BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, MATERIALS, HOISTING, FREIGHT AND DELIVERY, AND EXCLUSIVE OF OVERHEAD AND PROFIT.</p> <p>5.3. LABOUR HOURS SHALL BE BASED ON THE LATEST ISSUE OF THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA) LABOUR UNITS, COLUMN ONE NORMAL FOR THE DURATION OF THIS CONTRACT. LABOUR FOR SMALL ITEMS, AS WELL AS OVERHEAD, NOT LIMITED TO, COUPLINGS, STRAPS, MARKETTES, SCREWS, ETC., WILL NOT BE REIMBURSED.</p> <p>5.4. THE MATERIAL PRICES SHALL BE BASED ON THE CURRENT NATIONAL PRICE SYSTEM (NPS) CATALOGUE LESS APPLICABLE TRADE DISCOUNTS.</p> <p>6. PROGRESS BILLING:</p> <p>6.1. PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOUR, AND GENERAL COSTS WHEN SUBMITTING PROGRESS DRAW REQUEST.</p> <p>6.2. SEPARATE BILLING SECTION FOR EACH SYSTEM INSTALLED AS PART OF THE PROJECT, AND AT A MINIMUM:</p> <ul style="list-style-type: none"> <li>- TELEPHONE SERVICE</li> <li>- LIGHTING</li> <li>- POWER DISTRIBUTION</li> <li>- FIRE ALARM</li> <li>- RACEWAYS</li> <li>- WIRING</li> <li>- GENERAL COSTS</li> <li>- FINAL SUBMISSIONS</li> <li>- MATERIALS</li> <li>- WARRANTY</li> </ul> <p>6.3. FINAL SUBMISSION COSTS SHALL BE FINE-TUNED PER VALUE OF PROJECT, SHALL INCLUDE A MINIMUM COST FOR THE BELOW PROJECT VALUES:</p> <p>PROJECT VALUE = &lt; \$100,000, CLOSE OUT COST = \$5,000</p> <p>PROJECT VALUE = &lt; \$500,000, CLOSE OUT COST = \$7,500</p> <p>PROJECT VALUE = &lt; \$1,000,000, CLOSE OUT COST = \$10,000</p> <p>PROJECT VALUE = \$1,000,000, CLOSE OUT COST = 1%</p> <p>7. BASIC MATERIALS AND MATERIALS:</p> <p>7.1. ALL MATERIALS USED SHALL BE SUITABLE FOR THEIR APPLICATION. ALL EXTERIOR FASTENERS AND SUPPORTING MATERIALS FORMING A COMPLETE ELECTRICAL SYSTEM SHALL BE WEATHERPROOF, NUTS, BOLTS, SCREWS ETC. MATERIAL SHALL BE STAINLESS STEEL, OR APPROVED EQUIVALENT.</p> <p>7.2. ALL MATERIALS USED THROUGHOUT SHALL BE NEW, HIGHEST QUALITY C.S.A. APPROVED AND OF ONE MANUFACTURER. WHEREVER TRADE NAMES ARE NOT USED TO DESCRIBE MATERIALS, THESE MATERIALS SHALL BE OF THE BEST AVAILABLE QUALITY AND OF ONE MANUFACTURER. OBTAIN AND PAY FOR SPECIAL HYDRO INSPECTION OF SPECIFIED NON-C.S.A. ELECTRICAL EQUIPMENT.</p> <p>7.3. MATERIALS AND EQUIPMENT PROVIDED SHALL BE LISTED FOR HEAVY DUTY APPLICATION AND SHALL BE SUITABLE FOR THE INTENDED USE, COMMERCIAL, INDUSTRIAL OR RESIDENTIAL.</p> <p>7.4. PROVIDE ALL CONDUIT, WIRING, BOXES, SWITCHES, OUTLETS, DEVICES, ETC., AS REQUIRED. MAKE FINAL CONNECTIONS TO VIBRATING EQUIPMENT WITH FLEXIBLE CONDUIT.</p> <p>7.5. ELECTRICAL BOXES FOR SUPPORT OF EXTERIOR OR WALL LIGHT FIXTURES SHALL BE RIGID TYPE, C/W POINT SUPPORT, RATED FOR A MINIMUM OF 22.5KG WEIGHT.</p> <p>7.6. ALL LIGHT FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM FINISHED DRY WALL OR CEILING. INCLUDE FOR ALL HANGERS AND NECESSARY MISCELLANEOUS SUPPORTS FROM JOIST, BEAM, OR LIMCKAIE.</p> <p>7.7. ANY LIMCKAIE INSTALLED IN SUSPENDED CEILING SHALL BE WIRED BY A FLEXIBLE CONDUIT NOT EXCEEDING 3M IN LENGTH.</p> <p>7.8. PROVIDE ALL HANGERS, INSERTS, AND SUPPORTS OF APPROVED TYPES REQUIRED FOR THE WORK OF THIS DIVISION. PROVIDE CONDUIT FOR ALL SERVICES PENETRATING THE FLOOR SLAB, SEAL ALL PENETRATIONS. PROVIDE ALL CRANKED INSTRUMENTS ARE NOT PERMITTED. SUBMIT TEST RESULTS FOR CONSULTANT REVIEW PRIOR TO POWER ON.</p> <p>7.9. PROVIDE ALL FEEDERS TO MEET CODE AND LATEST NETA MANUAL. ALL FEEDERS SHALL BE MEGGER TESTED WITH 1000VDC APPROVED MEGGER. PROVIDE RECORD OF INSPECTION COMPLETION.</p> <p>7.10. UNDERGROUND WIRING FEEDERS AND BRANCH WIRES SHALL BE RATED FOR DIRECT BURIAL, INSTALLED IN SPECIFIED UNDERGROUND CONDUITS AS NOTED ON THE ELECTRICAL DRAWINGS.</p> <p>7.11. CHANGE OF LOCATION OF WIRING DEVICES WITHIN 50' OF THE NOTED LOCATION ON THE DRAWINGS SHALL BE AT NO COST TO THE CLIENT PROVIDED THAT THE LOCATION IS CLARIFIED PRIOR TO INSTALLATION.</p> <p>7.12. CALL FOR ROUGH-IN INSPECTION BY AUTHORITIES HAVING JURISDICTION PRIOR TO CLOSING WALLS AND CEILINGS. PAY ALL FEES AND PROVIDE RECORDS OF INSPECTION COMPLETION.</p> <p>7.13. UNDERGROUND WIRING FEEDERS AND BRANCH WIRES SHALL BE RATED FOR DIRECT BURIAL, INSTALLED IN SPECIFIED UNDERGROUND CONDUITS AS NOTED ON THE ELECTRICAL DRAWINGS.</p> <p>7.14. WIRE TESTING:</p> <p>10.1. ALL FEEDERS SHALL BE MEGGER TESTED WITH 1000VDC (FOR CABLES RATED 30KV OR LESS MEGGER TEST IS 500KV) APPROVED MEGGER TEST.</p> <p>10.2. HAND CRANKED INSTRUMENTS ARE NOT ALLOWED. SUBMIT MEGGER TEST RESULTS READINGS IN GΩ (GΩ) - OHM PRIOR TO POWER ON.</p> <p>11. GROUNDING AND BONDING:</p> <p>11.1. PROVIDED GROUND/BOND WIRES WITH ALL FEEDERS INCLUDING TENANT SERVICES. GROUND/BOND WIRE IN CONDUITS SHALL BE INSULATED - GREEN STRANDED 8 AWG. MINIMUM.</p>	<p>17.2. WEATHERPROOF COVER PLATES SHALL BE DECAST CORROSION RESISTANT. PROVIDE TWO SEPARATE LUGS FOR DUPLEX RECEPTACLES SUITABLE FOR MOUNTING ON F.S. TYPE BOXES. ALL WEATHERPROOF COVER PLATES SHALL HAVE RUBBER OR NEPRENE GASKETS FOR WEATHER PROTECTION.</p> <p>17.3. EXTERIOR COVER PLATES SHALL BE METAL INLUX COVERS, INTERMATIC WP110MXD, WP125MXD, WP110MXD, OR APPROVED EQUIVALENT.</p> <p>17.4. PLATES FOR SURFACE MOUNTED CAST BOXES SHALL BE GALVANIZED FORMED STEEL.</p> <p>17.5. COVER PLATES FOR FLUSH MOUNTED EQUIPMENT SHALL BE SUPPLIED OF QUALITY AND PERFORMANCE SPECIFIED BY THE MANUFACTURER OF THE EQUIPMENT.</p> <p>17.6. COVER PLATES SHALL NOT CARRY MANUFACTURER'S NAME.</p> <p>17.7. COVER PLATES OF QUALITY SPECIFIED SHALL BE PASS AND SEYMOUR, BRYANT, LEVITON, OR HUBBELL.</p> <p>18. SWITCHES:</p> <p>18.1. SWITCHES SHALL BE, UNLESS OTHERWISE NOTED, BRYANT QUIET TYPE WITH WHITE SPECIFICATION GRADE FOR 120V AND HEAVY-DUTY GRADE FOR 347V.</p> <p>18.2. LIGHT SWITCHES OF QUALITY AS MANUFACTURED BY BRYANT, P.A.S. LEVITON AND HUBBELL SHALL BE CONSIDERED AS ACCEPTABLE AS SPECIFICATION SPECIFIED ALTERNATES.</p> <p>18.3. DIMMERS SHALL BE ULTRON SPECIFICATION GRADE OR APPROVED ALTERNATE. OCCUPANCY SENSORS SHALL BE WATTSSTOPPER DUAL TAP. PROVIDE AND INSTALLED BY THIS CONTRACTOR.</p> <p>11.5. USE CAWLED LUGS FOR FINAL CONNECTION AND TERMINATION OF GROUND/BOND WIRING.</p> <p>11.6. CO-ORDINATE WITH OTHER TRADES IN LAYING OUT OF THE WORK. QUALITY C.S.A. APPROVED AND OF ONE MANUFACTURER. WHEREVER TRADE NAMES ARE NOT USED TO DESCRIBE MATERIALS, THESE MATERIALS SHALL BE OF THE BEST AVAILABLE QUALITY AND OF ONE MANUFACTURER. OBTAIN AND PAY FOR SPECIAL HYDRO INSPECTION OF SPECIFIED NON-C.S.A. ELECTRICAL EQUIPMENT.</p> <p>11.7. FOR HIGH VOLTAGE SYSTEM REFER TO HIGH VOLTAGE SPECIFICATION AND UTILITY STANDARDS.</p> <p>12. MECHANICAL TRADES WIRING:</p> <p>12.1. PROVIDE ALL CONDUIT, WIRING, SPLITTERS, OUTLET BOXES AND DISCONNECT SWITCHES AS SHOWN, FOR ALL MOTORS STARTERS, STARTERS, THERMOSTATS, AND WIRING. PROVIDE ALL LINE VOLTAGE WIRING AS REQUIRED.</p> <p>13. IT, TV AND COMMUNICATIONS SYSTEMS:</p> <p>13.1. SUPPLY AND INSTALL THE REQUIRED DUCT BANKS, EMPLY RACEWAY SYSTEM C/W HD PULL WIRES, PULL BOXES, TERMINATION PANELS, OUTLET BOXES, COVER PLATES, SUITABLE FOR THE INSTALLATION OF IT AND COMMUNICATIONS CABLES AND ASSOCIATED EQUIPMENT. PROVIDE AND INSTALLED BY THIS CONTRACTOR. INSTALLATION SHALL MEET ALL THEIR REQUIREMENTS.</p> <p>13.2. RACEWAYS SHALL BE RIGID, GALVANIZED STEEL CONDUIT WHERE EXPOSED TO MECHANICAL INJURY, IN ALL OTHER LOCATIONS, EMT MAY BE USED. PROVIDE AND INSTALLED BY THIS CONTRACTOR. WORK TO BE DONE TO C.S.A T527 AND C.S.A T530 LATEST STANDARDS.</p> <p>13.4. DATA OUTLETS SHALL BE WIRED WITH EMPTY PULL STRINGS.</p> <p>13.5. P.V.C DUCT SHALL BE USED FOR UNDERGROUND SERVICE ENTRANCE.</p> <p>13.6. PROVIDE TWO DEDICATED 110V 15AMP POLE POWER OUTLET ADVANTAGE TO THE IT EQUIPMENT LOCATIONS FOR UTILITY COMPANY REQUIREMENTS.</p> <p>13.8. UNLESS OTHERWISE SHOWN, STEEL PULL BOXES SHALL BE INSTALLED EVERY 30M OR LESS OF STRAIGHT CONDUIT RUN. EVERY 20M OR LESS OF STRAIGHT CONDUIT RUN AND ONE 90 DEGREE BEND OR EQUIVALENT; EVERY TWO 90 DEGREE BENDS OR EQUIVALENT.</p> <p>13.7. A 80 GROUND WIRE SHALL BE RUN FROM THE TELEPHONE DISTRIBUTION CABLE TO THE SERVICE CONDUIT TO PROVIDE A GROUND FOR THE TELEPHONE SYSTEM.</p> <p>14. DISTRIBUTION FEEDERS:</p> <p>14.1. FEEDERS SHALL BE SIZED AS DETAILLED. SUBSTITUTION OF FEEDERS EITHER IN MATERIAL OR ROUTING WILL NOT BE PERMITTED UNLESS ENGINEERS WRITTEN APPROVAL. OBTAIN APPROVAL FROM THE POWER SYSTEM STUDIES IN WRITING. THE CONTRACTOR SHALL EXPEDITE COLLECTION OF THE DATA TO ELIMINATE UNNECESSARY DELAYS AND TO ASSURE COMPLETION OF THE STUDIES REQUIRED PRIOR TO THE RELEASE OF THE EQUIPMENT FOR MANUFACTURE.</p> <p>14.3. PROVIDE ALL REQUIRED ARC FLASH LABELS AS PER 246C. LABELS SHALL COMPLY WITH CSA 2462 OR AS SHOWN ON THE DRAWINGS.</p> <p>14.4. ALLOW TO FULLY COMMISSION THE SWITCHGEAR AT THE END OF THE PROJECT. WORK TO BE DONE BY AN INDEPENDENT SPECIALIST. CARRY OUT AN INFRARED SCAN OF THE ENTIRE DISTRIBUTION UNDER LOAD CONDITIONS. RETEST AFTER REPAIRS AND REPAIRS. PROVIDE, INCLUDING, HOWEVER NOT LIMITED TO, BUSSING, BREAKERS, WIRE BUNDLES, AND ALL OTHER REQUIRED EQUIPMENT. PROVIDE RECORDS OF TESTING INCLUDING VISUAL INSPECTION OF RELAY CONTROL WIRING AND LOCATION OF ALL SENSORS.</p> <p>14.5. PROVIDE AN ARC FLASH STUDY AND PROVIDE ARC FLASH RATING LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT AND PANELS.</p> <p>21. AUTOMATIC CONTROL OF EXTERIOR LIGHTS:</p> <p>21.1. CONTACTORS, PHOTO-ELECTRIC CONTROLS AND TIME SWITCHES SHALL BE USED TO CONTROL THE EXTERIOR LIGHTING INCLUDING POLE LIGHTING.</p> <p>21.2. THE PHOTO-ELECTRIC CELL AND TIME CLOCKS SHALL BE WIRED SO AS TO CONTROL A MAGNETIC CONTACTOR. EACH CONTACTOR SHALL HAVE AN ON-OFF-AUTO SWITCH TO PERMIT MANUAL OPERATION OF THE INDIVIDUAL CONTACTOR. CONTACTORS TO BE MINIMUM 100A AND LIGHTING DUTY. TIME CLOCKS TO BE DIGITAL COMPLETE WITH ANAEMORPHIC CLOCK AND DAY LIGHT SAVINGS PROGRAMMABLE FEATURES.</p> <p>21.3. CONTACTORS SHALL HAVE LAMACOID NAMEPLATES INDICATING THAT CONTACT CIRCUIT IS SUPPLIED FROM A DIFFERENT SOURCE.</p> <p>22. SERVICE ENTRANCE SWITCHBOARD:</p> <p>22.1. THE SERVICE ENTRANCE BOARD SHALL CONSIST OF A COMPLETE PANEL, THE INTERRUPTING CAPACITY OF EACH BOARD SHALL BE DETERMINED BY THE CO-ORDINATION STUDY FOR PER DRAWING. MINIMUM 10KA FOR 208V PANELS AND 18KA FOR 347/600V PANELS, WHEN REMOTELY LOCATED FROM THE MAIN ELECTRICAL SERVICE. ELECTRICAL PANELS INSIDE MAIN ELECTRICAL ROOM SHALL BE RATED NOT LESS THAN 25KVA FOR 347/600V PANELS AND MINIMUM 10KA FOR 208V PANELS. REFER TO COORDINATION STUDY FOR DETAILS OF REQUIRED RATING. NOT WITHSTANDING THE ABOVE ALL SUPPLIED ELECTRICAL EQUIPMENT SHALL BE APPLICABLE FOR SERIES RATING LISTED WITH CLASS 1 FUSE.</p> <p>22.2. NOTWITHSTANDING THE ABOVE, PANEL BOARDS CONNECTED TO THE CONTRAST SIDE OF TRANSFORMERS, 600-120/208V VOLT AND 600-120/208V VOLT, SIZED 225KVA AND HIGHER SHALL BE RATED MINIMUM 25KVA.</p> <p>16.4. TWO OR THREE POLE BREAKERS SHALL OPERATE WITH A COMMON TRIP AND WITH A SINGLE HANDLE. TWO POLE CIRCUIT BREAKERS SHALL BE EQUIPPED WITH TWO SINGLE POLE BREAKERS WITH A TIE HANDLE, TWIN BREAKERS.</p> <p>16.5. SELECTED PANELBOARD AND BREAKER TYPE COMBINATION SHALL ALLOW FOR INSTALLATION OF THREE POLE BREAKERS WITH AMPERAGE RATING NO LESS THAN 50% OF THE RATING OF THE PANELBOARD RATING WITHOUT USE OF SPECIAL PURPOSE BREAKER KIT AND NOT REQUIRING MORE THAN THREE SINGLE POLE BREAKER SPACES.</p> <p>16.6. ALL PANEL BOARDS SHALL BE SPRINKLER PROOF AS REQUIRED TO MEET LOCAL AND HYDRO CODES.</p> <p>16.7. ALL ELECTRICAL EQUIPMENT SHALL BE 75°C RATED OR HIGHER.</p> <p>16.8. ALL PANELBOARDS SHALL BE FULLY BUSSED AND COMPLETE WITH BREAKER MOUNTING HARDWARE FOR ALL BREAKER SPACES.</p> <p>17. COVER PLATES:</p> <p>17.1. COVER PLATES FOR RECEPTACLES, SWITCHES, PILOT LIGHTS, AND OTHER OUTLETS AND DEVICES SHALL BE PROVIDED FOR EQUIPMENT FOR FLUSH MOUNTED BOXES SHALL BE:</p> <p>17.1.1. WHITE WHEN OUTLETS INSTALLED ON WHITE WALLS.</p> <p>17.1.2. COLOURED MATCHING THE WALL COLOUR BASED ON AVAILABLE STANDARD COVER PLATES.</p> <p>17.1.3. METAL, STAINLESS STEEL #18-TYPE 302 WHEN OUTLETS INSTALLED IN BACK OF HOUSE CORRIDORS, UTILITY, ELECTRICAL ROOMS, AND OTHER AREAS NOT ACCESSIBLE TO THE PUBLIC.</p> <p>17.1.4. NOTWITHSTANDING THE ABOVE, COVER PLATES IN PUBLIC AREAS SHALL BE BASED ON INTERIOR DESIGN OR ARCHITECTURAL DRAWINGS.</p> <p>22.3. THE MAIN OVERCURRENT DEVICE COMPARTMENT SHALL CONTAIN BREAKERS OF TYPE FRAME AND SIZE OR FUSED DISCONNECT SWITCH WITH FUSES OF TYPE AND SIZE AS INDICATED.</p> <p>22.7. MAIN SWITCH OR BREAKERS SHALL BE EQUIPPED WITH GROUND FAULT RELAYS AS REQUIRED BY CODE. IN ADDITION, ALL UNDERGROUND FEEDERS 400 AMP AND LARGER SHALL BE GROUND FAULT PROTECTED. PROVIDE GROUND FAULT EQUIPMENT WHERE INDICATED ON DRAWINGS AND AS REQUIRED BY CODE.</p> <p>22.8. WHERE SPECIFIED ON THE DRAWINGS L-S-I-G BREAKERS THESE SHALL BE FULLY ADJUSTABLE ACROSS ALL REGIONS, ADJUSTABLE TIME DELAY SETTINGS SHALL BE FULLY COORDINATED WITH THE CONNECTED EQUIPMENT ON THE LOAD AND LINE SIDE. 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**1 ELECTRICAL SITE PLAN**  
ES2 SCALE: 1:300

LIGHT FIXTURE SCHEDULE	
TYPE	DESCRIPTION
A	LUMINAIRE/POLE ASSEMBLY CONSISTING OF A SINGLE (1) LED LUMINAIRE WITH A TYPE III DISTRIBUTION PATTERN, HOUSE SIDE SHIELD, 347V OUTDOOR USE BALLAST ON A DECORATIVE ARM, ON A 20'-0" ROUND STEEL POLE WITH POLE BASE COVER ON 36" HIGH CONCRETE BASE (DIAMETER AS REQUIRED). COLOUR OF FINISHED OF POLE/HEAD TO ARCHITECT'S SELECTION. LAMPS SHALL BE SUPPLIED WITH FIXTURE. FIXTURE TO HAVE FLAT LENS BE FULL CUT OFF AND DARK SKY COMPLIANT. NLS LIGHTING CAT.# 1-NV-2-T3-112L-7-40K-HV-DPS6-CC-HSS
B	LUMINAIRE/POLE ASSEMBLY CONSISTING OF A SINGLE (1) LED LUMINAIRE WITH A TYPE V DISTRIBUTION PATTERN, 347V OUTDOOR USE BALLAST ON A DECORATIVE ARM, ON A 20'-0" ROUND STEEL POLE WITH POLE BASE COVER ON 36" HIGH CONCRETE BASE (DIAMETER AS REQUIRED). COLOUR OF FINISHED OF POLE/HEAD TO ARCHITECT'S SELECTION. LAMPS SHALL BE SUPPLIED WITH THE FIXTURE. FIXTURE TO HAVE FLAT LENS AND BE FULL CUT OFF. NLS LIGHTING CAT.# 2-NV-2-T5-96L-7-40K-HV-DP6-CS
B1	LUMINAIRE/POLE ASSEMBLY CONSISTING OF A SINGLE (1) LED LUMINAIRE WITH A TYPE V DISTRIBUTION PATTERN, 347V OUTDOOR USE BALLAST ON A DECORATIVE ARM, ON A 20'-0" ROUND STEEL POLE WITH POLE BASE COVER ON 36" HIGH CONCRETE BASE (DIAMETER AS REQUIRED). COLOUR OF FINISHED OF POLE/HEAD TO ARCHITECT'S SELECTION. LAMPS SHALL BE SUPPLIED WITH THE FIXTURE. FIXTURE TO HAVE FLAT LENS BE FULL CUT OFF AND DARK SKY COMPLIANT. NLS LIGHTING CAT.# 1-NV-2-T5-96L-7-40K-HV-DPS6-CC
C	LUMINAIRE/POLE ASSEMBLY CONSISTING OF A SINGLE (1) LED LUMINAIRE WITH A TYPE IV DISTRIBUTION PATTERN, HOUSE SIDE SHIELD, 347V OUTDOOR USE BALLAST ON A DECORATIVE ARM, ON A 20'-0" ROUND STEEL POLE WITH POLE BASE COVER ON 36" HIGH CONCRETE BASE (DIAMETER AS REQUIRED). COLOUR OF FINISHED OF POLE/HEAD TO ARCHITECT'S SELECTION. LAMPS SHALL BE SUPPLIED WITH THE FIXTURE. FIXTURE TO HAVE FLAT LENS BE FULL CUT OFF AND DARK SKY COMPLIANT. NLS LIGHTING CAT.# 1-NV-2-T4-96L-1-40K-HV-DPS6-CC-HSS
D	LUMINAIR CONSISTING OF A DECORATIVE PATH LIGHT, 120V OUTDOOR USE BALLAST LIGHTING BASE BY LANDLORD, COLOUR OF FINISH OF HEAD/FIXTURE TO ARCHITECT'S SELECTION. CREE LIGHTING: PWY-EDG-5M-P4-02-E-12-BK-350-40K
L1	LED LANDSCAPE BOLLARD LIGHT FIXTURE C/W 120V BALLAST SUITABLE FOR OUTDOOR USE. CONCRETE BASE TO BE PROVIDED UNDER LANDSCAPE CONTRACT. ALLOW TO COORDINATE FOR INSTALLATION OF CONDUITS OR ANCHOR BOLTS ON SITE PRIOR TO CONCRETE BASE BEING POURED. COLOUR OF FIXTURE FINISH TO BE SELECTED BY OWNER/LANDSCAPE ARCHITECT PRIOR TO RELEASE FOR MANUFACTURE. LANDSCAPE FORMS SKYLINE CAT.#: BR-80-DB-004L4-30K-UV1-EM-CC
L2	LED LANDSCAPE COLUMN LIGHT FIXTURE C/W 120V BALLAST SUITABLE FOR OUTDOOR USE AND ASYMETRIC FORWARD THROW BEAM (A60) OPTION AND COLUMN FITTER FOR MOUNTING ON LANDSCAPE COLUMN. CONFIRM EXACT FIXTURE MOUNTING HEIGHT WITH LATEST LANDSCAPE DRAWINGS. COLOUR OF FIXTURE FINISH TO BE SELECTED BY OWNER/LANDSCAPE ARCHITECT PRIOR TO RELEASE FOR MANUFACTURE. WE-EF CAT.#: VLS420 LED 620-5368 620-9341

**NOTES RE: ELECTRICAL SERVICES**

1 2x100mmC C/W PULLSTRING IN CONCRETE ENCASED STEEL REINFORCED DUCTBANK FROM PROPERTY LINE TO PAD MOUNTED TRANSFORMER TO OSHAWA PUC STANDARDS AND REQUIREMENTS. COORDINATE EXACT DUCT TERMINATION LOCATION ON SITE WITH OSHAWA PUC.

2 2 RUNS OF 4#600MCM RWU90 NUAL-100mmC IN CONCRETE ENCASED STEEL REINFORCED DUCTBANK FROM PAD MOUNTED TRANSFORMER TO BUILDING 'C5' ELECTRICAL ROOM. ALLOW TO COORDINATE WITH OSHAWA PUC FOR RUNNING DUCTBANK AND CABLES INTO TRANSFORMER ALONG WITH TERMINATIONS.

3 2 RUNS OF 4#250MCM RWU90 NUAL + BOND WIRE-100mmC IN CONCRETE ENCASED STEEL REINFORCED DUCTBANK FROM BUILDING 'C5' ELECTRICAL ROOM TO BUILDING 'C4' ELECTRICAL ROOM. NOTE DUCTS AND CABLES ARE TO PASS THROUGH A METER CABINET IN BUILDING C5 BEFORE TERMINATING IN MAIN SWITCHBOARD. DUCT AND CABLE TO PASS THROUGH A PULLING CHAMBER WITHIN SITE.

4 2x100mmC C/W PULLSTRINGS IN CONCRETE ENCASED STEEL REINFORCED DUCTBANK FROM PROPERTY LINE TO PAD MOUNTED TRANSFORMER TO OSHAWA PUC STANDARDS AND REQUIREMENTS. COORDINATE EXACT DUCT TERMINATION LOCATION ON SITE WITH OSHAWA PUC.

**NOTES RE: TELEPHONE SERVICES**

1 2x100mmC C/W PULLSTRING IN DIRECT BURIED DUCTS FROM PROPERTY LINE TO BUILDING 'C5' ELECTRICAL ROOM TO APPROVAL OF BELL & ROGERS.

2 2x100mmC C/W PULLSTRING IN DIRECT BURIED DUCTS FROM PROPERTY LINE TO BUILDING 'C4' ELECTRICAL SERVICE AREA TO APPROVAL OF BELL & ROGERS.

**GENERAL NOTES**

1. THIS ELECTRICAL CONTRACTOR TO RUN CONCRETE ENCASED STEEL REINFORCED (CESR) PRIMARY DUCTBANKS (QUANTITY AND SIZE AS SHOWN ON DRAWING) TO OSHAWA PUC REQUIREMENT. ALLOW TO COORDINATE WITH OSHAWA PUC FOR INSPECTION OF ALL PRIMARY DUCTBANKS PRIOR TO BACK FILLING.

2. THIS ELECTRICAL CONTRACTOR TO RUN CONCRETE ENCASED STEEL REINFORCED (CESR) SECONDARY/FEEDEER DUCTBANKS (QUANTITY AND SIZE AS SHOWN ON DRAWING) TO 5' OUTSIDE EACH BUILDING ELECTRICAL ROOM OR SERVICE AREA. BUILDING ELECTRICAL CONTRACTOR SHALL RUN DUCTS FROM BUILDING ELECTRICAL ROOM OR SERVICE AREA TO TIE INTO THESE DUCTS; WHEREAFTER THIS SITE ELECTRICAL CONTRACTOR TO COME BACK AT A LATER DATE AND RUN SECONDARY WIRING AS NOTED FROM TRANSFORMER TO A FUTURE FUSED SWITCHBOARD OR DISCONNECT SWITCH AND COORDINATE CONNECTIONS AT TRANSFORMER WITH OPUC. LEAVE APPROXIMATELY 15' COIL OF CABLES AT BOTH ENDS FOR FUTURE CONNECTION. CONNECTION AT INSIDE BUILDING SHALL BE DONE BY BUILDING CONTRACTOR. CONNECTION AT TRANSFORMER TO BE DONE BY OPUC. ALLOW FOR ALL CABLES TO REACH BUILDING SERVICE LOCATIONS AS NECESSARY. CONFIRM EXACT CABLE LENGTH ON SITE PRIOR TO ORDERING. ALLOW TO RETURN TO SITE MULTIPLE TIMES DURING CONSTRUCTION TO SUIT BUILDING ENERGIZATION TIMELINES. COORDINATE ALL TIMING WITH GENERAL CONTRACTOR AND PROJECT MANAGER ON SITE.

3. THIS ELECTRICAL CONTRACTOR TO VERIFY EXACT LOCATION OF ALL ELECTRICAL ROOMS AND TENANT SERVICE LOCATIONS PRIOR TO ROUGH-IN SECONDARY SERVICES.

4. PROPOSED LOCATION OF PAD MOUNTED TRANSFORMER. PROVIDE FOUNDATION, LID, GROUNDING, PROTECTIVE BOLLARDS TO OSHAWA PUC STANDARDS AND REQUIREMENTS. CONFIRM ALL TIMING FOR INSTALLATION WITH OPUC.

5. THIS ELECTRICAL CONTRACTOR TO RUN BOTH CONDUIT/WIRING FOR ALL SITE LIGHTING AND PYLON SIGNS ALL THE WAY INTO LANDLORD ELECTRICAL ROOM AS SHOWN ON DRAWINGS AND TERMINATE IN J-BOX UNDER HOUSE SERVICE 347/600V PANEL. LEAVE 15' COIL OF CABLES IN J-BOX FOR FUTURE CONNECTION TO PANEL BY BASEBUILDING CONTRACTOR. ALLOW TO COORDINATE EXACT CONDUIT/WIRE ROUTING ON SITE AS REQUIRED.

6. ALL EMPTY DUCTS SHALL BE C/W NYLON PULL ROPES.

7. THIS ELECTRICAL CONTRACTOR TO COORDINATE WITH CIVIL AND LANDSCAPE DRAWINGS TO AVOID CONFLICT AND ADJUST ROUTING AS REQUIRED.

8. ALL UNDERGROUND WIRING IS TO BE RWU (UNLESS OTHERWISE NOTED) NO ALTERNATES WILL BE ACCEPTABLE.

9. MEGGER ALL LIGHTING AND POWER CIRCUITS TO MEET CODES AND LATEST NETA MANUAL. ALL SECONDARY FEEDER CABLES SHALL BE MEGGER TESTED WITH 1000VDC (FOR CABLE RATED 300V OR LESS MEGGER TEST IS 500VDC) APPROVED MEGGER TEST. HAND CRANKED INSTRUMENTS ARE NOT ALLOWED. SUBMIT MEGGER TEST RESULTS TO ENGINEER PRIOR TO POWER ON.

10. THIS ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED CONDUIT C/W PULLSTRING/WIRING FOR BUILDING 'C4' AND 'C5' DRIVE THRU EQUIPMENT AS NOTED ON DRAWINGS. ALL CONDUITS/WIRES ARE TO BE LABELED FOR FUTURE TENANT USE. PROVIDE ALL REQUIRED CONCRETE BASES TO LATEST TENANT REQUIREMENT FOR DIRECTION SIGNS/PRE SALE BOARDS/ MENUBOARD/SPEAKER POST/ETC. CONFIRM EXACT LOCATION OF ALL EQUIPMENT ON SITE AND WITH P.M./TENANT PRIOR TO ROUGHING-IN. COORDINATE AND CONFIRM EXACT CONDUIT SIZE REQUIRED FOR DRIVE THRU EQUIPMENT WITH DETAILS ON DRAWINGS AND TENANT APPROVED DRAWING. ALLOW TO RECEIVE DETECTOR LOOPS, ANCHOR BOLTS, ETC. FROM TENANT FOR INSTALLATION PRIOR TO POURING BASES OR INSTALLING CONDUITS. COORDINATE TIMING FOR RECEIVING ALL TENANT SUPPLIED EQUIPMENT WITH G.C. AND P.M. ON SITE AS REQUIRED.

11. THIS ELECTRICAL CONTRACTOR TO ALLOW FOR AN ON SITE MEETING WITH OSHAWA PUC PRIOR TO COMMENCING ANY WORK. CONTACT MATT HUBERLINE (mhuberline@opuc.on.ca, 905-723-4626 XT.5287) FOR MEETING ALONG WITH ANY ADDITIONAL OSHAWA PUC DETAILS AND REQUIREMENTS.

12. THIS ELECTRICAL CONTRACTOR TO ARRANGE FOR A PRE-CONSTRUCTION MEETING WITH BELL CANADA PRIOR TO STARTING ANY WORK ON SITE. CONTACT JEN PITZ (jenpitz@bell.ca, 905.433.3146) TO ARRANGE FOR A MEETING ON SITE.

13. N/A

14. ALL CONCRETE BASES FOR LANDSCAPE LIGHTS ARE TO BE SUPPLIED AND INSTALLED BY G.C. OR LANDSCAPE CONTRACTOR. THIS ELECTRICAL CONTRACTOR TO ALLOW TO COORDINATE FOR INSTALLATION OF CONDUITS OR ANCHOR BOLT ON SITE PRIOR TO CONCRETE BASES BEING POURED.

**NOTES: DRIVE THRU BUILDING C4**

1 THIS ELECTRICAL CONTRACTOR SHALL ALLOW TO SUPPLY AND INSTALL ALL POWER CONDUITS C/W WIRING FOR ALL SIGNS (MENUBOARD, PRESALE, DIRECTIONAL, HEIGHT, CAMERAS, ETC.) C/W 20' COIL OF CABLE AT BOTH ENDS FOR CONNECTION/EXTENSION BY McDONALDS ELECTRICAL CONTRACTOR. THIS ELECTRICAL CONTRACTOR SHALL ALLOW TO SUPPLY AND INSTALL ALL CONDUIT C/W PULLSTRINGS FOR FUTURE DATA WIRING.

2 MCD ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL CONNECTIONS FOR ALL DRIVE THRU EQUIPMENT AND DIRECTIONAL SIGN AS REQUIRED.

3 ALL CONCRETE BASES ARE TO BE SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR TO LATEST McDONALDS STANDARDS. CONFIRM EXACT BASE LOCATIONS AND SIZES WITH McDONALDS P.M. PRIOR TO INSTALLATION.

4 THIS ELECTRICAL CONTRACTOR SHALL ALLOW TO INSTALL ALL DETECTOR LOOPS AT ORDER STANDINGS AND DRIVE THRU WINDOWS TO LATEST MANUFACTURE/MCDONALDS STANDARDS AND REQUIREMENTS. DETECTOR LOOPS TO BE SUPPLIED BY McDONALDS. ALLOW TO PROVIDE 1.5" C STUBBED INTO BUILDING FOR DETECTOR LOOPS AT DRIVE THRU WINDOW.

Drawing are not to be scaled. Contractor must check and verify all dimensions and conditions on the project; and must report any discrepancies to the consultants before proceeding with the work. The use of this drawing or part thereof is forbidden without the written approval of the consultants.

LEGAL DESCRIPTION: TBD	
STATISTICS	
SITE C2	11.91 ACRES 50.77 HA.
RETAIL SITE C2	13.37 ACRES 51.36 HA.
BUILDING C4 AREA	14,876 S.F. 1,463 S.M.
RETAIL AREA (RESTAURANT)	14,876 S.F. 1,463 S.M.
BUILDING C5 AREA	17,120 S.F. 1,580 S.M.
RETAIL AREA	17,120 S.F. 1,580 S.M.
OFFICE AREA	14,680 S.F. 1,435 S.M.
METRO AREA	12,005 S.F. 1,114 S.M.
GARAGE ROOM AREA	12,005 S.F. 1,114 S.M.
TOTAL RETAIL/LEASABLE AREA (OLA)	111,556 S.F. 1,074 S.M.
TOTAL SERVICE AREA	14,680 S.F. 1,435 S.M.
TOTAL BUILDING AREA	113,996 S.F. 1,114 S.M.
TOTAL PARKING REQUIRED	64 SPACES
RESTAURANT (C4)	45 SPACES
RETAIL (C5)	8 SPACES
OFFICE (C5)	18 SPACES
BARRIER FREE PARKING SPACES	2 TYPE A 2 TYPE B
PARKING PROVIDED	78 SPACES
BARRIER FREE PARKING SPACES	2 TYPE A 2 TYPE B
	6,572,000 S.F. 7,100 S.M.

FSI	
0.14	
COVERAGE	
BUILDING AREA	11,114 S.M. 14.42%
PROPOSED PAVED AREA	14,620 S.M. 8.89%
PROPOSED LANDSCAPE AREA	14,620 S.M. 18.48%
PROPOSED PAVEMENT	14,308 S.M. 55.73%

4	2023-07-14	ISSUED FOR PERMIT & TENDER	BK
3	2023-07-06	ISSUED FOR COORDINATION	BK
2	2023-06-14	ISSUED FOR COORDINATION	BK
1	2023-03-27	ISSUED TO UTILITY	BK
#	DATE	DESCRIPTION	BY



PROJECT  
**BLOCK C2  
PROPOSED SITE PLAN**  
WINCHESTER ROAD & SIMCOE STREET  
OSHAWA, ONTARIO

DRAWING  
**ELECTRICAL SITE PLAN, NOTES  
AND LIGHT FIXTURE SCHEDULE**

PROJECT NO:  
22-000-178

PROJECT DATE:  
2022-08-29

DRAWN BY:  
BD

CHECKED BY:  
BK

SCALE:  
AS NOTED

DRAWING NO:  
**ES2**



