



Regional Municipality of Durham

Bid Opportunity: T-1032-2021 – Relocation of Oral Health Clinic to 200 John Street, Oshawa

Closing Date: Tuesday May 11, 2021 2:00 PM

Addendum number 2 – May 6, 2021

This addendum will form a part of the bid documents for the above-noted bid and shall be read in conjunction therewith. This addendum will take precedence over all requirements of the original bid documents and any addenda issued previously.

Bidders shall acknowledge receipt of this addendum with their electronic bid submission on the declaration page in the bidding system.

Specifications

Architectural

- .1 Section 01 21 13(R1) has been modified as part of this addendum.
 - .1 Revised paragraph 1.2.5.2 to increase the cash allowance for purchase, delivery, and installation of Security Systems and Services.

Drawings

Electrical

- .1 Drawing E-001 has been modified as part of this addendum.
 - .1 Duress system symbols and descriptions added to Legend.

Addendum 2

- .2 Updated notes in boxed area.
- .3 Drawing E-002 has been modified as part of this addendum.
- .4 Updated detail number 3.

- .2 Drawing E-003 has been modified as part of this addendum.
 - .1 Updated detail number 3.

- .3 Drawing E-004 has been modified as part of this addendum.
 - .1 Updated detail number 1.

- .4 Drawing E-005 has been modified as part of this addendum.
 - .1 Updated detail number 3 and 4.

- .5 Drawing E-006 has been modified as part of this addendum.
 - .1 Updated details number 1, 2 and 3.

- .6 Drawing E-007 has been modified as part of this addendum.
 - .1 Updated details number 1, 2, 3 and 4.

- .7 Drawing E-008 has been modified as part of this addendum.
 - .1 Updated drawing note and drawing references.
 - .2 Added box note to drawing.

- .8 Drawing E-009 has been modified as part of this addendum.
 - .1 Revised electrical requirements for rooftop units.

- .9 Drawing E-010 has been modified as part of this addendum.
 - .1 Revised electrical requirements for mechanical equipment.
 - .2 Revised fire alarm system requirements.

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- .3 Revised access control system, intrusion system requirements.
 - .4 Updated drawings notes.
 - .5 Miscellaneous updates to electrical design.
- .10 Drawing E-011 has been modified as part of this addendum.
- .1 Revised fire alarm system device requirements.
 - .2 Revised life safety layout.
 - .3 Revised lighting control system requirements.
- .11 Drawing E-012 has been modified as part of this addendum.
- .1 Updated detail numberf3.
- .12 Drawing E-015 has been modified as part of this addendum.
- .1 Updated drawing note, boxed note and drawing references.
 - .2 Updated single line diagram
- .13 Drawing E-016 has been modified as part of this addendum.
- .1 Updated CCTV system riser diagram, drawing note, boxed note and drawing references.
- .14 Drawing E-017 has been modified as part of this addendum.
- .1 Updated access control system conduit riser diagram, drawing note, boxed note and drawing references.
 - .2 Updated detail number 1.
- .15 Drawing E-018 has been modified as part of this addendum.
- .1 Updated access control system riser diagram, device schedule, drawing note, boxed note and drawing references.
- .16 Drawing E-019 has been modified as part of this addendum.

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- .1 Updated intrusion system riser diagram, device schedule, drawing note, boxed note and drawing references.
- .17 Drawing E-020 has been modified as part of this addendum.
 - .1 Updated intercom system riser diagram, drawing note, boxed note and drawing references.
- .18 Drawing E-021 has been created as part of this addendum.
 - .1 Updated detail number 1.

Communications

- .1 Drawing T-001 has been modified as part of this addendum.
 - .1 Updated Detail No. 1 and legend.
- .2 Drawing T-002 has been modified as part of this addendum.
 - .1 Updated cabinet elevation detail.
- .3 Drawing T-003 has been modified as part of this addendum.
 - .1 Updated Detail number 1.
- .4 Drawing T-004 has been modified as part of this addendum.
 - .1 Updated Detail number 1 and 2.
- .5 Drawing T-005 has been modified as part of this addendum.
 - .1 Updated demolition requirements.

Attachments

- .1 Drawing E-001 (Addendum #E-01)

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- .2 Drawing E-002 (Addendum #E-01)
- .3 Drawing E-003 (Addendum #E-01)
- .4 Drawing E-004 (Addendum #E-01)
- .5 Drawing E-005 (Addendum #E-01)
- .6 Drawing E-007 (Addendum #E-01)
- .7 Drawing E-007 (Addendum #E-01)
- .8 Drawing E-008 (Addendum #E-01)
- .9 Drawing E-009 (Addendum #E-01)
- .10 Drawing E-010 (Addendum #E-01)
- .11 Drawing E-011 (Addendum #E-01)
- .12 Drawing E-012 (Addendum #E-01)
- .13 Drawing E-015 (Addendum #E-01)
- .14 Drawing E-016 (Addendum #E-01)
- .15 Drawing E-017 (Addendum #E-01)
- .16 Drawing E-018 (Addendum #E-01)
- .17 Drawing E-019 (Addendum #E-01)
- .18 Drawing E-020 (Addendum #E-01)
- .19 Drawing E-021 (Addendum #E-01)
- .20 Panel schedule for RP-A (Addendum #E-01)

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- .21 Panel schedule for RP-B (Addendum #E-01)
- .22 Panel schedule for RP-C (Addendum #E-01)
- .23 Panel schedule for RP-D (Addendum #E-01)
- .24 Drawing T-001 (Addendum #T-01)
- .25 Drawing T-002 (Addendum #T-01)
- .26 Drawing T-003 (Addendum #T-01)
- .27 Drawing T-004 (Addendum #T-01)
- .28 Drawing T-005 (Addendum #T-01)
- .29 Specification Section(R1) 01 21 13 Cash Allowances

Questions and answers

Question 1:

Please confirm if we can use the existing washrooms during construction.

Answer 1:

Please refer to Section 01 50 00 Temporary Facilities and Controls.

Question 2:

Please Confirm if we can use the existing Power & Water during construction.

Answer 2:

Please refer to Section 01 50 00 Temporary Facilities and Controls.

Question 3:

With reference to Section 11 73 13 - Patient lifts, please provide the manufacturer/supplier contact details as it missing at the document.

Answer 3:

The patient lift is performance based specified. No manufacturer or supplier provided.

Question 4:

Please advise if any special material / need to be added to the partitions / ceiling related to the X-Ray location, if any?

Answer 4:

Two layers of 3/4" plywood for backing support as noted on A-005 Partition, Furring & General Notes No.3 and detail 4 on A3.1.

Question 5:

Please provide the BAS (Control) Contractor.

Answer 5:

Refer to Addendum No.1 – Answer 3.

Question 6:

Please confirm that all security / CCTV / Intercom and related works should be covered by the cash allowance.

Answer 6:

Security cash allowance is for supplying, installing and commissioning of access control system and intrusion system. Conduits, rough-ins and power required for

access control system and intrusion system devices shall be included as part of the base bid price over and above the stated cash allowance value.

Question 7:

Please advise / provide details & exact scope of work –if any- that we should consider in our offer related to the relocation of the old location.

Answer 7:

Allow access and coordinate time for the relocation of other equipment and dental chairs with the successful bidder of the dental equipment tender T-1032-2021.

Question 8:

Please confirm if the medical piping and supply & installation of all equipment are by mechanical contractors? Or by others are not part of this tender.

Answer 8:

The supply and installation of dental equipment will be completed by the successful bidder of dental equipment tender T-1032-2021. The other contractor will only be connecting the equipment to the mechanical piping once the rooms are ready for occupancy. It is part of this tender to have a certified medical gas sub-contractor to install the medical piping. Please refer to General Notes of drawing A0. Please note that all in-floor vacuum, air lines, and dental gas line to be submitted with sealed engineered shop drawings and all work done in place to be reviewed by that engineering consultant.

Question 9:

Please provide specifications for the stainless steel coat hooks as noted on drawing 1/A007 finish floor plan notations. No information provided in specifications.

Answer 9:

Refer to Section 10 28 13.

Question 10:

Is there a finish schedule for the plastic laminate/solid surface materials? We see notations for PL1, PL5, PL6 etc. but do not see a schedule. Please confirm.

Answer 10:

Finish schedule and board to be put together by the architect once finishes are confirmed with the client.

Question 11:

What are the tile patterns for both walls?

Answer 11:

Refer to Drawing A-012 for tile patterns.

Question 12:

What is the trim type and locations?

Answer 12:

Refer to answers 13 to 16.

Question 13:

Can a specified trim for outside corners be provided?

Answer 13:

Refer to specification Section 09 30 00.

Question 14:

Are we installing cove trim at the inside corner where that floor & base tile meet?
If so, is it surface or flush mounted?

Answer 14:

Refer to specification Section 09 30 00 – 3.3 Installation.

Question 15:

Is there a trim termination @ 6' in all three (3) WC's. If so, please specify.

Answer 15:

Yes. Refer to specification Section 09 30 00.

Question 16:

Is there a trim termination on all the base? If so, please specify.

Answer 16:

No trim required where the tile base meets tile wall. Only grout required.

Question 17:

Is there a millwork finish schedule or color/finish specs for millwork finishes?

Answer 17:

Refer to answer 10.

Question 18:

What is the extent of the existing stucco to be re-painted on the exterior/outside walls? See dwg #A-005 (note on the top) and dwg #A-009/detail #2 (hatched area to the right)?

Answer 18:

Existing stucco on the north of the building should be painted to cover up where the existing signage is to be removed (+/-140ft²). Contractor to site verify. Extents of stucco to be painted on the south of the building (3/A009) should be painted where old canopy is being removed (+/-40ft²). Contractor to site verify.

Question 19:

As per the drawings (drawing E-006), the notes state that the Access Control and Intrusion control panel will be provided by Owner. Can we get more information on what system the Owner will be providing?

Answer 19:

Access control system and intrusion system to be provided as part of this scope of work.

Question 20:

As per Specifications and Drawings, please confirm that the scope of work for Security and Access Control is just installation, programming, testing, commissioning and training. This is further implied in Drawing E-019 where Note N-10 states that intrusion system devices are supplied by client, and in Drawing E-018 Note N-15 which states that access control system

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device to be supplied by client. Drawings also state the communications contractor is to supply and install equipment cabinets/racks, and the owner will also be supplying the main control panels, electric strike power supplies and system server. It sounds like the proponent won't be supplying any equipment.

Answer 20:

Access control system and intrusion system to be provided as part of this scope of work.

Question 21:

Drawing E-016 makes reference to the Specification for additional requirements for the CCTV system. The Specification provided does not have a section for CCTV. Please advise.

Answer 21:

Security Services Installation and Security System Standards was issued as part of Addendum 1.

Question 22:

Drawing E-016 states that a Senstar Thin Client 10D is to be provided as part of the CCTV workstation. Is this absolutely required? Most NVRs can be accessed through any computer on the same network through a web browser to display CCTV feed and make configurations.

Answer 22:

Thin Client 10D is required as per Drawing E-016.

Question 23:

If additional equipment/materials are required beyond what is provided by the client, how will this be managed?

Answer 23:

Access control system and intrusion system to be provided as part of this scope of work.

Question 24:

Can you please let us know if mechanical pipes noted on drawing P1 in purple, green, and blue colours will be provided by the Owner or will be part of this tender?

Answer 24:

All work on P1 is to be included as part of this tender. Refer to Answer 8 above for further information.

Question 25:

Drawing T-001 – Detail 2 – Please clarify number of patch cords needed. Shall be supplied 445 patch cords as described in detail 2/T-001 or just the quantity of data cables?

Answer 25:

Provide quantity of patch cords per patch cord schedule.

Question 26:

Does a new BAS System need to be required for this facility?

Answer 26:

There is no BAS in the current building to be removed or maintained and no new BAS specified.

Question 27:

Will you post the virtual pre-bid meeting video for us to refer back to?

Answer 27:

A recording of the virtual pre-bid meeting will not be made available to bidders as this is verbal communication. Bidders should only rely on information provided in the Project Manual and addenda.

End of addendum

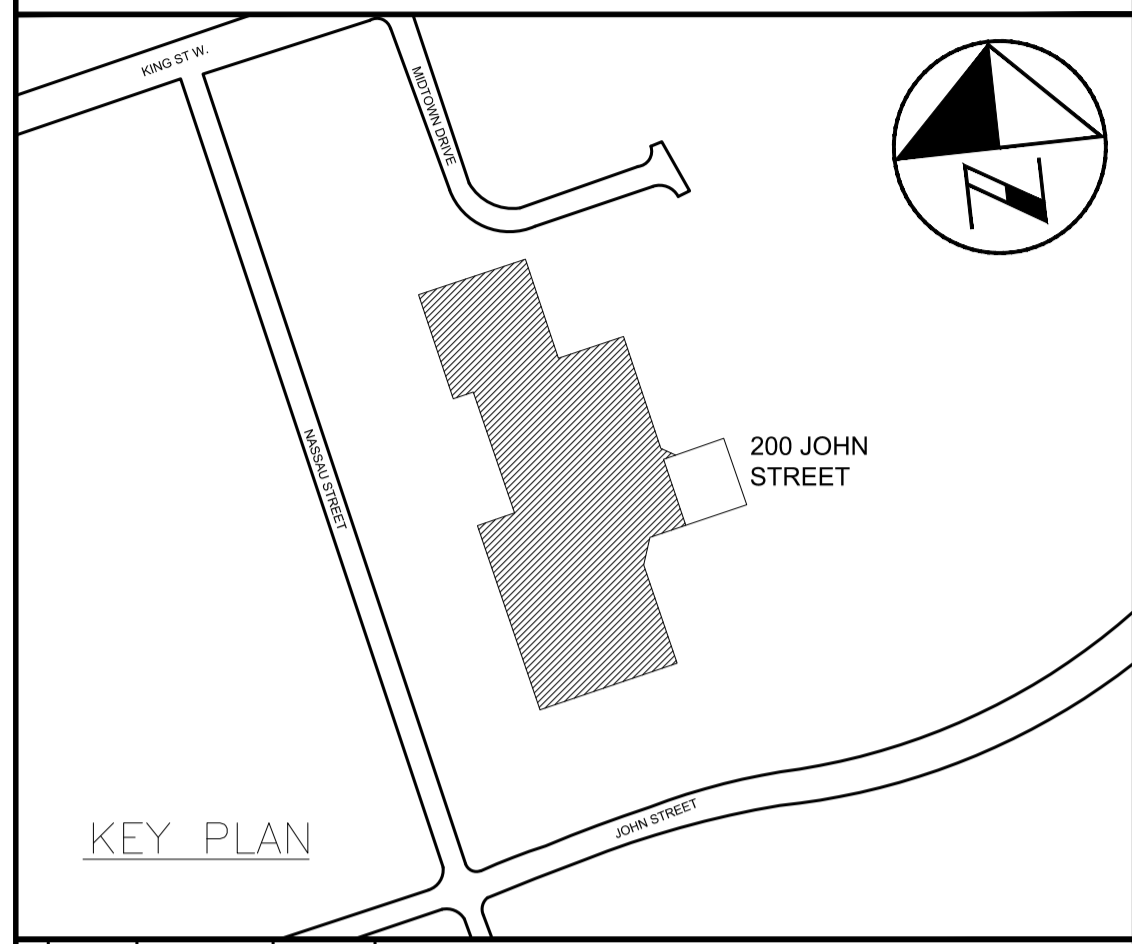
LEGEND

- EXISTING CEILING MOUNTED/SUSPENDED FIXTURE CONNECTED TO BASE BUILDING UTILITY LIGHTING CIRCUIT.
- CEILING MOUNTED/SUSPENDED FIXTURE. CONNECT TO BASE BUILDING UTILITY LIGHTING CIRCUIT.
- CEILING MOUNTED/SUSPENDED FIXTURE. CONNECT TO NON SWITCHED BASE BUILDING 24-HOUR LIGHTING CIRCUIT.
- RECESSED/PENDENT DOWNLIGHT. CONNECT TO SWITCHED BASE BUILDING UTILITY LIGHTING CIRCUIT.
- RECESSED/PENDENT DOWNLIGHT. CONNECT TO NON SWITCHED BASE BUILDING 24-HOUR LIGHTING CIRCUIT.
- CEILING OR WALL MOUNTED "EXIT" LIGHT.
- EMERGENCY BATTERY UNIT, TYPE 'D1', SOURCE 'M1'. BATTERY SHALL BE MOUNTED AT HIGH LEVEL.
- REMOTE EMERGENCY LIGHTING FIXTURE, TYPE 'D2' FED FROM SOURCE 'M2'.
- WHITE DECORA STYLE LIGHT SWITCH, VOLTAGE AND CURRENT RATINGS AS REQUIRED.
- WALL MOUNTED ROOM LIGHT SWITCH WATT STOPPER LMSW-10X OR APPROVED EQUAL.
'OV1' DENOTES ONE (1) DIGITAL PUSH BUTTON.
'OV2' DENOTES TWO (2) DIGITAL PUSH BUTTONS.
'OV3' DENOTES THREE (3) DIGITAL PUSH BUTTONS.
'OV4' DENOTES FOUR (4) DIGITAL PUSH BUTTONS.
- WALL MOUNTED AREA LIGHT SWITCH WATT STOPPER LMSW-10X OR APPROVED EQUAL.
'OW2' DENOTES TWO (2) DIGITAL PUSH BUTTONS.
'OW3' DENOTES THREE (3) DIGITAL PUSH BUTTONS.
'OW4' DENOTES FOUR (4) DIGITAL PUSH BUTTONS.
'OW5' DENOTES FIVE (5) DIGITAL PUSH BUTTONS.
'OW6' DENOTES SIX (6) DIGITAL PUSH BUTTONS.
- 'TS' DENOTES WALL MOUNTED TIME SWITCH WATT STOPPER TS-400-24 OR APPROVED EQUAL C/W POWER PACK (VOLTAGE RATINGS TO SUIT LIGHTING LOADS) AND BOTH VISUAL AND AUDIBLE WARNING (TIMER PRESET AT 20 MINUTE TIME OUT SETTING).
- 'WS' DENOTES CRESTRON WALL STATION ROUGH-IN
- 15AMP/120VOLT, U-GROUND DUPLEX RECEPTACLE. GFI DENOTES OUTLET C/W GROUND FAULT INTERRUPT PROTECTION.
- RECEPTACLE, REQUIREMENT AS NOTED
- 20A/120V DUPLEX RECEPTACLE, CSA 5-20R (T-SLOT). HUBBELL DR20 SERIES.
- 20A/120V PLUG LOAD CONTROLLED DUPLEX RECEPTACLE, CSA 5-20R (T-SLOT). HUBBELL DR20C2WHI SERIES.
- 20A/120V HOSPITAL GRADE DUPLEX RECEPTACLE, CSA 5-20R (T-SLOT). HUBBELL 2182 SERIES. GFI DENOTES OUTLET C/W GROUND FAULT INTERRUPT PROTECTION. HUBBELL GFR5TB3XX SERIES.
- DIRECT CONNECTION.
- STARTER.
- NON-FUSED HORSEPOWER RATED VISIBLE BLADE HEAVY DUTY DISCONNECT SWITCH C/W PADLOCK PROVISION IN OFF POSITION
- VISIBLE BLADE HEAVY DUTY DISCONNECT SWITCH C/W PADLOCK PROVISION IN OFF POSITION FUSED AT '15A'
- COMBINATION STARTER C/W FUSES, OVERLOAD PROTECTION, CONTROL TRANSFORMER, 2 NO AND 2 NC CONTACTS, PILOT LIGHT AND HOA. FUSED AT '15A'.
- CIRCUIT 'X' FED FROM RECEPTACLE PANEL 'A'. '(D)' DENOTES DESIGNATED CIRCUIT FOR ISOLATED GROUP DUPLEX RECEPTACLE.
- DENOTES EXISTING DEVICE TO REMAIN
- DENOTES EXISTING DEVICE TO BE REMOVED. REMOVE CONDUIT AND WIRE BACK TO SOURCE.
- DENOTES ROOF MOUNTED
- DENOTES CLOCK STYLE RECEPTACLE
- DENOTES CEILING MOUNTED
- DENOTES NEMA TYPE 4X ENCLOSURE SUITABLE FOR HOSE DIRECTED WATER
- DENOTES DEVICE COMPLETE WITH PROTECTIVE WIRE GUARD
- DENOTES MOUNTING HEIGHT TO BE IN LINE WITH LIGHT SWITCHES.
- DENOTES SURFACE MOUNTED
- DENOTES MOUNTED IN MILLWORK
- 4" SQUARE BACKBOX C/W SINGLE DEVICE COVER (PLASTER RING) AND 3/4" EMPTY ZONE CONDUIT ASSEMBLY FOR COMMUNICATIONS CONTRACTOR'S USE. PROVIDE A PULL STRING IN CONDUIT.
- 2-GANG DEEP BACKBOX C/W COVER PLATE AND 3/4" EMPTY ZONE CONDUIT ASSEMBLY TO COMPRESSOR ROOM/O&N CLOSET C/W PULLSTRING FOR DENTAL EQUIPMENT CONTRACTOR'S USE.
- 4" SQUARE DEEP BACKBOX C/W COVER PLATE AND 1 1/2" ZONE CONDUIT SYSTEM C/W PULLSTRING FOR A/V CONTRACTOR'S USE.
- 4" SQUARE DEEP BACKBOX C/W COVER PLATE AND 1 1/2" ZONE CONDUIT SYSTEM C/W PULLSTRING FOR A/V CONTRACTOR'S USE.
- WALL MOUNTED OFFICE GROUP CONSISTING OF ONE (1) DUPLEX RECEPTACLE, ONE (1) PLUG LOAD CONTROLLED DUPLEX RECEPTACLE AND 4" SQUARE BACKBOX C/W SINGLE DEVICE COVER (PLASTER RING) WITH 3/4" ZONE CONDUIT C/W PULL STRING FOR COMMUNICATIONS CONTRACTOR'S USE.
- WALL MOUNTED OFFICE GROUP CONSISTING OF TWO (2) DUPLEX RECEPTACLES AND 4" SQUARE BACKBOX C/W SINGLE DEVICE COVER (PLASTER RING) WITH 3/4" ZONE CONDUIT C/W PULL STRING FOR COMMUNICATIONS CONTRACTOR'S USE.

- WALL MOUNTED OFFICE GROUP CONSISTING OF ONE (1) HOSPITAL GRADE DUPLEX RECEPTACLE AND 4" SQUARE BACKBOX C/W SINGLE DEVICE COVER (PLASTER RING) WITH 3/4" ZONE CONDUIT C/W PULL STRING FOR COMMUNICATIONS CONTRACTOR'S USE.
- FLOOR MOUNTED OFFICE GROUP CONSISTING OF ONE (1) DUPLEX RECEPTACLE, ONE (1) PLUG LOAD CONTROLLED DUPLEX RECEPTACLE AND CUTOUPS FOR COMMUNICATIONS CONTRACTOR'S USE. 'F' DENOTES RECESSED MOUNTED.
- RECESSED MOUNTED OFFICE GROUP CONSISTING OF CUTOUPS FOR A/V CONTRACTOR'S USE.
- DENOTES LOCATION OF COLUMN/WALL MOUNTED CABLE ENTRY FOR SYSTEMS FURNITURE. PROVIDE ELECTRICAL REQUIREMENTS AND COMMUNICATIONS ROUGH-IN REQUIREMENTS.
- DENOTES LOCATION OF FLOOR MOUNTED CABLE ENTRY FOR SYSTEMS FURNITURE. PROVIDE ELECTRICAL REQUIREMENTS AND COMMUNICATIONS ROUGH-IN REQUIREMENTS.
- DENOTES LOCATION OF FLOOR MOUNTED CABLE ENTRY. PROVIDE ELECTRICAL REQUIREMENTS AND COMMUNICATIONS ROUGH-IN REQUIREMENTS. 'CHAIR' DENOTES CONDUIT STUBBED UP INTO DENTAL CHAIR BASE.
- SMOKE DETECTOR. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- HEAT DETECTOR. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- MANUAL PULL STATION. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- 6" FIRE ALARM SYSTEM BELL. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM. 'G' DENOTES RECESS (WALL/CEILING) MOUNTED BACKBOX C/W FIELD PAINTABLE GRILL.
- FIRE ALARM SYSTEM STROBE LIGHT. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM. WHITE IN COLOUR.
- ISOLATION MODULE. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- END OF LINE RESISTOR. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- INITIATING DEVICE INTERFACE ZONE MODULE. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- CONTROL ZONE MODULE. CONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- CARD READER. CONNECT TO ACCESS CONTROL SYSTEM.
- ELECTRIC STRIKE. CONNECT TO ACCESS CONTROL SYSTEM.
- AUDIBLE ALARM. CONNECT TO ACCESS CONTROL SYSTEM.
- DOOR RELEASE. CONNECT TO ACCESS CONTROL SYSTEM.
- MOTION DETECTOR REQUEST TO EXIT. CONNECT TO ACCESS CONTROL SYSTEM.
- UNIVERSAL WASHROOM DURESS SYSTEM CIRCUIT ACCESS CONTROL SYSTEM INTERFACE C/W CONDUIT AND WIRE.
- BARRIER FREE WAVE SENSOR ROUGH-IN C/W CONDUIT AND WIRE.
- DOOR OPERATOR INTERFACE DEVICE. CONNECT TO ACCESS CONTROL SYSTEM.
- ROOM CEILING MOUNTED OCCUPANCY SENSOR WATT STOPPER LMDC-100 OR APPROVED EQUAL. SENSOR PRESET AT 20 MINUTE TIME OUT SETTING C/W MANUAL ON AND AUTO OFF AND DEFAULT DETECTION TECHNOLOGY SETTING.
- OPEN OFFICE AREA CEILING MOUNTED OCCUPANCY SENSOR WATT STOPPER LMDC-100 OR APPROVED EQUAL. SENSOR PRESET AT 20 MINUTE TIME OUT SETTING C/W MANUAL ON AND AUTO OFF AND DEFAULT DETECTION TECHNOLOGY SETTING.
- NON-SWITCHED CORRIDOR CEILING MOUNTED OCCUPANCY SENSOR WATT STOPPER LMDC-100 OR APPROVED EQUAL. SENSOR PRESET AT 20 MINUTE TIME OUT SETTING C/W AUTO ON AND AUTO OFF WALK THROUGH MODE ON AND DEFAULT SETTING.
- EQUIPMENT ROOM MOUNTED OCCUPANCY SENSOR WATT STOPPER LMPC-100 OR APPROVED EQUAL. SENSOR PRESET AT 20 MINUTE TIME OUT SETTING C/W AUTO ON AND AUTO OFF AND DEFAULT DETECTION TECHNOLOGY SETTING.
- DIGITAL ON/OFF/DIMMING ROOM CONTROLLER WATT STOPPER LMRC-212/LMRC-212-347 OR APPROVED EQUAL (VOLTAGE RATING AS REQUIRED TO SUIT LIGHTING LOAD).
- DIGITAL DIMMING ROOM CONTROLLER WATT STOPPER 120V LINE VOLTAGE LMRC-222 OR APPROVED EQUAL.
- DIGITAL PLUG LOAD CONTROLLER WATT STOPPER LMPL-101 OR APPROVED EQUAL.
- CEILING MOUNTED PHOTOSENSOR WATT STOPPER LMLS-400 OR APPROVED EQUAL. SENSOR PRESET 35FC. 'P' DENOTES PRIMARY SIDE LIGHTED AREA. 'S' DENOTES SECONDARY SIDE LIGHTED AREA.
- HARDWIRED INTRUSION SYSTEM DOOR CONTACT. CONNECT TO INTRUSION SYSTEM
- HARDWIRED INTRUSION SYSTEM KEYPAD. CONNECT TO INTRUSION SYSTEM.
- INTRUSION SYSTEM HARDWIRED GLASS BREAK DETECTOR. CONNECT TO INTRUSION SYSTEM.
- HARDWIRED INTRUSION SYSTEM MOTION SENSOR. CONNECT TO INTRUSION SYSTEM.
- DURESS SYSTEM STROBE LIGHT. CONNECT TO INTRUSION SYSTEM
- DURESS SYSTEM PANIC BUTTON. CONNECT TO INTRUSION SYSTEM
- UNIVERSAL WASHROOM DURESS SYSTEM COMBINATION STROBE LIGHT/HORN
- UNIVERSAL WASHROOM DURESS SYSTEM STATION
- VANDAL RESISTANT CCTV DOME CAMERA C/W MOUNTING BRACKETS, 'CX' DENOTES CAMERA DESIGNATION.
- THERMOSTAT SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. PROVIDE CONDUIT AND WIRE.
- INTERCOM SYSTEM MASTER STATION
- INTERCOM SYSTEM DOOR STATION. 'V' DENOTES VIDEO DOOR STATION, 'A' DENOTES AUDIO DOOR STATION.

- SUBSTITUTES ARE NOT PERMITTED FOR ALL SPECIFIED PRODUCTS.
- SHOP DRAWINGS ARE REQUIRED FOR ALL PRODUCTS SPECIFIED FOR THIS PROJECT INCLUDING BUT NOT LIMITED TO LIGHTING CONTROL, ELECTRICAL DISTRIBUTION, RECEPTACLE PANELS, CABLE TRAYS, LIGHTING FIXTURES, EXIT SIGNS, SWITCHES, RECEPTACLES, COVER PLATES, DIMMERS, FLOOR BOXES, CCTV SYSTEM, INTERCOM SYSTEM, ACCESS CONTROL SYSTEM, INTRUSION SYSTEM, FIRE ALARM SYSTEM DEVICES AND GROUNDING SYSTEM MATERIALS.
- ELECTRICAL CONTRACTOR AND ALL SUBCONTRACTORS MUST READ AND COMPLY WITH ELECTRICAL SPECIFICATIONS (ISSUED AS A SEPARATE DOCUMENT).
- CIRCUITING MUST BE COMPLETED AS SHOWN ON DRAWINGS. DO NOT CHANGE CIRCUIT NUMBERS.
- INSTALLATION AND MANUFACTURING OF ALL DEVICES AND SERVICES INCLUDING DISTRIBUTION, LIGHT FIXTURES, FEEDERS, BRANCH CIRCUITS, VARIOUS SYSTEMS, ETC. MUST COMPLY WITH ALL LOCAL SEISMIC RESTRAINT REQUIREMENTS.
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, MOUNTING HEIGHTS, CONSTRUCTION DETAILS, LOCATION OF LIGHT FIXTURES, FINISHES AND COLOURS.
- AS PART OF THIS SCOPE OF WORK AND PRIOR TO CONSTRUCTION, ELECTRICAL CONTRACTOR SHALL COORDINATE AND PAY FOR THE SERVICES OF THE FIRE ALARM MANUFACTURER, FIRE INSPECTOR AND BUILDING INSPECTOR TO THOROUGHLY REVIEW THE PROPOSED INSTALLATION LOCATIONS FOR EACH AND EVERY CONTROL PANEL, REMOTE ANNUNCIATOR PANEL, ANCILLARY DEVICE, FIELD DEVICE, ETC TO ENSURE THAT THE PROPOSED INSTALLATION IS FULLY COMPLIANT WITH CAN/ULC S524-14-AMD1 AND ONTARIO BUILDING CODE. COMPLIANCE SHALL INCLUDE INTERFERENCE AND PROXIMITY TO NEW AND EXISTING DEVICES AND OBSTRUCTIONS (INCLUDING BUT NOT LIMITED TO LIGHT FIXTURES, SUPPLY AIR DUCTS, EXPOSED DUCT WORK, BEAMS, RACEWAYS, ETC), SPACING BETWEEN FIELD DEVICES PROVIDED AS PART OF THIS SCOPE OF WORK IN PROPOSED INSTALLATION LOCATIONS, ETC.
- AS PART OF THIS SCOPE OF WORK AND PRIOR TO CONSTRUCTION, ELECTRICAL CONTRACTOR SHALL COORDINATE AND PAY FOR THE SERVICES OF THE BUILDING INSPECTOR TO REVIEW THE PROPOSED EXIT SIGN ORIENTATIONS, LOCATIONS, FACES (READ OR PICTOGRAM) AND CHEVRONS.
- AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE A FIRE WATCH THROUGHOUT THE DURATION OF THE PROJECT.
- FIRE ALARM SYSTEM TESTING AND VERIFICATIONS MUST TAKE PLACE BETWEEN 11PM AND 5AM DURING THE WEEK.
- AS BUILT DRAWING REQUIREMENTS:
AS BUILT DRAWINGS TO BE PREPARED AND SUBMITTED IN AUTOCAD FORMAT BY THE ELECTRICAL CONTRACTOR.
• ALL DEMOLITION SCOPES OF WORK ARE TO BE ERASED FROM AS BUILT DRAWINGS.
• ROUTING OF ALL FEEDERS, BRANCH WIRING (LIGHTING, EMERGENCY LIGHTING, POWER, ETC), LOW VOLTAGE WIRING, MISCELLANEOUS SYSTEMS WIRING, MISCELLANEOUS CONDUIT SYSTEMS, ETC, TO BE SHOWN ON AS BUILT DRAWINGS.
REFER TO DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL SCOPES OF WORK REQUIRED TO BE COMPLETED IN OCCUPIED AREAS OF THE FACILITY INCLUDING WORK RELATED TO DEFICIENCIES MUST BE COMPLETED BETWEEN 11PM AND 5AM DURING THE WEEK. REMOVAL AND REINSTALLATION OF CEILING TILES TO ACCOMMODATE ALL SCOPES OF WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- PROVIDE A DEDICATED GREEN INSULATED COPPER GROUND WIRE FOR EACH RECEPTACLE, DEVICE, LIGHT SWITCH, ETC. IN PATIENT CARE AREAS, OPERATORY ROOMS, LABS, ETC.
- AS PART OF THIS SCOPE OF WORK SET UP ACCESS CONTROL SYSTEM KEY CARDS PROVIDED AS PART OF THIS SCOPE OF WORK, INCLUDING TAKING EMPLOYEE PHOTOS AND SETTING UP AND PROGRAMING NEW DATABASE PROVIDED AS PART OF THIS SCOPE OF WORK. ELECTRICAL CONTRACTOR SHALL COORDINATE, ORGANIZE AND SCHEDULE TIME TO TAKE PHOTOS OF ALL STAFF AT THE SITE. PROVIDE A BLUE CURTAIN BACKDROP, ALL REQUIRED LIGHTING AND ALL OTHER EQUIPMENT REQUIRED FOR PHOTO TAKING. REFER TO DRAWING NO. E-018 FOR ADDITIONAL REQUIREMENTS.
- ALL PANEL SCHEDULE DIRECTORIES MUST BE UPDATED WITH TYPED PANEL SCHEDULES. KROY TAPE MUST BE USED FOR ALL LABELING AT ALL OUTLETS AND LAMACODS FOR ENCLOSURES.
- THE CONTRACTOR MUST ENSURE THAT FIRESTOPPING AND SEALANTS ARE INSTALLED AT NEW FLOOR OPENINGS IN ACCORDANCE WITH THE CURRENT FIRE CODE REQUIREMENTS AND TO PREVENT WATER LEAKAGE TO THE FLOORS BELOW. AREAS PRONE TO WATER LEAKAGE ARE TO BE WATERPROOFED PRIOR TO INSTALLATION OF THE TENANT FLOOR COVERINGS. THE LANDLORD WILL APPROVE THE PROPOSED WATERPROOFING METHOD PRIOR TO THE TENANT PROCEEDING WITH CONSTRUCTION.
- ALL DENTAL EQUIPMENT SHALL BE INSTALLED AT THE END OF CONSTRUCTION AFTER SITE CLEAN UP AND DEMOBILIZATION. AS PART OF THIS SCOPE OF WORK ELECTRICAL CONTRACTOR SHALL ALLOW FOR REMOBILIZATION AND TO COORDINATE AND SCHEDULE TIME TO COMPLETE FINAL ELECTRICAL CONNECTIONS TO DENTAL EQUIPMENT, BUCK & BOOST TRANSFORMERS, ETC., WITH PROJECT MANAGER.

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



CONSULTANT REVISIONS			
NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1M 4G8
Tel: (905) 666-5252
Fax: (905) 666-5256
email: bbay@bbayengineering.com

SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
40 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

HCC Project No.: 10104

DESIGN BY: PC	SCALE: AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

CONTRACT REVISIONS			
NO.	DATE	NAME	REVISIONS

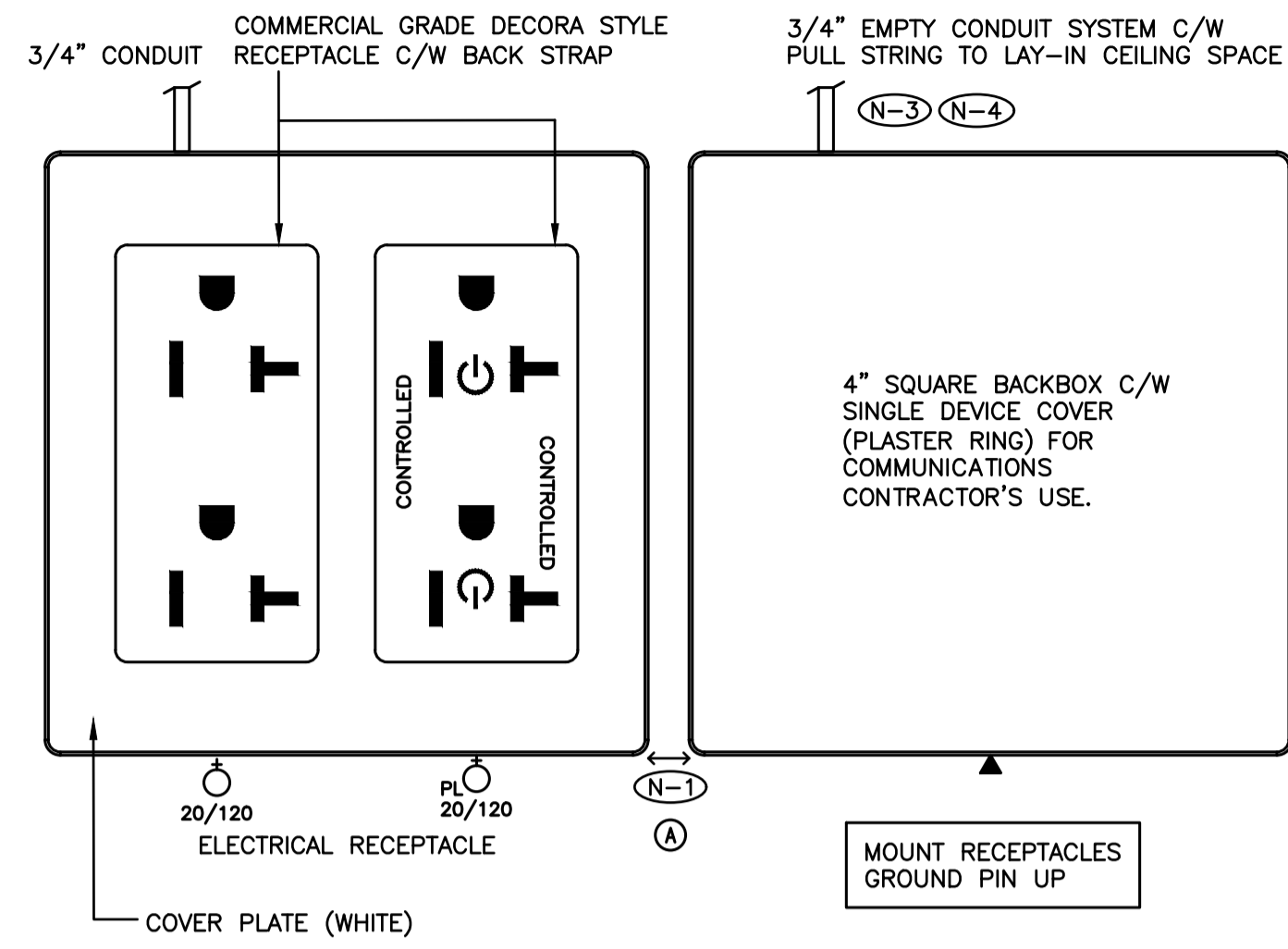
DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL LEGEND AND DETAILS

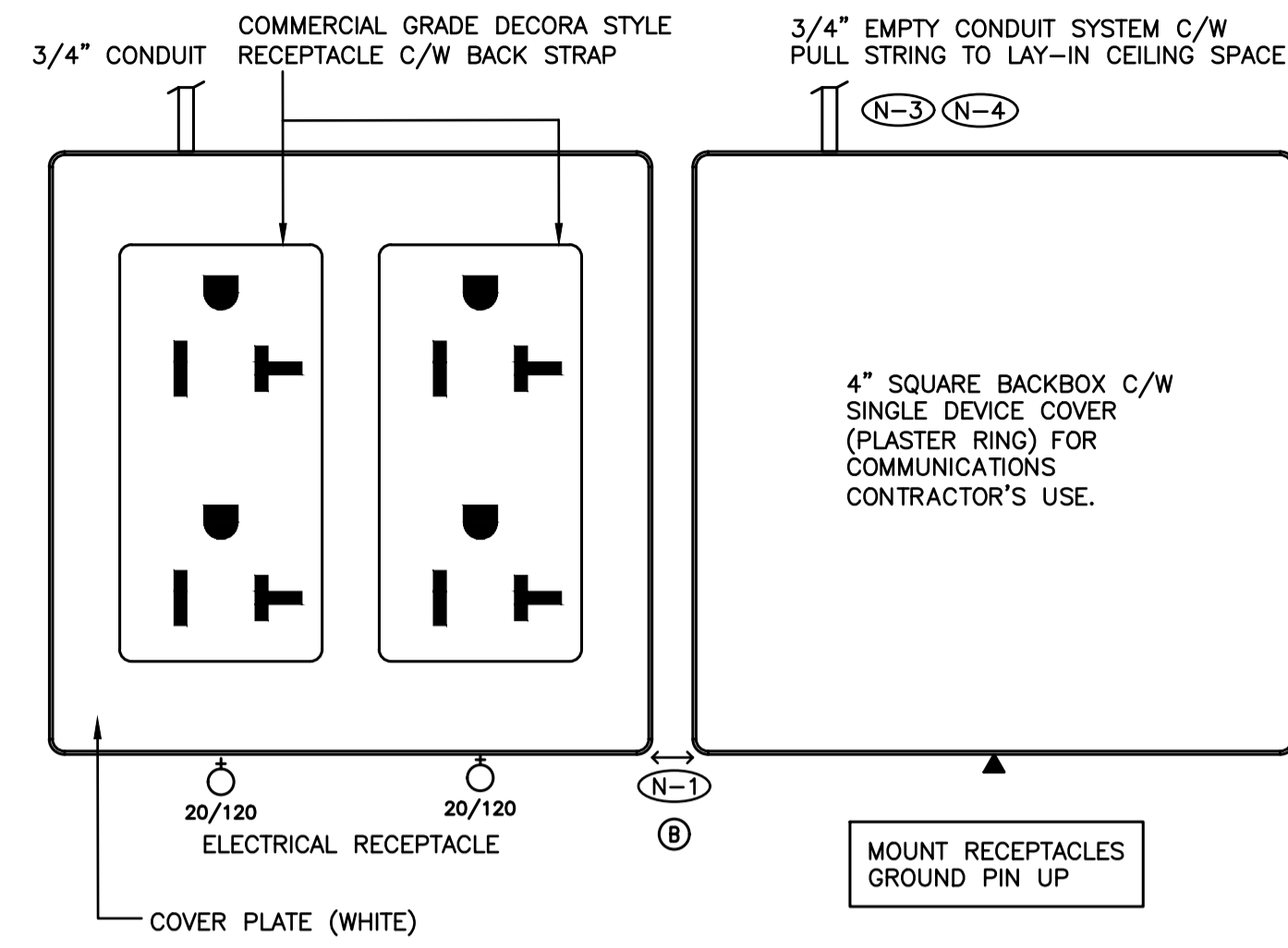
PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-001	SHEET NO. 034



- (N-1) MINIMUM CLEARANCE.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) PROVIDE PUNCH OUTS IN BACKBOX TO ACCOMMODATE CONDUITS INDICATED.
- (N-4) TERMINATE CONDUIT WITH A 90 DEGREE BEND AND PLASTIC BUSHING IN THE ACCESSIBLE CEILING SPACE.

UTILITY CCT - WHITE RECEPTACLE

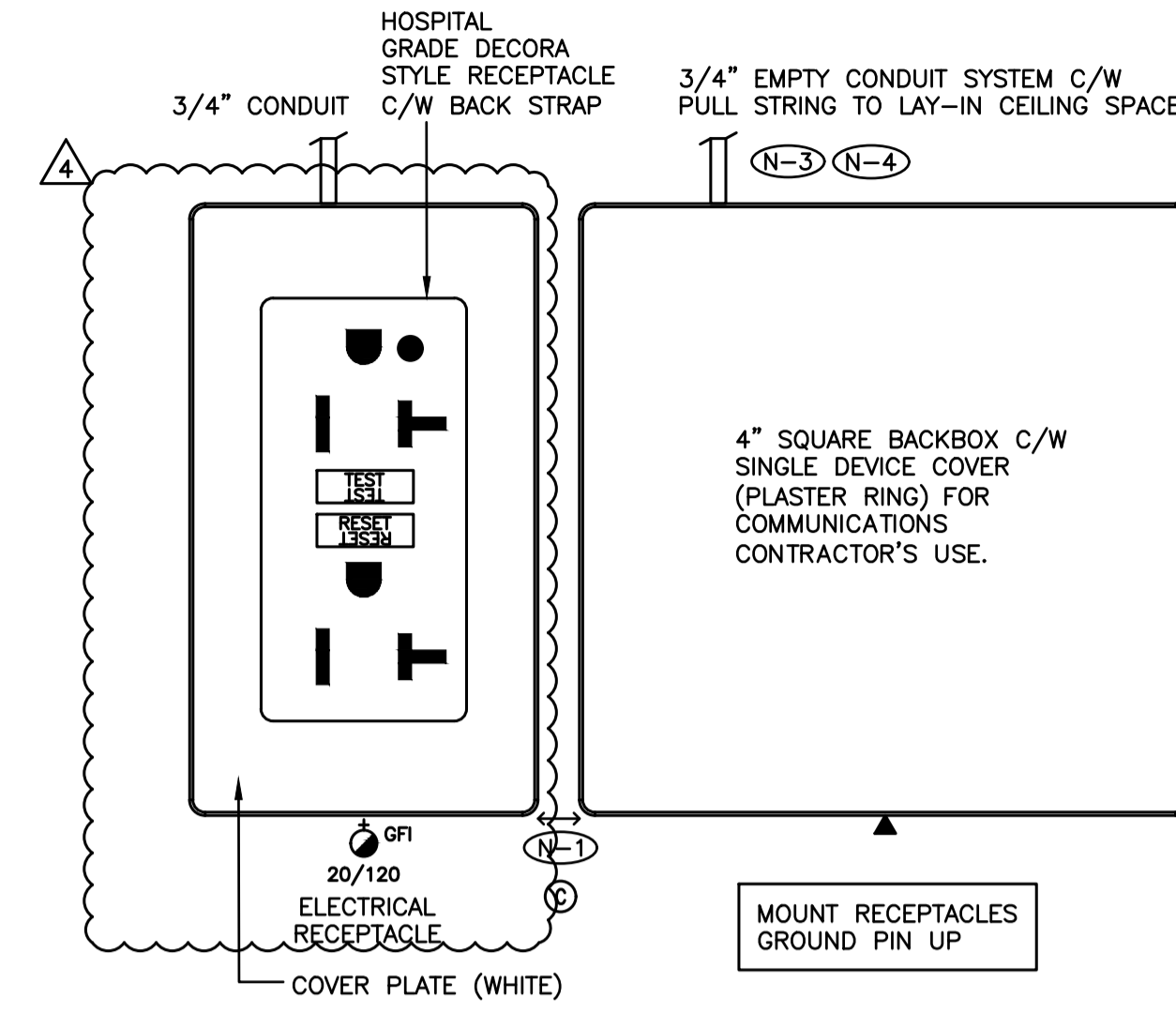
1 TYPICAL TYPE 'A' OFFICE GROUP DETAIL
E-002 SCALE: NTS



- (N-1) MINIMUM CLEARANCE.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) PROVIDE PUNCH OUTS IN BACKBOX TO ACCOMMODATE CONDUITS INDICATED.
- (N-4) TERMINATE CONDUIT WITH A 90 DEGREE BEND AND PLASTIC BUSHING IN THE ACCESSIBLE CEILING SPACE.

UTILITY CCT - WHITE RECEPTACLE

2 TYPICAL TYPE 'B' OFFICE GROUP DETAIL
E-002 SCALE: NTS

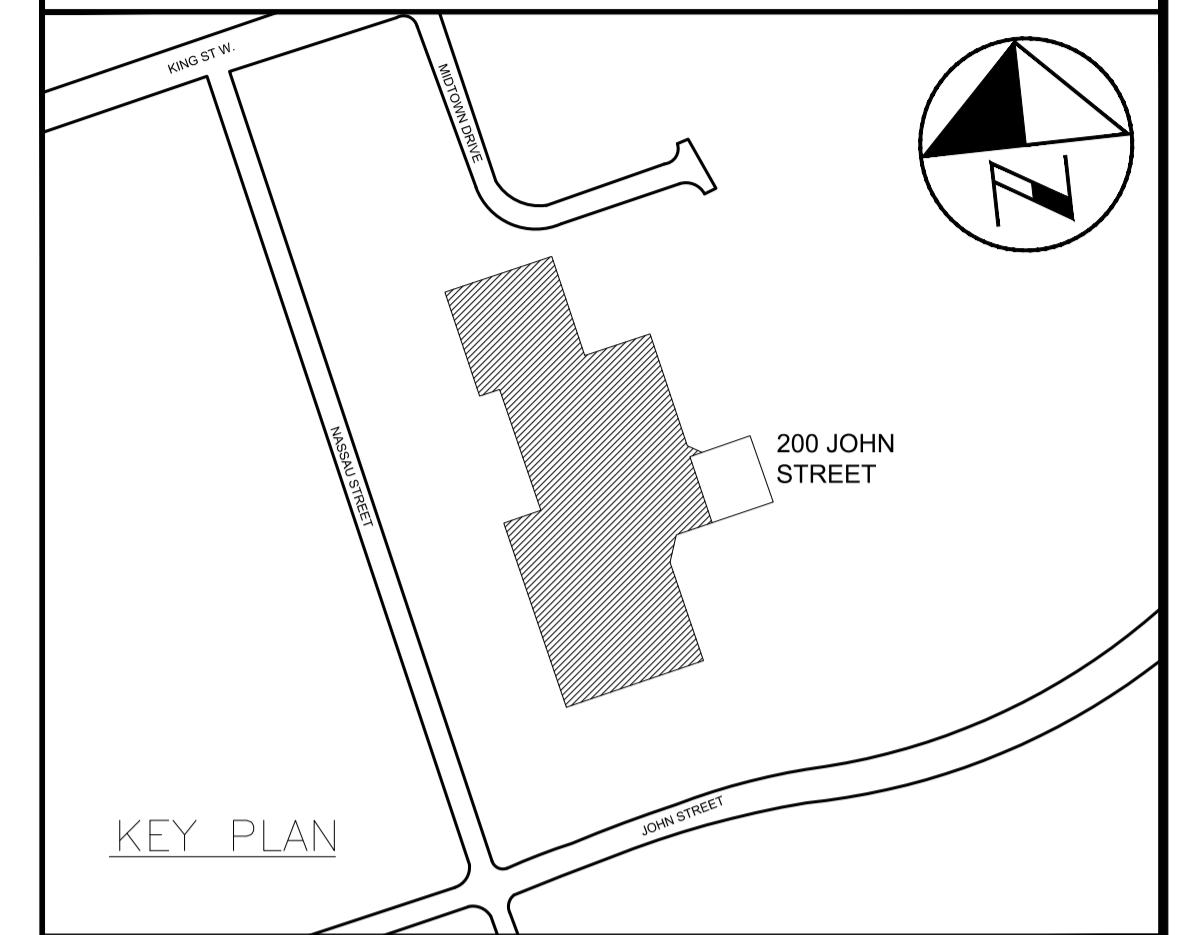


- (N-1) MINIMUM CLEARANCE.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) PROVIDE PUNCH OUTS IN BACKBOX TO ACCOMMODATE CONDUITS INDICATED.
- (N-4) TERMINATE CONDUIT WITH A 90 DEGREE BEND AND PLASTIC BUSHING IN THE ACCESSIBLE CEILING SPACE.

UTILITY CCT - WHITE RECEPTACLE

3 TYPICAL TYPE 'C' OFFICE GROUP DETAIL
E-002 SCALE: NTS

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.

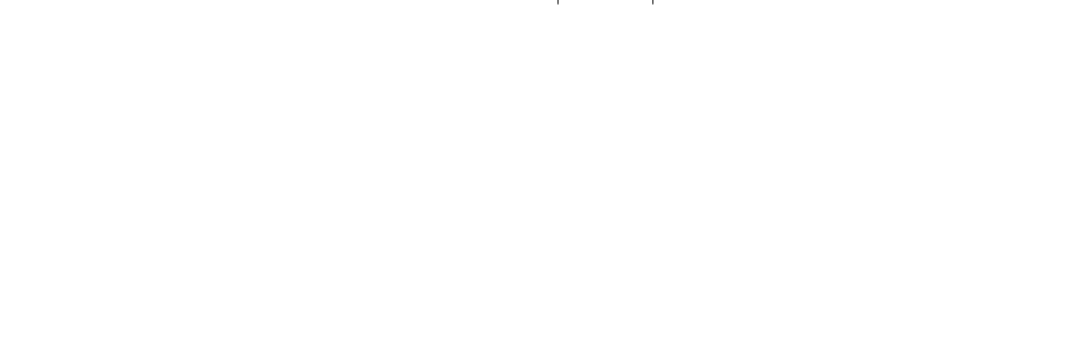
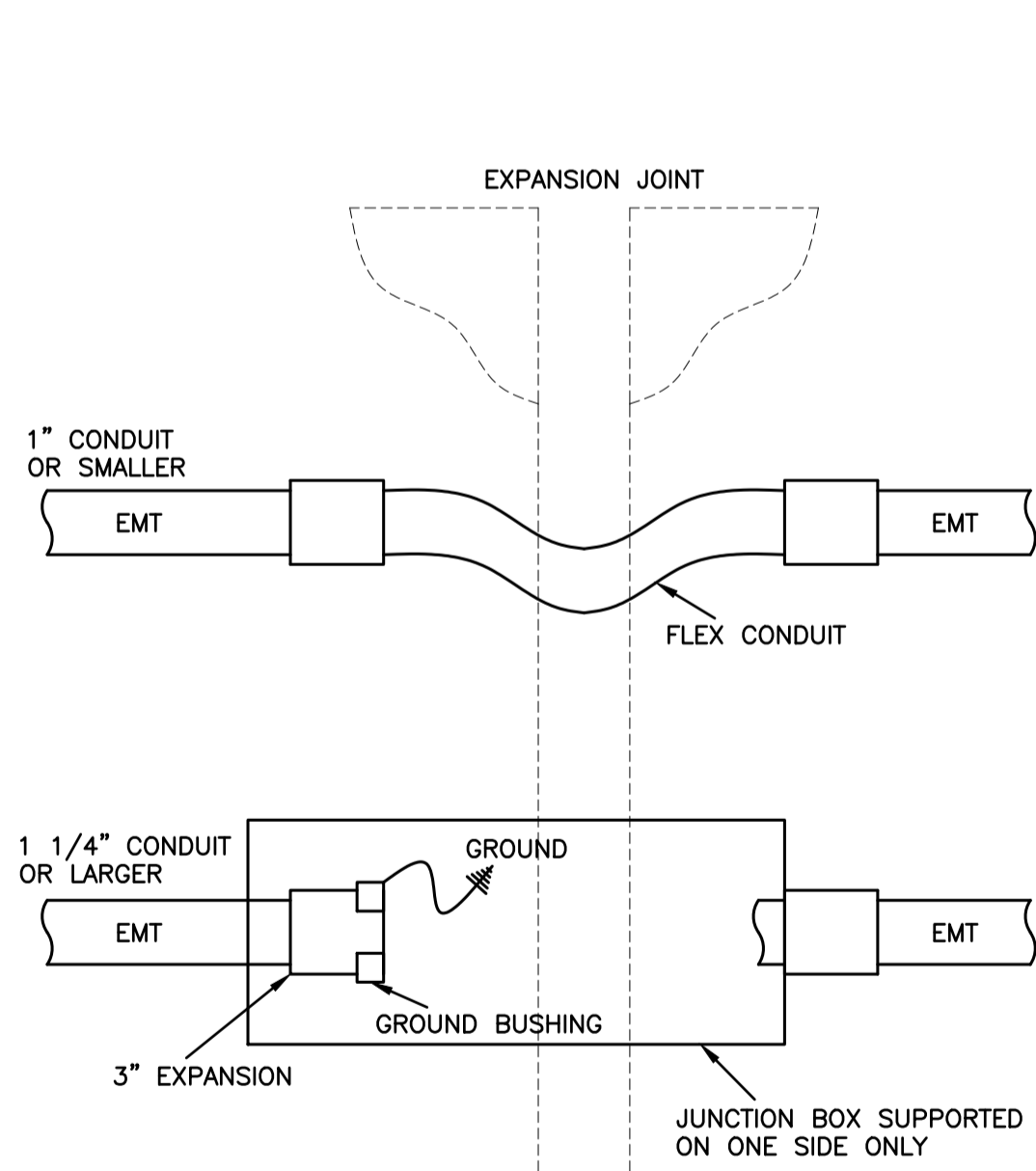


NO.	DATE	NAME	REVISIONS

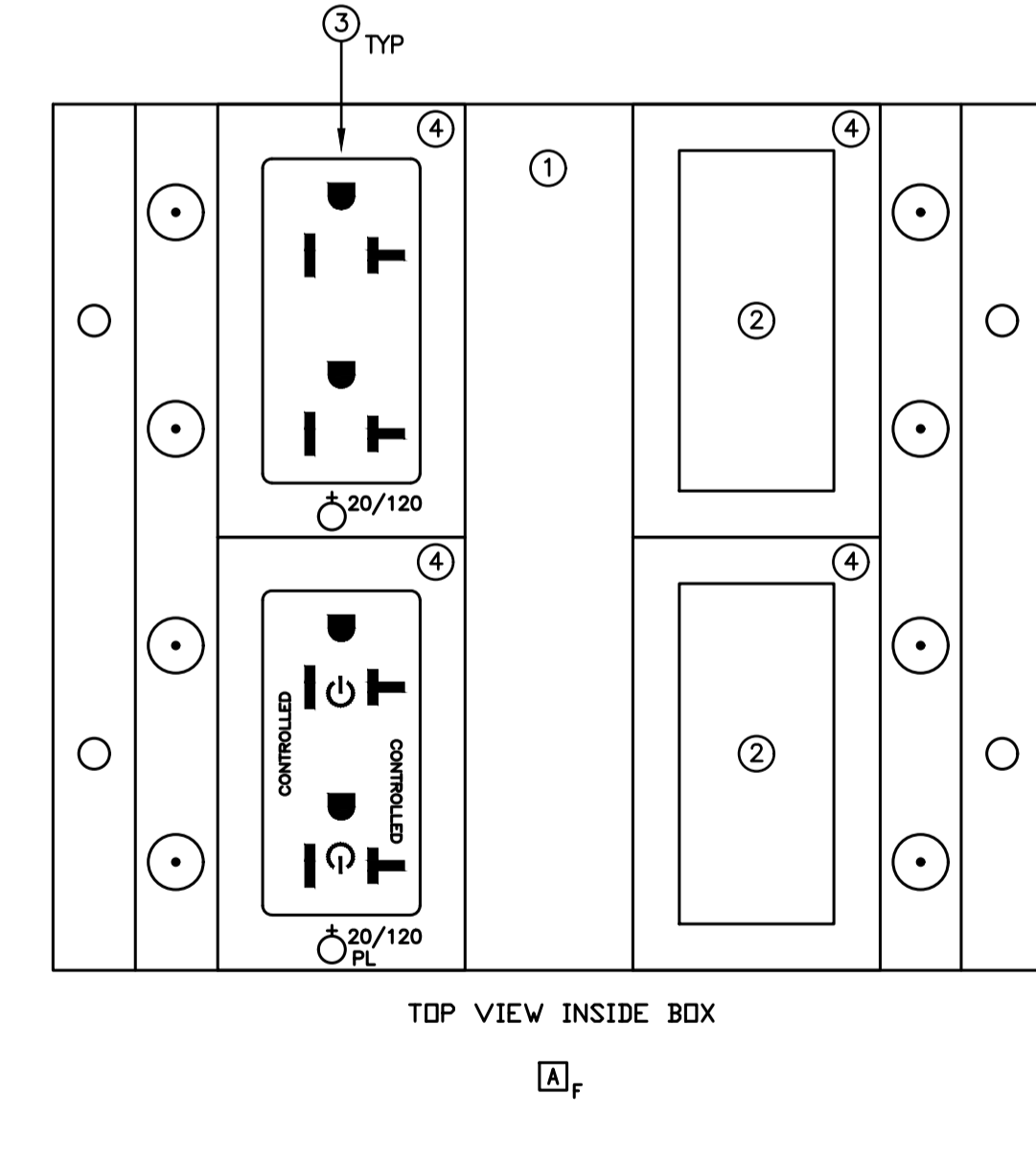
PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1N 1G5
Tel: (905) 666-5252
Fax: (905) 666-5256
email: bba@bbaengineering.com

H.D. COHEN
LICENSED PROFESSIONAL ENGINEER
00414335
FEB09/2021
PROVINCE OF ONTARIO



4 EXPANSION JOINT CROSSING DETAIL
E-002 SCALE: NTS

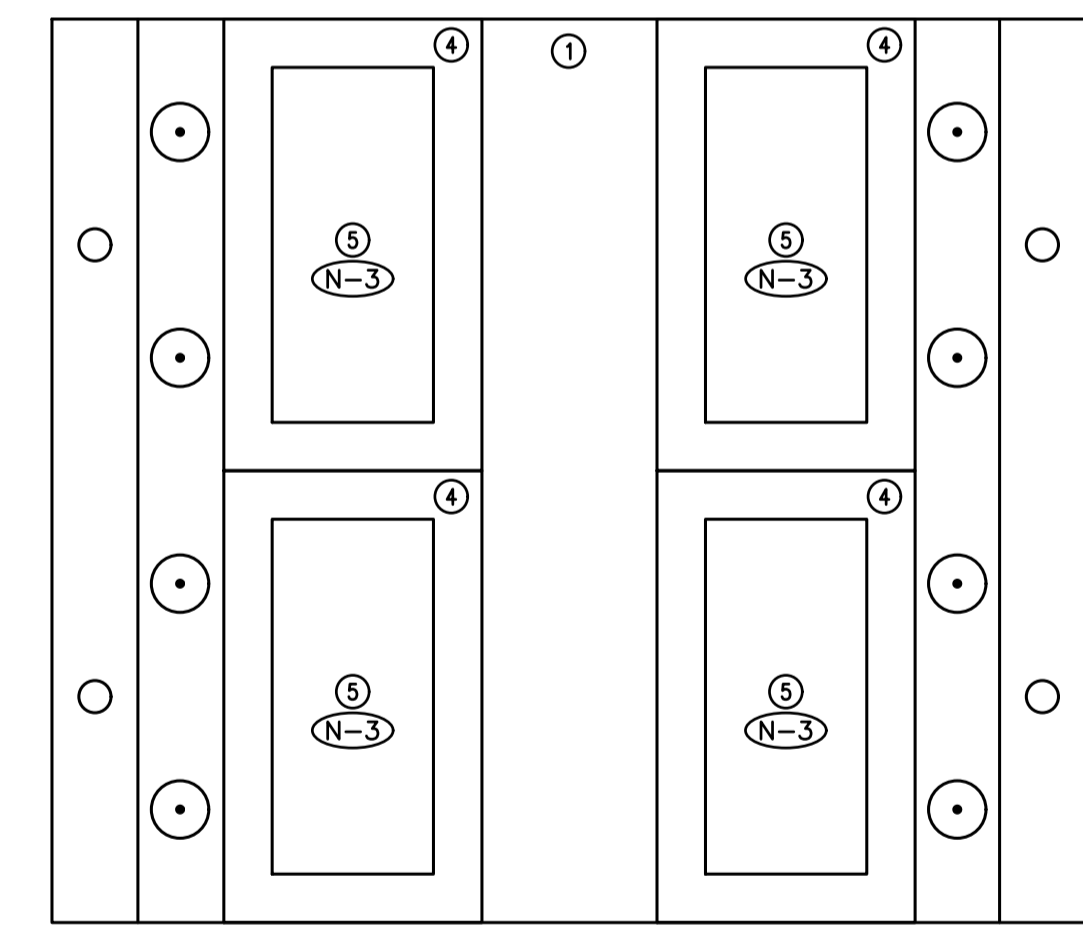


- (N-1) LID FINISH SHALL BE SEMI-GLOSS BLACK EPOXY POWDER.
 - (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- UTILITY CCT - WHITE RECEPTACLE

- 1 FLUSH MOUNTED FLOOR BOX MODEL 400 AS MANUFACTURED BY WELLMARK C/W CARPET RECESSED LID
- 2 SPACE FOR COMMUNICATIONS CONTRACTOR'S USE
- 3 DECORA STYLE RECEPTACLE
- 4 DECORA STYLE COVERPLATE

CONFIRM SLAB THICKNESS PRIOR TO RELEASING FLOOR BOX FOR MANUFACTURING

5 RECESSED FLOOR MOUNTED TYPE 'A' OFFICE GROUP OUTLET DETAIL
E-002 SCALE: NTS



- 1 FLUSH MOUNTED FLOOR BOX MODEL 400 AS MANUFACTURED BY WELLMARK C/W CARPET RECESSED LID
- 2 NOT USED
- 3 NOT USED
- 4 DECORA STYLE COVERPLATE
- 5 INSERT C/W CUTOUT FOR VGA OUTLET AND AUDIO OUTLET FOR A/V CONTRACTOR'S USE

CONFIRM SLAB THICKNESS PRIOR TO RELEASING FLOOR BOX FOR MANUFACTURING

- (N-1) LID FINISH SHALL BE SEMI-GLOSS BLACK EPOXY POWDER.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) INSERT C/W CUTOUTS FOR A/V OUTLETS PROVIDED AS PART OF THIS SCOPE OF WORK. TEMPLATE TO BE PROVIDED BY A/V CONTRACTOR DURING CONSTRUCTION.

6 TYPICAL RECESSED FLOOR MOUNTED TYPE 'F' OFFICE GROUP OUTLET DETAIL
E-002 SCALE: NTS

SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
10 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

X.P. CHEN
LICENSED PROFESSIONAL ENGINEER
100219955
FEB09/2021
PROVINCE OF ONTARIO

HCC Project No.: 20104

DESIGN BY: PC	SCALE: AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

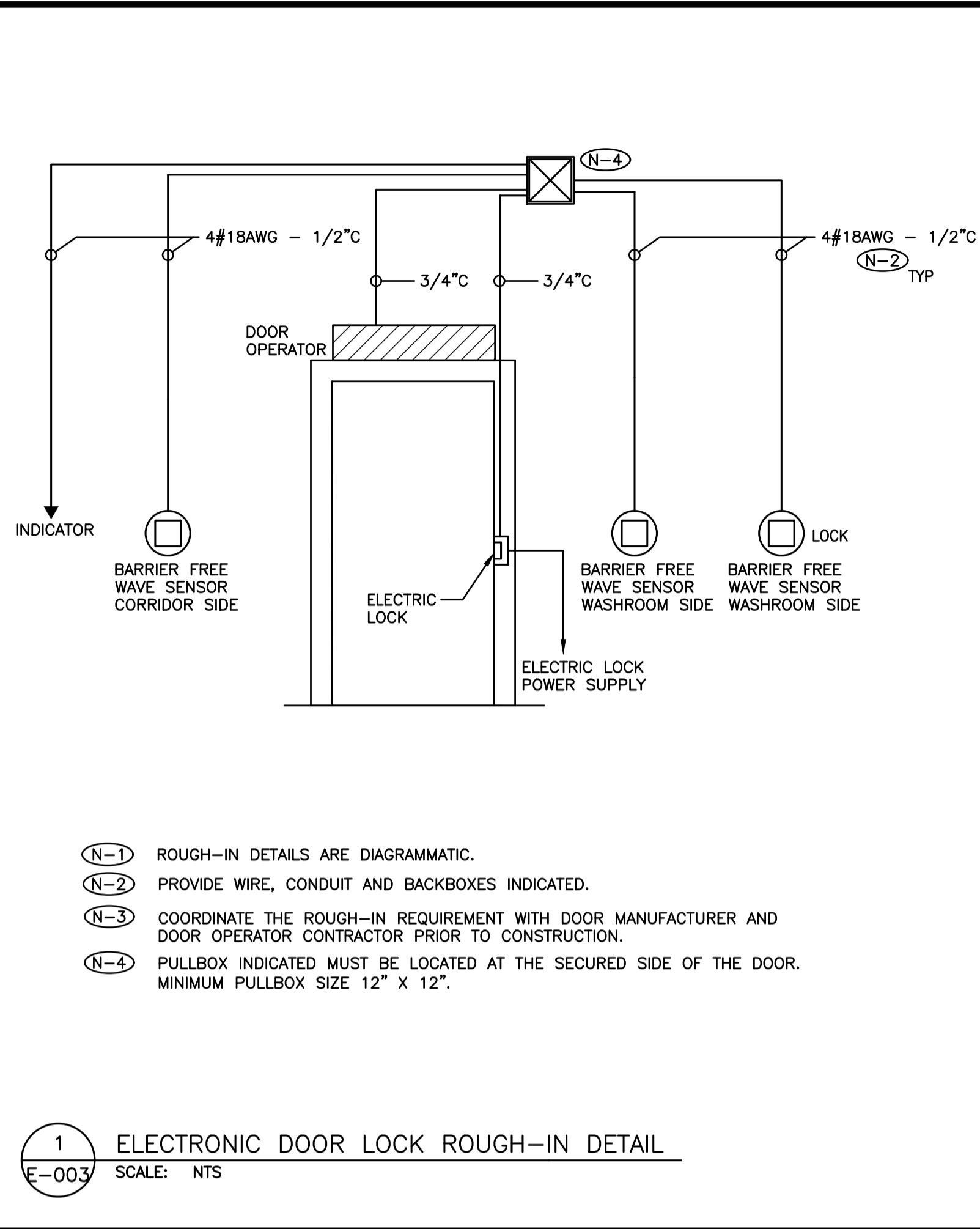
NO.	DATE	NAME	REVISIONS

THE REGIONAL MUNICIPALITY OF DURHAM
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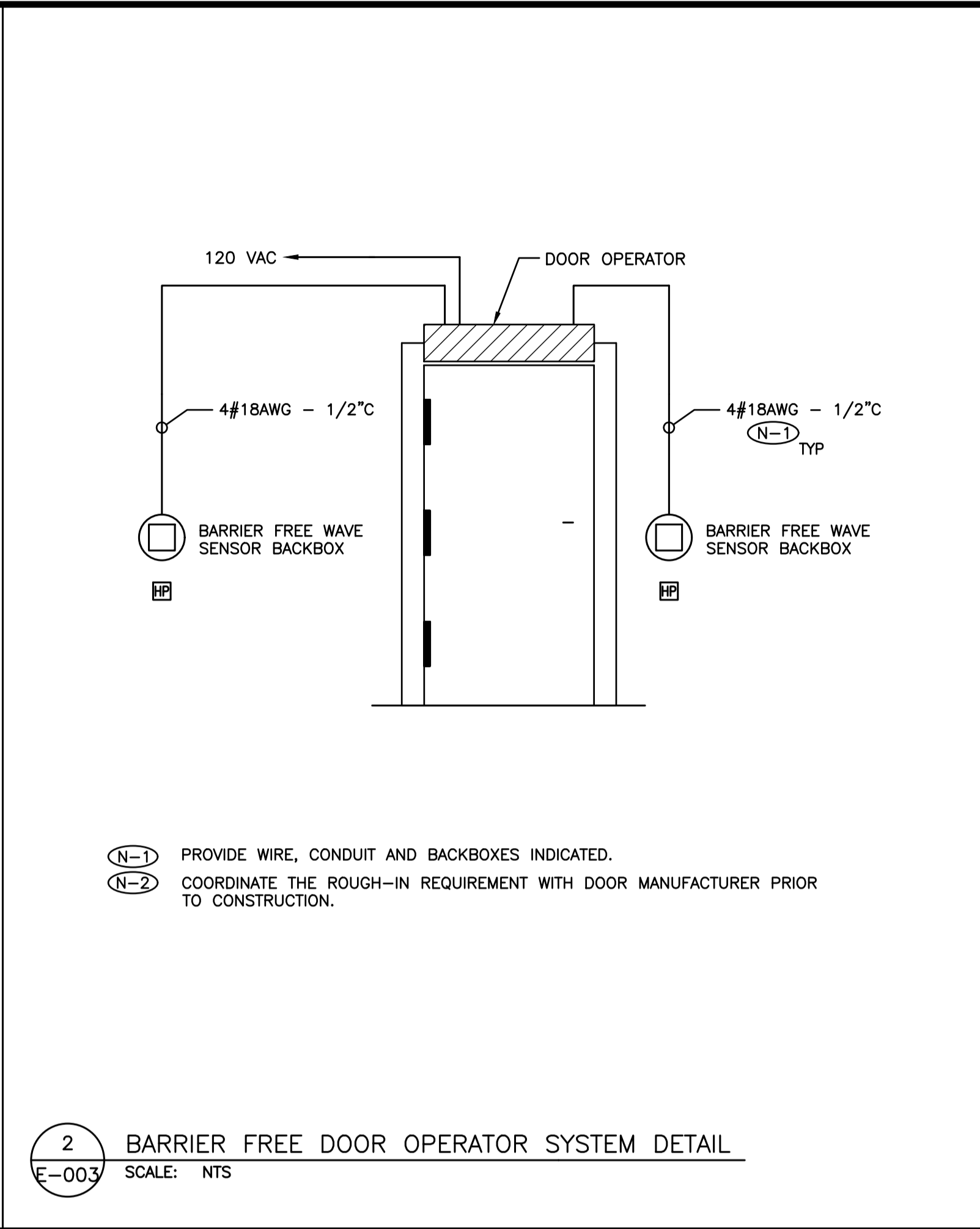
RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL DETAILS

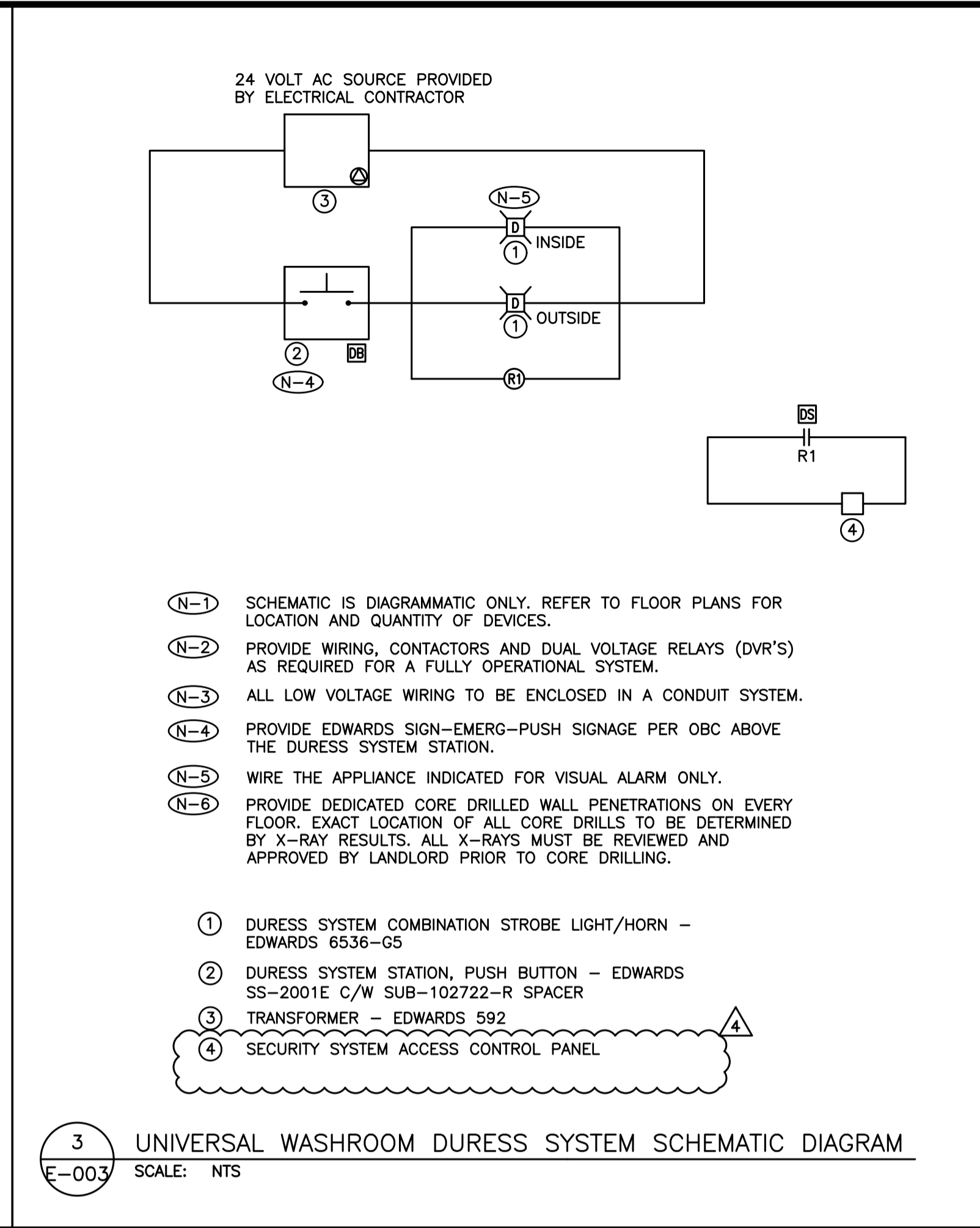
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CONTRACT NO. T-1032-2021	DRAWING NO. E-002	SHEET NO. 035



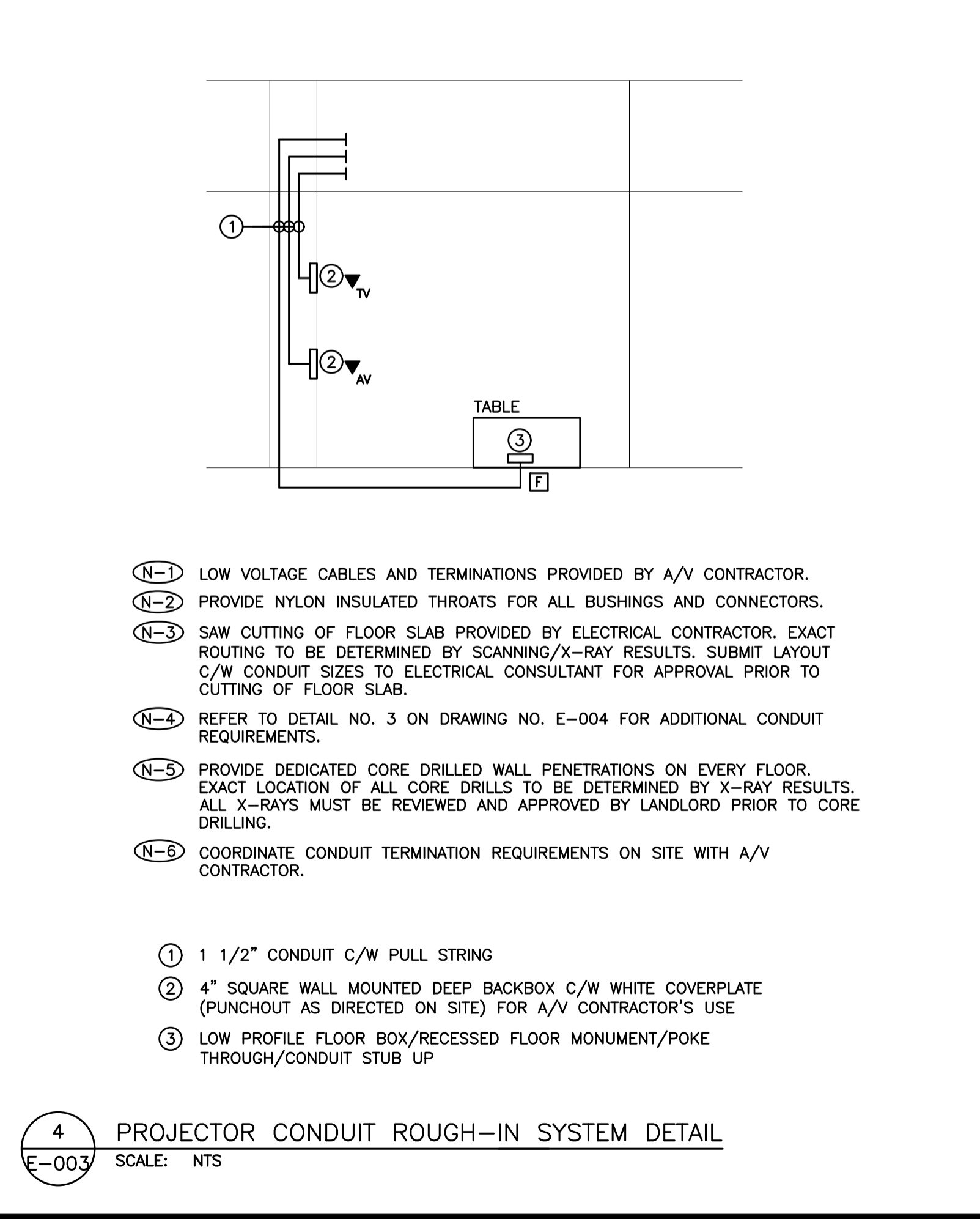
1 ELECTRONIC DOOR LOCK ROUGH-IN DETAIL
E-003 SCALE: NTS



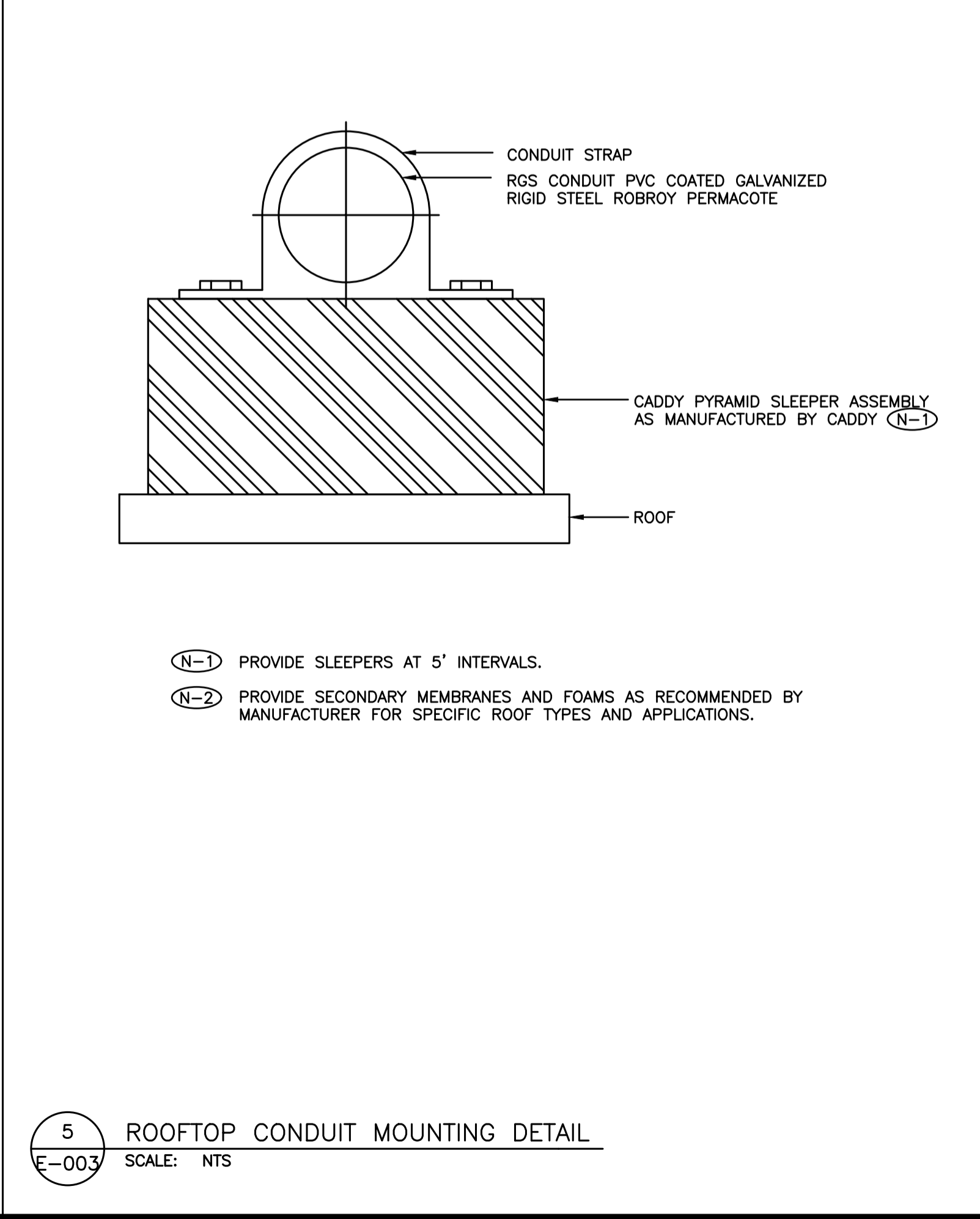
2 BARRIER FREE DOOR OPERATOR SYSTEM DETAIL
E-003 SCALE: NTS



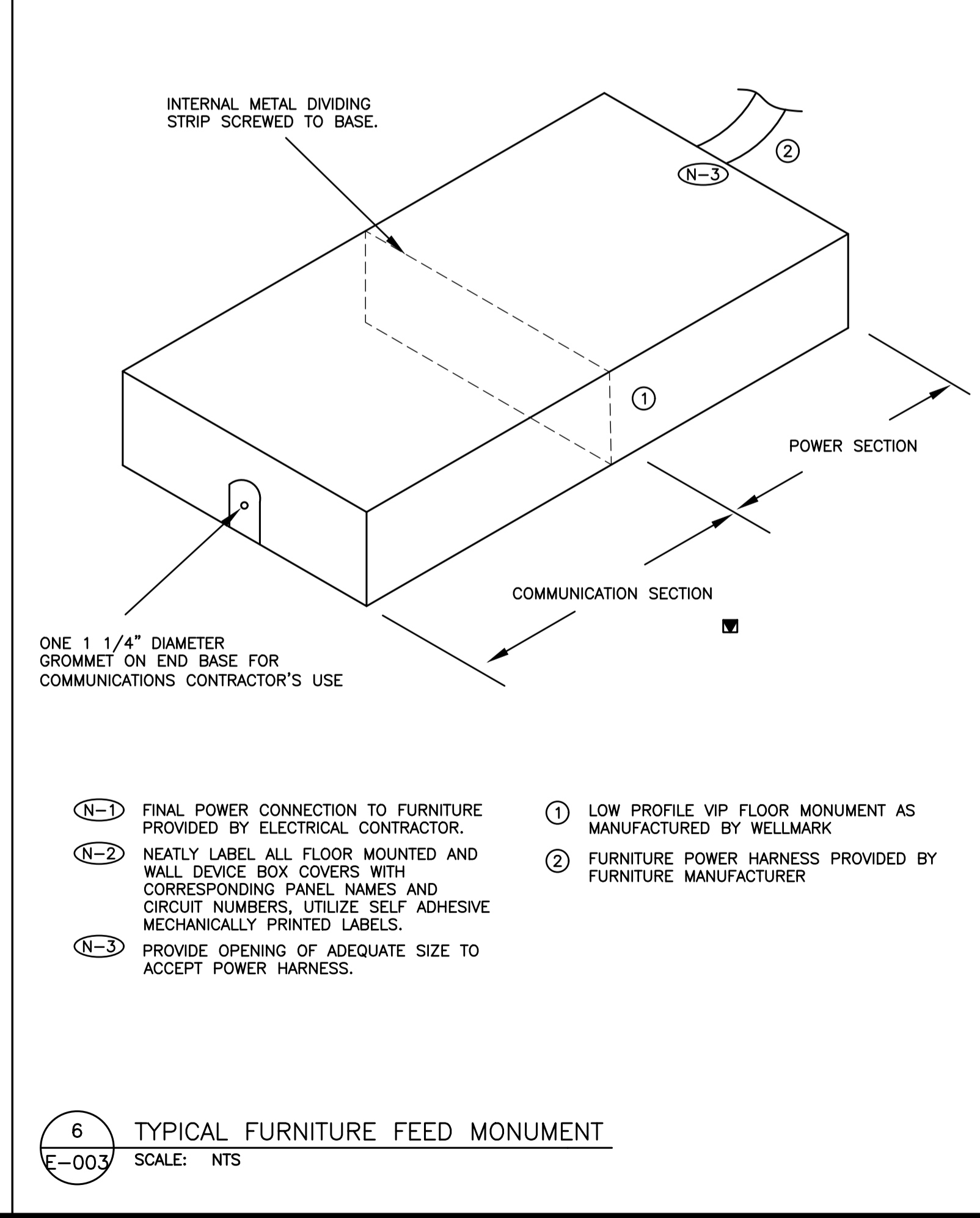
3 UNIVERSAL WASHROOM DURESS SYSTEM SCHEMATIC DIAGRAM
E-003 SCALE: NTS



4 PROJECTOR CONDUIT ROUGH-IN SYSTEM DETAIL
E-003 SCALE: NTS

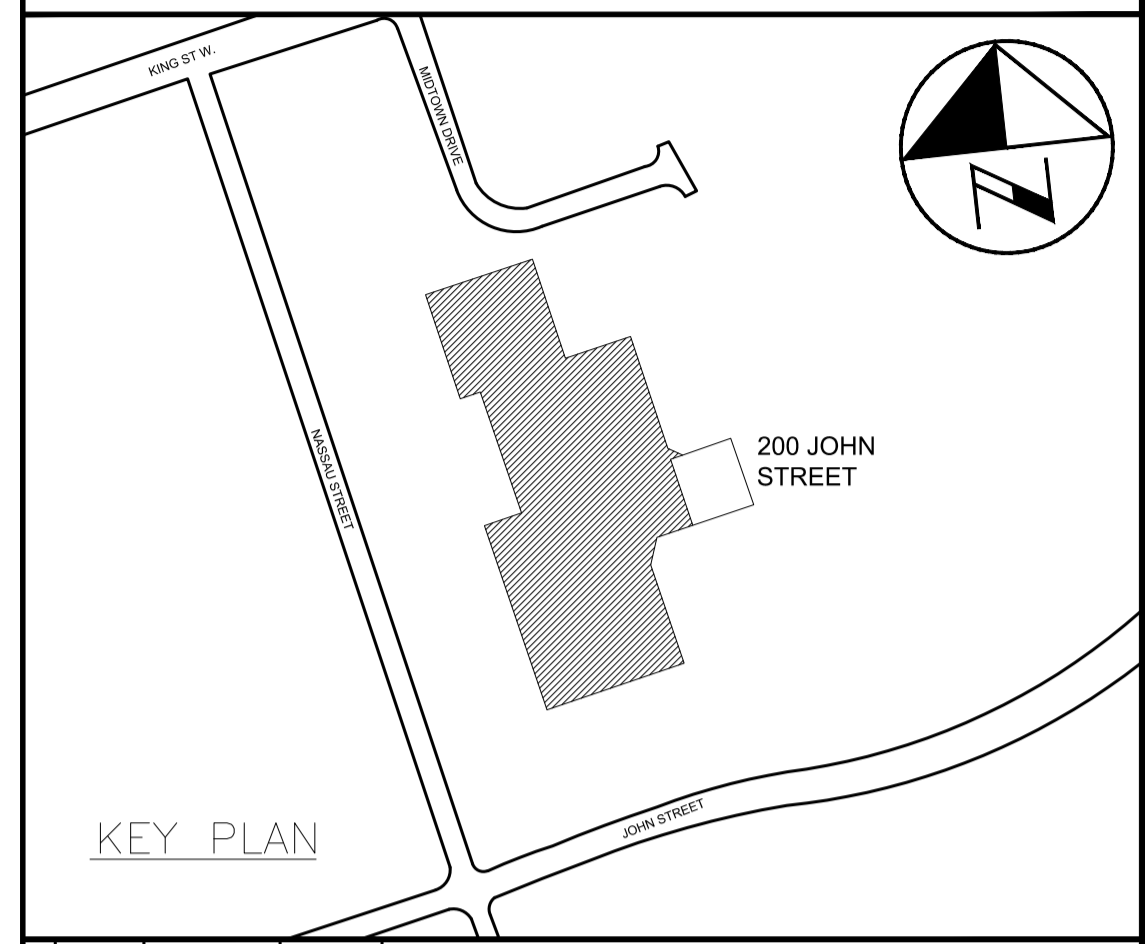


5 ROOFTOP CONDUIT MOUNTING DETAIL
E-003 SCALE: NTS



6 TYPICAL FURNITURE FEED MONUMENT
E-003 SCALE: NTS

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NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT
BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1M 0G5
Tel: (905) 666-5252
Fax: (905) 666-5256
e-mail: bob@bbaweb.org

LICENSED PROFESSIONAL ENGINEER
H.D. COHEN
#0414335
FEB09/2021
PROVINCE OF ONTARIO

SUB-CONSULTANT
HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
40 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
X. P. CHEN
100219555
FEB09/2021
PROVINCE OF ONTARIO

HCC Project No.: 20104

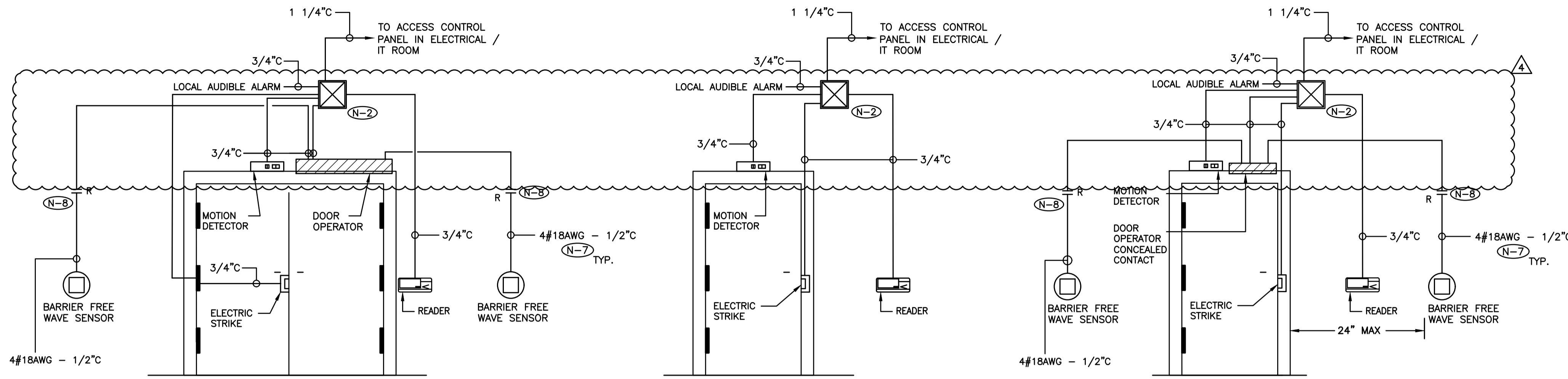
DESIGN BY: PC	SCALE: AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS
4	MAY02/2021	HCC	ISSUED FOR ADDENDUM #E-01
3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW

DURHAM REGION
THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

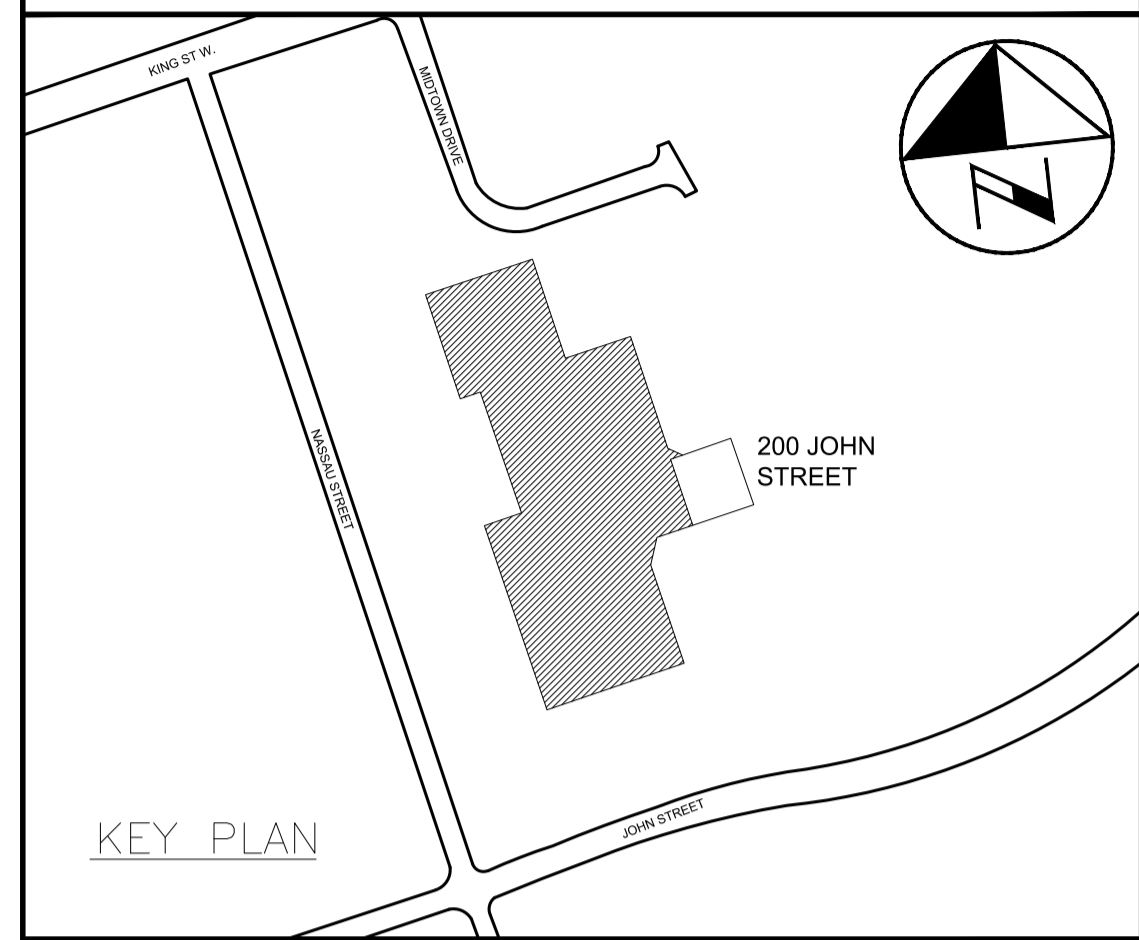
PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-003	SHEET NO. 036



- (N-1) ROUGH-IN DETAILS ARE DIAGRAMMATIC. REFER TO FLOOR PLANS FOR ADDITIONAL REQUIREMENTS, DEVICE QUANTITY AND LOCATION.
- (N-2) PULLBOX INDICATED MUST BE LOCATED AT THE SECURED SIDE OF THE DOOR. MINIMUM PULLBOX SIZE 10" X 10" C/W FOUR (4) SECURITY SCREWS TYPE SNAKE EYES.
- (N-3) ALL ZONE CONDUITS C/W PULL STRING.
- (N-4) CONTACT SECURITY CONTRACTOR FOR EXACT LOCATION OF SECURITY SYSTEM CABINET, ADDITIONAL CONDUIT AND PULLBOX REQUIREMENTS AND FOR POWER REQUIREMENTS.
- (N-5) ALL POWER AND CONDUIT WORK REQUIRED AND/OR SHOWN ON DRAWINGS RELATED TO SECURITY SYSTEM SHALL BE INCLUDED IN ELECTRICAL CONTRACTOR'S PRICE. CONTACT SECURITY CONTRACTOR FOR SPECIFIC REQUIREMENTS.
- (N-6) NOT USED.
- (N-7) EQUIP THE HANDICAP DOOR OPENER SYSTEM WITH A CONTROL CIRCUIT TO ALLOW FOR AUTOMATIC DOOR OPENING WHEN A CARD IS BADGED AT THE READER. DEPRESSING OF THE HANDICAP PUSH BUTTON WILL NOT BE REQUIRED.
- (N-8) PROVIDE DOOR OPERATOR INTERFACE DEVICE TO PREVENT AUTOMATIC DOOR OPERATION WHILE THE ELECTRIC STRIKE IS ENERGIZED. REFER TO DETAIL NO. 2 ON DRAWING NO. E-004 FOR ADDITIONAL REQUIREMENTS.

1 CARD ACCESS CONTROL SYSTEM ROUGH-IN DETAILS
E-004 SCALE: NTS

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NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1M 0K5
Tel: (905) 666-5252
Fax: (905) 666-5256
e-mail: bob@bbaweb.org

BBA

LICENSED PROFESSIONAL ENGINEER
H.D. COHEN
#0414335
FEB09/2021
PROVINCE OF ONTARIO

SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
40 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
X. P. CHEN
#0219955
FEB09/2021
PROVINCE OF ONTARIO

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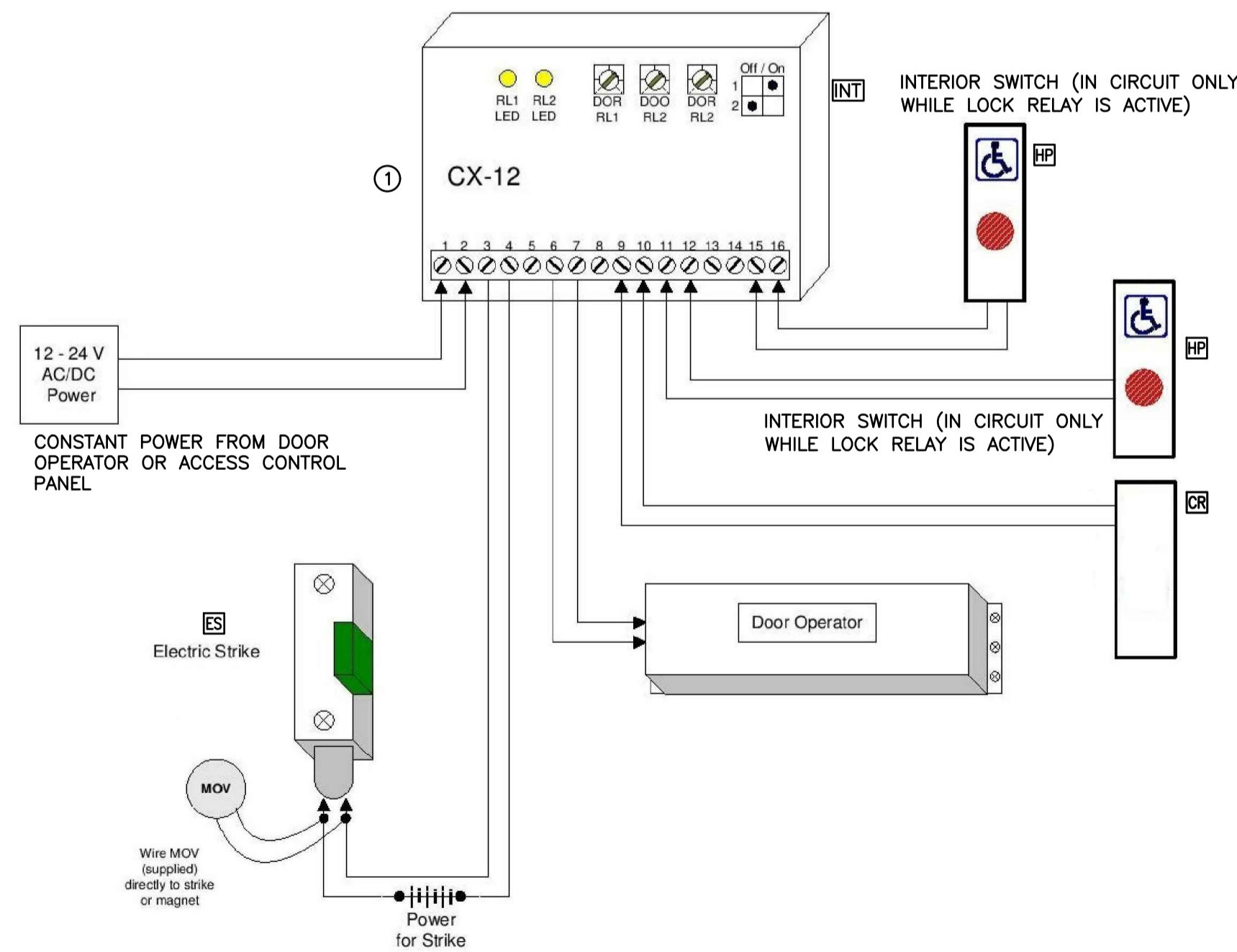
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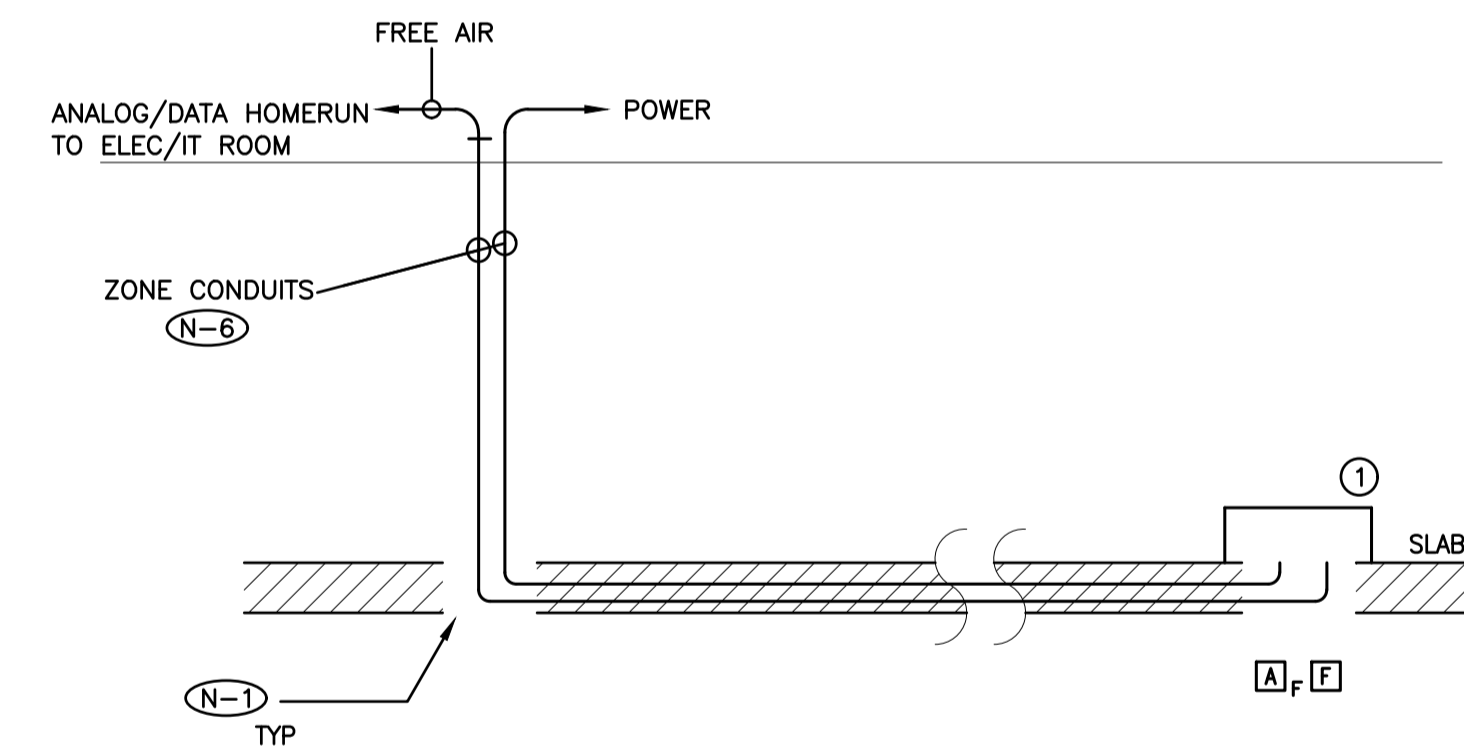
RELOCATION OF DENTAL CLINIC
TO 200 JOHN ST., OSHAWA

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-004	SHEET NO. 037



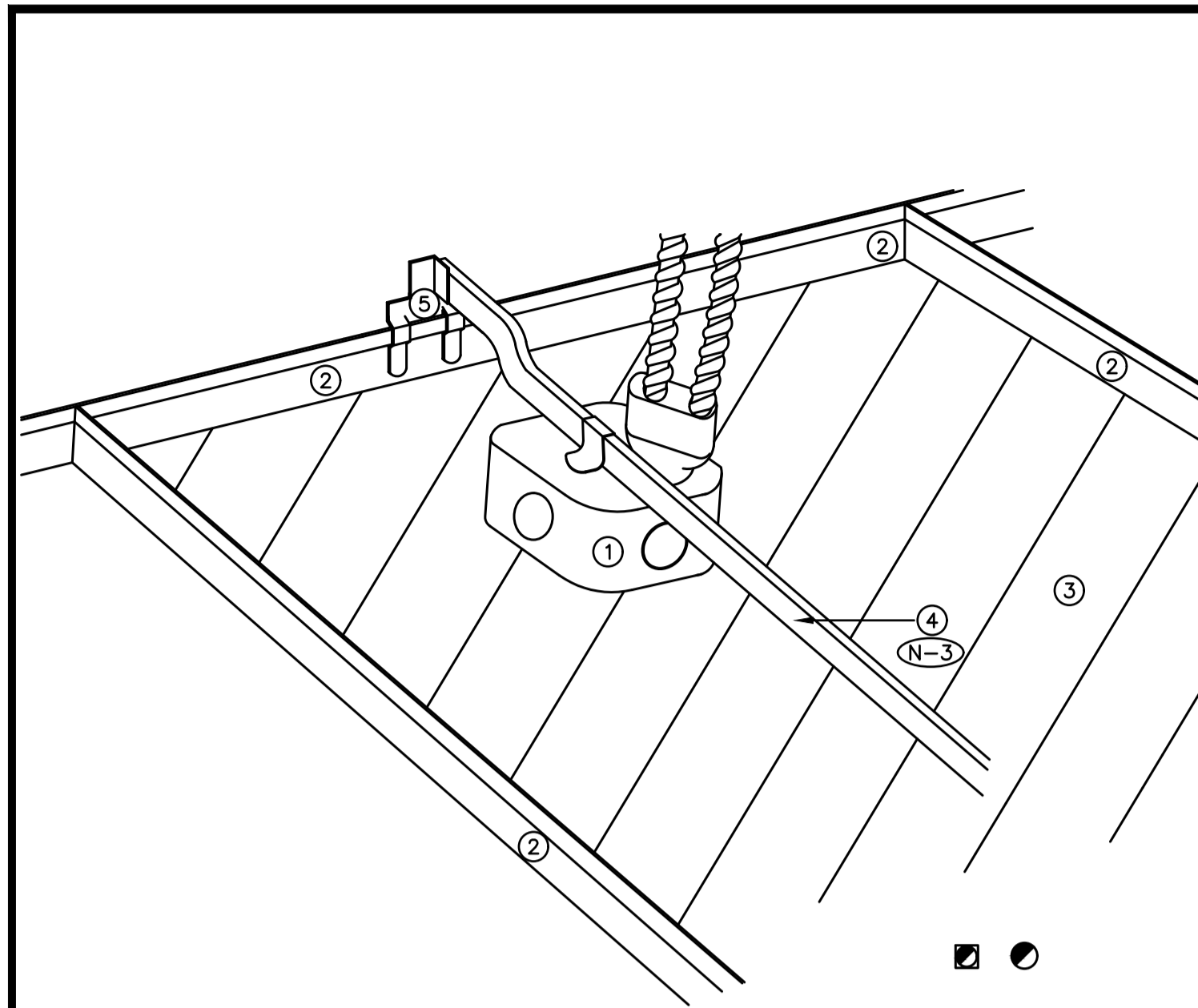
- (N-1) SCHEMATIC IS DIAGRAMMATIC ONLY. PROVIDE QUANTITY OF INTERFACE DEVICES, HARDWARE, DEVICES, POWER CIRCUITS, CONDUIT, WIRE, SECURITY CABLES, ETC. TO ENSURE A FULLY OPERATIONAL SECURITY SYSTEM. REFER TO ROOM LAYOUTS AND FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.
 - (N-2) PROVIDE CONDUITS AND WIRES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - (N-3) ALL CONDUITS TO BE EMT. EMT COUPLING AND CONNECTORS SHALL BE T&B STEEL, SET SCREW TYPE. PROVIDE SPARE PULLSTRING IN ALL CONDUITS FOR FUTURE USE.
 - (N-4) ELECTRICAL CONTRACTOR SHALL NOT USE PULLBOXES AS SUBSTITUTES FOR 90° BENDS. 12" X 12" X 6" PULLBOXES C/W TYPE SNAKE EYE SECURITY SCREWS SHALL BE PROVIDED ON THE BASIS OF NOT MORE THAN TWO (2) RIGHT ANGLE BENDS OR NOT MORE THAN 100' IN STRAIGHT RUNS BETWEEN BOXES.
 - (N-5) CONTACT SECURITY MANUFACTURER FOR ADDITIONAL WIRE, CONDUIT, PULLBOX AND POWER REQUIREMENTS OVER AND ABOVE THOSE SHOWN ON DRAWING.
 - (N-6) PROVIDE DEDICATED FLOOR AND WALL PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD AND STRUCTURAL ENGINEER PRIOR TO CORE DRILLING.
- 1 DOOR OPERATOR INTERFACE DEVICE - CAMDEN DOOR CONTROLS CX-12 SWITCHING NETWORK AND BI-DIRECTIONAL DOOR SEQUENCER

2 DOOR OPERATOR INTERFACE SCHEMATIC
E-004 SCALE: NTS



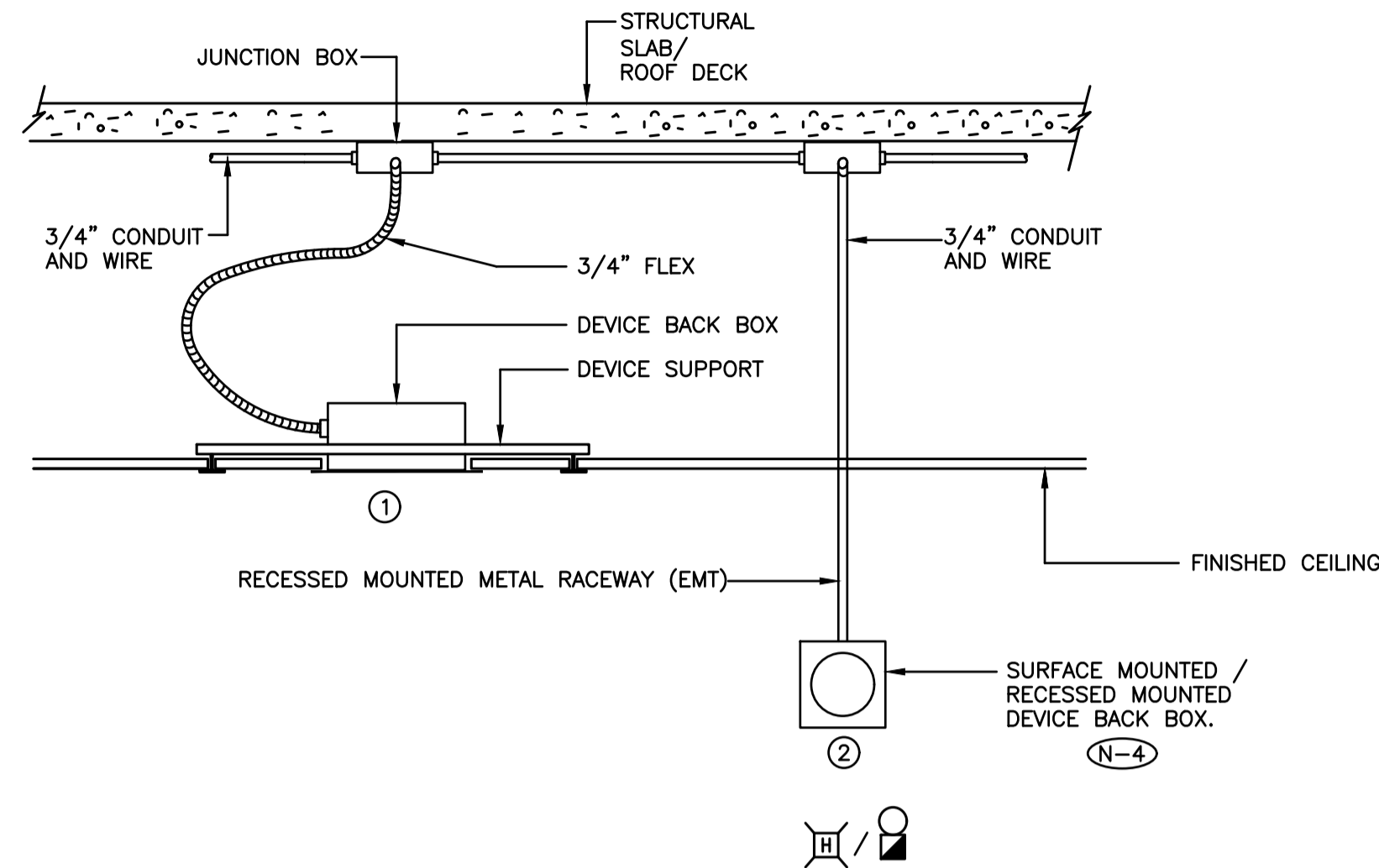
- (N-1) SEAL OPENING AROUND CONDUITS.
 - (N-2) ALL CONDUITS PROVIDED FOR COMMUNICATIONS CONTRACTOR SHALL BE C/W PULLSTRING.
 - (N-3) SAW CUTTING OF FLOOR SLAB PROVIDED BY ELECTRICAL CONTRACTOR. EXACT ROUTING TO BE DETERMINED BY SCANNING/X-RAY RESULTS. SUBMIT LAYOUT C/W CONDUIT SIZES TO ELECTRICAL CONSULTANT FOR APPROVAL PRIOR TO CUTTING OF FLOOR SLAB.
 - (N-4) MINIMUM COMMUNICATIONS CONDUIT SIZE TO SERVICE EACH LOW PROFILE FLOOR BOX /RECESSED FLOOR MONUMENT/CONDUIT STUB UP/POKE THROUGH AS FOLLOWS:
 - (N-5) REFER TO DETAIL NO. 4 ON DRAWING NO. E-003 FOR A/V CONDUIT REQUIREMENTS.
 - (N-6) ELECTRICAL CONTRACTOR TO CONFIRM TERMINATION REQUIREMENTS AND ROUTING WITH COMMUNICATIONS CONTRACTOR ON SITE PRIOR TO INSTALLATION OF ZONE CONDUITS.
 - (N-7) PROVIDE DEDICATED CORE DRILLED WALL PENETRATIONS ON EVERY FLOOR. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. ALL X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
- 1 LOW PROFILE FLOOR BOX/RECESSED FLOOR MONUMENT/CONDUIT STUB UP/POKE THROUGH

3 SAW CUTTING FLOOR FEED SERVICES DETAIL
E-004 SCALE: NTS



- (N-1) DETAIL IS DIAGRAMMATIC ONLY.
- (N-2) REFER TO FLOOR PLANS FOR EXACT QUANTITY AND LOCATION OF DEVICES.
- (N-3) CONDUIT, TIE WIRE AND OTHER ASSEMBLY MEANS TO SUPPORT DEVICE BACKBOX IS NOT ACCEPTABLE.
- ① BACKBOX SUPPORTING SMOKE DETECTOR/HEAT DETECTOR
- ② CEILING TILE FRAME
- ③ CEILING TILE
- ④ BOX HANGER C/W BOX MOUNTING CLIP
- ⑤ T-BAR CLIP

1 TYPICAL FIRE DETECTOR T-BAR CEILING SUPPORT DETAIL
E-005 SCALE: NTS



- (N-1) DETAIL IS DIAGRAMMATIC ONLY.
- (N-2) REFER TO FLOOR PLANS FOR EXACT QUANTITY AND LOCATION OF DEVICES.
- (N-3) CONDUIT/TIE WIRE AND OTHER ASSEMBLY MEANS TO SUPPORT DEVICE BACKBOX IS NOT ACCEPTABLE.
- (N-4) ALL WALL MOUNTED DEVICES TO BE RECESSED MOUNTED FOR ALL INTERIOR PARTITIONS.
- ① CEILING MOUNTED FIRE ALARM SYSTEM SIGNALLING DEVICE.
- ② WALL MOUNTED FIRE ALARM SYSTEM SIGNALLING DEVICE.

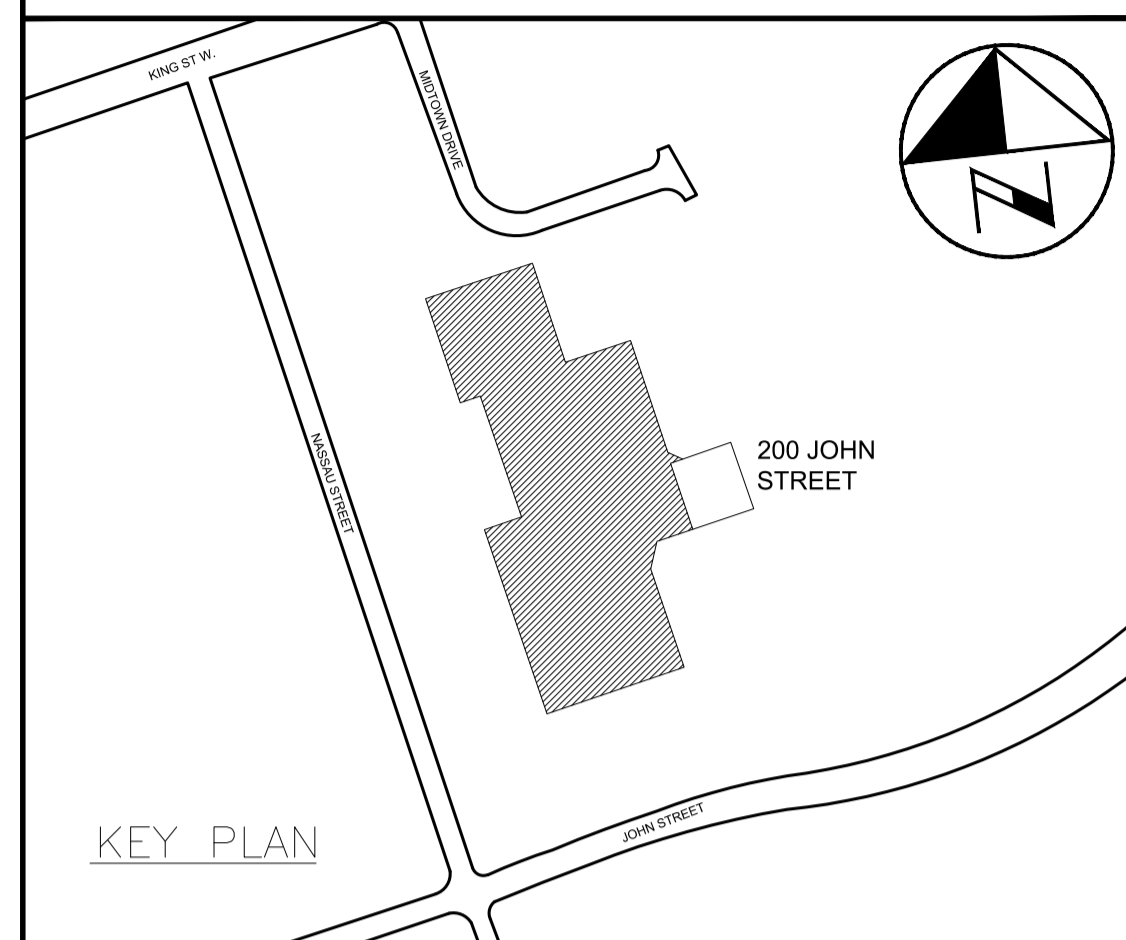
2 WALL/CEILING MOUNTED FIRE ALARM SYSTEM SIGNALLING DEVICE DETAIL
E-005 SCALE: NTS

FIXTURE SCHEDULE

- TYPE A - 25W 3000 LUMEN 2' X 2' RECESSED MOUNTED LED FIXTURE, SUITABLE FOR LAY-IN CEILING C/W IN LINE POWER DISCONNECT, POWER SUPPLY, 120V 0 TO 10VDC DIMMING DRIVER, BASKET LENS AND LAMP (4000K/85% CRI). PACO LIGHTING PRTX-22-L-30-40-MV-DM OR APPROVED EQUAL.
- TYPE AA - 40W 5000 LUMEN 2' X 2' RECESSED MOUNTED LED FIXTURE, SUITABLE FOR LAY-IN CEILING C/W IN LINE POWER DISCONNECT, POWER SUPPLY, 120V 0 TO 10VDC DIMMING DRIVER, BASKET LENS AND LAMP (4000K/85% CRI). PACO LIGHTING PRTX-22-L-50-40-MV-DM OR APPROVED EQUAL.
- TYPE A1 - 1' X 4' SURFACE MOUNTED FLUORESCENT FIXTURE C/W ELECTRONIC BALLAST, WRAP AROUND ACRYLIC LENS AND 2 X 32W T8 LAMPS.
- TYPE A2 - 1' X 4' RECESSED MOUNTED FLUORESCENT FIXTURE, SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST, ACRYLIC LENS AND 2 X 32W T8 LAMPS.
- TYPE A3 - 1' X 4' RECESSED MOUNTED FLUORESCENT FIXTURE, SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST AND 2 X 32W T8 LAMPS.
- TYPE A4 - 2' X 4' RECESSED MOUNTED FLUORESCENT FIXTURE, SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST, ACRYLIC LENS AND 4 X 32W T8 LAMPS.
- TYPE A5 - 2' X 4' RECESSED MOUNTED FLUORESCENT FIXTURE, SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST AND 4 X 32W T8 LAMPS.
- TYPE A6 - 2' X 2' RECESSED MOUNTED FLUORESCENT FIXTURE, SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST, ACRYLIC LENS AND 2 X 32W T8 U-LAMPS.
- TYPE A7 - 4' SUSPENDED FLUORESCENT STRIP FIXTURE C/W ELECTRONIC BALLAST, WIRE GUARD AND 2 X 32W T8 LAMPS.
- TYPE A8 - 4' SURFACE MOUNTED FLUORESCENT STRIP FIXTURE C/W ELECTRONIC BALLAST AND 2 X 32W T8 LAMPS.
- TYPE B - 14W 1315 LUMEN 4" LED RECESSED ROUND DOWNLIGHT SUITABLE FOR DRYWALL CEILING C/W IN LINE POWER DISCONNECT, 120V 0 TO 10VDC DIMMING DRIVER AND LAMP (4000K 90%CRI). PATHWAY LIGHTING 4VFL2X15004KE1DA, 4VLED SCLPF OR APPROVED EQUAL.
- TYPE B1 - 7W 688 LUMEN 4" LED RECESSED ROUND DOWNLIGHT SUITABLE FOR DRYWALL CEILING C/W IN LINE POWER DISCONNECT, 120V 0 TO 10VDC DIMMING DRIVER AND LAMP (4000K 90%CRI). PATHWAY LIGHTING 4VFL2X8004KE1DA, 4VLED SCLPF OR APPROVED EQUAL.
- TYPE B2 - 6" RECESSED MOUNTED DOWNLIGHT SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST AND MR16 LAMP.
- TYPE B3 - RECESSED MOUNTED ADJUSTABLE DOWNLIGHT SUITABLE FOR LAY-IN CEILING C/W ELECTRONIC BALLAST AND MR16 LAMP (3500K/85% CRI).
- TYPE C - LED UNDERCABINET FIXTURE C/W IN LINE POWER DISCONNECT AND LAMPS (4000K, 97%CRI). COLOR KINETICS EW PROFILE POWERCOVE GEN4 OR APPROVED EQUAL FOR SHADOWLESS ILLUMINATION C/W 120 VOLT REVERSE PHASE DIMMING ELECTRONIC DRIVERS (QUANTITY TO SUIT RUN LENGTH), INSTALLATION MOUNTING CHANNEL, LEAD CABLES, 125X120 BEAM SPREAD. REFER TO ARCHITECTURAL DRAWINGS FOR RUN LENGTH AND ADDITIONAL BUILD OUT DETAILS.
- TYPE D1 - EMERGENCY LIGHTING SYSTEM C/W 10 YEAR 24VOLT/720W/0.5 HOUR/BATTERY UNIT/120/347 VOLT INPUT/LUMACELL RGS SERIES OR BEGHELLI NOVA SERIES OR APPROVED EQUAL
- TYPE D2 - 2 X 4W MR16 LED 24V SIGNATURE COLLECTION OR 2 X 5W MR16 24V BEGHELLI BTMR SERIES REMOTE HEADS OR APPROVED EQUAL, WHITE IN COLOUR.
- TYPE D3 - 1 X 4W MR16 LED 24V SIGNATURE COLLECTION OR 1 X 5W MR16 24V BEGHELLI BTMR SERIES REMOTE HEADS OR APPROVED EQUAL, WHITE IN COLOUR.
- TYPE D4 - 2 X 6W MR16 LED 24V SIGNATURE COLLECTION OR 2 X 7W MR16 24V BEGHELLI BTMR SERIES REMOTE HEADS OR APPROVED EQUAL, WHITE IN COLOUR.
- TYPE D7 - 1 X DC REMOTE HEAD
- TYPE D8 - 2 X DC REMOTE HEADS
- TYPE D9 - EMERGENCY LIGHTING SYSTEM DC BATTERY UNIT
- TYPE E1 - PICTOGRAM WHITE LED EXIT SIGN C/W 120/347VAC/24VDC LED. LUMACELL LA-3 SERIES PICTOGRAM EXTRUDED ALUMINUM EXIT SIGN C/W LUMACELL E22 CANOPY OR BEGHELLI STELLA RM SERIES SL-RM-L-U-OLR-M-120/347-U-DC OR APPROVED EQUAL.
- TYPE E2 - EXIT SIGN. READ TYPE.

3 FIXTURE SCHEDULE
E-005 SCALE: NTS

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1N 9K5
Tel: (905) 666-5252
Fax: (905) 666-5256
email: bob@bbaweb.org

BBA

LICENSED PROFESSIONAL ENGINEER
H.D. COHEN
#0414335
FEB09/2021
PROVINCE OF ONTARIO

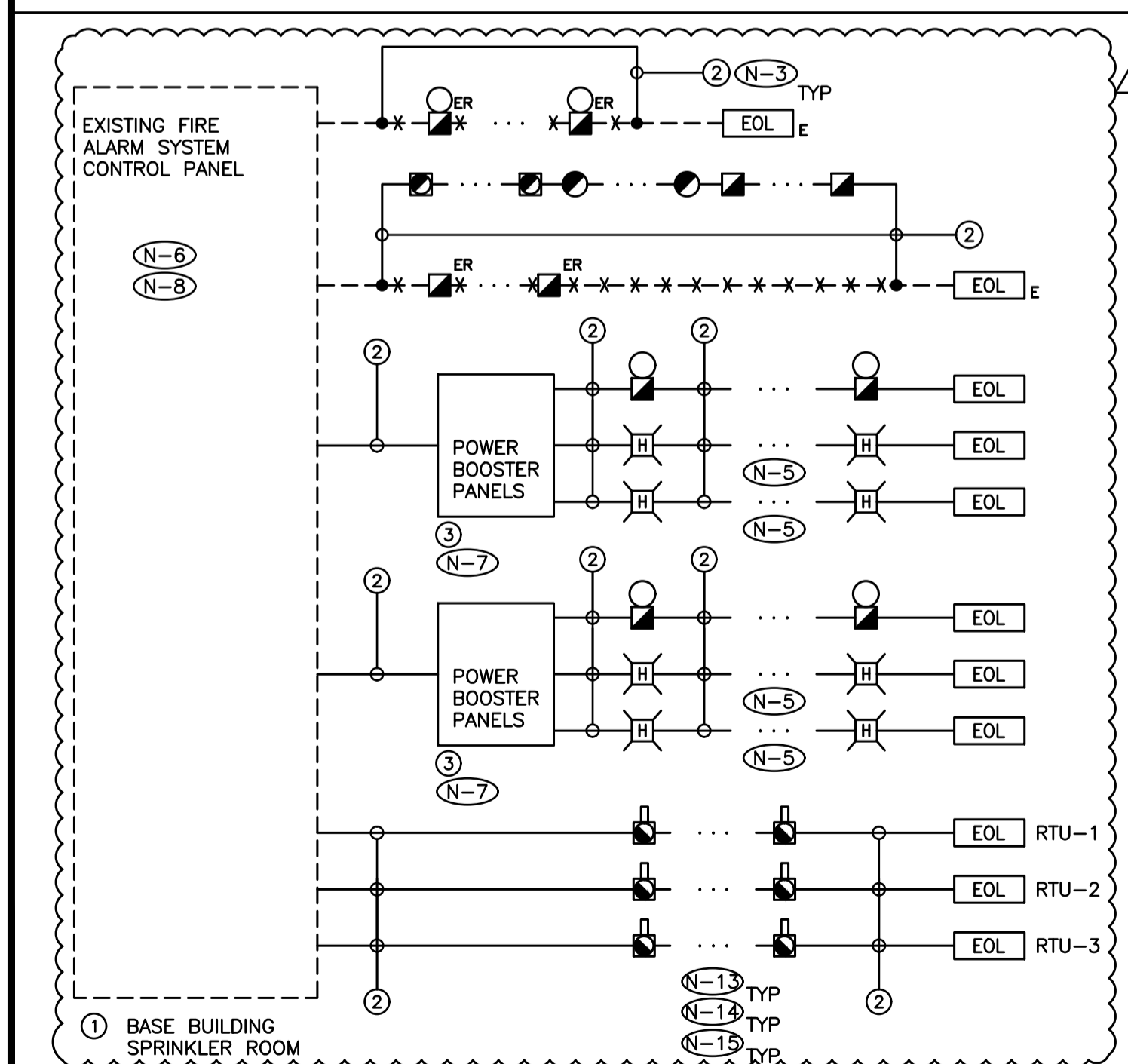
SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
40 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
X.P. CHEN
10021955
FEB09/2021
PROVINCE OF ONTARIO

HCC Project No.: 10104

DESIGN BY: PC	SCALE: AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	



4 PARTIAL BASE BUILDING FIRE ALARM SYSTEM RISER DIAGRAM
E-005 SCALE: NTS

- (N-1) RISER IS DIAGRAMMATIC ONLY. PROVIDE QUANTITY OF PROVIDE QUANTITY OF BELL CIRCUITS, INITIATING DEVICE CIRCUITS, HARDWARE, MODULES, ACCESSORIES, DEVICES, CONDUIT, WIRE, ETC. TO ENSURE A FULLY OPERATIONAL FIRE ALARM SYSTEM.
- (N-2) REFER TO FLOOR PLANS AND REFLECTED CEILING PLANS FOR EXACT QUANTITY AND LOCATION OF DEVICES, DEVICE PERIPHERALS AND ACCESSORIES (IE. WIRE GUARD, EXPLOSION PROOF DEVICES, WEATHER PROOF DEVICES, ETC.).
- (N-3) PROVIDE POWER, CONDUIT, BACKBOX AND WIRING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MINIMUM CONDUIT SIZE 3/4".
- (N-4) PROVIDE DEDICATED CORE DRILLED FLOOR AND WALL PENETRATIONS ON EVERY FLOOR AS REQUIRED FOR FIRE ALARM SYSTEM CONDUITS/MI CABLE. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAYING RESULTS.
- (N-5) PROVIDE STROBE CIRCUIT SYNCHRONIZATION MODULES.
- (N-6) MODIFY, REWORK AND PROVIDE ALL COMPONENTS AND ACCESSORIES FOR CONTROL PANEL AS REQUIRED TO ACCOMMODATE ALL SCOPES OF WORK AS NOTED ON DRAWINGS AND IN SPECIFICATION.
- (N-7) PROVIDE REMOTE ULG APPROVED BOOSTER PANELS AND POWER SUPPLIES, C/W BATTERIES APPROVED FOR THE SIGNALING DEVICES PROVIDED AS PART OF THIS SCOPE OF WORK. REFER TO FLOOR PLANS AND REFLECTED CEILING PLANS FOR LOCATION AND QUANTITY OF SIGNALING DEVICES. PROVIDE ADDRESSABLE INPUT MODULE TO MONITOR THE TROUBLE RELAY.
- (N-8) PROVIDE ADDITIONAL BATTERIES IN EXISTING CONTROL PANEL AS REQUIRED TO SUPPORT THE TOTAL LOAD REQUIREMENTS AT THE COMPLETION OF THIS PROJECT.
- (N-9) PROVIDE 24VDC CIRCUITS FOR 24VDC DEVICES. MAXIMUM LOAD ON EACH CIRCUIT SHALL NOT EXCEED 70%. CIRCUIT REQUIREMENTS NOT SHOWN ON RISER DIAGRAM.
- (N-10) AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE A FIRE WATCH THROUGHOUT THE DURATION OF THE PROJECT.
- (N-11) NOT USED.
- (N-12) DO NOT REUSE EXISTING FIELD WIRING, FIRE ALARM DEVICES, ETC., REMOVED AS PART OF THIS SCOPE OF WORK.
- (N-13) DUCTMOUNT SMOKE DETECTORS SHALL BE HARD WIRED INTO CORRESPONDING FAN CIRCUITS TO DIRECTLY SHUT DOWN FANS UPON FIRE ALARM CONDITION. PROVIDE CONTACTORS, DVR'S AND ENCLOSURES REQUIRED.
- (N-14) PROVIDE REMOTE INDICATING LED FOR EACH DUCTMOUNT SMOKE DETECTOR. EXACT MOUNTING LOCATION TO BE DETERMINED ON SITE. LED'S NOT SHOWN ON DRAWINGS.
- (N-15) EXACT MOUNTING LOCATION OF DUCT MOUNTED SMOKE DETECTORS TO BE DETERMINED BY MANUFACTURER ON SITE.

- ① EXISTING FIRE ALARM SYSTEM CONTROL PANEL - MIRCOM SERIES 1000
- ② CONDUIT AND WIRE PER MANUFACTURER'S SPECIFICATIONS
- ③ FIRE ALARM SYSTEM BOOSTER PANEL PROVIDED AS PART OF THIS SCOPE OF WORK

BASE BUILDING FIRE ALARM SYSTEM MANUFACTURER CONTACT: KRYSTAL NICHOLAS, MIRCOM: KNICHOLAS@MIRCOMGROUP.COM / (647) 460-2449

- _____ DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
- DENOTES EXISTING TO REMAIN
- x-x-x-x-x- DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

DWG FIRE ZONE NO.	FIRE ZONE ID LABEL (N-1)	INITIATING DEVICE	ALARM SIGNAL	TROUBLE SIGNAL
DMSD01	RTU-1	☑	*	
DMSD02	RTU-2	☑	*	
DMSD03	RTU-3	☑	*	

- (N-1) ZONE DESCRIPTION TO BE DETERMINED ON SITE.
- (N-2) 'SC' DENOTES SUPERVISORY CONTACT.
- (N-3) SEQUENCE OF OPERATIONS AND ALARM/ALERT SIGNALING REQUIREMENTS TO BE COORDINATED WITH CONSULTANT, MECHANICAL CONTRACTOR, FIRE ALARM MANUFACTURER AND BUILDING INSPECTOR THROUGH SHOP DRAWING APPROVAL PROCESS.
- (N-4) SCHEDULE REFLECTS NEW ZONES TO BE ADDED TO THE BASE BUILDING FIRE ALARM SYSTEM AS PART OF THIS CONTRACT. UPDATE EXISTING BASE BUILDING FIRE ALARM SYSTEM CPU, TRANSPONDER, ANNUNCIATOR PANELS, PASSIVE GRAPHIC DISPLAY, ACTIVE GRAPHIC DISPLAY, ETC.

5 FIRE ALARM SYSTEM ZONE SCHEDULE
E-005 SCALE: NTS

CONTRACT REVISIONS

NO.	DATE	NAME	REVISIONS
4	MAY02/2021	HCC	ISSUED FOR ADDENDUM #E-01
3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW

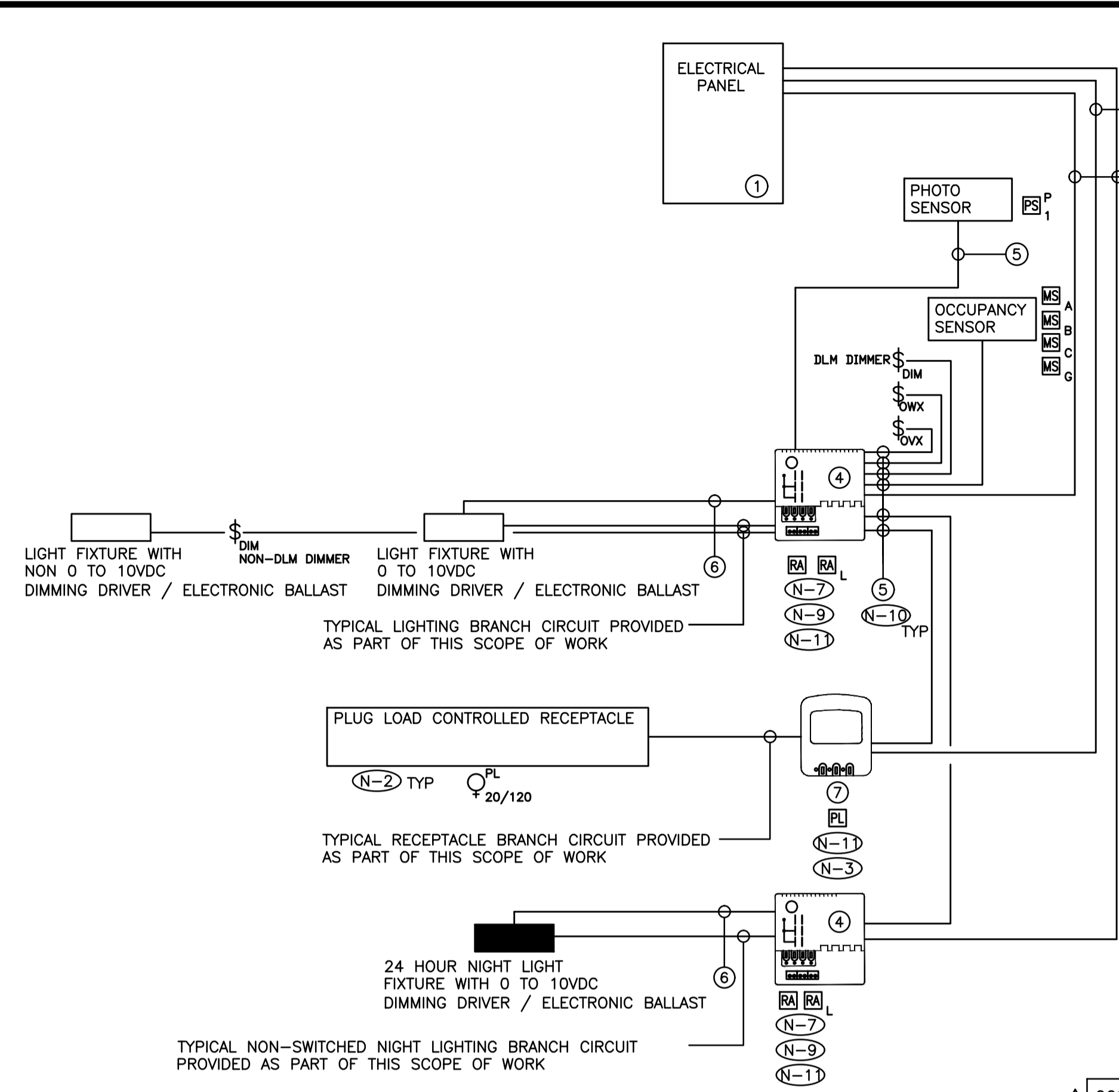
DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL DETAILS

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-005	SHEET NO. 038



1 LOW VOLTAGE LIGHTING CONTROL SYSTEM WIRING SCHEMATIC
E-006 SCALE: NTS

4 OCCUPANCY SENSORS FOR AUTOMATIC SHUT OFF OF LIGHTING WITHIN OPERATORY ROOMS HAVE NOT BEEN SPECIFIED AS LIGHTING DURING ROOM USE CANNOT BE INTERRUPTED FOR SAFETY REASONS.

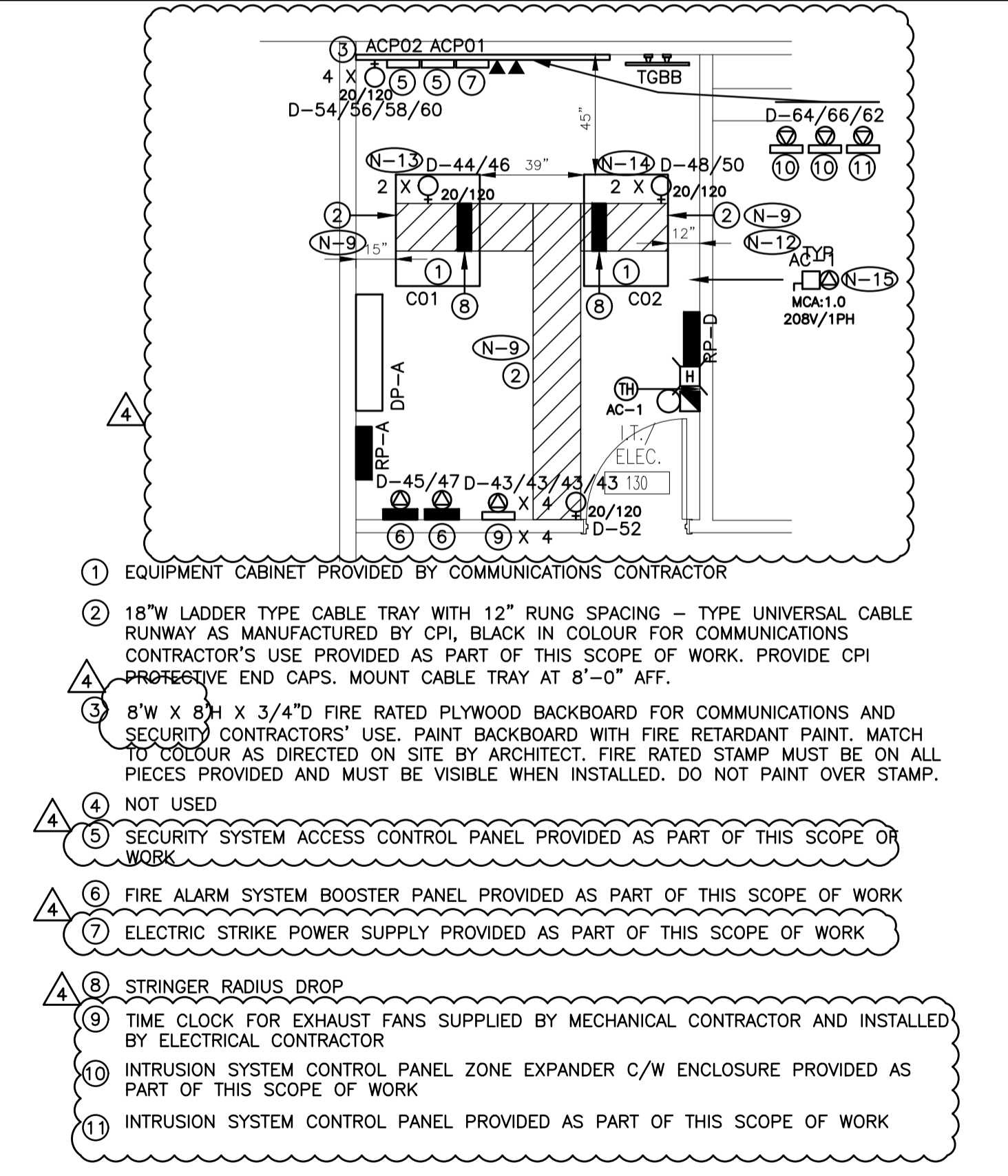
- (N-1) SCHEMATIC IS DIAGRAMMATIC ONLY. REFER TO FLOOR PLANS AND REFLECTED CEILING PLANS FOR DEVICE QUANTITY AND LOCATIONS. PROVIDE QUANTITY OF HARDWARE, ROOM CONTROLLERS, PLUG LOAD CONTROLLERS, SENSORS, DEVICES, CONDUIT, WIRE, CONFIGURATION TOOLS, ETC. TO ENSURE A FULLY OPERATIONAL LOW VOLTAGE LIGHTING CONTROL SYSTEM.
- (N-2) ALL CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED TO VISUALLY DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES.
- (N-3) PLUG LOAD CONTROLLERS TO BE INSTALLED IN CEILING MOUNTED JUNCTION BOXES.
- (N-4) ALL LOW VOLTAGE WIRING TO BE INSTALLED IN AN ENCLOSED CONDUIT SYSTEM.
- (N-5) PROVIDE POWER, CONDUIT, BACKBOX AND WIRING IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. MINIMUM CONDUIT SIZE 3/4".
- (N-6) PROVIDE DEDICATED CORE DRILLED WALL AND FLOOR PENETRATIONS ON EVERY FLOOR. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. ALL X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
- (N-7) PROVIDE ROOM CONTROLLERS TO ACCOMMODATE ALL LIGHTING ZONES IN CLOSED ROOMS (IE. OFFICES, MEETING ROOMS, ETC.) PROVIDED AS PART OF THIS SCOPE OF WORK. MAXIMUM OF TWO (2) SWITCH LEGS PER ROOM CONTROLLER.
- (N-8) NOT USED.
- (N-9) ROOM CONTROLLERS TO BE INSTALLED IN CEILING MOUNTED JUNCTION BOXES.
- (N-10) TERMINATE AND TEST ALL LOW VOLTAGE CONTROL CABLES PROVIDED AS PART OF THIS SCOPE OF WORK. PROVIDE TEST RESULTS FOR ALL LOW VOLTAGE CONTROL CABLES PROVIDED AS PART OF THIS SCOPE OF WORK AT THE END OF CONSTRUCTION. TEST RESULTS SHALL BE INCLUDED AS PART OF THE CLOSE OUT DOCUMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- (N-11) REFER TO MANUFACTURER'S INSTALLATION GUIDELINES FOR ADDITIONAL INSTALLATION REQUIREMENTS OVER AND ABOVE THOSE DETAILS ON THIS SCHEMATIC.
- (N-12) NOT USED.
- (N-13) NOT USED.
- (N-14) PROVIDE POWER PACKS, AS REQUIRED FOR A FULLY OPERATIONAL SYSTEM. POWER PACKS NOT SHOWN ON REFLECTED CEILING PLANS.
- (N-15) ELECTRICAL CONTRACTOR'S BASE BID PRICE SHALL INCLUDE EIGHT (8) HOURS OF ON SITE COORDINATION TIME WITH LIGHTING CONTROL SYSTEM MANUFACTURER PRIOR TO ORDERING LIGHTING SYSTEM COMPONENTS TO CONFIRM DEVICES AND WIRING REQUIREMENTS. ALL CHANGES TO BE REVIEWED AND APPROVED BY CONSULTANT ON SITE PRIOR TO EXECUTION.

(N-16) LIGHT LEVEL OUTPUT (IE, DIMMING LEVEL) FOR EACH AND EVERY FIXTURE PROVIDED AS PART OF THIS SCOPE OF WORK IN ROOMS/AREAS/CORRIDORS/ETC., WITH DLM CONTROL TO BE FIELD ADJUSTED ON SITE WITH CLIENT POST OCCUPANCY. TARGET LIGHT LEVELS FOR EACH LOW VOLTAGE LIGHTING ZONE TO BE PROVIDED BY THE CLIENT POST OCCUPANCY. PROCURE (COORDINATE AND PAY FOR) THE SERVICES OF WATTSTOPPER TO ADJUST, PROGRAM AND COMMISSION THE LIGHTING CONTROL SYSTEM.

AS PART OF THIS SCOPE OF WORK PROCURE THE SERVICES OF A THIRD PARTY PROFESSIONAL ENGINEER TO MEASURE AND RECORD LIGHTING LEVELS IN FOOT CANDLES THROUGHOUT THE ENTIRE SCOPE OF WORK AREAS WITH A CALIBRATED LIGHT METER, AFTER ALL FIELD ADJUSTMENTS HAVE BEEN COMPLETED. READINGS SHALL BE TAKEN BASED ON A MINIMUM OF ONE READING FOR EVERY 20' CENTER IN OPEN OFFICE AREAS AND CORRIDORS / HALLWAYS AND ONE READING IN EACH CLOSED OFFICE, MEETING ROOM, BOARDROOM, ETC. ALL LIGHT LEVEL READINGS ARE TO BE TAKEN DURING NON-DAYLIGHT HOURS. PROVIDE A SEALED REPORT IDENTIFYING LIGHT LEVEL READINGS.

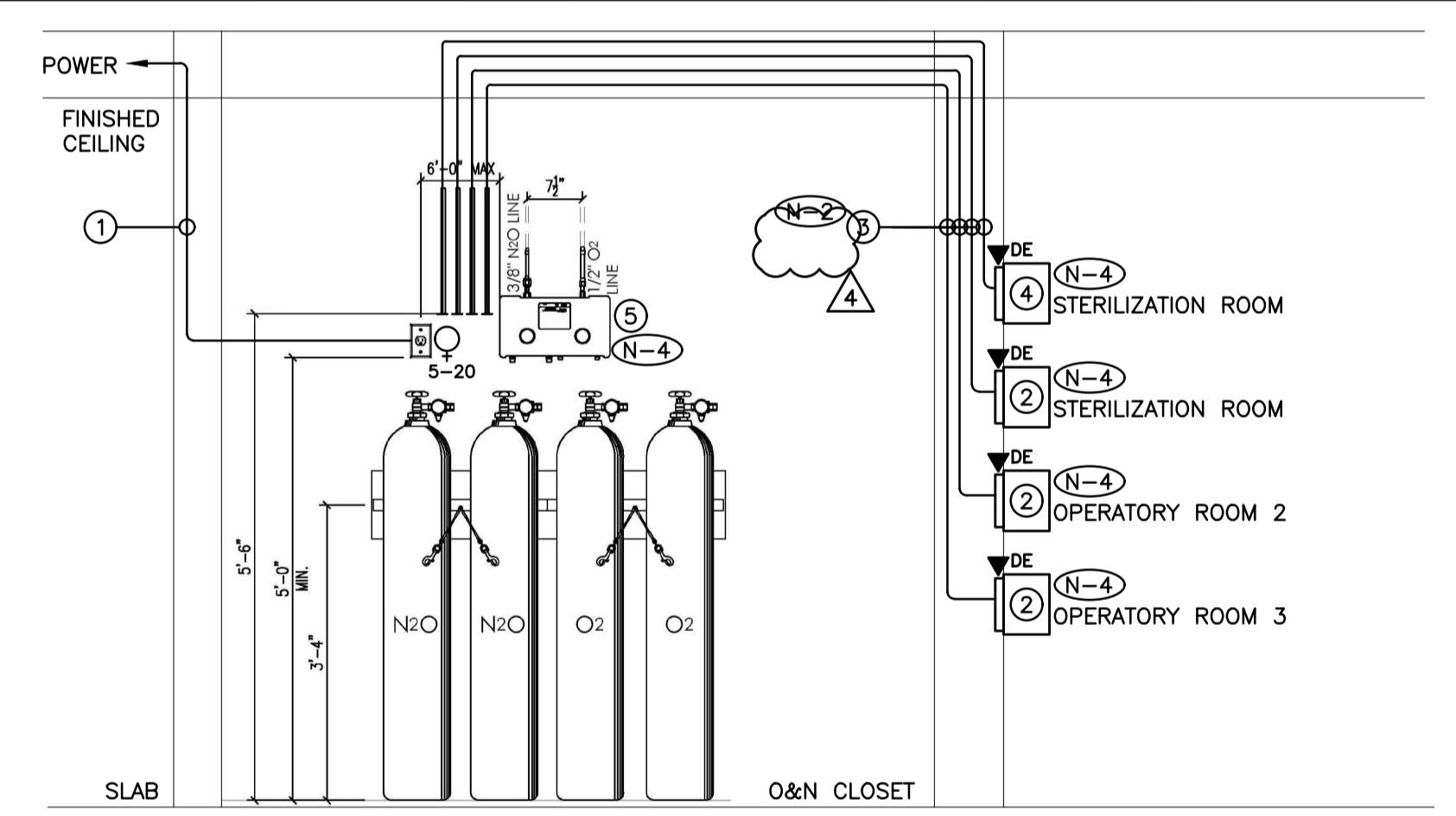
INSTALL LOW VOLTAGE CONTROL SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, ASHRAE 90.1 2013, ONTARIO BUILDING CODE, ELECTRICAL SAFETY CODE AND THESE DOCUMENTS.

- 1 TYPICAL RECEPTACLE / LIGHTING PANEL. REFER TO DRAWING NO. E-015 FOR ADDITIONAL REQUIREMENTS
 - 2 NOT USED
 - 3 NOT USED
 - 4 ON / OFF / DIMMING ROOM CONTROLLER
 - 5 PLENUM RATED 4 PAIR CAT6 UTP CABLE AS MANUFACTURED BY LIGHTING CONTROL SYSTEM MANUFACTURER
 - 6 0 TO 10VDC CONTROL WIRING PER MANUFACTURER'S RECOMMENDATIONS
 - 7 PLUG LOAD CONTROLLER
- DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR.
 - - - DENOTES EXISTING TO REMAIN.
 - - - - DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR.



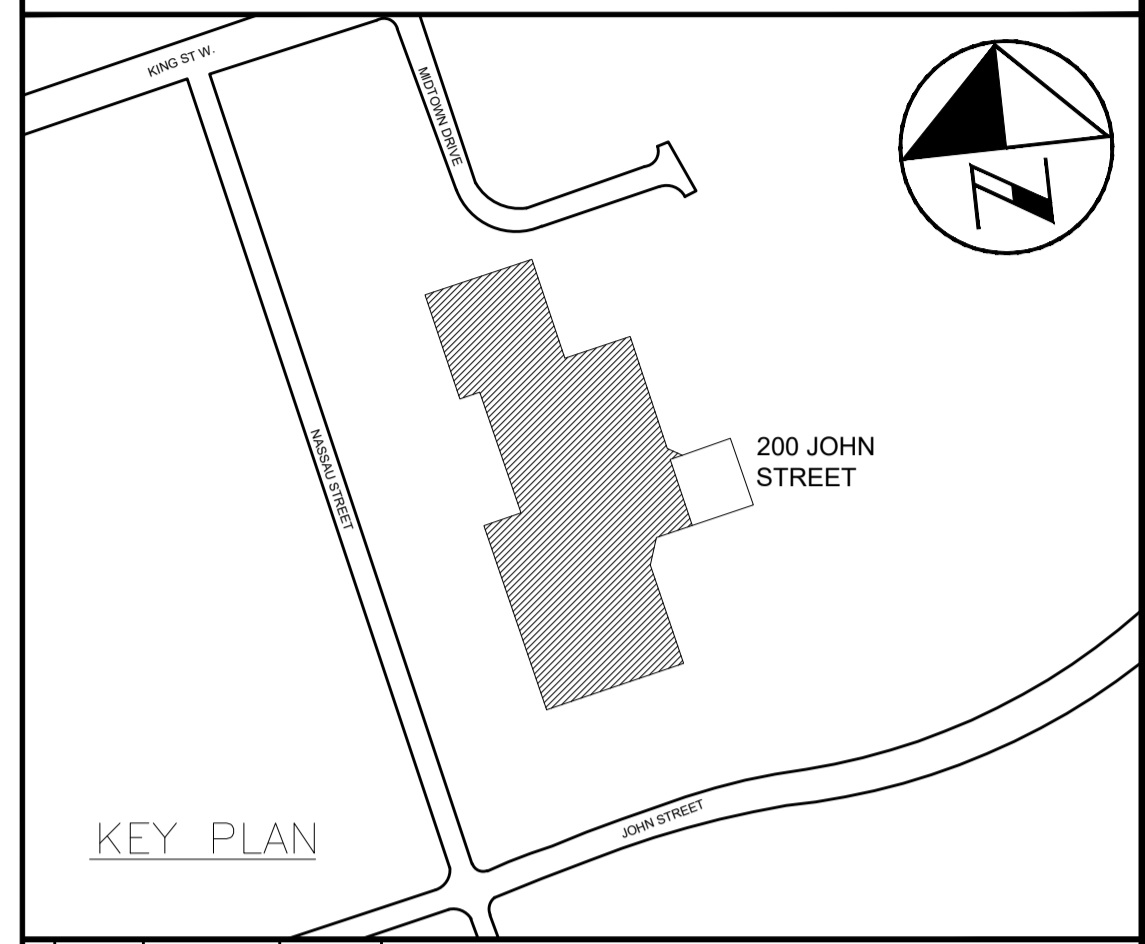
2 IT/ELECTRICAL ROOM DETAIL
E-006 SCALE: 1:50

- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH ARCHITECT.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) CIRCUIT NUMBERS MAY NOT BE CHANGED WITHOUT PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER.
- (N-4) CONFIRM BREAKER/FUSE AND RECEPTACLE/DISCONNECT REQUIREMENTS PRIOR TO INSTALLATION. LAYOUT OF DISTRIBUTION EQUIPMENT, GROUND BARS, CABLE TRAY, ETC. MUST BE AS SHOWN ON DRAWING. CONTRACTOR IS NOT TO DEVIATE FROM LAYOUT. CONTRACTOR TO MARK EXACT LOCATION AND LAYOUT OF ALL DISTRIBUTION, EQUIPMENT, ETC. PROVIDED AS PART OF THIS SCOPE OF WORK AND ALL EQUIPMENT CABINET AND EQUIPMENT RACK FOOTPRINTS ON SLAB FOR FINAL REVIEW AND APPROVAL FROM STRUCTURAL ENGINEER AND ELECTRICAL ENGINEER. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING LAYOUT WITH MECHANICAL DUCT WORK, SPRINKLER PIPING, EXISTING CONDUIT SYSTEMS, ETC.
- (N-5) (AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE (SUPPLY AND INSTALL) AN ADDITIONAL TWO (2) WALL MOUNTED CSA 5-20R (T SLOT) DUPLEX RECEPTACLES OVER AND ABOVE THOSE SHOWN ON DETAIL NO. 2 ON DRAWING NO. E-006 ON AN AD HOC BASIS UP TO SUBSTANTIAL COMPLETION. EACH ADDITIONAL RECEPTACLE SHALL BE ON A DEDICATED CIRCUIT COMPLETE WITH BRANCH WIRING (CONDUIT AND WIRE) AND BREAKER. BREAKER REQUIREMENTS NOT INDICATED ON PANEL SCHEDULES.
- (N-6) PROVIDE RECEPTACLES, CONDUIT, WIRE (200' OF 2#10AWG + G (TOTAL OF 400' WIRE PLUS G) AND 200' 3/4" CONDUIT/RECEPTACLE), BREAKERS, TERMINATION AT PANEL BREAKER END AND AT DEVICE END, ETC. FOR FULLY FUNCTIONAL LIVE DEVICES. EXACT INSTALLATION LOCATION AND PANEL SOURCE TO BE DETERMINED ON SITE BY CLIENT DURING CONSTRUCTION. PROVIDE UPDATED TYPED PANEL SCHEDULES FOR ALL PANELS AT THE COMPLETION OF THE PROJECT.
- (N-7) ROUTE ALL CONDUIT SYSTEMS AROUND BEAMS, DUCT WORK AND PIPING AS REQUIRED TO ACCOMMODATE INSTALLATION. REFER TO MECHANICAL DRAWINGS AND ARCHITECT DRAWINGS FOR ADDITIONAL DETAILS.
- (N-8) ALL SERVICES TO BE PULLED IN EMT CONDUIT.
- (N-9) ALL CABLE TRAY SEGMENTS SHALL BE SUSPENDED FROM CEILING STRUCTURE. SUPPORT AT A MAXIMUM OF 4' INTERVALS. SUPPORT INFRASTRUCTURE SHALL BE SUBMITTED BY ELECTRICAL CONTRACTOR FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER. AS A MINIMUM PROVIDE 1-5/8" X 3-1/4", 12 GAUGE SLIDING UNISTRUT CHANNEL. HANG DIRECTLY FROM CEILING STRUCTURE UTILIZING 5/8" THREADED ROD, CPI 11408-003 SUPPORT BRACKETS AND 5/8" DIAMETER HUS-H HILTI SCREW ANCHORS. SPAN ACROSS BEAMS AS REQUIRED.
- (N-10) ELECTRICAL CONTRACTOR'S BASE BID PRICE SHALL INCLUDE FOUR (4) HOURS OF ON SITE COORDINATION TIME WITH CLIENT AND CONSULTANT PRIOR TO ORDERING OVERHEAD CABLE TRAY COMPONENTS TO FINALIZE ROUTING, LOCATIONS AND HEIGHTS OF OVERHEAD CABLE TRAY SYSTEMS. ALL CHANGES TO BE REVIEWED AND APPROVED BY CONSULTANT ON SITE PRIOR TO EXECUTION.
- (N-11) PROVIDE CABLE TRAY SYSTEMS, FITTINGS, ACCESSORIES, ETC. AS REQUIRED FOR COMPLETE AND FUNCTIONING SYSTEMS.
- (N-12) PROVIDE SPLICE HARDWARE TO BOLT ALL CABLE TRAY SECTIONS TOGETHER.
- (N-13) MOUNT RECEPTACLES INDICATED 6" ABOVE CABINET CO1.
- (N-14) MOUNT RECEPTACLES INDICATED 6" ABOVE CABINET CO2.
- (N-15) AS PART OF THIS SCOPE OF WORK FEED AC-1 THROUGH CONDENSER CU-1. PROVIDE CONDUIT AND POWER AND CONTROL WIRING AS PART OF THIS SCOPE OF WORK. COORDINATE EXACT REQUIREMENTS ON SITE WITH MECHANICAL CONTRACTOR.



- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-2) PROVIDE NYLON INSULATED THROATS FOR ALL BUSHINGS AND CONNECTORS.
 - (N-3) PROVIDE DEDICATED CORE DRILLED WALL AND FLOOR PENETRATIONS ON EVERY FLOOR. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. ALL X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
 - (N-4) COORDINATE CONDUIT TERMINATION REQUIREMENTS ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
- 1 TYPICAL BRANCH CIRCUIT PROVIDE AS PART OF THIS SCOPE OF WORK
 - 2 ALARM PANEL PROVIDED BY DENTAL EQUIPMENT CONTRACTOR
 - 3 3/4" CONDUIT C/W ONE (1) CAT6 CABLE, BUSHINGS AND RUBBERIZED GROMMETS FOR DENTAL EQUIPMENT CONTRACTOR'S USE PROVIDED AS PART OF THIS SCOPE OF WORK
 - 4 MEDICAL GASES EMERGENCY SHUT OFF PROVIDED BY DENTAL EQUIPMENT CONTRACTOR
 - 5 MEDICAL GASES SYSTEM MANIFOLD PROVIDED BY DENTAL EQUIPMENT CONTRACTOR
- 3 MEDICAL GASES SYSTEM ELECTRICAL REQUIREMENT DETAIL
E-006 SCALE: NTS

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NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT
BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St
 Suite 201
 Whitby, Ontario
 L1M 0G8
 Tel: (905) 666-5252
 Fax: (905) 666-5256
 e-mail: info@bbaweb.org

LICENSED PROFESSIONAL ENGINEER
 H.D. COHEN
 #0414335
 FEB09/2021
 PROVINCE OF ONTARIO

SUB-CONSULTANT
HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
 X.P. CHEN
 100219555
 FEB09/2021
 PROVINCE OF ONTARIO

HCC Project No.: 20104

DESIGN BY: PC	SCALE AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS
4	APR15/2021	HCC	ISSUED FOR ADDENDUM #E-01
3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW

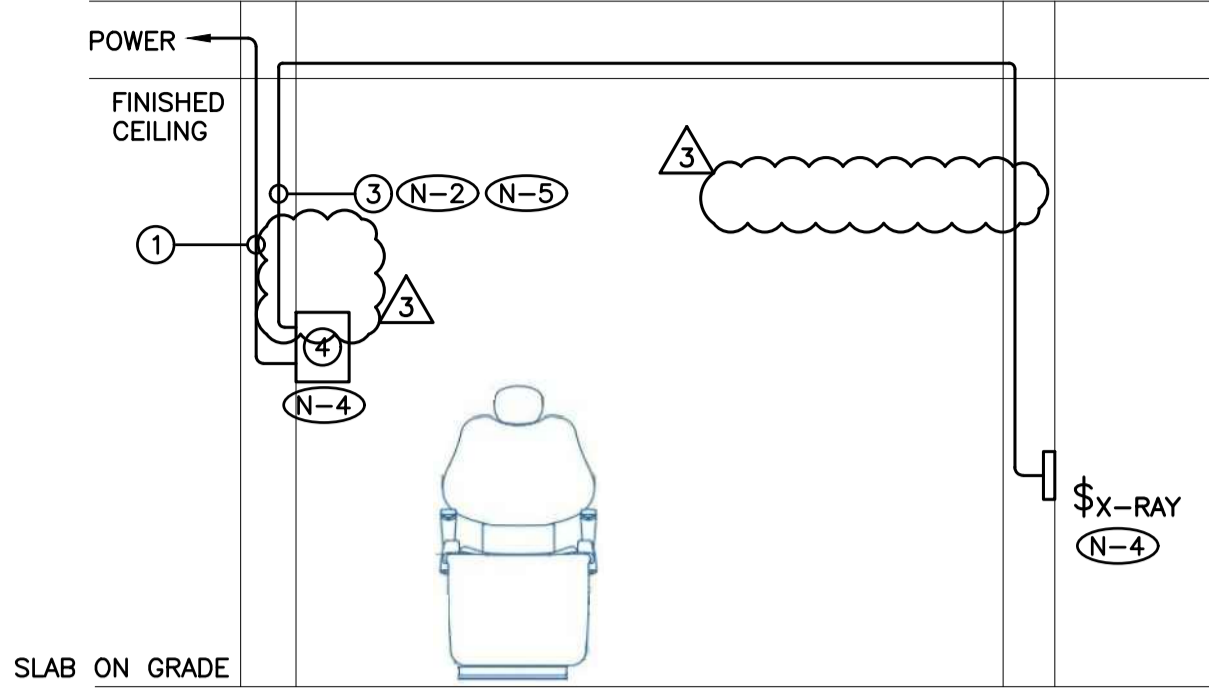
DURHAM REGION

THE REGIONAL MUNICIPALITY
 OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC
 TO 200 JOHN ST., OSHAWA

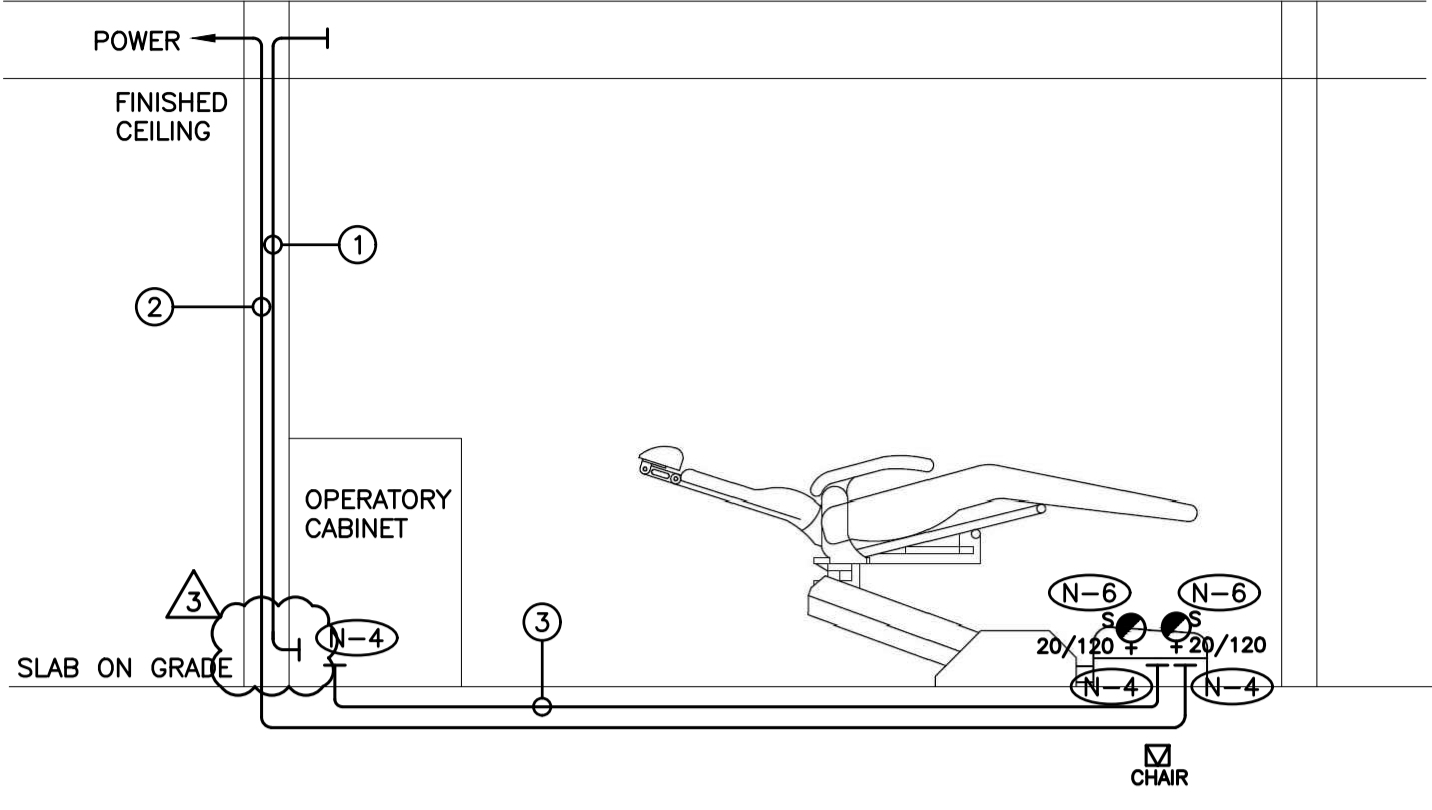
ELECTRICAL DETAILS

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-006	SHEET NO. 039



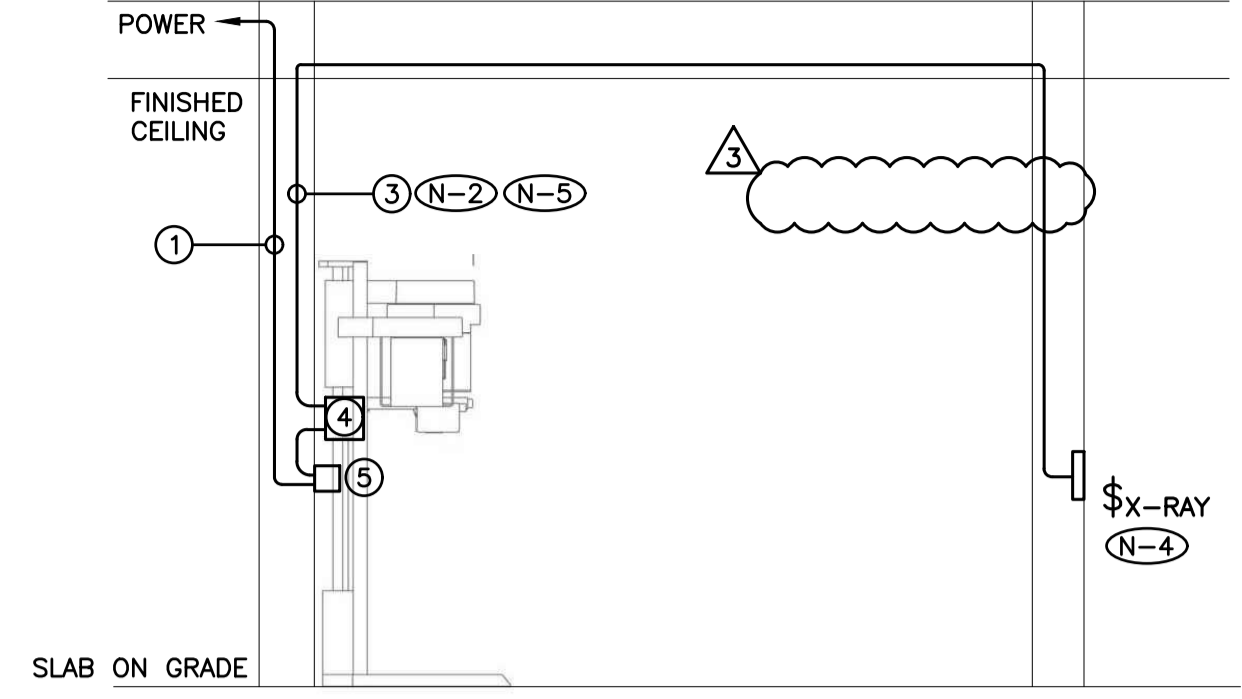
- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-2) PROVIDE NYLON INSULATED THROATS FOR ALL BUSHINGS AND CONNECTORS.
 - (N-3) PROVIDE DEDICATED CORE DRILLED WALL AND FLOOR PENETRATIONS ON EVERY FLOOR. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. ALL X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
 - (N-4) COORDINATE CONDUIT TERMINATION REQUIREMENTS ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-5) LOW VOLTAGE CABLES, WIRING AND TERMINATIONS PROVIDED BY DENTAL EQUIPMENT CONTRACTOR.
- 1 TYPICAL BRANCH CIRCUIT PROVIDE AS PART OF THIS SCOPE OF WORK
 - 2 NOT USED
 - 3 3/4" CONDUIT C/W BUSHINGS AND RUBBERIZED GROMMETS FOR DENTAL EQUIPMENT CONTRACTOR'S USE PROVIDED AS PART OF THIS SCOPE OF WORK
 - 4 X-RAY CONTROL BOX PROVIDED BY OTHERS

1 X-RAY ELECTRICAL REQUIREMENT DETAIL
SCALE: N.T.S.



- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-2) PROVIDE NYLON INSULATED THROATS FOR ALL BUSHINGS AND CONNECTORS.
 - (N-3) SAW CUTTING OF FLOOR SLAB PROVIDED BY ELECTRICAL CONTRACTOR. EXACT ROUTING TO BE DETERMINED BY SCANNING/X-RAY RESULTS. SUBMIT LAYOUT C/W CONDUIT SIZES TO ELECTRICAL CONSULTANT FOR APPROVAL PRIOR TO CUTTING OF FLOOR SLAB.
 - (N-4) COORDINATE CONDUIT TERMINATION REQUIREMENTS ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-5) LOW VOLTAGE CABLES, WIRING AND TERMINATIONS PROVIDED BY DENTAL EQUIPMENT CONTRACTOR.
 - (N-6) CONFIRM RECEPTACLE MOUNTING STYLE AND LOCATION ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
- 1 2" CONDUIT C/W PULL STRING FOR DENTAL EQUIPMENT CONTRACTOR'S USE
 - 2 TYPICAL BRANCH CIRCUIT PROVIDE AS PART OF THIS SCOPE OF WORK
 - 3 2" DIRECT BURIED CONDUIT C/W PULL STRING FOR DENTAL EQUIPMENT CONTRACTOR'S USE

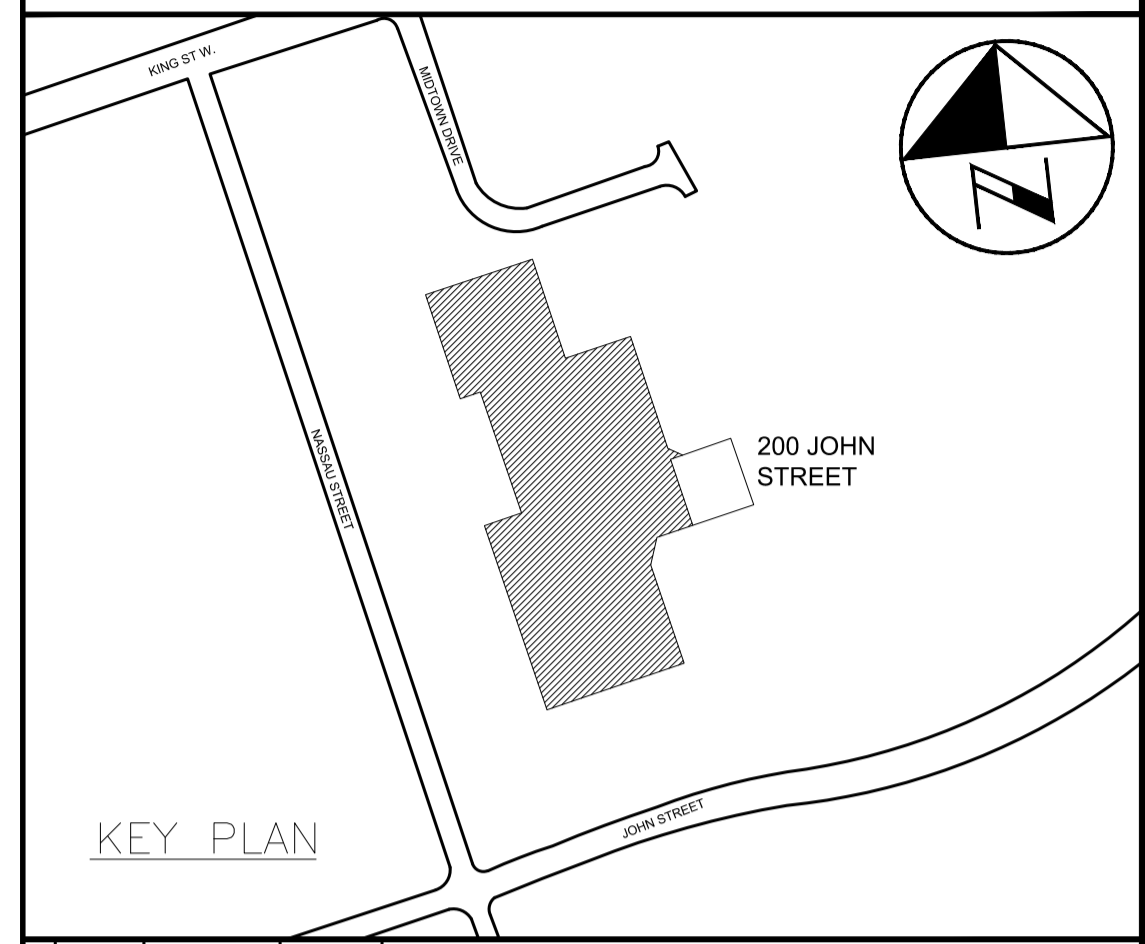
2 DENTIST CHAIR ELECTRICAL REQUIREMENT DETAIL
SCALE: N.T.S.



- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-2) PROVIDE NYLON INSULATED THROATS FOR ALL BUSHINGS AND CONNECTORS.
 - (N-3) PROVIDE DEDICATED CORE DRILLED WALL AND FLOOR PENETRATIONS ON EVERY FLOOR. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. ALL X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
 - (N-4) COORDINATE CONDUIT TERMINATION REQUIREMENTS ON SITE WITH DENTAL EQUIPMENT CONTRACTOR.
 - (N-5) LOW VOLTAGE CABLES, WIRING AND TERMINATIONS PROVIDED BY DENTAL EQUIPMENT CONTRACTOR.
- 1 TYPICAL BRANCH CIRCUIT PROVIDE AS PART OF THIS SCOPE OF WORK
 - 2 NOT USED
 - 3 3/4" CONDUIT C/W BUSHINGS AND RUBBERIZED GROMMETS FOR DENTAL EQUIPMENT CONTRACTOR'S USE PROVIDED AS PART OF THIS SCOPE OF WORK
 - 4 X-RAY CONTROL BOX PROVIDED BY OTHERS
 - 5 BUCK & BOOST TRANSFORMER SUPPLIED BY DENTAL EQUIPMENT CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR AS PART OF THIS SCOPE OF WORK

3 PAN X-RAY ELECTRICAL REQUIREMENT DETAIL
SCALE: N.T.S.

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT
BBA
 BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 0K6
 Tel: (905) 666-5252
 Fax: (905) 666-5256
 e-mail: bob@bbaweb.org



SUB-CONSULTANT
HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2423



HCC Project No.: 20104

DESIGN BY: PC	SCALE: AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS

DURHAM REGION
 THE REGIONAL MUNICIPALITY OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL DETAILS

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-007	SHEET NO. 040

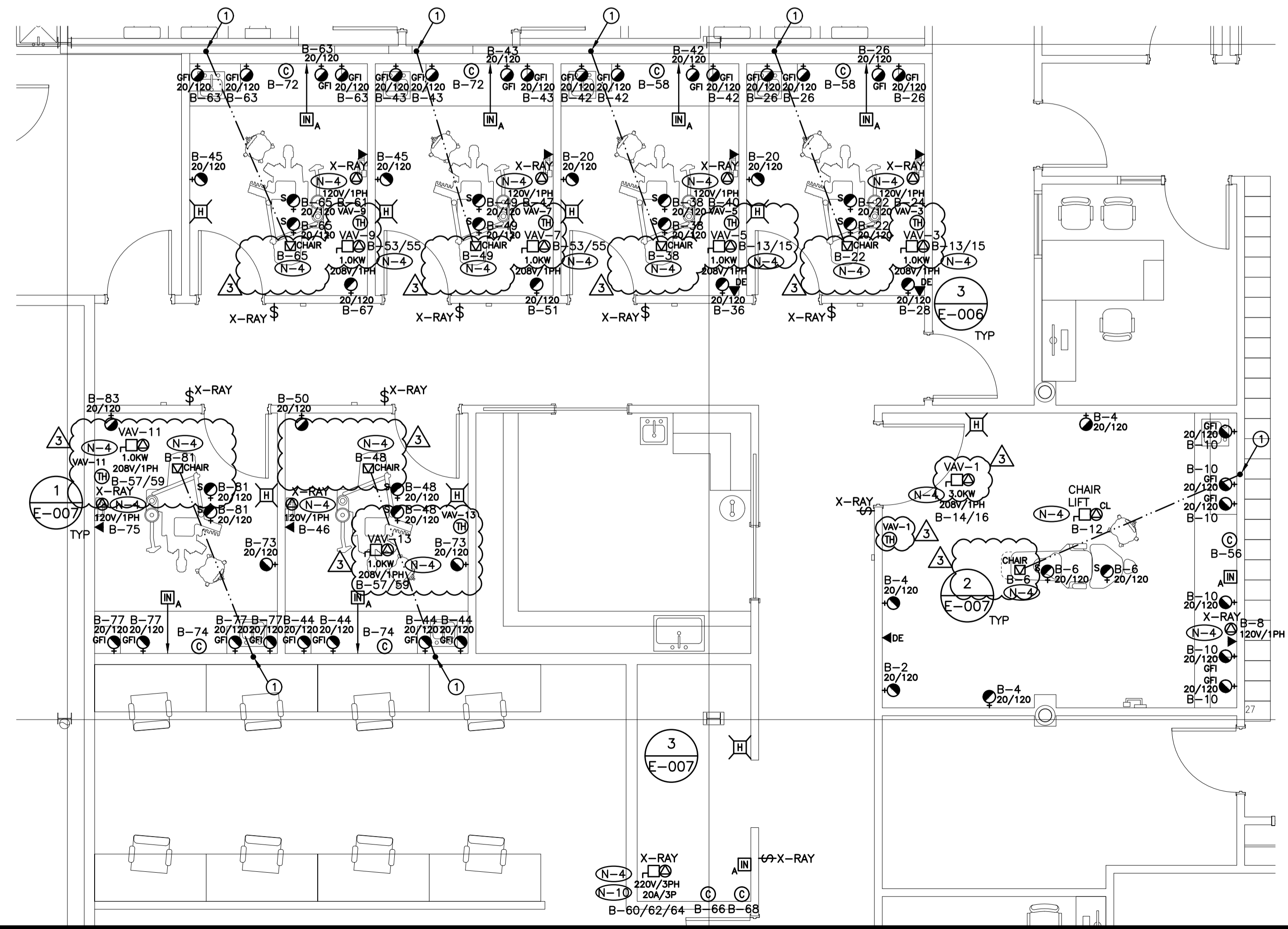
- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH ARCHITECT.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS. UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) CIRCUIT NUMBERS MAY NOT BE CHANGED WITHOUT PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER.
- (N-4) CONFIRM BREAKER AND RECEPTACLE REQUIREMENTS PRIOR TO ORDERING DISTRIBUTION.
- (N-5) ROUTE ALL CONDUIT SYSTEMS AROUND BEAMS, DUCT WORK AND PIPING AS REQUIRED TO ACCOMMODATE INSTALLATION. REFER TO MECHANICAL DRAWINGS AND DESIGNER DRAWINGS FOR ADDITIONAL DETAILS.
- (N-6) MINIMUM WIRE SIZE #10AWG FOR ALL 120 VOLT CIRCUITS EXCEEDING 90 FEET IN LENGTH.
- (N-7) MINIMUM WIRE SIZE #8AWG FOR ALL 120 VOLT CIRCUITS EXCEEDING 200 FEET IN LENGTH.
- (N-8) NOT USED.
- (N-9) SAW CUTTING OF FLOOR SLAB PROVIDED BY ELECTRICAL CONTRACTOR. EXACT ROUTING TO BE DETERMINED BY SCANNING/X-RAY RESULTS. SUBMIT LAYOUT C/W CONDUIT SIZES TO ELECTRICAL CONSULTANT FOR APPROVAL PRIOR TO CUTTING OF FLOOR SLAB.
- (N-10) CONNECT 220 VOLT XRAY MACHINE TO 208V CIRCUIT UTILIZING BUCK & BOOST TRANSFORMER. TRANSFORMER TO BE SUPPLIED BY DENTAL EQUIPMENT CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. PROVIDE PRIMARY AND SECONDARY WIRING.

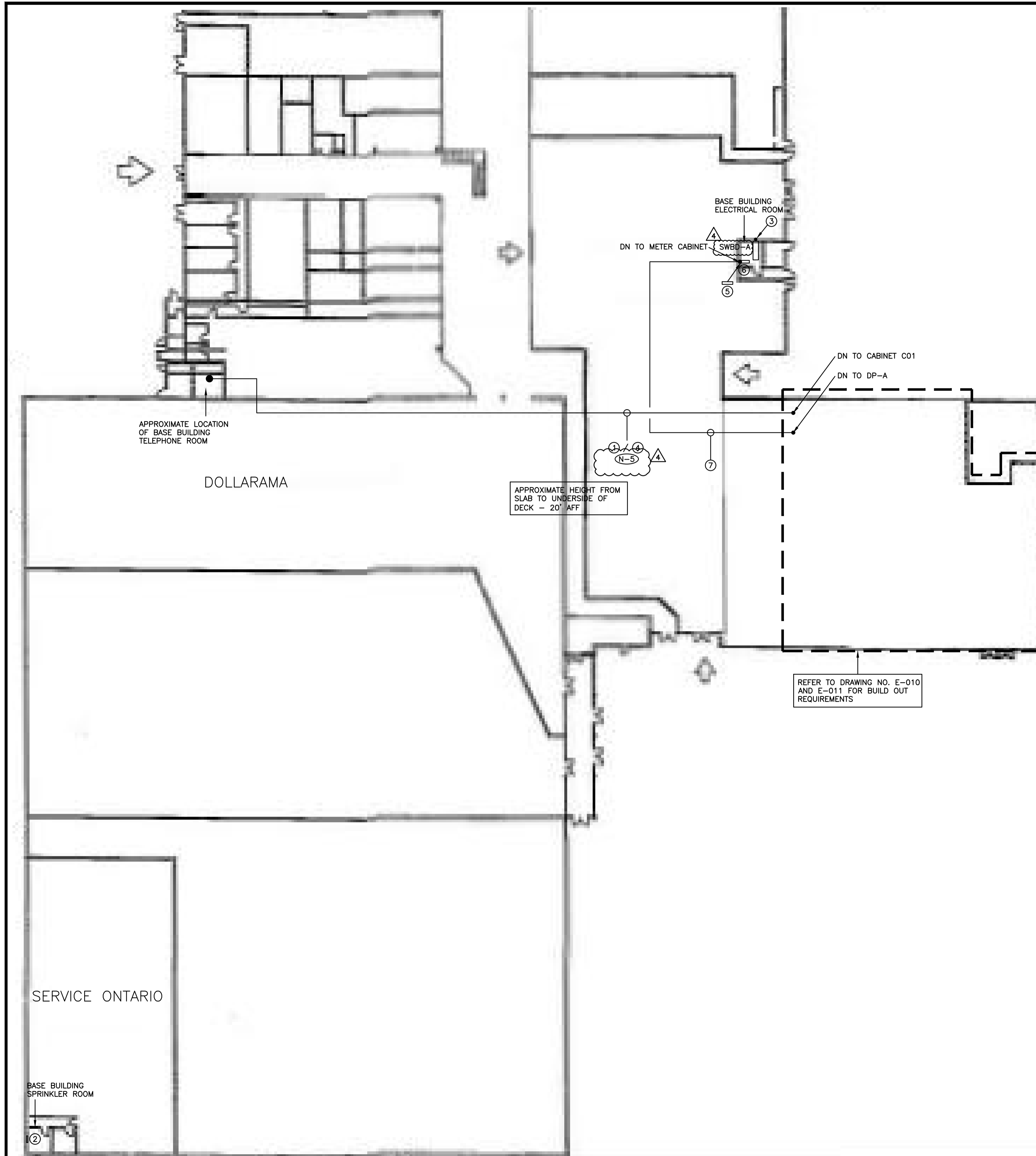
1 APPROXIMATE LOCATION TO TRANSITION SERVICES FROM FLOOR SLAB TO CEILING SPACE.

- ALL WIRING, DEVICES AND EQUIPMENT WITHIN OPERATORY ROOMS MUST COMPLY WITH ONTARIO ELECTRICAL SAFETY CODE SECTION 24.
- OPERATORY ROOMS ARE PATIENT CARE AREAS. LEVEL OF CARE IS BASIC.
- PLUG LOAD CONTROL NOT SPECIFIED FOR OPERATORY EQUIPMENT / AV EQUIPMENT / TV'S AS THIS CAN DAMAGE EQUIPMENT.
- PROVIDE A DEDICATED GREEN INSULATED COPPER GROUND WIRE FOR EACH RECEPTACLE, DEVICE, LIGHT SWITCH, ETC., IN PATIENT CARE AREAS, OPERATORIES, ETC..

--- DENOTES SERVICES PROVIDED AS PART OF THIS SCOPE OF WORK ROUTED THROUGH EXISTING FLOOR SLAB. REFER TO DETAIL NO. 2 ON DRAWING NO. E-007 FOR ADDITIONAL REQUIREMENTS.

4 OPERATORY ELECTRICAL PLAN
SCALE: 1:50



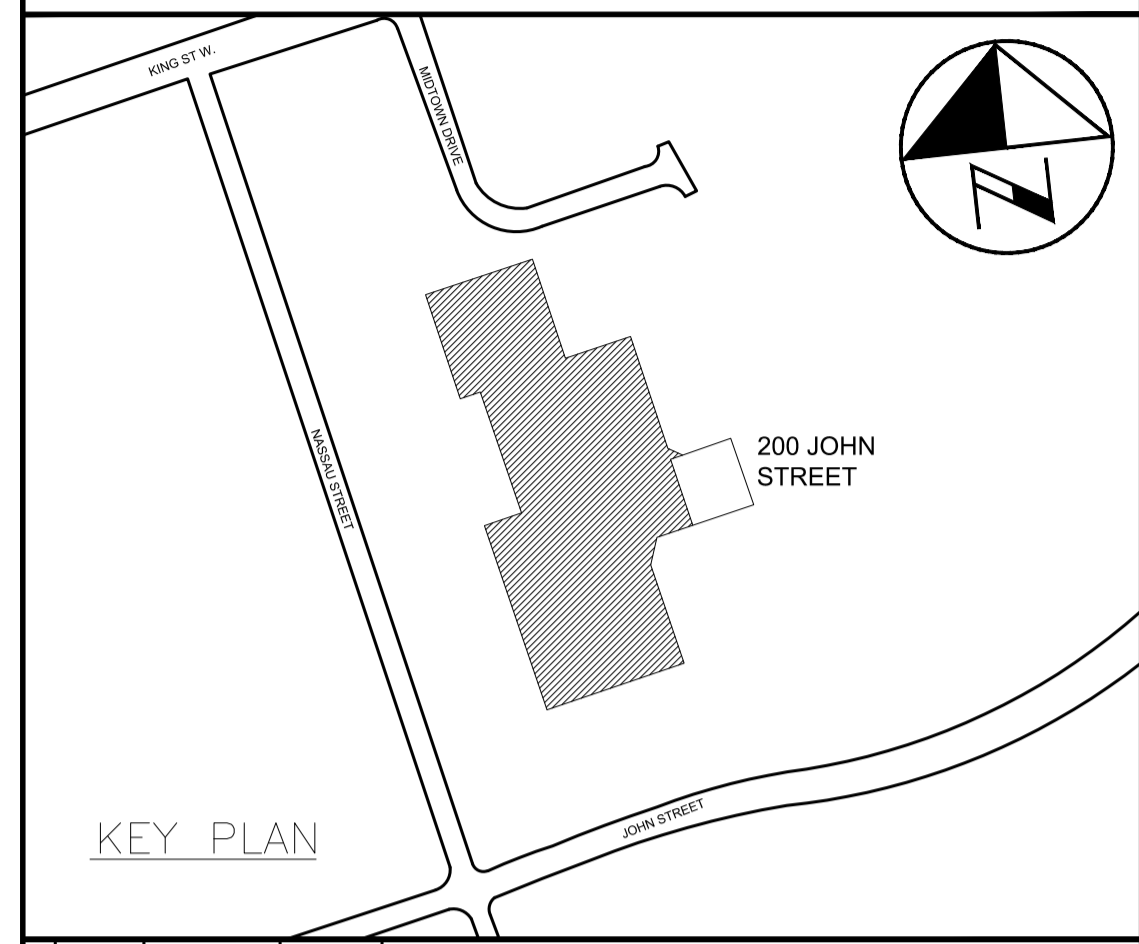


- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH ARCHITECT.
- (N-2) ROUTING OF ALL SERVICES SHOWN IS APPROXIMATE. ELECTRICAL CONTRACTOR TO DETERMINE EXACT ROUTING AND DIMENSIONS ON SITE. OBTAIN PROPERTY MANAGEMENT APPROVAL AND STRUCTURAL ENGINEER'S APPROVAL PRIOR TO INSTALLATION OF PROPOSED ROUTING.
- (N-3) ROUTE ALL CONDUIT SYSTEMS AROUND BEAMS, DUCT WORK AND PIPING AS REQUIRED TO ACCOMMODATE INSTALLATION. REFER TO MECHANICAL DRAWINGS AND DESIGNER DRAWINGS FOR ADDITIONAL DETAILS.
- (N-4) POWER (FEEDER AND BRANCH CIRCUIT) CONDUITS AND SYSTEMS CONDUITS SHALL BE SUSPENDED FROM ROOF STRUCTURE. SUPPORT AT A MAXIMUM OF 5' INTERVALS. CONDUIT SUPPORT INFRASTRUCTURE SHALL BE SUBMITTED BY ELECTRICAL CONTRACTOR FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER. AS A MINIMUM PROVIDE 1-5/8" X 3-1/4", 12 GAUGE BACK TO BACK SOLID UNISTRUT CHANNEL. CHANNEL MUST SPAN BETWEEN TWO (2) OWSJ. WHEN JOISTS ARE CROSSED, HANG DIRECTLY FROM EACH JOIST AT TWO POINTS. UTILIZE 5/8" THREADED ROD AND 5/8" DIAMETER HUS-H HILTI SCREW ANCHORS. SPAN ACROSS BEAMS AS REQUIRED.
- (N-5) PROVIDE PULLBOXES FOR CONDUITS INDICATED NO MORE THAN EVERY 100' OR EVERY TWO (2) 90 DEGREE BENDS.

- 1 APPROXIMATE ROUTING OF 1 1/4" CONDUIT FOR TELCO'S USE
- 2 EXISTING FIRE ALARM SYSTEM CONTROL PANEL
- 3 EXISTING SERVICE GROUND CONNECTION POINT
- 4 APPROXIMATE ROUTING OF 1 1/4" CONDUIT FOR FOR COMMUNICATIONS CONTRACTOR'S USE
- 5 EXISTING METER CABINET C/W METER BASE AND METER TO BE REMOVED AS PART OF THIS SCOPE OF WORK
- 6 METER CABINET PROVIDED AS PART OF THIS SCOPE OF WORK. REFER TO DRAWING NO. E-015 FOR ADDITIONAL REQUIREMENTS
- 7 APPROXIMATE ROUTING OF FEEDER (CONDUIT AND WIRES) PROVIDED AS PART OF THIS SCOPE OF WORK.

THE BUILDING FOOTPRINT IS APPROXIMATELY 20% LARGER THAN INDICATED ON THE DRAWING. ELECTRICAL CONTRACTOR SHALL INCLUDE FOR ADDITIONAL LABOUR AND MATERIALS REQUIRED TO COMPLETE ALL SCOPES OF WORK.

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1W 1K2
 Tel: (905) 696-5252
 Fax: (905) 696-5256
 e-mail: bba@bbwarcheng.com

BBA

LICENSED PROFESSIONAL ENGINEER
 H.D. COHEN
 P0414335
 FEB09/2021
 PROVINCE OF ONTARIO

SUB-CONSULTANT

HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
 X. P. CHEN
 100219555
 FEB09/2021
 PROVINCE OF ONTARIO

HCC Project No.: 20104

DESIGN BY: PC	SCALE: 1:250
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS
4	MAY02/2021	HCC	ISSUED FOR ADDENDUM #E-01
3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW

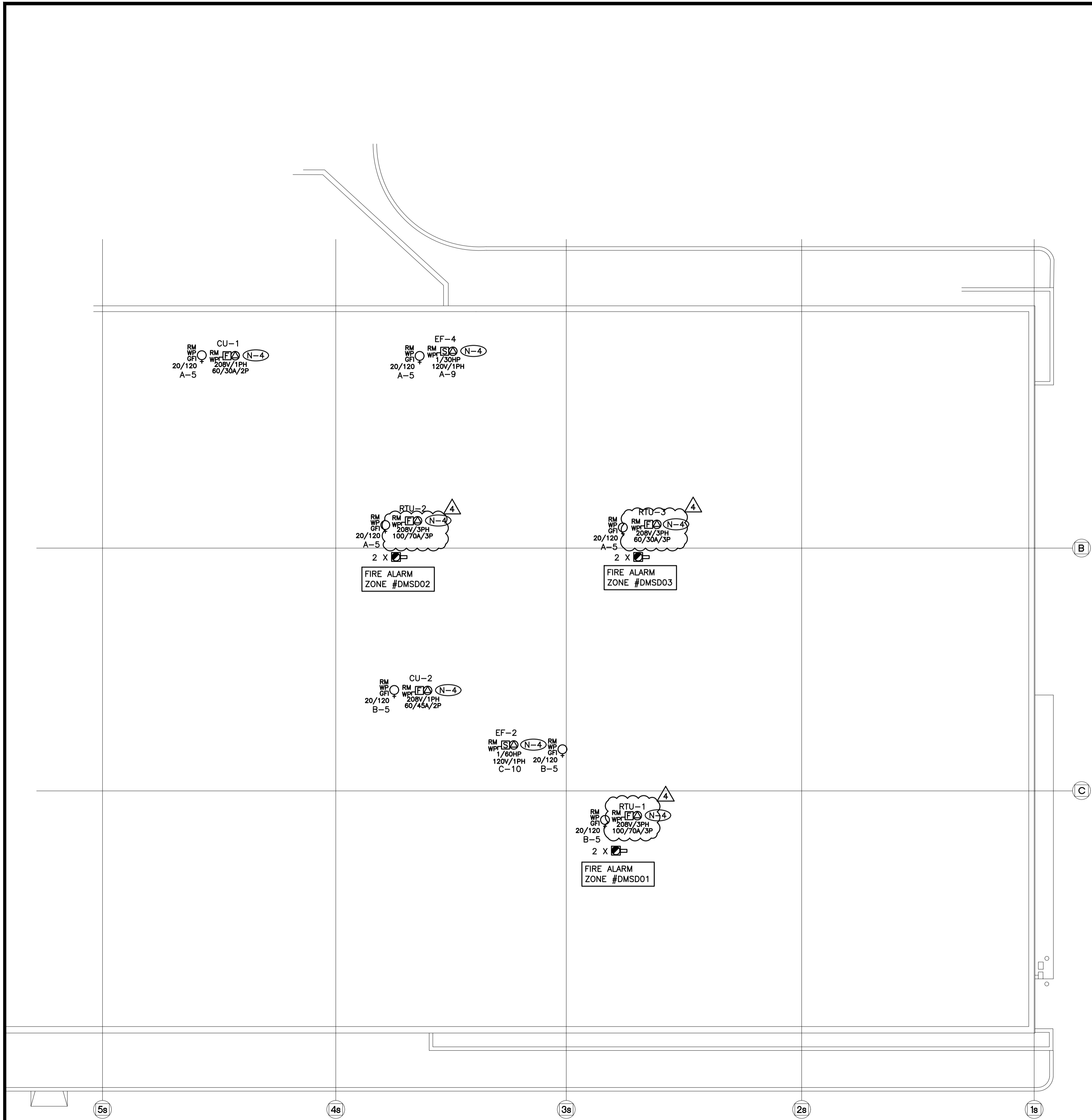
DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

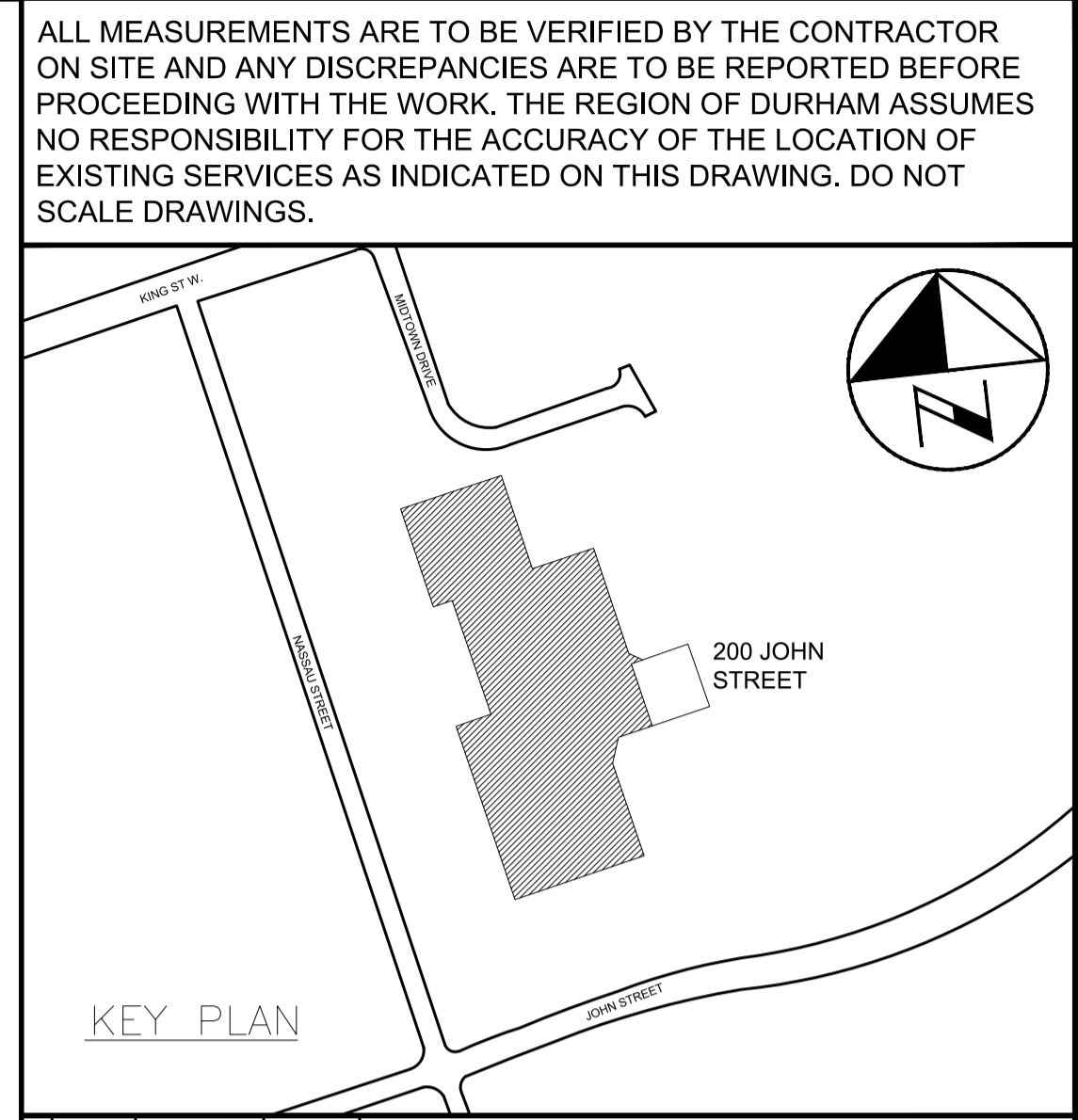
RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL FACILITY PLAN


PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-008	SHEET NO. 041





- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH ARCHITECT.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS. UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) CIRCUIT NUMBERS MAY NOT BE CHANGED WITHOUT PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER.
- (N-4) CONFIRM BREAKER AND RECEPTACLE REQUIREMENTS PRIOR TO ORDERING DISTRIBUTION.
- (N-5) CONFIRM BREAKER/FUSE AND RECEPTACLE/DISCONNECT REQUIREMENTS PRIOR TO INSTALLATION.
- (N-6) COORDINATE WIRING REQUIREMENTS FOR MECHANICAL EQUIPMENT ON SITE WITH MECHANICAL CONTRACTOR.
- (N-7) CONFIRM ELECTRICAL REQUIREMENTS AND EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION OF ELECTRICAL SERVICES.
- (N-8) ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT ARE TO BE IN LIQUID TIGHT FLEXIBLE CONDUIT.
- (N-9) ROUTE ALL CONDUIT SYSTEMS AROUND BEAMS, DUCT WORK AND PIPING AS REQUIRED TO ACCOMMODATE INSTALLATION. REFER TO MECHANICAL DRAWINGS AND DESIGNER DRAWINGS FOR ADDITIONAL DETAILS.
- (N-10) NOT USED.
- (N-11) PROVIDE REQUIRED PENETRATIONS THROUGH BUILDING ENVELOPE. COORDINATE WORK AND WEATHERPROOF SEALING REQUIREMENTS WITH LANDLORD.
- (N-12) MINIMUM WIRE SIZE #10AWG FOR ALL 120 VOLT CIRCUITS EXCEEDING 90 FEET IN LENGTH.
- (N-13) MINIMUM WIRE SIZE #8AWG FOR ALL 120 VOLT CIRCUITS EXCEEDING 200 FEET IN LENGTH.
- (N-14) USE PVC COATED GALVANIZED RIGID STEEL CONDUIT IN ALL OUTDOOR LOCATIONS AND IN AREAS THAT ARE NOT ENVIRONMENTALLY CONTROLLED.
- (N-15) PROVIDE REQUIRED PENETRATIONS THROUGH BUILDING ENVELOPE. COORDINATE WORK AND WEATHERPROOF SEALING REQUIREMENTS WITH LANDLORD.




NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 1K5
 Tel: (905) 666-5252
 Fax: (905) 666-5256
 e-mail: bba@bbaweb.org




SUB-CONSULTANT

HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2423



HCC Project No.: 20104

DESIGN BY: PC	SCALE: 1:100
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS
4	APR15/2021	HCC	ISSUED FOR ADDENDUM #E-01
3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW


THE REGIONAL MUNICIPALITY OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC
 TO 200 JOHN ST., OSHAWA

ELECTRICAL ROOF PLAN

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-009	SHEET NO. 042

ALL WIRING, DEVICES AND EQUIPMENT WITHIN OPERATORY ROOMS, STERILIZATION ROOM AND DENTURIST LAB MUST COMPLY WITH ONTARIO ELECTRICAL SAFETY CODE SECTION 24.

OPERATORY ROOMS AND LABS ARE PATIENT CARE AREAS. LEVEL OF CARE IS BASIC.

PLUG LOAD CONTROL NOT SPECIFIED FOR OPERATORY EQUIPMENT / AV EQUIPMENT / TV'S AS THIS CAN DAMAGE EQUIPMENT.

PROVIDE A DEDICATED GREEN INSULATED COPPER GROUND WIRE FOR EACH RECEPTACLE, DEVICE, LIGHT SWITCH, ETC., IN PATIENT CARE AREAS, OPERATORIES, ETC..

- (N-1) EXACT LOCATION OF ALL DEVICES AND RESPECTIVE HEIGHTS TO BE COORDINATED ON SITE WITH ARCHITECT.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS. UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) CIRCUIT NUMBERS MAY NOT BE CHANGED WITHOUT PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER.
- (N-4) CONFIRM BREAKER AND RECEPTACLE REQUIREMENTS PRIOR TO ORDERING DISTRIBUTION.
- (N-5) MANUAL STARTER SWITCH/THERMOSTAT SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. PROVIDE CONDUIT AND WIRE.
- (N-6) COORDINATE WIRING REQUIREMENTS FOR MECHANICAL EQUIPMENT ON SITE WITH MECHANICAL CONTRACTOR.
- (N-7) CONFIRM ELECTRICAL REQUIREMENTS AND EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION OF ELECTRICAL SERVICES.
- (N-8) ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT ARE TO BE IN LIQUID TIGHT FLEXIBLE CONDUIT.
- (N-9) ROUTE ALL CONDUIT SYSTEMS AROUND BEAMS, DUCT WORK AND PIPING AS REQUIRED TO ACCOMMODATE INSTALLATION. REFER TO MECHANICAL DRAWINGS AND DESIGNER DRAWINGS FOR ADDITIONAL DETAILS.
- (N-10) NOT USED.
- (N-11) ELECTRICAL CONTRACTOR SHALL NOT USE PULLBOXES AS SUBSTITUTES FOR 90° BENDS.
- (N-12) ALL COMMUNICATIONS SYSTEM ZONE CONDUITS PROVIDED BY ELECTRICAL CONTRACTOR SHALL BE C/W PULL STRING. ALL CONDUITS SHALL BE C/W BUSHINGS AND RUBBERIZED GROMMETS. ALL CONDUITS TO BE EMT. EMT COUPLING AND CONNECTORS SHALL BE T&B STEEL SET SCREW TYPE.
- (N-13) COORDINATE CONDUIT TERMINATION WITH LIGHTING INSTALLATION AND MECHANICAL INTERFERENCES TO ENSURE ACCESS FOR COMMUNICATIONS CONTRACTOR.
- (N-14) AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE (SUPPLY AND INSTALL) AN ADDITIONAL SIX (6) CSA 5-20R DUPLEX RECEPTACLES OVER AND ABOVE THOSE SHOWN ON DRAWING NO. E-010 ON AN AD HOC BASIS UP TO SUBSTANTIAL COMPLETION. EACH ADDITIONAL RECEPTACLE SHALL BE ON A DEDICATED CIRCUIT COMPLETE WITH BRANCH WIRING (CONDUIT AND WIRE) AND BREAKER. BREAKER REQUIREMENTS NOT INDICATED ON PANEL SCHEDULES.

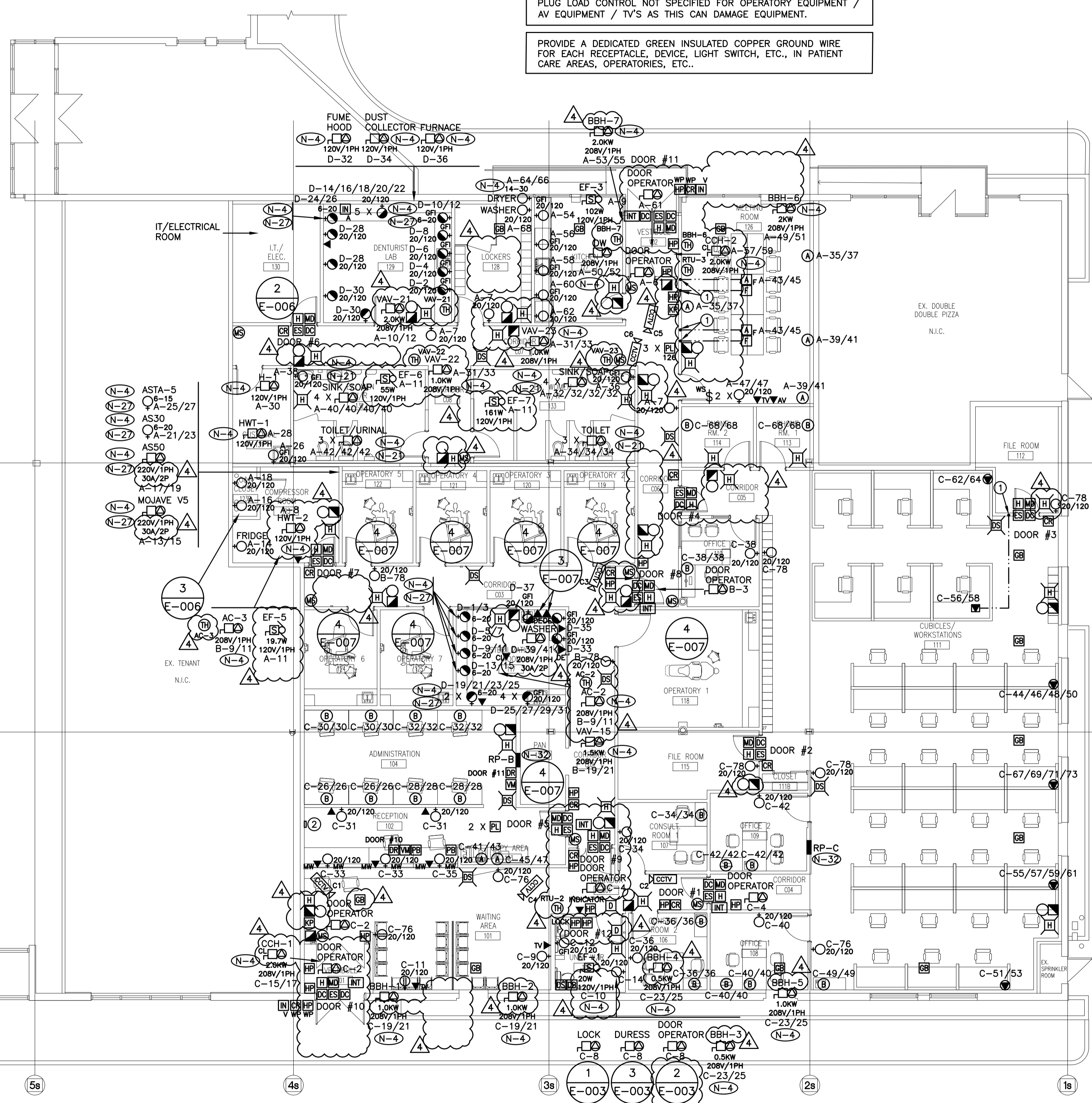
PROVIDE RECEPTACLES, CONDUIT, WIRE (100' OF 2#10AWG + G (TOTAL OF 200' WIRE PLUS G AND 100' 3/4" CONDUIT) PER RECEPTACLE), BREAKERS, TERMINATION AT PANEL BREAKER END AND AT DEVICE END, ETC. FOR FULLY FUNCTIONAL LIVE DEVICES. EXACT INSTALLATION LOCATION AND PANEL SOURCE TO BE DETERMINED ON SITE BY CLIENT DURING CONSTRUCTION. PROVIDE UPDATED TYPED PANEL SCHEDULES FOR ALL PANELS AT THE COMPLETION OF THE PROJECT.

- (N-15) ALL DEVICES, FIXTURES, FIRE ALARM DEVICES, SYSTEMS, ETC. MUST BE WIRED SUCH THAT ACCESS PANELS ARE NOT REQUIRED IN DRYWALL CEILING AREAS.
- (N-16) CONFIRM BREAKER/FUSE AND RECEPTACLE/DISCONNECT REQUIREMENTS PRIOR TO INSTALLATION.
- (N-17) NOT USED.
- (N-18) NOT USED.
- (N-19) PROVIDE REQUIRED PENETRATIONS THROUGH BUILDING ENVELOPE. COORDINATE WORK AND WEATHERPROOF SEALING REQUIREMENTS WITH LANDLORD.
- (N-20) EXTEND ALL COMMUNICATIONS ZONE CONDUITS PROVIDED AS PART OF THIS SCOPE OF WORK AND ALL A/V ZONE CONDUITS PROVIDED AS PART OF THIS SCOPE OF WORK IN EXPOSED CEILING AREAS AND DRYWALL CEILING AREAS TO T-BAR CEILING AREAS WITHIN TENANT SPACE.
- (N-21) PROVIDE 120/24V TRANSFORMER FOR EACH APPLIANCE SENSOR (SENSOR PROVIDED BY DIVISION 15).
- (N-22) MINIMUM WIRE SIZE #10AWG FOR ALL 120 VOLT CIRCUITS EXCEEDING 90 FEET IN LENGTH.
- (N-23) MINIMUM WIRE SIZE #8AWG FOR ALL 120 VOLT CIRCUITS EXCEEDING 200 FEET IN LENGTH.
- (N-24) ELECTRICAL CONTRACTOR TO ENSURE THAT DEVICES ARE NOT INSTALLED ON WALLS WITH WHITE BOARDS OR ON FEATURE WALLS. CONFIRM ALL WHITE BOARD AND FEATURE WALL LOCATIONS PRIOR TO INSTALLATION.
- (N-25) PROVIDE TEN (10) DUPLEX RECEPTACLES IN CEILING SPACE ON AN AD HOC BASIS FOR CONTROL CONTRACTOR'S USE. UTILIZE CTS #RP-A-76/78/80/82/84 AND RP-B-33/35/37/39/41. COORDINATE LOCATION OF RECEPTACLES ON SITE WITH CONTROLS CONTRACTOR. BID PRICE SHALL INCLUDE FOR 100' OF 2#10AWG + G (TOTAL OF 200' WIRE PLUS G) AND 100' 3/4" CONDUIT PER CONTROL CIRCUIT.
- (N-26) NOT USED.
- (N-27) CONNECT 220 VOLT DEVICES TO 120/208V CIRCUITS UTILIZING BUCK & BOOST TRANSFORMERS. TRANSFORMERS TO BE SUPPLIED BY DENTAL EQUIPMENT CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. PROVIDE ALL PRIMARY AND SECONDARY WIRING. REFER TO DRAWING NO. E-007 FOR ADDITIONAL REQUIREMENTS.
- (N-28) PROVIDE LOCKONS FOR BREAKERS PROTECTING EMERGENCY LIGHTING CIRCUITS AND FIRE ALARM SYSTEM CIRCUITS.
- (N-29) SAW CUTTING OF FLOOR SLAB PROVIDED BY ELECTRICAL CONTRACTOR. EXACT ROUTING TO BE DETERMINED BY SCANNING/X-RAY RESULTS. SUBMIT LAYOUT C/W CONDUIT SIZES TO ELECTRICAL CONSULTANT FOR APPROVAL PRIOR TO CUTTING OF FLOOR SLAB.
- (N-30) ENSURE A MINIMUM DISTANCE OF SEPARATION OF 5' BETWEEN POWER FEEDERS AND COMMUNICATIONS CONDUIT SYSTEMS.
- (N-31) NOT USED.
- (N-32) PROVIDE THREE (3) SPARE 1 1/4" C TO CEILING SPACE C/W PULLSTRING FOR FUTURE BRANCH WIRING.

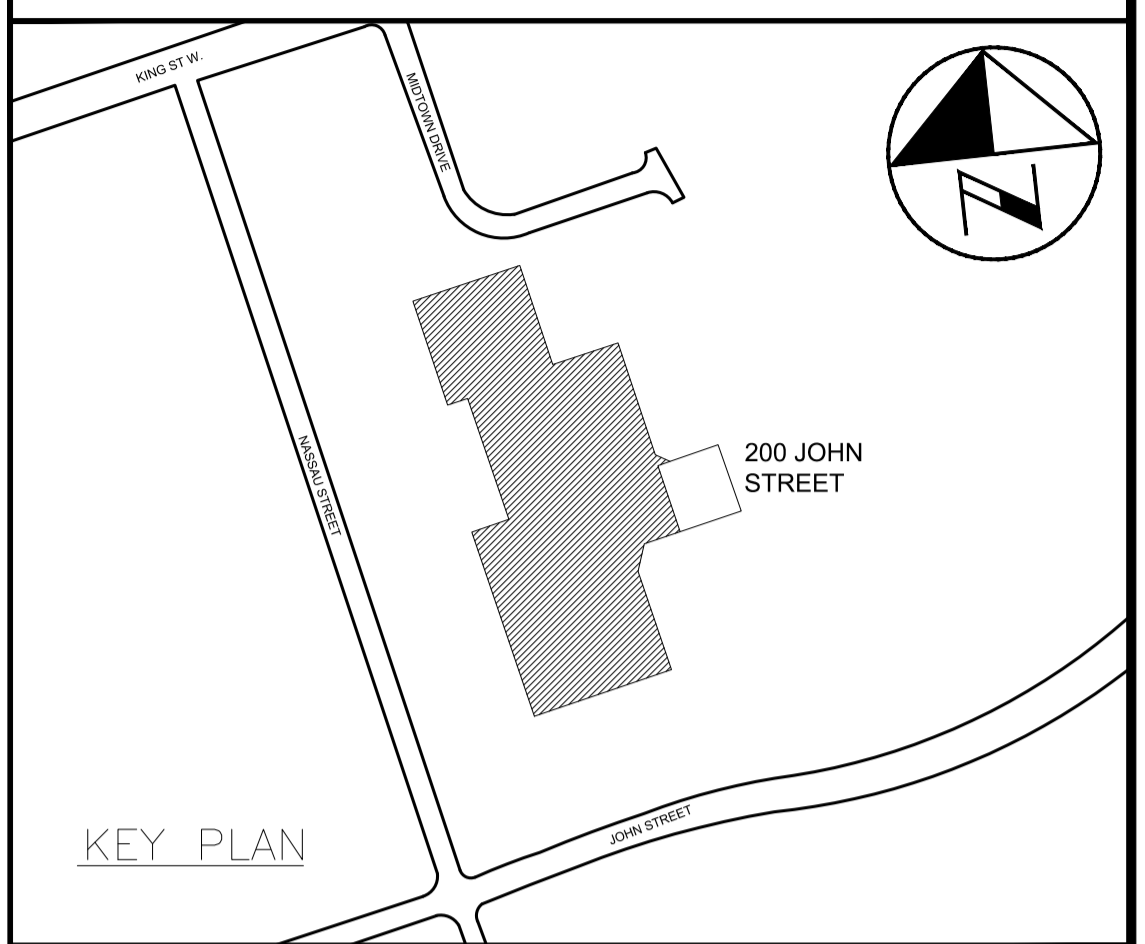
- ① APPROXIMATE LOCATION TO TRANSITION SERVICES FROM FLOOR SLAB TO CEILING SPACE.
- ② AUTOMATED EXTERNAL DEFIBRILLATOR (AED) SUPPLIED BY THE CLIENT AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

FIRE ALARM SYSTEM AUDIBILITY TESTING TO BE COMPLETED WITH ALL DOORS OPEN

--- DENOTES SERVICES PROVIDED AS PART OF THIS SCOPE OF WORK ROUTED THROUGH EXISTING FLOOR SLAB. REFER TO DETAIL NO. 3 ON DRAWING NO. E-004 FOR ADDITIONAL REQUIREMENTS.



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NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1N 1G5
Tel: (905) 666-5252
Fax: (905) 666-6256
email: bba@bryanassoc.com

BBA

LICENSED PROFESSIONAL ENGINEER
H.D. COHEN
00414335
FEB09/2021
PROVINCE OF ONTARIO

SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
10 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
X.P. CHEN
100219955
FEB09/2021
PROVINCE OF ONTARIO

HCC Project No.: 20104

DESIGN BY: PC	SCALE: 1:100
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

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3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW

DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL PLAN

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-010	SHEET NO. 043

4 OCCUPANCY SENSORS FOR AUTOMATIC SHUT OFF OF LIGHTING WITHIN OPERATORY ROOMS HAVE NOT BEEN SPECIFIED AS LIGHTING DURING ROOM USE CANNOT BE INTERRUPTED FOR SAFETY REASONS.

ALL WIRING, DEVICES AND EQUIPMENT WITHIN OPERATORY ROOMS, STERILIZATION ROOM AND DENTURIST LAB MUST COMPLY WITH ONTARIO ELECTRICAL SAFETY CODE SECTION 24

- (N-1) REFER TO ARCHITECTS DRAWINGS FOR EXACT LOCATION AND HEIGHTS FOR MOUNTING OF FIXTURES, OCCUPANCY SENSORS, PHOTOCELL SENSORS, LIGHT SWITCHES, FIRE ALARM DEVICES, ETC.
- (N-2) PROVIDE NEW LIGHTING FIXTURES, EXIT SIGNS, SWITCHES, OCCUPANCY SENSORS, PHOTOCELL SENSORS, FIRE ALARM DEVICES, ETC. TO SUIT NEW REFLECTED CEILING PLAN.
- (N-3) COORDINATE INSTALLATION OF FIXTURES WITH MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT, SPRINKLERS AND DUCT WORK.
- (N-4) CHAIN HANG ALL FIXTURES PROVIDED AS PART OF THIS SCOPE OF WORK IN FINISHED CEILING AREAS ABOVE FROM SLAB (RETROFIT FIXTURES ACCORDINGLY).
- (N-5) ELECTRICAL CONTRACTOR TO ENSURE THAT DEVICES ARE NOT INSTALLED ON WALLS WITH WHITE BOARDS, MONITORS OR ON FEATURE WALLS. CONFIRM WHITE BOARD, MONITOR AND FEATURE WALL LOCATIONS PRIOR TO INSTALLATION.
- (N-6) PROVIDE LOCK ON FOR BREAKERS PROTECTING EMERGENCY LIGHTING SYSTEMS / CIRCUITS.
- (N-7) MOUNTING STYLE (CEILING/WALL), HEIGHT AND LOCATION OF EXIT SIGNS TO BE DETERMINED BY ARCHITECT ON SITE. COORDINATE AND REVIEW ALL EXIT SIGN LOCATIONS WITH DESIGNER PRIOR TO ORDERING EXIT SIGNS.
- (N-8) LOCATE AND POSITION EXIT SIGNS SUCH THAT THEY DO NOT INTERFERE WITH ADJACENT EXIT SIGNS AND EMERGENCY LIGHTING COVERAGE.
- (N-9) AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE (SUPPLY AND INSTALL) AN ADDITIONAL FOUR (4) TYPE E1 EXIT SIGNS EACH COMPLETE WITH 75'-0" OF CONDUIT AND WIRING OVER AND ABOVE THOSE SHOWN ON DRAWING NO. E-011 POST CITY FIRE / BUILDING DEPARTMENT INSPECTIONS.
- (N-10) ALL DEVICES, FIXTURES, FIRE ALARM DEVICES, SYSTEMS, ETC. MUST BE WIRED SUCH THAT ACCESS PANELS ARE NOT REQUIRED IN DRYWALL CEILING AREAS.
- (N-11) NOT USED.
- (N-12) ALL EXIT SIGNS TYPE 'E1' UNLESS INDICATED OTHERWISE.
- (N-13) ALL SWITCHES PROVIDED AS PART OF THIS SCOPE OF WORK TO BE ALIGNED WITH THERMOSTATS.
- (N-14) AS-BUILT DRAWINGS MUST DETAIL THE ZONING AND CIRCUIT NUMBERS OF ALL FIXTURES THROUGHOUT ENTIRE FLOOR.
- (N-15) SWITCH/DIMMING LEGS SHALL BE WIRED SUCH THAT LEG IS CONTROLLED BY OCCUPANCY SENSORS IN RESPECTIVE SPACE ENCLOSED BY CEILING HEIGHT PARTITIONS. OPERATION OF SAME LIGHT BRANCH CIRCUIT IN ADJACENT AREAS/ROOMS SHALL NOT AFFECT OPERATION OF LIGHTING IN RESPECTIVE AREA.
- (N-16) PROVIDE A LOCAL 120V DISCONNECT FOR EACH BALLAST/DRIVER IN EACH FIXTURE PROVIDED AS PART OF THIS SCOPE OF WORK.
- (N-17) UTILIZE COT #RP-B-18 AND RP-C-18 (DC SOURCES M1 AND M2 RESPECTIVELY) TO POWER EXIT SIGN AC BULBS AND NON-SWITCHED NIGHT LIGHTING.
- (N-18) NOT USED.
- (N-19) CEILING MOUNTED OCCUPANCY SENSORS PROVIDED AS PART OF THIS SCOPE OF WORK MUST BE INSTALLED AT LEAST 6' AWAY FROM ALL SUPPLY AIR DIFFUSERS AND RETURN AIR GRILLS. COORDINATE EXACT INSTALLATION LOCATION WITH LIGHTING CONTROL SERVICE CONSULTANT AND MECHANICAL CONTRACTOR PRIOR TO COMMENCING WORK.
- (N-20) CEILING MOUNTED OCCUPANCY SENSORS IN ROOMS WITH DLM CONTROL TO BE PROGRAMMED SUCH THAT THE FUNCTION OF AUTO-ON IS DISABLED. ALL LIGHT FIXTURES WITHIN RESPECTIVE ENCLOSED SPACES SHALL BE TURNED ON MANUALLY THROUGH LOW VOLTAGE OVERRIDE SWITCHES PROVIDED AS PART OF THIS SCOPE OF WORK UNLESS INDICATED OTHERWISE.
- (N-21) AS PART OF THIS SCOPE OF WORK ELECTRICAL CONTRACTOR TO HAVE LIGHTING CONTROL SYSTEM SERVICE CONSULTANT ONSITE AFTER LIGHTING AND HVAC INSTALLATION IS COMPLETE AND PRIOR TO INSTALLATION OF SENSORS PROVIDED AS PART OF THIS SCOPE OF WORK TO CONFIRM PLACEMENT OF SENSORS.
- (N-22) EACH AND EVERY SPACE ENCLOSED BY CEILING HEIGHT PARTITIONS (IE. OFFICES, MEETING ROOMS, ENCLAVES, ETC.) WITH DLM CONTROL TO BE WIRED WITH TWO CONTROLLABLE SWITCH-LEGS SUCH THAT THERE IS ONE CONTROL STEP OF NOT MORE THAN 50% LIGHTING POWER IN ADDITION TO AN AUTO OFF IN THE RESPECTIVE SPACE. REFER TO ASHRAE 90.1 2013 FOR ADDITIONAL REQUIREMENTS.
- (N-23) AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE (SUPPLY AND INSTALL) AN ADDITIONAL FOUR (4) DIGITAL DIMMING ROOM CONTROLLERS OVER AND ABOVE THOSE SHOWN ON DRAWING NO. E-011 ON AN AD HOC BASIS UP TO SUBSTANTIAL COMPLETION.
- (N-24) PROVIDE WATTSTOPPER LMRC-212 OR APPROVED EQUAL C/W 25' DLM CAT6 NETWORK CABLE, CONDUIT, WIRE (50' OF 2#12AWG + G (TOTAL OF 100' WIRE PLUS G, 50' CONDUIT) PER ROOM CONTROLLER), TERMINATIONS, ETC. FOR FULLY FUNCTIONAL LIVE DEVICES. EXACT INSTALLATION LOCATION AND SWITCH LEGS TO BE DETERMINED ON SITE DURING CONSTRUCTION.
- (N-25) AS PART OF THE BASE BID PRICE ELECTRICAL CONTRACTOR SHALL PROVIDE (SUPPLY AND INSTALL) AN ADDITIONAL FOUR (4) TYPE 'A' CEILING MOUNTED OCCUPANCY SENSORS EACH COMPLETE WITH 75'-0" OF CONDUIT AND WIRING AND A LMSW-102 DIGITAL LIGHT SWITCH OR APPROVED EQUAL OVER AND ABOVE THOSE SHOWN ON DRAWING NO. E-011 POST SUBSTANTIAL COMPLETION.
- (N-26) AS PART OF THIS SCOPE OF WORK EMPLOY AND PAY FOR THE SERVICES OF A CERTIFIED LIGHTING CONTROL SYSTEM SERVICE CONSULTANT TO COMMISSION ALL CEILING MOUNTED OCCUPANCY SENSORS PROVIDED AS PART OF THIS SCOPE OF WORK. COMMISSIONING AND DOCUMENTATION SHALL BE COMPLETED; DETAILED AS REQUIRED TO DEMONSTRATE LEED COMPLIANCE.
- (N-27) AS PART OF THIS SCOPE OF WORK ELECTRICAL CONTRACTOR TO HAVE LIGHTING CONTROL SYSTEM SERVICE CONSULTANT ONSITE AFTER LIGHTING AND HVAC INSTALLATION IS COMPLETE AND PRIOR TO INSTALLATION OF SENSORS PROVIDED AS PART OF THIS SCOPE OF WORK TO CONFIRM PLACEMENT OF SENSORS.

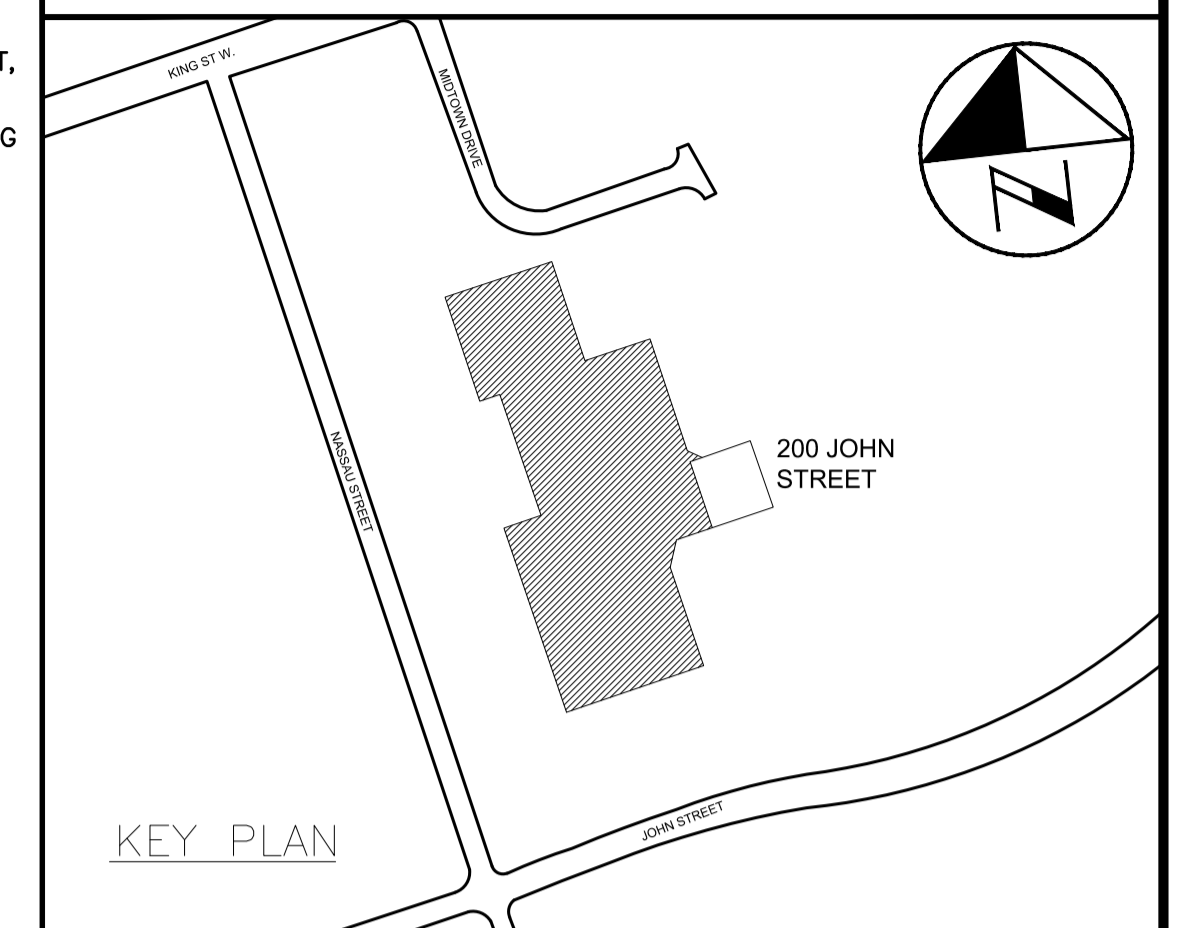
DIMMER SCHEDULE

DIMMER ZONE	DIMMER TYPE
DIM A	DLM
DIM B	DLM
DIM C	DLM

0 TO 10VDC DLM DIMMER - WATTSTOPPER DLM LMDM-101 OR APPROVED EQUAL
 0 TO 10VDC DIMMER - GREENGATE SFTOP-W OR APPROVED EQUAL
 120 VOLT REVERSE PHASE DIMMER - LUTRON DIVA SERIES OR APPROVED EQUAL

REFER TO DETAIL NO. 3 ON DRAWING NO. E-005 FOR FIXTURE SCHEDULE

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NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT
BARRY BRYAN ASSOCIATES
 Architects
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 0G5
 Tel: (905) 666-5252
 Fax: (905) 666-5256
 email: bob@bryaneng.com

BBA

LICENSED PROFESSIONAL ENGINEER
 H.D. COHEN
 00414335
 FEB09/2021
 PROVINCE OF ONTARIO

SUB-CONSULTANT
HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
 X.P. CHEN
 100219955
 FEB09/2021
 PROVINCE OF ONTARIO

HCC Project No.: 20104

DESIGN BY: PC	SCALE: 1:100
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

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4	MAY02/2021	HCC	ISSUED FOR ADDENDUM #E-01
3	FEB09/2021	HCC	ISSUED FOR PERMIT & TENDER
2	OCT30/2020	HCC	ISSUED FOR 90% REVIEW
1	JUNE 1/20	HCC	ISSUED FOR 60% REVIEW

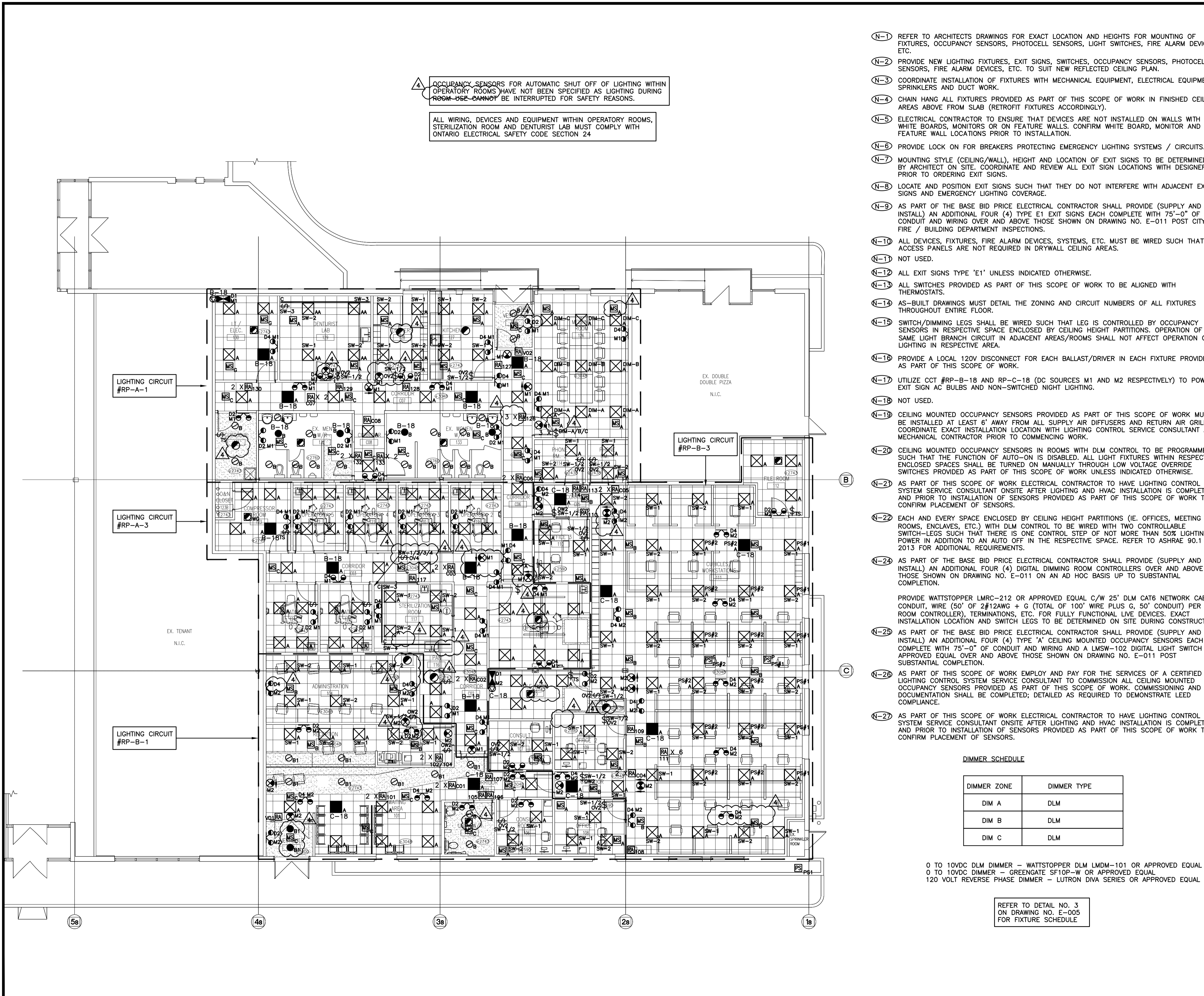
DURHAM REGION

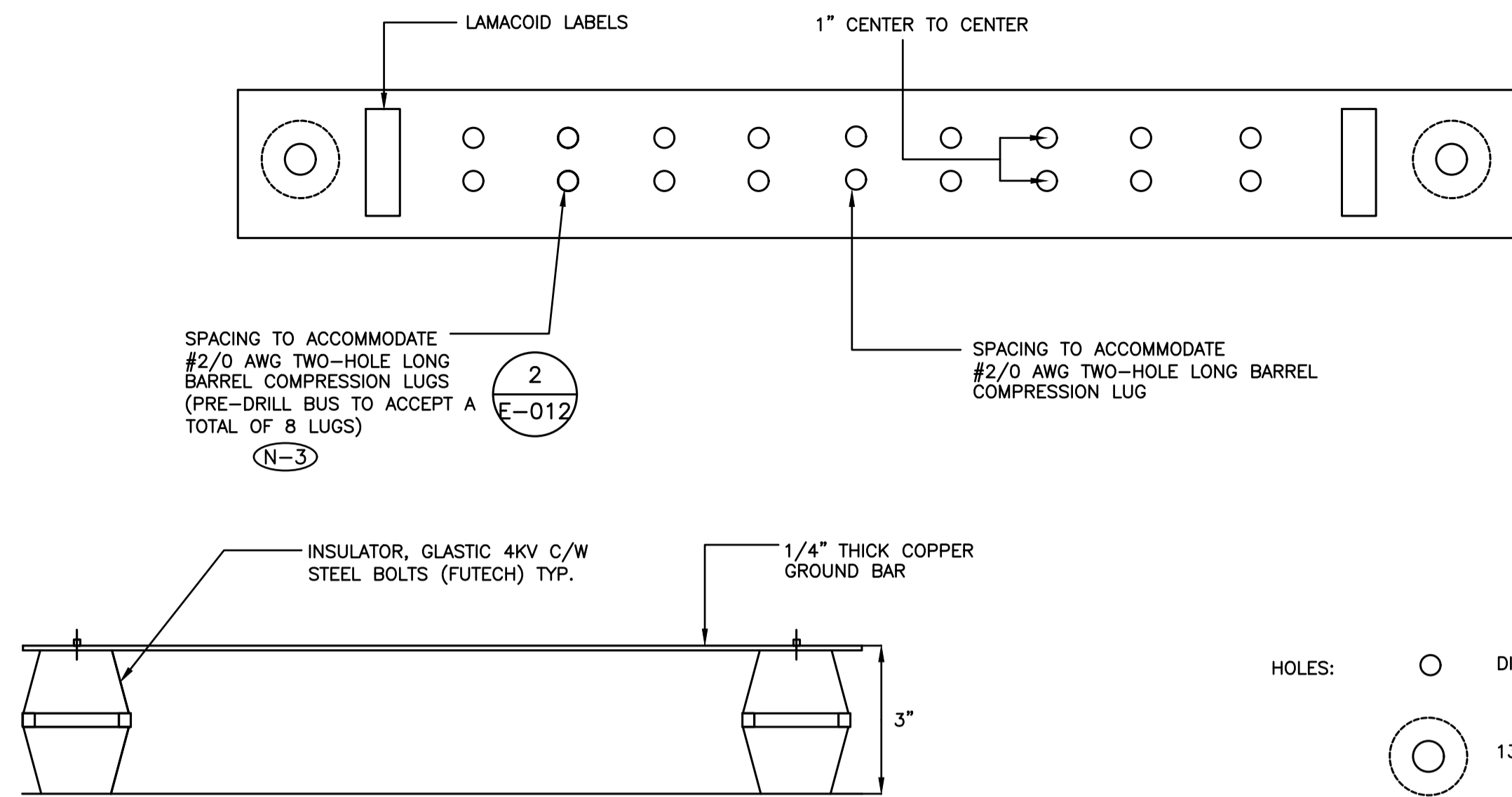
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RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

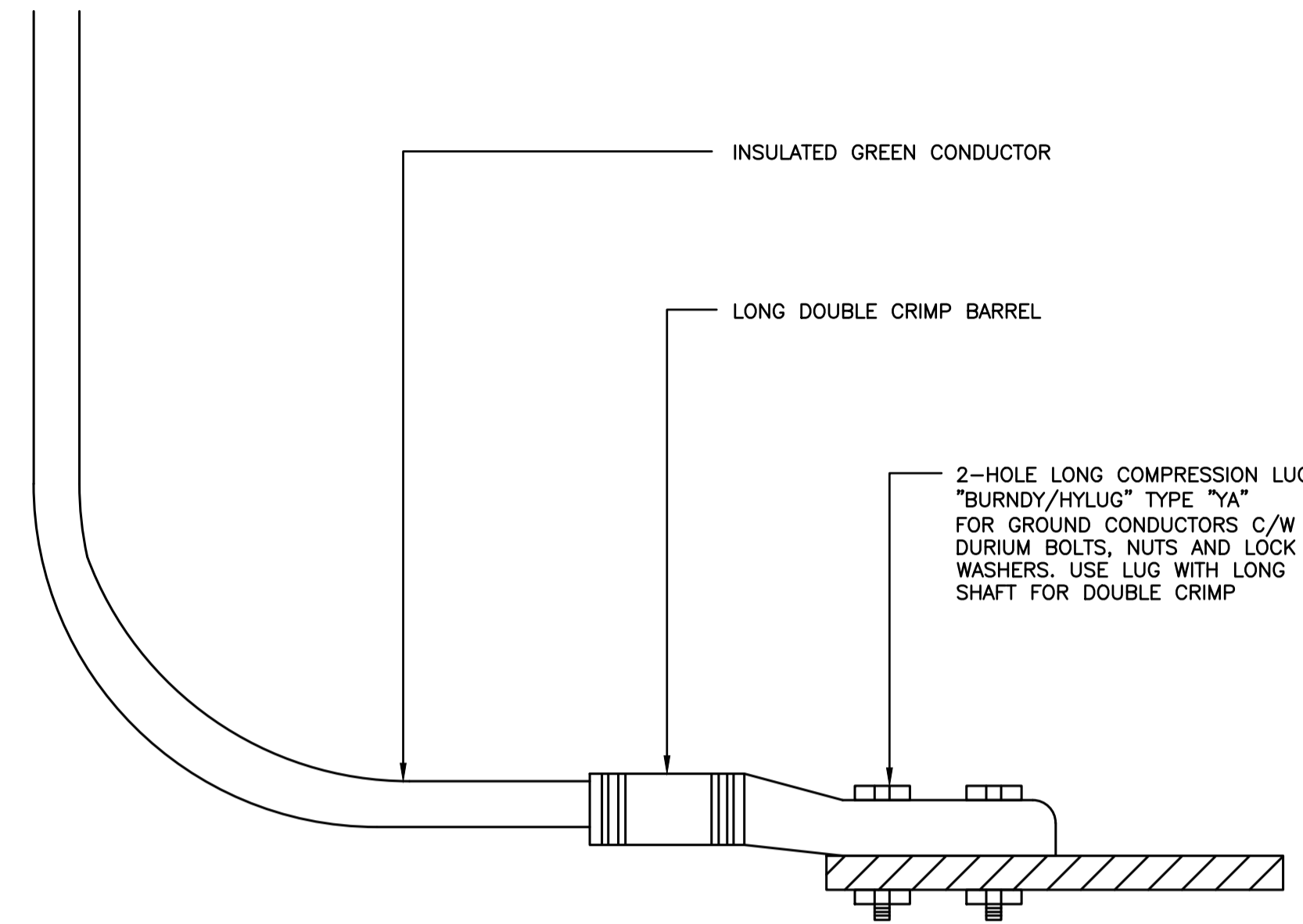
REFLECTED CEILING PLAN

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-011	SHEET NO. 044



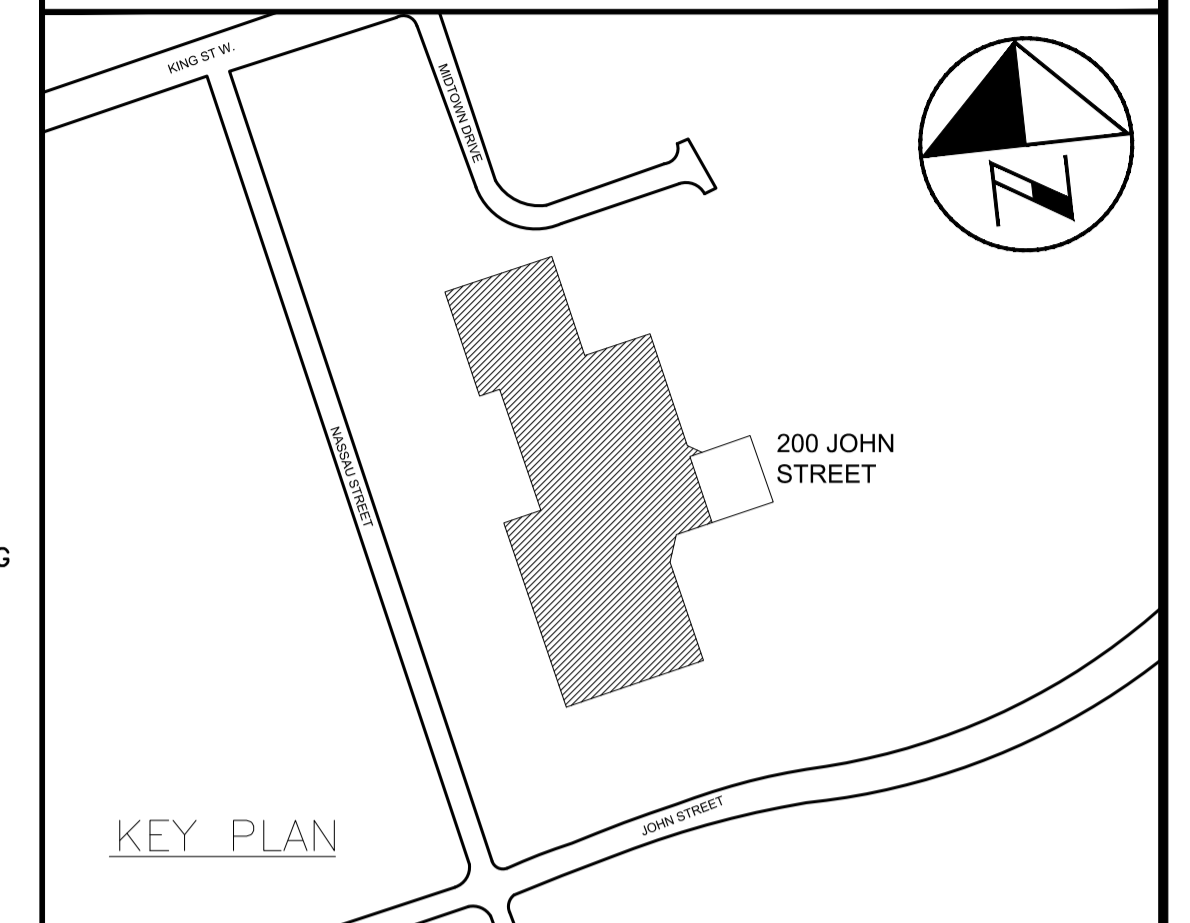


1 TELECOMMUNICATIONS GROUND BUS BAR (TGBB) DETAIL
SCALE: NTS



2 GROUND LUG DETAIL
SCALE: NTS

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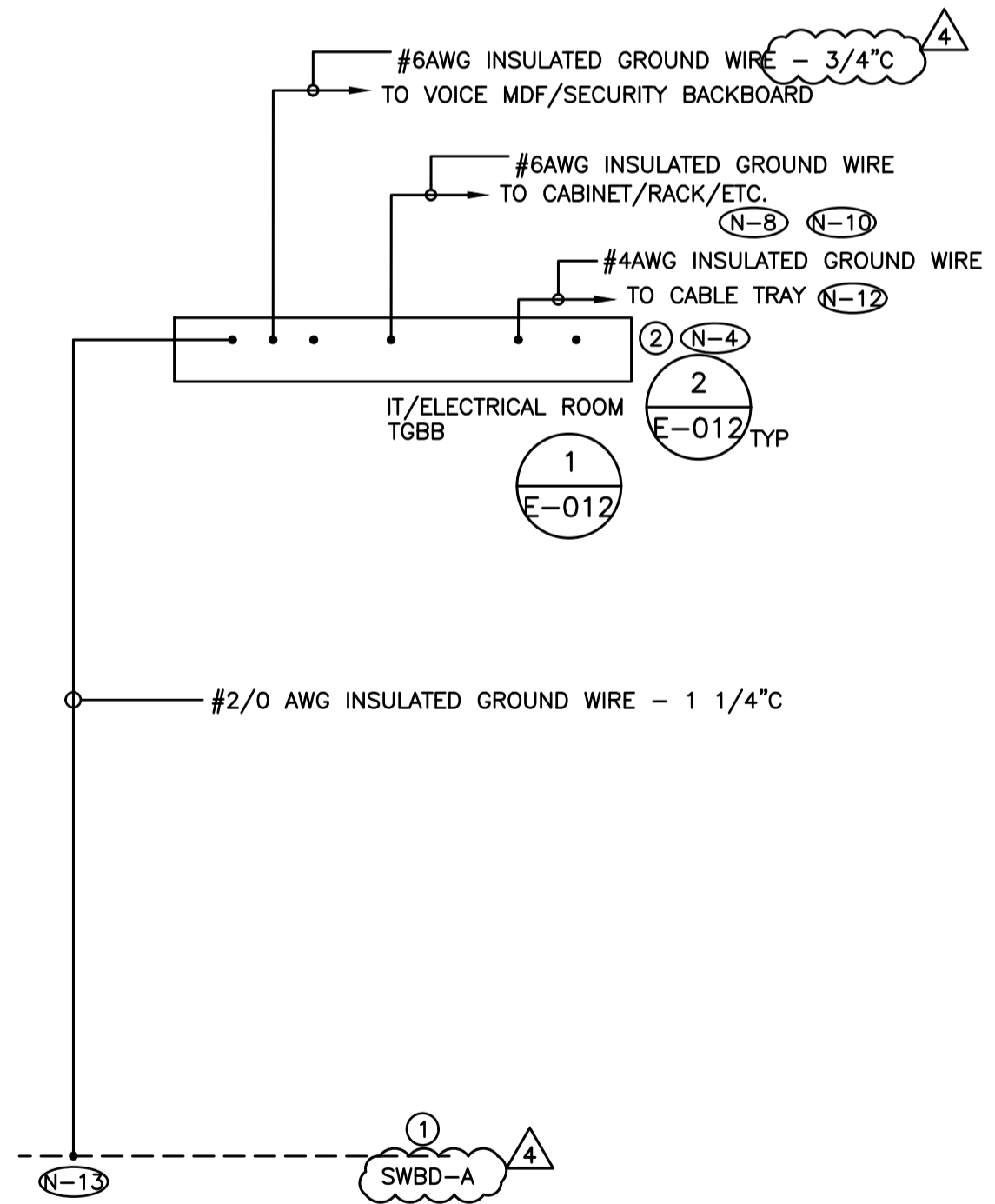


NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1N 1G5
Tel: (905) 666-5232
Fax: (905) 666-5236
email: bba@bryanengr.com

H.D. COHEN
LICENSED PROFESSIONAL ENGINEER
00414335
FEB09/2021
PROVINCE OF ONTARIO



3 GROUNDING SYSTEM RISER DIAGRAM
SCALE: NTS

- (N-1) RISER IS DIAGRAMMATIC ONLY. REFER TO DRAWING NO. E-006 AND E-008 FOR QUANTITY AND LOCATION OF ALL BUS BARS AND GROUNDING CONNECTIONS.
- (N-2) SIZE ALL NEUTRAL SYSTEM GROUNDS IN ACCORDANCE WITH THE ELECTRICAL SAFETY CODE AND AUTHORITY HAVING JURISDICTION.
- (N-3) GROUNDING AND BONDING OF ALL EQUIPMENT NOT SHOWN ON THIS DETAIL SHALL BE COMPLETED IN ACCORDANCE WITH THE ELECTRICAL SAFETY CODE AND AUTHORITY HAVING JURISDICTION.
- (N-4) LABEL EACH AND EVERY GROUNDING CIRCUIT AT GROUND BAR END UTILIZING PANDUIT TELECOMMUNICATIONS GROUNDING AND BONDING CONDUCTOR LABEL KIT LTYK.
- (N-5) ELECTRICAL CONTRACTOR TO REVIEW GROUNDING SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK AND BASE BUILDING CONNECTION POINTS WITH ESA INSPECTOR PRIOR TO CONSTRUCTION.
- (N-6) NOT USED.
- (N-7) NOT USED.
- (N-8) PROVIDE A GROUNDING CIRCUIT TO EACH EQUIPMENT CABINET, RACK, ETC. DO NOT DAISY CHAIN GROUNDING CIRCUITS BETWEEN CABINETS, RACKS, ETC. REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF EQUIPMENT CABINETS, RACKS, ETC.
- (N-9) PROVIDE DEDICATED CORE DRILLED WALL AND FLOOR PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS.
- (N-10) SCRAPE OFF PAINT AT RACK/CABINET END PRIOR TO INSTALLING GROUND LUG.
- (N-11) NOT USED.
- (N-12) PROVIDE FLEXIBLE COPPER JUMPERS BETWEEN EACH SECTION OF CABLE TRAY.
- (N-13) PROVIDE CADWELD CONNECTION TO SWITCHBOARD GROUND.

- ① EXISTING SERVICE GROUND CONNECTION POINT AT SWBD IN BASE BUILDING ELECTRICAL ROOM
- ② 1/4" X 3" X 24" TELECOMMUNICATIONS GROUND BUS BAR (TGBB)

————— DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
 - - - - - DENOTES EXISTING TO REMAIN
 * - X - * - X - * DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
10 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

X. P. CHEN
LICENSED PROFESSIONAL ENGINEER
100219955
FEB09/2021
PROVINCE OF ONTARIO

HCC Project No.: 20104

DESIGN BY: PC	SCALE: AS SHOWN
DRAWN BY: TLR	DATE: 2020-05-01
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NO.	DATE	NAME	REVISIONS

DURHAM REGION

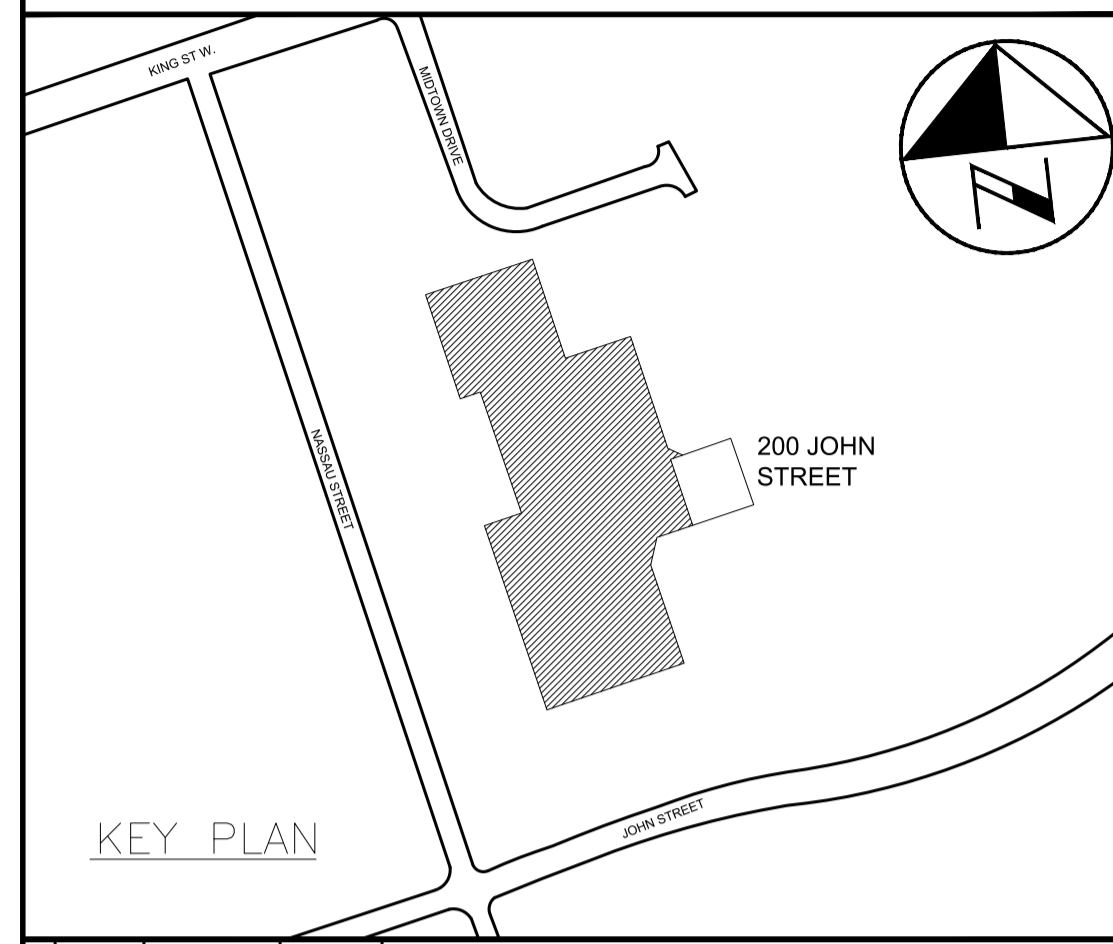
THE REGIONAL MUNICIPALITY OF DURHAM
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RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL GROUNDING SYSTEM DETAILS

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-012	SHEET NO. 045

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PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 0G5
 Tel: (905) 666-5252
 Fax: (905) 666-5256
 e-mail: bob@bbaweb.org

H.D. COHEN
 00414335
 FEB09/2021
 PROVINCE OF ONTARIO

SUB-CONSULTANT

HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 TEL: (416) 932-2123

X. P. CHEN
 100219555
 FEB09/2021
 PROVINCE OF ONTARIO

HCC Project No.: 20104

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DRAWN BY: TLR	DATE: 2020-05-01
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APPROVED BY: HDC	

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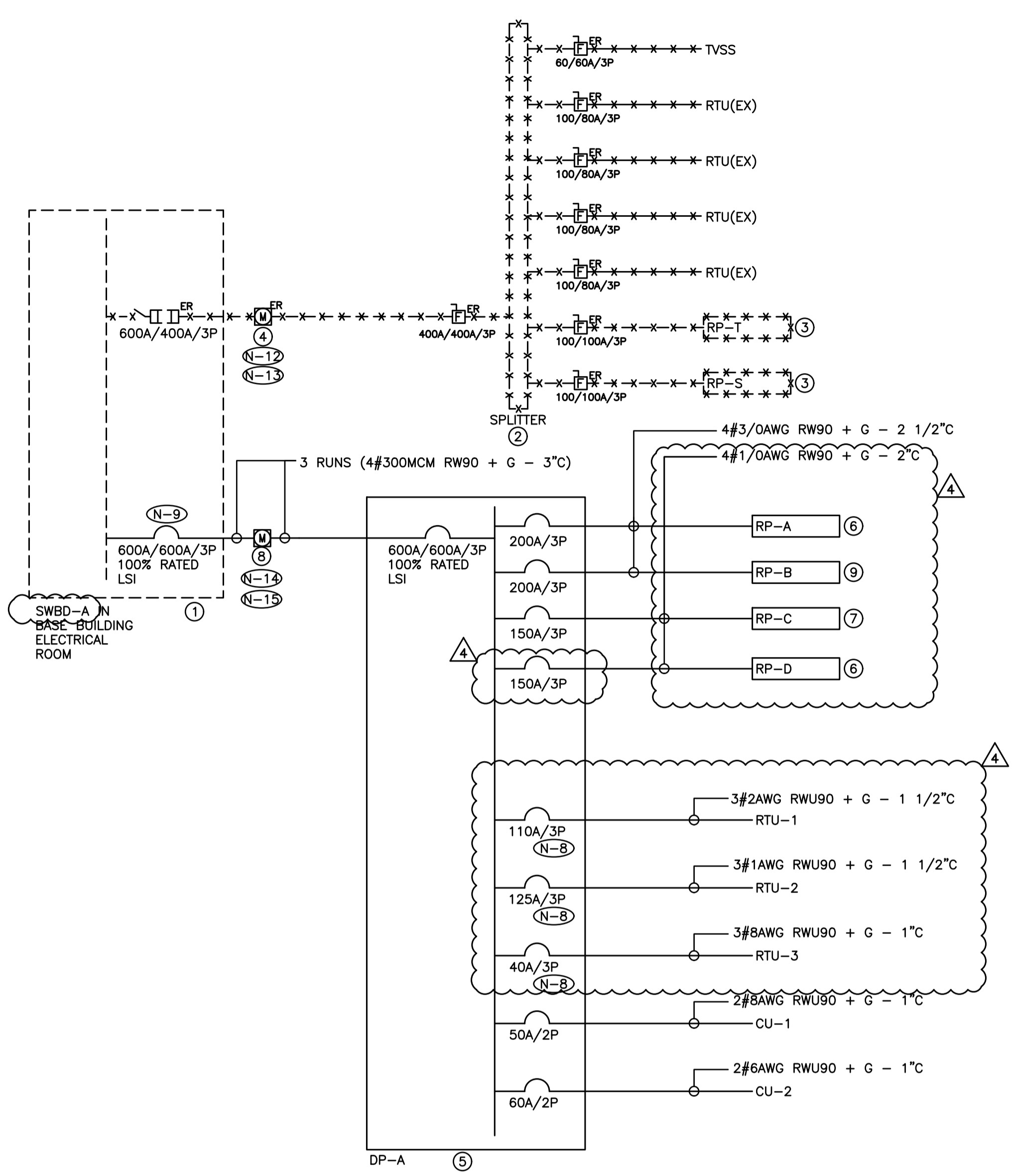
DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM
 WORKS DEPARTMENT
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RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL SINGLE LINE DIAGRAM

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-015	SHEET NO. 048



SWBD-A MANUFACTURER HIGH LEVEL SCOPE OF WORK

PROCURE THE SERVICE OF A SWITCHBOARD MANUFACTURER TO COMPLETE THE FOLLOWING SCOPES OF WORK:

PROVIDE ONSITE INSTALLATION OF ONE (1) 600A/3P/65KA RMS/100% RATED BREAKER IN EXISTING GE SWITCHGEAR, 120/208V, 1600A, 3P/4W.

SCOPE OF WORK:

- ADD LUG PADS TO MAIN THRU BUS FOR CONNECTION CABLES TO THE NEW BREAKER.
- PROVIDE NEW BREAKER, 120/208V, 600A, 3P, 100% RATED, 60HZ, 65KA @ 240VAC.
- PROVIDE CABLES FEEDING THE NEW BREAKER
- PROVIDE NEW DOOR
- RE-CERTIFY SWITCHBOARD

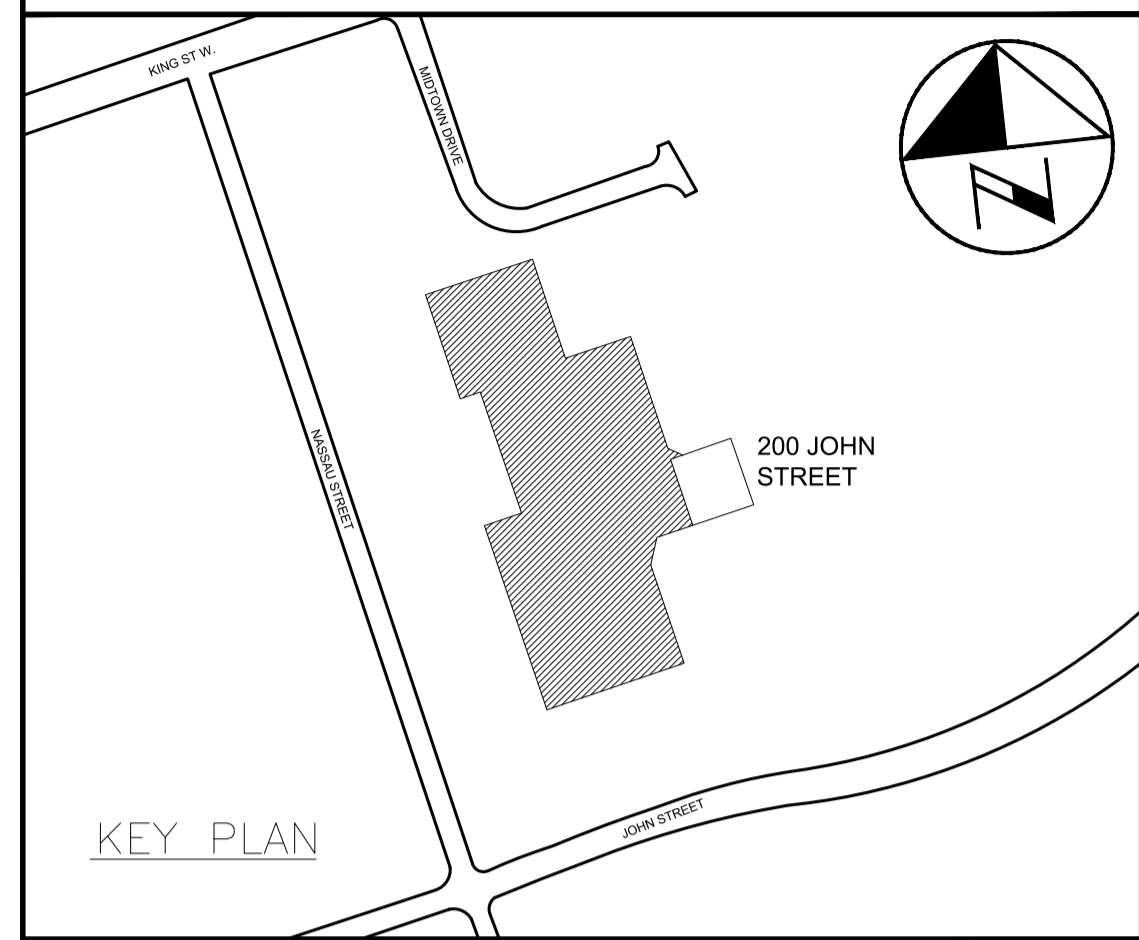
ELECTRICAL CONTRACTOR TO PREPARE A PRELIMINARY ZERO FEEDER LENGTH COORDINATION STUDY PRIOR TO ORDERING DISTRIBUTION. SUBMIT TO CONSULTANT FOR REVIEW AND APPROVAL.

- (N-1) RISER IS DIAGRAMMATIC ONLY. REFER TO FLOOR PLANS FOR DEVICE QUANTITY AND LOCATIONS.
- (N-2) PROVIDE FIRE RATED PLYWOOD BACKBOARDS FOR ALL ELECTRICAL DISTRIBUTION EQUIPMENT PROVIDED AS PART OF THIS CONTRACT AND FOR ALL PREPURCHASED/PREQUALIFIED DISTRIBUTION. PAINT BACKBOARDS WITH FIRE RETARDANT PAINT (COLOUR AS DIRECTED ON SITE BY ARCHITECT). FIRE RATED STAMP MUST BE ON ALL PIECES PROVIDED AND MUST BE VISIBLE WHEN INSTALLED. DO NOT PAINT OVER STAMP.
- (N-3) PROVIDE DEDICATED CORE DRILLED WALL AND FLOOR PENETRATIONS ON EVERY FLOOR. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. ALL X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
- (N-4) PROVIDE TEMPORARY POWER AND LIGHTING THROUGHOUT PROJECT TO ACCOMMODATE REQUIREMENTS OF ALL TRADES, INCLUDING ELEVATOR CONTRACTOR. REQUIREMENTS INCLUDE PROVIDING EXTENSION CORDS, EXTENSION LIGHTING AND EQUIPMENT REQUIRED FOR THE WORK OF ALL TRADES. PROVIDE TEMPORARY GENERATOR AND CABLES AS REQUIRED WHEN UTILITY SERVICE IS NOT AVAILABLE. ALL COSTS RELATED TO THIS WORK SHALL BE INCLUDED IN THE BASE BID PRICE.
- (N-5) ROUTE ALL CONDUIT SYSTEMS AROUND DUCT WORK, FIRE SUPPRESSION PIPING, ETC AS REQUIRED TO ACCOMMODATE INSTALLATION. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS.
- (N-6) ALL INDOOR DISTRIBUTION (INCLUDING TRANSFORMERS) PROVIDED AS PART OF THIS SCOPE OF WORK MUST BE NEMA 2 ENCLOSURE. PROVIDE ALL FITTINGS, ACCESSORIES, ETC REQUIRED FOR A COMPLETE INSTALLATION, SUITABLE FOR RESPECTIVE ENVIRONMENTS. PROVIDE COMPRESSION FITTINGS FOR SERVICES ENTERING DISTRIBUTION.
- (N-7) PROVIDE REQUIRED PENETRATIONS THROUGH ROOF AND BUILDING ENVELOP. COORDINATE WORK AND WEATHERPROOF SEALING REQUIREMENTS WITH LANDLORD.
- (N-8) CONFIRM BREAKER/FUSE AND RECEPTACLE/DISCONNECT REQUIREMENTS PRIOR TO INSTALLATION.
- (N-9) AS PART OF THIS SCOPE OF WORK PROCURE THE SERVICES OF THE SWITCHBOARD MANUFACTURER TO SUPPLY AND INSTALL BREAKER INDICATED. REFER TO SWBD-A HIGH LEVEL SCOPE OF WORK ON THIS DRAWING FOR ADDITIONAL REQUIREMENTS.
- (N-10) NOT USED.
- (N-11) ALL BREAKERS REQUIRED TO COMPLETE ALL SCOPES OF WORK TO BE NEW. DO NOT REUSE EXISTING BREAKERS.
- (N-12) ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING METER (INCLUDING PT'S AND CT'S) AND PACKAGE FOR PICK UP BY LOCAL UTILITY. COORDINATE AND PAY FOR ALL LOCAL UTILITY COSTS TO PICK UP METER.
- (N-13) AS PART OF THIS SCOPE OF WORK ELECTRICAL CONTRACTOR SHALL COORDINATE AND PAY FOR THE SERVICES OF THE LOCAL UTILITY TO PROVIDE ACCESS TO THE EXISTING METER CABINET AS REQUIRED TO FACILITATE ALL SCOPES OF WORK PROVIDED AS PART OF THIS SCOPE OF WORK.
- (N-14) PROVIDE UTILITY APPROVED METER SOCKET AS PART OF THIS SCOPE OF WORK.
- (N-15) PROVIDE NEW UTILITY METER. AS PART OF THIS SCOPE OF WORK ELECTRICAL CONTRACTOR SHALL INCLUDE FOR ALL UTILITY COSTS AND CONNECTION CHARGES FOR ALL NEW SERVICES.

- (1) EXISTING SWITCHBOARD - 120/208V/3PH/4W/1600A BUS/GE SWITCHGEAR/65KA RMS
- (2) EXISTING SPLITTER - 120/208V/3PH/4W/400A
- (3) EXISTING RECEPTACLE PANEL - 120/208V/3PH/4W/225A MAINS/42CCT/CUTLER-HAMMER PRL1A
- (4) EXISTING METER CABINET C/W METER BASE AND METER TO BE REMOVED AS PART OF THIS SCOPE OF WORK
- (5) DISTRIBUTION PANEL - 120/208V/3PH/4W/600A MCB/SQ D I LINE HCP/42"W X 9.5"D X 86"H C/W HINGED DOOR/COPPER BUS/42KA RMS
- (6) RECEPTACLE PANEL - 120/208V/3PH/4W/225A MAINS/COPPER BUS/84CCT 20"W/SQ D NQ/42KA RMS
- (7) RECEPTACLE PANEL - 120/208V/3PH/4W/150A MCB/COPPER BUS/84CCT 20"W/SQ D NQ/22KA RMS/RECESSED TRIM FACTORY PAINTED CUSTOM COLOUR (MATCH TO PAINT CHIP TO BE PROVIDED BY INTERIOR DESIGNER DURING CONSTRUCTION)
- (8) 4' X 4' X 1' OSHAWA PUC NETWORKS APPROVED METER CABINET C/W BACK PLATE AND VIEWING WINDOW (CONFIRM SIZE WITH UTILITY PRIOR TO ORDERING)
- (9) RECEPTACLE PANEL - 120/208V/3PH/4W/200A MCB/COPPER BUS/84CCT 20"W/SQ D NQ/22KA RMS/RECESSED TRIM FACTORY PAINTED CUSTOM COLOUR (MATCH TO PAINT CHIP TO BE PROVIDED BY INTERIOR DESIGNER DURING CONSTRUCTION)

- DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
- DENOTES EXISTING TO REMAIN
- x-x-x-x-x-x-x- DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT
BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 0G5
 Tel: (905) 696-5252
 Fax: (905) 696-5256
 e-mail: bob@bbaweb.org

SUB-CONSULTANT
HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2123

HCC Project No.: 20104

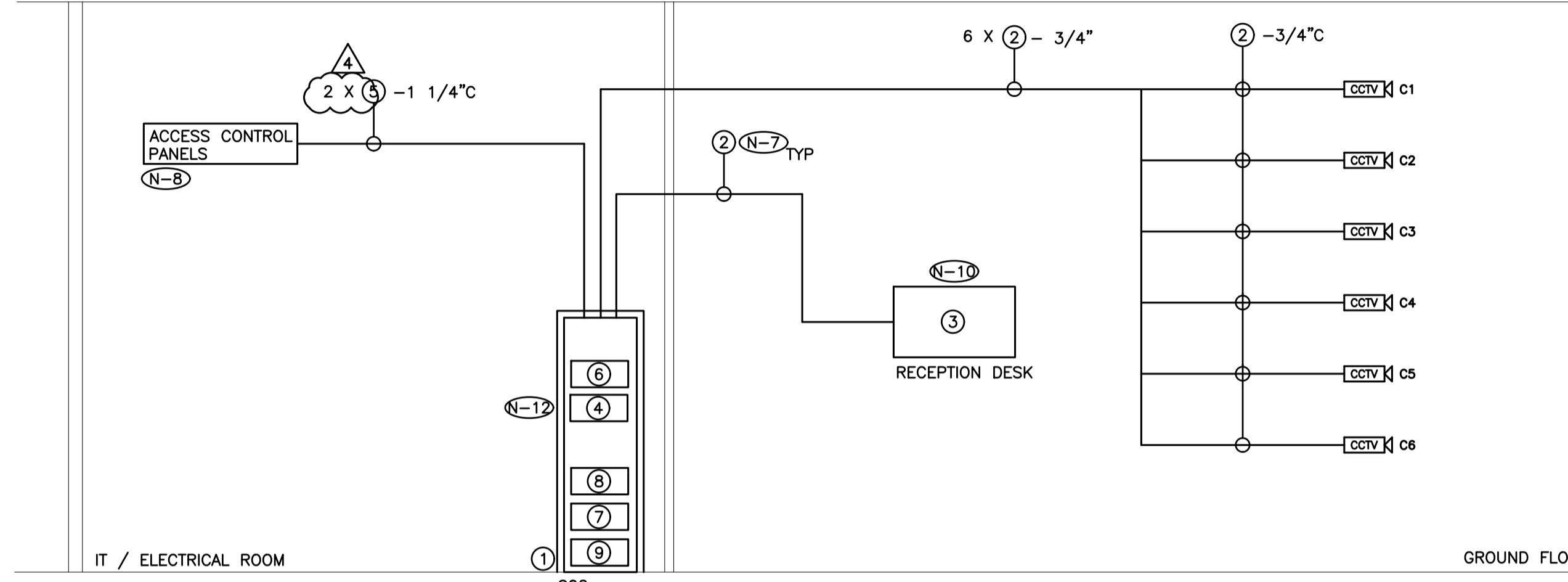
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DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

CCTV SYSTEM RISER DIAGRAM

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-016	SHEET NO. 049



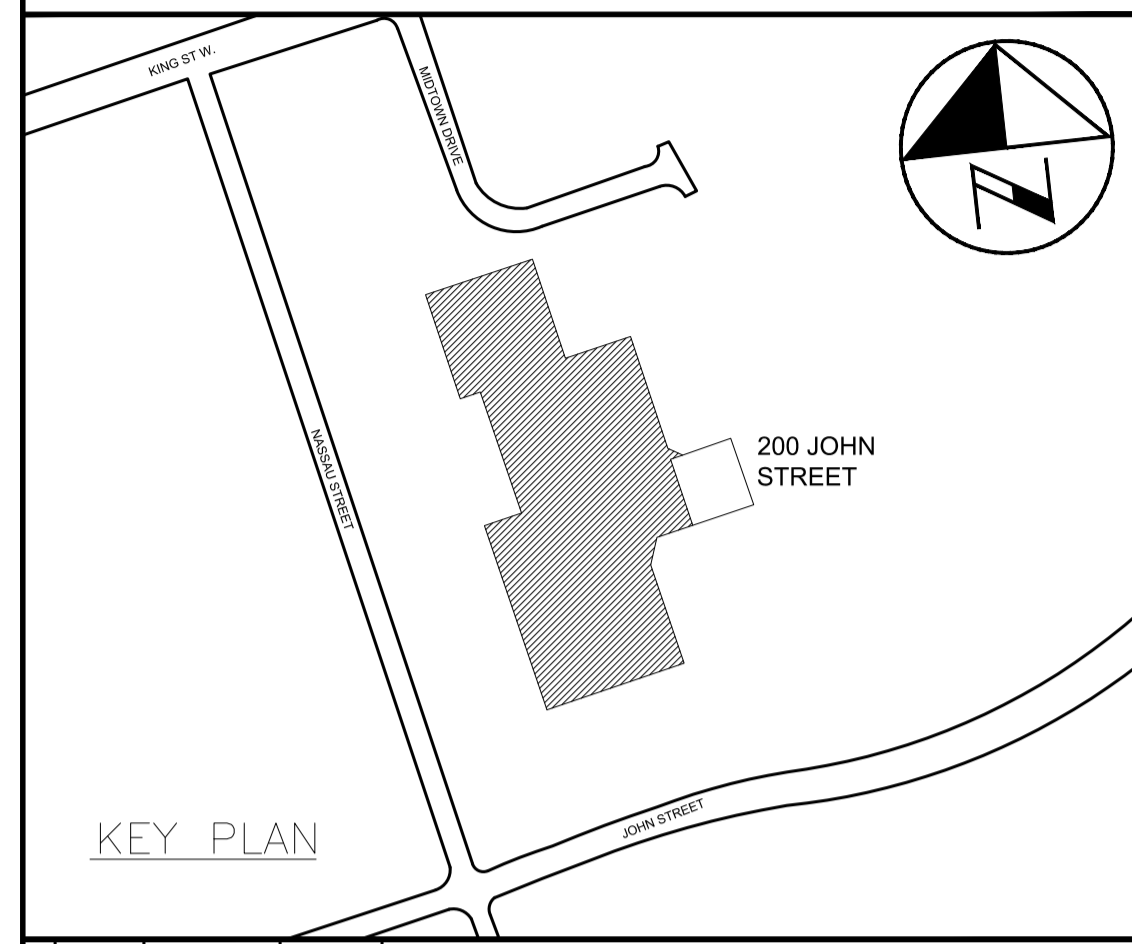
- ① EQUIPMENT CABINET PROVIDED BY COMMUNICATIONS CONTRACTOR.
- ② PLENUM RATED 4 PAIR CATEGORY 6 UTP DATA CABLE PROVIDED BY COMMUNICATIONS CONTRACTOR. RED IN COLOUR.
- ③ CCTV SYSTEM CLIENT (NETWORK VIDEO MANAGEMENT) WORKSTATION C/W SENSTAR THIN CLIENT 10D PROVIDED AS PART OF THIS SCOPE OF WORK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ④ CCTV SYSTEM NETWORK STORAGE SERVERS PROVIDED AS PART OF THIS SCOPE OF WORK - VIVOTEK NVR ND9322P-V2 C/W DIGITAL WATCHDOG SPECTRUM VIDEO MANAGEMENT SYSTEM.
- ⑤ MULTICONDUCTOR CABLE PER VIVOTEK'S RECOMMENDATIONS.
- ⑥ 1RMU 24 PORT POE ACTIVE SWITCH - VIVOTEK AW-GEV-264A-370.
- ⑦ 2RMU 1500VA UPS - XTREME POWER P80 1500VA C/W NETWORK MANAGEMENT PROTOCOL (SNMP) NOTIFICATION CARD PROVIDED AS PART OF THIS SCOPE OF WORK.
- ⑧ RACK MOUNTED CONSOLE KVM SWITCH C/W 19" LCD, CABINET MOUNTED BRACKETS AND EIGHT (8) USB SERVER INTERFACE UNITS PROVIDED AS PART OF THIS SCOPE OF WORK - EIGHT (8) SERVER INPUTS, ONE (1) MONITOR AND ONE (1) KEYBOARD - TRIPP LITE B070-008-19-IP
- ⑨ 2RMU UPS BATTERY - XTREME POWER P90-BP48 PROVIDED AS PART OF THIS SCOPE OF WORK.

CCTV CAMERA	MAKE/MODEL NUMBER
C1	VIVOTEK FD9167-HT C/W AM-105 MOUNTING BRACKET
C2	VIVOTEK FD9167-HT C/W AM-105 MOUNTING BRACKET
C3	VIVOTEK CCB370-HV C/W MOUNTING BRACKET
C4	VIVOTEK FD9167-HT C/W AM-105 MOUNTING BRACKET
C5	VIVOTEK CCB370-HV C/W MOUNTING BRACKET
C6	VIVOTEK FD9167-HT C/W AM-105 MOUNTING BRACKET

— DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
 - - - - - DENOTES EXISTING TO REMAIN
 - x - x - x - x - x - DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

- N-1 RISER IS DIAGRAMMATIC ONLY. PROVIDE QUANTITY OF HARDWARE, MODULES, ACCESSORIES, DEVICES, SOFTWARE, LICENSES, TESTING, PROGRAMMING, COMMISSIONING, ETC., TO ENSURE A FULLY OPERATIONAL CCTV SYSTEM.
- N-2 PROVIDE QUANTITY OF HARDWARE, CAMERAS, SERVERS AND POWER SUPPLIES REQUIRED FOR A FULLY OPERATIONAL CCTV SYSTEM. REFER TO FLOOR PLANS FOR ADDITIONAL REQUIREMENTS. NOTE NETWORK SWITCH PROVIDED BY OWNER.
- N-3 COORDINATE INSTALLATION AND MOUNTING REQUIREMENTS OF CCTV EQUIPMENT PROVIDED AS PART OF THIS SCOPE OF WORK WITH SECURITY VENDOR PRIOR TO COMMENCING WORK.
- N-4 AS PART OF THIS SCOPE OF WORK CONFIGURE ALL CAMERAS PROVIDED AS PART OF THIS SCOPE OF WORK WITH FOLLOWING SETTINGS:
 FRAME RATE: 10 IMAGE/S
 DUTY CYCLE: 100% (INTERIOR)
- N-5 AS PART OF THIS SCOPE OF WORK, INCLUDE ALL SYSTEM SET UP, PROGRAMMING, LICENSES, LICENSES REQUIRED FOR EACH CAMERA, COMMISSIONING, ETC TO ENSURE A FULLY OPERATIONAL MONITORING SYSTEM. PROVIDE TRAINING FOR ALL FACILITIES STAFF POST COMMISSIONING.
- N-6 AS PART OF THIS SCOPE OF WORK AND PRIOR TO CONSTRUCTION, ELECTRICAL CONTRACTOR SHALL CONFIRM CAMERA INSTALLATION LOCATIONS AND REQUIREMENTS ON SITE WITH CCTV MANUFACTURER, ARCHITECT AND CLIENT PRIOR TO SUBMITTING SHOP DRAWINGS. MOUNTING STYLE AND FIELD OF VIEW FOR ALL CAMERAS SHALL BE CONFIRMED BY BOTH MANUFACTURER AND CLIENT PRIOR TO INSTALLATION.
- N-7 PROVIDE DEDICATED FLOOR AND WALL PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD AND STRUCTURAL ENGINEER PRIOR TO CORE DRILLING.
- N-8 AS PART OF THIS SCOPE OF WORK PROVIDE AN INTERFACE BETWEEN CARD ACCESS CONTROL SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK AND CCTV SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK SUCH THAT THE CCTV SYSTEM IS INTERFACED WITH THE CARD ACCESS CONTROL SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK. PROVIDE ALL CARD ACCESS CONTROL SYSTEM AND CCTV SYSTEM LICENSES AND PROGRAMMING. PROVIDE ALL REQUIRED CCTV SYSTEM COMPONENTS, ACCESSORIES, WIRING, OUTPUT CONTACTS, INPUT CONTACTS, ETC. FOR A FULLY OPERATIONAL SYSTEM.
- N-9 ALL FIELD DEVICE WIRING TO BE PULLED AS HOMERUNS TO RESPECTIVE RACK MOUNTED PATCH PANELS PROVIDED BY COMMUNICATIONS CONTRACTOR.
- N-10 AS PART OF THIS SCOPE OF WORK FOR EACH AND EVERY CLIENT WORKSTATION PROVIDE ONE (1) 24" COLOUR LED MONITOR, KEYBOARD, MOUSE AND CCTV SYSTEM MONITORING PROGRAM AND SOFTWARE LICENSE. HARDWARE AND SOFTWARE PROVIDED AS PART OF THIS SCOPE OF WORK SHALL BE INTEGRATED INTO CCTV SYSTEM VIDEO CONSOLE DISPLAY STATION. CCTV SYSTEM VIDEO CONSOLE DISPLAY STATION PROVIDED AS PART OF THIS SCOPE OF WORK.
- N-11 AS PART OF THIS SCOPE OF WORK INCLUDE FOR TWO (2) THREE (3) HOUR MEETING SESSIONS WITH CLIENT AND ARCHITECT TO REVIEW CCTV SYSTEM VIEWING DISPLAY ARRANGEMENT REQUIREMENTS PRIOR TO CONSTRUCTION. AS PART OF THIS SCOPE OF WORK ALLOW FOR AN ADDITIONAL TWO (2) TWO (2) HOUR PROGRAMMING SESSIONS TO FINE TUNE CCTV SYSTEM VIEWING DISPLAY ARRANGEMENTS TO CLIENT'S SATISFACTION OVER AND ABOVE THE TIME REQUIRED TO PROGRAM AND SET UP THE CCTV SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK.
- N-12 AS PART OF THIS SCOPE OF WORK PROVIDE QUANTITY OF SERVER STORAGE HARD DRIVES SIZED TO ALLOW FOR AT LEAST THIRTY (30) DAYS RECORDING TIME FOR ALL CAMERAS PROVIDED AS PART OF THIS SCOPE OF WORK. STORAGE SPACE MUST ALSO BE SIZED TO INCLUDE/ACCOMMODATE THREE (3) ADDITIONAL FUTURE CAMERAS BASED ON 2 MEGAPIXEL RESOLUTION AND FRAME RATE AND DUTY CYCLE SPECIFIED FOR INTERIOR APPLICATION. REFER TO NOTE N-4 IN THIS DETAIL FOR ADDITIONAL REQUIREMENTS.
- N-13 REFER TO REGIONAL MUNICIPALITY OF DURHAM CORPORATE POLICY AND PROCEDURES MANUAL - SECURITY SERVICES INSTALLATION AND SECURITY SYSTEM STANDARDS, GUIDELINE FOR ADDITIONAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO APPROVED EQUIPMENT SELECTIONS, LABELING REQUIREMENTS, ETC OVER AND ABOVE THOSE DETAILED IN THIS DRAWING PACKAGE AND IN THE ELECTRICAL SPECIFICATIONS BOOK. CONTRACTOR SHALL BE RESPONSIBLE FOR AND MUST INCLUDE IN BASE BID PRICE FOR ALL SCOPES OF WORK DETAILED IN THE REGIONAL MUNICIPALITY OF DURHAM CORPORATE POLICY AND PROCEDURES MANUAL - SECURITY SERVICES INSTALLATION AND SECURITY SYSTEM STANDARDS, ELECTRICAL DRAWINGS AND ELECTRICAL SPECIFICATIONS BOOK. CONTACT REGIONAL MUNICIPALITY OF DURHAM PROJECT MANAGER FOR QUESTIONS REGARDING REGIONAL MUNICIPALITY OF DURHAM CORPORATE POLICY AND PROCEDURES MANUAL - SECURITY SERVICES INSTALLATION AND SECURITY SYSTEM STANDARDS DOCUMENT.

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 0G5
 Tel: (905) 696-5252
 Fax: (905) 696-5256
 e-mail: bob@bbaweb.org

H.D. COHEN
 00414335
 FEB09/2021
 PROVINCE OF ONTARIO

SUB-CONSULTANT

HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2123

X. P. CHEN
 100219555
 FEB09/2021
 PROVINCE OF ONTARIO

HCC Project No.: 20104

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DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS

DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

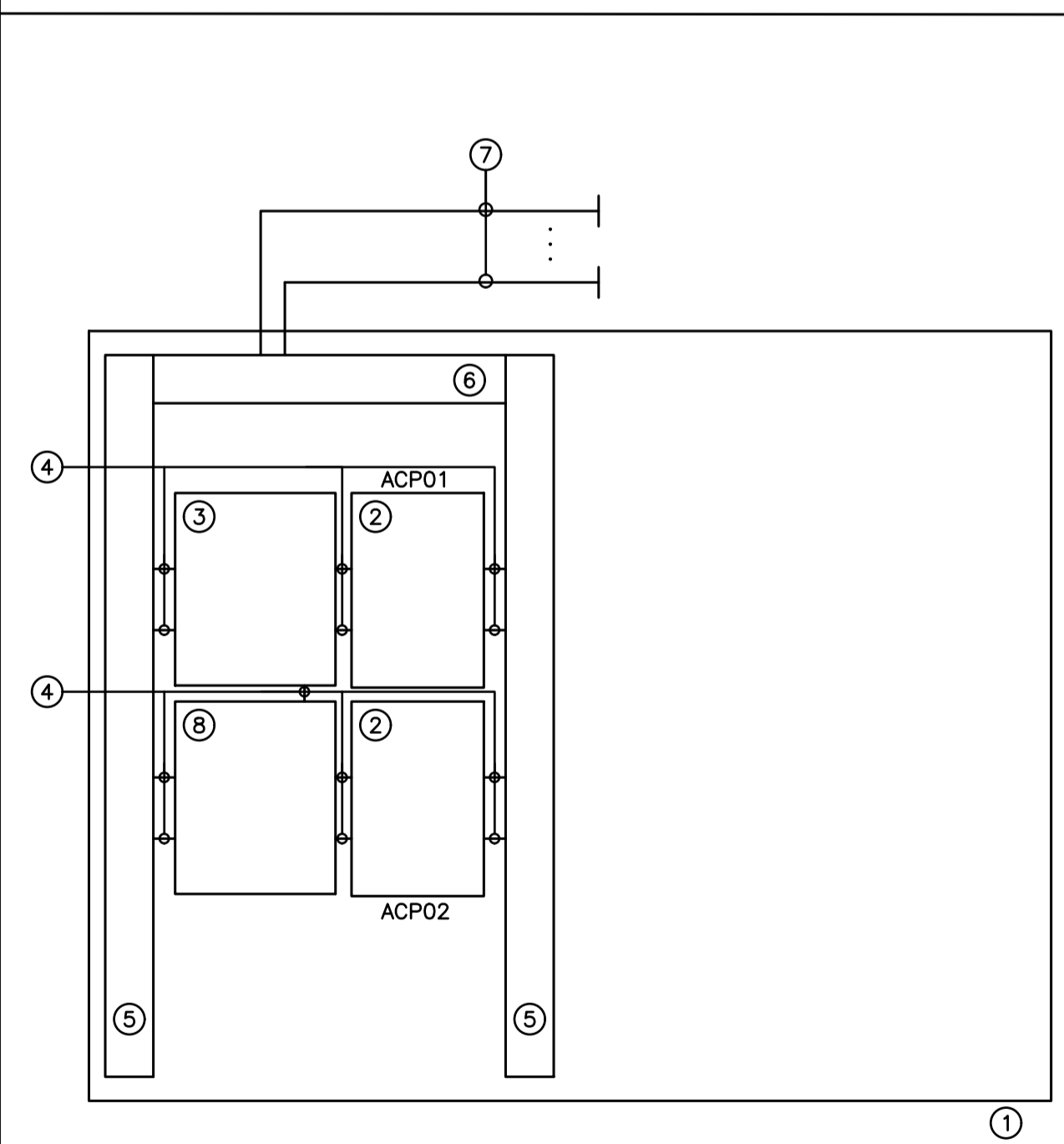
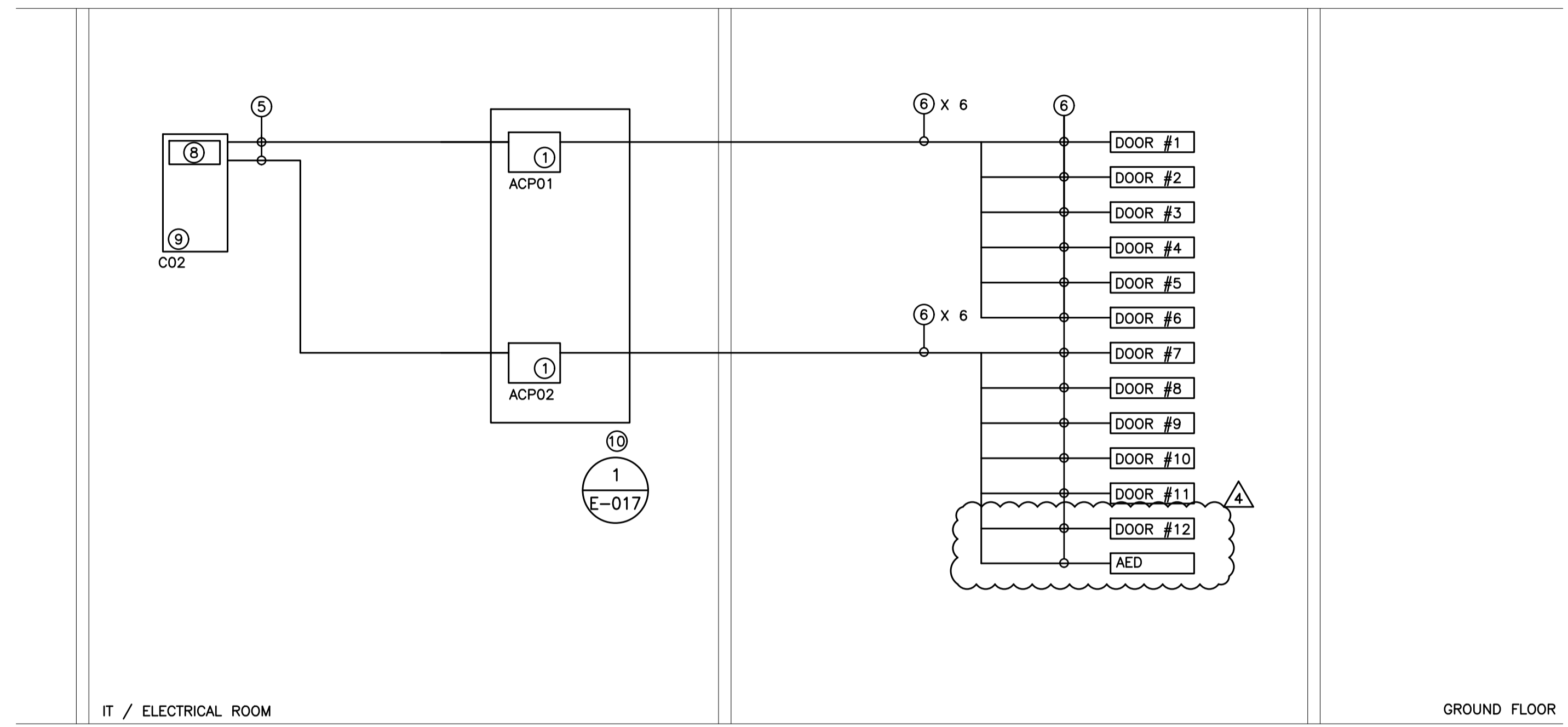
RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-017	SHEET NO. 050

- (N-1) RISER IS DIAGRAMMATIC ONLY. PROVIDE QUANTITY OF POWER CIRCUITS, CONTROL PANELS, MODULES, FIELD DEVICES, ACCESSORIES, WIRE, SECURITY CABLES, SOFTWARE, TESTING, LICENSES, PROGRAMMING, COMMISSIONING, ETC. TO ENSURE A FULLY OPERATIONAL ACCESS CONTROL SYSTEM. REFER TO DRAWING NO. E-017 AND TO FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.
- (N-2) REFER TO FLOOR PLAN DRAWINGS FOR DEVICE QUANTITY AND LOCATIONS.
- (N-3) PROVIDE CONDUITS AND WIRES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM CONDUIT SIZE AS DETAILED ON RISER.
- (N-4) ALL CONDUITS SHALL BE C/W BUSHINGS AND RUBBERIZED GROMMETS.
- (N-5) ALL CONDUITS TO BE EMT. EMT COUPLING AND CONNECTORS SHALL BE T&B STEEL, SET SCREW TYPE. PROVIDE SPARE PULLSTRING IN ALL CONDUITS FOR FUTURE USE.
- (N-6) ELECTRICAL CONTRACTOR SHALL NOT USE PULLBOXES AS SUBSTITUTES FOR 90° BENDS. 12" X 12" X 6" PULLBOXES C/W TYPE SNAKE EYE SECURITY SCREWS SHALL BE PROVIDED ON THE BASIS OF NOT MORE THAN TWO (2) RIGHT ANGLE BENDS OR NOT MORE THAN 100' IN STRAIGHT RUNS BETWEEN BOXES.
- (N-7) CONTACT SECURITY MANUFACTURER FOR ADDITIONAL WIRE, CONDUIT, PULLBOX AND POWER REQUIREMENTS OVER AND ABOVE THOSE SHOWN ON DRAWING.
- (N-8) PROVIDE DEDICATED FLOOR AND WALL PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
- (N-9) PROVIDE FIRE RATED PLYWOOD BACKBOARDS FOR ALL CABINETS, ACCESS CONTROL PANELS, POWER SUPPLIES, ETC PROVIDED AS PART OF THIS CONTRACT. PAINT BACKBOARDS WITH WHITE FIRE RETARDANT PAINT. FIRE RATED STAMP MUST BE ON ALL PIECES PROVIDED AND MUST BE VISIBLE WHEN INSTALLED. DO NOT PAINT OVER STAMP.
- (N-10) NOT USED.
- (N-11) ALL CONDUITS PROVIDED BY THE ELECTRICAL CONTRACTOR ARE TO BE ROUTED IN THE CEILING SPACE.
- (N-12) AS PART OF THIS SCOPE OF WORK, COORDINATE TERMINATION OF SECURITY CABLES PROVIDED AS PART OF THIS SCOPE OF WORK ON SITE WITH SECURITY CONTRACTOR PRIOR TO COMMENCING WORK.

- ① SECURITY SYSTEM ACCESS CONTROL PANEL PROVIDED AS PART OF THIS SCOPE OF WORK
- ② NOT USED.
- ③ NOT USED.
- ④ NOT USED.
- ⑤ 3/4" ZONE CONDUIT C/W BUSHINGS AND RUBBERIZED GROMMETS
- ⑥ 1 1/4" ZONE CONDUIT C/W BUSHINGS AND RUBBERIZED GROMMETS
- ⑦ NOT USED.
- ⑧ ACCESS CONTROL SYSTEM SERVER PROVIDE AS PART OF THIS SCOPE OF WORK
- ⑨ EQUIPMENT CABINET PROVIDED BY COMMUNICATIONS CONTRACTOR
- ⑩ VOICE MDF / SECURITY BACKBOARD PROVIDED AS PART OF THIS SCOPE OF WORK

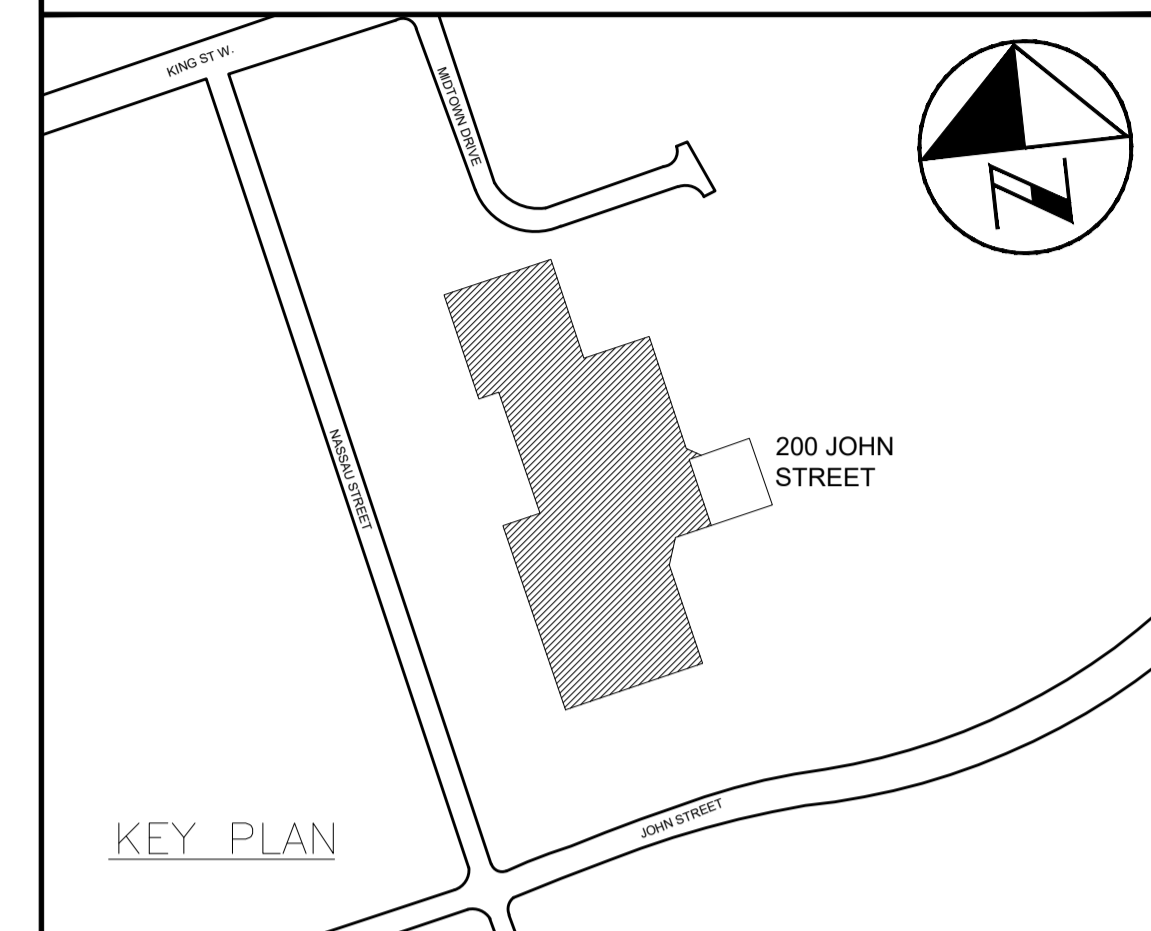
————— DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
 - - - - - DENOTES EXISTING TO REMAIN
 * * * * * DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR



- (N-1) RISER IS DIAGRAMMATIC ONLY. REFER TO FLOOR PLANS FOR DEVICE QUANTITY AND LOCATIONS.
 - (N-2) ALL CONDUITS SHALL BE C/W BUSHINGS AND RUBBERIZED GROMMETS.
 - (N-3) ALL CONDUITS TO BE EMT. EMT COUPLING AND CONNECTORS SHALL BE T&B STEEL, SET SCREW TYPE. PROVIDE SPARE PULLSTRING IN ALL CONDUITS FOR FUTURE USE.
 - (N-4) PROVIDE DEDICATED FLOOR AND WALL PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD PRIOR TO CORE DRILLING.
- ① VOICE MDF / SECURITY BACKBOARD PROVIDED AS PART OF THIS SCOPE OF WORK
 - ② ACCESS CONTROL PANEL PROVIDED AS PART OF THIS SCOPE OF WORK
 - ③ ACCESS CONTROL SYSTEM AND ELECTRIC STRIKE POWER SUPPLY PROVIDED AS PART OF THIS SCOPE OF WORK
 - ④ 2" CONDUIT NIPPLE C/W BUSHINGS AND RUBBERIZED GROMMETS.
 - ⑤ 7'-6" LENGTH OF 6" X 6" WIREWAY, MOUNTED VERTICALLY PROVIDED AS PART OF THIS SCOPE OF WORK FOR SECURITY CONTRACTOR'S USE. COORDINATE EXACT REQUIREMENTS ON SITE WITH SECURITY CONTRACTOR.
 - ⑥ 4' LENGTH OF 4" X 4" WIREWAY, MOUNTED HORIZONTALLY PROVIDED AS PART OF THIS SCOPE OF WORK FOR SECURITY CONTRACTOR'S USE. COORDINATE EXACT REQUIREMENTS ON SITE WITH SECURITY CONTRACTOR.
 - ⑦ ZONE CONDUITS C/W WIRING. REFER TO DETAIL NO. 1 ON DRAWING NO. E-004 AND E-017 FOR ADDITIONAL REQUIREMENTS.
 - ⑧ BATTERY CABINET C/W 12V BATTERY PACKS PROVIDED AS PART OF THIS SCOPE OF WORK

1 VOICE MDF/SECURITY BACKBOARD BUILD OUT DETAIL
 E-017 SCALE: NTS

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NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

SUB-CONSULTANT

HCC Project No.: 20104

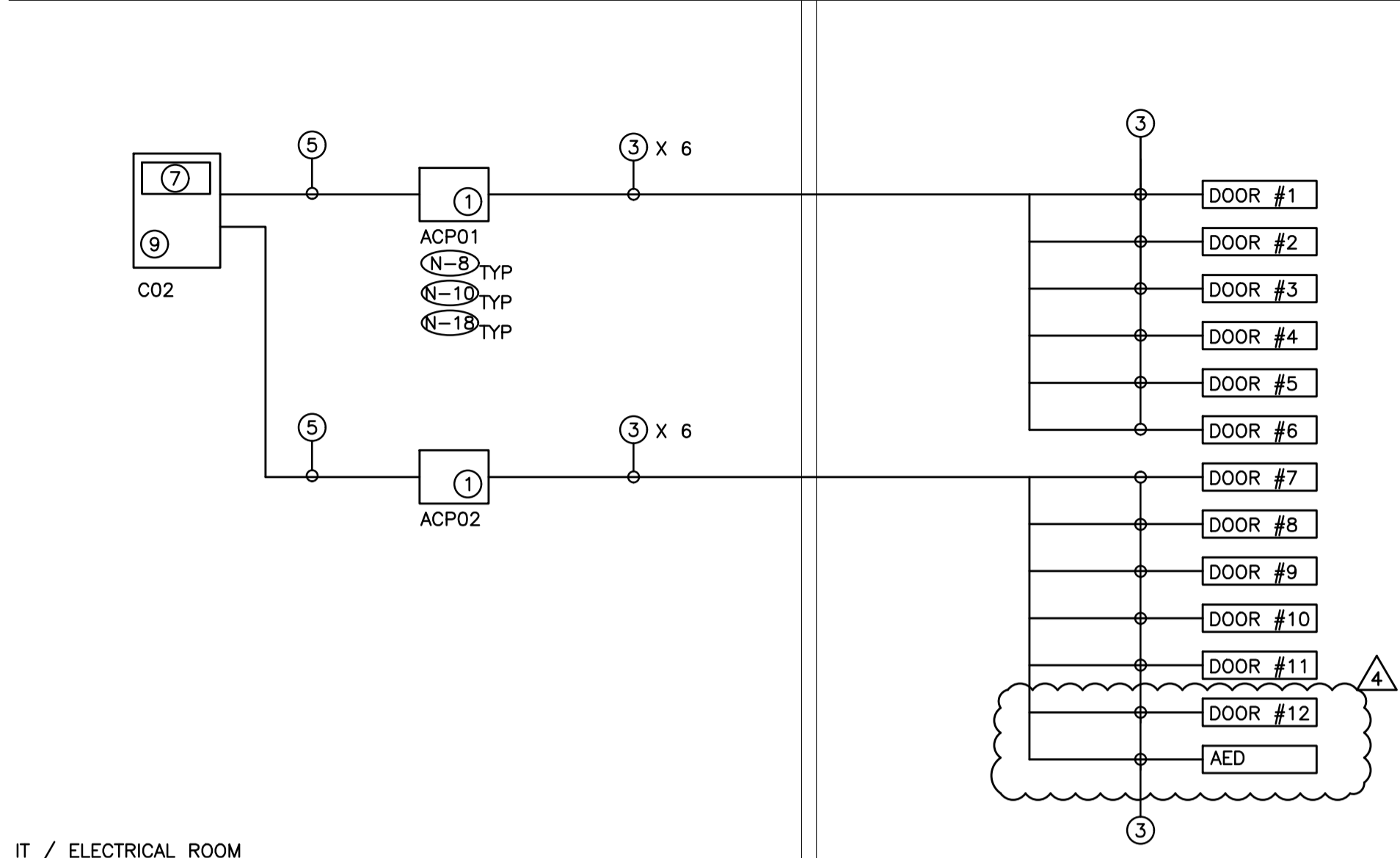
DESIGN BY: PC	SCALE N.T.S.
DRAWN BY: TLR	DATE: 2020-05-01
CHECKED BY: PC/HDC	CONSULTANT PROJECT NO. 20060
APPROVED BY: HDC	

NO.	DATE	NAME	REVISIONS

THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

PROPERTY NO. N/A	FACILITY CODE LEA-0-07	FACILITIES PROJECT NO. LEA-0-07-19-01
CONTRACT NO. T-1032-2021	DRAWING NO. E-018	SHEET NO. 051



IT / ELECTRICAL ROOM

- 1 SECURITY SYSTEM ACCESS CONTROL PANEL C/W 8 READER ACCESS CONTROL MODULES PROVIDED AS PART OF THIS SCOPE OF WORK
- 2 NOT USED.
- 3 ACCESS CONTROL SYSTEM WIRING PROVIDED AS PART OF THIS SCOPE OF WORK. REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF ACCESS CONTROL DEVICES.
 - BELDEN 658GFS BANANA PEEL NO OVERALL JACKET COMPOSITE - LOCK POWER, CARD READER, DOOR CONTACT, REX APPLICATIONS
 - TYPICAL ACCESS CONTROL SYSTEM DEVICE WIRING
 - DOOR CONTACT - 2 PAIR #22AWG
 - MOTION DETECTOR - 1 X 3 PAIR #22AWG SHIELDED
 - ELECTRIC STRIKE - 2 PAIR #16AWG
 - AUDIBLE ALARM - 1 PAIR #22AWG
 - CARD / PROXIMITY READER - 3 PAIR SHIELDED #22AWG (OVERALL SHIELD)
 - CRASH BAR - 1 PAIR #22AWG
 - UNIVERSAL WASHROOM DURESS - 2 PAIR #22AWG
 - DOOR OPERATOR INTERFACE DEVICE - 3 PAIR SHIELDED #22AWG (OVERALL SHIELD)
- 4 NOT USED
- 5 4 PAIR CAT 6 UTP DATA CABLE PROVIDED BY COMMUNICATIONS CONTRACTOR -3/4" C
- 6 NOT USED
- 7 ACCESS CONTROL SYSTEM SERVER PROVIDED AS PART OF THIS SCOPE OF WORK
- 8 NOT USED
- 9 EQUIPMENT CABINET PROVIDED BY COMMUNICATIONS CONTRACTOR

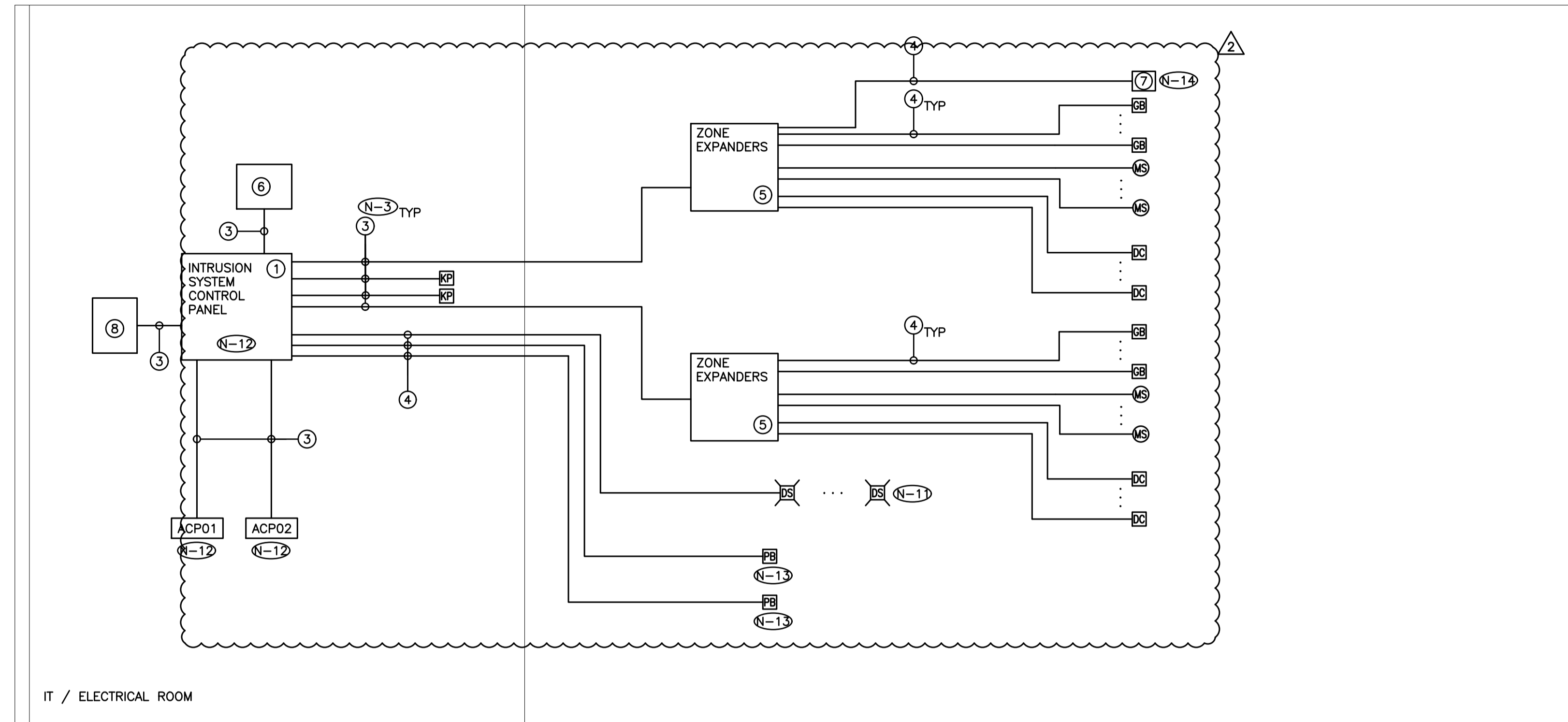
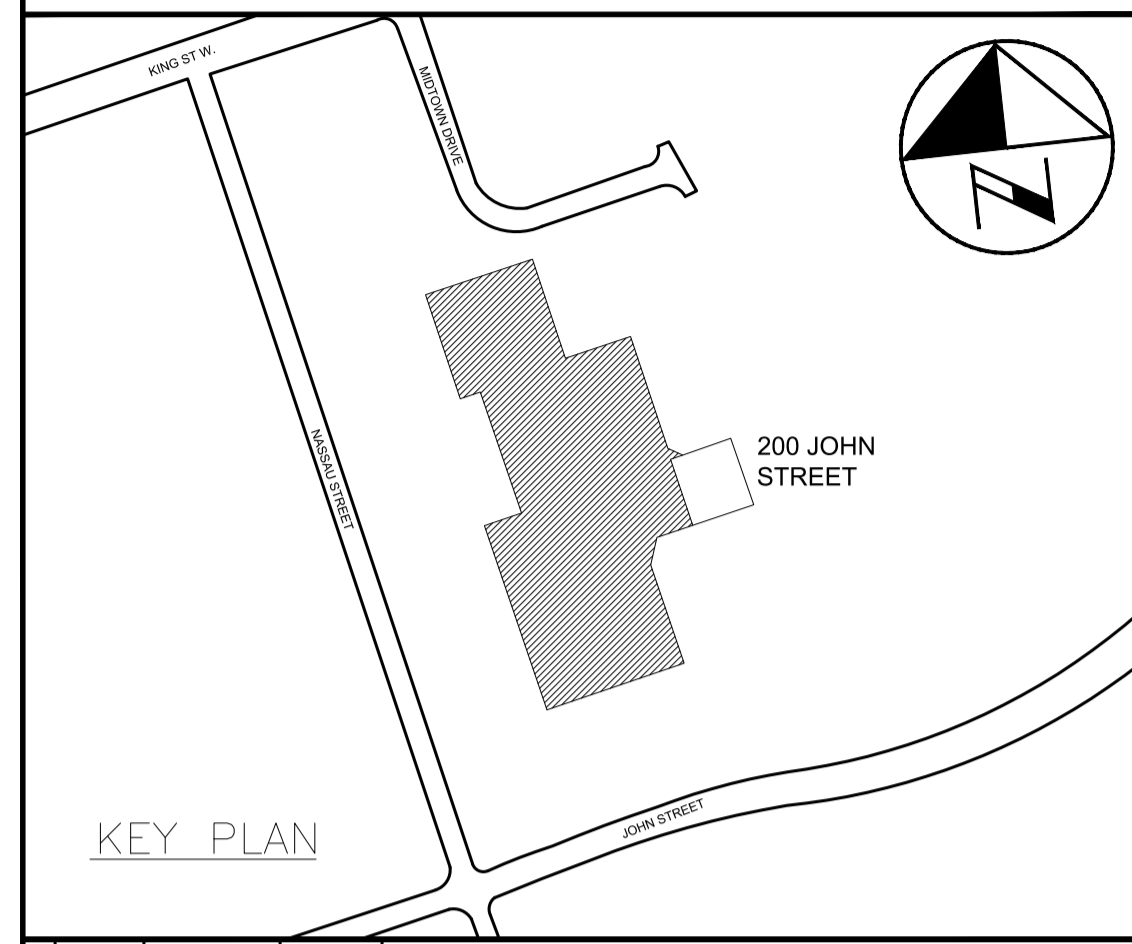
- DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
- - - - - DENOTES EXISTING TO REMAIN
- x-x-x-x-x-x-x-x- DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

DEVICE TYPE PROVIDED AS PART OF THIS SCOPE OF WORK	MANUFACTURER	SERIES / PART #	DRAWING SYMBOL / REFERENCE
8 READERS C/W ENCLOSURE AND DUAL 10/100/1GB ETHERNET PORTS		N-15	
POWER SUPPLY		N-15	
BATTERY CABINET C/W 12V BATTERIES		N-15	
READER		N-15	CR
REQUEST TO EXIT DETECTOR		N-15	MD
AUDIBLE ALARM / 2 TONE / INDOOR		N-15	HI
ELECTRIC STRIKE, 12/24V - BLACK		N-15	ES
DOOR RELEASE		N-15	DR

- N-1 RISER IS DIAGRAMMATIC ONLY. PROVIDE QUANTITY OF POWER CIRCUITS, HARDWARE, MODULES, FIELD DEVICES, ACCESSORIES, WIRE, SECURITY CABLES, SOFTWARE, TESTING, LICENSES, PROGRAMMING, COMMISSIONS ETC. TO ENSURE A FULLY OPERATIONAL SECURITY SYSTEM. REFER TO DRAWING NO. E-017 AND TO FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.
- N-2 REFER TO FLOOR PLAN DRAWINGS FOR DEVICE QUANTITY AND LOCATIONS.
- N-3 PROVIDE WIRES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM WIRE REQUIREMENTS AS DETAILED ON RISER.
- N-4 ALL FIELD DEVICE WIRING TO BE PULLED AS HOMERUNS TO RESPECTIVE ACCESS CONTROL PANELS.
- N-5 NOT USED.
- N-6 CONTACT SECURITY MANUFACTURER FOR ADDITIONAL WIRE, CONDUIT, PULLBOX AND POWER REQUIREMENTS OVER AND ABOVE THOSE SHOWN ON DRAWING.
- N-7 PROVIDE DEDICATED FLOOR AND WALL PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. X-RAYS MUST BE REVIEWED AND APPROVED BY LANDLORD AND STRUCTURAL ENGINEER PRIOR TO CORE DRILLING.
- N-8 PROVIDE QUANTITY OF CONTROL PANELS AND POWER SUPPLIES REQUIRED FOR A FULLY OPERATIONAL SECURITY SYSTEM. MINIMUM QUANTITY SHOWN.
- N-9 NOT USED.
- N-10 ALL CONTROL PANEL COVERS TO BE EQUIPPED WITH TAMPER SWITCHES.
- N-11 ALL CONDUITS ARE TO BE ROUTED IN THE CEILING SPACE.
- N-12 AS PART OF THIS SCOPE OF WORK SUPPLY FIFTY (50) ACCESS CONTROL SYSTEM KEY CARDS (PROXIMITY FUNCTIONALITY ON EACH AND EVERY KEY CARD). AS PART OF THE BASE BID PRICE TAKE PHOTOS, SET UP AND PROGRAM NEW DATABASE PROVIDED AS PART OF THIS SCOPE OF WORK, PRINT AND SET UP THIRTY-FIVE (35) ACCESS CONTROL SYSTEM KEY CARDS. OBTAIN RESPECTIVE SECURITY LEVEL AND ACCESS PRIVILEGE OF EACH CARD PROGRAMMED AS PART OF THIS SCOPE OF WORK FROM CLIENT. COORDINATE SCHEDULE ON SITE WITH CLIENT PRIOR TO COMMENCING WORK.
- N-13 AS PART OF THIS SCOPE OF WORK PROVIDE SOFTWARE BADGE PHOTO ID CAMERA, CARD PRINTER, REPORT PRINTER, LCD MONITOR, KEYBOARD, MOUSE, SOFTWARE PROGRAM, ETC. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- N-14 AS PART OF THIS SCOPE OF WORK PROVIDE AN INTERFACE BETWEEN CARD ACCESS CONTROL SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK AND CCTV SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK SUCH THAT THE CCTV SYSTEM IS INTERFACED WITH THE CARD ACCESS CONTROL SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK. PROVIDE ALL CARD ACCESS CONTROL SYSTEM AND CCTV SYSTEM LICENSES AND PROGRAMMING. PROVIDE ALL REQUIRED CARD ACCESS CONTROL SYSTEM COMPONENTS, ACCESSORIES, WIRING, OUTPUT CONTACTS, INPUT CONTACTS, ETC. FOR A FULLY OPERATIONAL SYSTEM.
- N-15 PROVIDE ACCESS CONTROL SYSTEM DEVICE INDICATED AS PART OF THIS SCOPE OF WORK. MODEL NUMBERS TO BE DETERMINED DURING CONSTRUCTION.
- N-16 NOT USED.
- N-17 NOT USED.
- N-18 EACH AND EVERY CONTROL PANEL PROVIDED AS PART OF THIS SCOPE OF WORK MUST BE FULLY CONFIGURED WITH ALL MODULES, ACCESSORIES, ETC. FOR EIGHT (8) CARD READERS.
- N-19 REFER TO REGIONAL MUNICIPALITY OF DURHAM CORPORATE POLICY AND PROCEDURES MANUAL - SECURITY SERVICES INSTALLATION AND SECURITY SYSTEM STANDARDS, GUIDELINE FOR ADDITIONAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO APPROVED EQUIPMENT RACK/CABINET SELECTIONS, LABELING REQUIREMENTS, ETC OVER AND ABOVE THOSE DETAILED IN THIS DRAWING PACKAGE AND IN THE ELECTRICAL SPECIFICATIONS BOOK. CONTRACTOR SHALL BE RESPONSIBLE FOR AND MUST INCLUDE IN BASE BID PRICE FOR ALL SCOPES OF WORK DETAILED IN THE REGIONAL MUNICIPALITY OF DURHAM CORPORATE POLICY AND PROCEDURES MANUAL - SECURITY SERVICES INSTALLATION AND SECURITY SYSTEM STANDARDS, GUIDELINE, ELECTRICAL DRAWINGS AND ELECTRICAL SPECIFICATIONS BOOK. CONTACT REGIONAL MUNICIPALITY OF DURHAM SECURITY SERVICES SUPERVISOR @ SECURITY@DURHAM.CA FOR QUESTIONS REGARDING REGIONAL MUNICIPALITY OF DURHAM CORPORATE POLICY AND PROCEDURES MANUAL - SECURITY SERVICES INSTALLATION AND SECURITY SYSTEM STANDARDS, GUIDELINE DOCUMENT.

AS PART OF THIS SCOPE OF WORK SET UP ACCESS CONTROL SYSTEM KEY CARDS PROVIDED AS PART OF THIS SCOPE OF WORK, INCLUDING TAKING EMPLOYEE PHOTOS AND SETTING UP AND PROGRAMMING NEW DATABASE PROVIDED AS PART OF THIS SCOPE OF WORK. ELECTRICAL CONTRACTOR SHALL COORDINATE, ORGANIZE AND SCHEDULE TIME TO TAKE PHOTOS OF ALL STAFF AT THE SITE. PROVIDE A BLUE CURTAIN BACKDROP, ALL REQUIRED LIGHTING AND ALL OTHER EQUIPMENT REQUIRED FOR PHOTO TAKING.

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



- (N-1) RISER IS DIAGRAMMATIC ONLY. PROVIDE QUANTITY OF CONTROL PANELS, HARDWARE, DEVICES, POWER CIRCUITS, CONDUIT, WIRE, SECURITY CABLES, ETC. TO ENSURE A FULLY OPERATIONAL SECURITY SYSTEM INTRUSION AND CARD ACCESS CONTROL SYSTEM. MINIMUM REQUIREMENTS DETAILED ON DRAWING.
- (N-2) REFER TO FLOOR PLAN DRAWINGS FOR DEVICE QUANTITY AND LOCATIONS.
- (N-3) PROVIDE CONDUITS AND WIRES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM CONDUIT SIZE AND WIRING REQUIREMENTS AS DETAILED ON RISER DIAGRAM.
- (N-4) ALL INTRUSION SYSTEM DEVICES TO BE PULLED AS HOMERUNS TO ZONE EXPANDER. DO NOT DAISY CHAIN SECURITY SYSTEM INTRUSION BUS (COMBUS) BETWEEN DEVICES. TERMINATE ALL WIRING ONTO TERMINAL STRIPS AND LOOP WIRING AS REQUIRED AT JUNCTION BOX.
- (N-5) ALL CONDUITS TO BE EMT. EMT COUPLING AND CONNECTORS SHALL BE T&B STEEL, SET SCREW TYPE. PROVIDE SPARE PULLSTRING IN ALL CONDUITS FOR FUTURE USE.
- (N-6) ELECTRICAL CONTRACTOR SHALL NOT USE PULLBOXES AS SUBSTITUTES FOR 90° BENDS. 12" X 12" X 6" PULLBOXES C/W TYPE SNAKE EYE SECURITY SCREWS SHALL BE PROVIDED ON THE BASIS OF NOT MORE THAN TWO (2) RIGHT ANGLE BENDS OR NOT MORE THAN 100' IN STRAIGHT RUNS BETWEEN BOXES.
- (N-7) CONTACT SECURITY MANUFACTURER FOR ADDITIONAL WIRE, CONDUIT, PULLBOX AND POWER REQUIREMENTS.
- (N-8) ALL CONTROL PANEL COVERS TO BE EQUIPPED WITH TAMPER SWITCHES.
- (N-9) EACH FIELD DEVICE SHALL BE PROGRAMMED AS AN INDIVIDUAL HARDWIRED ZONE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- (N-10) PROVIDE INTRUSION SYSTEM DEVICE INDICATED AS PART OF THIS SCOPE OF WORK. MODEL NUMBERS TO BE DETERMINED DURING CONSTRUCTION.
- (N-11) PROVIDE END OF LINE RESISTOR FOR EACH STROBE CIRCUIT.
- (N-12) PROVIDE ALL HARDWARE AND SOFTWARE REQUIRED TO FULLY INTEGRATE THE ACCESS CONTROL SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK WITH THE INTRUSION SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK.
- (N-13) ACTIVATION OF PANIC BUTTON SHALL INITIATE THE CALL TO MONITORING STATION AND POLICE STATION. PROVIDE PROGRAMMING, SOFTWARE, HARDWARE, ETC. AS REQUIRED.
- (N-14) UPON DETECTION OF AUTOMATED EXTERNAL DEFIBRILLATOR (AED) USE, THE INTRUSION SYSTEM SHALL INITIATE THE CALL TO MONITORING STATION AND POLICE STATION. PROVIDE PROGRAMMING, SOFTWARE, HARDWARE, ETC. AS REQUIRED.
- (N-15) PROVIDE OUTPUT, WIRE AND CONDUIT TO ULC SECURE LINE FOR OFFSITE MONITORING. COORDINATE EXACT TERMINATION REQUIREMENTS ON SITE. WIRE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

- (1) INTRUSION SYSTEM CONTROL PANEL PROVIDED AS PART OF THIS SCOPE OF WORK
- (2) NOT USED.
- (3) SECURITY SYSTEM COMMUNICATION BUS (WIRING PER MANUFACTURER'S RECOMMENDATION) - 3/4" C
- (4) 2 PAIR #18AWG, PLENUM RATED, - 3/4" C
- (5) INTRUSION CONTROL PANEL ZONE EXPANDER C/W ENCLOSURE
- (6) 24VDC POWER SUPPLY FOR STROBE LIGHTS
- (7) AUTOMATED EXTERNAL DEFIBRILLATOR (AED)
- (8) GSM CELLULAR COMMUNICATIONS MODULE PROVIDED AS PART OF THIS SCOPE OF WORK

————— DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
 - - - - - DENOTES EXISTING TO REMAIN
 * - * - * - * - * - * DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

| DEVICE TYPE PROVIDED AS PART OF THIS SCOPE OF WORK | MANUFACTURER | SERIES / PART # | DRAWING SYMBOL / REFERENCE |
|--|--------------|-----------------|----------------------------|
| INTRUSION SYSTEM CONTROL PANEL | | (N-10) | |
| POWER SUPPLY FOR STROBE LIGHTS | ALTRONIX | AL125UL | |
| INTRUSION SYSTEM MOTION SENSOR | | (N-10) | MS |
| INTRUSION SYSTEM GLASS BREAK DETECTOR | | (N-10) | GB |
| INTRUSION SYSTEM PANIC BUTTON | POTTER | HUB-M | PB |
| INTRUSION SYSTEM STROBE LIGHT | POTTER | CS-24 | DS |
| INTRUSION SYSTEM DOOR CONTACT | | (N-10) | KP |
| INTRUSION SYSTEM KEYPAD | | (N-10) | DC |

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PRIME CONSULTANT
BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 1K5
 Tel: (905) 666-5252
 Fax: (905) 666-5256
 e-mail: bba@bbaweb.org.com



SUB-CONSULTANT
HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2123



HCC Project No.: 20104

| | |
|--------------------|------------------------------|
| DESIGN BY: PC | SCALE: N.T.S. |
| DRAWN BY: TLR | DATE: 2020-05-01 |
| CHECKED BY: PC/HDC | CONSULTANT PROJECT NO. 20060 |
| APPROVED BY: HDC | |

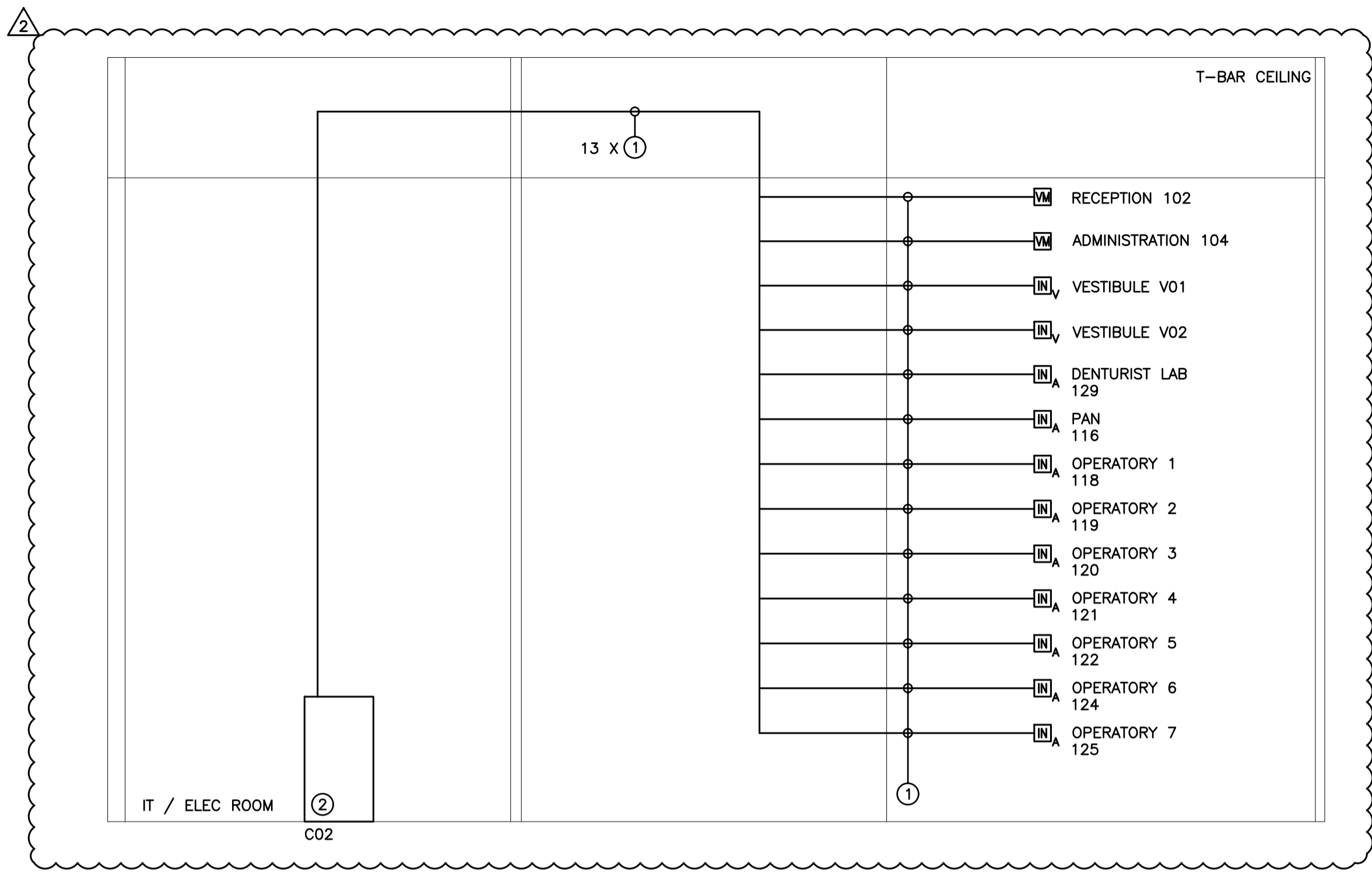
| NO. | DATE | NAME | REVISIONS |
|-----|------------|------|----------------------------|
| 2 | MAY02/2021 | HCC | ISSUED FOR ADDENDUM #E-01 |
| 1 | FEB09/2021 | HCC | ISSUED FOR PERMIT & TENDER |
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DURHAM REGION
 THE REGIONAL MUNICIPALITY OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

INTRUSION SYSTEM RISER DIAGRAM

| | | |
|-----------------------------|---------------------------|--|
| PROPERTY NO.
N/A | FACILITY CODE
LEA-0-07 | FACILITIES PROJECT NO.
LEA-0-07-19-01 |
| CONTRACT NO.
T-1032-2021 | DRAWING NO.
E-019 | SHEET NO.
052 |

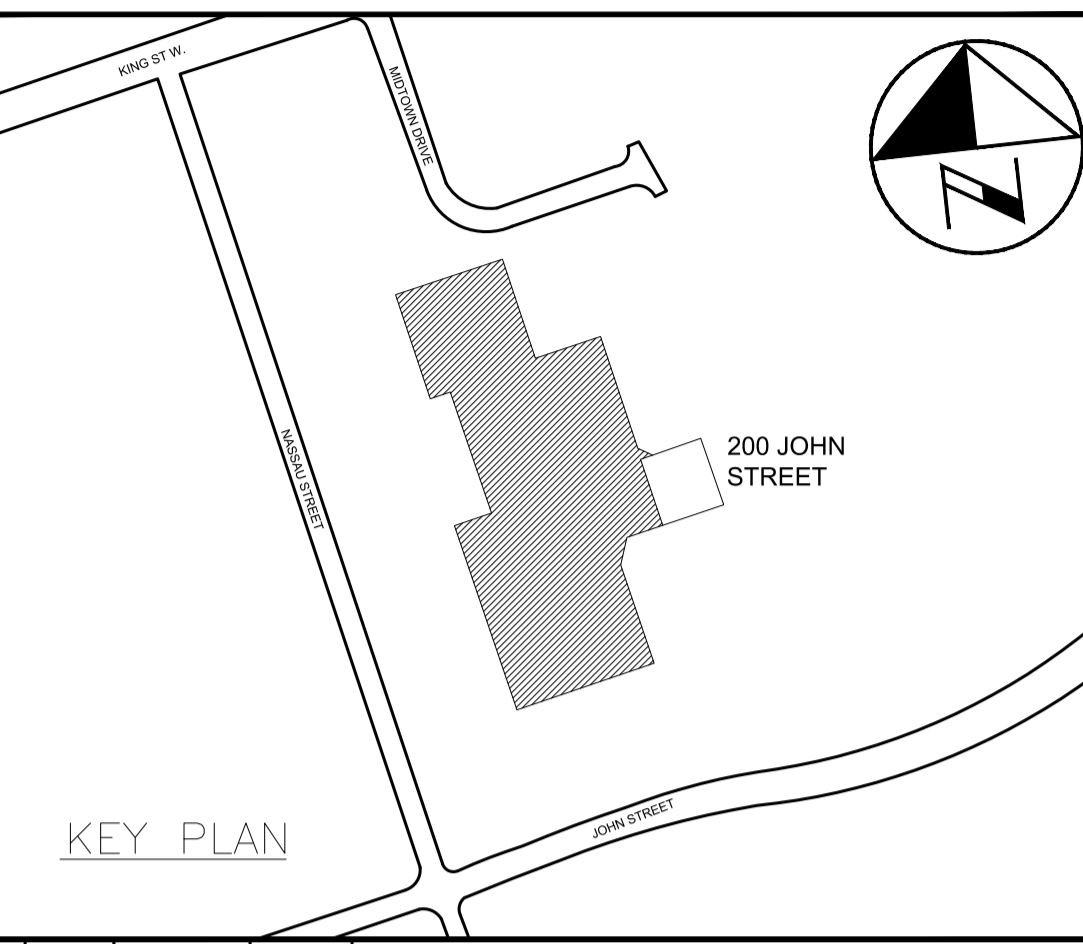


- (N-1) DETAIL IS DIAGRAMMATIC ONLY. REFER TO DRAWING NO. E-010 FOR ADDITIONAL REQUIREMENTS, DEVICE QUANTITY AND LOCATIONS.
 - (N-2) NOT USED.
 - (N-3) MINIMUM WIRING REQUIREMENTS SHOWN. PROVIDE ADDITIONAL WIRING AS PER MANUFACTURER'S RECOMMENDATIONS.
 - (N-4) CONTACT MANUFACTURER FOR SPECIFIC REQUIREMENTS TO TIE IN ALL COMPONENTS. PROVIDE APPROPRIATE ACCESSORIES AS REQUIRED FOR FULLY FUNCTIONAL INTERCOM SYSTEM.
 - (N-5) CONFIRM INTERFACE DEVICE REQUIREMENTS PRIOR TO ORDERING.
 - (N-6) CONTACT MANUFACTURER FOR SPECIFIC PROGRAMMING REQUIREMENTS TO TIE IN ALL COMPONENTS. PROGRAM COMPONENTS AS REQUIRED FOR FULLY FUNCTIONAL INTERCOM SYSTEM.
 - (N-7) AS PART OF THIS SCOPE OF WORK, PROVIDE PROGRAMMING, OUTPUT, HARDWARE, SOFTWARE, ETC., AS REQUIRED TO ENSURE THAT THE VIDEO INTERCOM SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK COMPLIES WITH THE FOLLOWING SEQUENCE OF OPERATION:
 PRESSING ON "VESTIBULE V01" DOOR STATION ONLY INITIATES COMMUNICATION REQUEST TO VIDEO INTERCOM MASTER STATION IN RECEPTION 102.
 PRESSING ON "VESTIBULE V02" DOOR STATION ONLY INITIATES COMMUNICATION REQUEST TO VIDEO INTERCOM SUB-MASTER STATION IN ADMINISTRATION 104.
 PRESS ON "DENTURIST LAB 129", "PAN 116", "OPERATORY 1 118", "OPERATORY 2 119", "OPERATORY 3 120", "OPERATORY 4 121", "OPERATORY 5 122", "OPERATORY 6 124", "OPERATORY 7 125" DOOR STATIONS ONLY INITIATES COMMUNICATION REQUEST TO VIDEO INTERCOM MASTER STATION IN RECEPTION 102.
 - (N-8) PROVIDE DEDICATED FLOOR AND WALL PENETRATIONS. EXACT LOCATION OF ALL CORE DRILLS TO BE DETERMINED BY X-RAY RESULTS. X-RAYS MUST BE REVIEWED AND APPROVED BY THE LANDLORD AND STRUCTURAL ENGINEER PRIOR TO CORE DRILLING.
- ① PLENUM RATED 4 PAIR CATEGORY 6 UTP DATA CABLE PROVIDED BY COMMUNICATIONS CONTRACTOR. RED IN COLOUR.
- ② EQUIPMENT CABINET PROVIDED BY COMMUNICATIONS CONTRACTOR

| DEVICE TYPE PROVIDED AS PART OF THIS SCOPE OF WORK | MANUFACTURER | SERIES / PART # | DRAWING SYMBOL / REFERENCE |
|--|--------------|-----------------|----------------------------|
| INTERCOM SYSTEM MASTER STATION | AIPHONE | IX-MV7-HB | MA |
| INTERCOM SYSTEM VIDEO DOOR STATION | AIPHONE | IX-EA | IN _V |
| INTERCOM SYSTEM AUDIO DOOR STATION | AIPHONE | IX-SS-2G | MA _A |

————— DENOTES NEW PROVIDED BY ELECTRICAL CONTRACTOR
 - - - - - DENOTES EXISTING TO REMAIN
 * - * - * - * - * DENOTES EXISTING TO BE REMOVED BY ELECTRICAL CONTRACTOR

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



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PRIME CONSULTANT
BARRY BRYAN ASSOCIATES
 Architects
 Engineers
 Project Managers
 250 Water St.
 Suite 201
 Whitby, Ontario
 L1M 0K2
 Tel: (905) 696-5252
 Fax: (905) 696-5256
 e-mail: bob@bbaweb.org

LICENSED PROFESSIONAL ENGINEER
 H.D. COHEN
 P0414335
 FEB09/2021
 PROVINCE OF ONTARIO

SUB-CONSULTANT
HCC ENGINEERING
 DESIGN AND TECHNOLOGY SERVICES GROUP
 HCC ENGINEERING LIMITED
 40 EGLINTON AVENUE EAST, SUITE 600
 TORONTO, ONTARIO, M4P 3A2
 Tel: (416) 932-2423

LICENSED PROFESSIONAL ENGINEER
 X. P. CHEN
 100219555
 FEB09/2021
 PROVINCE OF ONTARIO

HCC Project No.: 20104

| | |
|--------------------|------------------------------|
| DESIGN BY: PC | SCALE: N.T.S. |
| DRAWN BY: TLR | DATE: 2020-05-01 |
| CHECKED BY: PC/HDC | CONSULTANT PROJECT NO. 20060 |
| APPROVED BY: HDC | |

| NO. | DATE | NAME | REVISIONS |
|-----|------------|------|----------------------------|
| 2 | MAY02/2021 | HCC | ISSUED FOR ADDENDUM #E-01 |
| 1 | FEB09/2021 | HCC | ISSUED FOR PERMIT & TENDER |

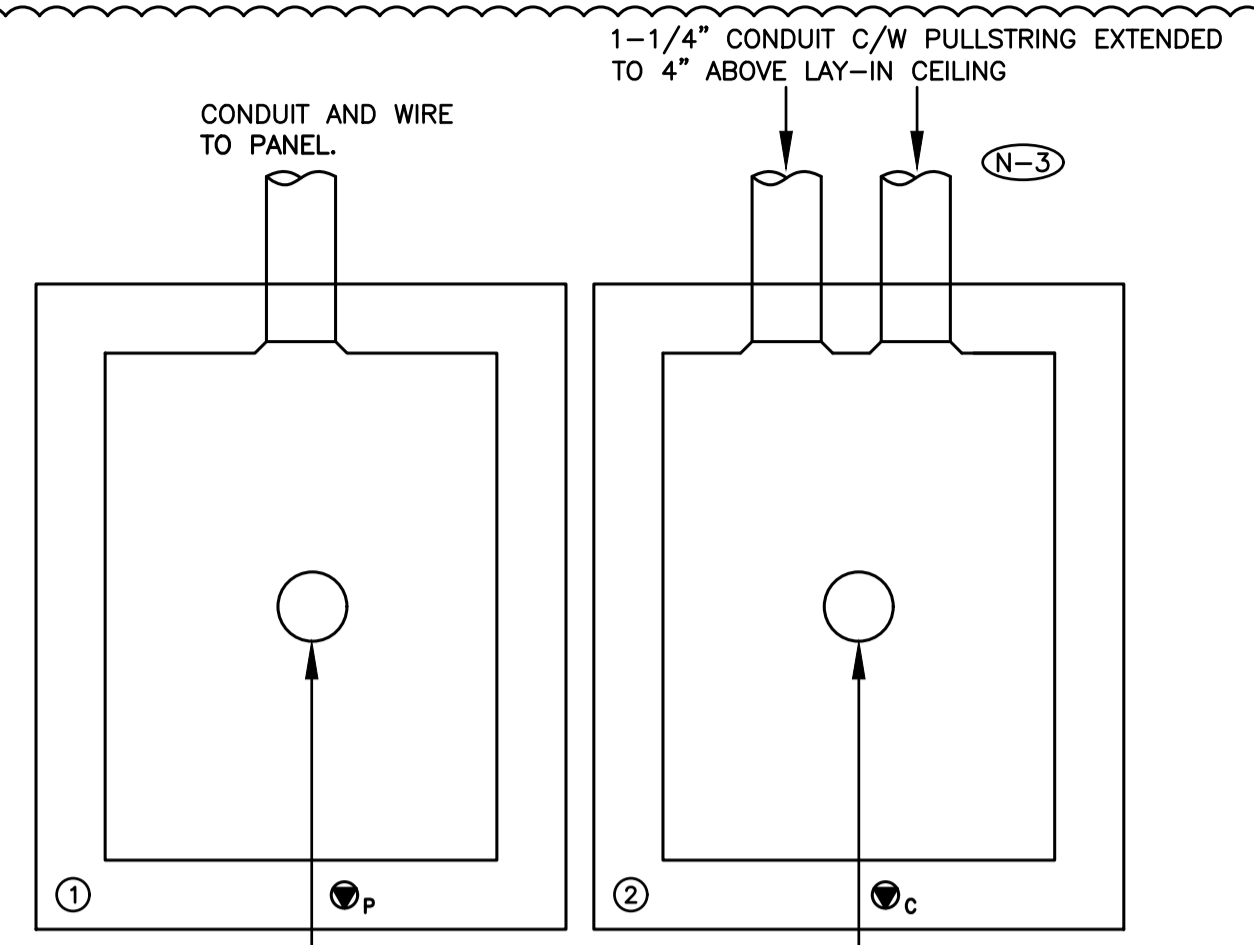
DURHAM REGION

THE REGIONAL MUNICIPALITY
 OF DURHAM
 WORKS DEPARTMENT
 DESIGN, CONSTRUCTION & ASSET MANAGEMENT

RELOCATION OF DENTAL CLINIC
 TO 200 JOHN ST., OSHAWA

INTERCOM SYSTEM RISER DIAGRAM

| | | |
|-----------------------------|---------------------------|--|
| PROPERTY NO.
N/A | FACILITY CODE
LEA-0-07 | FACILITIES PROJECT NO.
LEA-0-07-19-01 |
| CONTRACT NO.
T-1032-2021 | DRAWING NO.
E-020 | SHEET NO.
053 |

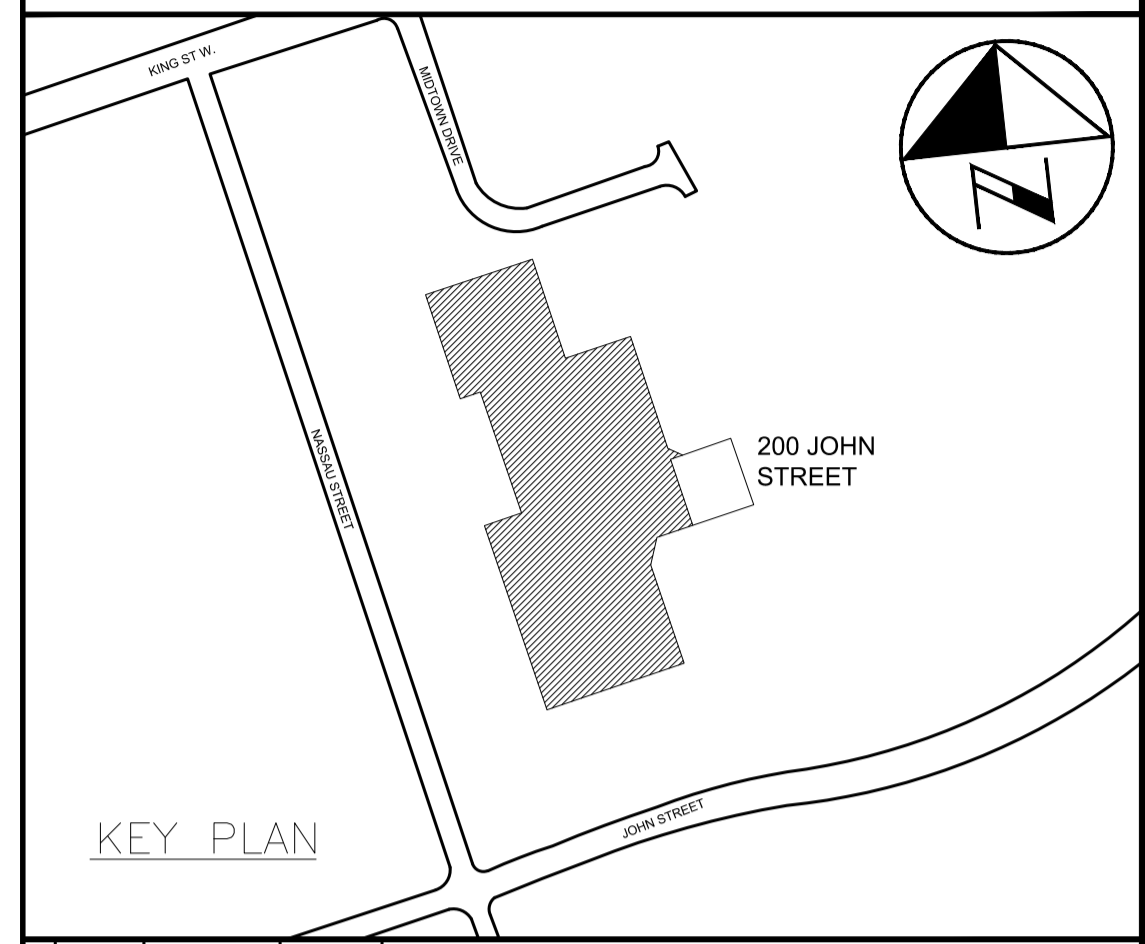


OPENING TO BE OF ADEQUATE SIZE TO ACCEPT 90 DEGREE CONNECTOR POWER HARNESS AND FLEX. ● 2" OPENING FOR COMMUNICATION CABLES AND HARNESS. PROVIDE RUBBER GROMMET.

- (N-1) FINAL POWER CONNECTION TO FURNITURE PROVIDED BY ELECTRICAL CONTRACTOR.
- (N-2) NEATLY LABEL ALL FLOOR MOUNTED AND WALL DEVICE BOX COVERS WITH CORRESPONDING PANEL NAMES AND CIRCUIT NUMBERS, UTILIZE SELF ADHESIVE MECHANICALLY PRINTED LABELS.
- (N-3) PROVIDE PUNCH OUTS IN BACKBOX TO ACCOMMODATE CONDUITS INDICATED.
- ① TWO GANG BACKBOX FOR POWER C/W WHITE COVERPLATE
- ② THREE (3) GANG BACKBOX FOR COMMUNICATIONS C/W WHITE SPLIT COVERPLATE

1 WALL MOUNTED SYSTEMS FURNITURE CONNECTION DETAIL
E-021 SCALE: NTS

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



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PRIME CONSULTANT

BARRY BRYAN ASSOCIATES
Architects
Engineers
Project Managers
250 Water St.
Suite 201
Whitby, Ontario
L1N 1K2
Tel: (905) 666-5252
Fax: (905) 666-5256
e-mail: bba@bbaweb.org.com

SUB-CONSULTANT

HCC ENGINEERING
DESIGN AND TECHNOLOGY SERVICES GROUP
HCC ENGINEERING LIMITED
40 EGLINTON AVENUE EAST, SUITE 600
TORONTO, ONTARIO, M4P 3A2
Tel: (416) 932-2423

HCC Project No.: 20104

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|--------------------|------------------------------|
| DESIGN BY: PC | SCALE: AS SHOWN |
| DRAWN BY: TLR | DATE: 2020-05-01 |
| CHECKED BY: PC/HDC | CONSULTANT PROJECT NO. 20060 |
| APPROVED BY: HDC | |

| NO. | DATE | NAME | REVISIONS |
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| ▲ | MAY02/2021 | HCC | ISSUED FOR ADDENDUM #E-01 |
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RELOCATION OF DENTAL CLINIC TO 200 JOHN ST., OSHAWA

ELECTRICAL DETAILS

| | | |
|-----------------------------|---------------------------|--|
| PROPERTY NO.
N/A | FACILITY CODE
LEA-0-07 | FACILITIES PROJECT NO.
LEA-0-07-19-01 |
| CONTRACT NO.
T-1032-2021 | DRAWING NO.
E-021 | SHEET NO.
0XX |

Project: DURHAM DENTAL #20104

Panelboard: RP-A

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|---------------------------------|---------|------|--------|--------------------------------|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 1 | LIGHTING | 20 | 1 | 2 | | | |
| 3 | LIGHTING | 20 | 1 | 4 | | | |
| 5 | MAINTENANCE GFI RECEPTACLE (RM) | 20 | 1 | 6 | | | |
| 7 | HOUSEKEEPING | 20 | 1 | 8 | HWT-2 | 20 | 1 |
| 9 | EF-3/4 | 15 | 1 | 10 | VAV-21 | 15 | 2 |
| 11 | EF-5/6/7 | 15 | 1 | 12 | | | |
| 13 | MOJAVE V5 | 30 | 2 | 14 | COMPRESSOR ROOM FRIDGE | 20 | 1 |
| 15 | | | | 16 | O&N CLOSET RECEPTACLE | 20 | 1 |
| 17 | AS50 | 30 | 2 | 18 | O&N CLOSET RECEPTACLE | 20 | 1 |
| 19 | | | | 20 | | | |
| 21 | AS30 | 20 | 2 | 22 | | | |
| 23 | | | | 24 | | | |
| 25 | ASTA-5 | 15 | 2 | 26 | CUSTODIAL GFI RECEPTACLE | 20 | 1 |
| 27 | | | | 28 | HWT-1 | 15 | 1 |
| 29 | | | | 30 | HUMIDIFIER H-1 | 15 | 1 |
| 31 | VAV-22/23 | 15 | 2 | 32 | WOMEN'S W/R SINK SENSOR | 15 | 1 |
| 33 | | | | 34 | WOMEN'S W/R TOILET SENSOR | 15 | 1 |
| 35 | MEETING ROOM OFFICE GROUP | 20 | 1 | 36 | WOMEN'S W/R GFI RECEPTACLE | 20 | 1 |
| 37 | MEETING ROOM OFFICE GROUP (PL) | 20 | 1 | 38 | MEN'S W/R GFI RECEPTACLE | 20 | 1 |
| 39 | MEETING ROOM OFFICE GROUP | 20 | 1 | 40 | MEN'S W/R SINK SENSOR | 15 | 1 |
| 41 | MEETING ROOM OFFICE GROUP (PL) | 20 | 1 | 42 | MEN'S W/R TOILET/URINAL SENSOR | 15 | 1 |

Project: DURHAM DENTAL #20104

Panelboard: RP-A

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|-------------------------------|---------|------|--------|------------------------|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 43 | MEETING ROOM FLOOR GROUP | 20 | 1 | 44 | | | |
| 45 | MEETING ROOM FLOOR GROUP (PL) | 20 | 1 | 46 | | | |
| 47 | MEETING ROOM TV | 20 | 1 | 48 | | | |
| 49 | BBH-7 | 15 | 2 | 50 | DISHWASHER | 40 | 2 |
| 51 | | | | 52 | | | |
| 53 | | | | 54 | KITCHEN GFI RECEPTACLE | 20 | 1 |
| 55 | | | | 56 | KITCHEN GFI RECEPTACLE | 20 | 1 |
| 57 | CCH-2 | 15 | 2 | 58 | KITCHEN GFI RECEPTACLE | 20 | 1 |
| 59 | | | | 60 | KITCHEN GFI RECEPTACLE | 20 | 1 |
| 61 | VESTIBULE V02 DOOR OPERATOR | 15 | 1 | 62 | KITCHEN GFI RECEPTACLE | 20 | 1 |
| 63 | | | | 64 | DRYER | 30 | 2 |
| 65 | | | | 66 | | | |
| 67 | | | | 68 | WASHER | 20 | 1 |
| 69 | | | | 70 | | | |
| 71 | | | | 72 | | | |
| 73 | SPARE | 15 | 1 | 74 | | | |
| 75 | SPARE | 15 | 1 | 76 | CONTROLS | 15 | 1 |
| 77 | SPARE | 15 | 1 | 78 | CONTROLS | 15 | 1 |
| 79 | SPARE | 20 | 1 | 80 | CONTROLS | 15 | 1 |
| 81 | SPARE | 20 | 1 | 82 | CONTROLS | 15 | 1 |
| 83 | SPARE | 20 | 1 | 84 | CONTROLS | 15 | 1 |

Project: DURHAM DENTAL #20104

Panelboard: RP-B

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|---------------------------------|---------|------|--------|-----------------------------------|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 1 | | | | 2 | OPERATORY 1 AIR PURIFIER | 20 | 1 |
| 3 | DOOR OPERATOR | 15 | 1 | 4 | OPERATORY 1 MISC. | 20 | 1 |
| 5 | MAINTENANCE GFI RECEPTACLE (RM) | 20 | 1 | 6 | OPERATORY 1 CHAIR | 20 | 1 |
| 7 | | | | 8 | OPERATORY 1 X-RAY MACHINE | 20 | 1 |
| 9 | AC-2/AC-3 | 15 | | 10 | OPERATORY 1 COUNTER RECEPTACLES | 20 | 1 |
| 11 | | | 2 | 12 | OPERATORY 1 CHAIR LIFT | 15 | 1 |
| 13 | VAV-3/5 | 15 | | 14 | VAV-1 | 20 | |
| 15 | | | 2 | 16 | | | 2 |
| 17 | | | | 18 | DC BATTERY UNIT M1/NIGHT LIGHTING | 15 | 1 |
| 19 | | | | 20 | OPERATORY 2 / 3 MISC. | 20 | 1 |
| 21 | | | | 22 | OPERATORY 2 CHAIR | 20 | 1 |
| 23 | | | | 24 | OPERATORY 2 X-RAY MACHINE | 20 | 1 |
| 25 | | | | 26 | OPERATORY 2 COUNTER RECEPTACLES | 20 | 1 |
| 27 | | | | 28 | OPERATORY 2 AIR PURIFIER | 20 | 1 |
| 29 | | | | 30 | | | |
| 31 | | | | 32 | | | |
| 33 | CONTROL CCT | 15 | 1 | 34 | | | |
| 35 | CONTROL CCT | 15 | 1 | 36 | OPERATORY 3 AIR PURIFIER | 20 | 1 |
| 37 | CONTROL CCT | 15 | 1 | 38 | OPERATORY 3 CHAIR | 20 | 1 |
| 39 | CONTROL CCT | 15 | 1 | 40 | OPERATORY 3 X-RAY MACHINE | 20 | 1 |
| 41 | CONTROL CCT | 15 | 1 | 42 | OPERATORY 3 COUNTER RECEPTACLES | 20 | 1 |

Project: DURHAM DENTAL #20104

Panelboard: RP-C

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|----------------------|---------|------|--------|---|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 1 | | | | 2 | DOOR OPERATOR | 15 | 1 |
| 3 | | | | 4 | DOOR OPERATOR | 15 | 1 |
| 5 | | | | 6 | | | |
| 7 | | | | 8 | UNIVERSAL W/R DURESS/LOCK/DOOR OPERATOR | 15 | 1 |
| 9 | WAITING AREA TV | 20 | 1 | 10 | UNIVERSAL W/R EF-1 / EF-2 | 15 | 1 |
| 11 | WAITING AREA TV | 20 | 1 | 12 | UNIVERSAL W/R GFI RECEPTACLE | 20 | 1 |
| 13 | | | | 14 | UNIVERSAL W/R CHANGE TABLE | 20 | 1 |
| 15 | CCH-1 | 15 | 2 | 16 | | | |
| 17 | | | | 18 | DC BATTERY UNIT M2/NIGHT LIGHTING | 15 | 1 |
| 19 | BBH-1/BBH-2 | 15 | 2 | 20 | | | |
| 21 | | | | 22 | | | |
| 23 | BBH-3/BBH-4/BBH-5 | 15 | 2 | 24 | | | |
| 25 | | | | 26 | ADMINISTRATION 104 OFFICE GROUP | 20 | 1 |
| 27 | | | | 28 | ADMINISTRATION 104 OFFICE GROUP | 20 | 1 |
| 29 | | | | 30 | ADMINISTRATION 104 OFFICE GROUP | 20 | 1 |
| 31 | RECEPTION BACK WALL | 20 | 1 | 32 | ADMINISTRATION 104 OFFICE GROUP | 20 | 1 |
| 33 | RECEPTION DESK | 20 | 1 | 34 | CONSULT ROOM 1 | 20 | 1 |
| 35 | RECEPTION DESK | 20 | 1 | 36 | CONSULT ROOM 2 | 20 | 1 |
| 37 | | | | 38 | OFFICE 3 | 20 | 1 |
| 39 | | | | 40 | OFFICE 1 | 20 | 1 |
| 41 | COPY AREA RECEPTACLE | 20 | 1 | 42 | OFFICE 2 | 20 | 1 |

Project: DURHAM DENTAL #20104

Panelboard: RP-C

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|---------------------------|---------|------|--------|-----------------------------|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 43 | COPY AREA RECEPTACLE (PL) | 20 | 1 | 44 | AREA 111 WORKSTATIONS | 15 | 1 |
| 45 | COPY AREA RECEPTACLE (PL) | 20 | 1 | 46 | AREA 111 WORKSTATIONS | 15 | 1 |
| 47 | COPY AREA RECEPTACLE | 20 | 1 | 48 | AREA 111 WORKSTATIONS | 15 | 1 |
| 49 | AREA 111 PRINTER | 20 | 1 | 50 | AREA 111 WORKSTATIONS | 15 | 1 |
| 51 | AREA 111 WORKSTATIONS | 15 | 1 | 52 | | | |
| 53 | AREA 111 WORKSTATIONS | 15 | 1 | 54 | | | |
| 55 | AREA 111 WORKSTATIONS | 15 | 1 | 56 | AREA 111 WORKSTATIONS | 15 | 1 |
| 57 | AREA 111 WORKSTATIONS | 15 | 1 | 58 | AREA 111 WORKSTATIONS | 15 | 1 |
| 59 | AREA 111 WORKSTATIONS | 15 | 1 | 60 | | | |
| 61 | AREA 111 WORKSTATIONS | 15 | 1 | 62 | AREA 111 WORKSTATIONS | 15 | 1 |
| 63 | | | | 64 | AREA 111 WORKSTATIONS | 15 | 1 |
| 65 | | | | 66 | | | |
| 67 | AREA 111 WORKSTATIONS | 15 | 1 | 68 | PHONE RM 1 & 2 OFFICE GROUP | 20 | 1 |
| 69 | AREA 111 WORKSTATIONS | 15 | 1 | 70 | | | |
| 71 | AREA 111 WORKSTATIONS | 15 | 1 | 72 | | | |
| 73 | AREA 111 WORKSTATIONS | 15 | 1 | 74 | | | |
| 75 | | | | 76 | HOUSEKEEPING | 20 | 1 |
| 77 | | | | 78 | HOUSEKEEPING | 20 | 1 |
| 79 | SPARE | 15 | 1 | 80 | SPARE | 20 | 1 |
| 81 | SPARE | 15 | 1 | 82 | SPARE | 20 | 1 |
| 83 | SPARE | 15 | 1 | 84 | SPARE | 20 | 1 |

Project: DURHAM DENTAL #20104

Panelboard: RP-B

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|---------------------------------|---------|------|--------|---------------------------------|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 43 | OPERATORY 4 COUNTER RECEPTACLES | 20 | 1 | 44 | OPERATORY 7 COUNTER RECEPTACLES | 20 | 1 |
| 45 | OPERATORY 4 / 5 MISC. | 20 | 1 | 46 | OPERATORY 7 X-RAY MACHINE | 20 | 1 |
| 47 | OPERATORY 4 X-RAY MACHINE | 20 | 1 | 48 | OPERATORY 7 CHAIR | 20 | 1 |
| 49 | OPERATORY 4 CHAIR | 20 | 1 | 50 | OPERATORY 7 AIR PURIFIER | 20 | 1 |
| 51 | OPERATORY 4 AIR PURIFIER | 20 | 1 | 52 | | | |
| 53 | VAV-7/9 | 15 | 2 | 54 | | | |
| 55 | | | | | | | |
| 57 | VAV-11/13 | 15 | 2 | 56 | | | |
| 59 | | | | | | | |
| 61 | OPERATORY 5 X-RAY MACHINE | 20 | 1 | 60 | PAN. 116 X-RAY MACHINE | 20 | 3 |
| 63 | OPERATORY 5 COUNTER RECEPTACLES | 20 | 1 | 62 | | | |
| 65 | OPERATORY 5 CHAIR | 20 | 1 | 64 | | | |
| 67 | OPERATORY 5 AIR PURIFIER | 20 | 1 | 66 | PAN. 116 OFFICE GROUP | 20 | 1 |
| 69 | | | | 68 | PAN. 116 OFFICE GROUP | 20 | 1 |
| 71 | | | | 70 | | | |
| 73 | OPERATORY 6 / 7 MISC. | 20 | 1 | 72 | | | |
| 75 | OPERATORY 6 X-RAY MACHINE | 20 | 1 | 74 | | | |
| 77 | OPERATORY 6 COUNTER RECEPTACLES | 20 | 1 | 76 | | | |
| 79 | | | | 78 | HOUSEKEEPING | 20 | 1 |
| 81 | OPERATORY 6 CHAIR | 20 | 1 | 80 | SPARE | 20 | 1 |
| 83 | OPERATORY 6 AIR PURIFIER | 20 | 1 | 82 | SPARE | 20 | 1 |
| | | | | 84 | SPARE | 20 | 1 |

Project: DURHAM DENTAL #20104

Panelboard: RP-D

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|-------------------------------|-------------------------------|------|--------|------------------------------|------------------------------|------|
| | | Amp | Pole | | | Amp | Pole |
| 1 | STERILIZATION ROOM RECEPTACLE | 20 | 2 | 2 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 3 | | | | 4 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 5 | | STERILIZATION ROOM RECEPTACLE | 20 | 2 | 6 | DENTURIST COUNTER RECEPTACLE | 20 |
| 7 | 8 | | | | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 9 | STERILIZATION ROOM RECEPTACLE | 20 | 2 | 10 | DENTURIST COUNTER RECEPTACLE | 20 | 2 |
| 11 | | | | 12 | | | |
| 13 | STERILIZATION ROOM RECEPTACLE | 20 | 2 | 14 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 15 | | | | 16 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 17 | STERILIZATION ROOM RECEPTACLE | 20 | 2 | 18 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 19 | | | | 20 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 21 | STERILIZATION ROOM RECEPTACLE | 20 | 2 | 22 | DENTURIST COUNTER RECEPTACLE | 20 | 1 |
| 23 | | | | 24 | DENTURIST COUNTER RECEPTACLE | 20 | 2 |
| 25 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 26 | | | |
| 27 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 28 | DENTURIST MISC. | 20 | 1 |
| 29 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 30 | DENTURIST MISC. | 20 | 1 |
| 31 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 32 | FUME HOOD | 30 | 1 |
| 33 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 34 | DUST COLLECTOR | 30 | 1 |
| 35 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 36 | FURNACE | 30 | 1 |
| 37 | STERILIZATION ROOM RECEPTACLE | 20 | 1 | 38 | | | |
| 39 | STERILIZATION ROOM WASHER | 30 | 2 | 40 | | | |
| 41 | | | | 42 | | | |

Project: DURHAM DENTAL #20104

Panelboard: RP-D

Voltage (V):

Phase/Wire:

Bus and Lugs Rating (A):

| CCT NO | Load | Breaker | | CCT NO | Load | Breaker | |
|--------|--------------------------|---------|------|--------|--------------------------------|---------|------|
| | | Amp | Pole | | | Amp | Pole |
| 43 | TIME CLOCK - EF | 15 | 1 | 44 | C01 RECEPTACLE | 20 | 1 |
| 45 | FIRE ALARM BOOSTER PANEL | 15 | 1 | 46 | C01 RECEPTACLE | 20 | 1 |
| 47 | FIRE ALARM BOOSTER PANEL | 15 | 1 | 48 | C02 RECEPTACLE | 20 | 1 |
| 49 | | | | 50 | C02 RECEPTACLE | 20 | 1 |
| 51 | | | | 52 | ELEC/IT ROOM MISC | 20 | 1 |
| 53 | | | | 54 | ELEC/IT ROOM SECURITY | 20 | 1 |
| 55 | | | | 56 | ELEC/IT ROOM SECURITY | 20 | 1 |
| 57 | | | | 58 | ELEC/IT ROOM SECURITY | 20 | 1 |
| 59 | | | | 60 | ELEC/IT ROOM SECURITY | 20 | 1 |
| 61 | | | | 62 | INTRUSION SYSTEM CONTROL PANEL | 15 | 1 |
| 63 | | | | 64 | INTRUSION SYSTEM ZONE EXPANDER | 15 | 1 |
| 65 | | | | 66 | INTRUSION SYSTEM ZONE EXPANDER | 15 | 1 |
| 67 | | | | 68 | | | |
| 69 | | | | 70 | | | |
| 71 | | | | 72 | | | |
| 73 | | | | 74 | | | |
| 75 | | | | 76 | | | |
| 77 | | | | 78 | | | |
| 79 | | | | 80 | | | |
| 81 | | | | 82 | | | |
| 83 | | | | 84 | | | |

1 General

1.1 Section includes

- .1 Cash allowances.

1.2 Cash allowances

- .1 Consultant Responsibilities:
 - .1 Consult with Contractor for consideration and selection of Products, suppliers, and installers.
 - .2 Owner and Consultant to select Products.
 - .3 Prepare Change Order.
- .2 Contractor Responsibilities:
 - .1 Assist Consultant in selection of Products, suppliers and installers.
 - .2 Obtain proposals from suppliers and installers and offer recommendations.
 - .3 On notification of selection by Consultant or Owner, execute purchase agreement with designated supplier and installer.
 - .4 Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
 - .5 Promptly inspect Products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- .3 Supply-only cash allowances shall include:
 - .1 Net cost of products
 - .2 Delivery to Site
 - .3 Applicable taxes and duties, excluding HST
 - .4 Supply and install cash allowances shall include:
 - .5 Net cost of Products
 - .6 Delivery to Site
 - .7 Unloading, storing, handling or Products on Site
 - .8 Installation, finishing and commissioning of Products
 - .9 Applicable taxes and duties, excluding HST
 - .10 Inspection and testing allowances shall include:

- .11 Net cost of inspection and testing services
- .12 Applicable taxes and duties, excluding HST
- .4 Include cash allowances in the Contract Price. Differences in costs will be adjusted by Change Order.
- .5 Allowances Schedule:
 - .1 Include a cash allowance of \$180,000.00 for purchase, delivery, and installation of Office Furniture.
 - .2 Include a cash allowance of \$67,000.00 for purchase, delivery, and installation of Security Systems and Services.
 - .3 Include a cash allowance of \$5,000.00 for testing agencies not specified in the contract bid price.

1.3 Use of cash allowances

- .1 Expenditures against cash allowance will be made only upon receipt of written authority from the Owner.
- .2 No expenditure against a cash allowance shall be made or incurred except as instructed by the Owner in writing.
- .3 Submit copies of all invoices for labour, materials and equipment to the Owner to substantiate charges against the allowances.
- .4 Any unused portion of cash allowances will be credited to the Region upon completion of the Work.
- .5 The cash allowances do not include Harmonized Sales Tax (HST)

2 Products – not used

3 Execution – not used

End of section