

project: Scarborough Health Network
Mental Health Inpatient Consolidation Pod
3A3030 Birchmount Road, Scarborough, ON

ADD: 02

MMC RFQ#: CW29854
HJA project no: 24-20

date: 2026-07-03

page 1 of: 7 + attachments

This addendum forms part of the contract documents and is to be read, interpreted, and co-ordinated with all other parts. The cost of all contained herein is to be included in the stipulated bid price. The following revisions supersede the information contained in the original drawings and specifications issued for the above-named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number on the tender form. Failure to do so may subject bidder to disqualification.

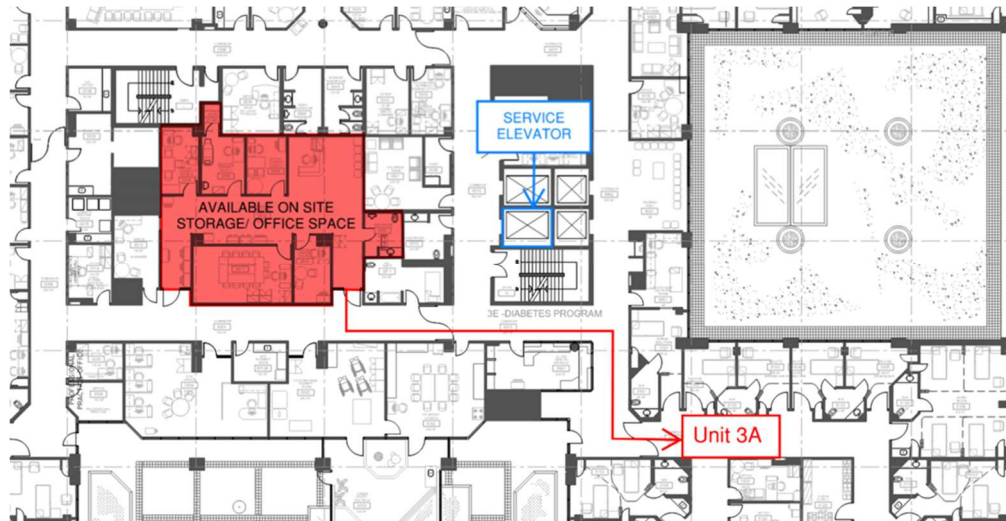
1.0 GENERAL

- 1.1 **Roof Above Pod 3A** – There are roof anchors on the roof above Pod 3A. Contractor shall site verify the location and compatibility for any use of a swing stage for the window replacement. Contractor shall also provide protective covering over the existing roof flashing to prevent damages. Below are photos of the roof for reference.





- 1.2 **On Site Office and Material Storage Location** – Storage and on-site office outside of Pod 3A is only allowed in the designated area on Level 3 as highlighted in red in the sketch below (1 washroom + approximately 68 sqm enclosed area + 72 sqm open/corridor space, subject to site verification). The Contractor is limited to bringing in materials and equipment through the loading area, up to Pod 3A via Owner designated elevator. Note, the Owner may restrict material delivery and use of elevator to specific hours. This clause supersedes clause 1.3, STAGING AND STORAGE LOCATION, in HJA addendum No.01.



2.0 ALTERNATIVES (Refer to specification section 01 25 00 – Substitution Procedures)

2.1 Architectural

- .1 Aluminum Windows + Sull Sashes

Sherwood Windows MHW-6200 Assembly is an acceptable alternative to Alumicor Thermawall 2600 + SS-6200 as long as the mullion back section can be customized to match specified size. All Curtain Wall + Sull Sashes Assemblies are to be tested for compliance with 2000 ft/lb impact testing (Refer to Spec).

2.2 Mechanical

- .1 Not Used

2.3 Electrical

- .1 Not Used

3.0 ARCHITECTURAL GENERAL

- 3.1 Not Used

4.0 ARCHITECTURAL SPECIFICATION

4.1 Section 01 11 00 Summary of Work and General Conditions

.1 **REVISE** Section 15.9 to read:

"Personnel access and material deliveries to the Site shall be only by routes designated by the Owner. Deliver Products between the hours of **7:30 pm - 5:30 am** p.m. except when permitted otherwise by the Owner. Owner's equipment such as trucks, bins, dollies, and other such equipment/facilities shall not be used by Contractors. Arrangements for handling bulky or heavy items requiring special procedures must be made and reviewed with the Owner."

.2 **DELETE** Section 16.6:

~~"A regular full-time watchman is generally not required on Site, however, if in the opinion of the Consultant or Owner the Work is not adequately protected, the Owner may request that a watchman be employed by the Contractor at no extra cost to the Contract."~~

.3 **REVISE** Section 15.9 to read:

"Personnel access and material deliveries to the Site shall be only by routes designated by the Owner. Deliver Products between the hours of **7:30 pm - 5:30 am** p.m. except when permitted otherwise by the Owner. Owner's equipment such as trucks, bins, dollies, and other such equipment/facilities shall not be used by Contractors. Arrangements for handling bulky or heavy items requiring special procedures must be made and reviewed with the Owner."

4.2 Section 01 14 00 Work Restrictions

.1 **REVISE** Section 1.7.1 to read:

"All noisy work shall be performed between Monday to Sunday **8:00 am to 8:00 pm** only unless permitted otherwise by the Owner."

.2 **REVISE** Section 1.8.1 to read:

"Schedule excessively noisy work to avoid disturbance to building occupants. No noisy work is permitted between the hours of **8:00 pm to 8:00 am** unless prior consent on a case by case basis is provided by the Owner. Seek approval from Owner to carryout noisy work outside of the above referenced hours."

4.3 Section 08 51 13 Aluminum Windows

.1 **REVISE** Section 2.5.3.1 to read:

"Monolithic Spandrel Aluminum: ASTM B209, Alloy 5005-H34, Flat Sheet, Coloured **Anodic Class 1 Coating Light Bronze (75)** (Post Forming)."

.2 **REVISE** Section 2.6.5 to read:

"Sill Flashings: 3 mm (0.125 inches) thick aluminum flashing to profiles indicated, complete with end dams – Prefinished Colour to match **Curtain Wall Exterior Finish**."

.3 **REVISE** Section 2.9.1 to read:

Coloured Anodic Coating: AAMA 611, Class I, AA- M10C21A44.

- .1 Location: Interior and exterior exposed aluminum surfaces.
- .2 Colour:
 - .1 Interior: Light Bronze (75) (ANO-301 AE)
 - .2 Exterior: Light Bronze (75) (ANO-301 AE)

4.4 Section 08 52 11 Interior Aluminum Security Sull Sashes

.1 **REVISE** Section 2.1.1 to read:

"Materials specified in this Section are based on "Series **SS**-6200 – Behavioral/Mental Health Security Windows" by;

Sherwood Windows Limited

37 Iron Street, Toronto, Ontario, Canada M9W 5E3

Tel: (416) 675.3262 or 800.770.5256 (toll free)

Fax: (416) 675.1243

Web: www.sherwoodwindows.com as listed in this Specification.

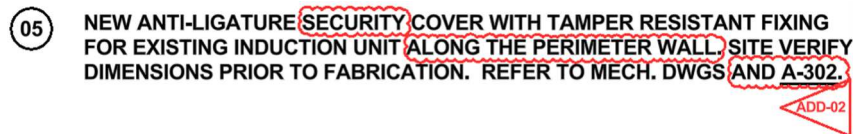
.2 **REVISE** Section 2.5.1 to read:

"All aluminum screens and frames visible in completed work shall be **Light Bronze** anodized, Class I complying with AAMA 611."

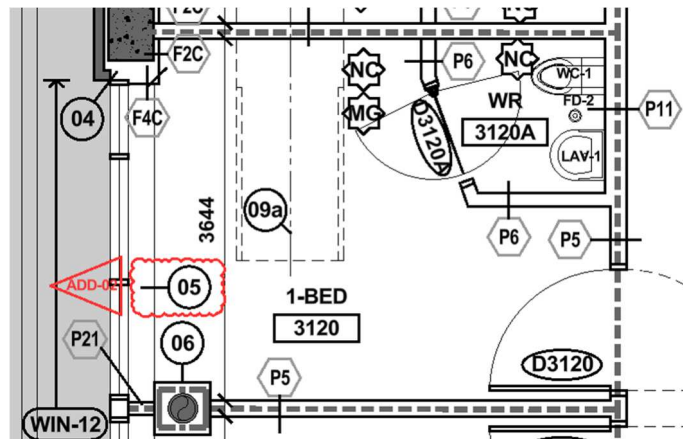
5.0 ARCHITECTURAL DRAWINGS

5.1 A-200 Construction Plan – Level 3 (Pod 3A)

.1 **REVISED KEY NOTE** – Key note 04 on drawing 04/A-200 is updated. See sketch below.



- .2 **ADD KEY NOTE CALL OUT** – Callout for key note 5 add to room 3120. See sketch below.

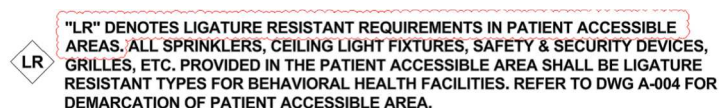


5.2 A-201 Reflected Ceiling Plan – Level 3 POD 3A

- .1 **ADDED DOME LIGHT** – Additional dome light is added to patient shower room 3133, 3150 and 3151 further to coordination with the revised electrical drawings.



- .2 **REVISED KEY NOTE** – Key note for  on drawing 02/A-201 updated for clarity. See sketch below: -



5.3 A-202 Floor Finish Plan Level 3 (POD 3A)

- .1 **DELETED LEGEND** – The trench drain legend shown on 03/A-202 is not used and has been deleted.

5.4 A-204 Furniture, Equipment and Accessories Plan

- .1 **REISSUED** with this addendum for revised key note for item no. 38 and 39 and revised responsibility code for key note item no. 04, 21a, 22a and 29.

5.5 A-302 Exterior Window Details

- .1 **REISSUED** with this addendum for clarification of ceiling finishes and induction unit enclosure dimensions.

5.6 A-500 Door Schedule

- .1 **REVISED FRAME TYPE** – The door frame type for Door # D3156 shall be type B1.

- .2 REVISED FRAME TYPE – The door frame type for Door # D3157A and #D3157B shall be type D.

6.0 MECHANICAL ADDENDUM (SEE ATTACHED ADD# M-02)

7.0 ELECTRICAL ADDENDUM (SEE ATTACHED ADD# E-02)

end of addendum

Prepared by:

Angela Chan, OAA

hanson + jung architects inc.



01 FURNITURE, FIXTURES AND EQUIPMENT PLAN
A-204 1:75

EQUIPMENT & FURNITURE PLAN LEGEND			
	NOT INCLUDED IN THE ARCHITECTURAL LIMITS OF WORK. REFER TO THE MECHANICAL AND ELECTRICAL DRAWINGS FOR THE LIMITS OF WORK FOR THESE DISCIPLINES. ALL BUILDER'S WORK ASSOCIATED WITH THE WORKS REQUIRED TO FACILITATE THE SCOPE OF WORK UNDER THESE DISCIPLINES SHALL BE PROVIDED BY THE CONTRACTOR.		NEW DOOR AND FRAME
			EXISTING DOOR TO REMAIN
	HIGHLIGHT EXISTING WALL / WINDOW TO REMAIN		BUILT-IN MILLWORK TO BE PROVIDED IN CONTRACT, SITE VERIFY DIMENSIONS PRIOR TO FABRICATION
	EXISTING CONCRETE BLOCK WALL TO REMAIN		VALANCE LIGHT UNDER UPPER CABINET
	GYPSUM BOARD WALL ASSEMBLY. REFER TO PARTITION SCHEDULE.		INTERIOR SCREEN WITH PASS THRU
	140mm CONCRETE BLOCK WALL WITH PLASTER RENDER ON BOTH SIDES		
	ROOM NAME		
	ROOM NAME AND NUMBER		
	FFE PLAN KEY NOTE		
	SECURITY AND ACCESSES CONTROL DEVICES (REFER TO ELEC. DWGS.)		
			RECESSED CARD READER
			MAG LOCK WIRED INTO FIRE ALARM SYSTEM
			AUTOMATIC DOOR OPERATOR
			ELECTRIC HOLD OPEN
			INTERCOM (AUDIO & CAMERA)
			INTERCOM (AUDIO ONLY)

02 EQUIPMENT & FURNITURE PLAN LEGEND
A-204

FURNITURE PLAN GENERAL NOTES	
1.	REFER TO INSTALLATION CODE IN DWG 04/A-204 FOR SUPPLY AND INSTALLATION RESPONSIBILITY.
2.	REFER TO DWG A-502 FOR SANITARY ACCESSORIES.
3.	CONTRACTOR SHALL PROVIDE ALL REQUIRED BUILDING SERVICES INCLUDING POWER, DATA AND PLUMBING FOR THE EQUIPMENT / FURNITURE / ACCESSORIES. REFER TO ELEC. AND MECH. FOR DETAILS.
4.	THE SIZE AND LOCATION OF ALL OWNER-SUPPLIED FURNITURE AND EQUIPMENT ON THIS DRAWING ARE SHOWN INDICATIVELY ONLY. THE CONTRACTOR SHALL OBTAIN ALL PRODUCT INFORMATION FROM OWNER, COORDINATE AND CONFIRM LOCATION WITH THE OWNER PRIOR TO INSTALLATION.
5.	ALL EQUIPMENT / FURNITURE / ACCESSORIES INSTALLATION BY CONTRACTOR SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6.	CONTRACTOR SHALL COORDINATE ALL INSTALLATION OF OWNER-SUPPLIED EQUIPMENT WITH OWNER'S REPRESENTATIVE. THE REQUIRED COORDINATION INCLUDES BUT NOT LIMITED TO SETTING OUT AND REQUIRED CLEARANCE, THE FIXING REQUIREMENT, SURFACE PREPARATION, AND SETTING OUT OF BUILDING SERVICES AS PER EQUIPMENT / FURNITURE / ACCESSORIES MANUFACTURER'S MANUAL.
7.	CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL EQUIPMENT / FURNITURE / ACCESSORIES WITH OWNER'S VENDOR.
8.	CONTRACTOR SHALL COORDINATE AND PROVIDE CONCEALED WALL REINFORCEMENT FOR ALL WALL MOUNTED EQUIPMENT / FURNITURE / ACCESSORIES THAT ARE SUPPLIED BY OWNER, OWNER'S VENDOR, AND/OR CONTRACTOR.
9.	CONTRACTOR SHALL PATCH AND MAKE GOOD ALL DAMAGES AS A RESULT OF EQUIPMENT / FURNITURE / ACCESSORIES INSTALLATION.

03 FURNITURE PLAN GENERAL NOTES
A-204

EQUIPMENT, FURNITURE & ACCESSORIES PLAN KEY NOTES			** DENOTES SOLID WALL BLOCKING IN PARTITION TO BE PROVIDED BY THE CONTRACTOR FOR WALL-MOUNTED EQUIPMENT / FURNITURE / ACCESSORIES. CONTRACTOR SHALL COORDINATE AND CONFIRM LOCATIONS OF THE WALL-MOUNTED EQUIPMENT / FURNITURE / ACCESSORIES WITH THE OWNER PRIOR TO CLOSING UP THE DRYWALL.
THE FOLLOWING INSTALLATION CODE IN SQUARE BRACKETS [XXX] IDENTIFIES TYPICAL RESPONSIBILITY FOR PURCHASE AND INSTALLATION OF EQUIPMENT / FURNITURE / ACCESSORIES			
[O/O]	ITEM TO BE SUPPLIED AND INSTALLED BY OWNER / OWNER'S DESIGNATED VENDOR.		
[O/C]	ITEM TO BE SUPPLIED BY OWNER / OWNER'S DESIGNATED VENDOR AND INSTALLED BY CONTRACTOR.		
[C/C]	ITEM TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.		
01	STRYKER MENTAL HEALTH PATIENT BED [O/O]	22	WEIGHTED LOUNGE FURNITURE [O/O]
02	WALL MOUNTED TV WITH PROTECTIVE COVER [O/C] **	22a	WEIGHTED LOUNGE FURNITURE [O/O] <A00-01
03	WALL MOUNTED TV (STAFF) [O/C] **	23	GERIATRIC CHAIR [O/O]
04	FRIDGE (PANTRY) [O/O] <A00-01	24	HALF HEIGHT FRIDGE - CONNECTED WITH PYXIS (MED) [O/O]
05a	AUTOMATIC MEDICATION DISPENSING UNIT - TOWER (MED) [O/O]	25	COMPUTER WORKSTATION, WALL MOUNTED (MED) [O/O]
05b	AUTOMATIC MEDICATION DISPENSING UNIT - AUX (MED) [O/O]	26	LABEL PRINTER (MED) [O/O]
05c	AUTOMATIC MEDICATION DISPENSING UNIT - MAIN (MED) [O/O]	27	WALL MOUNTED VIDEO DISPLAY MONITOR WITH PROTECTIVE ENCLOSURE [O/C] **
05d	PYXIS MED-STATION ES RETURN BINS (MED) [O/O]	28	COMPUTER WORKSTATIONS INCLUDING TASK CHAIR, MONITOR / CPU, KEYBOARD MOUSE, DESKTOP [O/O]
05e	PYXIS - MedFlex (MED) [O/O]	28b	COMPUTER WORKSTATIONS INCLUDING TASK CHAIR, MONITOR / CPU, KEYBOARD & LAPTOP DOCK [O/O]
06a	TABLES W/ TABLE TOP MODULES [O/O] CONTRACTOR TO PROVIDE WIRE / CABLE MANAGEMENT FOR THE WORKSTATIONS AND CO-ORDINATE INSTALLATION. REFER TO ELEC.	28c	PHONE, DESK, VOIP [O/O]
07	CRASH CART [O/O]	29	FRIDGE (STAFF) [O/O] <A00-01
08	BLANKET WARMER [O/O]	30	WIRE SHELVING (CLEAN) [O/O]
09a	5 x DOUBLE TIER LOCKERS [O/O]	31	MULTI-FUNCTION PRINTER SCANNER [O/O]
09b	7 x DOUBLE TIER LOCKERS [O/O]	32	LINEN CART [O/O]
10	DINING TABLE + CHAIRS [O/O]	33	MEAL TRAY RACK (MOVEABLE) [O/O]
10a	DINING TABLE + CHAIRS, BOLTED TO THE FLOOR [O/O]	34	COFFEE MACHINE [O/O]
11	MICROWAVE (COUNTERTOP) [O/O]	35	ELECTRIC KETTLE [O/O]
12	WEIGHTED CHAIR [O/O]	36	WORKSTATION ON WHEEL [O/O]
13	BEDSIDE TABLE [O/O]	37	(a) ARM BAND PRINTER [O/O] (b) LABEL PRINTER [O/O] (c) BARCODE SCANNER, HANDHELD, WIRED [O/O] (d) SPECIMEN PRINTER [O/O]
14	WEIGHTED VISITOR CHAIR [O/O]	37c	BARCODE SCANNER, HANDHELD, WIRED [O/O]
15	FALL PREVENTION PATIENT SMART BED [O/O]	38	STAFF DURESS COMPUTER [O/O] <A00-01
16	DINING TABLE AND CHAIRS (STAFF) [O/O]	39	CCTV MONITORS AND STANDS - 1 no. [C/C] REFER TO ELEC. DWGS AND QUOTATION BY AC TECHNICAL SYSTEMS
17	MICROWAVES - 1 NO. COUNTERTOP [O/O] MICROWAVES - 1 NO. LOWER CABINET [O/O] (PROVIDE POWER SOCKET IN LOWER CABINET)	40	ICE-WATER DISPENSING MACHINE WITH STAND [O/C]
18	4 x THREE TIER LOCKER (STAFF) [O/O]	41	RESERVED
19	SOFA (STAFF) [O/O]	42	WALL MOUNTED ELECTRONIC WHITEBOARD [O/C] **
20	COFFEE TABLE (STAFF) [O/O]	43	WALL MOUNTED PHONE CHARGING STATION (PATIENT) [O/C] **
21	SIDE TABLE FOR CHARGING DOCK [O/O]	44	RESERVED
21a	PHONE CHARGING DOCK (STAFF) [O/O] <A00-01	45	WALL MOUNTED PHONE [O/O] **
46	ACU-CHECK MACHINE [O/O]	47	VITAL SIGN MONITOR ON STAND [O/O]
48	SUPPLY CART, 5H [O/O]	49	WALL MOUNTED CHEMICAL DISPENSER [O/C] c
50	WARMER, BATHING WIPES [O/O]	51	BEHAVIORAL HEALTH WORK DESK (INTERVIEW) [O/O]
52	WEIGHTED CHAIR (INTERVIEW) [O/O]	53	LOCKABLE ANTI-LIGATURE SECURITY ENCLOSURE WITH VACUUM BOTTLE HOLDER TO SECURE MEDICAL GAS OUTLETS WITH TRIMS [C/C] ** (REFER TO DWG. A-701 FOR DETAIL)
54	WALL MOUNTED OVER-BED LIGHT FIXTURE. REFER TO ELEC. [C/C] **	55	EPIC ROVER (WIRELESS HANDHELD DEVICE WITH CHARGING STATION) [O/O]
56	40"(H) FILE CABINET [O/O]	57	WALL MOUNTED CANNABIS STORAGE CABINET - 605 mm (H) x 445 mm (W) x 200mm (D) [O/O] **
58	MEDICAL GAS CONTROL VALVES [C/C] ** (REFER TO MECH. DWGS.)	59	RELAY CONTROL PANEL [C/C] ** [C/C] (REFER TO ELEC. DWGS.)
60	LIGHTING CONTROL PANEL [C/C] ** (REFER TO ELEC. DWGS.)	61	4 NOS. ELECTRICAL PANEL [C/C] ** (REFER TO ELEC. DWGS.)
ACCESSORIES			
A1	BIO-HAZARD WASTE CONTAINER W/ WALL BRACKET, WALL MOUNTED [O/C] **	A2	PHARMACEUTICAL WASTE CONTAINER W/ WALL BRACKET, WALL MOUNTED [O/C] **
A3	SQ REGULAR WASTE BIN [O/O]	A4	ANTI-LIGATURE WASTE BIN, FLOOR MOUNTED, WITH TAMPER PROOF CAULKING [O/C]
A5	MOBILE PPE STATION [O/O]	A6	PPE STATION, WALL MOUNTED [O/C] **
A7	SHREDDING BIN [O/O]	A8	TILT-TOP LINEN HAMPER [O/O]
A9	HAND SANITIZER DISPENSER, STANDARD, WALL MOUNTED [O/C] **	A10	HAND SANITIZER DISPENSER, ANTI-LIGATURE, WALL MOUNTED [O/C] **

04 EQUIPMENT & FURNITURE PLAN KEY NOTES
A-204

NOT FOR CONSTRUCTION

SHEET ISSUANCE		
8		
7		
6		
5		
4		
3		
2		
1	Re-issued with ADDENDUM 2	2026-07-03
NO		

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7		
6		
5	Issued for PERMIT and TENDER	2026-06-04
4	Issued for Final Review	2026-05-29
3	Issued for Review	2026-02-13
2	Issued for Review	2025-07-25
1	Issued for Review	2025-03-25
NO	ACTION	DATE

Client:
SCARBOROUGH HEALTH NETWORK
3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

Project Title:
SHN MENTAL HEALTH INPATIENT CONSOLIDATION POD 3A

Sheet Title:
FURNITURE, EQUIPMENT AND ACCESSORIES PLAN

Project North	Stamp
Date: MARCH 2025	Project No.: 24-20
Scale: 1:75	Drawn: AC
Drawing Number:	Checked: HH



Addendum

Queen's Quay Terminal
207 Queen's Quay West, Suite 615
Toronto, Ontario M5J 1A7
Phone 416-598-2920 Fax 416-598-5394
www.mcw.com

Date: July 3, 2026

Project Name: SHN Mental Health Inpatient Consolidation Pod 3A

Client: Scarborough Health Network

To: Hanson + Jung Architects Inc.

Attention: Angela Chan (angela@hjarchitects.ca)

From: Samuel Chan (samuelchan@mcw.com)

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Project #: 24002-02

ADD #: M-02

Page #: 1 of 1

+ Attachment

In accordance with the drawings and specifications, provide in the tender all costs required to complete the work including items as listed below.

Mechanical:

Reference	Description
M-001	1. Added base building chemical treatment contractor's information.
M-201	1. Revised mandatory base building contractor for medical gas to Class 1.
M-301	1. Added heat trace.

End of ADD # M-02

MECHANICAL SPECIFICATION

1	GENERAL PROVISIONS
.1	ALL EQUIPMENT INSTALLED AS PART OF THIS PROJECT SHALL BE ANTI-VULNERABLE UNLESS OTHERWISE NOTED.
.2	COMPLY WITH REQUIREMENTS OF ALL MUNICIPAL, PROVINCIAL AND FEDERAL BYLAWS AND ORDINANCES AS WELL AS THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION, WHERE ANY CODE, REGULATION, BYLAW, STANDARD, CONTRACT FORM, MANUAL, PRINTED INSTRUCTION, AND INSTALLATION AND APPLICATION INSTRUCTION IS QUOTED IT MEANS, UNLESS OTHERWISE SPECIFICALLY NOTED, LATEST PUBLISHED EDITION AT TIME OF PERMIT ADOPTED BY AND ENFORCED BY LOCAL GOVERNING AUTHORITIES HAVING JURISDICTION.
.3	MAINTAIN AT THE JOB SITE, AT ALL TIMES, QUALIFIED PERSONNEL AND SUPPORTING STAFF, WITH PROVEN EXPERIENCE IN ERECTING, SUPERVISING, TESTING AND ADJUSTING PROJECTS OF COMPARABLE NATURE AND COMPLEXITY.
.4	PRIOR TO SUBMITTING THE TENDER, VISIT SITE TO DETERMINE SUITABILITY OF DESIGN FOR EXISTING SITE CONDITIONS. REFER TO AND EXAMINE ALL CONTRACT DOCUMENTS, ADDITIONAL PAYMENTS WILL NOT BE MADE FOR EXTRA LABOUR OR MATERIAL NECESSARY DUE TO LOCATION OR NATURE OF BEAMS, JOISTS, WALLS, FURRED CEILINGS, OR FINISHES WITH WHICH CONTRACTOR SHOULD BE FAMILIAR. DETERMINE EXACT DIMENSIONS AND OTHER RESTRICTIVE CONDITIONS ON SITE, NOT FROM DRAWINGS.
.5	NEW EQUIPMENT AND MATERIALS TO MATCH AND BE OF AN EQUIVALENT STANDARD TO MATERIALS AND EQUIPMENT PROVIDED UNDER BASE BUILDING INSTALLATION.
.6	THE WORD "PROVIDE" SHALL MEAN "SUPPLY, INSTALL, CONNECT, TEST AND COMMISSION".
.7	ON COMPLETION OF WORK, PRESENT TO THE OWNER OR OWNER'S APPOINTED REPRESENTATIVE, A FINAL UNCONDITIONAL CERTIFICATE OF APPROVAL BY AUTHORITIES HAVING JURISDICTION.
.8	SCAN AND/OR X-RAY ALL CONCRETE SLABS TO IDENTIFY THE APPROPRIATE LOCATION TO CUT, TRENCH AND/OR CORE PRIOR TO COMMENCING ANY WORK. SUBMIT THE RESULTS OF THE SCAN AND/OR X-RAY IN A REPORT FORMAT TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CUTTING, TRENCHING AND/OR CORING. THIS CONTRACTOR SHALL ENSURE THAT THERE ARE NO INTERFERENCES WITH OTHER EXISTING SERVICES PRIOR TO COMMENCING ANY WORK.
.9	RETURN ALL UNUSED EQUIPMENT AND MATERIAL, BEING REMOVED TO THE OWNER OR OWNER'S APPOINTED REPRESENTATIVE.
.10	SUBMIT SHOP DRAWINGS FOR EQUIPMENT REQUESTED BY THE CONSULTANT. UNLESS OTHERWISE SPECIFIED, FOR SUBMIT SHOP DRAWINGS EACH MAJOR ITEM OF EQUIPMENT SUCH AS (PUMPING FIXTURE(S), SUPPLY DIFFUSERS, RETURN GRILLE(S), AND DUCTWORK ACCESSORIES).
.11	ALL EQUIPMENT TO BE AS SPECIFIED. SUBSTITUTION OF ANY PRODUCT OTHER THAN SPECIFIED MUST ASSURE NO DEVIATION BELOW THE STATED PERFORMANCE CAPACITIES, AIR FLOW RATE, HEAT TRANSFER RATE, FILTRATION EFFICIENCY AND AIR MIXING QUALITY. PHYSICAL PROPERTIES INCLUDING SIZE AND WEIGHTS OF BASE SPECIFIED EQUIPMENT SHALL NOT BE EXCEEDED. POWER REQUIREMENTS MUST NOT BE EXCEEDED AND, WHERE SPECIFICALLY DEFINED, SOUND POWER LEVELS MUST NOT BE EXCEEDED. APPLICATIONS FOR "EQUAL" OR "ALTERNATE" MUST ADDRESS THESE FACTORS.
.12	SUBMIT WRITTEN GUARANTEE TO OWNER OR OWNER'S APPOINTED REPRESENTATIVE COVERING REMEDY OF DEFECTS IN WORK AT COMPLETION OF WORK. SUBMIT SIMILAR WRITTEN GUARANTEE FOR ONE YEAR FROM DATE OF ACCEPTANCE FOR ANY PART OF WORK ACCEPTED BY OWNER OR OWNER'S APPOINTED REPRESENTATIVE.
.13	DURING THE DEFECTS LIABILITY PERIOD, THE SUB-CONTRACTOR SHALL HAVE FACILITIES OF 24 HOURS "CALL OUT" WHEREBY AT ANY TIME OF DAY OR NIGHT TO ATTEND TO ALL FAULTS AND COMPLAINT, REMEDY ALL DEFECTS, REPLACE ALL MALFUNCTIONING ITEMS AND MAINTAIN THE COMPLETE INSTALLATION IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE CONSULTING ENGINEER.
.14	CONTRACTOR PROVIDES COMMISSIONING SERVICES AND COMMISSIONING REPORT FOR ALL THE NEW EQUIPMENT, AND EXISTING EQUIPMENT MODIFIED AS PART OF THE PROJECT'S SCOPE OF WORK. INCLUDE ON-SITE TRAINING (IF REQUIRED) FOR THE FACILITY MAINTENANCE STAFF FOR A MINIMUM OF TWO 8-HOUR SESSIONS.
.15	SUITABLY STORE AND PROTECT RECORD "AS-BUILT" SET OF DRAWINGS TO BE KEPT ON SITE AT ALL TIMES AND MAKE AVAILABLE AT ALL TIMES FOR INSPECTION. CHANGES TO PIPING, DUCTWORK AND EQUIPMENT SHALL BE RECORDED ON SAME. AFTER COMPLETION OF WORK PROVIDE OWNER WITH ONE SET OF DRAWINGS IN PDF FORMAT AND HARD COPY FOR REVIEW. SUBMIT REVIEWED RECORD "AS-BUILT" DRAWINGS IN AN EDITABLE CAD FORMAT. SHOW FINAL LOCATION OF PIPING, DUCTWORK AND EQUIPMENT.
.16	CONTRACTOR'S AS-BUILT DRAWINGS: 1. RECORD ACCURATELY INSTALLED (AS-BUILT) MECHANICAL WORK AS "RED-LINE" MARK-UPS ON WHITE PRINTS. MECHANICAL TRADE'S "RED-LINE" AS-BUILT DRAWINGS SHALL BE TRANSFERRED TO AN EDITABLE AUTOCAD FORMAT "AS-BUILT DRAWING" BY THE MECHANICAL TRADE CONTRACTOR. SUBMIT BOTH COPIES FOR REVIEW. KEEP ONE UP-TO-DATE SET ON SITE.
.17	OPERATING AND MAINTENANCE (O&M) MANUALS: 1. O&M MANUALS SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW. 2. O&M MANUALS SHALL INCLUDE REVIEWED SHOP DRAWINGS, TESTING, ADJUSTING AND BALANCING (TAB) REPORTS, EQUIPMENT DATA SHEETS, WRITTEN WARRANTY, OPERATING INSTRUCTIONS AND MAINTENANCE PROCEDURES. 3. PROVIDE PIPING PRESSURE TESTS (FIRE PROTECTION, DOMESTIC WATER, HVAC PIPING) INDICATING SYSTEM TESTED, PRESSURE HELD, TIME OF TEST AND DATE, AND CERTIFIED BY THE CONSULTANT. 4. O&M MANUALS SHALL BE SEPARATED WITH DIVIDERS IN APPROPRIATE SECTIONS. 5. MAKE ALL CORRECTIONS REQUESTED BY THE CONSULTANT AND RESUBMIT FOR REVIEW.
.18	DOCUMENTATION AND SYSTEMS ACCEPTANCE - PROVIDE THE FOLLOWING UPON SUBSTANTIAL PERFORMANCE OF THE WORK: 1. OPERATING AND MAINTENANCE (O&M) MANUALS. 2. COMPLETED AND ACCEPTED AIR AND WATER BALANCING REPORT, THE WORK OF THE MECHANICAL TRADES WILL NOT BE CONSIDERED TOTALLY PERFORMED UNTIL COMPLETION OF AIR AND WATER BALANCING EVEN IF UNDERTAKEN BY SEPARATE CONTRACT FROM THE WORK OF THE MECHANICAL TRADES.
.19	PERFORM CUTTING AND PATCHING FOR MECHANICAL SERVICES AND INCLUDE FOR WORK IN TENDER.
.20	COORDINATE INSTALLATION OF NEW DUCTWORK, SPRINKLER AND PLUMBING LINES TO SUIT INSTALLATION OF ALL OTHER COMPONENTS BEING INSTALLED IN CEILING SPACE OR EXTENDING INTO CEILING SPACE. REVIEW MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS TO BECOME FAMILIAR WITH INSTALLATION REQUIREMENTS OF THESE COMPONENTS. PROBLEMS WITH INSTALLATION OF THESE COMPONENTS DUE TO INSTALLATION OF NEW DUCTWORK, SPRINKLER AND PLUMBING LINES WILL RESULT IN CONTRACTOR HAVING TO RELOCATE NEW DUCTWORK, SPRINKLER AND PLUMBING LINES AT THEIR OWN COST.
.21	ALL NEW PENETRATIONS THROUGH FLOORS TO BE SEALED WITH APPROVED NON-SHRINK, WATERPROOF AND ULC LISTED FIREPROOF SEALANT.
.22	THE CONTRACTOR AND ALL SUB-TRADES ARE RESPONSIBLE TO REPAIR OR REPLACE ANY ITEM DAMAGED WHILE PERFORMING WORK OUTLINED IN THIS

CONTRACT.

LAY-IN TYPE CEILING TILES, PROPERLY MARKED, MAY SERVE AS ACCESS PANELS. PROVIDE STICK-ON CIRCULAR TAB (APPROXIMATELY 1/20), LOCATED ON A TEE SUPPORTING CEILING TILE USED AS ACCESS PANEL, FOR ALL NEW EQUIPMENT LOCATED IN CEILING SPACE (E.G. CAV VAV TERMINALS).

EXISTING AND NEW SERVICES PENETRATING FLOOR SLAB OR FIRE RATED WALLS TO BE SEALED WITH ULC LISTED AND LABELLED 3.0 HR "T" RATED FIRE-RETARDANT SEALANT.

VISIT THE SITE PRIOR TO TENDER AND VERIFY ALL CONDITIONS. PRIOR TO SUBMITTING PRICE, THE MECHANICAL CONTRACTOR IS TO REVIEW ALL DISCREPANCIES WITH THE CONSULTANT AND VERIFY THE LOCATIONS OF ALL EXISTING SERVICES THAT ARE BEING EXTENDED AND THE ROUTING OF NEW SERVICES. REPORT ALL AMBIGUITIES, DISCREPANCIES, DEPARTURES FROM BUILDING BY-LAWS AND/OR FROM GOOD PRACTICE. FAILURE TO DO SO WILL RESULT IN ALL ADDITIONAL COSTS BEING THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. INCLUDE FOR AN ALTERNATE ROUTING OF NEW OR REROUTING OF EXISTING SERVICES TO ACCOMMODATE ALL SITE CONDITIONS IN THE TENDER PRICE.

APPLY FOR, OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION. INCLUDE ALL SALES TAXES AND HST.

PROVIDE THE LANDLORD AND TENANT WITH A WRITTEN WARRANTY FOR ALL LABOUR, MATERIALS, AND EQUIPMENT PROVIDED IN THIS CONTRACT, FOR A PERIOD OF ONE YEAR COMMENCING AT SUCH TIME THAT THE CONSULTANT DEEMS THE WORK ACCEPTABLE.

INCLUDE THE COST OF PREMIUM TIME IN THE TENDER PRICE FOR WORK PROVIDED DURING NIGHTS, WEEKENDS OR OTHER TIMES OUTSIDE NORMAL WORKING HOURS, NECESSARY TO MAINTAIN ALL MECHANICAL SERVICES IN OPERATION AND TO MEET THE PROJECT SCHEDULE.

ALTERNATE EQUIPMENT MAY BE PROPOSED DURING THE TENDER PERIOD, PROVIDED THAT THE SPACE REQUIREMENTS, QUALITY AND PERFORMANCE CHARACTERISTICS, POWER CHARACTERISTICS, AIR AND FLUID FLOW REQUIREMENTS AND WEIGHTS ARE EQUAL TO THE SPECIFIED PRODUCTS. ACCEPTANCE OF ALTERNATE EQUIPMENT SHALL BE AT THE DISCRETION OF THE CONSULTANT AND WILL ONLY BE AFTER REVIEW OF PROPERLY SUBMITTED SHOP DRAWINGS ASSUME RESPONSIBILITY AND PAY FOR ALL ADDITIONAL INSTALLATION COSTS INCURRED BY ALL RELATED TRADES RESULTING FROM ALTERNATES AND/OR SUBSTITUTES. MAKE REVISIONS TO RECORD DRAWINGS, INCORPORATING ALTERNATES AND/OR SUBSTITUTES AND ALL RELATED CHANGES. ALTERNATE EQUIPMENT WILL NOT BE CONSIDERED SUBSEQUENT TO TENDER CLOSING.

REUSE EXISTING MATERIALS AND EQUIPMENT WHEREVER POSSIBLE. PROVIDE NEW MATERIALS AND EQUIPMENT AS REQUIRED TO ENSURE A COMPLETE INSTALLATION. ALL EXISTING EQUIPMENT, MATERIALS AND ASSOCIATED CONTROLS NOT USED IN THIS CONTRACT SHALL BE PACKAGED AND TURNED OVER TO THE LANDLORD. INCLUDE IN THE TENDER FOR ALL SHIPPING AND PLACING IN A DESIGNATED ON-SITE STORAGE LOCATION. REMOVE ANY EQUIPMENT OR MATERIAL NOT WANTED BY THE LANDLORD FROM THE SITE.

PROVIDE SLEEVES FOR ALL NEW PIPING PASSING THROUGH FLOOR AND ROOF SLABS, BEAMS, CONCRETE WALLS AND SLAB TO PLUMB PARTITIONS, ETC.

SEAL TO BE AIR-TIGHT AROUND ALL DUCTWORK AND PIPING PENETRATIONS THROUGH PARTITIONS, Baffles ABOVE CEILINGS, AND THROUGH FLOORS THAT ARE NOT FIRE RATED.

REQUEST IN WRITING FOR A COMPLETED ROUGH-IN AND FINAL INSPECTION OF THE MECHANICAL SYSTEMS, WHEN THE FINAL INSPECTION REQUEST IS MADE. ALL REVISIONS MUST BE COMPLETE. BALANCING REPORTS SUBMITTED, SYSTEMS READY FOR OPERATION, EQUIPMENT HAS BEEN COMMISSIONED, OPERATING AND MAINTENANCE MANUALS SUBMITTED, ALL TAGS, CHARTS AND NAMEPLATES COMPLETED, ALL FIXTURES AND EQUIPMENT CLEANED, SPARE PARTS PROVIDED, RECORD DRAWINGS COMPLETE, CONTROL SYSTEMS OPERATIONAL AND THE LANDLORD'S STAFF INSTRUCTED IN ALL PHASES OF THE SYSTEM OPERATION.

PROVIDE TEMPORARY FILTERS, IN THICK DISPOSABLE MEDIA TYPE, OVER ALL RETURN AIR OPENINGS IN THE BASE BUILDING H.V.A.C. SYSTEMS THAT REMAIN IN OPERATION DURING CONSTRUCTION. MAINTAIN AND REPLACE THE TEMPORARY FILTER MEDIA AS REQUIRED TO PREVENT CONSTRUCTION DUST FROM FOULING THE BASE BUILDING EQUIPMENT. REMOVE THE TEMPORARY FILTER MEDIA AFTER COMPLETION. FILTERS ON EQUIPMENT, I.E. AIR HANDLING UNITS, INDUCTION UNITS, FAN COIL UNITS, ETC., SHALL BE REPLACED AFTER CONSTRUCTION IS COMPLETED.

PRIOR TO OPERATING ANY EXISTING OR NEW EQUIPMENT DURING ANY STAGE OF CONSTRUCTION, APPROVAL FROM THE OWNER OR OWNERS APPOINTED REPRESENTATIVE AND CONSULTANT MUST BE RECEIVED IN WRITING.

PROVIDE ALL RIGGING AS MAY BE REQUIRED FOR ALL SYSTEM MATERIALS AND EQUIPMENT. PROVIDE ALL REQUIRED SUPPLEMENTARY STEEL SUPPORTS NECESSARY FOR MOUNTING OR HANGING EQUIPMENT. EQUIPMENT BEING SUSPENDED FROM THE FLOOR STRUCTURE, OR SUPPORTED FROM OR ON THE ROOF, WITH A WEIGHT GREATER THAN 500 POUNDS, SHALL HAVE SUPPORTS REVIEWED BY A STRUCTURAL CONSULTANT. ALL REQUIRED STRUCTURE AS RECOMMENDED BY THE CONSULTANT SHALL BE INCLUDED IN THE TENDER.

ALL NEW AND RELOCATED EXISTING SERVICES AND EQUIPMENT MUST BE SUPPORTED FROM THE BUILDING STRUCTURE, ALL DRILLING, APPROVED TYPE INSERTS AND HANGERS SHALL BE INCLUDED. REFER TO "SEISMIC RESTRAINT CONTROLS" SECTION FOR ADDITIONAL REQUIREMENTS.

1. AUXILIARY STRUCTURAL MEMBERS SHALL BE INCLUDED AND INSTALLED WHERE REQUIRED TO ACCOMMODATE HANGERS.

2. ALL SUPPORTS SHALL BE CONNECTED TO THE TOP OF JOISTS AND BEAMS WHERE APPLICABLE.

3. SUSPENSION FROM MEAT DECK IS NOT ALLOWED.

4. SUSPENDING ONE HANGER FROM ANOTHER IS NOT PERMITTED.

MONTHLY PROGRESS DRAWS:

1. PROVIDE A COMPLETE ITEMIZED COST BREAKDOWN OF ALL MATERIALS, EQUIPMENT AND LABOUR COSTS ASSOCIATED WITH EACH SUBMISSION FOR ADDITIONAL OR DELETED WORK.

APPLY, OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES AND INSPECTIONS REQUIRED FOR THIS WORK. IN CASE OF CONFLICT, CODES AND REGULATIONS TAKE PRECEDENCE OVER THE CONTRACT DOCUMENTS. NO INSTANCE REDUCE THE STANDARD OR SCOPE OF WORK OR INTENT ESTABLISHED BY THE DRAWINGS AND SPECIFICATIONS BY APPLYING ANY OF THE CODES.

CHANGES TO THE WORK:

1. BEFORE PROCEEDING WITH ANY CHANGES, SUBMIT FOR REVIEW AND APPROVAL BY THE CONSULTANT. APPROVAL SHALL COME IN THE FORM OF A CHANGE ORDER SIGNED BY THE LANDLORD/OWNER.

2. CHANGE QUOTATIONS SHALL BE SUBMITTED COMPLETE WITH AN ITEMIZED COST BREAKDOWN OF ALL MATERIALS, EQUIPMENT AND LABOUR COSTS ASSOCIATED WITH EACH SUBMISSION FOR ADDITIONAL OR DELETED WORK. FAILURE TO PROVIDE WILL RESULT IN REJECTION.

3. ALL MECHANICAL CHANGE NOTICES SHALL BE PRICED USING MECHANICAL LABOUR UNIT COSTS IN ACCORDANCE WITH MECHANICAL CONTRACTORS ASSOCIATION OF AMERICA (MCAA) LABOUR ESTIMATING MANUAL. PROVIDE COPIES OF THE MCAA LABOUR UNITS APPLIED WHEN REQUESTED BY THE CONSULTANT.

4. IT IS UNDERSTOOD THAT EACH CHANGE MAY HAVE A VARIETY OF NON-TYPICAL OR ABNORMAL FACTORS THAT WILL REQUIRE ADJUSTMENTS. UNDER NO CIRCUMSTANCES SHALL THE CUMULATIVE TOTAL OF ADDITIONAL FACTORS EXCEED 20% OF THE HOURS ESTABLISHED USING BASE LABOUR UNITS.

5. ALL MECHANICAL CHANGE NOTICES SHALL BE PRICED USING ALLPRIOR MATERIAL PRICING, LESS A MINIMUM DISCOUNT OF 20%. PROVIDE COPIES OF THE ALLPRIOR PUBLISHED LIST PRICES USED TO ESTIMATE MATERIAL AND EQUIPMENT COSTS WHEN REQUESTED BY THE CONSULTANT.

6. THE MARK-UP FOR OVERHEAD AND PROFIT SHALL BE LIMITED TO ANOD

BE CALCULATED AS FOLLOWS:

1. WORK CARRIED OUT BY THE TRADE CONTRACTOR OR TRADE SUBCONTRACTOR: 10% OVERHEAD AND PROFIT COMBINED.
2. TRADE CONTRACTORS' OVERHEAD AND PROFIT ON TRADE SUBCONTRACTORS' WORK: 5% OVERHEAD AND PROFIT COMBINED.
3. THE CUMULATIVE TOTAL PERCENTAGE FOR OVERHEAD AND PROFIT CHARGED BY THE TRADE CONTRACTOR, TRADE SUBCONTRACTOR AND OTHERS SHALL NOT EXCEED 20% OF THE CUMULATIVE TOTAL VALUE OF SUCH CHANGE IN THE WORK, NET OF OVERHEAD AND PROFIT.

2 DEMOLITION AND REVISION WORK:

1. WHERE INDICATED ON DRAWINGS, DISCONNECT AND REMOVE EXISTING MECHANICAL WORK, INCLUDING HANGERS, SUPPORTS, INSULATION, AND SIMILAR DEVICES AND SYSTEM ANCILLARIES, DISCONNECT AT POINT OF SUPPLY, REMOVE OBSOLETE CONNECTING SERVICES AND MAKE SYSTEM SAFE, CUT BACK OBSOLETE PIPING BEHIND FINISHES AND CAP WATER-TIGHT, UNLESS OTHERWISE SPECIFIED.
2. DRAIN DOWN EXISTING PIPING PRIOR TO ANY DEMOLITION WORK. SAFELY DISPOSE OF FLUIDS WITHIN PIPING, UNLESS SPECIFIED OTHERWISE.
3. WHERE EXISTING MECHANICAL SERVICES EXTEND THROUGH OR ARE IN AN AREA SCHEDULED TO REMAIN OPERATIONAL DURING THE PROJECT, MAINTAIN SERVICES IN OPERATION. INCLUDE FOR REROUTING EXISTING SERVICES CONCEALED BEHIND EXISTING FINISHES AND WHICH BECOME EXPOSED DURING THE RENOVATION WORK, SO AS TO BE CONCEALED BEHIND NEW OR EXISTING FINISHES.
4. UNLESS OTHERWISE SPECIFIED, REMOVE FROM SITE AND DISPOSE OF EXISTING MATERIALS WHICH HAVE BEEN REMOVED AND ARE NOT TO BE RELOCATED OR REUSED. PRESENT TO THE OWNER EXISTING EQUIPMENT REMOVED BUT NOT IDENTIFIED FOR SALVAGE ON SITE. ACCEPTANCE OF REMOVED EQUIPMENT IS AT THE DISCRETION OF THE OWNER. REMOVE SUCH ITEMS FROM SITE WHEN DEEMED UNSUITABLE. MATERIALS WHICH ARE TO BE HANDLED OVER TO THE OWNER SHALL BE TRANSPORTED BY THE CONTRACTOR TO A LOCATION WITHIN THE PROJECT SITE DESIGNED BY THE OWNER. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO EXISTING SALVAGED EQUIPMENT DURING REMOVAL AND TRANSPORTING.
5. F ASBESTOS, PCBs OR OTHER HAZARDOUS MATERIALS ARE ENCOUNTERED IN THE COURSE OF THE WORK, STOP WORK IN THE VICINITY OF SUCH MATERIALS AND REPORT THEIR PRESENCE TO THE OWNER OR OWNER'S APPOINTED REPRESENTATIVE AND THE CONSULTANT.
 1. OBTAIN AND PAY FOR THE SERVICES OF A CONTRACTOR LICENSED TO WORK IN AREA CONTAINING ASBESTOS. THIS CONTRACTOR TO SET UP ALL NECESSARY BARRIERS, ABOVE AND BELOW THE CEILINGS AND BE INVOLVED IN THE PROJECT AS LONG AS ASBESTOS IS EXPOSED.
 2. ALL PERSONNEL ENTERING THE CONTAMINATED AREA MUST COMPLY WITH MINISTRY OF LABOUR CODES REGARDING ASBESTOS.
 3. AFTER ALL WORK IN THE ASBESTOS CONTAMINATED AREA IS COMPLETED, THE ASBESTOS CONTRACTOR WILL CLEAN UP AND DISPOSE OF ALL DISTURBED ASBESTOS AND ASBESTOS CONTAMINATED MATERIALS.
6. INTERRUPTION TO SHUT-DOWN OF MECHANICAL SERVICES AND SYSTEMS:
 1. WHERE DISRUPTIONS OF EXISTING MECHANICAL SERVICES ARE REQUIRED, COORDINATE SHUT DOWN WITH THE OWNER OR OWNER'S APPOINTED REPRESENTATIVE AND DO THE WORK AT A TIME AND IN A MANNER MUTUALLY ACCEPTABLE.
 2. PERFORM WORK ASSOCIATED WITH SHUT-DOWNS AND INTERRUPTIONS AS CONTINUOUS OPERATIONS TO MINIMIZE SHUT-DOWN TIME AND TO REINSTATE SYSTEMS AS SOON AS POSSIBLE, AND, PRIOR TO ANY SHUT-DOWN, ENSURE MATERIALS AND LABOUR REQUIRED TO COMPLETE THE WORK FOR WHICH SHUT-DOWN IS REQUIRED ARE AVAILABLE AT SITE.
 3. SUBMIT A WRITTEN NOTICE SCHEDULE OF EACH DISRUPTION AT LEAST 72 (SEVENTY-TWO) HOURS IN ADVANCE AND OBTAIN OWNER'S WRITTEN CONSENT PRIOR TO IMPLEMENTATION.
7. INSULATION
 1. INSULATION SHALL BE REMOVED FROM ALL DUCTWORK, PIPING, FITTINGS, VALVES AND EQUIPMENT DESIGNATED FOR DEMOLITION.
 2. COMPLY WITH ALL SAFETY PRECAUTIONS RELATED TO INSULATION REMOVAL.

3 SEISMIC RESTRAINT CONTROLS

1. PROVIDE SEISMIC RESTRAINT CONTROLS FOR ALL EQUIPMENT AND SERVICES INSTALLED AS PART OF THIS PROJECT.
2. SRS: ACRONYM FOR SEISMIC RESTRAINT SYSTEM.
3. SFRS: ACRONYM FOR SEISMIC FORCE RESISTING SYSTEM.
4. DESIGN AND PROVIDE A COMPLETE SEISMIC RESTRAINT SYSTEMS FOR ALL MECHANICAL EQUIPMENT AND SYSTEMS. SUCH THAT THE EQUIPMENT AND SYSTEMS WILL REMAIN FUNCTIONAL DURING AND AFTER A SEISMIC EVENT. THE RESTRAINT SYSTEM SHALL ENSURE THAT OTHER UNRELATED SYSTEMS ARE NOT AFFECTED BY MECHANICAL SYSTEMS/EQUIPMENT MOTION DURING THE SEISMIC EVENT.
5. INSTALL MECHANICAL SYSTEMS AND EQUIPMENT WITH ADEQUATE STRUCTURAL SUPPORT TO WITHSTAND SEISMIC FORCES IN ACCORDANCE WITH PART 4 OF THE ONTARIO BUILDING CODE.
6. RETAIN AN ENGINEER LICENSED IN THE PROVINCE OF ONTARIO SPECIALIZING IN THE DESIGN OF SRS/SFRS TO PERFORM A REVIEW OF THE PROPOSED DESIGN AND INSTALLATION, AND PREPARE INSTALLATION DOCUMENTS INDICATING ALL REQUIRED SEISMIC SUPPORTS, BRACINGS AND FASTENINGS. THESE DOCUMENTS SHALL BE SEALED AND SIGNED BY THE STRUCTURAL ENGINEER AND SUBMITTED AS PART OF THE SHOP DRAWING PACKAGE PRIOR TO ROUGH-IN WORK COMMENCING ON-SITE.
7. SCOPE SHALL INCLUDE BUT NOT BE LIMITED TO:
 1. PUMPS;
 2. HEAT EXCHANGERS;
 3. HVAC EQUIPMENT;
 4. DUCTWORK;
 5. HYDRONIC PIPING;
 6. STEAM AND CONDENSATE SYSTEM EQUIPMENT AND PIPING;
 7. MEDICAL GAS EQUIPMENT AND PIPING;
 8. PLUMBING EQUIPMENT AND PIPING;
 9. FIRE PROTECTION SYSTEMS.
8. PROVIDE CONFIRMATION IN WRITING, SIGNED AND SEALED BY THE STRUCTURAL ENGINEER, AT COMPLETION OF PROJECT THAT THE MECHANICAL INSTALLATION IS IN GENERAL COMPLIANCE WITH THE STRUCTURAL INSTALLATION DRAWINGS SUBMITTED WITH THE SHOP DRAWING PACKAGE.
9. THE MECHANICAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE FULL SCOPE OF THIS WORK, INCLUDE ALL COSTS OF STRUCTURAL DESIGN MATERIALS, AND SITE REVIEW IN TENDER PACE.
10. SRS SHALL BE FULLY INTEGRATED INTO, COMPATIBLE WITH NOISE AND VIBRATION CONTROLS.
11. SRS TO PROVIDE GENTLE AND STEADY CUSHIONING ACTION AND AVOID HIGH IMPACT LOADS.
12. SRS TO LIMIT MOVEMENT TO AVOID DAMAGE TO OTHER BUILDING ELEMENTS AND/OR SYSTEMS.
13. SRS TO RESTRAIN SEISMIC FORCES IN EVERY DIRECTION.
14. FASTENERS AND ATTACHMENT POINTS TO RESIST SAME LOAD AS SEISMIC RESTRAINTS.
15. SRS OF PIPING SYSTEMS COMPATIBLE WITH:
 1. EXPANSION, ANCHORING AND GUIDING REQUIREMENTS.
 2. EQUIPMENT VIBRATION ISOLATION AND EQUIPMENT SRS.
16. SRS UTILIZING CAST IRON, THREADED PIPE, OTHER BRITTLE MATERIALS NOT

PERMITTED.

ATTACHMENTS TO RC STRUCTURE:

1. USE HIGH STRENGTH MECHANICAL EXPANSION ANCHORS.

2. DRILLED OR POWER-DRIVEN ANCHORS NOT PERMITTED.

3. FIRE PROTECTION SYSTEMS: REFER TO FIRE PROTECTION AND RELEVANT NFPA STANDARDS.

1. WET PIPE SPRINKLER SYSTEMS: REFER TO FIRE PROTECTION.

2. DRY PIPE SPRINKLER SYSTEMS: REFER TO FIRE PROTECTION.

SEISMIC CONTROL MEASURES NOT TO INTERFERE WITH INTEGRITY OF FIRESTOPPING.

FLOOR-MOUNTED STATIC EQUIPMENT SYSTEMS:

1. ANCHOR EQUIPMENT TO EQUIPMENT SUPPORTS.

2. ANCHOR EQUIPMENT SUPPORTS TO STRUCTURE.

3. USE SIZE OF BOLTS SCHEDULED IN APPROVED SHOP DRAWINGS.

SUSPENDED STATIC EQUIPMENT SYSTEMS:

1. USE ONE OR COMBINATION OF FOLLOWING METHODS:

1. INSTALL TIGHT TO STRUCTURE.

2. CROSS-BRACE IN EVERY DIRECTION.

3. BRACE BACK TO STRUCTURE.

4. CABLE RESTRAINT SYSTEM.

2. SCG TO PROVIDE SWAY IN HORIZONTAL PLANE, "ROCKING" IN VERTICAL PLANE, SLIDING AND BUCKLING IN AXIAL DIRECTION.

3. HANGER RODS TO WITHSTAND COMPRESSIVE LOADING AND BUCKLING. PROVIDE ANGLE STIFFENERS WHERE REQUIRED.

SRS FOR FLOOR MOUNTED VIBRATION ISOLATED EQUIPMENT:

1. USE ONE OR COMBINATION OF FOLLOWING METHODS:

1. VIBRATION ISOLATORS WITH BUILT-IN SNUBBERS.

2. VIBRATION ISOLATORS AND SEPARATE SNUBBERS.

3. BUILT-UP SNUBBER SYSTEM APPROVED BY CONSULTANT, CONSISTING OF STRUCTURAL ELEMENTS AND ELASTOMERIC LAYER.

2. SRS TO RESIST COMBINED ISOLATOR UNLOADING.

3. SRS NOT TO JEOPARDIZE NOISE AND VIBRATION ISOLATION SYSTEMS. PROVIDE 4.8 MM CLEARANCE BETWEEN SEISMIC RESTRAINT SNUBBERS AND EQUIPMENT DURING NORMAL OPERATION OF EQUIPMENT AND SYSTEMS.

4. CUSHIONING ACTION: GENTLE AND STEADY BY UTILIZING ELASTOMERIC MATERIAL OR OTHER MEANS IN ORDER TO AVOID HIGH IMPACT LOADS.

SRS FOR SUSPENDED VIBRATION ISOLATED EQUIPMENT:

1. USE ONE OR COMBINATION OF FOLLOWING METHODS:

1. SLACK CABLE RESTRAINT SYSTEM.

2. BRACE BACK TO STRUCTURE VIA VIBRATION ISOLATORS AND SNUBBERS.

23. SLACK CABLE RESTRAINT SYSTEM (SCS):

1. USE ELASTOMER MATERIALS OR SIMILAR TO AVOID HIGH IMPACT LOADS AND PROVIDE GENTLE AND STEADY CUSHIONING ACTION.

2. SCG TO PROVIDE SWAY IN HORIZONTAL PLANE, "ROCKING" IN VERTICAL PLANE, SLIDING AND BUCKLING IN AXIAL DIRECTION.

3. HANGER RODS TO WITHSTAND COMPRESSIVE LOADING AND BUCKLING.

4. CHEMICAL TREATMENT

1. PERFORM PIPING SYSTEM CLEANING AND WATER TREATMENT SERVICES UNDER THE SUPERVISION OF THE BASE BUILDING WATER TREATMENT SPECIALIST - DUBOIS CHEMICAL INC. (CONTACT INFO: LIAM ADMISON, 688-712-4000).

2. CLEANING SERVICE OF THE PIPING SHALL BE FROM THE CONNECTION TO THE BASE BUILDING SYSTEM - CLEAN STRAINER BASKETS AS OFTEN AS NECESSARY DURING CLEANING AND DEGREASING. VERIFY CHEMICAL TREATMENT AND ANTIFREEZE CONCENTRATIONS WITH THE BASE BUILDING WATER TREATMENT SPECIALIST.

3. ADD CHEMICAL SOLUTION TO SYSTEM, CIRCULATE FOR PERIODS REQUIRED, DRAIN AND REFILL. REPEAT CHEMICAL TREATMENT RINSE, REFILL THE SYSTEM AND CONNECT TO BASE BUILDING CONDENSER WATER SYSTEM.

4. MAINTAIN CHEMICAL LEVELS FROM THE TIME THE SYSTEM IS FILLED AFTER CLEANING, UP TO SUBSTANTIAL PERFORMANCE OF THE CONTRACT.

5. PROVIDE SERVICE VISITS DURING WARRANTY PERIOD AS REQUIRED TO STABILIZE AND COMMISSION THE SYSTEMS. PERFORM CORROSION TESTS TO VERIFY PERFORMANCE REQUIREMENTS ARE BEING ACHIEVED. DOCUMENT RECOMMENDATIONS AND SUBMIT A WRITTEN REPORT TO THE LANDLORDS/SOWNERS REPRESENTATIVE AFTER EACH VISIT.

6. PIPES INTENDED TO CARRY POTABLE (DRINKING) WATER SHALL BE FLUSHED AND DISINFECTED BEFORE BEING PLACED IN SERVICE.

1. DISINFECTION PROCEDURES SHALL CONFORM TO AWWA C601 AND AWWA C651, AND THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION (AHJ).

2. WHERE STAINLESS STEEL PIPING IS USED FOR DOMESTIC WATER APPLICATIONS, PIPING SYSTEMS SHALL BE ANNEALED, DE-GRAISED AND PICKLED, AND WILL BE SUBJECT TO FORMAL CLEANING AND DISINFECTING ALONG WITH ALL OTHER PARTS AND COMPONENTS OF THE DOMESTIC WATER SYSTEM PER ANSI A380.

5. INSULATION

1. QUALIFICATIONS: EXECUTE WORK OF THIS SECTION ONLY BY SKILLED TRADESMEN REGULARLY EMPLOYED IN THE APPLICATION OF INSULATION OF MECHANICAL SYSTEMS.

2. PROVIDE PIPE AND DUCTWORK INSULATION WITH MAXIMUM FLAME SPREAD RATINGS OF 25 AND SMOKE DEVELOPMENT CLASSIFICATION OF 50.

3. THE WORK "EXPOSED" WHERE USED IN THIS SECTION MEANS ANY WORK WHICH IS NOT CONCEALED IN WALL, SHAFT, OR CEILING CAVITIES OR SPACES. WORK BEHIND DOORS IN CLOSETS OR CUPBOARDS OR UNDER COUNTERS IS CONSIDERED EXPOSED.

4. CONCEALED INSULATED ITEMS REQUIRE NO FURTHER FINISH THAN PROVIDED IN FACTORY APPLIED JACKET, COVER EXPOSED INSULATION AND ALL INSULATED EQUIPMENT WITH CANVAS, FIELD APPLIED, ADHERED AND LAP SEALED AND FINISHED OFF BY A BRUSH COAT OF APPROVED SIZING, PAINT AND LABEL CANVAS AS NOTED IN SPECIFICATIONS OR DRAWINGS.

5. PROVIDE EXTERNAL DUCTWORK INSULATION IN THICKNESS AS LISTED BELOW:

1. ALL SUPPLY AIR DUCTWORK FROM VAV TERMINAL OUTLET DELIVERING AIR AT TEMPERATURES LESS THAN 18°C (64°F) OR AT 18°C (64°F).

2. PROVIDE 25 MM (1") THICK FOR SYSTEMS WITH 18°C (64°F) OR LESS AIR SUPPLY TEMPERATURE.

3. PROVIDE 40 MM (1-1/2") THICK FOR SYSTEMS WITH 30°C (86°F) OR GREATER AIR SUPPLY TEMPERATURE.

4. WHERE SPECIFICALLY NOTED ON DRAWINGS THAT COULD BE AN EXCEPTION TO THE FOREGOING.

6. EXCEPTIONS - EXTERNAL DUCT INSULATION IS NOT REQUIRED WHERE:

1. SUPPLY AIR DUCTWORK INSTALLED EXPOSED WITHIN CONDITIONED SPACE.

2. ACOUSTIC TYPE FLEXIBLE DUCTWORK IS USED.

7. SUPPLY AIR DUCTWORK INSTALLED CONCEALED IN CEILING SPACES, WHETHER USED AS RETURN AIR PLENUMS OR NOT, IS TO BE TOTALLY INSULATED.

8. PRE-MOLDED PIPE INSULATION:

1. SECTIONAL FIBRE-GLASS IN PRE-MOLDED SECTIONS 900 MM (36") LONG SPLIT AND READY FOR APPLICATION WITH MAXIMUM K FACTOR OF 0.05 AT 24°C (75°F) MEAN TEMPERATURE AND CAPABLE OF USE ON SERVICE FROM -40°C (-40°F) TO 260°C (500°F) AND WITH FACTORY APPLIED VAPOUR SEAL JACKET OF VINYL COATED FOLY CRAFT LAMINATE WITH REINFORCING OF OPEN MESH GLASS FIBRE.

2. DOMESTIC HOT WATER:

- 25MM (1") PRE-MOLDED FOR PIPE UP TO AND INCLUDING 50MM (2").
- 40 MM (1 1/2") FOR 65MM (2 1/2") PIPE AND GREATER.

3. DOMESTIC COLD WATER:

- 12MM (1/2") PRE-MOLDED 40MM (1 1/2") PIPE AND BELOW.
- 25MM (1") PRE-MOLDED FOR 50MM (2") PIPE TO 150MM (6") PIPE.
- 40MM (1 1/2") PRE-MOLDED FOR 200MM (8") PIPE AND GREATER.

4. DOMESTIC HOT WATER RECIRCULATION:

- 25MM (1") PRE-MOLDED FOR PIPE UP TO AND INCLUDING 31MM (1 1/4").
- 40 MM (1 1/2") FOR 40MM (1 1/2") PIPE AND GREATER.

5. HEATING SYSTEM PIPING (DESIGN OPERATING TEMPERATURE BELOW 93°C):

- 40MM (1 1/2") PRE-MOLDED 31MM (1 1/4") PIPE AND BELOW.
- 50MM (2") PRE-MOLDED FOR 40MM (1 1/2") PIPE AND GREATER.

6. HEATING SYSTEM PIPING (DESIGN OPERATING TEMPERATURE ABOVE 93°C):

- 65MM (2 1/2") PRE-MOLDED 75MM (3") PIPE AND BELOW.
- 75MM (3") PRE-MOLDED FOR 100MM (4") PIPE AND GREATER.

6. HEATING VENTILATION AND AIR-CONDITIONING (HVAC):

- PROVIDE RECTANGULAR AND ROUND DUCTWORK CONSTRUCTED OF ASTM A525 HOT DIP GALVANIZED STEEL SHEETS IN ARRANGEMENTS AS SHOWN ON THE DRAWINGS. COMPLETE WITH REINFORCEMENT, HANGING METHODS, JOINTS, SEAMS AND FITTINGS AS SPECIFIED IN SECTIONS 1 THROUGH 5 AS WELL AS APPENDICES A-1 THROUGH A-32 IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE LATEST VERSION IN ACCORDANCE WITH SMACNA AND ASHRAE STANDARDS. SEAL ALL TRANSVERSE JOINTS IN SUPPLY, RETURN AND EXHAUST DUCTWORK WITH HIGH VELOCITY DUCT SEALER (BAKELITE 530-09 OR EQUIVALENT). DUCT TAPE NOT ACCEPTABLE.
- FLEXIBLE DUCTWORK: PROVIDE, WHERE INDICATED ON THE DRAWINGS, FLEXIBLE DUCT BEARING ULC-181 CLASS 1 LABEL, INSULATED ACOUSTIC, AS MANUFACTURED BY FLEXMASTER. ALPHA INDUSTRIES, OR THERMAFLEX ARE ACCEPTABLE ALTERNATIVE MANUFACTURERS. USE FLEXMASTER MODEL TPL-AM INSULATED ACOUSTIC FLEXIBLE DUCTS. FLEXIBLE ACOUSTIC DUCT SHALL HAVE A PERFORATED CORE WITH 20-25% OPEN AREA AND BE SPIRALLY WOUND FROM DEAD SOFT ALUMINUM UTILIZING A CONTINUOUS THREE PLY MECHANICAL LOCK WITHOUT THE USE OF ADHESIVES. THE PERFORATED DUCT SHALL BE SLEEVED WITH A SEAMLESS ACOUSTIC POLYETHYLENE LINER, WRAPPED WITH MINIMUM R-2 FIBERGLASS INSULATION AND COVERED BY FLAME RETARDANT SCRIM FOIL OR POLYETHYLENE VAPOUR BARRIER.
- INSTALL WHERE INDICATED AND IN ACCORDANCE WITH PREFERRED METHOD OF SMACNA AND THE FOLLOWING:
 - PROVIDE A MINIMUM OF THREE (3) #8 SHEET METAL SCREWS EQUALLY SPACED TO HOLD THE FLEXIBLE DUCT.
 - FOR DUCT SIZES ABOVE 300 MM (12"), PROVIDE A MINIMUM OF FIVE (5) #8 SHEET METAL SCREWS EQUALLY SPACED TO HOLD THE FLEXIBLE DUCT.
 - SCREWS SHALL BE LOCATED AT LEAST 1/2" (12 MM) FROM THE END OF THE DUCT.
 - THE COLLAR TO WHICH THE FLEXIBLE DUCT IS ATTACHED SHALL BE A MINIMUM 2" (50 MM) IN LENGTH.
 - SUPPORT SHALL BE IN ACCORDANCE WITH SMACNA.
 - LENGTH - CLASS 1 DUCTWORK
 - MINIMUM LENGTH OF FLEXIBLE DUCT: 1500 MM (5 FT.).
 - MAXIMUM LENGTH OF FLEXIBLE DUCT: 3600 MM (12 FT.).
 - MINIMUM LENGTH OF FLEXIBLE DUCT CONNECTING TO LIGHT FIXTURE TROFFERS OR CEILING DIFFUSERS SHALL BE 72" (1800 MM).
- DIFFUSER BRANCH DUCTS: PROVIDE SPIN-ON CONNECTORS COMPLETE WITH BALANCING DAMPER AT TAKE-OFF FROM MAIN DUCT.
- DURING INSTALLATION OF DUCTWORK, PROTECT OPEN ENDS OF DUCTS TO PREVENT ENTRY OF DEBRIS AND DUST.
- NEW DIFFUSERS AND GRILLES TO BE AS MANUFACTURED BY MAJOR INDUSTRIES REFER TO SCHEDULE ON PLAN. APPROVED EQUAL IS ACCEPTABLE.
- PROVIDE AIR BALANCING DAMPER FOR EACH TEE-OFF BRANCH DUCT.
- WHERE INTERIOR OF DUCT IS VISIBLE THROUGH GRILLES, REGISTERS OR DIFFUSERS, PAINT INTERIOR OF DUCT WITH FLAT BLACK TREMCO PAINT FORMULATED FOR GALVANIZED SURFACES.
- COVER OPEN END OF REGISTERS OR ACTIVE RETURN OR EXHAUST AIR DUCTS WITH 25 MM (1") THICK FILTER MEDIA SECURED BY METAL BAND PULLED WITH ARROUND DUCT. MAINTAIN THIS CONDITION UNTIL PLASTERING, DRYWALL AND OTHER FINISHING OPERATIONS ARE COMPLETE.
- ALL DISSIMILAR PIPING CONNECTIONS TO HAVE DIELECTRIC ISOLATORS.
- EXISTING EQUIPMENT: VERIFY WITH FACILITIES MANAGER THAT EXISTING EQUIPMENT AND CONTROLS ARE MAINTAINED AND OPERATING AS ORIGINALLY DESIGNED.
- ALL EXISTING EXTERNAL DUCT INSULATION TO BE INSPECTED AND REPAIRED AS REQUIRED.
- EXISTING THERMOSTATS TO REMAIN OR PROVIDE NEW AS INDICATED. PROVIDE CONTROL WIRING FROM THE THERMOSTATS TO THE TERMINAL EQUIPMENT (VAV TERMINAL, FAN COIL UNIT, TERMINAL EQUIPMENT AND SIMILAR TYPE OF DEVICES).
- DUCT ACCESS DOORS:
 - SIZE:
 - 26" X 17" (650 X 425 MM) FOR PERSON SIZE ENTRY.
 - 21" X 14" (525 X 350 MM) OR 18" X 10" (450 X 250 MM) FOR SERVICING ENTRY DEPENDING ON REQUIRED SPACE.
 - 18" X 10" (450 X 250 MM) OR 12" X 6" (300 X 150 MM) FOR VIEWING DEPENDING ON SITE CONDITION.
 - AS INDICATED ON DRAWINGS AND IN THE SPECIFICATIONS.
 - LOCATION:
 - AT FIRE AND SMOKE DAMPERS.
 - AT CONTROL DAMPERS IF LINKAGE IS LOCATED INTERNALLY.
 - UPSTREAM OF ALL REHEAT COILS.
 - AT LOCATIONS REQUIRING MAINTENANCE.
 - AT DEVICES REQUIRED BY CODE.
 - AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.
- FIRE DAMPERS (FDS):
 - PROVIDE DYNAMIC RATED FIRE DAMPERS, ULC LISTED AND LABELLED, AND MEET THE FOLLOWING REQUIREMENTS:
 - MANUFACTURED, TESTED AND LABELLED IN ACCORDANCE WITH UL 555 SAFETY STANDARD FOR FIRE DAMPERS, INCLUDING DYNAMIC CLOSURE TEST. DAMPERS SHALL BE CLASSIFIED FOR DYNAMIC CLOSURE AGAINST AN AIRFLOW VELOCITY OF 2000 FT/MIN (10.6 M/S) AT 4 IN.W.G. (1 KPA) STATIC PRESSURE DIFFERENTIAL ACROSS CLOSED DAMPER.
 - PROVIDE FIRE DAMPERS IN ACCORDANCE WITH CANULC-S112 "STANDARD METHOD OF FIRE TEST OF FIRE-DAMPER ASSEMBLIES"; NFPA 90A, UL555 AND SUPPLIERS INSTRUCTIONS, COMPLETE WITH RETAINING ANGLES ON BOTH SIDES OF WALL OR FLOOR AND FASTENED TO DAMPER COLLARS.
 - EACH FIRE DAMPER SHALL BEAR A UL 1 HOUR OR 3 HOURS FIRE RESISTANCE RATING LABEL IN ADDITION TO LABEL VERIFYING THE AIRFLOW AND CLOSURE PRESSURE RATINGS AS ESTABLISHED BY THE DYNAMIC CLOSURE TEST.

3 EACH FIRE DAMPER SHALL ALSO BE MARKED WITH THE WORDS "FOR USE IN DYNAMIC SYSTEMS". DAMPERS MARKED "FOR USE IN STATIC SYSTEMS ONLY" ARE NOT ACCEPTABLE.

4 EACH FIRE DAMPER SHALL BE COMPLETE WITH A 16S/F (74°C) IN LISTED FUSIBLE LINK.

5 FIRE DAMPERS SHALL EACH INCLUDE A STEEL SLEEVE OF APPROPRIATE LENGTH/GAUGE AND RETAINING ANGLES, SUPPLIED BY DAMPER MANUFACTURER TO ENSURE PROPER INSTALLATION IN ACCORDANCE WITH DAMPER MANUFACTURER'S INSTRUCTIONS.

6 PROVIDE LATCHED ACCESS DOORS IN DUCTWORK FOR INSPECTION, TESTING AND FUSIBLE LINK REPLACEMENT TO ALL FIRE DAMPERS; MINIMUM 12" X 12" (300MM X 300MM).

7 FUSIBLE LINK DAMPERS SHALL BE TYPE B OR TYPE C (AS REQUIRED) WITH CURTAIN BLADE OUT OF AIR STREAM. TYPE A DAMPERS (WITH THE CURTAIN BLADE IN THE AIR STREAM) SHALL BE INSTALLED WHERE SIZE OR LOCATION ARE SUCH THAT TYPE B AND TYPE C CANNOT BE INSTALLED. CONSULTANT SHALL REVIEW TYPE A USE PRIOR TO INSTALLATION.

16 SMOKE DAMPERS (SDS):

1 PROVIDE MOTORIZED SMOKE DAMPERS AT LOCATIONS SHOWN ON DRAWING ACHIEVE A POSITIVE SEAL AND ABLE TO MAINTAIN THE SMOKE BARRIER

2 DAMPERS SHALL BE SUITABLE FOR USE IN DYNAMIC OR STATIC SMOKE CONTROL SYSTEMS.

3 DAMPERS SHALL BE FAIL SAFE OPPOSED BLADE CONFIGURATION WITH AN INTERLOCKING BLADE DESIGN THAT PROVIDES COMPLETE SMOKE SEAL UNDER ELEVATED TEMPERATURE CONDITIONS WHEN IN CLOSED POSITION.

4 PROVIDE SMOKE DAMPERS IN ACCORDANCE WITH THE REQUIREMENTS OF CANULC-S112.1 "STANDARD FOR LEAKAGE RATED DAMPERS FOR USE IN SMOKE CONTROL SYSTEMS"; NFPA 90A, NFPA 92, NFPA 101 AND NFPA 105 AND SHALL BE CLASSIFIED AS A CLASS 1 LEAKAGE RATED (SMOKE) DAMPER UNDER UL 555S AT AN ELEVATED TEMPERATURE OF 250°F (121°C) AND EACH DAMPER SHALL BEAR A ULC LABEL VERIFYING SAME.

5 DAMPERS MUST COMPLY WITH THE REQUIREMENTS OF AMCA 511 CERTIFIED RATINGS PROGRAM AND BE QUALIFIED TO BEAR THE AMCA SEAL.

6 DAMPERS SHALL HAVE BEEN OPERATION TESTED BY UL TO A MINIMUM VELOCITY/PRESSURE RATING OF 2000 FT/MIN (10.16 MS) AT 4 IN.WG. (11 KPA).

7 FRAME SHALL BE CONSTRUCTED OF 16 GAUGE (1.6MM) GALVANIZED STEEL HAT CHANNEL WITH MITERED CORNERS REINFORCED WITH DIE-FORMED CORNER GUSSETS FOR STRENGTH.

8 BLADES SHALL BE TYPE 6063-T5 EXTRUDED ALUMINUM AIRFOIL DESIGN ON MAXIMUM 6" (152MM) CENTERS WITH INTEGRAL STRUCTURAL REINFORCING TUBE RUNNING FULL LENGTH OF EACH BLADE.

9 BLADE AXLES SHALL BE 3/4" (19MM) DIA. PLATED STEEL, DOUBLE BOLTED AT EACH END OF BLADE TO PROVIDE POSITIVE LOCKING CONNECTION.

10 BEARINGS SHALL BE SELF-LUBRICATING BRONZE TYPE.

11 BLADE LINKAGE SHALL BE ZERO-MAINTENANCE, CONCEALED IN FRAME, OUT OF AIRSTREAM.

12 JAMB SEALS SHALL BE COMPRESSION TYPE STAINLESS STEEL.

13 BLADE SEALS SHALL BE SILICONE, MECHANICALLY LOCKED IN EXTRUDED BLADE SLOTS.

14 EXTERNALLY MOUNTED ELECTRICAL ACTUATORS SHALL BE INSTALLED BY THE DAMPER MANUFACTURER IN THE FACTORY. REVIEW WITH CONSULTANT ANY SMOKE DAMPER ACTUATOR PROPOSED TO BE INTERNALLY MOUNTED PRIOR TO INSTALLATION.

15 SUPPLY VOLTAGE OF ACTUATORS SHALL BE 115V, 1 PHASE, CONTROL VOLTAGE OF ACTUATORS SHALL BE 24 VDC TO FACILITATE OPERATION UNDER SIGNAL FROM FIRE ALARM (WHERE REQUIRED). ACTUATORS SHALL INCORPORATE AN OEM INTERNAL SPRING-RETURN MECHANISM. DAMPER AND ACTUATOR ASSEMBLY SHALL BE FACTORY CYCLED A MINIMUM OF THREE (3) TIMES TO ENSURE CORRECT OPERATION.

16 SUBMITTED PRESSURE DROP DATA TO BE BASED ON TESTS IN ACCORDANCE WITH AMCA STANDARD 500-D AND SHALL DEMONSTRATE A MAXIMUM PRESSURE DROP OF 0.02 IN.WG. @ 849 FPM (5 PA @ 4.3 MS) ACROSS A 36" X 36" (914MM X 914MM) DAMPER.

17 DAMPER SHALL COME COMPLETE WITH A POSITION INDICATOR SWITCH WHERE DAMPER IS REQUIRED TO BE REOPENED OR CLOSED FROM A REMOTE LOCATION FOR SMOKE MANAGEMENT AND CONTROL; DAMPER OPEN END SWITCHES SHALL BE ADJUSTABLE IN THE FIELD.

18 PROVIDE MANUAL TEST SWITCH TO DEMONSTRATE PROPER DAMPER OPERATION AS PART OF REGULAR ON-GOING SYSTEM MAINTENANCE AND VERIFICATION.

19 SMOKE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 92A, UL555S AND THE MANUFACTURER'S INSTALLATION UL LISTING.

20 ALL JOINTS BETWEEN THE DAMPER AND THE SLEEVE OR DUCT AND BETWEEN DAMPERS IN MULTIPLE SECTIONS SHALL BE SEALED WITH SILICONE SEALANT.

21 DAMPER SHALL BE INSTALLED A MAXIMUM OF 24" (600 MM) FROM THE SMOKE BARRIER.

17 COMBINATION FIRE AND SMOKE DAMPERS (CFSDS):

1 PROVIDE COMBINATION FIRE/SMOKE DAMPERS (CFSDS) AS SHOWN ON PLANS AND/OR SCHEDULES.

2 PROVIDE COMBINATION FIRE SMOKE DAMPERS (CFSDS) IN ACCORDANCE WITH THE REQUIREMENTS OF BOTH CANULC-S112 "STANDARD METHOD OF FIRE TEST OF FIRE-DAMPER ASSEMBLIES"; CANULC-S112.1 "STANDARD FOR LEAKAGE RATED DAMPERS FOR USE IN SMOKE CONTROL SYSTEMS"; AND NFPA 80, NFPA 90A, NFPA 92, NFPA 101 AND NFPA 105.

3 COMBINATION FIRE SMOKE DAMPERS SHALL BE CLASSIFIED BY UNDERWRITERS' LABORATORIES AND LABELED AS A 1 1/2 HOUR FIRE DAMPER UNDER UL 555, AND AS A CLASS 1 SMOKE DAMPER UNDER UL 555S AT AN ELEVATED TEMPERATURE OF 250°F (121°C). EACH COMBINATION FIRE SMOKE DAMPER SHALL BEAR A ULC LABEL VERIFYING SAME FOR USE IN DYNAMIC OR STATIC SMOKE CONTROL SYSTEMS.

4 DAMPERS MUST COMPLY WITH THE REQUIREMENTS OF AMCA 511 CERTIFIED RATINGS PROGRAM AND BE QUALIFIED TO BEAR THE AMCA SEAL.

5 FRAME SHALL BE CONSTRUCTED OF 16 GAUGE (1.6MM) GALVANIZED STEEL HAT CHANNEL WITH MITERED CORNERS REINFORCED WITH DIE-FORMED CORNER GUSSETS FOR STRENGTH.

6 BLADES SHALL BE 14 GAUGE (2.0MM) EQUIVALENT GALVANIZED STEEL FORMED DOUBLE SKIN, AIRFOIL DESIGN.

7 DAMPERS SHALL BE OF OPPOSED BLADE CONFIGURATION WITH AN INTERLOCKING BLADE DESIGN THAT PROVIDES COMPLETE FLAME AND SMOKE SEAL UNDER FIRE CONDITIONS AT AN ELEVATED TEMPERATURE OF 2000°F (1093°C) WHEN IN CLOSED POSITION.

8 BLADE AXLES SHALL BE PLATED STEEL, DOUBLE BOLTED AT EACH END OF BLADE TO PROVIDE POSITIVE LOCKING CONNECTION.

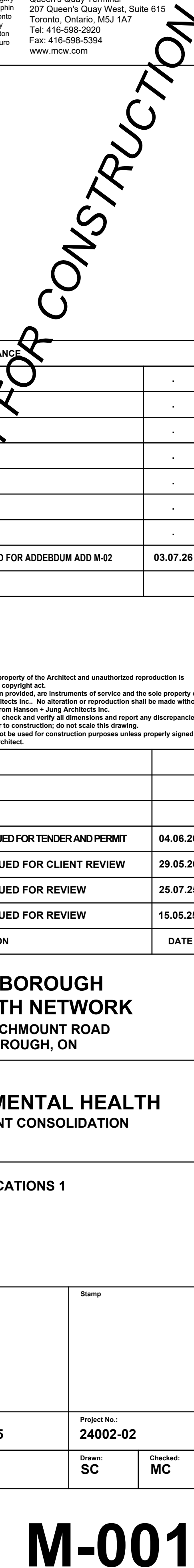
9 BEARINGS SHALL BE SELF-LUBRICATING BRONZE TYPE.

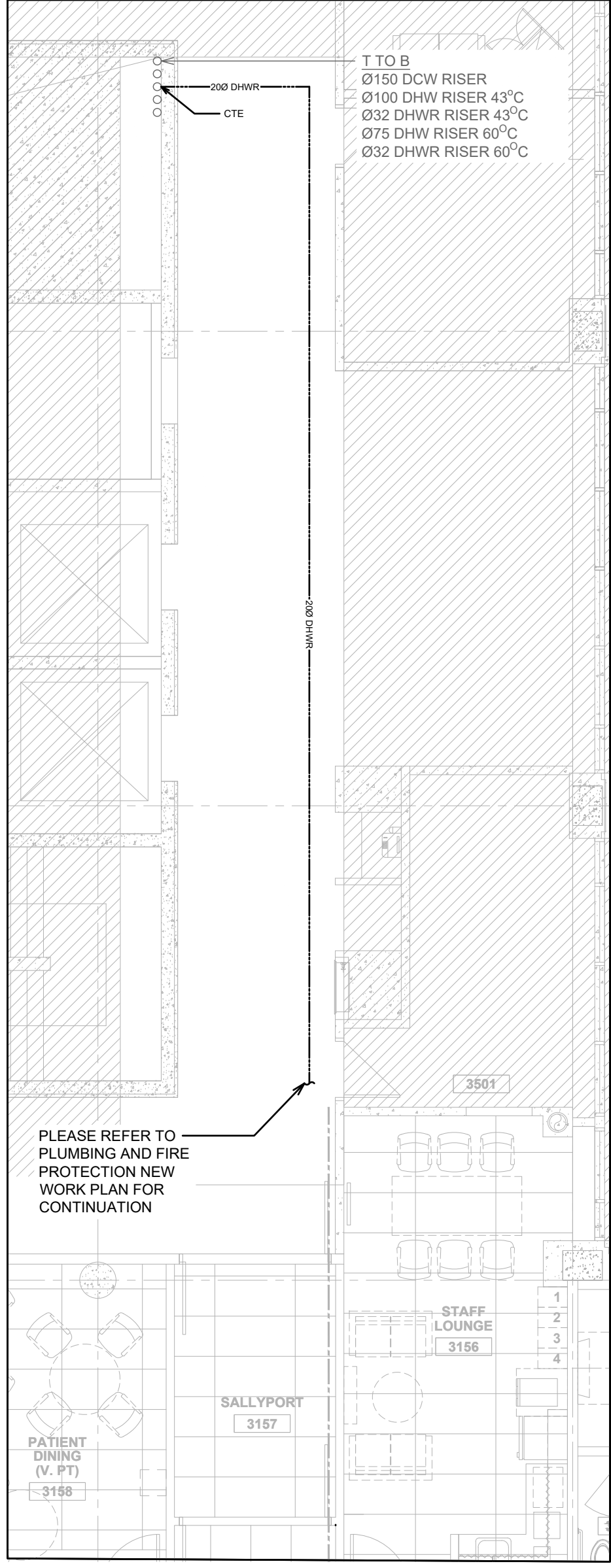
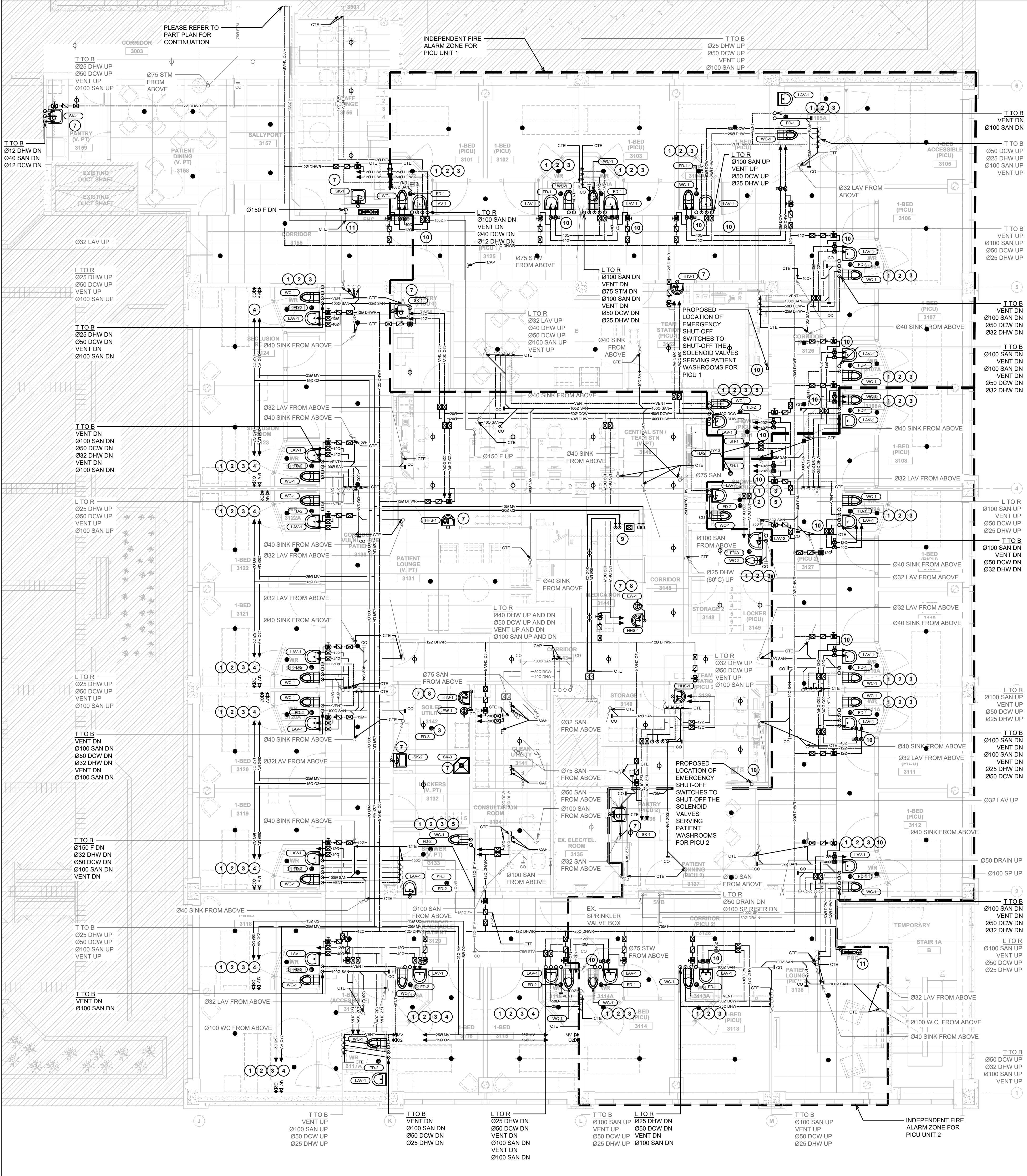
10 BLADE LINKAGE SHALL BE ZERO-MAINTENANCE, CONCEALED IN FRAME, OUT OF AIRSTREAM.

11 JAMB SEALS SHALL BE COMPRESSION-TYPE STAINLESS STEEL.

12 DAMPERS SHALL HAVE BEEN TESTED FOR DYNAMIC FLOW (CLIMATE BY UL) TO A MINIMUM VELOCITY/PRESSURE RATING OF 2000 FT/MIN (10.16 MS) AT 4 IN.WG. (11 KPA).

13 DAMPERS SHALL BE SUPPLIED WITH FACTORY INSTALLED SLEEVES (2000





- ### GENERAL NOTES
- CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND REPORT ALL DISCREPANCIES WITH CONTRACT DOCUMENTS TO THE CONSULTANT.
 - MAINTAIN ACCESS AND INTEGRITY OF FIRE EXITS AT ALL TIMES.
 - CONTRACTOR IS TO REVIEW & FOLLOW THE HOSPITAL'S CONSTRUCTION GUIDELINES PRIOR TO COMMENCEMENT OF ANY WORK. ALL NOISE AND NOXIOUS WORK TO BE DONE AFTER HOURS AND ARRANGED WITH HOSPITAL BEFOREHAND.
 - DETERMINE THE EXTENT OF DEMOLITION AND PROVIDE THE NECESSARY PROTECTION TO ADJACENT AREAS NOT AFFECTED BY THIS CONTRACT.
 - IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REPAIR DAMAGES TO THE PREMISES RESULTING FROM DEMOLITION / CONSTRUCTION WORK.
 - ENSURE THAT ALL REQUIRED FIRE SEPARATIONS ARE MAINTAINED IN WALLS, CEILINGS, FLOORS, AND INTERSTITIAL.
 - REFER TO DWGS. FOR SALVAGED ITEMS NOT BEING REUSED IN THE RENOVATION TO BE RETURNED TO OWNER. IN ADDITION, CONSULT WITH OWNER'S REPRESENTATIVE FOR OTHER SALVAGED ITEMS TO BE RETURNED TO OWNER. ALL OTHER ITEMS TO BE DEMOLISHED OR REMOVED BECOMES THE PROPERTY OF THE CONTRACTOR AND MUST TO BE REMOVED FROM THE SITE.
 - ALL EQUIPMENT, OR BUILDING MATERIALS INDICATED ON THE DRAWINGS TO BE RELOCATED OR RE-USED SHALL BE CAREFULLY REMOVED, SAFELY STORED, REPAIRED AS NEEDED AND RE-INSTALLED BY CONTRACTOR.
 - ALL WORK TO CONFORM TO EXISTING BY-LAWS, CODES AND AUTHORITIES HAVING JURISDICTION.
 - CONTRACTOR TO REPAIR / REPLACE ANY EXISTING FINISHES DENOTES TO REMAIN, INCLUDING BUT NOT EXCLUSIVELY SUSPENDED CEILING TILES, CEILING GRID OR GYPSUM BOARD CEILING, DAMAGED BY CONSTRUCTION. TOUCH-UP PAINTED SURFACES AFTER COMPLETION OF ALL INSTALLATION.
 - CONTRACTOR SHALL MAINTAIN THE PREMISES CLEAN AND FREE OF RUBBISH OR DEBRIS DURING CONSTRUCTION AND SHALL LEAVE THE PREMISES CLEAN UPON COMPLETION OF WORK. COORDINATE RUBBISH AND DEBRIS REMOVAL WITH THE BUILDING MANAGEMENT.
 - PROVIDE FIRE STOP SYSTEMS AT OPENINGS AND GAPS AROUND DUCTS/PIPES/ ELECTRICAL PENETRATION IN FLOORS, AND FIRE RATED PARTITIONS TO MAINTAIN INTEGRITY OF FIRE SEPARATION. USE ULC LISTED FIRE STOP PRODUCTS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
 - FIRESTOP ALL NEW AND EXISTING PENETRATIONS IN EXISTING FIRE RATED FLOOR ASSEMBLIES AND PARTITIONS.
 - CONTRACTOR TO PATCH, REPAIR AND MAKE GOOD EXISTING CEILING / WALLS AND MAKE READY FOR NEW FINISH.
 - DISPOSE OF ALL HAZARDOUS MATERIALS IN COMPLIANCE WITH ALL APPLICABLE LEGISLATION.
 - PROVIDE HEAVY-DUTY, COMMERCIAL-GRADE ACCESS PANELS FOR ALL CONCEALED MECHANICAL COMPONENTS REQUIRING MAINTENANCE OR INSPECTION (INCLUDING SHUT-OFF VALVES, DAMPER, ACTUATORS, GAV BOXES, AND CLEANOUTS), COORDINATING EXACT LOCATIONS AND SIZES WITH ALL APPLICABLE TRADES PRIOR TO INSTALLATION. REPLACE EXISTING ACCESS PANELS WITH MATCHING OPENING SIZES TO MAINTAIN ACCESS TO THE EXISTING FIRE DAMPER WITHIN THE VERTICAL AIR DUCT RISER, IN PATIENT-ACCESSIBLE AREAS, PROVIDE TAMPER-RESISTANT, ANTI-LIGATURE SECURITY ACCESS PANELS CONSTRUCTED OF 14-GAUGE STEEL WITH CONCEALED HINGES, A WHITE POWDER-COAT FINISH, KEYED SECURITY LOCKS, AND SECURITY FIXINGS. STANDARD FLUSH ACCESS PANELS MAY BE USED IN NON-PATIENT AREAS PER ARCHITECTURAL DEMARCATIONS. ALL PANELS SHALL BE WALL- OR CEILING-MOUNTED AS REQUIRED TO SUIT THE INSTALLATION LOCATION AND SHALL MAINTAIN THE FIRE-RESISTANCE RATING OF ADJACENT ASSEMBLIES IN ACCORDANCE WITH NFPA AND LOCAL BUILDING CODES. SUBMIT SHOP DRAWINGS DETAILING ALL PANEL TYPES, SIZES, AND LOCATIONS FOR REVIEW PRIOR TO ORDERING MATERIALS.
 - SUPPLY AND INSTALL NEW ANTI-LIGATURE SPRINKLER HEADS IN PATIENT ACCESSIBLE AREA AND NEW CONCEALED SPRINKLER HEADS IN NON PATIENT ACCESSIBLE AREA (REFER TO ARCHITECTURAL DRAWINGS FOR DEMARCATION) IN ACCORDANCE WITH NEPA STANDARD 13 BASED ON A LIGHT HAZARD CLASSIFICATION. EXTEND AND CONNECT ALL NEW INSTALLATIONS TO EXISTING SPRINKLER PIPING. FIRE PROTECTION ENGINEER TO PERFORM HYDRAULIC CALCULATIONS PRIOR TO INSTALLATION. ALL WORK SHALL COMPLY WITH SPECIFICATION SECTION 9 AND BE COMPLETED BY BASE BUILDING CONTRACTOR - CLASSIC FIRE (CONTACT: BLAIR SARGINSON, BSARGINSON@CLASSICFLS.COM).
 - REFER TO M-400 & M-401 FOR PROPOSED PHASING PLANS (TO BE FINALIZED BY CONTRACTOR AND APPROVED BY OWNER).

01 PLUMBING NEW WORK PART PLAN

M-201 1:75

- ### KEY NOTES
- PROVIDE NEW WATER CLOSET AS SPECIFIED. CONNECT TO EXISTING DOMESTIC COLD, SANITARY AND VENT PIPING.
 - PROVIDE NEW LAVATORY AS SPECIFIED. CONNECT TO EXISTING DOMESTIC COLD, HOT, RECIRCULATION, WASTE AND VENT PIPING.
 - PROVIDE NEW FLOOR DRAIN AS SPECIFIED. CONNECT TO EXISTING WASTE AND VENT PIPING.
 - PROVIDE NEW MEDICAL GAS OUTLETS. CONNECT TO EXISTING OXYGEN AND MEDICAL VACUUM PIPING. GAS WORK SHALL BE COMPLETED BY CLASS 1 INC.
 - PROVIDE NEW SHOWER AS SPECIFIED. CONNECT TO EXISTING DOMESTIC COLD, HOT, RECIRCULATION, WASTE AND VENT PIPING.
 - NOT USED.
 - PROVIDE NEW SINK AS SPECIFIED. CONNECT TO EXISTING DOMESTIC COLD, HOT, RECIRCULATION, WASTE AND VENT PIPING.
 - PROVIDE NEW EYEWASH AS SPECIFIED. CONNECT TO EXISTING DOMESTIC COLD, HOT, RECIRCULATION, WASTE AND VENT PIPING.
 - PROVIDE NEW ZONE VALVE BOX FOR MEDICAL GAS. GAS WORK SHALL BE COMPLETED BY CLASS 1 INC.
 - PROVIDE NEW DOMESTIC HOT AND COLD WATER SOLENOID VALVES. NORMALLY OPEN, SUITABLE FOR POTABLE WATER SERVICE. WIRE SOLENOID VALVES BACK TO THE EMERGENCY SHUT-OFF MAIN SWITCH LOCATED IN THE NURSE STATION. LOCATE SOLENOID VALVES IN THE CORRIDOR TO PERMIT EASY ACCESS. PROVIDE A BYPASS LOOP WITH MANUAL ISOLATION VALVES FOR SERVICING.
 - PROVIDE NEW FIRE HOSE CABINET AS SPECIFIED BELOW. CONNECT TO EXISTING FIRE PROTECTION PIPING. ALL WORK SHALL BE COMPLETED BY BASE BUILDING CONTRACTOR - CLASSIC FIRE (CONTACT: BLAIR SARGINSON, BSARGINSON@CLASSICFLS.COM).
- DESCRIPTION: MAXIMUM SECURITY HOSE CABINET
- SUPPLIER: NATIONAL FIRE EQUIPMENT LTD.
- STANDARD PRODUCT SPECIFICATIONS:
- 10 GA. FULL METAL ADJUSTABLE FRONTS. REINFORCED DOOR, 1/4" RETURN ON DOOR - GREY POWDER COATED PAINT.
 - 10 GA. PAINTED TUBS - GREY
 - HINGES: MODEL 8007 SECURITY HINGE
 - LOCK: MODEL 7010 HIGH SECURITY MECHANICAL DEADBOLT LOCK.
 - LOCK: FIRE EXTINGUISHER CABINETS USE MODEL 7017 COMPACT SECURITY LOCK.

SHEET ISSUANCE			
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2	ISSUED FOR ADDENDUM ADD M-02	03.07.26	
1	ISSUED FOR ADDENDUM ADD M-01	23.06.26	
NO			

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4	ISSUED FOR TENDER AND PERMIT	04.06.26
3	ISSUED FOR CLIENT REVIEW	29.05.26
2	ISSUED FOR REVIEW	25.07.25
1	ISSUED FOR REVIEW	15.05.25
NO	ACTION	DATE

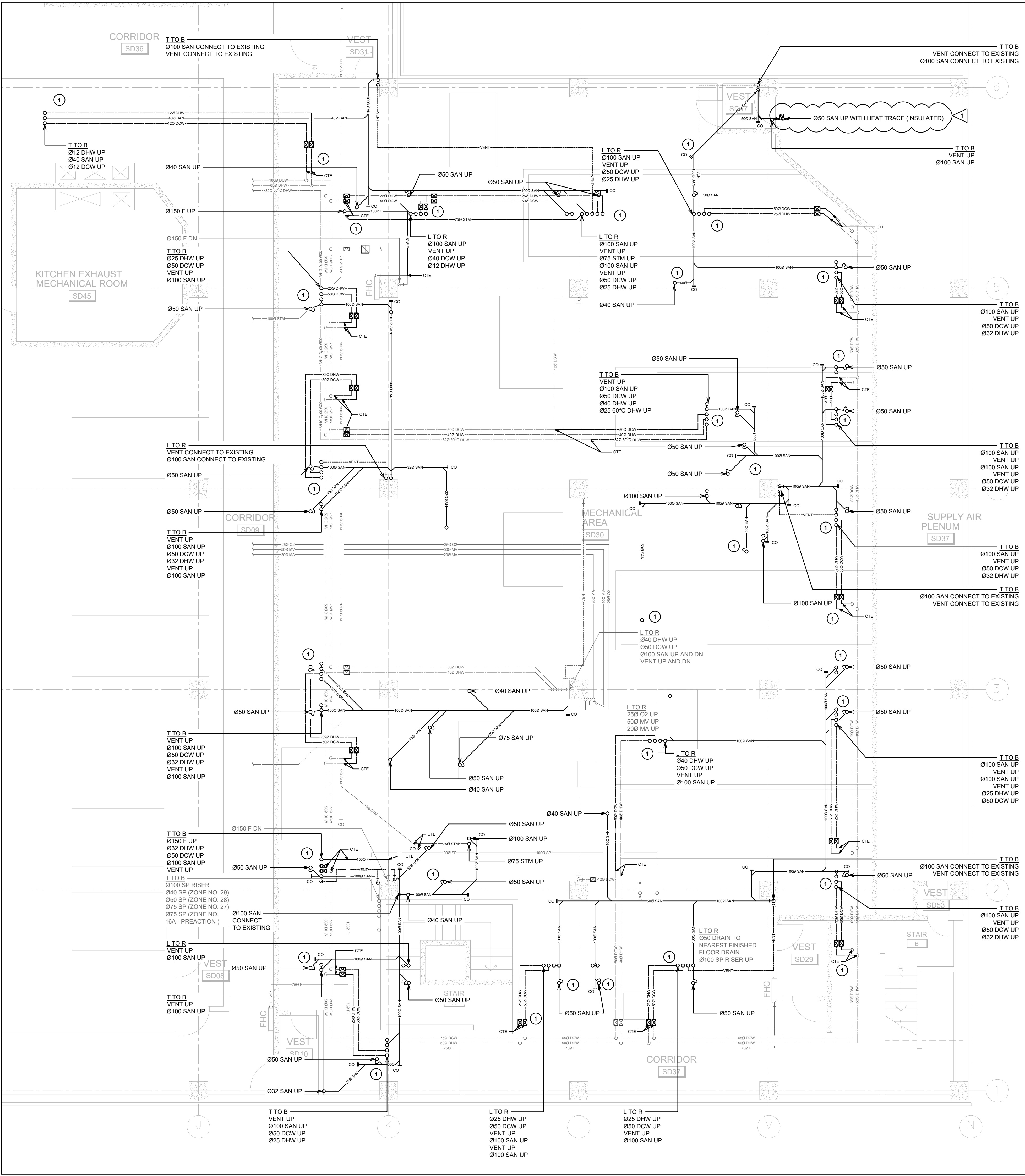
Client:
SCARBOROUGH HEALTH NETWORK
3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

Project Title:
SHN MENTAL HEALTH INPATIENT CONSOLIDATION POD 3A

Sheet Title:
PLUMBING, MEDICAL GAS AND FIRE PROTECTION NEW WORK PLAN

Project North	Stamp
Date: APR 2025	Project No.: 24002-02
Scale: 1:75	Drawn: SC
Drawing Number:	Checked: MC

M-201



GENERAL NOTES

1. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND REPORT ALL DISCREPANCIES WITH CONTRACT DOCUMENTS TO THE CONSULTANT.
2. MAINTAIN ACCESS AND INTEGRITY OF FIRE EXITS AT ALL TIMES.
3. CONTRACTOR IS TO REVIEW & FOLLOW THE HOSPITAL'S CONSTRUCTION GUIDELINES PRIOR TO COMMENCEMENT OF ANY WORK. ALL NOISE AND NOXIOUS WORK TO BE DONE AFTER HOURS AND ARRANGED WITH HOSPITAL BEFOREHAND.
4. DETERMINE THE EXTENT OF DEMOLITION AND PROVIDE THE NECESSARY PROTECTION TO ADJACENT AREAS NOT AFFECTED BY THIS CONTRACT.
5. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REPAIR DAMAGES TO THE PREMISES RESULTING FROM DEMOLITION / CONSTRUCTION WORK.
6. ENSURE THAT ALL REQUIRED FIRE SEPARATIONS ARE MAINTAINED IN WALLS, CEILINGS, FLOORS, AND INTERSTITIAL.
7. REFER TO DWGS. FOR SALVAGED ITEMS NOT BEING REUSED IN THE RENOVATION TO BE RETURNED TO OWNER. IN ADDITION, CONSULT WITH OWNER'S REPRESENTATIVE FOR OTHER SALVAGED ITEMS TO BE RETURNED TO OWNER. ALL OTHER ITEMS TO BE DEMOLISHED OR REMOVED BECOMES THE PROPERTY OF THE CONTRACTOR AND MUST TO BE REMOVED FROM THE SITE.
8. ALL EQUIPMENT, OR BUILDING MATERIALS INDICATED ON THE DRAWINGS TO BE RELOCATED OR RE-USED SHALL BE CAREFULLY REMOVED, SAFELY STORED, REPAIRED AS NEEDED AND RE-INSTALLED BY CONTRACTOR.
9. ALL WORK TO CONFORM TO EXISTING BY-LAWS, CODES AND AUTHORITIES HAVING JURISDICTION.
10. CONTRACTOR TO REPAIR / REPLACE ANY EXISTING FINISHES DENOTES TO REMAIN, INCLUDING BUT NOT EXCLUSIVELY SUSPENDED CEILING TILES, CEILING GRID OR GYPSUM BOARD CEILING, DAMAGED BY CONSTRUCTION. TOUCH-UP PAINTED SURFACES AFTER COMPLETION OF ALL INSTALLATION.
11. CONTRACTOR SHALL MAINTAIN THE PREMISES CLEAN AND FREE OF RUBBISH OR DEBRIS DURING CONSTRUCTION AND SHALL LEAVE THE PREMISES CLEAN UPON COMPLETION OF WORK. COORDINATE RUBBISH AND DEBRIS REMOVAL WITH THE BUILDING MANAGEMENT.
12. PROVIDE FIRE STOP SYSTEMS AT OPENINGS AND GAPS AROUND DUCTS/ PIPES/ ELECTRICAL PENETRATION IN FLOORS, AND FIRE RATED PARTITIONS TO MAINTAIN INTEGRITY OF FIRE SEPARATION. USE ULC LISTED FIRE STOP PRODUCTS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
13. FIRESTOP ALL NEW AND EXISTING PENETRATIONS IN EXISTING FIRE RATED FLOOR ASSEMBLIES AND PARTITIONS.
14. CONTRACTOR TO PATCH, REPAIR AND MAKE GOOD EXISTING CEILING / WALLS AND MAKE READY FOR NEW FINISH.
15. DISPOSE OF ALL HAZARDOUS MATERIALS IN COMPLIANCE WITH ALL APPLICABLE LEGISLATION.

KEY NOTES

1. CONNECT NEW FIRE PROTECTION, PLUMBING, WASTE, STORM AND VENT PIPING FROM ABOVE TO EXISTING AS INDICATED. REFER TO DRAWING M-400 AND M-401 FOR PHASING AND HVAC REMOVALS. COORDINATE WITH DIV 23.

SHEET ISSUANCE

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1	ISSUED FOR ADDEBUDM ADD M-02	03.07.26
NO		

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3	ISSUED FOR CLIENT REVIEW	29.05.26
2	ISSUED FOR REVIEW	25.07.25
1	ISSUED FOR REVIEW	15.05.25
NO	ACTION	DATE

Client:

**SCARBOROUGH
HEALTH NETWORK**
3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

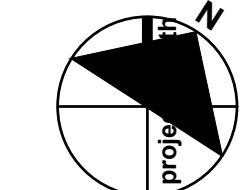
Project Title:

**SHN MENTAL HEALTH
INPATIENT CONSOLIDATION
POD 3A**

Sheet Title:

**PLUMBING AND FIRE PROTECTION
NEW WORK PLAN - SD LEVEL**

Project



Stamp

Date:

APR 2025

Project No.:

24002-02

Scale:

1:75

Drawn:

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Checked:

MC

Drawing Number:

M-301

Queen's Quay Terminal
207 Queen's Quay West, Suite 615
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Date: July 3, 2026

Project Name: SHN Mental Health Inpatient Consolidation Pod 3A

Client: Scarborough Health Network

To: Hanson + Jung Architects Inc.

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Project #: 24002-02

ADD #: E-02

Page #: 1 of 1

+ Attachment

In accordance with the drawings and specifications, provide in the tender all costs required to complete the work including items as listed below.

Electrical:

Reference	Description
E0-00	Added location of room "SD48" on SD level as shown.
E0-01b	Added "Arc Flash Hazard Study" as shown.
E1-01	Revised note 27 as shown.
E1-02	- Revised notes for new work plan as shown. - Revised keynote in Shower (V. PT) 3133 as shown. - Added dome light in Shower (V. PT) 3133 as shown. - Revised view reference block in Ex. Elec/Tel. Room 3135 as shown. - Added manual override switch in Team Station (PICU 2) 3139 as shown. - Added manual override switch in Central Stn/Team Stn (V. PT) 3146 as shown. - Added manual override switch in Team Station (PICU 1) 3152 as shown. - Added dome light in Shower (PICU 1) as shown. - Added dome light in Shower (PICU 2) as shown. - Deleted relay control panel from Central Stn/Team Stn (V. PT) 3146 as shown. - Added typical notes for all EQ23 as shown. - Added heat trace and provided power in WR 3105A as shown. - Added Junction boxes and data drop for BAS system
E2-01	Showed location of panels "PP-SD-B-EAA" and "PP-SD-B-AA"
E2-02	- Revised panel "LP-3D-A" as shown. - Revised panel "LP-3D-EA" as shown.
E2-03	Added pipe trace detail as shown.

End of ADD # E-02

ELECTRICAL SYMBOL LEGEND		ELECTRICAL DRAWING LIST		FORMAL ISSUES							
NOTE: NOT ALL SYMBOLS SHOWN ON THIS LEGEND ARE NECESSARILY USED ON THIS PROJECT. LIGHTING LINEAR FLUORESCENT LUMINAIRE, TYPE 'X' AS SPECIFIED. HATCHING DENOTES CONNECTED TO EMERGENCY/STANDBY LIGHTING CIRCUIT CILING MOUNTED LUMINAIRE, TYPE 'X' AS SPECIFIED WALL MOUNTED LUMINAIRE, TYPE 'X' AS SPECIFIED DOUBLE SURFACE MOUNTED EMERGENCY LIGHTING REMOTE HEAD, TYPE 'BU' INDICATES BATTERY BANKED FROM CILING MOUNTED EMERGENCY LIGHTING REMOTE HEAD EMERGENCY LIGHTING BATTERY UNIT ON DUPLEX RECEPTACLE AND DOUBLE REMOTE HEADS, TYPE 'BU' AS SPECIFIED WALL MOUNTED DOUBLE FACED EXIT LIGHT AND DIRECTIONAL ARROWS AS INDICATED. SHADED AREAS DENOTE DIRECTION OF FACE OF EXIT SIGN. 'BU' INDICATES BATTERY UNIT FED FROM WALL MOUNTED SINGLE FACED EXIT LIGHT AND DIRECTIONAL ARROWS AS INDICATED. SHADED AREAS DENOTE DIRECTION OF FACE OF EXIT SIGN CILING MOUNTED DOUBLE FACED EXIT LIGHT AND DIRECTIONAL ARROWS AS INDICATED. SHADED AREAS DENOTE DIRECTION OF FACE OF EXIT SIGN CILING MOUNTED SINGLE FACED EXIT LIGHT AND DIRECTIONAL ARROWS AS INDICATED. SHADED AREAS DENOTE DIRECTION OF FACE OF EXIT SIGN SECURITY AND ACCESS SYSTEMS SECURITY SYSTEM CONTROL PANEL KEY PAD CARD READER REQUEST TO EXIT BUTTON DOOR CONTACT ELECTRIC HOLD OPEN OVERHEAD DOOR CONTACT ELECTRIC LOCKSET ELECTRIC LOCKSET REMOTE RELEASE CLOSED CIRCUIT CAMERA • 'S' - DENOTES BOX ENCLOSURE • 'E' - DENOTES ELEVATOR CORNER MOUNT • 'F' - DENOTES FISSURE MOUNT • 'FZ' - DENOTES PAN TILT ZOOM • 'W' - WEDGE ENCLOSURE SECURITY SYSTEM MONITOR WALL LOCK DEVICE WALL LOCK RESET SWITCH KEY SWITCH CODE BLUE SPEAKER PHONE CODE BLUE INTEGRATED UNIT ON ACCESSORIES, POLE OR PEDESTAL MOUNTED ALARM SOUNDER PANIC ALARM BUTTON ELECTRIFIED CONTINUOUS-HINGE NURSE CALL SYSTEM BED MONITOR CANCEL STATION CODE BLUE STATION DOME LIGHT DOME LIGHT, ZONE DOMELESS CONTROLLER DOMELESS CONTROLLER WITH AUDIO DOMELESS DUTY CONTROLLER DUTY STATION EMERGENCY STATION KEY PASS STATION MASTER CONSOLE PATIENT STATION, SINGLE PATIENT STATION, DOUBLE PULL CORD STATION REGISTRATION STATION STAFF ASSIST STATION STAFF TERMINAL CONTROL PANEL, RECESS CONTROL PANEL, SURFACE ANNUNCIATOR PANEL, RECESS ANNUNCIATOR PANEL, SURFACE NURSE CALL STATION CONNECTED WITH PUSH-BUTTON - WALL MOUNTED		EQUIPMENT CONNECTIONS AND CONTROLS DIRECT CONNECTION - 120 OR 240V AS SPECIFIED DIRECT CONNECTION - 240 OR 208V AS SPECIFIED DIRECT CONNECTION - 120 OR 240V ON UNFUSED DISCONNECT SWITCH AS SPECIFIED DIRECT CONNECTION - 240 OR 600V ON UNFUSED DISCONNECT SWITCH AS SPECIFIED DIRECT CONNECTION - 120 OR 240V ON FUSED DISCONNECT SWITCH AS SPECIFIED DIRECT CONNECTION - 240 OR 600V ON FUSED DISCONNECT SWITCH AS SPECIFIED MODULAR FURNITURE WMP CONNECTION • 'C' - DENOTES CEILING • 'F' - DENOTES FLOOR • 'W' - DENOTES WALL MOTOR CONNECTION AS SPECIFIED MOTOR CONNECTION ON UNFUSED DISCONNECT SWITCH MOTOR CONNECTION ON FUSED DISCONNECT SWITCH MOTOR CONNECTION ON LOOSE STARTER MOTOR STARTER AS SPECIFIED UNFUSED DISCONNECT SWITCH FUSED DISCONNECT SWITCH HAND DRIVER CONTACTOR - SIZE AND NUMBER OF POLES AS SPECIFIED RELAY THERMOSTAT PROVIDED AND WIRED BY ELECTRICAL THERMOSTAT PROVIDED BY MECHANICAL AND WIRED BY ELECTRICAL MASTER CLOCK CONTROL PANEL CLOCK HANGER OUTLET ON CLOCK CLOCK HANGER OUTLET ON CLOCK POWER ACTIVATED DOOR EXIT BUTTON SUPPLIED BY DOOR HARDWARE SUPPLIER, WIRED BY ELECTRICAL RECESS MOUNTED ELECTRICAL PANEL - 'SP' DENOTES PANEL DESIGNATION SURFACE MOUNTED ELECTRICAL PANEL - 'SP' DENOTES PANEL DESIGNATION GENERAL POWER 15A U-GROUND SINGLE RECEPTACLE 15A U-GROUND DUPLEX RECEPTACLE (5-20R) T-BLUT U-GROUND DUPLEX RECEPTACLE 15A U-GROUND SINGLE OR DUPLEX RECEPTACLE - MOUNTED ABOVE COUNTER 15A U-GROUND SINGLE INSULATED/ISOLATED GROUND RECEPTACLE - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER 15A U-GROUND DUPLEX INSULATED/ISOLATED GROUND RECEPTACLE - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER (5-20R) T-BLUT U-GROUND DUPLEX INSULATED/ISOLATED GROUND RECEPTACLE - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER 120/240V/100 AMP DRYER OUTLET 120/240V/100 AMP RANGE OUTLET SINGLE SPECIAL RECEPTACLE - AMPACITY AS INDICATED, TYPE 'X' AS SPECIFIED LOW VOLTAGE RELAY 15A U-GROUND SPLIT WIRED DUPLEX RECEPTACLE - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER 15A U-GROUND HALF SPLITTED DUPLEX RECEPTACLE - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER (CONFLICTS WITH SWITCH) 15A U-GROUND DUPLEX RECEPTACLE ON GROUND FAULT CIRCUIT INTERRUPTER - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER 15A U-GROUND DUPLEX RECEPTACLE ON GROUND FAULT CIRCUIT INTERRUPTER - STANDARD MOUNTING HEIGHT OR MOUNTED ABOVE COUNTER (5-20R) T-BLUT U-GROUND DUPLEX RECEPTACLE ON GROUND FAULT CIRCUIT INTERRUPTER 15A U-GROUND SINGLE OR DUPLEX INSULATED/ISOLATED GROUND RECEPTACLE - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE 15A U-GROUND SINGLE RECEPTACLE - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE 15A U-GROUND SPLIT WIRED DUPLEX RECEPTACLE - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE 15A U-GROUND DUPLEX RECEPTACLE ON GROUND FAULT CIRCUIT INTERRUPTER - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE 15A U-GROUND SPLIT WIRED DUPLEX RECEPTACLE - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE 15A U-GROUND DUPLEX RECEPTACLE ON GROUND FAULT CIRCUIT INTERRUPTER - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE (5-20R) T-BLUT U-GROUND DUPLEX RECEPTACLE ON GROUND FAULT CIRCUIT INTERRUPTER - FLUSH FLOOR MOUNTED UNLESS NOTED OTHERWISE 15A U-GROUND SINGLE OR DUPLEX INSULATED/ISOLATED GROUND RECEPTACLE - 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WALL OR CEILING MOUNTED SINGLE STATION TYPE SMOKE ALARM/CARBON MONOXIDE DETECTOR ON RED INDICATION LIGHT - WALL OR CEILING MOUNTED CARBON MONOXIDE DETECTOR - WALL OR CEILING MOUNTED SOLENOID VALVE BY MECHANICAL AND WIRED BY ELECTRICAL. COORDINATES/CONFIRM EXACT LOCATION AND QUANTITIES WITH MECHANICAL DRAWINGS MOTORIZED DAMPER BY MECHANICAL AND WIRED BY ELECTRICAL. COORDINATES/CONFIRM EXACT LOCATION AND QUANTITIES WITH MECHANICAL DRAWINGS RECESS MOUNTED - FIRE ALARM CONTROL PANEL SURFACE MOUNTED - FIRE ALARM CONTROL PANEL RECESS MOUNTED - FIRE ALARM ANNUNCIATOR PANEL SURFACE MOUNTED - FIRE ALARM ANNUNCIATOR PANEL RECESS MOUNTED - CENTRAL MONITORING AND EVACUATION FACILITIES SURFACE MOUNTED - CENTRAL MONITORING AND EVACUATION FACILITIES LIGHTING CONTROL ONE, TWO, THREE AND FOUR GANG SINGLE POLE TOGGLE SWITCHES 3-WAY SWITCH DISCONNECT SWITCH 4-WAY SWITCH KEY OPERATED LIGHT SWITCH TOGGLE SWITCH ON RED PLOT LIGHT DOOR LIGHT SWITCH SWITCH MOUNTED OCCUPANCY SENSOR, TYPE 'X' AS SPECIFIED FAN CONTROL SWITCH VARIABLE SPEED FAN CONTROL SWITCH MANUAL TIMER SWITCH DIMMER SWITCH, TYPE 'X' AS SPECIFIED PROGRAMMABLE TIME CLOCK, TYPE 'X' AS SPECIFIED CEILING MOUNTED OCCUPANCY SENSOR, TYPE 'X' AS SPECIFIED LOW VOLTAGE RELAY LOW VOLTAGE RELAY PANEL, TYPE 'X' AS SPECIFIED LOW VOLTAGE CONTROL STATION, TYPE 'LV' AS SPECIFIED LOW VOLTAGE CONTROL SYSTEM MASTER STATION MISCELLANEOUS INDICATES EXISTING DEVICE TO REMAIN INDICATES EXISTING DEVICE TO BE MOVED INDICATES EXISTING DEVICE IN RELOCATED POSITION INDICATES EXISTING DEVICE TO BE DEMOLISHED INDICATES CONDUIT ELECTRICAL DRAWING NOTES		COMMUNICATIONS WALL MOUNTED COMBINATION MULTI-FUNCTION COMMUNICATION OUTLET WALL MOUNTED COMBINATION MULTI-FUNCTION COMMUNICATION OUTLET - MOUNTED ABOVE COUNTER TELEVISION OUTLET - WALL MOUNTED OR MOUNTED ABOVE COUNTER TELEVISION OUTLET - FLUSH CEILING MOUNTED UNLESS NOTED OTHERWISE TELEPHONE OUTLET - WALL MOUNTED OR MOUNTED ABOVE COUNTER TELEPHONE OUTLET - FLUSH CEILING MOUNTED UNLESS NOTED OTHERWISE PAY TELEPHONE OUTLET TELEPHONE OUTLET - FLUSH FLOOR MOUNTED TERMINAL POINT OF TELEPHONE ZONE CIRCUIT ON CEILING SLAB ON 2" (50mm) CONDUIT BACK TO TELEPHONE BACKBOARD COMMUNICATION LINE TERMINAL BOX DATA OUTLET - WALL MOUNTED OR MOUNTED ABOVE COUNTER DATA OUTLET - FLUSH CEILING MOUNTED UNLESS NOTED OTHERWISE DATA OUTLET - FLUSH FLOOR MOUNTED COMBINATION VOICES/DATA OUTLET - WALL MOUNTED OR MOUNTED ABOVE COUNTER COMBINATION VOICES/DATA OUTLET - FLUSH CEILING MOUNTED UNLESS NOTED OTHERWISE COMBINATION VOICES/DATA OUTLET - FLUSH FLOOR MOUNTED COMMUNICATIONS CABINET, TYPE 'X' AS SPECIFIED COMMUNICATIONS DROP IDENTIFICATION NUMBER - 'K1' INDICATES DROP IDENTIFICATION INTERCOM MASTER STATION INTERCOM STATION FLUSH MOUNTED AUXILIARY SOUND SYSTEM SPEAKER - WALL MOUNTED OR CEILING MOUNTED SURFACE MOUNTED AUXILIARY SOUND SYSTEM SPEAKER - WALL MOUNTED OR CEILING MOUNTED MICROPHONE JACK POWER DISTRIBUTION INCOMING POWER INTERRUPTER SWITCH DISCONNECT SWITCH MOLDED CASE CIRCUIT BREAKER FUSE DIGITAL METERING SYSTEM EMERGENCY LIGHTING INVERTER UNINTERRUPTIBLE POWER SUPPLY		ABBREVIATIONS A - AMPERES AC - MOUNTED ABOVE CEILING AFCI - ARC FAULT CIRCUIT INTERRUPTER AFI - ABOVE FINISHED FLOOR AFG - ABOVE FINISHED GRADE BFC - BELOW FINISHED CEILING BFG - BELOW FINISHED GRADE BB - BASEBOARD HEATER BRK - BREAKER BU - BATTERY UNIT C - CONDUCTOR CSP - CENTRAL DISTRIBUTION PANEL CF - CEILING FAN CM - COMBINATION MAGNETIC CM P/NVR - COMBINATION MAGNETIC, FULL VOLTAGE NON-REVERSIBLE CNDT - CONDUIT CP - COPY MACHINE CS - MOUNTED IN CRAWLSPACE CSTE - CUSTOMER SERVICE TERMINATION ENCLOSURE CT - COMPUTER TERMINAL CTP - COMPUTER TERMINAL PRINTER D - DELETE DB - DIRECT BURIED DHW - DOMESTIC HOT WATER HEATER DHWT - DOMESTIC HOT WATER TANK DIV. 15 PROVIDED BY DIVISION 15 DN - DOWN DP - DISTRIBUTION PANEL DT - DUST TIGHT E - EXISTING EC - EMPTY CONDUIT EF - EXHAUST FAN F - FLUSH FLOOR MOUNTED FA - FIRE ALARM FC - FAN COIL (WHEN USED WITH MOTOR SYMBOL) FC - FOOT CANDLE FF - FORCE FLOW FM - FLOOR MOUNTED FR - FRODOE FS - DEVICE MOUNTED IN RAISED FLOOR SPACE FU - FUSE FX - FAX MACHINE FZ - FREEZER GFI - GROUND FAULT CIRCUIT INTERRUPTER GRB - GARBAGE DISPOSAL GW - GROUND WIRE H - HORIZONTAL HP - HORIZONTAL POWER HK - HOUSEKEEPING IS - ISOLATED GROUND INT - INTERLOCK KVA - KILO VOLT-AMPERES KW - KILOWATTS LCB - LOCK-ON TYPE BREAKER LP - LIGHTING PANEL LV - LOW VOLTAGE LVR - LOW VOLTAGE RELAY MC - METERING CENTRE MCC - MOTOR CONTROL CENTRE MCD - MULTI CONDUCTOR MD - MAIN DISTRIBUTION MFC - MULTI-FUNCTION COPPER MIC - MICROWAVE MP - MOUNTING PROOF MTD - MOUNTED MTG - MOUNTING MV - EXISTING TO BE MOVED NM - MOUNTED IN WALL/POCKET NC - NORMALLY CLOSED NG - NOT IN CONTRACT NL - NIGHT LIGHT NO - NORMALLY OPEN NTS - NOT TO SCALE P - PUMP (WHEN USED WITH MOTOR SYMBOL) PA - PUBLIC ADDRESS POU - POWER DISTRIBUTION UNIT PH - PHASE PANEL PNL - PP POWER PANEL PR - PRINTER QP - QUAD FLEX R - RELOCATED RP - RECEPTACLE PANEL SC - SEPARATE CIRCUIT SS - SELECTOR SWITCH SWBRD - SWITCHBOARD TLL - TELEPHONE TYP - TYPICAL UC - UNDER COUNTER V - VOLT VM - VENDING MACHINE W - WALL MOUNTED WC - WATER COOLER WG - WIRE GUARD WL - WET LOCATION WP - WEATHERPROOF WT - WATER TIGHT WTP - WATERPROOF XP - EXPLOSION PROOF			

SHEET ISSUANCE	
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3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

Project Title:
**SHN MENTAL HEALTH
INPATIENT CONSOLIDATION
POD 3A**

Sheet Title:
ELECTRICAL COVER PAGE

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Scale: N.T.S.	Drawn: P.T./K.O.
Drawing Number:	Checked: M.C.

1.30.6.2.3. MEASURE THE INSULATION RESISTANCE OF EACH BRANCH CIRCUIT CONDUCTOR WITH ALL WIRING DEVICES CONNECTED.

1.30.7. RECEPTACLE RETENTIVE FORCE TEST

1.30.7.1. REQUIREMENTS:

1.30.7.1.1. A FORCE OF 11 NEWTONS DOES NOT REMOVE A TEST PIN FROM THE GROUND SLOT OF A RECEPTACLE.

1.30.7.1.2. A FORCE OF 13 NEWTONS DOES NOT REMOVE A TWO PIN TEST ATTACHMENT PLUG FROM A RECEPTACLE.

1.30.7.2. METHOD:

1.30.7.2.1. USE THE TEST PINS AND METHODS SPECIFIED IN CSA STANDARD C22.2 NO. 42 AS AN ALTERNATIVE A COMMERCIALLY AVAILABLE "TENSION TESTED" COMPLYING WITH CSA STANDARD C22.2 NO.42. GENERAL USE RECEPTANCES, PLUGS AND SIMILAR WIRING DEVICES MAY BE EMPLOYED.

1.30.7.2.2. IF USING THE TENSION CHECK, ENSURE THAT THE DEVICE IS CALIBRATED FOR TENSION (NEWTONS) FOR BOTH SINGLE-GROUND PIN AND FOR MULTIPLE PIN TESTING.

1.30.7.2.3. FOR EACH OUTLET, CHECK THAT THE TENSION OF GROUND PIN REMOVAL MEETS OR EXCEEDS THE REQUIREMENT.

1.30.7.2.4. FOR EACH OUTLET, CHECK THAT THE TENSION OF THE TWO PIN REMOVAL MEETS OR EXCEEDS THAT REQUIREMENT.

1.30.7.2.5. RECORD GO/NO GO TENSION READING FOR EACH OUTLET.

1.30.8. RECEPTACLE POLARITY TEST

1.30.8.1. REQUIREMENTS:

1.30.8.1.1. RECEPTABLES TO BE CONNECTED IN ACCORDANCE WITH CONFIGURATIONS LISTED IN CANADIAN ELECTRICAL CODE CSA C22.1, LATEST EDITION SECTION 26.

1.30.8.2. METHOD:

1.30.8.2.1. UTILIZE POLARITY TEST SET, AND TEST EACH RECEPTACLE.

1.30.8.2.2. CORRECT CONNECTION OF RECEPTABLES WHERE POLARITY INDICATION IS INCORRECT.

1.30.8.2.3. RECORD GO/NO GO TEST RESULTS FOR EACH RECEPTACLE.

1.30.9. BRANCH CIRCUIT IMPEDANCE TEST (VOLTAGE DROP TEST - GROUNDED SYSTEMS ONLY)

1.30.9.1. REQUIREMENTS:

1.30.9.1.1. VOLTAGE DROP IN BRANCH CIRCUIT WIRING FROM PANELBOARDS TO RECEPTABLES NOT TO EXCEED 3% WHEN A LOAD OF NOT LESS THAN 80% OF THE BREAKER RATING IS APPLIED AT THE RECEPTACLE.

1.30.9.2. METHOD:

1.30.9.2.1. UTILIZE EQUIPMENT APPROVED BY THE CONSULTANT, SEE FIGURE 2 IN CSA STANDARD 232 FOR TEST CIRCUIT.

1.30.9.2.2. ENSURE THAT ALL CIRCUITS OTHER THAN THE ONE UNDER TEST ARE DE-ENERGIZED.

1.30.9.2.3. RECORD NO LEAD VOLTAGE AT RECEPTACLE (VO).

1.30.9.2.4. APPLY CURRENT TO 80% OF THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE CIRCUIT UNDER TEST AND RECORD VOLTAGE (VL).

1.30.9.2.5. REMOVE LEAD AND RECONFIRM VOLTAGE OF VO.

1.30.9.2.6. CALCULATE VOLTAGE DROP AT RECEPTACLE BY THE FORMULA ((VO - VL) / VO) * 100%.

1.30.9.2.7. RECORD THE RESULTS.

1.30.9.2.8. WHERE THE CALCULATED VOLTAGE DROP EXCEEDS 3.0%, REWORK THE BRANCH CIRCUIT WIRING AS REQUIRED TO REDUCE THE VOLTAGE DROP WITHIN THE VOLTAGE DROP LIMIT.

1.30.9.2.9. NOTE THAT A VOLTAGE DROP UP TO 5% AS INDICATED IN THE 232 STANDARD IS NOT ACCEPTABLE FOR THIS PROJECT.

1.30.10. GROUND POINT VOLTAGE RISE TEST (GROUNDED SYSTEMS ONLY)

1.30.10.1. REQUIREMENTS:

1.30.10.1.1. THE VOLTAGE RISE AT THE FOUND POINT OF EACH RECEPTACLE NOT TO EXCEED 5V WHEN A CURRENT OF NOT LESS THAN 8% OF THE RATING OF THE OVERCURRENT DEVICE, PROTECTING THE CIRCUIT UNDER TEST, IS PASSED THROUGH THE BONDING CONDUCTOR.

1.30.10.2. METHOD:

1.30.10.2.1. USE THE TEST CIRCUIT OF FIGURE 4 IN CSA STANDARD 232.

1.30.10.2.2. CONNECT THE TEST CIRCUIT TO THE OUTLET.

1.30.10.2.3. WITH SWITCH SW OPEN, RECORD THE VOLTAGE INDICATED BY VOLTMETER V1 AS VN, THE NEUTRAL TO GROUND VOLTAGE WITHOUT LOAD. IF IT EXCEEDS ABOVE 2V, DETERMINE THE CAUSE AND CORRECT THE DEFECT.

1.30.10.2.4. USING THE LOW VOLTAGE SUPPLY, (NOMINALLY 5V OPEN CIRCUIT) APPLY A LOAD OF 80% OF THE RATED CURRENT OF THE CIRCUIT, BETWEEN THE NEUTRAL AND THE BONDING CONDUCTOR FOR A PERIOD OF FROM 1 TO 5 SECONDS. FEED THE LOW VOLTAGE INDICATED BY VOLTMETER V1 AS VL AND THE VOLTAGE INDICATED BY VOLTMETER V2 AS VO.

1.30.10.2.5. RECORD THE RESULTS. THE RETURN PATH VOLTAGE RISE VO NOT TO EXCEED 5V.

1.30.10.2.6. WHERE VOLTAGE RISE EXCEEDS 5V, REWORK THE BRANCH CIRCUIT BONDING CONDUCTOR AS REQUIRED TO REDUCE THE VOLTAGE RISE WITHIN THE REQUIRED VOLTAGE.

1.30.11. POTENTIAL DIFFERENCE BETWEEN GROUND POINTS TEST

1.30.11.1. REQUIREMENTS:

1.30.11.1.1. POTENTIAL DIFFERENCE BETWEEN THE GROUNDING POLES OF RECEPTABLES AND BETWEEN THESE POLES AND ALL OTHER GROUNDED CONDUCTIVE CURRENT-CARRYING PARTS IN THE SAME PATIENT CARE ENVIRONMENT, TO BE LESS THAN 20MV.

1.30.11.2. METHOD:

1.30.11.2.1. USE THE STANDARD FREQUENCY-WEIGHTED TEST CIRCUIT OF FIGURE 2 IN CSA STANDARD 232.

1.30.11.2.2. CONFIRM THAT ALL RECEPTABLES HAVE BEEN INSTALLED AND THAT NO UTILIZATION EQUIPMENT, EITHER PERMANENTLY WIRED OR CORO-CONNECTED, IS CONNECTED TO THE SYSTEM.

1.30.11.2.3. ENERGIZE THE SYSTEM.

1.30.11.2.4. SELECT A LOCAL REFERENCE POINT KNOWN TO BE BONDED TO GROUND AND RECORD THE MEASURED VOLTAGE BETWEEN THIS CHOSEN REFERENCE AND EACH RECEPTACLE GROUND POLE AND EACH EXPOSED CONDUCTIVE NON-CURRENT-CARRYING METAL PART.

1.30.11.2.5. IF THE TEST LEADS ARE LONG, CORRECT THE READINGS FOR PICKUP (ZERO READING WHEN THE TEST LEADS ARE CONNECTED TOGETHER).

1.30.11.2.6. RECORD THE RESULTS.

2. MATERIAL AND INSTALLATION

2.1. WIRING METHODS

2.1.1. ALL BUILDING WIRES AND CABLES SHALL BE COPPER THERMOPLASTIC TYPE TWH 90 DEGREES C RATED AND INSTALLED IN CONDUIT. MINIMUM SIZE SHALL BE #12 AWG. FOR FLMT CONNECTIONS TO LIGHTING FIXTURES USE TYPE THT FOR FINAL CONNECTIONS TO HEATING EQUIPMENT USE SILICONE INSULATED TYPE WIRE, SUITED FOR THIS PURPOSE. ALL CONDUIT SHALL BE EMT TYPE GALVANIZED STEEL UTILIZING SET SCREW FITTINGS, INSULATED THROAT CONNECTION AND COUPLINGS. ALL CONDUIT SHALL BE CONCEALED EXCEPT IN UNFINISHED AREAS.

2.1.2. BRANCH CIRCUIT WIRING EXCEEDING 100 FEET TO THE FURTHEST OUTLET FROM A PANEL BOARD SHALL BE #10 AWG.

2.1.3. ARMoured CABLE (BX) MAY BE USED FOR FIXTURE TAILS AND WALL MOUNTED OUTLETS MAXIMUM LENGTH 10 FEET.

2.1.4. ALL CONDUIT SHALL BE RUN PARALLEL TO WALLS AND CEILINGS. PROVIDE A NYLON FISH WIRE IN ALL EMPTY CONDUIT. ALL WIRE CONNECTORS SHALL BE IDEAL WING NUT TYPE.

2.1.5. SUPPORT ALL CONDUIT INDEPENDENT OF CEILING SYSTEM.

2.1.6. WIRING FOR HEALTHCARE

2.1.6.1. RECEPTABLES

2.1.6.1.1. RECEPTABLES IN PATIENT CARE AREAS: HOSPITAL GRADE.

2.1.6.1.2. RECEPTABLES CONNECTED TO THE EMERGENCY POWER SYSTEM: COLOURED RED.

2.1.6.1.3. RECEPTABLES CONNECTED TO THE UPS POWER SYSTEM IF APPLICABLE: COLOURED ORANGE.

2.1.6.1.4. RECEPTABLES IN PATENT CARE AREAS SHALL HAVE CIRCUIT IDENTIFICATION IN ACCORDANCE WITH CSA STANDARD 232.

2.1.7. BONDING TO GROUND

2.1.7.1. THE FOLLOWING REQUIREMENT APPLY TO ALL PATIENT CARE AREAS:

2.1.7.1.1. BOND TO GROUND RECEPTACLE AND PERMANENTLY WIRE ELECTRICAL EQUIPMENT BY INSTALLING AN INTERCONNECT WIRE EQUIPMENT BONDING CONDUCTOR IN THE SAME CONDUIT AS THE BRANCH CIRCUIT CONDUCTORS.

2.1.7.1.2. TERMINATE THE BONDING CONDUCTOR AT THE LOAD END OF THE CIRCUIT TO THE GROUND SCREW IN THE BONDING CONDUCTOR ON THE GROUND BUS IN THE PANEL.

2.1.7.1.3. PROVIDE A SEPARATE BONDING CONDUCTOR FOR EACH CIRCUIT, EXCEPT TAP WHERE THE SINGLE PHASE RECEPTABLES IN A PATIENT CARE ENVIRONMENT ARE SUPPLIED FROM TWO 2-WIRE BRANCH CIRCUITS IN THE SAME CONDUIT, A SINGLE BONDING CONDUCTOR MAY BE PROVIDED FOR THE TWO CIRCUITS.

2.1.7.1.4. SIZE BONDING CONDUCTORS NOT LESS THAN THE BRANCH CIRCUIT CONDUCTORS. OVERSIZE BONDING CONDUCTORS WHERE NECESSARY TO COMPLY WITH THE VOLTAGE RISE LIMIT PER CSA STANDARD 232.

2.1.7.1.5. IN CRITICAL CARE AREAS PROVIDE A SEPARATE #10 BONDING CONDUCTOR FOR EACH CIRCUIT, FROM THE OUTLET BACK TO THE PANEL.

2.1.7.1.6. INTERCONNECT THE GROUND BUSSES IN ELECTRICAL PANELS WHICH SERVED THE SAME PATIENT CARE AREAS WITH AN INSULATED GREEN COPPED CONDUCTOR INSTALLED IN PVC CONDUIT AND SIZED PER THE ONTARIO ELECTRICAL SAFETY CODE, BUT NOT LESS THAN #6 AWG.

2.1.7.1.7. BOND THE GROUND EXPOSED METAL NON-CURRENT CARRYING PARTS OF EQUIPMENT LOCATED WITHIN 15M HORIZONTALLY FROM THE NOMINAL POSITION OF THE BED AND WITHIN 2.3M VERTICALLY ABOVE THE FLOOR. USE GREEN INSULATED COPPED BONDING CONDUCTORS.

2.1.7.1.8. TYPICAL EQUIPMENT TO BE BONDED TO GROUND INCLUDES:

2.1.7.1.8.1. FIXTURES.

2.1.7.1.8.2. HEADWALL UNITS.

2.1.7.1.8.3. SERVICE STRIPS.

2.1.7.1.8.4. INTERCOM STATIONS.

2.1.7.1.8.5. NURSE CALL STATIONS.

2.1.7.1.8.6. VIEW BOXES.

2.1.7.1.8.7. RECEPTABLES.

2.1.7.1.8.8. SWITCHES.

2.1.7.1.8.9. COVER PLATES.

2.1.7.1.8.10. OUTLET BOXES AND

2.1.7.1.8.11. OTHER EQUIPMENT AS REQUIRED BY CODE.

2.1.8. NEUTRAL CONDUCTORS

2.1.8.1.1. INTERMEDIATE CARE AREAS AND CRITICAL CARE AREAS, PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR BACK TO THE PANEL SUPPLYING THE RECEPTABLES.

2.1.8.2. WHERE MULTIPLE CIRCUITS SHARE A CONDUIT, DERATE CONDUCTORS, WHERE REQUIRED, ON THE BASIS THAT THE NEUTRAL CONDUCTORS ARE FULL CURRENT CARRYING CONDUCTORS.

2.2. RACEWAYS

2.2.1. RIGID STEEL CONDUIT (RSD) SHALL BE ZINC-COATED STEEL THAT CONFORMS TO INDUSTRY STANDARDS. LOCK NUTS SHALL BE STEELZINC PLATED. CONNECTORS AND COUPLINGS SHALL BE STEEL. INSULATED BUSBARS SHALL BE IRONZINC PLATED. FITTINGS SHALL BE THREADED WITH INSULATED BUSHINGS.

2.2.2. ELECTRICAL METALLIC TUBING (EMT) SHALL BE ZINC-COATED STEEL THAT CONFORMS TO INDUSTRY STANDARDS. FITTINGS SHALL BE STEEL WITH SET SCREW CONNECTORS AND COUPLINGS.

2.2.3. RIGID NON-METALLIC CONDUIT (RNM) SHALL BE TYPE 40-40-PVC, DB-120 AND EPC-80-PVC CONDUIT SHALL BE 100% VIRGIN POLY(VINYL CHLORIDE (PVC)) 90 UL-RATED THAT CONFORMS TO INDUSTRY STANDARDS.

2.3. BOXES

2.3.1. SUPPORT ALL BOXES INDEPENDENT OF CONDUIT.

2.3.2. IN AREAS WITH DRYWALL CEILINGS, CONTRACTOR SHALL LOCATE/RELOCATE ALL NEW/EXISTING JUNCTION BOXES, PULL BOXES, DISCONNECTS, ETC. TO ACCESSIBLE AREAS, AS REQUIRED BY THE CANADIAN ELECTRICAL CODE. WHERE IT IS NO POSSIBLE TO RELOCATE/INSTALL EXISTING/NEW SERVICES IN ACCESSIBLE AREAS, CONTRACTOR SHALL PROVIDE ACCESS PANELS C/W FIRE RATINGS AS REQUIRED. EXACT LOCATION OF ACCESS PANELS SHALL BE CO-ORDINATED WITH THE ARCHITECT.

2.3.3. OUTLET BOXES

2.3.3.1. PROVIDE AN OUTLET BOX FOR EACH LIGHTING FIXTURE. WIRING DEVICE, DATA OUTLET, TELEPHONE OUTLET, ETC. OUTLET BOXES FOR VARIOUS SYSTEMS AND COMPONENTS SHALL BE AS REQUIRED BY MANUFACTURER AND SUITABLE FOR THE APPLICATION.

2.3.3.2. OUTLET BOXES ON CONCEALED WORK SHALL BE 4" SQUARE OR OCTAGONAL, GALVANIZED PRESSED STEEL WITH PLASTER RINGS AS REQUIRED. OUTLET BOXES FOR EXPOSED CONDUIT WORK SHALL BE CAST ALUMINUM ALLOY WITH CAST ALUMINUM ALLOY COVERS.

2.3.3.3. WHERE INSTALLED IN PLASTER, BOXES SHALL BE FITTED WITH GALVANIZED STEEL PLASTER COVERS OF REQUIRED DEPTH TO FINISH FLUSH WITH FINISHED WALL OR CEILING.

2.3.3.4. SWITCH BOXES, RECEPTACLE BOXES AND OTHER OUTLET BOXES SHALL BE STANDARD 4" SQUARE WITH PLASTER RINGS OR GANG COVERS AS REQUIRED.

2.3.3.5. WEATHERPROOF BOXES SHALL BE CONDULET CAST BOXES WITH WEATHERPROOF DEVICES AND COVERS. PROVIDE HOT-DIPPED GALVANIZED CORROSION-RESISTANT EPOXY ENAMEL FINISH OR PVC-COATED PRODUCTS, WHERE NOTED ON DRAWINGS.

2.3.3.6. PROVIDE SCREW-JOINT OUTLET BOXES, WITH GASKETED WEATHERPROOF COVERS IN EXTERIOR LOCATIONS, WHERE EXPOSED TO MOISTURE. AT KITCHEN AND CAFETERIA EQUIPMENT WITH OR NEXT TO WATER OR STEAM CONNECTIONS, AND WHERE INDICATED AS WEATHERPROOF ON DRAWINGS.

2.3.3.7. PROVIDE ONLY ENOUGH CONDUIT OPENINGS TO ACCOMMODATE CONDUITS AT INDIVIDUAL LOCATION. EACH BOX SHALL BE LARGE ENOUGH TO ACCOMMODATE NUMBER AND SIZES OF CONDUITS, WIRES AND SPLICES TO MEET OESC REQUIREMENTS, BUT SHALL BE AT LEAST SIZE SHOWN OR SPECIFIED. NECESSARY VOLUME SHALL BE OBTAINED BY USING BOXES OF PROPER DIMENSIONS. BOX DEPTHS GREATER THAN 2" SHALL NOT BE USED TO OBTAIN NECESSARY VOLUME. BUT MAY BE USED WITH ARCHITECT'S APPROVAL. TO FACILITATE INSTALLATION, STANDARD CONCRETE BOXES MAY BE 6" DEEP WHERE NECESSARY TO PERMIT ENTRANCE OF CONDUITS INTO SIDES OF BOXES WITHOUT INTERFERENCE WITH REINFORCING BARS. OCTAGONAL, HUNG CEILING BOXES WITH SUSPENSION BARS MAY BE 3-1/2" DEEP. RECTANGULAR BOXES FOR INTER-CONNECTION OF BRACKET MOUNTING ACCESSORIES SHALL BE 2-1/2" DEEP.

2.3.3.8. DO NOT INSTALL OUTLET BOXES "BACK TO BACK" IN WALLS AND PARTITIONS. SUCH OUTLETS MUST BE STAGGERED AND SEALED AGAINST NOISE TRANSMISSION. "THRU WALL" TYPE OUTLET BOXES WILL NOT BE PERMITTED FOR ANY APPLICATION.

2.3.3.9. ALL RECESSED OUTLET BOXES FOR SURFACE MOUNTED DEVICES OR LIGHTING FIXTURES MUST BE TOTALLY CONCEALED BY THE DEVICE OR FIXTURE.

2.3.4. JUNCTION BOXES, PULL BOXES AND CABLE TROUGHS

2.3.4.1. PROVIDE CODE-APPROVED GALVANIZED STEEL, JUNCTION AND PULL BOXES FOR CONDUIT 1-1/4" TRADE SIZE AND LARGER, WHERE INDICATED. USE AS NECESSARY TO FACILITATE INSTALLATION, OF REQUIRED DIMENSIONS, WITH ACCESSIBLE, REMOVABLE SCREW-ON COVERS. PROVIDE JUNCTION AND PULL BOXES AND SPECIAL SIZES AND SHAPES DETERMINED IN FIELD WHERE NECESSARY.

2.3.4.2. JUNCTION BOXES FOR EXPOSED CONDUIT WORK IN FINISHED AREAS SHALL BE CAST ALUMINUM ALLOY WITH CAST ALUMINUM ALLOY COVERS.

2.3.4.3. PROVIDE CABLE TROUGHS OF SPECIAL SHAPES, DESIGN AND CONSTRUCTION REQUIRED TO INSTALL, SUPPORT AND PROTECT CABLE THROUGHOUT THE BUILDING. TROUGHS SHALL BE AS SPECIFIED ABOVE FOR JUNCTION AND PULL BOXES, WITH REINFORCING, INSULATING SUPPORTS AND CLAMPING. FOR CABLE INSTALLATION, CABLES SHALL BE CONTINUOUS THROUGHOUT TROUGHS AND SHALL BE BACKED IN DISTRIBUTED PHASE FLASHOVER AREAS WITH PHASE CABLES SURROUNDING NEUTRAL CONDUCTORS.

2.3.4.4. ALL BOXES SHALL BE INSTALLED, SO AS TO BE ACCESSIBLE AFTER WORK IS COMPLETE. PROVIDE PULL BOXES ON ALL CONDUIT RUNS ON THE BASIS OF NO MORE THAN TWO (2) - 90 DEG BENDS OR THEIR EQUIVALENT, OR A DISTANCE NOT TO EXCEED 100 FEET BETWEEN BOXES.

2.4. FLOOR BOXES

2.4.1. FLOOR OUTLET BOXES SHALL BE STEEL, CONCRETE TIGHT ADJUSTABLE. TYPE LEGRANO EVOLUTION SERIES, EPB48, 4 OR 5 GANG AS REQUIRED TO SUIT DEVICES AND DEPTH OF CONCRETE. PROVIDE APPLICABLE FLOOR PLATE ASSEMBLY AND WIRING DEVICE TO SUIT THE POWER, COMMUNICATION AND AV REQUIREMENTS AS INDICATED ON THE PLANS. (ALTERNATE MANUFACTURERS: HUBBELL, WELLMARK)

2.4.2. ALL FLOOR PLATES SHALL BE COMPLETE WITH COVER AND FINISHING FLANGES AS REQUIRED TO SUIT FLOOR FINISH AND APPLICATION AS NOTED.

2.5. GROUNDING

2.5.1. INSTALL GREEN INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS.

2.5.2. SIGNAL AND COMMUNICATION EQUIPMENT: FOR TELEPHONE, ALARM, VOICE AND DATA, AND OTHER COMMUNICATION EQUIPMENT, PROVIDE NO. #2 AWG MINIMUM INSULATED GROUNDING CONDUCTOR IN RACEWAY FROM GROUNDING ELECTRODE SYSTEM TO EACH SERVICE LOCATION, TERMINAL, CABINET, WIRING CLOSET, AND CENTRAL EQUIPMENT LOCATION.

2.5.2.1. SERVICE AND CENTRAL EQUIPMENT LOCATIONS AND WIRING CLOSETS: TERMINATE GROUNDING CONDUCTOR ON A 1/8" X 2" X 12" GROUNDING BUS.

2.5.2.2. TERMINAL CABINETS: TERMINATE GROUNDING CONDUCTOR ON CABINET GROUNDING TERMINAL CONDUCTORS. INSTALL SLOD CONDUCTOR FOR #AWG AND SMALLER, AND STRANDED CONDUCTORS FOR #AWG AND LARGER UNLESS OTHERWISE INDICATED.

2.5.2.3. UNDERGROUND GROUNDING CONDUCTORS: INSTALL BARE TINNED-COPPER CONDUCTOR, 20 AWG MINIMUM.

2.5.2.4. BURY AT LEAST 24" BELOW GRADE.

2.5.2.4.1. DUCT BANK GROUNDING CONDUCTOR: BURY 12" ABOVE DUCT BANK WHEN INDICATED AS PART OF DUCT-BANK INSTALLATION.

2.5.5. SIZE ALL WIRE FOR MAXIMUM 2% VOLTAGE DROP.

2.5.6. ALL HOME RUNS TO BE IN CONDUIT.

2.6. WALL PLATES

2.6.1. FACEPLATES OF FLUSH-MOUNTED TOGGLE SWITCHES AND RECEPTABLES SHALL BE AS FOLLOWS.

2.6.1.1. FINISHED AREAS: STAINLESS STEEL FINISH EACH SUPPLIED INDIVIDUALLY WRAPPED IN A SEALED PROTECTIVE ENVELOPE. MANUFACTURER TO MATCH RECEPTACLE AND SWITCH MANUFACTURER.

2.6.1.2. UNFINISHED AND SURFACE AREAS: GALVANIZED STEEL.

2.6.1.3. WET LOCATION, WEATHER-PROOF COVER PLATES.

2.7. LINE VOLTAGE SWITCHES

2.7.1. EXTRA HEAVY DUTY SPEC GRADE SWITCHES (20k, 120/277 MAX.) SHALL BE LEVITON #121 (SINGLE POLE), #1223 (THREE WAY), MOUNTED 4'-0" AFF, UNLESS OTHERWISE INDICATED UNDER ARCHITECTURAL DRAWINGS.

2.7.2. ALL NORMAL POWER LIGHT SWITCHES SHALL BE WHITE COLOUR UNLESS OTHERWISE NOTED.

2.7.3. ALL EMERGENCY POWER LIGHT SWITCHES SHALL BE RED COLOUR UNLESS OTHERWISE NOTED.

2.7.4. DECORATOR VARIABLE, SPEED EXHAUST FAN SWITCHES SHALL BE PASS & SEYMOUR LUMASPEC NON-PRESET SERIES, WATTAGE AS REQUIRED.

2.7.5. ALTERNATE MANUFACTURERS: PASS & SEYMOUR, LUTRON, HUBBELL

2.8. RECEPTABLES

2.8.1. NORMAL DEVICES SHALL BE WHITE IN COLOUR, UNLESS OTHERWISE SPECIFIED.

2.8.2. EMERGENCY DEVICES SHALL BE RED IN COLOUR, UNLESS OTHERWISE SPECIFIED.

2.8.3. HOSPITAL GRADE WITH FREE DOT SYMBOL, TAMPER-RESISTANCE, EXTRA HEAVY DUTY STAGS AND SIDE WIRED, DUPLEX LG-ROUND, 15 AMPERE, 120V, 2 POLE, 3 WIRE GROUNDING DUPLEX RECEPTABLES COMPLETE WITH FRONT CIRCUIT IDENTIFICATION AREA, HOSPITAL GRADE, U-GROUND, 20 AMPERE, 125V, 3 WIRE DUPLEX RECEPTACLE.

2.8.4. ALL RECEPTABLES THROUGHOUT THE PROJECT SHALL BE, HOSPITAL GRADE, UNLESS OTHERWISE NOTED.

2.8.5. ALL OTHER RECEPTACLE TYPES SHALL BE AS SCHEDULED ON THE DRAWINGS.

2.8.6. RECEPTABLES LOCATED IN ALL ROOMS CONTAINING PERSONAL WASHING FACILITIES SUCH AS WASHBASINS BATH TUBS, SHOWERS, KITCHEN SINKS OR SIMILAR DEVICES AND LOCATED WITHIN 3 METRES OF SUCH DEVICES SHALL PROVIDE GFCI PROTECTION.

2.8.7. RECEPTABLES LOCATED IN KITCHENS AND INSTALLED WITHIN 1.5 METRE OF KITCHEN SINK ALONG THE WALL BEHIND COUNTERTOP WORK SURFACES SHALL BE PROTECTED BY GROUND FAULT INTERRUPTER.

2.8.8. ALL RECEPTABLES DESIGNATED "WP" (WEATHERPROOF) ON THE DRAWINGS SHALL BE G.F.I. PROTECTED AND PROVIDED WITH "IN USE" WEATHERPROOF COVERS.

2.8.9. ALTERNATE MANUFACTURERS: LUTRON, HUBBELL

2.9. MECHANICAL TRADES WIRING

2.9.1. UNLESS OTHERWISE NOTED, ALL STARTERS AND CONTROL WIRING TO BE PROVIDED BY DIVISION 15. DIVISION 10 TO RECEIVE, INSTALL, STARTERS AND PROVIDE ALL LINE-SIDE AND LOAD-SIDE POWER WIRING AND REQUIRED ISOLATING DISCONNECT SWITCHES.

2.9.2. CONFIRM ELECTRICAL REQUIREMENTS AND EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT WITH DIVISION 15 PRIOR TO INSTALLATION.

2.10. LUMINAIRES

2.10.1. PROVIDE ALL LUMINAIRES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THE LUMINAIRE SCHEDULE.

2.10.2. PROVIDE NEW LIGHTING FIXTURES COMPLETE WITH MOUNTING ACCESSORIES, JUNCTION BOXES, TRIMS, AND LAMPS AS SPECIFIED AND PER ATTACHED FIXTURE CUT SHEETS.

2.10.3. ALL PRODUCTS OF A SPECIFIED TYPE ARE TO BE FROM THE SAME MANUFACTURER.

2.10.4. FIXTURE TYPE CATALOGUE SHALL NOT NECESSARILY DENOTE REQUIRED MOUNTING EQUIPMENT OR ACCESSORIES. PROVIDE COMPLETE MOUNTING ACCESSORIES APPROPRIATE FOR EACH MOUNTING CONDITION.

2.10.5. ALL NEW AND RELOCATED FIXTURES IN SCOPE OF WORK SHALL BE SUPPORTED INDEPENDENT OF THE CEILING SYSTEM TO THE APPROVAL OF THE CANADIAN ELECTRICAL CODE.

2.10.6. ALL FIXTURES SHALL BE INSTALLED WITH A FRAME OR CANOPY THAT IS COMPATIBLE WITH THE CEILING TYPE AND SPECIFIED BY THE CONSULTANT.

2.10.7. PROVIDE APPROPRIATE ACCESSORIES FOR PROPER MOUNTING OF ALL FIXTURES. INCLUDE PLASTER FRAMES FOR PLASTER CEILING AND FIRESTOP PROTECTION FOR FIXTURES IN RATED CEILING. FOR FIXTURES SUSPENDED FROM CEILING, PROVIDE PENDANTS OR AIRCRAFT CABLES COMPLETE WITH ACCESSORIES TO COMPLETE THE INSTALLATION AS INDICATED ON THE DRAWINGS.

2.10.8. WHERE LIGHT FIXTURE OR LIGHT FIXTURE SUSPENSION APPARATUS PENETRATES METAL PAN OR SHEET METAL CEILING OR CANOPIES, AN APPROVED COPY OF THE SHOP DRAWINGS OF THOSE FIXTURES SHALL BE PROVIDED TO THE CEILING MANUFACTURER. APERTURES IN THE CEILING OR OPENINGS FOR SUSPENSION CABLES SHALL BE PRE-CUT BY THE CEILING MANUFACTURER TO SUIT LIGHT FIXTURES. INSTRUCT THE MANUFACTURER ACCORDINGLY.

2.10.9. IF THE WORDS "EQUIVALENT" OR "APPROVED EQUAL" ARE NOT INDICATED AFTER LIGHT FIXTURE MANUFACTURER AND CATALOG NUMBER IN THE FIXTURE SCHEDULE, NO OTHER MANUFACTURER WILL BE ACCEPTABLE FOR THAT PARTICULAR TYPE.

2.10.10. WITH JUST EMERGENCY LIGHTING IN OPERATION, AND AT NIGHT, THE ELECTRICAL CONTRACTOR IS TO MEASURE THE "AVERAGE" ILLUMINATION ON THE FLOOR (BY ESTABLISHING THE MAXIMUM AND THE MINIMUM LEVEL) IN THE PRINCIPAL ROUTES PROVIDING ACCESS TO EXITS. PULL ALL LIGHTING RESULTS ON A CAD DISK OR ON A SET OF REPRODUCIBLE SERIA DRAWINGS FOR REVIEW BY THE CONSULTANT. SUBMISSION TO THE BUILDING INSPECTION AUTHORITIES TO BE BY THE ELECTRICAL CONTRACTOR.

2.11. SERVICE EQUIPMENT

2.11.1. ALL NEW PANELBOARDS, DISCONNECT SWITCHES, METERS, TRANSFORMERS, ETC., TO BE COPPER WINDINGS-BUS-BARS, SAME MANUFACTURER, RATING AND TYPE AS BASE BUILDING EQUIPMENT UNLESS OTHERWISE NOTED. MOLDED CASE CIRCUIT BREAKERS TO BE BOLTON OR SAME EQUIVALENT. RATING AND TYPE AT BASE BUILDING BREAKERS. ALL AT/SS AND SURFACE MOUNTED PANELBOARDS TO BE SPRINKLER PROOF.

2.11.2. ALL NEW PANELBOARDS SHALL BE COMPLETE WITH NEUTRAL BUS RATED 200 PERCENT OF PHASE BUS AND UL LISTED AS SUITABLE FOR NONLINEAR LOADS AND PANELBOARDS FED FROM "K" RATED TRANSFORMERS.

2.11.3. ALL MAIN BREAKERS SHALL BE SEPARATELY MOUNTED ON TOP OR BOTTOM OF PANEL TO SUIT CABLE ENTRY.

2.11.4. PROVIDE BREAKER LOOKS FOR ALL NEW AND EXISTING BREAKERS SERVING EXIT LIGHTS, EMERGENCY LIGHTING AND EMERGENCY BATTERY PACKS.

2.11.5. ALL FLOOR MOUNTED DISTRIBUTION EQUIPMENT, INCLUDING TRANSFORMERS, PANELBOARDS AND/OR UPS MODULES SHALL BE ALLEED ON A 100MM (4") HIGH CONCRETE BASE TO EXTEND (2") ON ALL SIDES WITH CHAMFERED CORNERS.

2.11.6. MANUAL STARTERS SHALL BE ALAN BRADLEY BUILDING CODE, WITH FLOAT LIGHT AND ON/OFF TOGGLE SWITCH.

2.11.7. FUSES SHALL BE GOLD SHAMMUT HRC 1, CLASS J SERIES GJ FOR CONSTANT RUNNING EQUIPMENT AND SERIES J1T FOR EQUIPMENT THAT CYCLES ON AND OFF.

2.11.8. EXTEND AND MODIFY THE EXISTING BASE BUILDING DISTRIBUTION SYSTEM AS INDICATED ON THE DRAWINGS.

2.11.9. PROVIDE NEW SWITCHES AND BREAKERS IN EXISTING DISTRIBUTION EQUIPMENT AS DETAILED. NEW EQUIPMENT SHALL, IN ALL RESPECTS, BE COMPATIBLE WITH EXISTING EQUIPMENT.

2.11.10. BALANCE THE LOADING ON FEEDERS SO THAT UNBALANCED LOAD IS LESS THAN 10%.

2.12. EXIT AND EMERGENCY LIGHTING

2.12.1. PROVIDE A NEW EMERGENCY AND EXIT LIGHTING SYSTEM AS DETAILED ON THE DRAWINGS.

2.12.2. ALL SELF-CONTAINING EMERGENCY LIGHTS TO BE FIRE ALARM CLASS 2.

2.12.3. BATTERY UNITS SHALL BE AS SPECIFIED WITH 10 YEAR DESIGN LIFE, INTEGRAL, HIGH VOLTAGE CHARGER WITH INDICATING AND PULL LIGHT, LOAD TRANSFER METERS AND TEST SWITCH, LOW VOLTAGE CUT OUT, OVERLOAD PROTECTION, AUTO TEST AND 120 VOLT AUTO TEST AND 120 VOLT AUTO TEST AND 120 VOLT AUTO TEST.

2.12.4. EXIT LIGHTS SHALL BE AS SPECIFIED ON THE DRAWINGS. PROVIDE DIRECTIONAL ARROWS AS SHOWN AND TO SUIT THE LOCAL AUTHORITIES. CONNECT 3RD SOCKET TO BATTERY UNIT.

2.12.5. WIRING SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATIONS.

2.12.6. IN ADDITION TO SUPPLY AND INSTALL TWO EXTRA EXIT LIGHTS AND EMERGENCY LIGHTS COMPLETE WITH REQUIRED CONDUITS AND CABLES, ACCORDING TO BUILDING INSPECTORS DIRECTION AT THE TIME OF INSPECTION.

2.13. FIRE ALARM

2.13.1. PROVIDE FIRE ALARM SYSTEM SERVICE AND DEVICES AS REQUIRED TO EXPAND THE EXISTING BUILDING SYSTEM TO SUIT THE NEEDS OF THE RENOVATED SPACE. THE FIRE ALARM SYSTEM SHALL BE FROM THE SAME MANUFACTURER AND COMPATIBLE IN ALL ASPECTS. OBTAIN THE SERVICES OF THE BASE BUILDING AUTHORIZED FIRE ALARM INSTALLATION CONTRACTOR TO COMPLETE ALL THE NECESSARY WORK AS PART OF THE ELECTRICAL CONTRACTORS COST.

2.13.2. ALL WIRING FOR THE SYSTEM SHALL BE INSTALLED WITHIN CONDUIT AND SHALL COMPLY WITH REQUIREMENTS OF THE SYSTEM MANUFACTURER.

2.13.3. RELOCATE EXISTING FIRE ALARM DEVICES AS INDICATED ON DRAWING. EXTEND WIRING AND CONDUITS TO SUIT.

2.13.4. PROVIDE FIRE ALARM SIGNAL CONNECTION FOR MUTING THE AUDIO SYSTEM UPON ACTIVATION OF FIRE ALARM SYSTEM.

2.13.5. INSTALLATING AND SIGNALING DEVICES

2.13.5.1. PROVIDE PULL STATIONS, EVAC SPEAKERS AND SMOKE DETECTORS TO MATCH EXISTING BASE BUILDING DEVICES.

2.13.5.2. ALL SMOKE DAMPERS SHALL BE CONNECTED TO THE NEAREST AVAILABLE 120V LIFE SAFETY EMERGENCY CIRCUIT. EMERGENCY CIRCUITRY SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR TO SUIT.

2.13.5.3. FIRE ALARM PULL STATIONS SHALL BE MOUNTED AT 48" TO CENTRE OF DEVICE ABOVE FINISHED FLOOR AND MAXIMUM 24" FROM DOOR LATCH.

2.13.5.4. PROVIDE TIE-IN TO BASE BUILDING MAGLOCK SYSTEM TO ENSURE THAT ALL MAGLOCKS DROP IN THE EVENT OF A FIRE ALARM. MAGLOCKS SHALL ALSO RESET WITH MAGLOCK SNIFFER. SHALL BE PROVIDED WITH DIFFERENT MINIMUM ADJUSTABLE FLASH INTENSITIES OF 15CD, 30CD, 75CD AND 110CD. PROVIDE A LABEL INSIDE THE STROBE LENS TO INDICATE THE LISTED CANDELA RATING OF THE SPECIFIC APPLIANCE. VISUALLY VERIFY THE CORRECTNESS OF THE FLASHING AND THEIR REFLECTIONS CAN BE SEEN FROM ONE LOCATION PROVIDE STROBE FLASH SYNCHRONIZATION.

2.13.7. FIRE ALARM SYSTEM COMMISSIONING

2.13.7.1. PROVIDE FIRE ALARM VERIFICATION AND SUBMIT VERIFICATION REPORTS TO THE CONSULTANT FOR RECORD.

2.14. COMMUNICATIONS

2.14.1. TELEPHONE:

2.14.1.1. PROVIDE A SYSTEM OF EMPTY CONDUITS (GROMMETS ON THE ENDS OF ALL CONDUITS THAT TERMINATE AT THE OUTLET BOXES AND CABLE TRAY), PULL WIRES, AND OUTLET BOXES AS INDICATED ON THE DRAWINGS.

2.14.1.2. OUTLET BOXES SHALL BE 4 1/16" SQUARE. FLUSH MOUNTED BOXES SHALL BE COMPLETE WITH PLASTER RINGS AND STAINLESS STEEL COVERS. RUN 3" EMPTY CONDUIT WITH PULL STRING FROM EACH OUTLET BOX TO CABLE TRAY.

2.14.1.3. SEE COMMUNICATION CABLEING SPECIFICATIONS FOR CABLEING REQUIREMENTS.

2.14.2. DATA COMMUNICATIONS:

2.14.2.1. PROVIDE A SYSTEM OF EMPTY CONDUITS (GROMMETS ON THE ENDS OF ALL CONDUITS THAT TERMINATE AT THE OUTLET BOXES AND CABLE TRAY), PULL WIRES AND OUTLET BOXES AS INDICATED ON THE DRAWINGS.

2.14.2.2. OUTLET BOXES SHALL BE 4 1/16" SQUARE. FLUSH MOUNTED BOXES SHALL BE COMPLETE WITH PLASTER RINGS AND STAINLESS STEEL COVERS. RUN 3" EMPTY CONDUIT WITH STRING FROM EACH OUTLET BOX TO CABLE TRAY.

2.14.2.3. ALL HORIZONTAL AND BACKBONE CONDUITS MUST NOT HAVE MORE THAN TWO NINETY DEGREE BENDS PRIOR TO INSTALLING A PULL BOX. IF ENTERING A PULL BOX FROM THE BOTTOM THE CONDUIT MUST BE INSTALLED IN THE TOP OF THE PULL BOX. IF ENTERING FROM THE LEFT SIDE THE OUTGOING CONDUIT MUST LEAVE FROM THE RIGHT SIDE. NO CHANGING OF DIRECTION WITHIN THE PULL BOX.

2.14.3. SEE COMMUNICATION CABLEING SPECIFICATIONS FOR CABLEING REQUIREMENTS.

2.15. SEISMIC RESTRAINT CONTROLS

2.15.1. PROVIDE A SEISMIC RESTRAINT CONTROLS FOR ALL EQUIPMENT AND SERVICES INSTALLED AS PART OF THIS PROJECT.

2.15.2. SRS: ACRONYM FOR SEISMIC RESTRAINT SYSTEM.

2.15.3. SFRS: ACRONYM FOR SEISMIC FORCE RESISTING SYSTEM.

2.15.4. DESIGN AND PROVIDE A COMPLETE SEISMIC RESTRAINT SYSTEMS FOR ALL ELECTRICAL EQUIPMENT AND SYSTEMS, SUCH THAT THE EQUIPMENT AND SYSTEMS WILL REMAIN FUNCTIONAL DURING AND AFTER A SEISMIC EVENT. THE RESTRAINT SYSTEM SHALL ENSURE THAT OTHER UNRELATED SYSTEMS ARE NOT AFFECTED BY ELECTRICAL SYSTEM/EQUIPMENT MOTION DURING THE SEISMIC EVENT.

2.15.5. INSTALL ELECTRICAL SYSTEMS AND EQUIPMENT WITH ADEQUATE STRUCTURAL SUPPORT TO WITHSTAND SEISMIC FORCES IN ACCORDANCE WITH PART 4 OF THE ONTARIO BUILDING CODE.

2.15.6. RETAIN AN ENGINEER LICENSED IN THE PROVINCE OF ONTARIO SPECIALIZING IN THE DESIGN OF SRS/SFRS TO PERFORM A REVIEW OF THE PROPOSED DESIGN AND INSTALLATION, AND PREPARE INSTALLATION DOCUMENTS INDICATING ALL REQUIRED SEISMIC DESIGNATIONS, SEISMIC FASTENINGS, THESE DOCUMENTS SHALL BE SEALED AND SIGNED BY THE STRUCTURAL ENGINEER AND SUBMITTED AS PART OF THE SHOP DRAWING PACKAGE PRIOR TO ROUGH-N WORK COMMENCING ON-SITE.

A. FIRE ALARM CONTROL PANELS AND DATA GATHERING PANELS.

B. DATA CABINETS AND RACKS.

2.15.8. PROVIDE CONFIRMATION IN WRITING, SIGNED AND SEALED BY THE STRUCTURAL ENGINEER, AT COMPLETION OF PROJECT THAT THE ELECTRICAL INSTALLATION IS IN GENERAL COMPLIANCE WITH THE STRUCTURAL INSTALLATION DRAWINGS SUBMITTED WITH THE SHOP DRAWING PACKAGE.

2.15.9. THE ELECTRICAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE FULL SCOPE OF THIS WORK, INCLUDE ALL COSTS OF: STRUCTURAL DESIGN, MATERIALS, AND SITE REVIEW IN TENDER PRICE.

SRS SHALL BE FULLY INTEGRATED INTO, COMPATIBLE WITH NOISE AND VIBRATION CONTROLS.

SRS TO PROVIDE GENTLE AND STEADY CUSHIONING ACTION AND AVOID HIGH IMPACT LOADS.

SRS TO LIMIT MOVEMENT TO AVOID DAMAGE TO OTHER BUILDING ELEMENTS AND/OR SYSTEMS.

SRS TO RESTRAIN SEISMIC FORCES IN EVERY DIRECTION.

FASTENERS AND ATTACHMENT POINTS TO RESIST SAME LOAD AS SEISMIC RESTRAINTS.

SRS UTILIZING CAST IRON, THREADED PIPE, OTHER BRITTLE MATERIALS NOT PERMITTED.

ATTACHMENTS TO RC STRUCTURE:

A. USE HIGH STRENGTH MECHANICAL EXPANSION ANCHORS.

B. DRILLED OR POWER DRIVEN ANCHORS NOT PERMITTED.

2.15.17. SEISMIC CONTROL MEASURES NOT TO INTERFERE WITH INTEGRITY OF FIRESTOPPING.

2.15.18. FLOOR-MOUNTED STATIC EQUIPMENT SYSTEMS:

A. ANCHOR EQUIPMENT TO EQUIPMENT SUPPORTS.

B. ANCHOR EQUIPMENT SUPPORTS TO STRUCTURE.

C. USE SIZE OF BOLTS SCHEDULED IN APPROVED SHOP DRAWINGS.

2.15.19. SUSPENDED STATIC EQUIPMENT SYSTEMS:

USE ONE OR COMBINATION OF FOLLOWING METHODS:

A. INSTALL TIE-TO STRUCTURE.

B. CROSS-BRACE IN EVERY DIRECTION.

C. BRACE BACK TO STRUCTURE.

D. CABLE RESTRAINT SYSTEM.

2.15.20. SCSS TO PREVENT SWAY IN HORIZONTAL PLANE, "ROCKING" IN VERTICAL PLANE, SLIDING AND BUCKLING IN AXIAL DIRECTION.

2.15.21. HANGERS TO WITHSTAND COMPRESSIVE LOADING AND BUCKLING. PROVIDE ANGLE STIFFENERS WHERE REQUIRED.

2.15.22. SRS FOR FLOOR MOUNTED VIBRATION ISOLATED EQUIPMENT:

USE ONE OR COMBINATION OF FOLLOWING METHODS:

A. VIBRATION ISOLATORS WITH BUILT-IN SNUBBERS.

B. VIBRATION ISOLATORS AND SEPARATE SNUBBERS.

C. BUILT-UP SNUBBER SYSTEM APPROVED BY CONSULTANT, CONSISTING OF STRUCTURAL ELEMENTS AND ELASTOMERIC LAYER.

2.15.23. SRS TO RESIST COMPLETE ISOLATION UNLOADING.

2.15.24. SRS NOT TO JEOPARDIZE NOISE AND VIBRATION ISOLATION SYSTEMS. PROVIDE 4-8 MM CLEARANCE BETWEEN SEISMIC RESTRAINT SNUBBERS AND EQUIPMENT DURING NORMAL OPERATION OF EQUIPMENT AND SYSTEMS.

2.15.25. CUSHIONING ACTION: GENTLE AND STEADY BY UTILIZING ELASTOMERIC MATERIAL OR OTHER MEANS IN ORDER TO AVOID HIGH IMPACT LOADS.

2.16. BASE BUILDING VENDORS OR RECORD

2.16.1. THE CONTRACTOR MUST CARRY AND COORDINATE WITH THE SPECIFIC MANDATORY BASE BUILDING SUBCONTRACTORS DESIGNATED BY THE SCARBOROUGH HEALTH NETWORK (SHN) FOR ALL SYSTEM INTEGRATIONS, MODIFICATIONS, AND TESTING.

2.16.2. FIRE ALARM & OVERHEAD PAGING SYSTEM: CARRY CHUBB EDWARDS TO PERFORM ALL INTEGRATION, PROGRAMMING, AND FINAL VERIFICATIONS ON THE EXISTING ESTD LIFE SAFETY NETWORK.

2.16.3. SECURITY & ACCESS CONTROL SYSTEMS: CARRY AC TECHNICAL SYSTEMS LTD. TO SUPPLY, INTEGRATE, AND COMMISSION ALL CCTV, INTERCOM, AND ACCESS CONTROL COMPONENTS MATCHING THE BUILDING STANDARD. REFER TO QUOTE 000938 AND ASSOCIATED DRAWINGS.

2.16.4. NURSE CALL SYSTEM: CARRY AATEL COMMUNICATIONS INC. FOR ALL EXPANSION, WIRING, AND HARDWARE IMPLEMENTATION OF THE RAU/LAND RESPONDER A PLATFORM.

2.16.5. STAFF DURESS SYSTEM: CARRY HONEYWELL TO COORDINATE THE INSTALLATION AND SYSTEM PROGRAMMING FOR THE LOCALIZED MONITORS AND STAFF DURESS HARDWARE.

2.16.6. BAS CONTROLS INTEGRATION: CARRY SIEMENS TO EXECUTE ANY MODIFICATIONS OR WIRING CONNECTIONS TO THE BUILDING'S SIEMENS APAGY AUTOMATION NETWORK. CONTACT FACILITIES PRIOR TO PERFORMING ANY MODIFICATIONS.

2.16.7. CLOCK SYSTEM: CARRY TROY LIFE & FIRE SAFETY LTD. FOR THE IMPLEMENTATION AND INTEGRATION OF THE LOW-LEVEL PRIMEX SYSTEM NETWORK.

2.16.8. IT AND AV STRUCTURED CABLEING: CARRY COMWORX TO PERFORM ALL LOW-VOLTAGE NETWORK, IT, AND AV STRUCTURED CABLEING PATHWAYS AND TERMINATIONS.

2.16.9. THE CONTRACTOR SHALL SUBMIT COORDINATED BUILDERS' WORK AND BUILDING SERVICES DRAWINGS FOR REVIEW AND APPROVAL.

2.17. SECURITY SYSTEM ELECTRICAL REQUIREMENTS

2.17.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, WIRING, AND INFRASTRUCTURE COORDINATION RESPONSIBILITIES OF THE ELECTRICAL CONTRACTOR REGARDING SECURITY SYSTEMS.

2.17.1. POWER & INTEGRATION

A. PROVIDE DEDICATED 120V POWER CONNECTIONS, CIRCUITS, AND TERMINATIONS FOR ALL SECURITY CONTROL PANELS AND SYSTEM POWER SUPPLIES.

B. PROVIDE ALL FIRE ALARM RELAY MODULES, INTERFACE MATERIALS, AND HARDWARE REQUIRED FOR SYSTEM INTEGRATION.

C. PROVIDE FIRE ALARM SIGNAL CONNECTIONS TO THE SECURITY SYSTEM TO FACILITATE EMERGENCY DOOR RELEASE FUNCTIONALITY.

D. UPON COMPLETION OF THE INSTALLATION, WIRING, AND INFRASTRUCTURE COORDINATION RESPONSIBILITIES OF THE ELECTRICAL CONTRACTOR REGARDING SECURITY SYSTEMS.

2.17.2. CONDUIT & INFRASTRUCTURE ROUTING

A. PROVIDE A COMPLETE CONDUIT, RACEWAY, AND PATHWAY SYSTEM FOR ALL SECURITY DEVICE ROUTING AND HOME-RUNS.

B. PROVIDE STANDARD DEVICE BACK BOXES AT ALL DESIGNATED CARD READER LOCATIONS.

C. PROVIDE SINGLE-GANG BACK BOXES FOR ALL FIELD SECURITY COMPONENTS AS REQUIRED.

D. INSTALL INTERCOM BACK BOXES. COORDINATE WITH THE SECURITY VENDOR TO RECEIVE INTERCOM BACK BOXES.

E. PROVIDE FIRESTOPPING FOR ALL SECURITY CONDUITS, SLEEVES, AND CABLE PENETRATIONS THROUGH RATED ASSEMBLIES.

2.17.3. WIRING & BASE INSTALLATION

A. PULL ALL SECURITY SYSTEM WIRING AND CABLEING FROM INDIVIDUAL FIELD DEVICES BACK TO THE MAIN ELECTRICAL SECURITY PANELS.

B. INSTALL SPECIALIZED DOOR CABLEING FOR REQUEST-TO-EXIT DEVICES, DOOR PANELS, CARD READ



NOTES FOR NEW WORK PLAN

- EXISTING DEVICES SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS AND EXISTING DEVICES PRIOR TO ANY WORKS.
- ALL EXIT SIGNS SHOWN SHALL BY TYPE E1. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- ALL NEW LIGHTING COLOR TEMPERATURES SHALL MATCH HOSPITAL STANDARD. CONTRACTOR SHALL VERIFY ON SITE AND PROVIDE TO SUIT.
- CIRCUIT NUMBER SHOWN IN () ARE INDICATIVE ONLY TO IDENTIFY CIRCUITING ARRANGEMENT. CONTRACTOR SHALL COORDINATE EXACT CIRCUIT NUMBERS WITHIN PANEL ON SITE TO SUIT CONDITIONS.
- ALL EMERGENCY LIGHTING SHALL BE PROVIDED WITH UL-924 RELAY TO TURN ON AUTOMATICALLY UPON LOSS OF POWER.
- EMERGENCY POWER LIGHT FIXTURES SHALL FOLLOW THE CSA Z32 REQUIREMENTS IN PATIENT CARE AREA.
- NORMAL POWER LIGHT FIXTURES SHALL FOLLOW THE CSA Z32 REQUIREMENTS IN PATIENT CARE AREA.
- EXIT SIGN SHALL FOLLOW THE CSA Z32 REQUIREMENTS IN PATIENT CARE AREA.
- CONTRACTOR SHALL UTILIZE THE EXISTING CIRCUITS AND WIRING FROM THE DEMOLISHED LIGHTS. DO NOT OVERLOAD THE CIRCUIT, VERIFY EXACT CIRCUIT ON SITE.
- RECEPTACLES IN ALL AREAS SHALL BE HOSPITAL GRADE AND PROVIDED IN ACCORDANCE WITH CURRENT OESC, APPLICABLE BULLETINS, AND CSA-Z32 REQUIREMENTS.
- CONTRACTOR SHALL ADD THE NEW FIRE ALARM INITIATION AND NOTIFICATION DEVICES TO THE EXISTING FIRE ALARM LOOP AS PART OF THE EXISTING FIRE ALARM ZONE AND COORDINATE ALL INSTALLATION ON SITE TO SUIT SITE CONDITIONS.
- EXISTING FIRE ALARM SYSTEM SHALL BE RE-VERIFIED IN ACCORDANCE WITH ALL APPLICABLE CODE REQUIREMENTS AND CANULC-S537.
- CONTRACTOR SHALL UTILIZE THE EXISTING BRANCH CIRCUITS, WHERE POSSIBLE TO FEED THE NEW RECEPTACLES IN THE SCOPE OF WORK AREA. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CURRENT OESC, APPLICABLE BULLETINS, AND CSA-Z32 REQUIREMENTS.
- ENSURE EXISTING BRANCH CIRCUIT WIRING GROUND CONDUCTOR SERVING PATIENT CARE AREAS ARE INSULATED PER CODE REQUIREMENTS. CONTRACTOR SHALL PROVIDE AND INCLUDE AN ITEMIZED PRICE FOR REMOVING EXISTING PATIENT CARE AREA WIRING AND REPLACING WITH NEW TO MEET CURRENT CODE REQUIREMENTS.
- SEE DRAWING E1-02 FOR NEW PANELS LOCATION.
- ALL EXISTING TO REMAIN RECEPTACLES AND WIRING DEVICES CIRCUITING ARRANGEMENTS SHALL BE MAINTAINED WHERE POSSIBLE. WHERE CIRCUITING ALTERATIONS ARE NECESSARY, PROVIDE ALL NECESSARY MATERIALS FOR COMPLETE AND CODE COMPLAINT INSTALLATIONS.
- ALL NEW FIRE ALARM DEVICES SHALL BE ADDRESSABLE TYPE AND SAME PRODUCTS ONLY TO MATCH EXISTING SYSTEM AND DEVICES ON SITE.
- ALL NEW PROPOSED SYSTEMS, EQUIPMENT, AND DEVICES SHALL BE FULLY COMPATIBLE WITH, AND THE SAME MANUFACTURER AS, EXISTING SYSTEMS, EQUIPMENT, AND DEVICES ON SITE. VERIFY ALL EXISTING SYSTEMS, EQUIPMENT, AND DEVICES ON SITE.
- CONTRACTOR SHALL VERIFY IF THE EXISTING FIRE ALARM SYSTEM HAS STROBING FUNCTION. IF IT DOES NOT, ALL FIRE ALARM SPEAKER STROBE DEVICES SHOWN ON THIS DRAWING SHALL BE FIRE ALARM SPEAKERS TO SUIT THE EXISTING SYSTEM.
- SEE MECHANICAL DRAWINGS FOR MECHANICAL EQUIPMENT SCHEDULE.
- REFER TO I.C.A.T. SPECIFICATIONS (DWG. E0-02a&b) FOR TYPE OF DATA CABLES.
- ALL DATA CABLES SHALL BE HOME RUN BACK TO COMMUNICATION ROOM 3135. SEE DRAWING E1-02 FOR LOCATION.
- ALL COMMUNICATIONS RACEWAYS SHALL BE INSTALLED IN STRAIGHT LINES WITH AS FEW TURNS AS POSSIBLE AND SHALL ALIGN WITH BUILDING GEOMETRY. ALL RACEWAYS SHALL BE INSTALLED IN COMMON CIRCULATION SPACES.
- ALL HORIZONTAL CABLEING SHALL RUN IN CONDUITS OR J-HOOKS. CONDUITS SHALL BE MINIMUM 25MM, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE POE INJECTOR FOR EACH DATA DROP AND NECESSARY PULL BOXES IF HORIZONTAL CABLE PERMANENT LINK LENGTH EXCEEDS 90M. COORDINATE EXACT CABLE ROUTING AND PATHWAYS ON SITE AND PROVIDE TO SUIT.
- PROVIDE ROUGH-INS ONLY FOR ALL SECURITY SYSTEMS, EQUIPMENT, AND DEVICES. SEE ELECTRICAL TYPICAL DETAILS AND SPECIFICATIONS FOR DETAILS. ALL SECURITY SYSTEMS, EQUIPMENT, AND DEVICES SHALL BE SUPPLIED AND INSTALLED BY THE OWNER.
- RESERVED.
- UPDATE FIRE ALARM ANNUNCIATOR PANEL AT THE ASSOCIATED NURSING STATION TO SUIT THE PROPOSED CHANGES AS PART OF THIS SCOPE OF WORK.
- INITIATION OF SMOKE DETECTOR WITHIN THE ROOM SHALL ACTIVATE SIGNAL ON DOME LIGHT.

LEGEND:

	NOT IN SCOPE AREA		LIGHT "D1", DETAILS REFER TO LIGHT FIXTURE SCHEDULE
	LIGHT "F1", DETAILS REFER TO LIGHT FIXTURE SCHEDULE		LIGHT "F2", DETAILS REFER TO LIGHT FIXTURE SCHEDULE
	LIGHT "F3a", DETAILS REFER TO LIGHT FIXTURE SCHEDULE		LIGHT "F3b", DETAILS REFER TO LIGHT FIXTURE SCHEDULE
	LIGHT "F4", DETAILS REFER TO LIGHT FIXTURE SCHEDULE		LIGHT "F5", DETAILS REFER TO LIGHT FIXTURE SCHEDULE

LEVEL 1 - PATIENT CARE CLASSIFICATION	
ROOM NO.	PATIENT CARE CLASSIFICATION
PATIENT ROOM	BASIC

SHEET ISSUANCE

NO	ISSUED FOR ADDENDUM E-02	03.07.26
1		
2		
3		
4		
5		
6		
7		
8		

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NO	ACTION	DATE
1	ISSUED FOR REVIEW	15.05.25
2	ISSUED FOR REVIEW	25.07.25
3	ISSUED FOR CLIENT REVIEW	29.05.26
4	ISSUED FOR TENDER AND PERMIT	04.06.26
5		
6		
7		

Client:

**SCARBOROUGH
HEALTH NETWORK**
3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

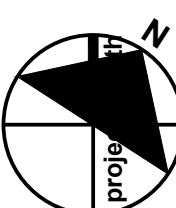
Project Title:

**SHN MENTAL HEALTH
INPATIENT CONSOLIDATION
POD 3A**

Sheet Title:

NEW LIGHTING PLAN

Project
North



Stamp

Date:

APR 2025

Project No.:

24002-02

Scale:

1:75

Drawn:

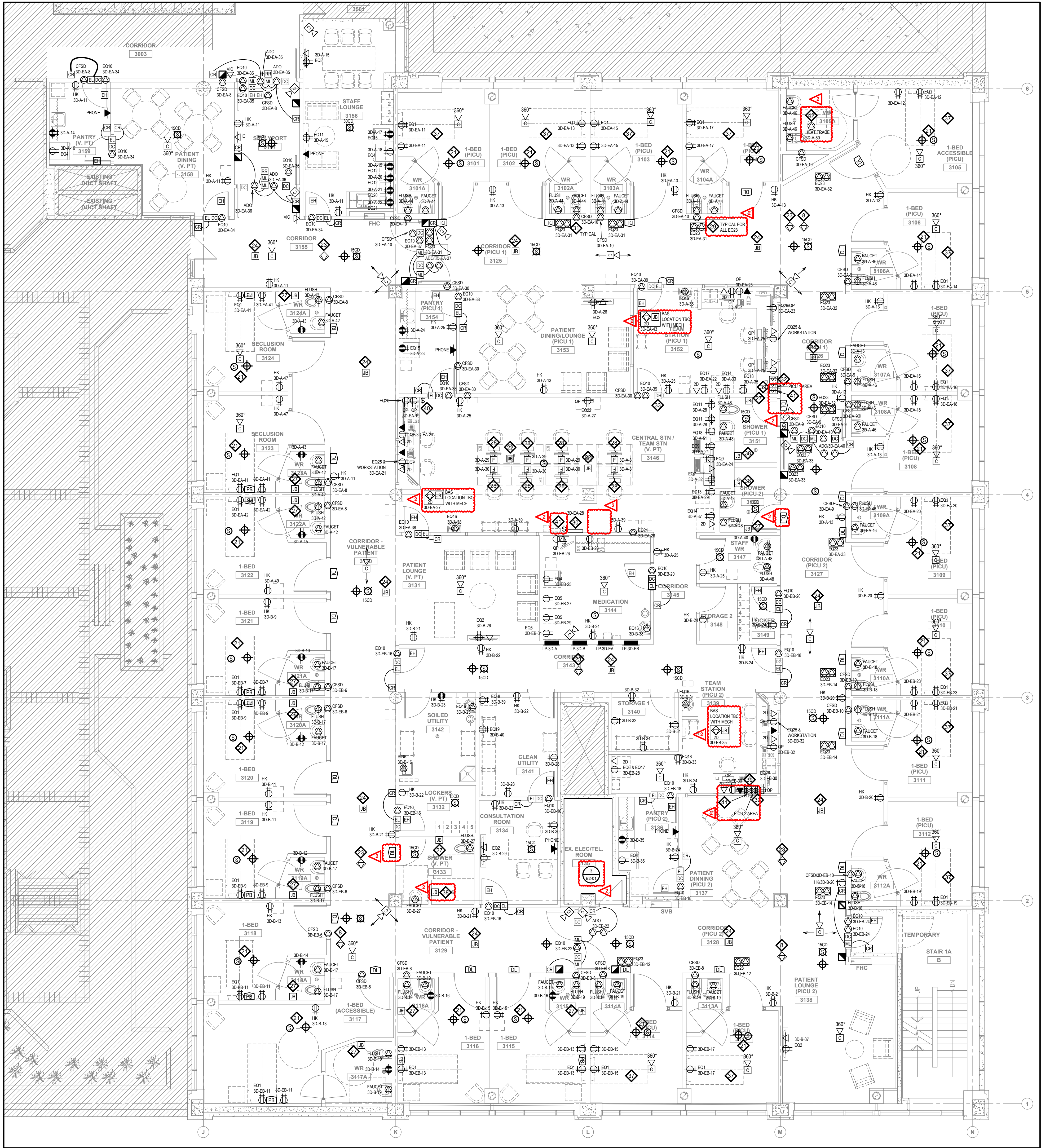
P.T./K.O.

Checked:

M.C.

Drawing Number:

E1-01



NOTES FOR NEW WORK PLAN

- CIRCUIT NUMBER SHOWN IN () ARE INDICATIVE ONLY TO IDENTIFY CIRCUITING ARRANGEMENT. CONTRACTOR SHALL COORDINATE EXACT CIRCUIT NUMBERS WITHIN PANEL ON SITE TO SUIT CONDITIONS.
- RECEPTACLES IN ALL AREAS SHALL BE HOSPITAL GRADE AND PROVIDED IN ACCORDANCE WITH CURRENT OESC, APPLICABLE BULLETINS, AND CSA-222 REQUIREMENTS.
- CONTRACTOR SHALL ADD THE NEW FIRE ALARM INITIATION AND NOTIFICATION DEVICES TO THE EXISTING FIRE ALARM LOOP AS PART OF THE EXISTING FIRE ALARM ZONE AND COORDINATE ALL INSTALLATION ON SITE TO SUIT SITE CONDITIONS.
- EXISTING FIRE ALARM SYSTEM SHALL BE RE-VERIFIED IN ACCORDANCE WITH ALL APPLICABLE CODE REQUIREMENTS AND CANULC-5537.
- CONTRACTOR SHALL UTILIZE THE EXISTING BRANCH CIRCUITS, WHERE POSSIBLE TO FEED THE NEW RECEPTACLES IN THE SCOPE OF WORK AREA. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CURRENT OESC, APPLICABLE BULLETINS, AND CSA-222 REQUIREMENTS.
- ENSURE EXISTING BRANCH CIRCUIT WIRING GROUND CONDUCTOR SERVING PATIENT CARE AREAS ARE INSULATED PER CODE REQUIREMENTS. CONTRACTOR SHALL PROVIDE AND INCLUDE FOR REMOVING EXISTING PATIENT CARE AREA WIRING AND REPLACING WITH NEW TO MEET CURRENT CODE REQUIREMENTS.
- SEE THIS DRAWING FOR EXISTING NEW PANELS LOCATION.
- CENTRAK STROBE SUPPLIED BY HONEYWELL (TYPICAL) DIVISION 26 TO PROVIDE 120V POWER CONNECTION, AND DIVISION 27 TO PROVIDE ONE (1) CAT 6 POE DATA DROP TO POE WEB RELAY. MODULE LOCATED IN ELECTRICAL ROOM. ELECTRICAL CONTRACTOR TO EXTEND 2-CONDUCTOR CABLES FROM RELAY TO EACH STROBE (DEDICATED RUNS). EXACT LOCATION OF STROBES TO BE COORDINATED ON SITE AND APPROVED BY OWNER PRIOR TO INSTALL.
- ALL NEW FIRE ALARM DEVICES SHALL BE ADDRESSABLE TYPE AND SAME PRODUCTS ONLY TO MATCH EXISTING SYSTEM AND DEVICES ON SITE.
- ALL NEW PROPOSED SYSTEMS, EQUIPMENT, AND DEVICES SHALL BE FULLY COMPATIBLE WITH, AND THE SAME MANUFACTURER AS EXISTING SYSTEMS, EQUIPMENT, AND DEVICES ON SITE. VERIFY ALL EXISTING SYSTEMS, EQUIPMENT, AND DEVICES ON SITE.
- CONTRACTOR SHALL VERIFY IF THE EXISTING FIRE ALARM SYSTEM HAS STROBING FUNCTION. IF IT DOES NOT, ALL FIRE ALARM SPEAKER STROBE DEVICES SHOWN ON THIS DRAWING SHALL BE FIRE ALARM SPEAKERS TO SUIT THE EXISTING SYSTEM.
- SEE MECHANICAL DRAWINGS FOR MECHANICAL EQUIPMENT SCHEDULE.
- REFER TO I.C.A.T. SPECIFICATIONS (DWG. E0-02a8) FOR TYPE OF DATA CABLES.
- ALL DATA CABLES SHALL BE HOME RUN BACK TO COMMUNICATION ROOM 3135. SEE DRAWING E2-01 FOR LOCATION.
- ALL COMMUNICATIONS RACEWAYS SHALL BE INSTALLED IN STRAIGHT LINES WITH AS FEW TURNS AS POSSIBLE AND SHALL ALIGN WITH BUILDING GEOMETRY. ALL RACEWAYS SHALL BE INSTALLED IN COMMON CIRCULATION SPACES.
- ALL HORIZONTAL CABLING SHALL RUN IN CONDUITS OR J-HOOKS. CONDUITS SHALL BE MINIMUM 25MM, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE POE INJECTOR FOR EACH DATA DROP AND NECESSARY PULL BOXES IF HORIZONTAL CABLE PERMANENT LINK LENGTH EXCEEDS 90M. COORDINATE EXACT CABLE ROUTING AND PATHWAYS ON SITE AND PROVIDE TO SUIT.
- PROVIDE ROUGH-INS ONLY FOR ALL SECURITY SYSTEMS, EQUIPMENT, AND DEVICES. SEE ELECTRICAL TYPICAL DETAILS AND SPECIFICATIONS FOR DETAILS. ALL SECURITY SYSTEMS, EQUIPMENT, AND DEVICES SHALL BE SUPPLIED AND INSTALLED BY THE OWNER.
- NURSE CALL SYSTEM AND ASSOCIATED DEVICES SHALL BE AS TELL TO MATCH BASE BUILDING STANDARD. ALL NEW NURSE CALL DEVICES SHALL BE CONNECTED TO THE EXISTING BASE BUILDING NURSE CALL SYSTEM. ALL NURSE CALL DEVICES SHALL BE HIGH SECURITY AND ANTI-LIGATURE.
- UPDATE FIRE ALARM ANNUNCIATOR PANEL AT THE ASSOCIATED NURSING STATION TO SUIT THE PROPOSED CHANGES AS PART OF THIS SCOPE OF WORK.
- INITIATION OF SMOKE DETECTOR WITHIN THE ROOM SHALL ACTIVATE SIGNAL ON DOME LIGHT.
- PROVIDE (1) 27MM C FOR POWER AND (1) 35MM C FOR DATA TO A RECESSED FLOOR BOX. EACH FLOOR BOX SHALL CONTAIN (4) 15A RECEPTACLES, (4) CAT6 DATA OUTLETS, AND (1) VOICE OUTLET. RUN POWER CONDUIT UP TO CEILING SPACE AND ROUTE BACK TO ELECTRICAL PANEL. RUN DATA/VOICE CONDUIT UP TO CEILING SPACE AND ROUTE BACK TO TELECOM ROOM. PROVIDE MODULAR FURNITURE TRACKS FROM THE FLOOR BOX TO THE DESK CHASIS TO TERMINATE ALL HARDWARE ON THE WORKSTATION AT 400MM AFF.
- CENTRAK WIRELESS ACCESS POINT (WAP) SUPPLIED BY HONEYWELL (TYPICAL) DIVISION 27 TO PROVIDE CAT 6 POE DATA DROPS FOR ALL WAPS. ELECTRICAL CONTRACTOR TO INSTALL WAPS ABOVE CEILING AND CONNECT VIA RJ45 CONNECTORS. WAP ANTENNAS TO BE INSTALLED THROUGH CEILING TILES. EXACT LOCATIONS TO BE CONFIRMED AND COORDINATED WITH HONEYWELL.
- RTLS MONITOR SUPPLIED BY HONEYWELL (TYPICAL) DIVISION 26 TO PROVIDE 120V POWER CONNECTION TO ALTRONIX POWER SUPPLY LOCATED IN ELECTRICAL ROOM. ELECTRICAL CONTRACTOR TO EXTEND LOW VOLTAGE (2/18 AWG) CABLE FROM POWER SUPPLY TO EACH MONITOR (3 LOOPS). RTLS MONITORS ARE TO BE INSTALLED IN ANTI LIGATURE CUBICLE ENCLOSURES EQUAL TO OBERON WITLES MODEL 1047 OR APPROVED ALTERNATE. DOOR STYLE, AND ACCESS POINT VENDOR TO BE COORDINATED BY HONEYWELL. ENCLOSURES TO BE SUPPLIED BY DIVISION 26 FOR INSTALLATION BY CEILING TRADE.
- THE EXISTING SECURITY SYSTEM IS C-CURE. ALL SECURITY SYSTEMS MUST BE COORDINATED WITH A.C. TECHNICAL SYSTEMS. CAMERAS SHALL BE AVIGILON, AND ACCESS CONTROLS SHALL BE HID.
- MAG LOCKS TO RELEASE SIMULTANEOUSLY UPON VALID CARD READ, REMOTE RELEASE, OR INITIATION OF A 2ND STAGE EVACUATION SIGNAL. ONCE MAG LOCKS ARE CONFIRMED RELEASED VIA INTERNAL SENSORS, BOTH ADS SHALL ACTIVATE TO OPEN DOOR LEAVES.
- PROVIDE WATERPROOF BEHAVIORAL HEALTH GRADE EMERGENCY NURSE CALL BUTTON. MUST FEATURE WITH FLUSH ANTI LIGATURE SWITCH. WIRE TO CENTRAL NURSE CALL SYSTEM. SYSTEM SHALL TRIGGER AUDIBLE VISUAL ALARM AT CENTRAL STATION AND CORRIDOR DOME LIGHT. RESET CAPABILITY FROM INSIDE SHOWER ONLY. COORDINATE LOCATION WITH ARCHITECT TO ENSURE DEVICE IS REACHABLE FROM FLOOR LEVEL.
- EACH DESK TO HAVE (1) 15A QUADPLEX RECEPTACLE, (1) DATA OUTLET WITH TWO PORT, AND (1) VOICE OUTLET. ONLY 2 DESKS TOTAL REQUIRE (2) VOICE OUTLETS. ALL OUTLETS MOUNTED ON FURNITURE AT 600MM AFF.
- 1) TRIGGER POWER CONTACTORS ISOLATING ALL POWER CIRCUITS FOR THE ASSIGNED GROUPS OF PICU PATIENT ROOMS.
2) ENERGIZE/DE-ENERGIZE LOW VOLTAGE CONTROL CIRCUITS ROUTED TO NORMALLY CLOSED ELECTRONIC SOLENOID VALVES ON THE WATER SUPPLY LINES FOR THE ASSIGNED GROUPS OF PICU ROOMS.
3) COORDINATE REQUISITE CONDUIT RUNS, VOLTAGES, AND TERMINATIONS WITH MECHANICAL CONTRACTOR.
- PROVIDE LIGHTING CONTROL PANEL EQUIPPED WITH INTEGRAL TIMELOCK AND MANUAL OVERRIDE SWITCHES. THE PANEL SHALL INDEPENDENTLY CONTROL LIGHTING ON/OFF FOR ALL PATIENT ROOMS VIA SCHEDULED TIMELOCK OPERATIONS, WITH INDIVIDUAL MANUAL OVERRIDE CONTROL LOCATED AT THE NURSE STATION.
- REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATIONS AND QUANTITIES OF COMBINATION FIRE/SMOKE DAMPERS (CFSD). PROVIDE ONE DEDICATED DUCT-MOUNTED SMOKE DETECTOR FOR EACH CFSD IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND APPLICABLE CODES. COORDINATE ALL FINAL POWER, CONDUIT, AND WIRING LOCATIONS WITH THE MECHANICAL CONTRACTOR ON-SITE PRIOR TO ROUGH-IN.
- PROVIDE A SERIES OF EMERGENCY WATER SHUT-OFF SWITCHES (ONLY ONE IS SHOWN FOR CLARITY) AND ASSOCIATED WIRING TO CONTROL THE MECHANICAL SOLENOID VALVES SERVING THE PICU PATIENT WASHROOMS. SWITCHES SHALL BE TOGGLE OR MUSHROOM-STYLE WITH CLEARLY LABELED NAMEPLATES AND RED LED PLOT LIGHTS TO INDICATE "WATER SHUT-OFF ACTIVATED". REFER TO MECHANICAL DRAWINGS FOR LOCATION AND QUANTITY OF SOLENOID VALVES SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR.
- ELECTRICAL DOOR CLOSERS INTERCONNECT WITH THE BUILDING FIRE ALARM SYSTEM VIA ADDRESSABLE CONTROL MODULE OR RELAY. UPON FIRE ALARM ACTIVATION, POWER SHALL BE INTERRUPTED TO ALLOW THE DOOR TO CLOSE AUTOMATICALLY.
- ALL NURSE CALL DEVICES (INCLUDING CALL STATIONS, PUSH BUTTONS) IN PATIENT BEDROOMS, WASHROOMS, AND ALL OTHER PATIENT-ACCESSIBLE AREAS SHALL BE ANTI-LIGATURE AND TAMPER-RESISTANT. DEVICES MUST BE SPECIFICALLY APPROVED FOR BEHAVIORAL HEALTH ENVIRONMENTS. FASTEN ALL DEVICES USING TAMPER-PROOF TORX SECURITY SCREWS.
- PROVIDE REMOTE NURSE CALL LOCKOUT FUNCTION CONTROLLED FROM THE MAIN NURSE SYSTEM REGULATION STATION. THE SYSTEM SHALL ALLOW STAFF TO TEMPORARILY DISABLE PATIENT CALL STATIONS. PROVIDE A DEFAULT AUTOMATIC TIME-OUT RE-ENABLE TIME OF 10 MINUTES. FINAL CONFIGURATION, DURATION, AND OPERATION PROTOCOLS TO BE CONFIRMED BY THE HOSPITAL SYSTEM USER PRIOR TO COMMISSIONING.
- ALL ELECTRICAL WIRING DEVICES, INCLUDING RECEPTACLES, DATA OUTLETS, AND FACEPLATES IN PATIENT-ACCESSIBLE AREAS SHALL BE ANTI-LIGATURE AND TAMPER-RESISTANT. ALL DEVICES MUST BE SUITABLE FOR BEHAVIORAL HEALTH ENVIRONMENTS. RECESSED MOUNT ALL ENCLOSURES AND SECURE COVERS WITH TAMPER-PROOF TORX SECURITY SCREWS.
- PROVIDE TWO (2) DUPLEX RECEPTACLES PER PICU ROOM. TIED TO EMERGENCY POWER CIRCUIT. PROVIDE RECESSED IMPACT-RESISTANT LOCKABLE SECURITY COVERS OVER ALL RECEPTACLES. DEVICES AND PLATES TO BE ANTI-LIGATURE AND TAMPER-RESISTANT SUITABLE FOR BEHAVIORAL HEALTH ENVIRONMENTS. SECURE WITH PIN-IN-TORX SECURITY SCREWS. COORDINATE EXACT HEIGHT AND LOCATION WITH ARCHITECT. REQUIREMENTS WITH THE DOOR HARDWARE SUPPLIER AND SECURITY CONTRACTOR. COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- PROVIDE WATERPROOF (MIN. IP65) FLUSH-MOUNTED ANTI-LIGATURE NURSE CALL FLUSH MOUNT STATION. EQUIPMENT SHALL FEATURE STAINLESS STEEL FACEPLATE, PIEZOELECTRIC BUTTON WITH NO MOVING PARTS, AND TAMPER-PROOF SECURITY SCREWS. APPLY PICK-RESISTANT SECURITY SEALANT AROUND PERIMETER OF FACEPLATE. COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECTURAL ELEVATIONS.
- PROVIDE A DEDICATED EMERGENCY RECEPTACLE CONTROL SHUT-OFF SWITCH FOR EACH INDIVIDUAL PICU PATIENT ROOM LOCATED WHERE SHOWN ON DRAWINGS, TO DIRECTLY CONTROL THAT SPECIFIC ROOMS RECEPTACLES. SWITCH SHALL BE A STANDARD TOGGLE TYPE WITH A CLEARLY LABELED ENGRAVED NAMEPLATE. COORDINATE FINAL ROUGH-IN LOCATIONS ON SITE.
- PROVIDE AND INSTALL REMOTE DOOR RELEASE CONTROL SWITCH AT TEAM STATION (V.P.T). ROUTE CONDUIT AND WIRING FROM SWITCH TO SUPPORT DOOR CLOSURE. COORDINATE EXACT INTERFACE AND ELECTRICAL REQUIREMENTS WITH THE DOOR HARDWARE SUPPLIER AND SECURITY CONTRACTOR. COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- PROVIDE MANUAL OVERRIDE SWITCHES. AREA SHALL BE EQUIPPED WITH ONE DEDICATED SWITCH PER PATIENT ROOM, WITH EACH SWITCH CLEARLY LABELED WITH THE CORRESPONDING ROOM NUMBER. WIRING SHALL BY-PASS THE LOCAL TIMELOCK SCHEDULE TO PROVIDE INSTANT ON/OFF OVERRIDE CONTROL. RUN LOW-VOLTAGE CONTROL CABLING BACK TO THE LOCAL LIGHTING CONTROL PANEL.
- EXACT LOCATION OF HEAT TRACE POWER CONNECTION TO BE CONFIRMED ON SITE PRIOR TO INSTALLATION. HEAT TRACE IS LOCATED ON LEVEL 3D CEILING. PROVIDE CONDUIT STUB-UP/DOWN THROUGH SLAB AS REQUIRED. REFER TO MECHANICAL DRAWING A-301 FOR LENGTH AND LOCATION AND DRAWING E-02 FOR DETAIL.

FURNITURE AND EQUIPMENT	
PATIENT BED	EQ1
WALL MOUNTED TV IN PROTECTIVE ENCLOSURE	EQ2
WALL MOUNTED TV	EQ3
FRIDGE	EQ4
AUTOMATIC MEDICATION DISPENSING UNIT	EQ5
PYXIS MED-STATION ES RETURN	EQ6
WALL MOUNTED ELECTRONIC WHITEBOARD	EQ7
BLANKET WARMER	EQ8
WORKSTATION ON WHEEL	EQ9
POWER SUPPLY FOR DOOR HARDWARE	EQ10
PHONE CHARGING STATION	EQ11
MICROWAVE	EQ12

CRASH CART	
PRINTER	EQ13
ICE-WATER DISPENSING MACHINE	EQ14
HAND HYGIENE SINK	EQ15
PYXIS - MED/FLEX (MED)	EQ16
VITAL SIGN MONITOR ON STAND	EQ17
WARMER, BATHING WIPES	EQ18
COFFEE MACHINE	EQ19
ELECTRIC KETTLE	EQ20
EPIC ROVER	EQ21
WATER SOLENOID VALVES	EQ22
MEDICAL GAS ZONE ALARM BOX	EQ23
STAFF DURESS COMPUTER	EQ24
CCTV MONITORS	EQ25

SHEET ISSUANCE	
7	
6	
5	
4	
3	
2	ISSUED FOR ADDENDUM ADD E-02
1	ISSUED FOR ADDENDUM ADD E-01
NO	

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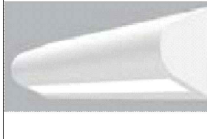
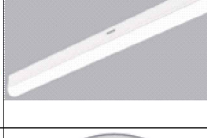
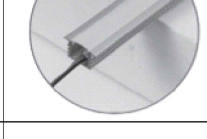
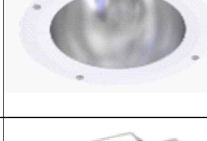
7		
6		
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4	ISSUED FOR TENDER AND PERMIT	04.06.26
3	ISSUED FOR CLIENT REVIEW	29.05.26
2	ISSUED FOR REVIEW	25.07.25
1	ISSUED FOR REVIEW	15.05.25
NO	ACTION	DATE

Client:
SCARBOROUGH HEALTH NETWORK
3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

Project Title:
SHN MENTAL HEALTH INPATIENT CONSOLIDATION POD 3A

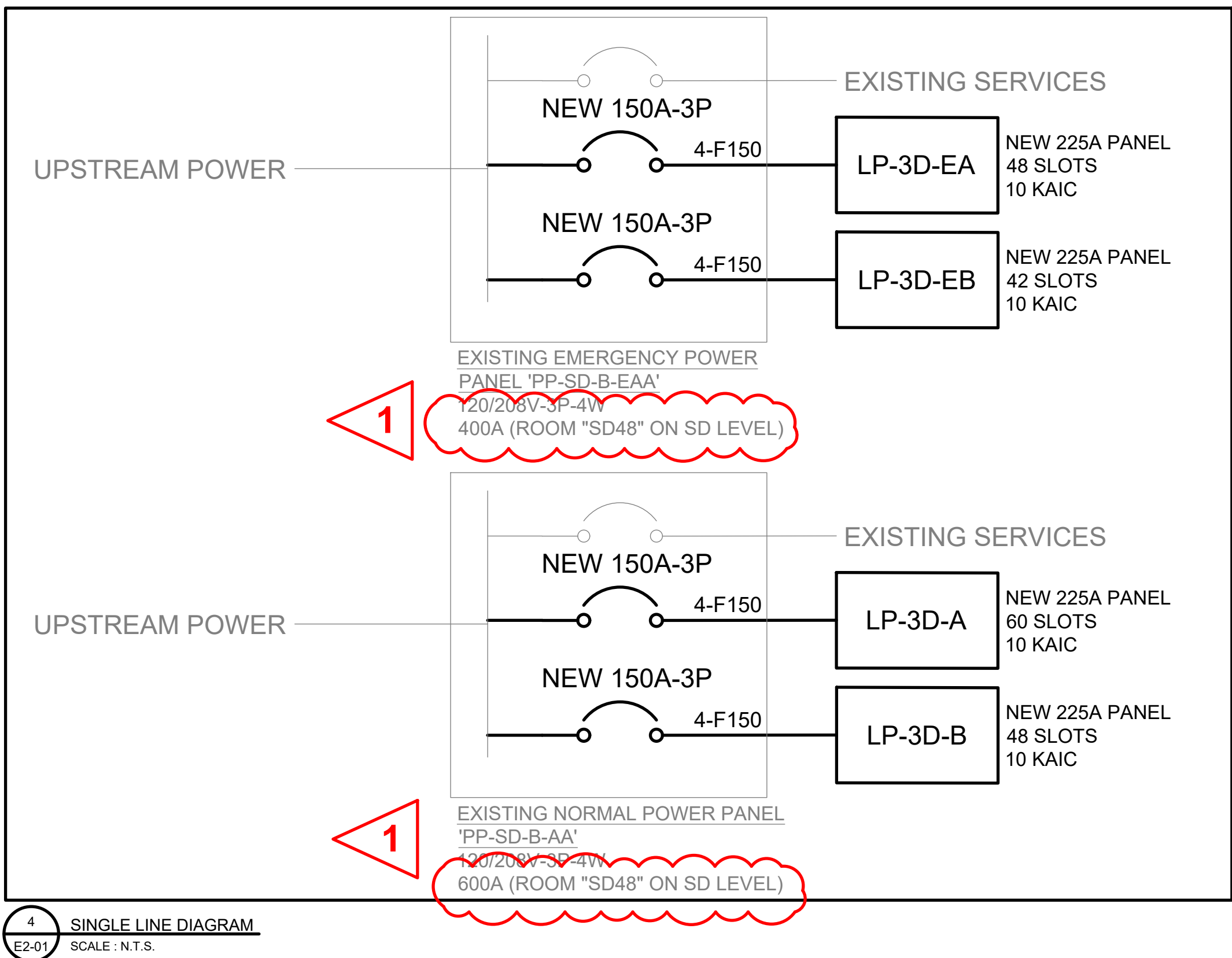
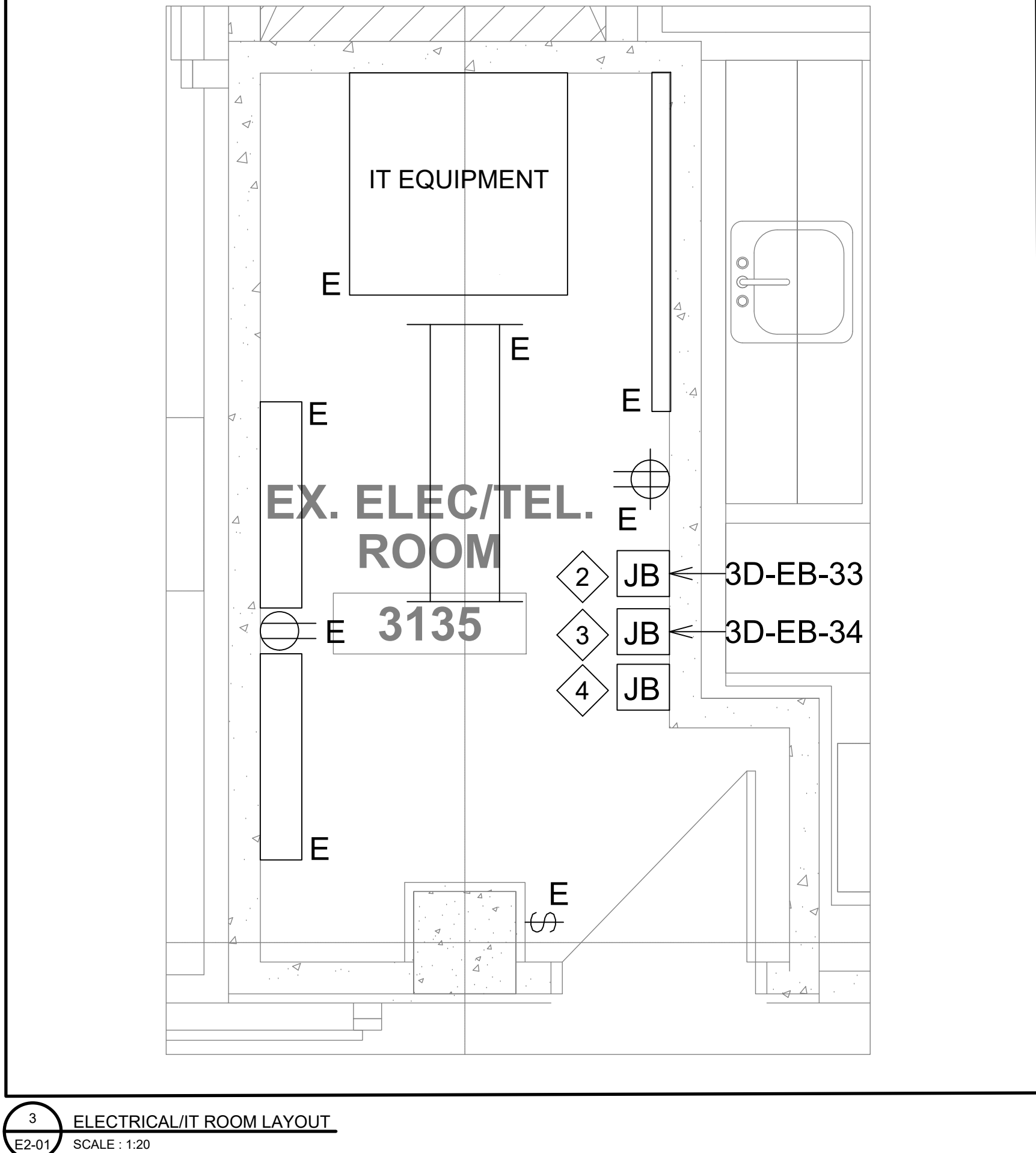
Sheet Title:
NEW POWER & SYSTEM

Project North	Stamp
Date: APR 2025	Project No.: 24002-02
Scale: 1:75	Drawn: P.T./K.O.
Drawing Number:	Checked: M.C.

TYPE	DESCRIPTION	BALLAST / DRIVER				CRI	MANUFACTURER CAT. NO. (BASE)	ALTERNATE MANUFACTURERS	IMAGE (REFERENCE ONLY)	COMMENTS / USE (SEE DRAWINGS)		
		WATTS	LUMENS	TYPE	Color Temp						VOLTS	TYPE
F1	The MBH1 series by Cerious is a recessed luminaire with plenum access that provides access above the ceiling, through the fixture. The fixture is igneous resistant and resists intentional abuse. It comes standard with tamper resistant hardware and durable polycarbonate lensing. The architectural officer provides a durable yet non-clinical appearance. The one-piece heat-dissipating door seals directly to the housing. The mounting is for targeted installations (dwell) or security ceilings. Most models are listed in the Guide and accepted for use in high-risk areas, but for use with "Clear grid ceilings."	73W	8030	LED	TURNABLE FROM 2700K- 6500K	120-277	LED	90+	LEWITON MBH1248P/LED/205K/14590/- UNV-C8AG-P08-V14(B01)-F37	APPROVED EQUIVALENT		PATIENT ROOM
F2	The VRVB-3551 is a specification-grade, vandal-resistant wall-mounted luminaire designed for high-security and behavioral health environments. Built with a heavy-duty stainless steel design, it features a single-piece precision-deformed housing with TIG-welded corners to ensure a sealed and secure joint.	47W	5200	LED	3500K	120-277	LED	80+	LEWITON VRVB-3551-13A-BBS- LED/8030S/LUM/P08P08-C12C- V09	APPROVED EQUIVALENT		PATIENT ROOM
F3a	The VRIF-4104 is a high-performance, recessed T-bar ceiling light engineered specifically for the demanding environments of a mental health hospital. It provides a seamless balance between a safe, therapeutic atmosphere for patients and a high-visibility workspace for medical staff.	36W	3900	LED	3500K	120-277	LED	80+	LEWITON VRIF-4104-254-BBS- LED/8030S/LUM-F37-P08-V09-B	APPROVED EQUIVALENT		CORRIDOR, LOUNGES, DINING AREAS
F3b	The VRIF-4104 is a high-performance, recessed T-bar ceiling light engineered specifically for the demanding environments of a mental health hospital. It provides a seamless balance between a safe, therapeutic atmosphere for patients and a high-visibility workspace for medical staff.	36W	3900	LED	4000K	120-277	LED	80+	LEWITON VRIF-4104-254-BBS- LED/8030S/LUM-F37-P08-B	APPROVED EQUIVALENT		STAFF OFFICE AREAS
F4	Output and color selectable commercial-grade, LED strip luminaires ideal for many applications requiring a low-cost, small profile, lighting solution.	19 - 34W	MATCHING THE EXISTING LIGHTING FIXTURE IN STAR 1A	LED	MATCHING THE EXISTING LIGHTING FIXTURE IN STAR 1A	120-277	LED	80+	LEWITON LCO04H/LED/8030S-K-UNV-V08	APPROVED EQUIVALENT OR MATCHING THE EXISTING LIGHTING FIXTURE IN STAR 1A		STAR 1A
F5	The newest technology in flexible LED tape is the COB (Chip On Board). Tightly spaced diodes are encapsulated into a single phosphor strip that provides a seamless linear light display with no LED isolation.	3W/FT	285FT	LED	4000K	120	LED	95+	QML LIGHTINGS Standard Channel (White Finish): LED CHL2-4WH END CAPS: LED-CHL2-ECW LED TAPE LIGHT: LTR-S-COB	APPROVED EQUIVALENT		UNDERCABINET LIGHT (COLOR TO BE CONFIRMED)
D1	The Cerious BDL downlights provide acute behavioral health centers with the protections they need, combined with a comfortable residential appeal. Our sealed, specification-grade downlights are engineered to withstand high abuse and tampering using a rigid, vandal-resistant construction and lensing choices without looking clinical nor institutional. These highly capable downlights are tested to IK10, the highest IK impact level. They are also certified for cleanability to NFPA 2, carry a certified IP65 seal, and feature antimicrobial finishes. Designed with igneous-resistant construction to minimize the risk of self-harm, these downlights ensure a safe environment for all.	41.3W	2867	LED	3500K	120-277	LED	90+	LEWITON BDL-FSS-WD-MKR/8030LUM-F37- V40	APPROVED EQUIVALENT		SHOWER & WASH ROOM
E1	INTERNALLY ILLUMINATED EDGE LIT EXIT SIGN, ALUMINUM HOUSING, HIGH CLARITY ACRYLIC FACELATE, CSA APPROVED, UNIVERSAL MOUNT, SINGLE OR DOUBLE FACE, GREEN RUNNING MAN PICTOGRAM AND DIRECTIONAL INDICATOR TO SUIT APPLICATION, ARCHITECT TO CONFIRM FINISH	2W	N/A	LED	N/A	120	LED	N/A	LITHONIA LIGHTING EDFORM RUNNING MAN LED SIGN	APPROVED EQUIVALENT		INDOORS

1 LIGHTING FIXTURE SCHEDULE
E2-01 SCALE : N.T.S.

- NOTE:**
- IF EXISTING EQUIPMENT IN THIS ROOM CURRENTLY CONNECTED TO PANELS L3-3D-A, L3-3D-B, L3-3D-EA, OR L3-3D-EB SHALL BE RECONNECTED TO THE NEW PANELBOARDS TO MAINTAIN CONTINUITY OF SERVICE. CONTRACTOR TO FIELD VERIFY EXISTING CIRCUITING PRIOR TO DEMOLITION/CONSTRUCTION.
 - PROVIDE 120V POWER FOR RTLS MONITORS, EXACT LOCATION TO BE CONFIRMED ON SITE.
 - PROVIDE 120V POWER FOR ALTRONIX, EXACT LOCATION TO BE CONFIRMED ON SITE.
 - HONEYWELL TO PROVIDE AND INSTALL CENTRAK POE WEB RELAY QUAD OUTPUT MODULE. CONNECT TO THE NEAREST POE SWITCH VIA CAT6 CABLE FOR POWER AND DATA. PROVIDE LOW-VOLTAGE CONTROL WIRING FROM THE RELAY OUTPUTS TO THE CONTROLLED STROBES. COORDINATE THE EXACT LOCATION AND SYSTEM INTEGRATION WITH I.T. AND SECURITY CONTRACTORS.



2 LIGHTING CONTROL ZONES
E2-01 SCALE : N.T.S.

LIGHTING CONTROL ZONES														SEQUENCE
ROOM NAME	ROOM NO	LIGHTING CONTROL ZONE	LEVEL	LIGHTING CONTROL SYSTEM	MANUAL (S)	RESTRICTED TO MANUAL ON (S)	RESTRICTED TO PARTIAL AUTOMATIC ON (OS)	B-LEVEL (D)	AUTOMATIC PARTIAL OFF (OS)	AUTOMATIC FULL OFF (OS)	SCHEDULED SHUT-OFF (TC)	PHOTOCELL		
STAFF LOUNGE	3156			-	Y	-	Y	Y	-	Y	-	-	LOCAL CONTROLS. ALL LIGHT TYPES WITHIN STAFF LOUNGE TO BE DIMMABLE. OCCUPANT MUST MANUALLY TURN ON LIGHTS TO 100%. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY. LIGHTS SHALL BE ON AT 50% UPON VACANCY.	
PANTRY				-	Y	-	-	-	-	Y	-	-	LOCAL CONTROLS. LIGHTS, AUTO-ON TO 100% UPON OCCUPANCY, AUTOMATIC FULL-OFF AFTER 20 MINUTES OF VACANCY.	
STORAGE 1&2	3140 & 3141			-	Y	-	-	-	-	Y	-	-	LOCAL CONTROLS. LIGHTS SHALL AUTOMATICALLY TURN ON TO 100% UPON ENTRY. LIGHTS SHALL AUTOMATICALLY TURN OFF AFTER 20 MINUTES OF VACANCY.	
PATIENT LOUNGE (V PT) PATIENT LOUNGE (PCU 2) PATIENT DINING/LOUNGE (PCU 1) PATIENT DINING (V PT) PATIENT DINING (PCU 2)				-	Y	-	Y	Y	-	Y	-	-	LOCAL CONTROLS. ALL LIGHT TYPES WITHIN VULNERABLE PATIENT LOUNGE TO BE INDIVIDUALLY DIMMABLE. OCCUPANT MUST MANUALLY TURN ON LIGHTS TO 100%. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY. LIGHTS SHALL BE ON AT 50% UPON VACANCY.	
SOILED UTILITY	3142			-	Y	Y	-	-	-	Y	-	-	LOCAL CONTROLS. OCCUPANT MUST MANUALLY TURN ON LIGHTS UPON ENTERING. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
CLEAN UTILITY	3141			-	Y	Y	-	-	-	Y	-	-	LOCAL CONTROLS. OCCUPANT MUST MANUALLY TURN ON LIGHTS UPON ENTERING. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
SHOWER (V PT & PCU)				-	Y	-	-	-	-	-	-	-	MANUAL ON/OFF BY STAFF VIA SWITCH LOCATED IN STAFF MONITORED CORRIDOR.	
PATIENT LOCKERS	3132			-	Y	-	-	-	-	Y	-	-	LOCAL CONTROLS. LIGHTS SHALL AUTOMATICALLY TURN ON TO 100% UPON ENTRY . LIGHTS SHALL AUTOMATICALLY TURN OFF AFTER 20 MINUTES OF VACANCY.	
MED ROOM	3144			-	Y	Y	-	-	-	Y	-	-	LOCAL CONTROLS. OCCUPANT MUST MANUALLY TURN ON LIGHTS UPON ENTERING. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
PCU UNIT 1 & 2 TEAM STATION	3152 & 3139			-	Y	-	-	Y	-	Y	-	-	LOCAL CONTROLS. ALL LIGHT TYPES WITHIN PCU UNIT TEAM STATION TO BE INDIVIDUALLY DIMMABLE. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
CENTRAL STN/TEAM STN	3146			-	Y	-	-	Y	-	Y	-	-	LOCAL CONTROLS. ALL LIGHT TYPES WITHIN PCU UNIT TEAM STATION TO BE INDIVIDUALLY DIMMABLE. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
CONSULTATION ROOM	3134			-	Y	Y	-	Y	-	Y	-	-	LOCAL CONTROLS. ALL LIGHT TYPES WITHIN CONSULTATION ROOM TO BE INDIVIDUALLY DIMMABLE. OCCUPANT MUST MANUALLY TURN ON LIGHTS UPON ENTERING. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
CORRIDOR, SALLYPORT				-	-	-	Y	-	Y	-	-	-	LIGHTS SHALL BE ON AT 50% UPON VACANCY AND ACTIVATE TO 100% UPON OCCUPANCY. LIGHTS SHALL DECREASE DOWN TO 50% AFTER 20 MINUTES OF VACANCY.	
STAFF WASHROOM	3147			-	Y	-	-	-	-	Y	-	-	LOCAL CONTROLS. OCCUPANT MUST MANUALLY TURN ON LIGHTS UPON ENTERING. LIGHTS SHALL AUTOMATICALLY TURN OFF FULLY AFTER 20 MINUTE VACANCY.	
PATIENT ROOM				Y	Y	-	-	Y	-	-	Y	-	LOCAL ON/OFF SWITCH COMPLETE WITH DIMMER. ALL LIGHTS WITHIN PATIENT ROOM TO BE CONTROLLED VIA TIMECLOCK AND OVERRIDE AT THE NURSE STATION.	
WASHROOM IN PATIENT ROOM				-	Y	-	-	-	-	-	-	-	LOCAL MANUAL ON/OFF CONTROLS.	
S - MANUAL TOGGLE SWITCH OS - DUAL TECHNOLOGY OCCUPANCY SENSOR D - MANUAL TIMER TC - TIME CLOCK *MEASURED ON THE FLOOR AS AVERAGE.														

PREFIX = NO. OF CONDUCTORS	MAX BREAKER SIZE	REF	WIRE SIZE	AMP @75°C	CORRECTED AMP (B) @90°C	CONDUIT SIZE			BONDING CONDUCTOR
						4C	3C	2C	
15	F15	#12	21 (3/4")	25	24	21 (3/4")	21 (3/4")	21 (3/4")	#12
20	F20	#12	21 (3/4")	25	24	21 (3/4")	21 (3/4")	21 (3/4")	#12
30	F30	#10	35	32	27 (1")	21 (3/4")	21 (3/4")	21 (3/4")	#10
50	F50	#8	50	44	27 (1")	21 (3/4")	21 (3/4")	21 (3/4")	#10
60	F60	#6	65	60	35 (1 1/4")	35 (1 1/4")	27 (1")	27 (1")	#8
80	F80	#4	85	76	41 (1 1/2")	35 (1 1/4")	35 (1 1/4")	35 (1 1/4")	#6
100	F100	#3	100	92	41 (1 1/2")	35 (1 1/4")	35 (1 1/4")	35 (1 1/4")	#6
125	F125	#1	130	116	53 (2")	53 (2")	-	-	#6
150	F150	#1/0	150	136	53 (2")	53 (2")	-	-	#6
200	F200	#3/0	200	180	78 (3")	63 (2 1/2")	-	-	#4
225	F225	#4/0	230	208	78 (3")	63 (2 1/2")	-	-	#4
250	F250	250MCM	255	232	78 (3")	78 (3")	-	-	#4
300	F300	350MCM	310	280	103 (4")	91 (3 1/2")	-	-	#3
350	F350	500MCM	380	344	103 (4")	103 (4")	-	-	#2
400	F400	600MCM	420	380	103 (4")	103 (4")	-	-	#2

NOTE:

- ALL CABLE SHALL BE 90°C TYPE WITH 75°C AMPACITY TO SUIT BREAKER TERMINATION CHARACTERISTIC.
- ALL FEEDER SHALL BE PROVIDED WITH BONDING CONDUCTOR AS SHOWN & PER CODE.
- FOR PARALLEL RUNS, BONDING CONDUCTOR IS REQUIRED IN EACH PARALLEL RUN.
- RUN PARALLEL FEEDERS FOR RATING OVER 400A.
- MIN. CABLE SIZE FOR PARALLEL RUN TO BE #1/0.
- NOT USED
- USE THIS COLUMN FOR CIRCUIT WITH CURRENT CARRYING NEUTRAL/S. APPLY 0.8 CORRECTION FACTOR FROM TABLE 5C FOR THE 90°C AMPACITY.
- BOTH 75°C AND THE CORRECTED 90°C (IF APPLY) CABLE AMPACITY MUST BE GREATER THAN THE BREAKER SIZE. UP-SIZE CABLE AS REQUIRED.

5 CABLE & CONDUIT SCHEDULE - COPPER
E2-01 SCALE : N.T.S.

CONDUIT TRADE SIZE	5mm (0.2")	6mm (0.24")	7mm (0.28")	8mm (0.31")
	CAT 5E	CAT 6	REDUCED OD CAT 6A	CAT 6A
3/4"	3	3	1	1
1"	6	5	3	3
1-1/4"	10	8	6	5
1-1/2"	12	10	8	7
2	20	20	14	10
2-1/2"	30	30	20	15
3"	50	45	30	25
3-1/2"	65	60	40	35
4	85	80	50	45

6 CABLE FILL SCHEDULE
E2-01 SCALE : N.T.S.

SHEET ISSUANCE

8	.	.
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4	.	.
3	.	.
2	ISSUED FOR ADDENDUM ADD E-02	03.07.26
1	ISSUED FOR ADDENDUM ADD E-01	23.06.26
NO		

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4	ISSUED FOR TENDER AND PERMIT	04.06.26
3	ISSUED FOR CLIENT REVIEW	29.05.26
2	ISSUED FOR REVIEW	25.07.25
1	ISSUED FOR REVIEW	15.05.25
NO	ACTION	DATE

Client:
**SCARBOROUGH
HEALTH NETWORK**
3030 BIRCHMOUNT ROAD
SCARBOROUGH, ON

Project Title:
**SHN MENTAL HEALTH
INPATIENT CONSOLIDATION
POD 3A**

Sheet Title:
ELECTRICAL DETAILS

Project North	Stamp
Date: APR 2025	Project No.: 24002-02
Scale: N.T.S.	Drawn: P.T./K.O.
Drawing Number:	Checked: M.C.

E2-01

Branch Panel: LP-3D-A												
Location: CORRIDOR 3143												
Supply From: PP-SD-B-AA												
Mounting: RECESSED												
Enclosure: LOCKABLE												
Volts: 120/208												
Phase: 3												
Wires: 4												
A.I.C. Rating: 10K												
Mains Rating: 225A												
Note * Lockable breaker												
Shaded Breakers denote existing												
CKT	Load Name	# REC	Trip (A)	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip (A)	# REC	Load Name	CKT
1	LTG (AREA 3156, 3158, 3159)		15	1	135	264		1	15		LTG (AREA 3130, 3155, 3157)	2
3	LTG (PATIENT ROOM 3122-3124)		15	1		306	665	1	15		LTG (AREA 3125, 3126, 3127)	4
5	LTG (PATIENT ROOM 3101-3104)		15	1			353	483	1	15	LTG (PATIENT ROOM 3105-3109)	6
7	LTG (AREA 3153-3154)		15	1	108	216		1	15		LTG (AREA 3146, 3152)	8
9	LTG (AREA 3131)		15	1		108	83	1	15		LTG (AREA 3150, 3151)	10
11	HK RECEPTACLES		20	1			1440	70	1	15	LTG (AREA 3144, 3147-3149)	12
13	HK RECEPTACLES		20	1	1680	240		1	20		COUNTERTOP RECEPTACLES (AREA 3159)	14
15	TV & PHONE CHARGING STATION (AREA 3156)		15	1		480	1000	1	15		FRIDGE (AREA 3159)	16
17	ICE-WATER DISPENSING MACHINE (AREA 3156)		20	1			1200	1000	1	15	FRIDGE (AREA 3156)	18
19	MICROWAVE (AREA 3156)		20	1	1000	1000		1	20		COFFEE MACHINE (AREA 3156)	20
21	MICROWAVE (AREA 3156)		20	1		1000	1000	1	20		ELECTRIC KETTLE (AREA 3156)	22
23	ICE-WATER DISPENSING MACHINE (AREA 3154)		20	1			1200	240	1	20	COUNTERTOP RECEPTACLES (AREA 3154)	24
25	HK RECEPTACLES		20	1	960	240		1	15		TV (AREA 3153)	26
27	EPIC ROVER (AREA 3146)		15	1		480	960	1	15		PHONE CHARGING STATIONS (AREA 3146)	28
29	WORK STATION RECEPTACLES (AREA 3146)		15	1			1440	1440	1	15	WORK STATION RECEPTACLES (AREA 3146)	30
31	WORK STATION RECEPTACLES (AREA 3146)		15	1	960	240		1	15		MONITOR TV (AREA 3146)	32
33	PRINTER (AREA 3152)		20	1		240	480	1	15		WORK STATION RECEPTACLES (AREA 3152)	34
35	VITAL SIGN MONITOR (AREA 3152)		20	1			240	240	1	15	HAND HYGIENE SINK (AREA 3152)	36
37	PRINTER (AREA 3146)		20	1	1000	240		1	15		HAND HYGIENE SINK (AREA 3146)	38
39	GENERAL RECEPTACLES (AREA 3146)		20	1		480	240	1	15		COUNTERTOP RECEPTACLES (AREA 3147)	40
41	HK RECEPTACLES (PATIENT ROOM 3122-3124)		20	1			720	200	1	15	FAUCET & FLUSH (PATIENT ROOM 3122-3124)	42
43	WR RECEPTACLES (PATIENT ROOM 3123-3124)		15	1	480	200		1	15		FAUCET & FLUSH (PATIENT ROOM 3101-3104)	44
45	WR RECEPTACLES (PATIENT ROOM 3122)		15	1		480	240	1	15		FAUCET & FLUSH (PATIENT ROOM 3105-3109)	46
47	HK RECEPTACLES (PATIENT ROOM 3123-3124)		20	1			720	200	1	15	FAUCET & FLUSH (AREA 3150, 3151, 3147)	48
49	HK RECEPTACLES (PATIENT ROOM 3122)		20	1	240	200		1	20		HEAT TRACE (PATIENT ROOM 3105)	50
51	VITAL SIGN MONITOR (AREA 3146)		20	1								52
53					0	0		0	0			54
55												56
57						0	0					58
59							0	0				60
Total Load:					8283	7522	10266					
Total Amps:					69	63	86					

Branch Panel: LP-3D-B												
Location: CORRIDOR 3143												
Supply From: PP-SD-B-AA												
Mounting: RECESSED												
Enclosure: LOCKABLE												
Volts: 120/208												
Phase: 3												
Wires: 4												
A.I.C. Rating: 10K												
Mains Rating: 225A												
Note * Lockable breaker												
Shaded Breakers denote existing												
CKT	Load Name	# REC	Trip (A)	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip (A)	# REC	Load Name	CKT
1	LTG (CORRIDORS 3130, 3129)		15	1	144	519			1	15	LTG (PATIENT ROOM 3118-3121)	2
3	LTG (CORRIDORS 3128, 3127)		15	1		312	607		1	15	LTG (PATIENT ROOM 3113-3117)	4
5	LTG (CORRIDORS 3143)		15	1			72	265	1	15	LTG (PATIENT ROOM 3110-3112)	6
7	LTG (AREA 3134, 3132, 3139-3142, 3136-3138)		15	1	468	83			1	15	LTG (SHOWER 3133)	8
9	HK RECEPTACLES (PATIENT ROOM 3121)		20	1		240	240		1	15	WR RECEPTACLES (PATIENT ROOM 3121)	10
11	HK RECEPTACLES (PATIENT ROOM 3119-3120)		20	1			480	480	1	15	WR RECEPTACLES (PATIENT ROOM 3119-3120)	12
13	HK RECEPTACLES (PATIENT ROOM 3117-3118)		20	1	480	480			1	15	WR RECEPTACLES (PATIENT ROOM 3117-3118)	14
15	HK RECEPTACLES (PATIENT ROOM 3115-3116)		20	1		480	480		1	15	WR RECEPTACLES (PATIENT ROOM 3115-3116)	16
17	FAUCET & FLUSH (PATIENT ROOM 3118-3121)		15	1			400	400	1	15	FAUCET & FLUSH (PATIENT ROOM 3110-3122)	18
19	FAUCET & FLUSH (PATIENT ROOM 3113-3117)		15	1	500	720			1	20	HK RECEPTACLES	20
21	HK RECEPTACLES		20	1		1200	960		1	20	HK RECEPTACLES	22
23	HK RECEPTACLES (AREA 3142)		20	1			240	960	1	20	HK RECEPTACLES	24
25	SINK (AREA 3142)		20	1	400	240			1	20	TV RECEPTACLE (AREA 3131)	26
27	FAUCET & FLUSH (AREA 3133)		15	1		200	480		1	20	GENERAL RECEPTACLE (AREA 3141)	28
29	TV RECEPTACLE (AREA 3134)		15	1			240	480	1	20	GENERAL RECEPTACLE (AREA 3134)	30
31	HAND HYGIENE SINK (AREA 3139)		15	1	200	480			1	20	GENERAL RECEPTACLE (AREA 3140)	32
33	VITAL SIGN MONITOR ON STAND (AREA 3139)		20	1		240	480		1	20	GENERAL RECEPTACLE (AREA 3140)	34
35	COUNTERTOP RECEPTACLE (AREA 3136)		20	1			240	1000	1	15	FRIDGE (AREA 3136)	36
37	TV RECEPTACLE (AREA 3138)		15	1	240	200			1	15	HAND HYGIENE SINK (AREA 3144)	38
39	BLANKET WARMER (AREA 3141)		20	1		240	240		1	20	WARMER, BATHING WIPES (AREA 3141)	40
41												42
43					0	0						44
45						0	0					46
47							0	0				48
Total Load:					5154	6399	5257					
Total Amps					43	53	44					

Branch Panel: LP-3D-EA												
Location: CORRIDOR 3143												
Supply From: PP-SD-B-EAA												
Mounting: RECESSED												
Enclosure: LOCKABLE												
Volts: 120/208												
Phase: 3												
Wires: 4												
A.I.C. Rating: 10K												
Mains Rating: 225A												
Note * Lockable breaker												
Shaded Breakers denote existing												
CKT	Load Name	# REC	Trip (A)	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip (A)	# REC	Load Name	CKT
1	EXIT SIGN		15	1	30	72		1	15		LTG (AREA 3158,3156)	2
3	LTG (CORRIDORS)		15	1		288	252	1	15		LTG (AREA 3153,3146,3152,3131,3144)	4
5	LTG (AREA 3150-3151)		15	1			83	213	1	15	LTG (PATIENT RM 3122-3124)	6
7	LTG (PATIENT RM 3101-3109)		15	1	639	500		1	20		CFSD	8
9	CFSD		20	1		700	600	1	20		CFSD	10
11	RECEPTACLES (PATIENT ROOM 3101)		20	1			480	480	1	20	RECEPTACLES (PATIENT ROOM 3105)	12
13	RECEPTACLES (PATIENT ROOM 3102)		20	1	480	480		1	20		RECEPTACLES (PATIENT ROOM 3106)	14
15	RECEPTACLES (PATIENT ROOM 3103)		20	1		480	480	1	20		RECEPTACLES (PATIENT ROOM 3107)	16
17	RECEPTACLES (PATIENT ROOM 3104)		20	1			480	480	1	20	RECEPTACLES (PATIENT ROOM 3108)	18
19	WORK STATION (AREA 3146)		15	1	960	480		1	20		RECEPTACLES (PATIENT ROOM 3109)	20
21	WORK STATION (AREA 3146)		15	1		960	240	1	20		PYXIS - MedFlex (MED) (AREA 3152)	22
23	WORK STATION (AREA 3152)		15	1		960	480	1	20		WORK STATION ON WHEEL (AREA 3146)	24
25	WORK STATION (AREA 3152)		15	1	960	200		1	20		MEDICAL GAS ZONE ALARM (AREA 3146)	26
27	BAS		20	1		500	500	1	20		LIGHTING CONTROL PANEL (AREA 3146)	28
29	CRASH CART (AREA 3146)		20	1			240	600	1	20	CFSD	30
31	SOLENOID VALVES (PATIENT ROOM 3101-3104)		20	1	500	600		1	20		SOLENOID VALVES (PATIENT ROOM 3105-3109)	32
33	SOLENOID VALVES (PATIENT ROOM 3109, WR 3151,3150)		20	1		300	400	1	20		POWER FOR DOOR HARDWARE	34
35	POWER FOR DOOR HARDWARE		20	1			500	500	1	20	POWER FOR DOOR HARDWARE	36
37	POWER FOR DOOR HARDWARE		20	1	500	500		1	20		POWER FOR DOOR HARDWARE	38
39	POWER FOR DOOR HARDWARE		20	1		500	500	1	20		POWER FOR DOOR HARDWARE	40
41	RECEPTACLES (PATIENT ROOM 3122-3124)		20	1			960	480	1	20	RECEPTACLES (PATIENT ROOM 3122)	42
43	BAS		20	1	500	0						44
45						0	0					46
47							0	0				48
Total Load:					7401	6700	6936					
Total Amps:					62	56	58					

