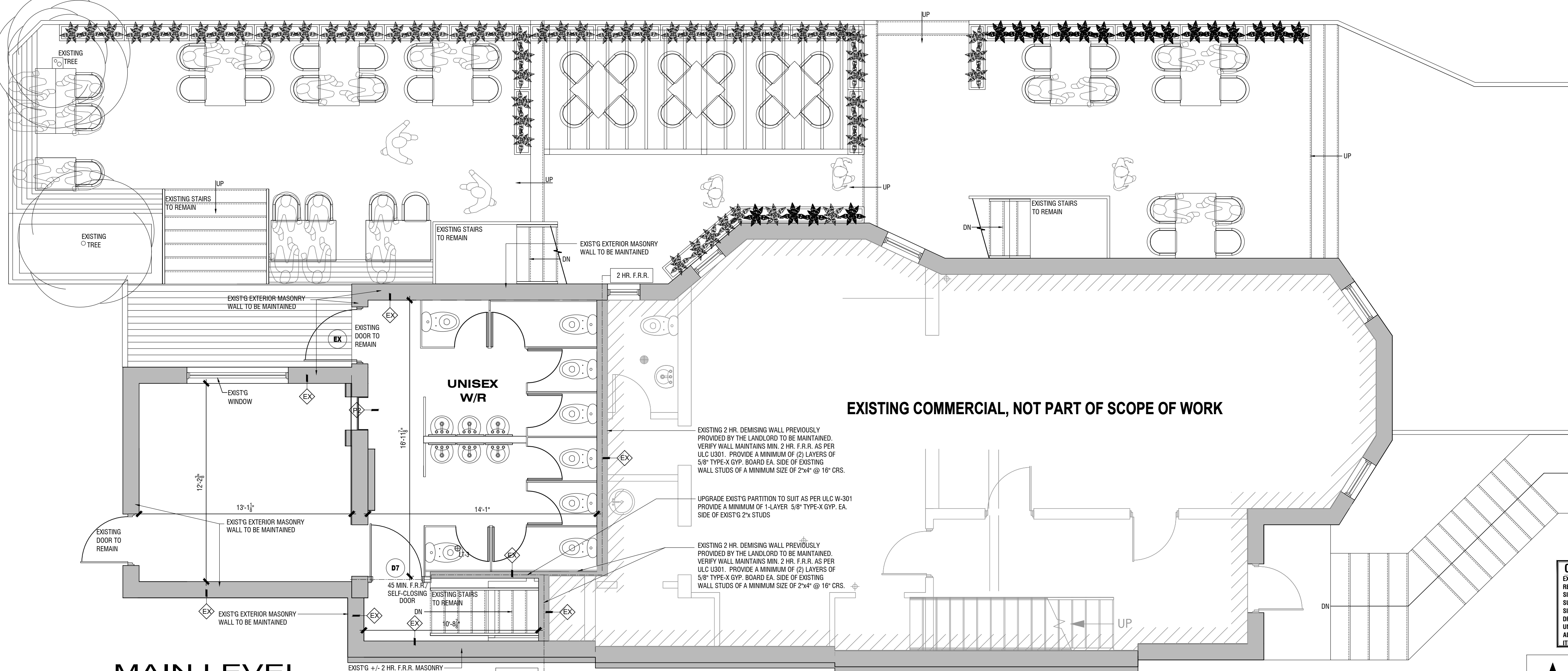


Lower Level Floor Plan

Scale : 1/4"=1'-0"



MAIN LEVEL

Scale : 1/4"=1'-0"

FLOOR PLAN NOTES

1. ALL COLUMNS ILLUSTRATED ARE EXISTING UNLESS NOTED OTHERWISE.
2. ALL EXISTING DOORS, WINDOWS AND OPENINGS TO REMAIN UNLESS NOTED OTHERWISE.
3. ALL INTERIOR STAIRS ARE EXISTING UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS OF EXISTING BUILDING ELEMENTS ARE PLUS/MINUS. GENERAL CONTRACTOR TO REVIEW ALL CRITICAL DIMENSIONS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES IN EXISTING DIMENSIONS ARE TO BE REPORTED TO THE PROJECT MANAGER.
5. PARTITIONS WHICH SUPPORT FIXTURES, MILLWORK AND/OR BATHROOM ACCESSORIES ARE TO BE REINFORCED WITH WOOD STUDS, BLOCKING AND/ OR PLYWOOD AS REQUIRED TO PROVIDE RIGID SUPPORT AND A FASTENING SURFACE.
6. ALL STUP PARTITIONS ARE TO BE FULL HEIGHT, FRAMED @ 16" o/c.
7. BUILDING SERVICES THAT PENETRATE A FIREWALL OR FIRE SEPARATION THAT IS REQUIRED TO HAVE A FIRE RESISTANCE RATING, SHALL BE SEALED AT THE PENETRATION BY A FIRE STOP SYSTEM THAT HAS AN FT RATING NOT LESS THAN FIRE RESISTANCE RATING FOR THE FIRE SEPARATION. O.B.C. Div. B - 3.1.9.1. (FIRE STOPPING OF SERVICE PENETRATIONS)
8. GENERAL CONTRACTOR TO ENSURE GYPSUM BOARD IS CONTINUOUS AT ALL FIRE SEPARATIONS.
9. GENERAL CONTRACTOR TO ENSURE ALL JOINTS ARE TAPED AND THE PERIMETER OF ALL FIRE SEPARATION WALLS ARE SEALED TO ADJACENT MATERIALS AND SURFACES.
10. ALL NEW FLOORING IS TO BE INSTALLED AS PER FLOOR MANUFACTURERS SPECIFICATIONS AND INSTRUCTIONS.
11. ALL FLOORS WITH CERAMIC TILE TO BE REINFORCED AS PER THE BUILDING CODE DIVISION B, SUBSECTION 9.30.6.
12. PROVIDE SOFT WEATHER TIGHT JOINTS AT ALL ADJACENT MATERIALS AND RECOMMENDATIONS AND DETAILS.
13. METAL SIDING SHALL BE APPLIED AS PER THE MANUFACTURERS
14. PROVIDE FLEXIBLE, SELF-ADHERING WATERPROOFING MEMBRANES AT THE SECONDARY DRAINAGE PLANE TO REDIRECT ANY WATER OUT OF THE DRAINAGE CAVITY.
15. PROVIDE SOFT, HORIZONTAL EXPANSION JOINTS AT EACH FLOOR LEVEL AS PER MANUFACTURERS DETAILS. (FOAM BACKER ROD & EXT. CAULKING)
16. GENERAL CONTRACTOR TO ENSURE A MINIMUM HEADROOM OF 6'-0" UNDER DUCTS, BEAMS AND ABOVE STAIRS.
17. GENERAL CONTRACTOR TO SEAL THE WALL VAPOUR BARRIER INTO THE CEILING VAPOUR BARRIER WITH ACOUSTIC CAULKING, TYPICAL AROUND PERIMETER.

FIRE STOP NOTES

1. FIRE STOP TOP OF PARTITION BETWEEN ROOF DECK AND TOP OF WALL/TOPI OR ROOF BEAM.
2. INSTALL THE FIRE STOP DESIGN SYMMETRICALLY ON BOTH SIDES OF THE WALL ASSEMBLY.
3. RECESS A NOMINAL 3" THICKNESS OF THE TIGHTLY PACKED 4" P.C.F. MINERAL WOOD PACKING 1/2" IN FROM THE SURFACE OF THE WALL.
4. FILL THE SPACE WITH MINIMUM 1/2" DEPTH OF 3M FIRE BARRIER CP 25 HIS CAULK (THE FIRE RATING OF THE CP CAULK IS BASED ON THE WET-INSTALLED DEPTH. SHRINKAGE MAY OCCUR AFTER INSTALLATION).

GENERAL NOTES

1. REFER TO SECTIONS AND WALLS TYPE SCHEDULE FOR WALL CONSTRUCTION DETAILS UNLESS NOTED.
2. HEAVY DASHED LINES INDICATES FIRE RESISTANCE RATING OR FIRE SEPARATION. TOP OF WALL TO BE COMPLETELY SEALED. SEE FIRE STOPPING NOTES FOR DETAILS.
3. FLOOR MOUNTED, OVER HEAD BRACED TOILET PARTITIONS TO BE USED WHERE NOTED.
4. REFER TO SHEET NO. A4, A5, OR A6 FOR MILLWORK ELEVATIONS. NOTE: ELEVATIONS ARE ONLY SCHEMATIC FOR LAYOUT PURPOSES. REFER TO MILLWORK SHOP DRAWINGS FOR MATERIALS AND SPECIFICATIONS.
5. HANDICAPPED WASHROOM STALLS AND ACCESSORIES TO BE IN INSTALLED IN ACCORDANCE WITH THE CURRENT O.B.C. SUPPLY AND INSTALL MIRRORS, TOILET TISSUE DISPENSERS, GRAB BARS AND OTHER ITEMS NOTED IN THE WASHROOM ACCESSORIES LEGEND.
6. THE ARCHITECT ASSUMES THE GENERAL CONTRACTOR HAS INCLUDED THE HIGHEST QUALITY AND GREATEST QUANTITY FOR THE PURPOSE OF RESOLVING ANY CONFLICTS IN THE CONSTRUCTION DOCUMENTS WHICH ARE IMPLIED OR UNDEFINED.
7. SEE ROOM FINISH SCHEDULE FOR ALL FINISHES.
8. GENERAL CONTRACTOR SHALL CHALK AND SEAL ALL EXPANSION AND SAWCUT JOINTS AT ALL EXTERIOR/INTERIOR CONCRETE.
9. ALL FINISHES AND FINISH MATERIALS, COLOURS OR TEXTURES SHALL BE VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION, FABRICATION OR ORDERING. ALL INTERIOR PARTITION DIMENSIONS ARE TO FACE OF FINISHED SURFACE UNLESS OTHERWISE NOTED.
10. SEE MECHANICAL PLUMBING DRAWINGS FOR ADDITIONAL DETAILS.
11. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH STRUCTURAL, PLUMBING, MECHANICAL, AND ARCHITECTURAL DRAWINGS.
12. ALL VENT LOCATIONS SHOULD BE VERIFIED WITH PLUMBING AND MECHANICAL DRAWINGS.
13. SEE SPECIFICATIONS FOR EXACT MODEL OF ALL WASHROOM FIXTURES AND ACCESSORIES.
14. PROVIDE ALL REQUIRED SUPPORT BEHIND FIXTURES, PARTITIONS, AND ACCESSORIES.
15. COORDINATE ALL ELECTRICAL AND PHONE OUTLETS WITH ELECTRICAL DRAWINGS.
16. ALL WALLS BEHIND MILLWORK SHALL HAVE FINAL FINISH PRIOR TO INSTALLATION.
17. ALL FLOORING FINISH MATERIAL SHALL BE INSTALLED PRIOR TO MILLWORK INSTALLATION.
18. GENERAL CONTRACTOR TO COORDINATE ROUGH-IN OF ELECTRICAL WITH MILLWORK SUPPLIER.

PARTITION SPECIFICATIONS:

1. CONTRACTOR TO CHALK FLOOR PLAN ON SITE AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO SINCLAIR DENTAL DESIGN SERVICES DEPT. ALL WALL INTERSECTIONS ARE AT 90° UNLESS OTHERWISE NOTED.
2. ALL WORK TO CONFORM TO THE ONTARIO BUILDING CODE.
3. CONTRACTOR TO PROVIDE 12" WIDE STRIP OF 3/4" PLYWOOD BACKING BETWEEN STUDS FOR ALL UPPER CABINETS INCLUDING CABINETS THAT ARE SUPPLIED BY SINCLAIR DENTAL. PLYWOOD SUPPORT MUST BE PROVIDED FOR ALL WALL HUNG GRAB BARS, COAT HOOKS, ANY WALL HUNG SINKS AND WASHROOM ACCESSORIES.
4. WHERE DETAIL IS NOT PROVIDED USE THE MANUFACTURERS SPECIFICATIONS AND TEMPLATES FOR ALL EQUIPMENT PRE-INSTALLATION REQUIREMENTS.
5. ALL EXISTING SUPPORT COLUMNS TO BE FINISHED WITH METAL STUDS OR FURRING CHANNELS TO SUIT SITE CONDITIONS, AND 1/2" DRYWALL.
6. ANY PENETRATIONS OR DAMAGE TO FIRE RATED DEMISING WALLS TO BE PACKED AND SEALED WITH APPROVED MATERIAL TO RETAIN FIRE RATING. REPAIRS TO ANY WALL OR SYSTEMS DAMAGED DURING THE EXECUTION OF WORK WILL BE AT THE CONTRACTORS COST.

NOTE: ALL DIMENSIONS SHOWN ARE ± AND SHALL BE ADJUSTED TO SUIT ON SITE CONDITIONS RELATIVE TO EXIST. EXTERIOR WALLS, COLUMNS, WINDOWS, ETC.

MAINTAIN COMPARTMENT INTEGRITY DURING CONSTRUCTION. OPENINGS IN EXISTING FLOOR ASSEMBLIES AND VERTICAL FIRE SEPARATIONS NECESSITATED BY INSTALLATION OF EQUIPMENT SYSTEMS OR CONSTRUCTION IN GENERAL MUST BE TEMPORARILY SEALED (FOLLOWED BY PERMANENT ULC RATED SYSTEMS) WITH FIRE BARRIER MATERIALS SUCH AS MINERAL WOOL OR OTHER NONCOMBUSTIBLE INSULATION.

FIRE COMPARTMENT (SUITE) INTEGRITY. MISC THRU-WALL PENETRATIONS IN FIRE & SMOKE RATED PARTITIONS/CEILING/FLOORS REQUIRE ULC RATED FIRE STOP SYSTEMS. APPLY RATED SEALANT TO EXIST EXPOSED CONDITIONS HEADS/LINE (PIPING - ELECT BOXES) PENETRATIONS/GAPS WHERE REQ'D (FRR TO ALSO SERVE AS ACOUSTIC SEALANT). PROVIDE CONSULTANT WITH PRODUCT DATA & DIGITAL PHOTO RECORD OF CONCEALED MATERIAL INSTALLATION.

CONTRACTOR NOTE  
EXISTING BUILDING SYSTEMS ARE BASED ON VISUAL SITE REVIEWS. CONTRACTOR SHALL UNDERTAKE THEIR OWN SITE REVIEWS OF THE SYSTEMS PRIOR TO TENDER SUBMISSIONS. MAKE ALL ALLOWANCES YOU SEE FIT FOR SITE CONDITIONS. RECORD ON THE AS BUILT RECORD DRAWINGS THE LOCATIONS AND SIZES OF ANY SYSTEMS UNCOVERED DURING THE RENOVATION WORK. NO ADDITIONAL COSTS SHALL BE BORNE BY THE OWNER FOR ITEMS READILY ACCESSIBLE DURING THE TENDER.

★ PRIOR TO ANY WORK OR TENDERING G.C. IS TO VISIT THE SITE & VERIFY ALL EXISTING CONDITIONS IN EXTERIOR SPACE. REPORT ANY DISCREPANCIES IMMEDIATELY.

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STAGE OF DESIGN AND DRAFTING:		
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<input checked="" type="checkbox"/>	Preliminary Design	01/26/2024
<input type="checkbox"/>	Issued for Comments and Coordination	
<input type="checkbox"/>	Issued for Building Permit	
<input type="checkbox"/>	Issued for Tender	
<input type="checkbox"/>	Issued for Construction	
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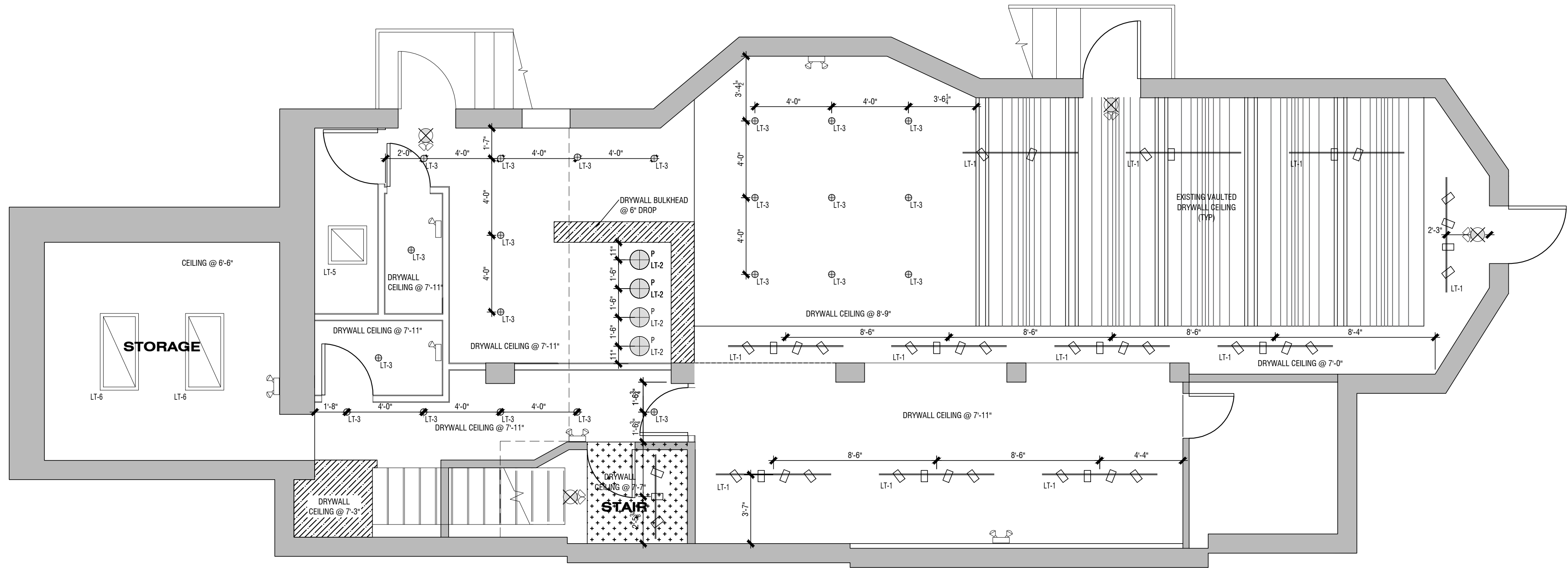
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LIMITED  
CONSULTING ENGINEERS

ENGINEERING DONE UPRIGHT.

**310 CHRISTINA STREET  
SARNIA, ONTARIO**

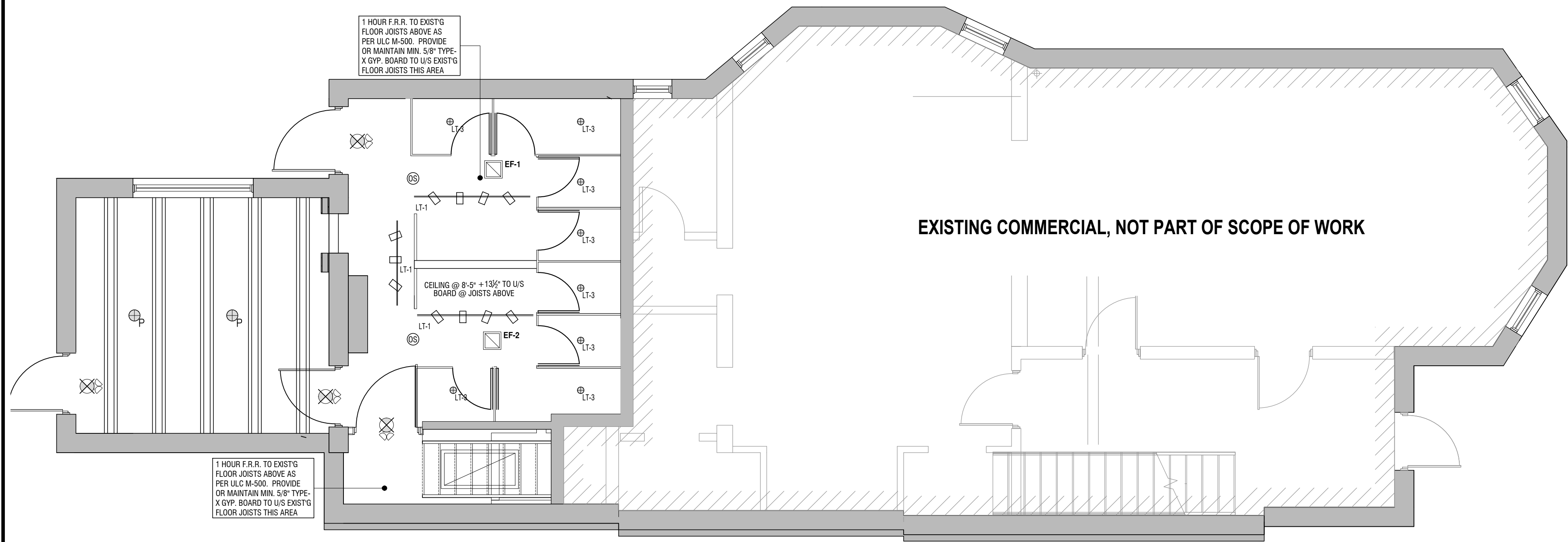
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ARCHITECT:		DWG. TITLE	
		<b>PROPOSED FLOOR PLANS</b>	
DATE	January, 2024	SCALE	1/4"=1'-0"
CHECKED BY	G.DALE	DRAWING No.:	<b>A1</b>
DRAWN BY	C.ALMEIDA		
PROJ. NO.	240241		





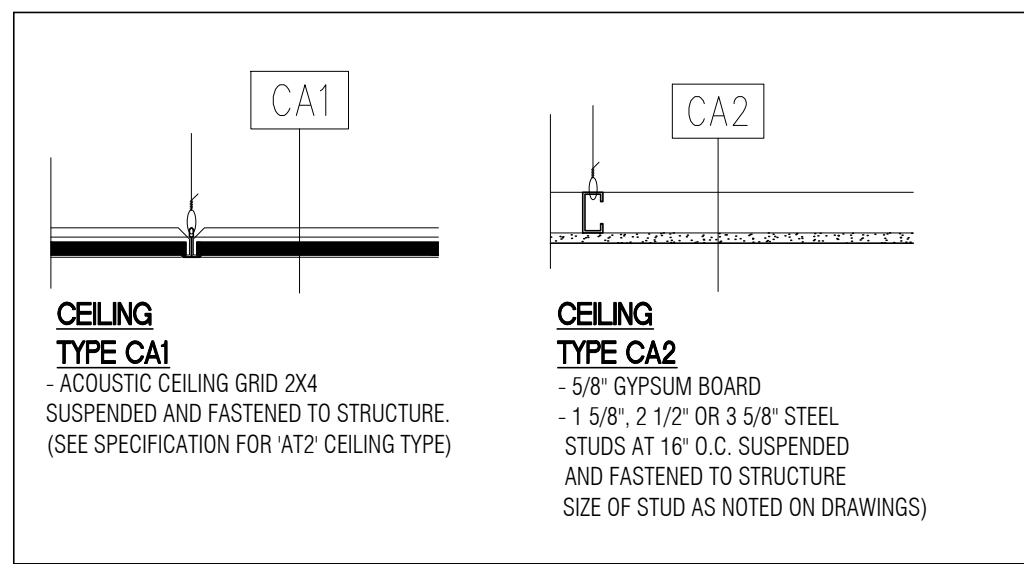
## LOWER LEVEL CEILING PLAN

Scale : 1/4"=1'-0"



## MAIN LEVEL CEILING PLAN

Scale : 1/4"=1'-0"



### CEILING SPACE PLENUM

THE HVAC SYSTEMS UTILIZE THE CEILING SPACE PLENUM AS A RETURN AIR SPACE. ALL MATERIALS (INCLUDING PIPING AND INSULATION) TO HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50. ALL EXPOSED WIRING AND CABLES SHALL BE FTS RATED. ALL WORK IN ACCORDANCE WITH NBC AND OBC 3.6.4.3. SUBMIT MANUFACTURERS' DOCUMENTATION TO CONSULTANT BEFORE STARTING ANY WORK.

NOTE: DIFFUSERS ARE SHOWN FOR REPRESENTATION ONLY. MECHANICAL DRAWINGS TO GOVERN. WITH RESPECT TO REMOVED OR RELOCATED MECHANICAL DIFFUSERS.

NOTE: ALL FREESTANDING ITEMS AND FURNITURE TO BE REMOVED BY THE OWNER PRIOR TO CONSTRUCTION.

NOTE: CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS FOR DEMOLITION.

NOTE: FOR ITEMS PERTAINING TO MECHANICAL AND ELECTRICAL TRADES, REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.

## CEILING PLAN NOTES

- NOTIFY OWNER AND CONSULTANT, OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL, ELECTRICAL OR MECHANICAL DRAWINGS AND OBTAIN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- GENERAL CONTRACTOR SHALL SUBMIT THE FOLLOWING SAMPLES TO ENGINEER AND OWNER FOR APPROVAL:
  - \* TWO (2) 6" x 6" SAMPLES OF EACH TYPE OF ACOUSTICAL CEILING TILE. (WHERE APPLICABLE)
  - \* TWO (2) 12" LONG SAMPLE OF EACH TYPE OF SUSPENSION SYSTEM. (WHERE APPLICABLE)
  - \* TWO (2) SAMPLES OF ANY SPECIALTY CEILING SYSTEM. (WHERE APPLICABLE)
- GENERAL CONTRACTOR SHALL SUBMIT THE FOLLOWING CUT SHEETS FOR ENGINEERING/ARCHITECTURAL APPROVAL:
- TWO (2) COPIES OF CUT SHEETS FOR ALL ELECTRICAL DEVICES INCLUDING: LIGHTING CUTS SHEETS, FIRE STROBES, EXIT SIGNS AND ANY RELATED SHOP DRAWINGS.
- TWO (2) COPIES OF CUT SHEETS FOR ALL MECHANICAL DEVICES INCLUDING: DIFFUSERS, ACCESS HATCHES, ETC....
- ALL CONDUIT MUST BE A MINIMUM OF 6" CLEAR ABOVE THE CEILING GRID. (WHERE APPLICABLE)
- PROVIDE ILLUMINATED EXIT SIGNS CONNECTED TO EMERGENCY POWER, OR BATTERY BACKUPS, WHERE APPLICABLE. IN THE EVENT OF POWER FAILURE, ILLUMINATION SHALL BE AUTOMATICALLY PROVIDED.
- WHERE THE LISTED FIXTURES ARE LOCATED - RECESSED DOWNLIGHTS, WALL WASHERS AND ACCENT LIGHTS, PLACE IN CENTER OF CEILING TILES, U.N.O.
- AVERAGE LEVEL OF LIGHTING THROUGHOUT SHALL BE PROVIDED AS REQUIRED TO MEET NATIONAL AND MUNICIPAL CODE REQUIREMENTS. INFORMATION SHALL BE PROVIDED ON ELECTRICAL ENGINEERING DRAWINGS.
- PROVIDE EMERGENCY LIGHTING AT A VALUE OF ONE FOOTCANDLE AT FLOOR LEVEL, OR AS REQUIRED BY LOCAL CODES. INFORMATION SHALL BE PROVIDED ON ELECTRICAL ENGINEERING DRAWINGS.
- ALL CONDUIT, HVAC, DUCTS AND CABLING SHALL BE INDEPENDENTLY SUSPENDED FROM THAT USED TO SUSPEND THE CEILING SYSTEM. (WHERE APPLICABLE)
- ALL NEW CIRCUITS SHALL BE LABELED ON THE PROPER BUILDING ELECTRICAL PANEL DIRECTORIES. THIS INFORMATION SHALL BE ON ELECTRICAL ENGINEERING DRAWINGS.
- LAMPS AND FIXTURES IN MILLWORK ARE TO BE PROVIDED BY THE ELECTRICAL SUBCONTRACTOR. CUT OUTS FOR SWITCHES, OUTLETS, ETC. ARE TO BE PROVIDED BY THE MILLWORKER AND ARE TO BE COORDINATED WITH THE ELECTRICAL CONTRACTOR.
- ALL FIXTURES TO BE INSTALLED PER CODE.
- PROVIDE MULTIGANG SWITCHES PER CODE WHERE INDICATED. USE MULTI-GANG SWITCHPLATES WHENEVER MORE THAN ONE DOUBLE GANG BOX IS USED.
- (WHERE APPLICABLE) ALL EQUIPMENT IN PLENUM TO BE LOCATED AWAY FROM GYP. BD. CEILINGS. NO ACCESS HATCHES IN GYP. BD. CEILING WITHOUT PRIOR APPROVAL BY TENANT AND SKY ZONE FRANCHISE GROUP. APPROVED ACCESS HATCHES SHALL BE A TRIMLESS TYPE. CONTRACTOR TO SUBMIT CUT SHEET FOR APPROVAL.
- INSTALL SUSPENDED CEILING SYSTEMS IN ACCORDANCE WITH ELECTRICAL CODE. SUSPENDED CEILING FRAMING SYSTEMS SHALL BE DESIGNED TO RESIST A LATERAL FORCE OF 20% OF THE WEIGHT OF THE CEILING ASSEMBLY AND ANY LOADS TRIBUTARY TO THE SYSTEM. FOR THE PURPOSES OF DETERMINING THE LATERAL FORCE, A MINIMUM CEILING WEIGHT OF 5 LBS. PER SQUARE FOOT SHALL BE USED. WHERE THE CEILING LOADS DO NOT EXCEED 5 LBS PER SQUARE FOOT AND WHERE PARTITIONS ARE NOT CONNECTED TO THE CEILING SYSTEM, THE FOLLOWING BRACING METHOD MAY BE EMPLOYED:
  - LATERAL SUPPORT MAY BE PROVIDED BY FOUR WIRES OF MINIMUM NO. 8 GAUGE SPLAYED IN FOUR DIRECTIONS 90 DEGREES APART, AND CONNECTED TO THE MAIN RUNNER WITHIN 2" OF THE CROSS RUNNER AND TO THE STRUCTURE ABOVE AT AN ANGLE NOT EXCEEDING 45 DEGREES FROM THE PLANE OF THE CEILING. THESE LATERAL SUPPORT POINTS SHALL BE PLACED 12 FT. O.C. IN EACH DIRECTION WITH THE FIRST POINT WITHIN 6 FT. FROM EACH WALL.
  - ALLOWANCE SHALL BE MADE FOR LATERAL MOVEMENT OF THE SYSTEM. WALLS WITH CLEARANCE BETWEEN THE WALL AND THE RUNNERS MAINTAINED AT THE OTHER TWO WALLS. THE MAIN VERTICAL SUPPORT SHALL BE PROVIDED AS REQUIRED WITH THE ADDED REQUIREMENT THAT DISCONTINUOUS ENDS OF CROSS RUNNERS AND MAIN RUNNERS BE VERTICALLY SUPPORTED WITHIN 8" OF SUCH DISCONTINUITIES AS MAY OCCUR WHERE THE CEILING IS DISRUPTED BY A WALL.
  - (WHERE APPLICABLE) LIGHTING FIXTURES AND AIR DIFFUSERS SHALL BE SUPPORTED DIRECTLY BY WIRES TO THE STRUCTURE ABOVE. EXCEPTION:
    - RECESSED LIGHTING FIXTURES NOT OVER 56 LBS. IN WEIGHT, AND SUSPENDED AND PENDANT HUNG FIXTURES NOT OVER 20 LBS. IN WEIGHT, MAY BE SUPPORTED AND ATTACHED DIRECTLY TO THE CEILING SYSTEM RUNNERS BY A POSITIVE ATTACHMENT SUCH AS SCREWS OR BOLTS. AIR DIFFUSERS WHICH WEIGH NOT MORE THAN 20 LBS., AND WHICH RECEIVE NO TRIBUTARY LOADING FROM DUCT WORK MAY BE POSITIVELY ATTACHED TO AND SUPPORTED BY THE CEILING RUNNERS.
    - THE ABOVE MENTIONED BASED ON OBC STANDARDS. PLEASE REVIEW LOCAL MUNICIPAL AND STATE CODES FOR COMPLIANCE.
- PROVIDE HVAC AND ZONING AS REQUIRED BY ENGINEERING DRAWINGS.
- VERIFY ALL THERMOSTAT LOCATIONS PRIOR TO INSTALLATION. CONTRACTOR TO SCHEDULE WALK THROUGH WITH OWNER AND/OR ENGINEER PRIOR TO INSTALLATION TO ENSURE LOCATIONS DO NOT CONFLICT WITH TENANT'S FURNITURE/ FIXTURES.
- ALL SWITCHES TO BE MOUNTED WITH 6" MINIMUM DIMENSION FROM FRAME, OR OTHERWISE NOTED U.N.O..
- LIGHT SENSORS TO BE LOCATED BY ELECTRICAL ENGINEER AND APPROVED BY OWNER.
- CONTRACTOR SHALL PROVIDE AND INSTALL CONDUITS OVER GYPSUM BOARD CEILINGS, THRU FULL HEIGHT WALLS, AND THRU RATED CORRIDORS, FOR

## CEILING LEGEND

	NEW 24" X 24" LAY-IN ACOUSTIC TILE CEILING ON METAL SUSPENSION SYSTEM		WALL MOUNTED EMERGENCY LIGHT FIXTURE
	NEW 1HR RATED DRYWALL ON SUSPENDED METAL STUD CEILING		WALL MOUNTED OR SUSPENDED ILLUMINATED EMERGENCY EXIT SIGN
	DRYWALL CEILING OR BULKHEAD (PAINTED)		RECESSED CEILING MOUNTED MUSIC SPEAKER
	NEW RECESSED LED LIGHTING FIXTURE REFER TO ELECTRICAL DWG'S		SOFFIT VENT
	DIFFUSERS AND REGISTERS		CEILING TYPE
	RADIANT HEATING PANEL		SPRINKLER HEADS SEE FIRE PROTECTION DWG'S
	EXHAUST FAN		SMOKE DETECTOR
	CEILING HEIGHT		8' LED SUSPENDED TRACK LIGHT FIXTURE
			5' X 16' SUSPENDED PENDANT LIGHTS OVER SERVICE COUNTER
			RECESSED 2' LED LIGHTS
			SUSPENDED SPECIAL LIGHT FIXTURE
			RECESSED 5' LED BATHROOM LIGHT
			RECESSED BATHROOM FAN

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STAGE OF DESIGN AND DRAFTING:		
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DRAWINGS MUST NOT BE SCALED.



ENGINEERING DONE UPRIGHT.

310 CHRISTINA STREET  
SARNIA, ONTARIO

### PROJECT

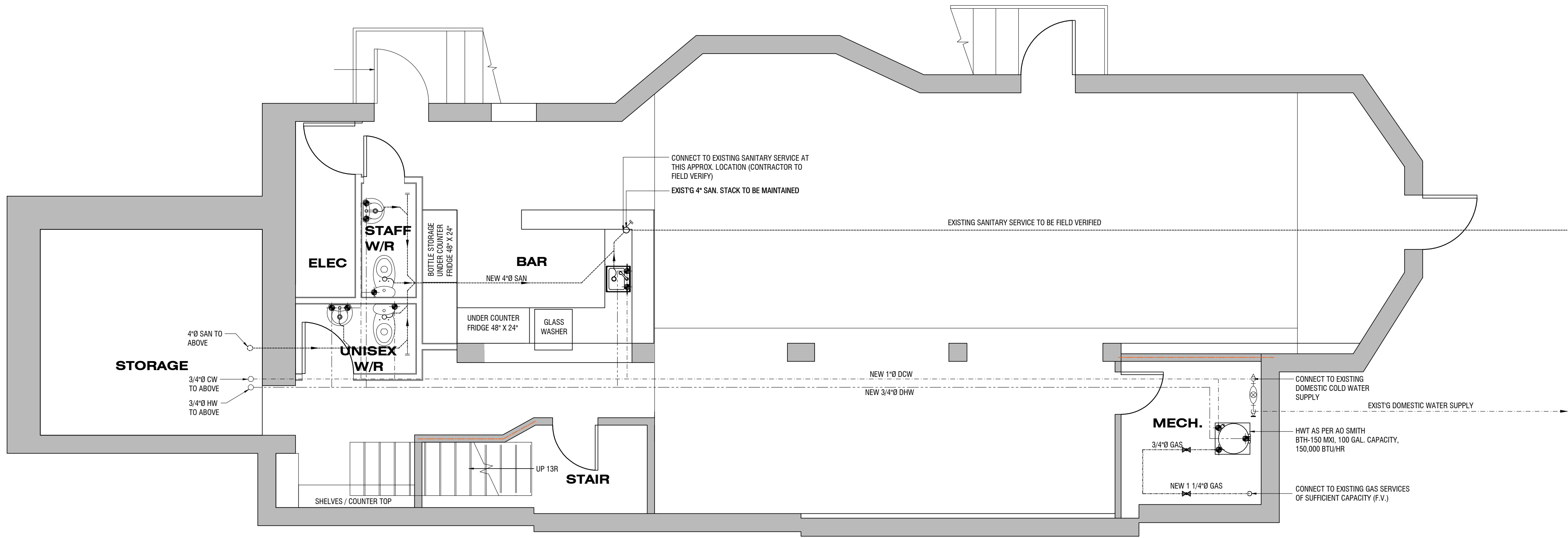
PROPOSED NIGHT CLUB  
32 HESS STREET SOUTH  
HAMILTON, ONTARIO

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DWG. TITLE

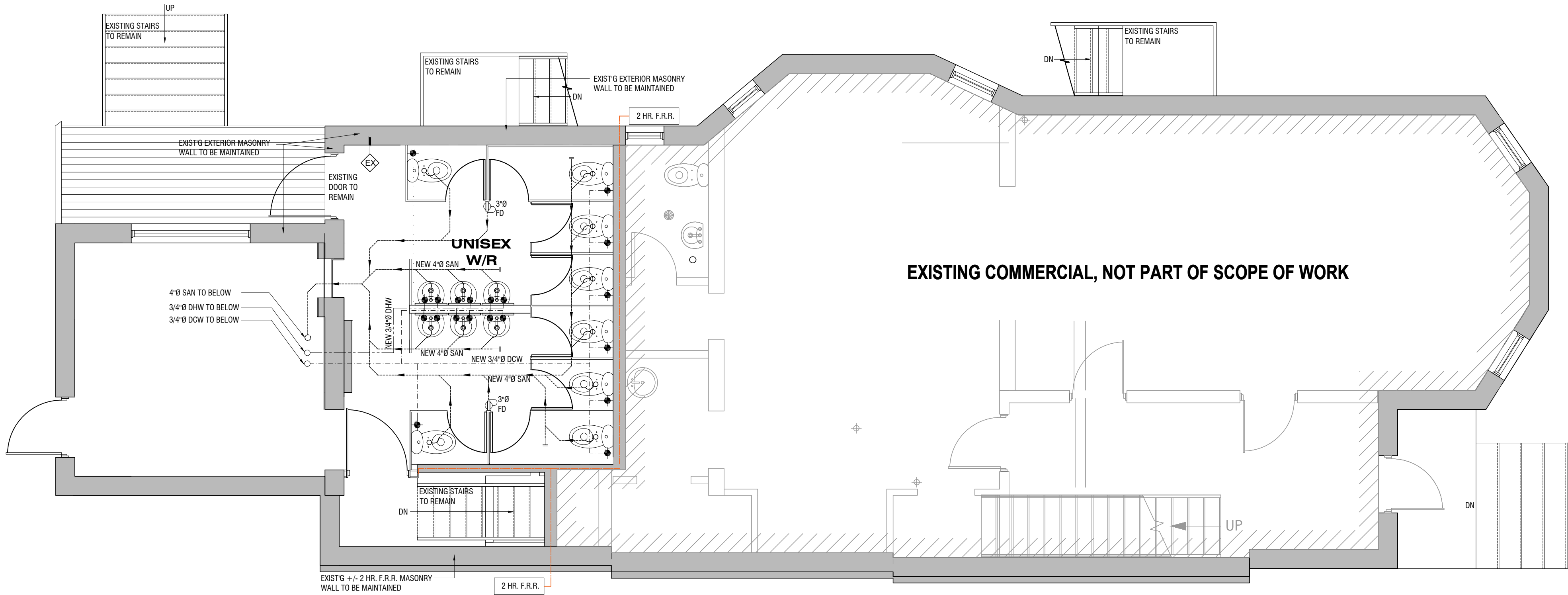
REFLECTED CEILING PLAN

DATE	January, 2024	SCALE	1/4"=1'-0"
CHECKED BY	G.DALE	DRAWING No.:	A3
DRAWN BY	C.ALMEIDA		
PROJ. No.	240241		



## LOWER LEVEL WATER SUPPLY

Scale : 1/4"=1'-0"



## MAIN LEVEL WATER SUPPLY

Scale : 1/4"=1'-0"

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### SHOP DRAWINGS

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DO NOT SUBMIT SHOP DRAWINGS AND/OR COVERING TRANSMITTALS MARKED 'FOR APPROVAL'. AFOREMENTIONED DOCUMENTS SO MARKED WILL NOT BE REVIEWED.

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NO.	REVISION	DATE
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### STAGE OF DESIGN AND DRAFTING:

<input type="checkbox"/>	Issued for Information Only	
<input checked="" type="checkbox"/>	Preliminary Design	01/26/2024
<input type="checkbox"/>	Issued for Comments and Coordination	
<input type="checkbox"/>	Issued for Building Permit	
<input type="checkbox"/>	Issued for Tender	
<input type="checkbox"/>	Issued for Construction	
<input type="checkbox"/>	As Built Record Set	

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THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.



ENGINEERING DONE UPRIGHT.

310 CHRISTINA STREET  
SARNIA, ONTARIO

PROJECT  
**PROPOSED NIGHT CLUB**  
**32 HESS STREET SOUTH**  
**HAMILTON, ONTARIO**

ARCHITECT:

DWG. TITLE  
**PLUMBING FLOOR PLANS**

DATE	January, 2024	SCALE	1/4"=1'-0"
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CHECKED BY	G.DALE	DRAWING No.:	
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DRAWN BY	C.ALMEIDA		
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PROJ. No.	240241		
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M1



PLUMBING FIXTURE SCHEDULE							
MARK	DESCRIPTION	DESCRIPTION	C.W	H.W.	WASTE	VENT	REMARKS
WC1	WATER CLOSET TANK TYPE	AMERICAN STANDARD 2467 016 CABT RIGHT HEIGHT ELONGATED PRESSURE ASSISTED, 6 LPP	13	-	75	38	w/ 4142,600 TANK w/ TANK COVER LOCKING DEVICE, VITREOUS CHINA, EVERCLEAN SURFACE, 3483.001 ELONGATED 419mm HIGH BOWL RM. PRESSURE ASSISTED SIPHON-JET FLUSH ACTION, 5905-110 ELONGATED EXTRA HEAVY DUTY OPEN FRONT SEAT LESS COVER
L1	WALL-MOUNTED LAVATORY	AMERICAN STANDARD/ MURRO-0954-004EC C/W CONCEALED ARM SUPPORT CARRIER, SHROUD/KNEE CONTACT GUARD	13	13	50	32	w/ VITREOUS CHINA SELF RIMMING, TWO REAR OVERFLOW HOLES, FAUCET CENTRE HOLE ONLY. 7055105 ELECTRONIC INTEGRATED PROXIMITY FAUCET, OD POWERED SINGLE INLET, CAST BRASS SPOUT, 1.9 LPM PRESSURE COMPENSATING, VALDANT RESISTANT NON AERATED SPRAY, CR-P2 LITHIUM ION BATTERY, FLEXIBLE STAINLESS STEEL HOSE C/W CHECK & FILTER SCREEN, w/ SINGLE 10mm COMPRESSION CONNECTOR
FD1	AREA FLOOR DRAIN	ZURN FFD-2209-VP3-VP ADJUSTABLE FINISH	-	-	75	-	ADJUSTABLE PVC HEAD & 127mmx NICKEL/BRONZE FRAME & GRATE, 75mmx PVC/ABS BODY, C/W OPTIONAL VALDANT PROOF SS SECURING SREWS WASTE CHROME PLATED BRASS TRAP w/ 38mmx TAILPIECE

FIRE STOPPING	
1.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIRE STOPPING FOR ALL PENETRATIONS CREATED BY THE INSTALLATION OF ANY NEW SYSTEMS.
2.	GENERAL: ULC LISTED, ULTIMATE MATERIAL, SYNTHETIC ELASTOMERS, CAPABLE OF EXPANDING UP TO 10 TIMES WHEN EXPOSED TO TEMPERATURES OF 250 F OR HIGHER.
3.	ACCEPTABLE PRODUCTS: HILTI FS-ONE, 3M @CP-25 CAULK OR #303 PUTTY, DOW CORNING FIRE STOP FOAM #RTV, T&B BURNDY
4.	APPLICATIONS:
4.1.	CUL SYSTEM FSP731 - METAL PIPING OR CONDUIT THRU GYPSUM WALL ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)
4.2.	CUL SYSTEM FSP717 - METAL PIPING OR CONDUIT THRU WOOD FLOOR ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)
4.3.	CUL SYSTEM FSP209 - INSULATED METAL PIPING THROUGH GYPSUM WALL ASSEMBLY (F RATING UP TO 1HR OR 2HR)
5.	CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH DETAILED MATERIAL INFORMATION INDICATING ULC OR CUL RATINGS AS WELL AS APPLICATION INSTRUCTIONS.

INSULATION SCHEDULE	
ITEMS	INSULATION INSTRUCTIONS
COLD WATER (C.W.) HOT WATER (H.W.) HOT WATER RECIRC. (RECIRC.) STORM DRAINAGE USING CAST IRON PIPING	INSULATE ALL COLD WATER PIPING WITH 1" PREFORMED FIBREGLASS INSULATION c/w VAPOUR BARRIER, FINISH WITH 6oz CANVAS WRAP AND PAINT WITH WHITE FIRE RETARDANT PAINT. P.V.C. JACKET IS CONSIDERED ACCEPTABLE IN LIEU OF CANVAS SUCH THAT APPROVAL IS GRANTED BY REDL PRIOR TO ANY WORK.
VENT PIPING	12" OF VENT PIPING IS TO BE INSULATED PRIOR TO PENETRATING ROOF. INSULATE ALL VENT PIPING WITH 1" PREFORMED FIBREGLASS INSULATION. FINISH WITH 6oz CANVAS WRAP AND PAINT WITH WHITE FIRE RETARDANT PAINT. P.V.C. JACKET IS CONSIDERED ACCEPTABLE IN LIEU OF CANVAS SUCH THAT APPROVAL IS GRANTED BY REDL PRIOR TO ANY WORK.
EXHAUST DUCTWORK	FROM EXHAUST FAN 8"-0" DUCTWORK IS TO BE INSULATED WITH 1" RIGID FIBREGLASS INSULATION c/w VAPOUR BARRIER
SUPPLY AIR DUCTWORK	ALL SUPPLY AIR DUCTWORK FOR THE FIRST 12"-0" FROM DISCHARGE IS TO BE INSULATED WITH 1" INTERNAL ACOUSTIC INSULATION, ALL OTHER DUCTWORK SHOWN CROSS-HATCHED TO BE INSULATED. (SEE NOTE) DIMENSIONS SHOWN ON DRAWINGS DOES NOT INCLUDE INSULATION.
<u>NOTE:</u> ALL AIR BALANCING REPORTS ARE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW.	

# PLUMBING SPECIFICATIONS

1. THE GENERAL SPECIFICATION SHALL APPLY TO THIS CONTRACTOR FOR THIS JOB AS IF WRITTEN HERE IN FULL.
2. THE FINAL HOOK-UP OF ALL PLUMBING FIXTURES AND EQUIPMENT SHALL BE BY THE PLUMBING CONTRACTOR.
3. PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH PLUMBING CODES AND ALL AUTHORITIES HAVING JURISDICTION. REFER TO THE APPLICABLE BUILDING CODE, CITY, COUNTY, PROVINCIAL, AND FEDERAL REGULATIONS FOR ACCEPTABLE STANDARDS.
4. ALL EQUIPMENT AND MATERIALS SHALL BE NEW COMMERCIAL GRADE UNLESS OTHERWISE NOTED.
5. PROVIDE ACCESSIBLE SHUT-OFF VALVES ON DOMESTIC HOT AND COLD WATER SUPPLIES AT ALL FIXTURES AND EQUIPMENT.
6. DOMESTIC HOT WATER HEATER SHALL BE AS PER MECHANICAL DRAWINGS FOR THIS PROJECT.
7. PLUMBING FITTINGS TO BE AS BELOW OR APPROVED EQUAL.  
FD (FLOOR DRAIN) = WATTS, J.R.SMITH, ENPOCO  
CD (CLEAN OUT) = WATTS, J.R.SMITH, ENPOCO  
HD (HUBB DRAIN) = WATTS, J.R.SMITH, ENPOCO  
FD (FLOOR FUNNEL DRAIN) = WATTS, J.R.SMITH, ENPOCO  
TRAP SEAL PRIMER TO BE 1/2" NPT SERIES #2400 / 2400L  
NOTE: ALL FD, HD, FID, ETC. ARE TO BE FURNISHED WITH TRAP SEAL PRIMER.
8. INSULATE ALL HOT AND COLD WATER PIPES, INCLUDING MEAL FITTINGS ON STORM PIPING IN CEILING SPACE, WITH 1/2" PEE-MOULDIED FIREGLASS INSULATION WITH VAPOUR BARRIER JACKET. SEAL ALL JOINTS OF VAPOUR BARRIER. STAPLES ARE NOT TO BE USED.
9. CAST IRON (PLASTIC PIPE IS ACCEPTABLE WHERE PERMITTED BY LOCAL CODES) FOR SANITARY SEWER PIPES WITH MECHANICAL JOINTS. USE TYPE 1" COPPER FOR BURIED WATER PIPES. USE TYPE 1" COPPER PIPE ABOVE GROUND. ALL PIPING MUST BE SUPPORTED AS PER CODE REQUIREMENTS. USE COPPER TUBING (DWV) FOR VENTS. USE CAST IRON THRU ROOF.
10. PROVIDE BACKFLOW PREVENTERS ON EQUIPMENT CONNECTIONS.
11. ONLY LEAD FREE SOLDER IS TO BE USED.
12. INSTALL PLYWOODED CHROME ESCUTCHION PLATES ON ALL PIPES WHERE THEY PASS THROUGH WALLS OR CEILINGS IN FINISHED AREA.
13. PROVIDE ALL ACCESS DOORS TO MATCH WALL AND CEILING SURFACES FOR CONCEALED VALVES. THESE ARE INSTALLED BY THE TRADES IN WHOSE WORK THE DOOR IS LOCATED.
14. ALL WORK IS TO CONFORM TO BASE PLUMBING STANDARDS AND SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP.

PLUMBING FITTINGS				
DESIGNATION	ZURN	SMITH	WATTS	REMARKS
F.F.D. (FUNNEL FLOOR DRAIN)	ZN-211-BF-P	2005A-3591-P050	FD-200-EG-1-7	CONNECTION TO TRAP SEAL PRIMER SYSTEM REQUIRED.
F.D. (FLOOR DRAIN) WITH SEDIMENT BUCKET IN KITCHEN ONLY	ZN-211-B-P	2005A-P050	FD-200-A-1-7	CONNECTION TO TRAP SEAL PRIMER SYSTEM REQUIRED.
H.D. (HUB DRAIN)	ZN-211-BE	2005A-3580-P050	FD-200-EF-1	CONNECTION TO TRAP SEAL PRIMER SYSTEM REQUIRED.
				R.P. BACKFLOW ASSEMBLY MUST BE MOUNTED HORIZONTALLY C/W AIR GAP DRAIN APOLLO MODEL NO. AGO. PIPE TO FUNNEL FLOOR DRAIN OR MOP SINK. REFER TO MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

# PLUMBING NOTES

- ALL SANITARY VENTING MUST CONFORM TO THE LOCAL PLUMBING CODE RULES AND REGULATIONS. ALL EXISTING CONDITIONS MUST BE VERIFIED & CONFIRMED ON SITE BY THIS CONTRACTOR. ALL WORK MUST CONFORM TO BASE BUILDING STANDARDS AND SPECIFICATIONS.
- ANY VENT PIPING IS TO BE GROUPED TOGETHER AND RUN TO NEAREST LANDLORD'S POINT OF CONNECTION OR UP THROUGH ROOF. VENTING IS TO BE INSTALLED AS PER PROVINCIAL CODES AND ALL LOCAL CODE REQUIREMENTS.
- ALL WORK IS TO CONFORM TO BASE BUILDING STANDARDS AND REGULATIONS
- PRIOR TO ANY WORK CONFIRM WITH LANDLORD-TENANT AGREEMENT TO SEE WHAT IS LANDLORD'S & WHAT IS TENANTS SCOPE OF WORK. PRIOR TO COMMENCING ANY WORK ENSURE PERMISSION FROM THE LANDLORD TO DO THIS WORK, REPORT ANY DISCREPANCIES IMMEDIATELY.
- SANITARY AND WATER LINES SHOWN FOR REFERENCE ONLY. PRIOR TO TENDERING OR ANY WORK THIS CONTRACTOR TO VERIFY ON SITE ALL EXISTING SANITARY, WATER & VENTING LINES. EXACT POINT OF CONNECTIONS, DIRECTION OF FLOW & DISTANCE TO BE VERIFIED. X-RAY AND / OR VIDEO REPORT ANY DISCREPANCIES IMMEDIATELY.
- ALL FLOORING / PENETRATIONS OF FLOOR IS TO BE APPROVED BY LANDLORD
- PRIOR TO DO ANY WORK X-RAY SANITARY (ONLY IF REQUIRED). ALL WORK IS TO BE COORDINATED ON SITE WITH ALL OPERATIONS.

## GENERAL NOTES:

1. PRIOR TO DISCOVERING ANY MATERIALS OR WORK, THE CONTRACTOR SHALL CO-ORDINATE WITH THE ARCHITECT AND PROVIDE DETAILS OF MOUNTING REQUIREMENTS OF DIFFUSERS AND GRILLES IN DRYWALL CEILINGS TO DRYWALL TRADE AND INSURE DEGREE OF OPENINGS ARE FRAMED BY DRYWALL TRADE TO SUPPORT DIFFUSERS AND GRILLES. PROPERLY, DIFFUSERS AND GRILLES MUST NOT BE SUPPORTED SOLELY BY HANGER WIRE.
2. ALL PENETRATIONS TO BASE BUILDING STRUCTURE INCLUDING ROOF, FLOOR, WALL, EXTERIOR WALL WORK, ETC. FLASHING, ETC. IS TO BE PERFORMED BY A LANDLORD APPROVED CONTRACTOR WITH THE TENANTS EXPENSE.
3. ALL WORK & MATERIALS MUST BE IN CONFORMANCE WITH BASE BUILDING STANDARDS.
4. ALL WORK AS-BUILT DRAWING TO OWNER / THIS CONSULTANT FOR FUTURE USE AND COORDINATION OF INTERIOR DRAGINGS
5. ALL SANITARY VENTING MUST CONFORM TO THE PLUMBING CODE RULES REGULATIONS.
6. ANY EXISTING PLUMBING LINES FROM PREVIOUS TENANTS ARE TO BE DISCONNECTED REMOVED AND CAPPED OFF PROPERLY. MAKE GOOD / SAFE ALL AREAS DISTURBED BY THIS CONSTRUCTION.
8. X-RAY SWAB PRIOR TO CUTTING FLOOR.
9. VERIFY ALL EXISTING SANITARY AND WATER LINES OR SITE. EXACT POINT OF CONNECTIONS, DIRECTION OF FLOW, INSERTS & DEGRADE TO BE KEPT ON SITE PRIOR TO TENDERING OF ANY WORK. IF ANY DISCREPANCIES IMMEDIATELY, EXPOSE DEMONSTRATION FROM THE LANDLORD TO DO THIS WORK.
10. PLASTIC DRAIN AND VENT PIPING TO MEET LATEST BUILDING CODE FLAME SPOOD RATING.
11. DOMESTIC COLD WATER, HOT WATER AND RECRIC PIPING IS TO BE INSULATED WITH 2" THICK INSULATION.
12. MECHANICAL CONTRACTOR SHALL CO-ORDINATE WITH ARCHITECT AND PROVIDE DETAILS OF MOUNTING REQUIREMENTS OF DIFFUSERS AND GRILLES IN DRYWALL CEILINGS TO DRYWALL TRADE AND INSURE DEGREE OF OPENINGS ARE FRAMED BY DRYWALL TRADE TO SUPPORT DIFFUSERS AND GRILLES. PROPERLY, DIFFUSERS AND GRILLES MUST NOT BE SUPPORTED SOLELY BY HANGER WIRE.
13. THE CONTRACTOR SHALL HAVE ROOF PENETRATIONS MADE AND SEALED BY AN APPROVED ROOFING CONTRACTOR IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS.
14. PENETRATIONS OF CONCRETE SHALL BE SAW-CUT OR CORE BORED - IMPACT HAMMERS ARE NOT ALLOWED, SEAL ALL DUCTWORK & SLEEVES TO PREVENT LEAKAGE THROUGH FLOOR.
15. CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS, ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL ROOF FINISH SCHEDULES AS SOON AS CONTRACT DOCUMENTS ARE SIGNED OFF BY ARCHITECTURAL, OF ANY CONFLICTS BETWEEN CEILING TIE AND DIFFUSER/GRILLE TYPE.
18. DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, MANUFACTURER'S SHOP DRAWINGS, AND ON SITE INSPECTIONS.
9. MECHANICAL, DIV. 2-14 AND ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER AND AS TO AVOID INTERFERENCE BETWEEN PIPING, DUCTWORK, CONDUIT, LIGHTING FIXTURES, ETC.
10. WORK SHALL BE COORDINATED THROUGH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY EQUIPMENT, DUCTWORK AND CONTROLS. COORDINATE WITH ARCHITECTURAL ELEVATIONS FOR MECHANICAL, MECHANICAL, AND ELECTRICAL SPACE ALLOCATIONS.
11. PROPERLY SUPPORT CEILING MOUNTED EQUIPMENT AND ANY OTHER EQUIPMENT INDEPENDENT OF CEILING SUPPORT SYSTEM REFER TO ARCHITECTURAL DETAILS AND COORDINATE WITH STRUCTURAL TRADE.
12. REFER TO ARCHITECTURAL FOR OWNER SUPPLIED EQUIPMENT. CONFIRM ALL MECHANICAL REQUIREMENTS AND PROVIDE TO THE ARCHITECT.
13. REVIEW ARCHITECTURAL, ELECTRICAL, AND STRUCTURAL DRAWINGS AND PROVIDE ON SITE INSPECTIONS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.
14. ALL DUCTWORK FITTINGS SHALL BE RIGID GALVANIZED IRON, UNLESS NOTED OTHERWISE.
15. FLEXIBLE DUCTWORK SHALL BE LIMITED TO 3'-0" IN LENGTH TOTAL FOR ANY RUNOUT.
16. NO FLEXIBLE DUCTWORK SHALL BE PERMITTED FOR OFFSETTING.
17. WHERE MODIFICATIONS HAVE BEEN DONE TO THE EXISTING SYSTEMS, CONTRACTOR MUST REBALANCE THE AFFECTED REMAINING PARTS OF THE SYSTEM.
18. CUT AND PATCH ALL WALLS, FLOORS, CEILINGS FLOORS AS REQUIRED FOR INSTALLATION AND DEMOLITION, MAINTAIN STRUCTURAL AND FIRE SEPARATION INTEGRITY. PATCH ALL FINISHED AS REQUIRED TO MATCH NEW OR EXISTING FINISHES. COORDINATE WITH ARCHITECTURAL TRADES.
19. CAP ALL SERVICES THAT REMAIN AFTER DEMOLITION.
20. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CODES, AMENDMENTS, BULLETINS ETC. AND REQUIREMENTS OF ALL INSPECTION AGENCIES OF THE JURISDICTION.

## **SUPPLEMENTAL NOTES + SPECIFICATIONS**

THE TENDER PACKAGE MAY INCLUDE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF F WORK FOR THIS PROJECT. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK IS TO BE READ IN CONJUNCTION AND FORM OF A PART OF THE DRAWINGS AND SPECIFICATIONS AND TENDER DOCUMENTS AND THE WHOLE SHALL CONSTITUTE PART OF THE CONTRACT DOCUMENTS. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK TAKES PRECEDENCE OVER THE DRAWINGS PRECEDENCE OVER THE DRAWINGS.

THE BIDDER IS TO DISTRIBUTE THE DRAWINGS AND SPECIFICATIONS AND SCOPE TO WORK, AND ALL OTHER PERTINENT DOCUMENTATION AND INFORMATION TO ALL VENDORS AND SUBCONTRACTORS, AND ENSURE THAT ALL OF THE REQUIREMENTS ARE INCLUDED IN THE TENDER PRICE. THE BIDDER IS TO REPORT ALL DISCREPANCIES TO THE OWNER PRIOR TO SUBMITTING THE BID.

## FIELD VERIFY ALL CONDITIONS

THIS ELECTRICAL CONTRACTOR MUST REVIEW ALL CURRENT SITE CONDITIONS WITH RESPECT TO NEW DESIGN DRAWINGS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED BY THE OWNER, ARCHITECT OR DRAWINGS. ALL ELECTRICAL, TELEPHONE, DATA, ETC. SYSTEMS NO LONGER REQUIRED SHALL BE DISCONNECTED FROM IT POWER SUPPLY AND REMOVED IE ALL BRANCH WIRING MUST BE PULLED FROM CONDUIT, WALLS OR CEILING SPACE AND MADE SAFE. ANY DISCREPANCIES FOR REMOVAL OR RE-USE IF ANY EXISTING EQUIPMENT MUST BE DISCUSSED WITH OWNER OR ARCHITECT PRIOR TO PROCEEDING WITH THE WORK. ( A SITE VISIT IS RECOMMENDED PRIOR TO TENDER)

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE THEIR BIDS OF THE COST FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

GENERAL SITE SERVICES NOTES	
1.	CONTRACTOR IS TO VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2.	ALL EXISTING UTILITIES AND SERVICES ARE TO BE MAINTAINED AND SUPPORTED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER OF THE UTILITY.

## GENERAL DEMOLITION NOTES

1. CONTRACTOR IS TO ENSURE THAT ALL EXISTING SERVICES SERVING EXITING AREAS REMAIN IN SERVICE UNTIL THESE AREAS ARE RECONNECTED TO NEW SERVICES. ONLY THEN OBSOLETE EQUIPMENT AND SYSTEMS IS TO BE REMOVED AS SHOWN.
2. ALL DISTURBED SURFACES AFTER EQUIPMENT AND SYSTEMS REMOVAL OR REROUTING IS TO BE FILLED-IN WITH APPROPRIATE MATERIAL TO MAINTAIN FIRE SEPARATION AND PATCHED TO MATCH EXISTING OR NEW.

## GENERAL NOTES

1. REFER TO MECH. SPECIFICATION SECTION FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SITE AND OWNER INSTRUCTIONS FOR PHASING AND STAGING.
3. THE CONTRACTOR SHALL COORDINATE WITH THE STRUCTURAL TO PROVIDE OPENINGS AND SLEEVES THROUGH STRUCTURAL ELEMENTS WHERE REQUIRED.
4. CONTRACTOR SHALL VERIFY ALL CEILING FINISHES WITH ARCHITECTURAL DRAWINGS. CONTRACTOR AND DIFFUSER/GRILLE SUPPLIER ARE RESPONSIBLE TO PROVIDE ALL PLASTER AND FINISHING FRAMES, MOUNTING HARDWARE,

- D. AND ACCESSORIES TO SUIT ARCHITECTURAL CEILING TYPES.
- E. MECHANICAL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS OF MOUNTING REQUIREMENTS OF DIFFUSERS AND GRILLES IN DETAIL.
- F. ALL PLYWOOD TRAYS, HANGERS, BRACKETS, AND OPENINGS ARE FRAMED BY DRYWALL TRADE TO SUPPORT DIFFUSERS AND GRILLES
- G. PROPERLY, DIFFUSERS AND GRILLES MUST NOT BE SUPPORTED SOLELY BY WIRING CABLES.
- H. THE CONTRACTOR SHALL HAVE ROOF PENETRATIONS MADE AND SEALED BY AN APPROVED ROOFING CONTRACTOR IN ACCORDANCE WITH SPECIFICATIONS.
- I. PENETRATIONS OF CONCRETE SHALL BE SAW-CUT OR CORE BORED - IMPACT HAMMERS ARE NOT ALLOWED, SEAL ALL DUCTWORK & SLEEVES TO PREVENT LEAKAGE THRU FLOOR.
- J. CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS, ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL ROOM FINISH SCHEDULES AS WELL AS CONTRACT ELECTRICAL ELEVATIONS FOR ANY DISCREPANCY OF ANY CONFLICTS BETWEEN CEILING TYPE AND DIFFUSER/GRIE/TYPE.
- K. DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, MANUFACTURER'S SHOP DRAWINGS OR SITE SURVEY DATA.
- L. MECHANICAL, DIV. 2-14 AND ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER SO AS TO AVOID INTERFERENCES BETWEEN DUCTWORK, ELECTRICAL, LIGHT FIXTURES, ETC.
- M. WORK SHALL BE COORDINATED THROUGH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY EQUIPMENT, DUCTWORK AND CONTROLS COORDINATION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, MECHANICAL, AND ELECTRICAL SPACE ALLOCATIONS.
- N. PROPERLY SUPPORT CEILING MOUNTED EQUIPMENT AND ANY OTHER EQUIPMENT PERPENDICULAR TO THE STRUCTURE. REFER TO ARCHITECTURAL DETAILS AND COORDINATE WITH STRUCTURAL TRADE.
- O. REFER TO ARCHITECTURAL FOR OWNER SUPPLIED EQUIPMENT, CONFIRM ALL MECHANICAL REQUIREMENTS AND PROVIDE TO SUBMITTING BID.
- P. REVIEW ELECTRICAL AND MECHANICAL DRAWINGS AND PROVIDE ON SITE INSPECTIONS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.
- Q. ALL DUCTWORK FITTINGS SHALL BE RIGID GALVANIZED IRON, UNLESS OTHERWISE SPECIFIED.
- R. FLEXIBLE DUCTWORK SHALL BE LIMITED TO 3'-0" IN LENGTH TOTAL FOR ANY RUNOUT.
- S. NO FLEXIBLE DUCTWORK SHALL BE PERMITTED FOR OFFSETTING.
- T. WHERE MODIFICATIONS HAVE BEEN DONE TO THE EXISTING SYSTEMS CONTRACTOR MUST REBALANCE THE AFFECTED REMAINING PARTS OF THE SYSTEM.
- U. CUT AND PATH ALL WALLS, ROOFS, CEILINGS FLOORS AS REQUIRED FOR INSTALLATION AND DEMOLITION, REMAIN STRUCTURAL AND FIRE SEPARATION SUCH AS ALL FINISHES SHALL BE MAINTAINED OR NEW EXISTING FINISHES, COORDINATE WITH ARCHITECTURAL TRADES.
- V. CAP ALL SERVICES THAT REMAIN AFTER DEMOLITION.

20. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CODES, AMENDMENTS, BULLETINS ETC. AND REQUIREMENTS OF ALL INSPECTION AUTHORITIES OF THE JURISDICTION.

EXISTING MECHANICAL SERVICES SHOWN ON THESE DRAWINGS WERE TAKEN FROM THE ORIGINAL CONTRACT DRAWINGS. THE CONTRACTOR SHALL VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING SERVICES ON SITE AND SHALL REMOVE ALL REDUNDANT SERVICES IN THE AREAS OF CONSTRUCTION.

THIS DRAWING AS AN INSTRUMENT OF SERVICE IS PROVIDED BY  
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THE CONTRACTOR MUST VERIFY AND ACCEPT RESPONSIBILITY FOR ALL DIMENSIONS AND CONDITIONS ON SITE AND MUST NOTIFY ARCHITECT / ENGINEER OF ANY VARIATIONS FROM THE SUPPLIED INFORMATION.

THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF SURVEY, ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC., INFORMATION SHOWN ON THIS DRAWING. REFER TO THE APPROPRIATE CONSULTANT'S DRAWINGS BEFORE PROCEEDING WITH THE WORK.

CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES  
AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

THE CONTRACTOR WORKING FROM DRAWINGS NOT SPECIFICALLY MARKED 'FOR CONSTRUCTION' MUST ASSUME FULL RESPONSIBILITY AND BEAR COSTS FOR ANY CORRECTIONS OR DAMAGES RESULTING FROM HIS WORK.

THIS DRAWING IS NOT TO BE SCALED

**NOTE:**  
ALL DIMENSIONS AND ELEVATIONS MUST BE SITE MEASURED  
AND CONFIRMED PRIOR TO FABRICATION AND/OR ERECTION.

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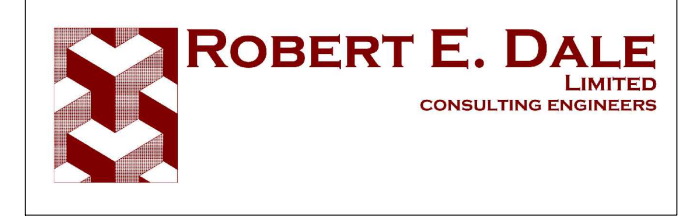
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<div style="background-color: #e0e0e0; width: 60px; height: 20px;"></div>	Issued for Building Permit	
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THE ENGINEER AND MAY NOT BE USED OR REPRODUCED  
WITHOUT THE ENGINEER'S APPROVAL.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.



ENGINEERING DONE UPRIGHT.

310 CHRISTINA STREET  
SARNIA, ONTARIO

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PROJECT

**PROPOSED NIGHT CLUB  
32 HESS STREET SOUTH  
HAMILTON, ONTARIO**

ARCHITECT

DWG. TITLE

## PLUM

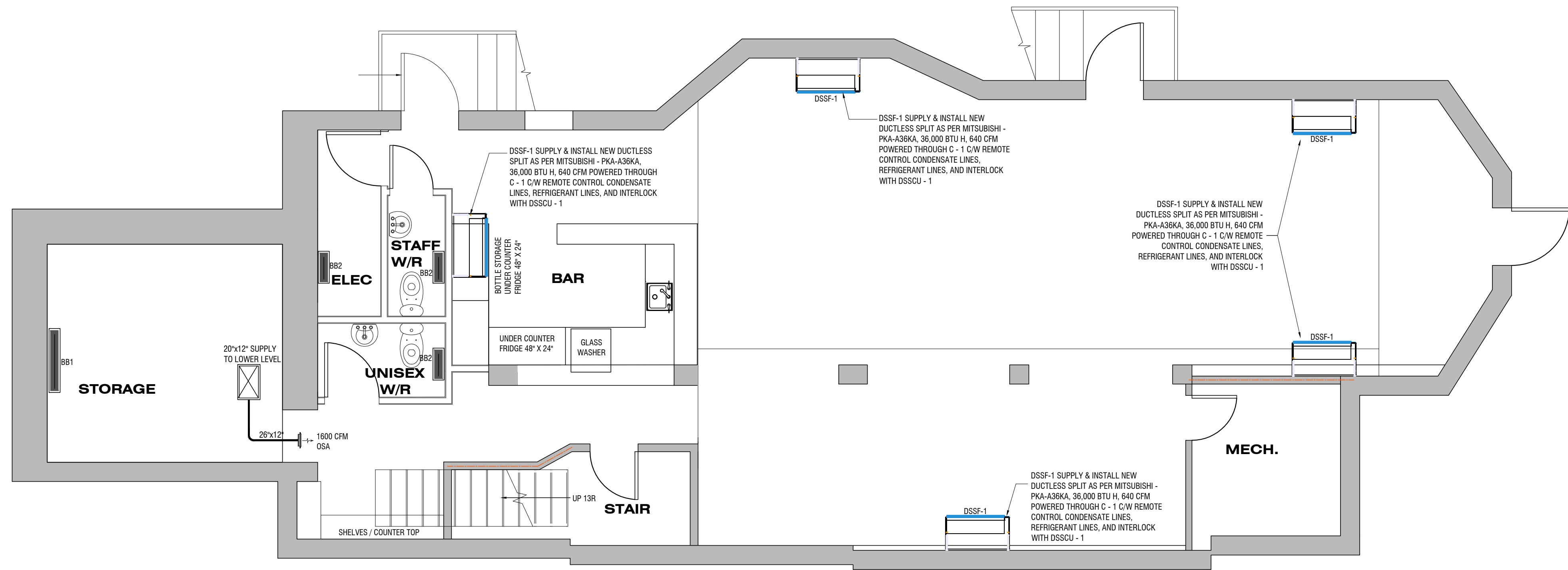
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DATE	January, 2024	SCALE	1/4"=1'-0"
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CHECKED BY	G.DALE	DRAWING No.:
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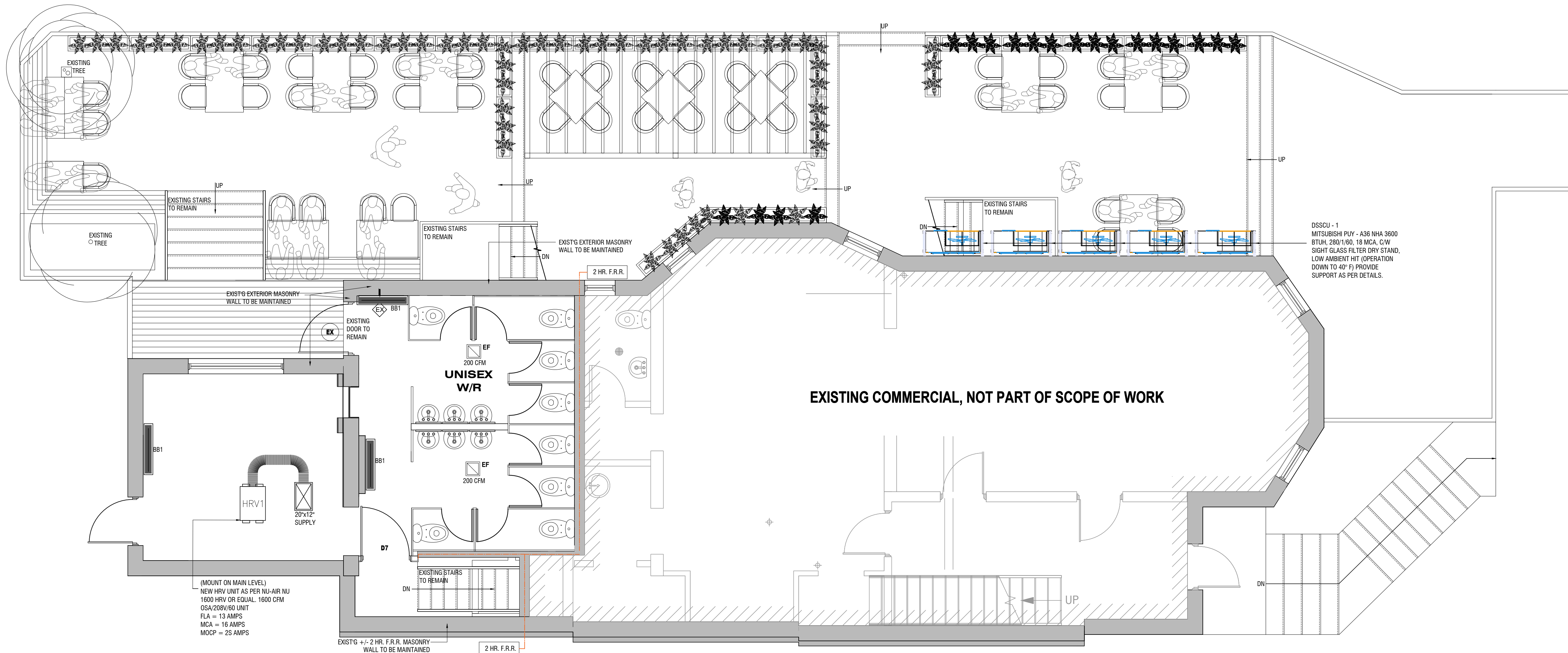
DRAWN BY C.ALMEIDA | M2

PROJ. No.	240241	
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## LOWER LEVEL HVAC

Scale : 1/4"=1'-0"



## MAIN LEVEL HVAC

Scale : 1/4"=1'-0"

THIS DRAWING AS AN INSTRUMENT OF SERVICE IS PROVIDED BY AND IS THE PROPERTY OF ROBERT E. DALE LIMITED.

THE CONTRACTOR MUST VERIFY AND ACCEPT RESPONSIBILITY FOR ALL DIMENSIONS AND CONDITIONS ON SITE AND MUST NOTIFY ARCHITECT / ENGINEER OF ANY VARIATIONS FROM THE SUPPLIED INFORMATION.

THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF SURVEY, ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC., INFORMATION SHOWN ON THIS DRAWING. REFER TO THE APPROPRIATE CONSULTANT'S DRAWINGS BEFORE PROCEEDING WITH THE WORK.

CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

THE CONTRACTOR WORKING FROM DRAWINGS NOT SPECIFICALLY MARKED 'FOR CONSTRUCTION' MUST ASSUME FULL RESPONSIBILITY AND BEAR COSTS FOR ANY CORRECTIONS OR DAMAGES RESULTING FROM HIS WORK.

THIS DRAWING IS NOT TO BE SCALED.

### NOTE:

ALL DIMENSIONS AND ELEVATIONS MUST BE SITE MEASURED AND CONFIRMED PRIOR TO FABRICATION AND/OR ERECTION.

### SHOP DRAWINGS

ALL SHOP DRAWINGS SUBMITTED TO THE ENGINEER SHALL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE INTENT OF THE STRUCTURAL DESIGN CONTAINED WITHIN THESE PROJECT DOCUMENTS ONLY.

DO NOT SUBMIT SHOP DRAWINGS AND/OR COVERING TRANSMITTALS MARKED 'FOR APPROVAL'. AFOREMENTIONED DOCUMENTS SO MARKED WILL NOT BE REVIEWED.

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### DISCLAIMER:

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NO.	REVISION	DATE
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STAGE OF DESIGN AND DRAFTING:		
<input type="checkbox"/>	Issued for Information Only	
<input checked="" type="checkbox"/>	Preliminary Design	01/26/2024
<input type="checkbox"/>	Issued for Comments and Coordination	
<input type="checkbox"/>	Issued for Building Permit	
<input type="checkbox"/>	Issued for Tender	
<input type="checkbox"/>	Issued for Construction	
<input type="checkbox"/>	As Built Record Set	

ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ENGINEER AND MAY NOT BE USED OR REPRODUCED WITHOUT THE ENGINEER'S APPROVAL.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.



ENGINEERING DONE UPRIGHT.

429 EXMOUTH STREET  
SUITE 208, SARNIA,  
ONTARIO

PROJECT  
**PROPOSED NIGHT CLUB**  
**32 HESS STREET SOUTH**  
**HAMILTON, ONTARIO**

ARCHITECT:

DWG. TITLE  
**HVAC FLOOR PLANS**

DATE	January, 2024	SCALE	1/4"=1'-0"
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CHECKED BY	G.DALE	DRAWING No.:	
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DRAWN BY	C.ALMEIDA		
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PROJ. No.	240241		
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M3.00



## FIRE STOPPING

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIRE STOPPING FOR ALL PENETRATIONS CREATED BY THE INSTALLATION OF ANY NEW SYSTEMS.
2. ULC LISTED PENETRATION SYSTEMS SHALL BE USED TO PENETRATE FIRE RESISTANT ELASTOMERS, CAPABLE OF EXPANDING UP TO 8 TIMES WHEN EXPOSED TO TEMPERATURES OF 250 F OR HIGHER.
3. ACCEPTABLE PRODUCTS: HILTI FS-ONE, 3M JCP-25S CAULK OR #303 PUTTY. DOW CORNING FIRE STOP FOAM #RTV, 13X4 DOW CORNING.
4. APPLICATIONS:
- 4.1. ULC SYSTEM #P731 - METAL PIPING OR CONDUIT THRU GYPSUM WALL ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)
  - 4.2. ULC SYSTEM #P717 - METAL PIPING OR CONDUIT THRU WOOD FLOOR ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)
  - 4.3. ULC SYSTEM #W5029 - INSULATED METAL PIPING THRU GYPSUM WALL ASSEMBLY (F RATING UP TO 1 HR OR 2HR)
5. CONSULT THE PROJECT SHOP DRAWINGS WITH DETAILED MATERIAL INFORMATION INDICATING ULC OR ULC RATINGS AS WELL AS APPLICATION INSTRUCTIONS.

## HVAC GENERAL NOTES

1. THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE OTHER PLANS, AS WELL AS THE MFG SPECIFICATIONS FOR THE SPECIFIED EQUIPMENT.
3. BALANCING:
  - 3.1 A COPY OF THE MANUFACTURERS INSTRUCTIONS SHALL BE PROVIDED TO THE OWNER
  - 3.2 DURING INSTALLATION
  - 3.3 BALANCING SHALL BE CONDUCTED FOR COMMERCIAL OCCUPANCY TO ENSURE MINIMUM AIR FLOWS AT EACH EXHAUST, SUPPLY AIR TRUNKER; BALANCING SHALL BE PER ASHRAE 62.1 PROCEED AT EXHAUSTS AND SUPPLY AIR (ESP-TSP MOTOR CURRENT); BALANCING SHALL BE COMPLETED BY A QUALIFIED CONTRACTOR TO THE STANDARDS OF ASHRAE 111-2008 OR SMCMAA STANDARDS, WITH A COPY OF THE REPORT BEING FORWARDED TO THE ENGINEER FOR REVIEW
  - 3.4 BALANCING IS OPTIONAL FOR RESIDENTIAL OCCUPANCY, IF BALANCING IS DESIRED, IT SHALL BE CONDUCTED TO FEATURE MINIMUM/AIR FLOWS AT EACH DIFFUSER, EXHAUST, PROCEED AIR TRUNKER, DUCT AND SUPPLY AIR (ESP-TSP MOTOR CURRENT); BALANCING SHALL BE COMPLETED BY A QUALIFIED CONTRACTOR TO THE STANDARDS OF ASHRAE 111-2008 OR SMCMAA STANDARDS.
4. MATERIALS / EQUIPMENT
  - 4.1 ALL NEW DUCTS, ASSOCIATED FITTINGS, CONNECTORS AND PLENUMS SHALL BE OF GALVANIZED STEEL
  - 4.2 DUCT SEALING SHALL HAVE JOINTS THAT ARE SEALED WITH SEALANT COMPOUND, TO SMCMAA CLASS "B" AT MINIMUM (LONGITUDINAL & TRAVERSE JOINTS).
  - 4.3 DUCTS UP TO 350MM LARGEST DIMENSION SHALL HAVE A WALL THICKNESS OF 0.33mm MINIMUM
  - 4.4 DUCTS SHALL BE SECURELY SUPPORTED BY METAL HANGERS, STRAPS, LUGS, OR BRACKETS.
  - 4.5 ALL ROUND DUCTS SHALL BE TIGHTLY FITTED AND LAPPED NOT MORE THAN 25mm.
  - 4.6 RECTANGULAR DUCT CONNECTIONS SHALL BE MADE WITH S OR DRIVE CLEATS OR EQUIVALENT.
  - 4.7 DUCT SEALANTS SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT CLASSIFICATION OF NOT MORE THAN 50.
  - 4.8 TAPE USED FOR SEALING JOINTS IN AIR DUCTS, PLENUMS AND OTHER PARTS OF THE AIR DUCT SYSTEM SHALL MEET THE FLAME RESISTANCE REQUIREMENTS FOR FABRIC IN CLASS-1019 STANDARD FOR FLAME TESTS OF FLAME RESISTANT FABRICS AND FIBERS.
  - 4.9 FLEX PIPING SHALL BE INSULATED PER ASHRAE 90.1 TABLE 6.8.3.
  - 4.10 SILENCING CONTROLS TO BE PART OF THE HEATING SYSTEM CONTROLS.

## INSTALLATION

1. ALL WORKS TO BE COORDINATED WITH OTHER TRADES AS REQUIRED.
2. CONTRACTOR IS RESPONSIBLE FOR REVIEW OF POTENTIAL INTERFERENCES OF OTHER SERVICES.
3. REFLECTED CEILING PLAN MAY VARY PER ARCHITECTURAL PLANS.
4. EXACT LOCATION OF THE HVAC UNITS MAY VARY SLIGHTLY BASED UPON SITE CONDITIONS.
5. OUTDOOR GRILL/HOOD STYLE AND COVER TO BE COORDINATED BETWEEN THE CONTRACTOR AND OWNER.
6. A ROOM THERMOSTAT SHALL BE INSTALLED 1.6m A.F.F. IN THE LOCATIONS SHOWN. MODEL OF THERMOSTAT TO BE DETERMINED BY BASE-BUILDING CONSTRUCTION. 7 DAY PROGRAMMABLE AND 51/2 DAY PROGRAMMABLE, SEE PLAN.
7. RIGID DUCTWORK SHALL BE INSTALLED TO THE DIFFUSERS.
8. MANUAL DAMPERS SHALL BE INSTALLED ON ALL BRANCH DUCTS AND DIFFUSERS, FOR SYSTEM BALANCING.
9. ALL EXHHAUST DUCTS SHALL HAVE, THE ONE FURT CLOSEST TO THE EXIT POINT FROM THE BUILDING INSULATED, PROVIDE 1" FIBERGLASS INSULATION OUTSIDE OF DUCT.

## GENERAL NOTES

DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL  
DIMENSIONS ON SITE AND FROM MANUFACTURER'S REVIEWED SHOP DRAWINGS.

COORDINATE THE WORK OF ALL TRADES SO AS TO AVOID ANY INTERFERENCES BETWEEN NEW AND EXISTING PIPING, DUCTWORK, ELECTRICAL CONDUIT, LIGHTING FIXTURES AND EQUIPMENT AND WITH THE FREE USE OF THE BUILDING SPACE.

DISMANTLED EQUIPMENT SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL NOT BE REMOVED FROM THE SITE WITHOUT THE OWNER'S PERMISSION.

EXISTING MATERIALS AND EQUIPMENT DESIGNATED TO BE DISMANTLED AND NOT REQUIRED BY THE OWNER SHALL BE DEEMED DEBRIS AND SHALL BE REMOVED FROM THE SITE.

PROVIDE ANY ADDITIONAL EXCAVATION REQUIRED TO ACCOMMODATE INSTALLATION OF NEW PIPING MAINS AND BRANCHES. BACKFILL WILL BE BY OTHERS.

## GENERAL SITE SERVICES NOTES

1. CONTRACTOR IS TO VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. ALL EXISTING UTILITIES AND SERVICES ARE TO BE MAINTAINED AND SUPPORTED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER OF THE UTILITY.

## GENERAL DEMOLITION NOTES

1. CONTRACTOR IS TO ENSURE THAT ALL EXISTING SERVICES SERVING EXISTING AREAS REMAIN IN SERVICE UNTIL THESE AREAS ARE RECONNECTED TO NEW SERVICES. ONLY THEN OBSOLETE EQUIPMENT AND SYSTEMS IS TO BE REMOVED AS SHOWN.
2. ALL DISTURBED SURFACES AFTER EQUIPMENT AND SYSTEMS REMOVAL OR REROUTING TO BE FILLED-IN WITH APPROPRIATE MATERIAL TO MAINTAIN FIRE SEPARATION AND PATCHED TO MATCH EXISTING OR NEW.

3. CONTRACTOR IS TO ENSURE THAT ALL EXISTING REMOVED FIXTURES AND EQUIPMENT REMAIN THE PROPERTY OF THE OWNER, UNLESS DIRECTED FOR DISPOSAL AT THE OWNERS DISCRETION. COST OF REMOVAL AND DISPOSAL TO BE INCLUDED IN CONTRACT

## GENERAL NOTES

- REFER TO MECH. SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
2. REFER TO CONTRACTOR SHALL AND OWNER INSTRUCTIONS FOR PHASING AND STAGING.
3. THE CONTRACTOR SHALL COORDINATE WITH THE STRUCTURAL TO PROVIDE OPENINGS AND SIZES REQUIRED FOR STRUCTURAL ELEMENTS WHERE REQUIRED.
4. CONTRACTOR SHALL VERIFY ALL CEILING FINISHES WITH ARCHITECTURAL DRAWINGS, CONTRACTOR AND DIFFUSER/GRILLE SUPPLIER ARE RESPONSIBLE TO PROVIDE ALL PLANS, INCLUDING FINISHING TRADES, JOISTS, HANGERS AND ACCESSORIES TO SUIT ARCHITECTURAL CEILING TYPES.
5. MECHANICAL CONTRACTOR SHALL CO-ORDINATE AND PROVIDE DETAILS OF MOUNTING REQUIREMENTS FOR CEILING TYPES AND MATERIALS IN DRYWALL, CEILINGS TO DRYWALL, TRADE AND ENSURE EDGES OF OPENINGS ARE FINISHED BY DRYWALL, TRADE TO SUPPORT DIFFUSERS AND GRILLES PROPERLY. DIFFUSERS AND GRILLES MUST NOT BE SUPPORTED SOLELY BY HANGER WIRES.
6. CONTRACTOR SHALL HAVE ROOF PENETRATIONS MADE AND SEALED BY AN APPROVED ROOFING CONTRACTOR IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS.
7. PENETRATIONS OF CONCRETE SHALL BE SAW-CUT OR CORE BORED IMPACT HAMMERS ARE NOT ALLOWED, SEAL ALL DUCTWORK & SLEEVES TO PREVENT LEAKAGE THRU FLOOR.
8. CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS, ARCHITECTURAL FINISHED CEILING PLANS AND ARCHITECTURAL ROOM FINISH SCHEDULES AS SOON AS CONTRACT DOCUMENTS ARE SIGNED. ADVISE CONSULTANT OF ANY CONFLICTS BETWEEN CEILING TYPE AND MATERIALS.
9. DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, MANUFACTURER'S SHOP DRAWINGS, AND ON SITE INSPECTIONS.
10. MECHANICAL DIV. 2-14 ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER SO AS TO AVOID INTERFERENCE BETWEEN PIPING, DUCTWORK, CONDUIT, LIGHTING FIXTURES, ETC.
11. CONTRACTOR SHALL COORDINATE WITH ALL TRADES TO OBTAIN ACCESS PRIOR TO INSTALLATION OF ANY EQUIPMENT, DUCTWORK AND CONTROLS. COORDINATE WITH ARCHITECTURAL ELEVATIONS FOR ARCHITECTURAL, MECHANICAL, AND ELECTRICAL FINISHES.
12. PROPERLY SUPPORT CEILING MOUNTED EQUIPMENT AND ANY OTHER EQUIPMENT INDEPENDENT OF CEILING SUPPORT SYSTEM. REFER TO ARCHITECTURAL DETAILS AND COORDINATE WITH ALL TRADES.
13. REFER TO ARCHITECTURAL FOR OWNER SUPPLIED EQUIPMENT. CONFIRM ALL MECHANICAL REQUIREMENTS AND PROVIDE TO SUIT.
14. REVIEW ARCHITECTURAL, ELECTRICAL, AND STRUCTURAL DRAWINGS AND PROHIBIT ON SITE INSPECTIONS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.
15. ALL DUCTWORK FITTINGS SHALL BE RIGID GALVANIZED IRON, UNLESS NOTED OTHERWISE.
16. CONTRACTOR SHALL BE LIMITED TO 3'-0" IN LENGTH TALL FOR ANY RUNOUT.
17. NO FLEXIBLE DUCTWORK SHALL BE PERMITTED FOR OFFSETTING.
18. WHEN MODIFICATIONS HAVE BEEN DONE TO THE EXISTING SYSTEMS CONTRACTOR MUST REBALANCE THE AFFECTED REMAINING PARTS OF THE SYSTEM.
19. CUT AND PATCH ALL WALLS, ROOFS, CEILINGS FLOORS AS REQUIRED FOR INSTALLATION AND DEVOLMENT. MAINTAIN STRUCTURAL AND FIRE SEPARATION WALLS. PATCH ALL FINISHED SURFACES TO MATCH NEW OR EXISTING FINISHES. COORDINATE WITH ARCHITECTURAL TRADES.
20. CAP ALL SERVICES THAT REMAIN AFTER DEVOLMENT.
1. PROPOSED LOCATION FOR FIRE EXTINGUISHER, EXACT QUANTITY AND LOCATIONS TO BE COORDINATED WITH ARCHITECT AND FIRE DEPT. SEE 58.2-10 LOCATIONS
2. RESERVED
3. SUPPLY AND INSTALL GAS GRATE TYPE AND GRILLE IN JEUX OF CEILING TILE ABOVE WALK-IN COOLER AND FREEZER IN PLACE 18" X 18"
4. LOCATE EXISTING THERMOSTAT TO NEW POSITION AS SHOWN. ENSURE PROPER OPERATION AND REPORT ANY DISCREPANCIES IMMEDIATELY. THERMOSTAT DISCREPANCIES TO BE RPTD TO OWNER.
5. DUCTWORK INSTALLATION, INSTALL FIRST 10'-0" OF ALL SUPPLY AND RETURN DUCTWORK AS REQUIRED.
6. RESERVED
7. LOCATION OF GAS METER AND LINE IN THE UNDERFLOOR. INSTALL NEW GAS PIPING AS SHOWN ON PLAN. PERFORM NEW WORK IN ACCORDANCE WITH BASE BUILDING AND GAS CODE. AS STANDARDS.
8. GAS LINE USED FROM ROOF LEVEL ABOVE. DISTRIBUTE AS SHOWN TO SERVE NEW GAS FIRED EQUIPMENT
9. NEW GAS LINE TO BE EXTENDED FROM EXISTING GAS LINE. EXACT LOCATION SITE TO BE DETERMINED. DISTRIBUTE GAS LINE TO SERVE NEW WALL U.A. SHOWN. EXACT SIZE OF GAS LINE TO BE DETERMINED ON SITE BY GAS FITTER. EXACT LENGTH/STANDARD APPROX HAS BEEN DETERMINED ON SITE FROM GAS METER. COORDINATE THIS WORK WITH GAS LINE. GAS COMPANY PRIOR TO PRICING THE SCOPE OF WORK. REPORT ANY DISCREPANCIES IMMEDIATELY.
10. NEW GAS GAS AND METER REQUIREMENTS ARE TO BE COORDINATED WITH THE TENDENT-LANDLORDS AGREEMENT AND LOCAL GAS COMPANY PRIOR TO TENDERING THIS SCOPE OF WORK OR ORDERING ANY MATERIALS. EXISTING NEW GAS LINE AS PER BASE BUILDING STANDARDS. SUPPLY AND INSTALL ALL HARDWARE AND MATERIALS AS NEEDED TO SUPPORT. EXACT SIZES OF WORK TO BE COORDINATED ON SITE WITH THE ADJACENT TENANT. SENSE, OWNER AND LANDLORDS TO PROVIDE NEW PIPING DISTRIBUTION AS SHOWN. SPLIT UP TO THE TENANTS EQUIPMENT. THE GAS FITTER SHALL VISIT THE SITE TO DETERMINE EXACT BILL OF MATERIALS REQUIRED TO REPAIR NEW WORK IN ACCORDANCE WITH BASE BUILDING STANDARDS PRIOR TO ORDERING ANY MATERIALS. ALL WORK IS TO BE IN CONFORMANCE WITH ALL ACCEPTABLE CODES AND REGULATIONS.
- AIR BALANCEING NOTES**
- THIS CONTRACTOR SHALL EMPLOY INDEPENDENT BALANCING AND TESTING AGENCY. AIR BALANCE REPORT TO BE PERFORMED PER ALL APPLICABLE RULES AND REGULATIONS. THE PROJECT SHALL NOT BE CONSIDERED COMPLETE UNTIL THE BALANCE REPORTS HAVE BEEN APPROVED. THE BALANCING REPORT SHALL INCLUDE, BUT NOT LIMITED TO THE FOLLOWING.
- A. HVAC UNIT DATA SHEET  
MAKE, MODEL AND SERIAL NUMBER
- B. AIR OUTLET SHEET  
OUTLET NUMBER, MAKE, MODEL
- C. AIR FLOW, REQUIRED VELOCITY, REQUIRED CFM, ACTUAL CFM, MIN. VELOCITY

20. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CODES, AMENDMENTS, BULLETINS ETC. AND REQUIREMENTS OF ALL INSPECTION AUTHORITIES OF THE JURISDICTION.

EXISTING MECHANICAL SERVICES SHOWN ON THESE DRAWINGS WERE TAKEN FROM THE ORIGINAL CONTRACT DRAWINGS. THE CONTRACTOR SHALL VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING SERVICES ON SITE AND SHALL REMOVE ALL REDUNDANT SERVICES IN THE AREAS OF CONSTRUCTION.

## HVAC PLAN CODED NOTES

- WELED GEASE EXHAUST DUCT FROM ROOF HOOOL COWL. PROVIDE WELD DUCT TRANSITION FROM HOOOL AND FAN COWL. COWL SHALL INSTALLED IN ACCORDANCE WITH BASE BUILDING STANDARDS AND REGULATIONS.
- LOCATION OF UTILITY CABINET, SHOP STATION CONTROLS & FIRE SUPPRESSION SYSTEM MTD. MTD. ON SIDE OF HOOOL SYSTEM.
- ROOF CURBS PROVIDED BY LANDLORD. EXTEND GOOSENECK ROOF CURB TO ROOF CURB CONJUNCTION. BY BAREP. EXTEND NEW BAREP BAREP ROOF CURB AND EXTEND NEW CENTURY EXHAUST COWLS TO ROOF.
- MULTI-A DISTRIBUTION TO BE FULLY DUCTED TO EXHAUST HOOOL PSP PLENUM PROVIDE: RISE TO ROOF PSP COLLARS SIZE 14" TO MULT A DUCT.
- MAINTAIN ALL EXHAUST OUTLETS MINIMUM 10' CLEARANCE TO ANY FRESH AIR / OUTDOOR AIR INTAKE LOWERS OR HOOOS.
- ELECTRIC HEATER TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. CWT BUILT IN T/ST.
- APPROX LOCATION:
- APPROX LOCATION ON SITE. LOCATE THERMISTAT TO NEW POSITION AS SHOWN AND DISTRIBUTE DUCT WORK AS INDICATED. REPLACE PLATE FITTER ON COMPLETION OF DISTRIBUTION. ENSURE PROPER OPERATION OF UNIT & REPORT ANY DISCREPANCIES IMMEDIATELY TO THE VENDOR. LOCATION AND ORIENTATION OF ROOF T/ST UNIT PRIOR TO FABRICATION OF ANY DUCTWORK.
- PROPOSED LOCATION FOR FIRE EXTINGUISHER. EXACT LOCATION AND LOCATIONS TO BE COORDINATED WITH ARCHITECT AND FIRE DEPT. SUB 2A-10BC RATING.
- RESERVED
- SUPPLY AND INSTALL GGGG COWT TYPE AND GRILLE IN LINE OF CEILING T/ST ABOVE WALK-IN COOLER AND FREEZER IN PRICET 81 SERIES.
- LOCATE EXISTING THERMISTAT TO NEW POSITION AS SHOWN. ENSURE PROPER OPERATION AND REPORT ANY DISCREPANCIES IMMEDIATELY. THERMISTAT SENSITIVITIES TO BE COORDINATED WITH THE VENDOR.
- DUCTWORK INSTALLATION. INSULATE FIRST 10' OF ALL SUPPLY AND RETURN DUCTWORK AS REQUIRED.
- RESERVED
- LOCATION OF GAS METER AND LINE BY THE LANDLORD. INSTALL NEW GAS PIPING AS SHOWN ON PLAN. PERFORM NEW WORK IN ACCORDANCE WITH BASE BUILDING AND GAS PIPING CODES & STANDARDS.
- GAS LINE FEED FROM ROOF LEVEL ABOVE. DISTRIBUTE GAS SUPPLY TO SERVE NEW GAS FIRED EQUIPMENT.
- NEW GAS LINE TO BE EXTENDED FROM EXISTING GAS LINE. EXACT LOCATION TO BE VERIFIED. DISTRIBUTE GAS LINE TO SERVE NEW (MULT A) IS SHOWN. EXACT SIZE OF GAS LINE TO BE DETERMINED ON SITE AS GAS FITTER (ONE EXACT LENGTH/DISTANCE) TO BE DETERMINED ON SITE. COORDINATE WITH THE VENDOR. COORDINATE THIS WORK WITH LOCAL GAS COMPANY PRIOR TO PIPING THE SCOPE OF WORK. REPORT ANY DISCREPANCIES IMMEDIATELY.
- NEW GAS LINE AND METER REQUIREMENTS ARE TO BE COORDINATED WITH THE TENDANT- LANDLORD AND GAS COMPANY PRIOR TO TENDERING THE SCOPE OF WORK. COORDINATE WITH THE VENDOR. COORDINATE THIS WORK WITH LOCAL GAS COMPANY PRIOR TO PIPING THE SCOPE OF WORK. REPORT ANY DISCREPANCIES IMMEDIATELY.
- NEW GAS LINE AND METER REQUIREMENTS ARE TO BE COORDINATED WITH THE TENDANT- LANDLORD AND GAS COMPANY PRIOR TO TENDERING THE SCOPE OF WORK. COORDINATE WITH THE VENDOR. COORDINATE THIS WORK WITH LOCAL GAS COMPANY PRIOR TO PIPING THE SCOPE OF WORK. REPORT ANY DISCREPANCIES IMMEDIATELY.

## AIR BALANCING NOTES

THIS CONTRACTOR SHALL EMPLOY INDEPENDANT BALANCING AND TESTING AGENCY. AIR BALANCE REPORT TO BE PERFORMED AS PER ALL APPLICABLE RULES AND REGULATIONS. THE PROJECT SHALL NOT BE CONSIDERED COMPLETE UNTIL THE BALANCE REPORTS HAVE BEEN APPROVED. THE BALANCING REPORT SHALL INCLUDE, BUT NOT LIMITED TO THE FOLLOWING.

- A. HVAC UNIT DATA SHEET  
- MAKE MODEL AND SERIAL NUMBER
- B. AIR OUTLET SHEET  
- OUTLET NUMBER MAKE MODEL  
- AREA FACTOR, REQUIRED VELOCITY, REQUIRED CFM, ACTUAL CFM, ACTUAL VELOCITY
- C. SINGLE LINE DRAWING WITH OUTLETS NUMBERED CORRESPONDING TO AIR OUTLET SHEET
- TWO (2) COPIES NO BE SUBMITTED TO THIS ENGINEER FOR APPROVAL PRIOR TO PROJECT SUBSTANTIAL AND PRIOR TO FINAL INSPECTION.
- TWO (2) COPIES TO BE SUBMITTED TO OWNER AND TWO (2) TO LANDLORD

## EXHAUST FAN SCHEDULE

TAG	LOCATION	AREA SERVED	MODEL	DRIVE TYPE	CFM	TOTAL EXTERNAL SP	FAN RPM	BHP	HP	V/C/P	SONES (INLET)	NOTES
EF-1			CUE-090-G	Direct	240	0.461	1,300	0.05	1/25	115/60/1	5.9	
EF-2			CUE-090-G	Direct	240	0.461	1,300	0.05	1/25	115/60/1	5.9	

### BASEBOARD HEATER (BBH) SCHEDULE

BASEBOARD HEATER (BBH) SCHEDULE	
TAG	DESCRIPTION
BBH-1	ELECTRIC BASE BOARD HEATER AS PER CHROMOLOX ECLIPSE 1500 WATT (40 IN) 208 VOLT OR EQUAL.
BBH-2	ELECTRIC BASE BOARD HEATER AS PER CHROMOLOX ECLIPSE 500 WATT (20 IN) 208 VOLT OR EQUAL.

## SUPPLEMENTAL NOTES + SPECIFICATIONS

THE TENDER PACKAGE MAY INCLUDE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK FOR THIS PROJECT. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK IS TO BE READ IN CONJUNCTION AND FORM OF A PART OF THE DRAWINGS AND SPECIFICATIONS AND TENDER DOCUMENTS AND THE WHOLE SHALL CONSTITUTE PART OF THE CONTRACT DOCUMENTS. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK TAKES PRECEDENCE OVER THE DRAWING PRECEDENCE OVER THE THE DRAWINGS.

THE BIDDER IS TO DISTRIBUTE THE DRAWINGS AND SPECIFICATIONS AND SCOPE TO WORK, AND ALL OTHER PERTINENT DOCUMENTATION AND INFORMATION TO ALL VENDORS AND SUBCONTRACTORS, AND ENSURE THAT ALL OF THE REQUIREMENTS ARE INCLUDED IN THE TENDER PRICE. THE BIDDER IS TO REPORT ALL DISCREPANCIES TO THE OWNER PRIOR TO SUBMITTING THE BID.

## FIELD VERIFY ALL CONDITIONS

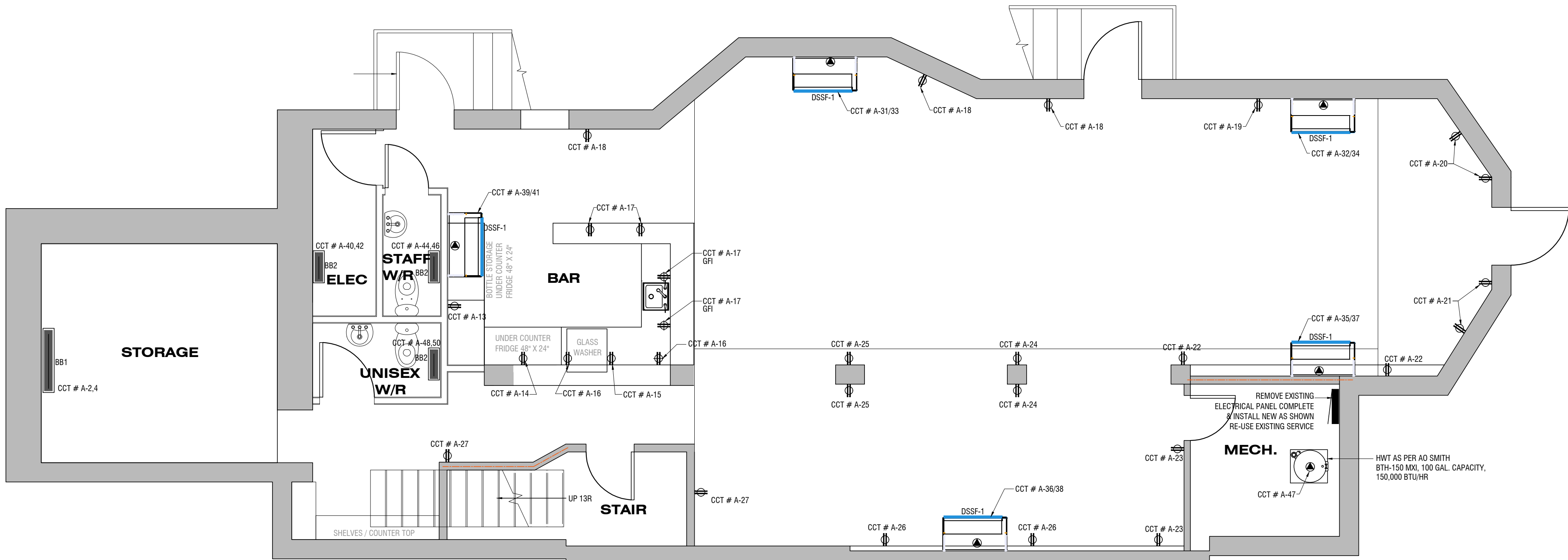
THIS ELECTRICAL CONTRACTOR MUST REVIEW ALL CURRENT SITE CONDITIONS WITH RESPECT TO NEW DESIGN DRAWINGS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED BY THE OWNER, ARCHITECT OR DRAWINGS. ALL ELECTRICAL, TELEPHONE, DATA, ETC. SYSTEMS NO LONGER REQUIRED SHALL BE DISCONNECTED FROM IT POWER SUPPLY AND REMOVED I.E. ALL BRANCH WIRING MUST BE PULLED FROM CONDUIT, WALLS OR CEILING SPACE AND MADE SAFE. ANY DISCREPANCIES FOR REMOVAL OR RE-USE IF ANY EXISTING EQUIPMENT MUST BE DISCUSSED WITH OWNER OR ARCHITECT PRIOR TO PROCEEDING WITH THE WORK. (A SITE VISIT IS RECOMMENDED PRIOR TO TENDER)

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDES THEIR BIDS OF THE COST FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

## CONTRACTOR NOTE

SPECIFICATIONS PROVIDED FOR KITCHEN HOOD, MAKE UP AIR UNIT AND EXHAUST FAN ARE PERFORMANCE SPECIFICATIONS. CONTRACTOR MAY SWITCH BRANDS TO APPROVED EQUALS PROVIDED SHOP DRAWINGS ARE PROVIDED TO E.O.R. FOR REVIEW PRIOR TO FABRICATION.

1.1. GENERAL		ITEM REQUIRED FOR THE COMPLETE MECHANICAL INSTALLATION. THEREFORE, THE CONTRACTOR SHALL MAKE HIS OWN PROVISIONS FOR ALL LABOUR, MATERIALS AND EQUIPMENTS DEEMED NECESSARY TO COMPLETE THE MECHANICAL SYSTEM.	
1.1. CONTRACTOR RESPONSIBILITIES			
1.1.1.	THE RESPONSIBILITY AND SCOPE OF EACH SUB-TRADE RESTS SOLELY WITH THE CONTRACTOR. EXTRAS WILL NOT BE CONSIDERED BASED ON THE GROUNDS OF DIFFERENCE IN INTERPRETATION OF SPECIFICATIONS AND DRAWINGS AS TO WHICH TRADE INVOLVED SHALL PROVIDE CERTAIN SPECIALTIES OR MATERIALS.	1.1.2.	CONTRACTOR TO MAKE CERTAIN THAT ALL ADDENDA TO THE SPECIFICATIONS AND ALL REVISIONS TO THE DRAWINGS ARE INCLUDED IN THEIR QUOTATION.
1.1.3.	CONTRACTOR TO ENSURE THAT DELIVERY TIME OF ALL MECHANICAL EQUIPMENTS WILL NOT CAUSE DELAY IN THE SCHEDULING OF THIS PROJECT.	1.1.4.	ALL WORK AND MATERIALS SHALL COMPLY WITH THE CURRENT EDITION OF THE ONTARIO BUILDING CODE, LOCAL BUILDING REGULATIONS, AND ALL CODES AND AUTHORITIES HAVING JURISDICTION.
1.1.5.	PRIOR TO SUBMITTING A TENDER, THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES AND BRING THEM TO THE ATTENTION OF THE ENGINEER. FURTHER, THE CONTRACTOR IS TO EXAMINE THE SITE, CONDITIONS AND ALL ASSOCIATED SCOPES OF WORK THAT FALL UNDER THE CONTRACT AND DETERMINE THAT ALL COSTS FOR THE WORK ARE FULLY COVERED IN HIS TENDER SUBMISSION.	1.1.6.	DURING CONSTRUCTION THE CONTRACTOR SHALL ENSURE THAT ALL MATERIAL AND EQUIPMENT IS NEW AND MEETS OR EXCEEDS THE QUALITY AS SET OUT IN THE SPECIFIED EQUIPMENT AND APPLICABLE CODES. THE INSTALLATION OF ALL EQUIPMENT AND MATERIALS SHALL BE OF THE HIGHEST WORKMANSHIP AND QUALITY. ATTENTION TO DETAIL, SAFETY, NECESSARY ACCESS FOR MAINTENANCE, DURABILITY, ETC. IS EXPECTED AND REQUIRED.
1.1.7.	IF THE OWNER OR THEIR REPRESENTATIVE PRE-PURCHASES OR SUPPLIES EQUIPMENT OR MATERIALS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF THEM AS PER MANUFACTURERS RECOMMENDATIONS. OWNER FURNISHED ITEMS MUST MEET THE COMPLIANCE REQUIREMENTS OF THE CONTRACT DOCUMENTS.	1.1.8.	ALL EQUIPMENT IS TO BE SET STRAIGHT AND SQUARE WITH THE STRUCTURE. PIPING AND DUCTWORK IS TO BE INSTALLED PARALLEL OR AT RIGHT ANGLES TO ALL WALLS AND STRUCTURAL MEMBERS. HANGER RODS, EQUIPMENT BASES, SUPPORTS AND ISOLATION ARE TO BE SET PLUMB AND SQUARE AND IN VERTICAL ALIGNMENT WHERE APPLICABLE. ALL WORK IS TO BE NEAT AND CLEAN UPON COMPLETION.
1.1.9.	THE CONTRACTOR SHALL MAKE NECESSARY REVISION, ALTERATIONS, CHANGES AND ADDITIONS TO ANY AND ALL WORK AS REQUIRED TO ACCOMMODATE OTHER TRADES SCOPE OF WORKS INCLUDING, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL, WITHOUT COST TO THE OWNER.	1.1.10.	THE TERM "SUPPLY," "PROVIDE," "INSTALL," SHALL MEAN TO SUPPLY AND INSTALL ALL NECESSARY LABOUR, MATERIALS, TOOLS AND EQUIPMENT AS MAY BE NECESSARY TO INSTALL SAME FOR THE COMPLETE AND FUNCTIONAL OPERATION OF THE MECHANICAL SYSTEMS FOR THIS PROJECT.
1.1.11.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRANSPORTATION AND PROTECTION OF ALL EQUIPMENT AND MATERIAL PROVIDED FOR THIS PROJECT UNTIL THE OWNER HAS ACCEPTED THE BUILDING. THIS SHALL INCLUDE STORAGE OF SAME ON SITE AND REMOVAL OF ALL MATERIALS AND REFUSE AS A RESULT.	1.1.12.	PROVIDE ALL NECESSARY SCAFFOLDING, LADDERS, HOISTS, RIGGING, ETC. AS REQUIRED FOR THE INSTALLATION OF THE WORK WITHIN THIS SCOPE. ALL HOISTING, SUPPORTS, DELIVERY, ETC OF EQUIPMENT AND MATERIAL FOR THIS PROJECT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
1.1.13.	THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF THE BUILDING, WORK OF OTHERS, ETC. DURING THE COURSE OF CARRYING OUT HIS WORK. ANY DAMAGES INVOLVED IN THIS CONTRACT, THE CONTRACTOR SHALL MAKE GOOD AND/OR PAY FOR ANY DAMAGES SUSTAINED. THE OWNER RESERVES THE RIGHT TO BACKCHARGE THE CONTRACTOR FOR THE REPAIR AND/OR REPLACEMENT OF ANY DAMAGES.	1.1.14.	THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND PAY FOR ALL NECESSARY FEES AND OTHER COSTS ASSOCIATED WITH CARRYING OUT THE WORK HEREIN. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY AND ALL CERTIFICATES AS REQUIRED TO ENSURE THAT THE INSTALLATION IS IN CONFORMANCE WITH, AND HAS BEEN APPROVED BY ALL AUTHORITIES HAVING JURISDICTION, ANY REVISIONS AND/OR CHANGES REQUIRED BY THE AUTHORIZED INSPECTOR SHALL BE DONE WITHOUT CHARGE TO THE OWNER AND SHALL BE DONE SO AS NOT TO AFFECT SCHEDULE OR THE WORK OF OTHERS. ALL PERMITS SHALL BE POSTED IN A CONSPICUOUS PLACE ON SITE. UPON COMPLETION THIS CONTRACTOR IS TO PROVIDE THE OWNER WITH A CERTIFICATE OF FINAL APPROVAL FROM ALL AUTHORITIES INVOLVED IN THE SCOPE OF THIS WORK.
1.1.15.	IN CARRYING OUT THE WORK THE CONTRACTOR SHALL USE ONLY FULLY QUALIFIED PERSONNEL HAVING JURISDICTION UNDER MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS AND LICENSING.	1.1.16.	THE CONTRACTOR IS TO PROVIDE ALL NECESSARY INFORMATION ON REQUIRED OPENINGS, SLEEVES, AND CHASES AS MAY BE REQUIRED FOR HIS WORK TO ALL OTHER TRADES INVOLVED SO THAT THE WORK MAY BE DONE IN A TIMELY AND COST EFFECTIVE MANNER. FAILURE TO DO SO WILL RESULT IN ANY COSTS BEING CHARGED BACK TO THE CONTRACTOR. ALL DRILLING FOR HANGER RODS, BRACKETS, SUPPORTS, SLEEVES, ETC. SHALL BE BY THIS CONTRACTOR.
1.1.17.	INSTALL ALL PIPING, DUCTWORK, EQUIPMENT, ETC. GENERALLY IN THE ROUTES AND LOCATIONS AS SHOWN ON THE DRAWINGS. INSTALL ALL MATERIAL AND EQUIPMENT CLOSE TO STRUCTURE TO MINIMIZE, SHAFTS, FURNINGS, ETC. PIPING AND DUCTWORK THAT IS NOT INSTALLED PROPERLY SHALL BE REMOVED AND RE-INSTALLED AT NO EXTRA COST.	1.1.18.	THIS CONTRACTOR IS TO CO-ORDINATE THE DETAILED INSTALLATION OF THE DUCTWORK, PIPING AND EQUIPMENT WITH ALL CONDUIT, CABLE TRAYS, STRUCTURAL ELEMENTS, AND OTHER WORK OF THE OTHER TRADES. NO ADDITIONAL COSTS WILL BE CONSIDERED FOR CHANGES AS THE RESULT OF INTERFERENCE WITH THE WORK OF OTHERS. THIS INCLUDES ANY ADDITIONAL MATERIAL REQUIRED TO CORRECT MINOR JOB CONFLICTS FOR NORMALLY ACCEPTED PROCEDURES OF ANY AND ALL TRADES.
1.1.19.	THIS CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL NECESSARY ISOLATION VALVES, SPRING ISOLATORS, SHUT-OFFS, UNIONS, COUPLINGS, ETC. AS MAY BE REQUIRED FOR THE SAFE OPERATION AND CONTINUED MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. THIS SHALL INCLUDE ALL NECESSARY COMPONENTS AS MAY BE REQUIRED BY THE MANUFACTURER AS NOTED IN THEIR RESPECTIVE LITERATURE AND INSTALLATION DETAILS.	1.1.20.	THE CONTRACTOR MAY USE EQUIPMENT AND MATERIALS FROM AN APPROVED MANUFACTURER OR OTHER THAT IS SPECIFICALLY SPECIFIED. THE USE OF SAME DOES NOT RELIEVE THE CONTRACTOR FROM CONFIRMING TO OTHER TRADES ALL AFFECTED RELEVANT INFORMATION SUCH AS DIMENSIONS, ELECTRICAL, WEIGHT, ETC. ANY NECESSARY REVISIONS AS A RESULT SHALL BE PAID FOR BY THIS CONTRACTOR. IF THE PROPOSED EQUIPMENT OR NECESSARY MODIFICATIONS ARE NOT TO THE SATISFACTION OF THE ENGINEER THAT THE END RESULT WILL BE THE SAME THE CONTRACTOR SHALL PROVIDE THE SPECIFIED EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
1.1.21.	ALL EQUIPMENT AND MATERIAL SPECIFIED AND NOTED ON THE DRAWINGS IS SET AS A MINIMUM STANDARD FOR THE CONTRACTOR TO WORK TO. ALL SUBMITTED TENDERS SHALL BE BASED ON MATERIAL AND EQUIPMENT AS SPECIFIED. EQUIPMENT AND MATERIAL SUPPLIERS OTHER THAN THOSE SPECIFIED SHALL BE ACCOMPANIED WITH WRITTEN SUBMISSION FOR CONSIDERATION AS AN EQUAL OR ALTERNATE ALONG WITH ANY COST SAVINGS THAT MAY BE REALIZED AS A RESULT OF USING THIS EQUIPMENT. SUBMISSION FOR CONSIDERATION AS AN EQUAL SHALL BE MADE, ALONG WITH TECHNICAL INFORMATION, A MINIMUM OF 2 DAYS BEFORE CLOSE OF TENDER.	1.1.22.	THE CONTRACTOR SHALL NOT USE THE PERMANENT HEATING SYSTEM FOR TEMPORARY HEATING WITHOUT WRITTEN PERMISSION FROM THE OWNER/ENGINEER. ANY EQUIPMENT THAT IS USED SHALL BE CLEANED, LUBRICATED AND NEW FILTERS INSTALLED PRIOR TO TURNING OVER TO OWNER FOR COMPLETION.
1.1.23.	BEFORE FABRICATION AND INSTALLATION OF DUCTWORK AND PIPING, MAKE CERTAIN THAT ALL ITEMS CAN BE INSTALLED AS SHOWN ON THE DRAWINGS WITHOUT INTERFERENCE WITH THE STRUCTURE OR THE WORK OF OTHER TRADES. IF ANY MATERIALS ARE FABRICATED OR INSTALLED PRIOR TO THE INVESTIGATION AND REACHING OF A SOLUTION TO POSSIBLE INTERFERENCE PROBLEMS, NECESSARY CHANGES SHALL BE MADE AT THE CONTRACTORS EXPENSE.	1.2. EXAMINATION OF WORK	
1.2.1.	DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATELY TO SCALE. THE CONTRACT DOCUMENTS ESTABLISH SCOPE, MATERIAL AND QUALITY AND ARE NOT DETAILED INSTALLATION INSTRUCTIONS.	1.2.2.	THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE BUILDING, STRUCTURE AND THE WORKS OF THE OTHER TRADES INVOLVED. THIS CONTRACTOR SHALL WORK AND CO-OPERATE WITH THE OTHER TRADES TO ENSURE A QUALITY INSTALLATION, AND MINIMIZE CONFLICTS.
1.3. INTENT			
1.3.1.	IT IS THE INTENT OF THIS SPECIFICATION AND DRAWINGS TO PROVIDE FOR A COMPLETE AND FULLY OPERATING SYSTEM IN COMPLETE ACCORD WITH ALL APPLICABLE CODES. THESE SPECIFICATIONS MAY NOT COVER EACH AND EVERY	1.3.2.	THE SPECIFICATIONS ARE INTEGRAL WITH THE DRAWINGS WHICH ACCOMPANY THEM. NEITHER IS TO BE USED ALONE. ANY ITEM OR SUBJECT OMITTED FROM ONE, BUT IMPLIED ON THE OTHER IS PROPERLY SPECIFIED.
1.3.3.	WHENEVER DIFFERENCES OCCUR IN THE CONTRACT DOCUMENTS, THE MAXIMUM CONDITION WILL GOVERN AND BE INCLUDED IN THE CONTRACT PRICE.	1.3.4.	CONFORM TO MANUFACTURERS INSTRUCTIONS, DETAILS AND PROCEDURES FOR EQUIPMENT INSTALLATIONS.
1.3.5.	CONFIRM ALL NEW EQUIPMENT LOADING AND SUPPORT WITH STRUCTURAL ENGINEER PRIOR TO INSTALLATION.	1.4. QUALITY ASSURANCE	
1.4.1.	COMPLY WITH ALL PROVINCIAL AND LOCAL CODES FOR PROVISION OF MATERIALS, LABOUR AND INSTALLATION.	1.4.2.	USE TRADESMAN LICENSED BY PROVINCIAL AUTHORITIES FOR THE WORK SPECIFIED IN THIS SECTION.
1.4.3.	USE HIGHEST QUALITY PIPING CONFORMING TO THE APPROPRIATE ASTM AND CSA SPECIFICATIONS.	1.4.4.	ALL MUNICIPAL BYLAWS AND NFPA STANDARDS GOVERNING THE INSTALLATION SHALL BE STRICTLY ADHERED TO.
1.4.5.	CONCEALED OR INSULATED WORK SHALL REMAIN UNCOVERED UNTIL REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF CONSTRUCTION SCHEDULE REQUIRES, ARRANGE FOR PRIOR TESTS ON PARTS OF SYSTEM AS APPROVED.	1.5. INSURANCE	
1.5.1.	THE CONTRACTOR MUST HAVE COMPREHENSIVE GENERAL LIABILITY INSURANCE COVERAGE OF NOT LESS THAN \$2,000,000.00 INCLUDING NON OWNED CAR COVERAGE, CONTRACTUAL LIABILITY AND CONTAINING A CROSS SUPPLYER CLAUSE. COVERAGE SHALL INCLUDE LOSS OR DAMAGE CAUSED BY THE CONTRACTOR.	1.5.2.	THE CONTRACTOR SHALL CARRY FULL EMPLOYEE'S LIABILITY INSURANCE IN ACCORDANCE WITH THE WORKERS COMPENSATION ACT.
1.6. LIABILITY		1.6.1.	THIS CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYING OUT HIS WORK AND FOR ANY DAMAGE CAUSED TO OWNER OR OTHER CONTRACTOR BY IMPROPER LOCATION OR CARRYING OUT HIS WORK.
1.6.2.	THIS CONTRACTOR SHALL PROTECT ALL FINISHED AND UNFINISHED WORK OF HIS OWN AND OTHER CONTRACTORS, INCLUDING EXISTING FROM DAMAGE DUE TO CARRYING OUT HIS WORK.	1.7. COORDINATION AND CO-OPERATION	
1.7.1.	COORDINATE WORK WITH ALL OTHER SUBCONTRACTORS AND TRADES INVOLVED.	1.7.2.	CONFIRM IN WRITING TO GENERAL CONTRACTOR/ENGINEER ANY EXISTING SERVICES OR WORKS DEEMED TO BE UNACCEPTABLE/DEFECTIVE PRIOR TO COMMENCING WORK.
1.7.3.	THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO TENDER CLOSE.	1.8. CERTIFICATES, FEES, ETC.	
1.8.1.	GIVE ALL NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES SO THAT THE WORK SPECIFIED MAY BE CARRIED OUT. FURNISH ANY CERTIFICATES AT THE OWNERS REQUEST AS EVIDENCE THAT WORK INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTIONS. CERTIFICATES/PERMITS ARE TO BE PROVIDED FOR QUALITY OF WORKMANSHIP AND WORKMAN QUALIFICATIONS.	1.8.2.	INSPECTIONS SHALL BE MADE PROMPTLY. IF ANY WORK IS COVERED UP WITHOUT CONSENT, IT SHALL, IF REQUIRED, BE UNCOVERED FOR EXAMINATION AND MADE GOOD AT NO EXTRA COST TO OWNER.
1.8.3.	GIVE NECESSARY NOTICES, OBTAIN NECESSARY PERMITS AND PAY REQUIRED FEES AND TAXES IN ORDER THAT THE WORK UNDER THIS CONTRACT MAY BE CARRIED OUT.	1.8.4.	BE RESPONSIBLE TO FILE THE NECESSARY PLANS, TO PREPARE FOR AND OBTAIN APPROVAL OF DOCUMENTS AS REQUIRED BY GOVERNMENT AGENCIES HAVING JURISDICTION AND TO OBTAIN CERTIFICATES OF INSPECTION REQUIRED. DELIVER THESE TO THE CONSULTANT PRIOR TO REQUEST FOR ACCEPTANCE AND FINAL PAYMENT OF THE WORK.
1.8.5.	WORK AND MATERIALS SHALL BE IN COMPLETE ACCORDANCE WITH THE APPROVAL OF LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.	1.8.6.	PROVIDE CHANGES THAT ARE REQUIRED BY THE AUTHORITIES HAVING JURISDI



**SUPPLEMENTAL NOTES + SPECIFICATIONS**

THE TENDER PACKAGE MAY INCLUDE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK FOR THIS PROJECT. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK IS TO BE READ IN CONJUNCTION WITH AND FORM A PART OF THE DRAWINGS AND SPECIFICATIONS AND TENDER DOCUMENTS AND THE WHOLE SHALL CONSTITUTE PART OF THE CONTRACT DOCUMENTS. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK TAKES PRECEDENCE OVER THE DRAWINGS.

THE BIDDER IS TO DISTRIBUTE THE DRAWINGS AND SPECIFICATIONS, THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK, AND ALL OTHER PERTINENT DOCUMENTATION AND INFORMATION TO ALL VENDORS AND SUBCONTRACTORS, AND ENSURE THAT ALL OF THE REQUIREMENTS ARE INCLUDED IN THE TENDER PRICE. THE BIDDER IS TO REPORT ALL DISCREPANCIES TO THE OWNER PRIOR TO SUBMITTING THE BID.

**FIELD VERIFY ALL CONDITIONS**

THIS ELECTRICAL CONTRACTOR MUST REVIEW ALL CURRENT SITE CONDITIONS WITH RESPECT TO NEW DESIGN DRAWINGS AND SPECIFICATIONS. UNLESS OTHERWISE INDICATED BY THE OWNER, ARCHITECT OR DRAWINGS. ALL ELECTRICAL, TELEPHONE, DATA, ETC. SYSTEMS NO LONGER REQUIRED SHALL BE DISCONNECTED FROM THEIR POWER SUPPLY AND REMOVED. (I.E. ALL BRANCH WIRING MUST BE PULLED FROM CONDUIT, WALLS OR CEILING SPACE AND MADE SAFE). ANY DISCREPANCIES FOR REMOVAL OR RE-USE OF ANY EXISTING EQUIPMENT MUST BE DISCUSSED WITH THE OWNER OR ARCHITECT PRIOR TO PROCEEDING WITH THE WORK. (A SITE VISIT IS RECOMMENDED PRIOR TO TENDER).

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS, DRAWINGS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

THIS DRAWING AS AN INSTRUMENT OF SERVICE IS PROVIDED BY AND IS THE PROPERTY OF ROBERT E. DALE LIMITED.

THE CONTRACTOR MUST VERIFY AND ACCEPT RESPONSIBILITY FOR ALL DIMENSIONS AND CONDITIONS ON SITE AND MUST NOTIFY ARCHITECT / ENGINEER OF ANY VARIATIONS FROM THE SUPPLIED INFORMATION.

THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF SURVEY, ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC., INFORMATION SHOWN ON THIS DRAWING. REFER TO THE APPROPRIATE CONSULTANT'S DRAWINGS BEFORE PROCEEDING WITH THE WORK.

CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

THE CONTRACTOR WORKING FROM DRAWINGS NOT SPECIFICALLY MARKED 'FOR CONSTRUCTION' MUST ASSUME FULL RESPONSIBILITY AND BEAR COSTS FOR ANY CORRECTIONS OR DAMAGES RESULTING FROM HIS WORK.

THIS DRAWING IS NOT TO BE SCALED.

#### NOTE:

ALL DIMENSIONS AND ELEVATIONS MUST BE SITE MEASURED AND CONFIRMED PRIOR TO FABRICATION AND/OR ERECTION.

#### SHOP DRAWINGS

ALL SHOP DRAWINGS SUBMITTED TO THE ENGINEER SHALL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE INTENT OF THE STRUCTURAL DESIGN CONTAINED WITHIN THESE PROJECT DOCUMENTS ONLY.

DO NOT SUBMIT SHOP DRAWINGS AND/OR COVERING TRANSMITTALS MARKED 'FOR APPROVAL'. AFOREMENTIONED DOCUMENTS SO MARKED WILL NOT BE REVIEWED.

THESE DRAWINGS ARE THE PROPERTY OF ROBERT E. DALE LIMITED, CONSULTING ENGINEERS AND SHALL NOT BE USED AND/OR REPLICATED IN THE GENERATION OF SHOP DRAWING PURPOSES.

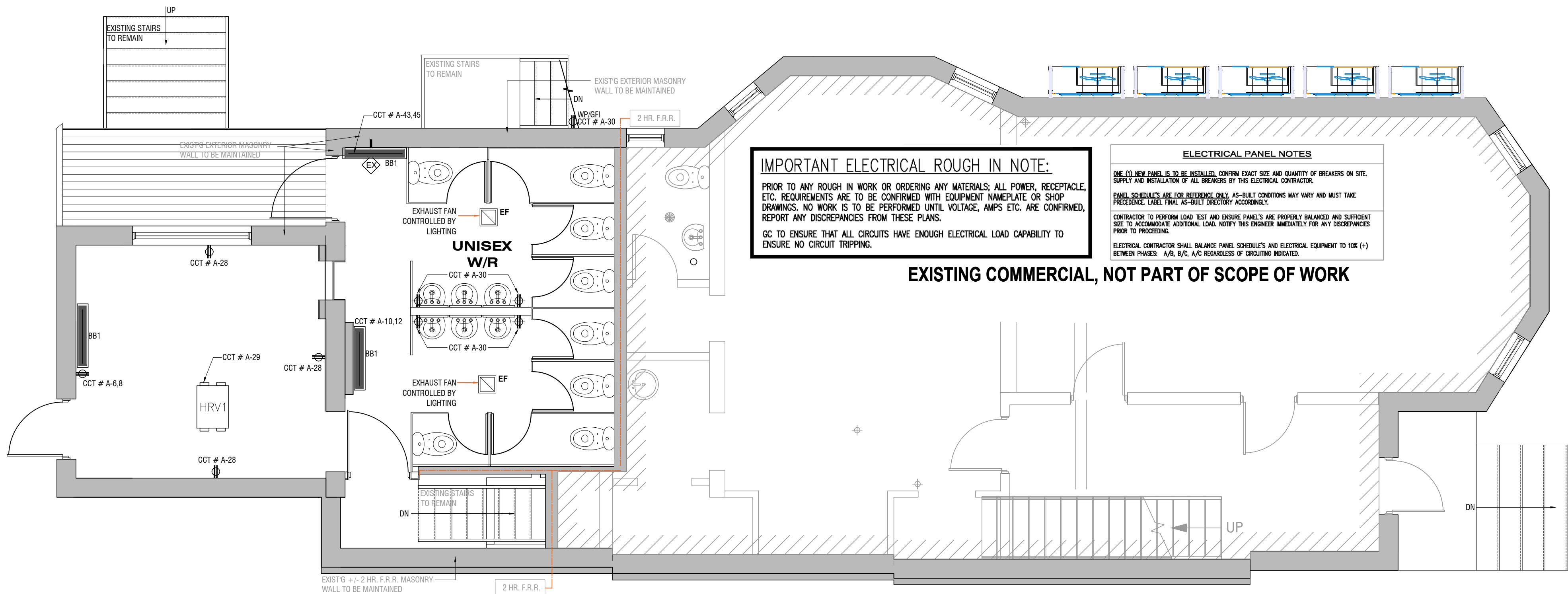
#### DISCLAIMER:

THESE DESIGN DOCUMENTS HAVE BEEN PREPARED BY ROBERT E. DALE LIMITED FOR THE ACCOUNT OF:

PARTY MAKES OF THESE DESIGN DOCUMENTS, OR ANY RELIANCE ON OR DECISIONS TO BE MADE BASED ON THEM, ARE THE RESPONSIBILITY OF SUCH THIRD PARTIES. ROBERT E. DALE LIMITED ACCEPTS NO RESPONSIBILITY FOR DAMAGES, IF ANY, SUFFERED BY ANY THIRD PARTY AS A RESULT OF DECISIONS MADE OR ACTIONS TAKEN BASED ON THESE DESIGN DOCUMENTS.

## LOWER LEVEL POWER PLAN

Scale : 1/4"=1'-0"



## MAIN LEVEL POWER PLAN

Scale : 1/4"=1'-0"

## NOTES ON ELECTRICAL AND COMMUNICATION

1. ALL SWITCHES, DIMMERS, ETC. TO BE MOUNTED VERTICALLY WITH MINIMUM DIMENSION BETWEEN UNLESS OTHERWISE SPECIFIED. MOUNTING HEIGHT TO BE 54" A.F.F. WHEREVER SEVERAL SWITCHES OR RECEPTACLES OCCUR AT SAME LOCATION, GANG THEM TOGETHER WITH SINGLE FACE PLATE.
2. ALL ELECTRICAL AND TELEPHONE RECEPTACLES TO BE MOUNTED VERTICALLY WITH MINIMUM DIMENSION BETWEEN UNLESS OTHERWISE SPECIFIED, MOUNTING HEIGHT TO BE 18" A.F.F.
3. REFER TO POWER AND COMMUNICATION PLAN AND REFLECTED CEILING PLAN FOR PLATE SPECIFICATION AND FINISHES.
4. DIMENSIONS ARE TO CENTRE OF FIXTURE, CENTRE OF OUTLET OR CENTRE OF GROUP OF OUTLETS AS APPLICABLE.
5. DESIGNER MUST APPROVE CHALKED OUTLINE OF LIGHTING FIXTURES WITHIN DRYWALL CEILING PRIOR TO CUTTING CEILING FOR INSTALLATION.
6. MAINTAIN CO-ORDINATION BETWEEN TRADES FOR INSTALLATION OF RECESSED FACILITIES WITH MILLWORK AND/OR CEILING DETAILS.
7. DESIGN DRAWINGS MUST BE READ IN CONJUNCTION WITH ENGINEERING DRAWINGS. DISCREPANCIES TO BE REPORTED TO THE DESIGNER PRIOR TO PROCEEDING WITH ANY WORK. DESIGN DRAWINGS INDICATED DIMENSIONS AND LOCATIONS.
8. LIST OF ELECTRICAL DEFECTS OR DEFICIENCIES IN THE WORK OF THE BASE BUILDING CONTRACTOR PRIOR TO COMMENCING WORK IN THE PREMISES. PRESENT A COPY OF THESE ITEMS TO THE INTERIOR DESIGNER AND BUILDING OWNER.
9. ANY MATERIAL NO SPECIFIED IN THESE SPECIFICATIONS SHALL BE THE SAME THAT OF THE EXISTING BUILDING.
10. SHOULD THE ELECTRICAL DRAWINGS NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS, AND ANY INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF CONDUIT, WIREWAYS, ETC. TO ACCOMMODATE THE CONDITIONS, THE BASE BUILDING DRAWINGS, STRUCTURAL MECHANICAL AND INTERIOR DESIGNERS DRAWINGS SHOW MANY DETAILS RELEVANT TO THE ELECTRICAL SYSTEMS AND SHOULD BE REFERRED TO EQUALLY WITH THE ELECTRICAL DRAWINGS.
11. PROVIDE A MINIMUM OF 96 HOURS NOTICE PRIOR TO ANY NECESSARY SHUTDOWN OF BUILDING SERVICES. ARRANGE AND CO-ORDINATE WITH BUILDING OWNER.
12. ADHERE TO THE RULES AND REGULATIONS OF THE BASE BUILDING.
13. RELOCATE TO AND CO-ORDINATE ALL WORK WITH BASE BUILDING PERSONNEL AND CONTRACTOR AS NECESSARY TO PERFORM WORK IN AS EXPEDITIOUS A MANNER AS POSSIBLE.
14. ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE AND THE LOCAL AUTHORITIES HAVING JURISDICTION.
15. IT IS HEREBY AGREED THAT ALL REQUIREMENTS HAVE BEEN EXAMINED AND CHECKED WITH THE ELECTRICAL INSPECTION DEPARTMENT AND C.S.A. AND A COMPLETE INSTALLATION IN ACCORDANCE WITH THESE REQUIREMENTS WILL BE PROVIDED AT THE TENDER PRICE.

16. KEEP A PERMANENT RECORD OF EACH INSPECTION MADE BY THE INSPECTING AUTHORITY SHOWING THE DATE, INSPECTOR'S NAME, SCOPE OF THE INSPECTION AND STATEMENT OF SPECIAL DECISIONS OR PERMISSIONS GRANTED. THESE RECORDS SHALL BE AVAILABLE TO THE ENGINEER AT ALL TIMES, AND TURNED OVER TO HIM AFTER COMPLETION OF THE WORK.
17. SUBMIT TO THE ENGINEER DETAILED DIMENSION SHOP DRAWINGS AND INSTALLATION WIRING DIAGRAM FOR ALL ELECTRICAL EQUIPMENT. SHOP DRAWINGS OF ALL SPECIAL LIGHTING FIXTURES AND BROCHURES OF CATALOGUE LIGHTING FIXTURES. FURTHER DETAILS AND SPECIAL REQUIREMENTS CALLED FOR IN THESE SPECIFICATIONS/OR ENGINEER'S DRAWINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.
18. CONTRACTOR TO PROVIDE ZONE CONDUIT IN THE CEILINGS AND WALLS FOR POWER AND COMMUNICATION CABLES IN ACCORDANCE WITH THE LOCAL BUILDING CODE REQUIREMENTS. ALL CONDUITS, WIREWAYS, ETC. SHALL BE INSTALLED TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF THE SPACE THROUGH WHICH THEY PASS. CONDUITS, WIREWAYS, ETC. PARTICULARLY THOSE WHICH MAY INTERFERE WITH THE INSIDE TREATMENT OF THE BUILDING, OR CONFLICTING WITH OTHER TRADES, SHALL BE INSTALLED ONLY AFTER THE LOCATIONS HAVE BEEN FULLY CO-ORDINATE WITH OTHER TRADES. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF CONDUITS, WIREWAYS, ETC. WHICH ARE TO BE CONCEALED TO SEE THAT THEY COME WITHIN THE FINISHED LINES OF FLOORS, WALLS AND CEILINGS. WHERE SUCH CONDUITS, WIREWAYS, ETC. HAVE BEEN INSTALLED IN SUCH A MANNER AS TO CAUSE INTERFERENCE, THEY SHALL BE REMOVED AND REINSTALLED IN SUITABLE LOCATIONS WITHOUT EXTRA COST. IN NO PLACE SHALL STRUCTURAL FIREPROOFING BE REMOVED OR DAMAGED. SPACE SHALL BE LEFT TO PERMIT FIREPROOFING TO BE INSPECTED AND/OR REPAIRED.
19. WHERE CONDUIT AND EQUIPMENT IS LOCATED ON WALLS OR SLABS WHICH WILL NOT PERMIT THE SUPPORT OF EQUIPMENT, PROVIDE SUITABLE SUPPORTS TO THE BUILDING STRUCTURE. SUPPORTS SHALL BE CONSTRUCTED OF STEEL MEMBERS OR OF STEEL PIPE AND FITTINGS DESIGNED TO SAFELY SUPPORT THE EQUIPMENT. ALL SUPPORTS SHALL BE APPROVED PRIOR TO INSTALLATION.
20. ALL CUTS SHALL BE CLEAN, TRUE WITH SMOOTH EDGES. WORK WITHIN TOLERANCES ESTABLISHED BY EXISTING WORK AND IN CONFORMANCE WITH THE BEST STANDARD PRACTICE FOR THE APPLICABLE CLASS OF WORK. MAKE ALL PATCHES IN FINISHED WORK UNDETECTABLE.
21. ALL FIXTURES SHALL BE INSTALLED ACCURATELY IN LINE AND LEVEL. CO-ORDINATE THIS WORK WITH OTHER TRADES TO ENSURE THAT THEIR WORK IS NOT HELD UP AND THAT THE FIXTURES ARE INSTALLED ON SCHEDULE. ALL FIXTURES SHALL BE INSTALLED IN THE STANDARD MANNER FOR THE TYPE OF FIXTURE AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. FIXTURE STUDS OR OTHER EQUALLY SECURE METHODS OF ATTACHMENT SHALL BE USED THROUGHOUT.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE CEILING FINISHES IN ALL AREAS WHERE RECESSED FIXTURES ARE BEING INSTALLED TO ENSURE THAT THE FIXTURES WHICH ARE ORDERED FOR THESE AREAS ARE PURCHASED WITH SUITABLE CEILING TRIM FOR THE PARTICULAR CEILING FINISH. FIXTURES WHICH ARE SENT TO THE SITE WITH WRONG CEILING TRIM OR FLANGES SHALL BE REPLACED WITH FIXTURES HAVING THE CORRECT TRIMS WITHOUT ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL NOTIFY THE INTERIOR DESIGNER IF THE CEILINGS ARE IMPROPERLY INSTALLED AND SHALL BE GUIDED BY HIS DECISIONS BEFORE PROCEEDING WITH THE FIXTURE INSTALLATION.

#### ELECTRICAL PANEL NOTES

ONE (1) NEW PANEL IS TO BE INSTALLED, CORRECT EXACT SIZE AND QUANTITY OF BREAKERS ON SITE. SUPPLY AND INSTALLATION OF ALL BREAKERS BY THE ELECTRICAL CONTRACTOR.

PANEL SCHEDULES ARE FOR REFERENCE ONLY. AS-BUILT CONDITIONS MAY VARY AND MUST TAKE PRECEDENCE. LABEL FINAL AS-BUILT DIRECTORY ACCORDINGLY.

CONTRACTOR TO PERFORM LOAD TEST AND ENSURE PANELS ARE PROPERLY BALANCED AND SUFFICIENT SIZE TO ACCOMMODATE ADDITIONAL LOAD. NOTIFY THE ENGINEER IMMEDIATELY FOR ANY DISCREPANCIES PRIOR TO PROCEEDING.

ELECTRICAL CONTRACTOR SHALL BALANCE PANEL SCHEDULES AND ELECTRICAL EQUIPMENT TO 100% (+) BETWEEN PHASES. A/B, B/C, A/C RESPECTIVELY OF CIRCULATING CURRENTS.

#### IMPORTANT ELECTRICAL ROUGH IN NOTE:

PRIOR TO ANY ROUGH IN WORK OR ORDERING ANY MATERIALS, ALL POWER, RECEPTACLE, ETC. REQUIREMENTS ARE TO BE CONFIRMED WITH EQUIPMENT NAMEPLATE OR SHOP DRAWINGS. NO WORK IS TO BE PERFORMED UNTIL VOLTAGE, AMPS ETC. ARE CONFIRMED, REPORT ANY DISCREPANCIES FROM THESE PLANS.

GC TO ENSURE THAT ALL CIRCUITS HAVE ENOUGH ELECTRICAL LOAD CAPABILITY TO ENSURE NO CIRCUIT TRIPPING.

#### EXISTING COMMERCIAL, NOT PART OF SCOPE OF WORK

ELECTRICAL LEGEND		
SYMBOL	DESCRIPTION	MOUNTING
	OCCUPANCY SENSOR	WALL MOUNTED AT CEILING
	SINGLE POLE SWITCH	1195mm (47") A.F.F.
	THREE-WAY SWITCH	1195mm (47") A.F.F.
	EXIT SIGN C/W DUAL HEADS	WALL MOUNTED
	DIRECTIONAL EXIT SIGN C/W DUAL HEADS	WALL MOUNTED
	EMERGENCY DC DUAL HEADS	WALL MOUNTED
	EMERGENCY DC SINGLE HEAD	WALL MOUNTED
	15/20 AMP 120 VOLT 3 WIRE GROUNDING DUPLEX RECEPTACLE CEMA 5-20RA	460mm (18")
	15/20 AMP 120 VOLT 3 WIRE GROUNDING DUPLEX RECEPTACLE CEMA 5-20RA	44" A.F.F.
	TWO 15/20 AMP 120 VOLT 3 WIRE GROUNDING DUPLEX RECEPTACLES UNDER COMMON PLATE - NORMAL POWER	460mm (18") A.F.F.
	DIRECT POWER CONNECTION	AS NOTED
	SMOKE/SMOKE & CARBON MONOXIDE DETECTOR	SURFACE
	SINGLE RECEPTACLE 208/240V-10 (AMPERAGE AS NOTED)	16" A.F.F.
	MOTOR	
	NONFUSED DISCONNECT SWITCH	
	CONTACTOR	
	PUSH BUTTON	AS NOTED
	FIRE ALARM HORN/STROBE	
	PULL STATION	
	FIRE ALARM CONTROL PANEL / ANNUNCIATOR PANEL	
	ELECTRICAL PANEL	SEE PANEL SCHEDULE
	BACKBOARD	
	BARRIER FREE PUSH BUTTON OPERATOR C/W 3/4" C AND PULL CORD FROM BUTTON TO CEILING SPACE	
	TELEPHONE OUTLET	460mm (18") A.F.F.
	DATA OUTLET	460mm (18") A.F.F.
	GENERAL CIRCUIT CONDUIT	
	50mm (2") EMT C/W CONNECTORS, BUSHINGS AND PULL STRINGS	
	COMMUNICATIONS CABLE HANGER	
	HEAT DETECTOR	SURFACE

23. IF LIGHTING FIXTURES PENETRATE A FIRE-RATED CEILING, THEY SHALL BE ENCLOSED WITH SUITABLE FIRE-RATED ENCLOSURE ABOVE THE FIXTURES HAVE THE SAME FIRE-RATING AS THE CEILING. THE CONTRACTOR SHALL CAREFULLY CHECK THE ARCHITECTURAL DRAWINGS FOR CEILING DETAILS AND SHALL ENSURE FIRE-RATED ENCLOSURES ARE EQUAL TO THE CEILING FIRE-RATING.
24. FIXTURES SHALL BE PROPERLY CLEANED AT THE TIME OF INSTALLATION. ANY FIXTURE SHOWING MARKS OR SCRATCHES DUE TO HANDLING OR TOOL MARKS SHALL BE REPLACED, AT DESIGNER'S DISCRETION.
25. ALL EQUIPMENT SHALL BE THROUGHOUT VACUUMED OUT AT THE TIME OF FINAL ACCEPTANCE OF THE WORK. PLASTICS OF LIGHTING FIXTURES SHALL BE CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
26. CONTRACTOR TO CO-ORDINATE TELEPHONE AND COMPUTER TERMINAL ELECTRICAL/CABLE REQUIREMENTS WITH CLIENT/OWNER, AND BELL CANADA.
27. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CUTTING OF CEILING TILE IN PREPARATION FOR ANY ITEM BEING CONNECTED TO THE ELECTRICAL SYSTEM.
28. CONTRACTOR IS TO INSTALL ALL CEILING TILE AS REQUIRED UPON COMPLETION OF WORK IN CEILING SPACE.
29. CONTRACTOR TO INCLUDE FOR ALL CUTTING AND PATCHING REQUIRED FOR PROPOSED MECHANICAL AND ELECTRICAL.
30. CONTRACTOR TO STAGGER INSTALLATION OF WALL OUTLETS WITHIN SAME PARTITION TO PREVENT SOUND TRANSFER.
31. THE CONSULTING ENGINEER AND CONTRACTOR SHALL INCLUDE ITEMS OR FIXTURES AS CALLED FOR BY NAME, AND MANUFACTURER ON THE DRAWINGS. APPROVAL IS REQUIRED BY THE DESIGNER BEFORE PROCEEDING WITH A CHANGE IN THE DRAWINGS.
32. ELECTRICAL AND MECHANICAL CONSULTANT'S PLANS SHALL GOVERN EXCEPT FOR LOCATION OF FIXTURES SUCH AS LIGHTING, SWITCHES AND POWER AND COMMUNICATIONS OUTLETS, ETC.
33. ALL LOCATIONS OF DIFFUSERS, RETURN AIR GRILLES, ACCESS PANELS TO BE REVIEWED AND APPROVED BY THE DESIGNER BEFORE INSTALLATION.
34. GENERAL CONTRACTOR SHALL CO-ORDINATE WITH M & E SUB-TRADES FOR THE MINIMUM QUANTITY AND SIZE OF ALL ACCESS PANELS.



ENGINEERING DONE UPRIGHT.

429 EXMOUTH STREET  
SUITE 208, SARNIA,  
O N T A R I O

#### PROJECT

PROPOSED NIGHT CLUB  
32 HESS STREET SOUTH  
HAMILTON, ONTARIO

#### ARCHITECT:

DWG. TITLE

POWER PLANS/NOTES

DATE January, 2024 SCALE 1/4"=1'-0"

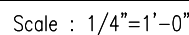
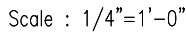
CHECKED BY G.DALE

DRAWING No.:


DRAWN BY C.ALMEIDA

E1.00

PROJ. No. 240241



ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ACCESSORIES, POWER PACKS AND HARDWARE FOR A COMPLETE LIGHTING CONTROL SYSTEM.

DATE	January, 2024	SCALE	1/4"=1'-0"
CHECKED BY	G.DALE	DRAWING No.:	<div style="font-size: 2em; font-weight: bold;">E2.00</div> <div style="text-align: right;">  </div>
DRAWN BY	C.ALMEIDA		
PROJ. No.	240241		

PANEL 'A'														WIRE: 4					
VOLTAGE: 208 / 120 BUS AMPS: 200 A A.I.C. RATING: 65,000 A				NO. OF CIRCUIT = 54				PHASE: 3 DEVICE AMPS: 200 A				MLO				LOCATION: BLD SERVICE ELECTRICAL SUPPLY FROM: PANEL DP-1			
BKR OPT	LOCATION DESCRIPTION	LTG ZONE	LOAD (KVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (KVA)	LTG ZONE	LOCATION DESCRIPTION	BKR OPT					
	EXIT LIGHTS	----	0.800	A	15/1	1	A	2	20/1	E	1.500	----							
	EMERGENCY LIGHTS	----	0.800	A	15/1	3	B	4		E	1.500	----	BASEBOARD HEATER						
	GENERAL LIGHTS	----	1.344	A	15/1	5	C	6	20/1	E	1.500	----							
	GENERAL LIGHTS	----	0.736	A	15/1	7	A	8		E	1.500	----	BASEBOARD HEATER						
	GENERAL LIGHTS	----	0.500	A	15/1	9	B	10	20/1	E	1.500	----	BASEBOARD HEATER						
	WASHROOM LIGHTS/FANS	----	0.800	A	15/1	11	C	12		E	1.500	----							
	BAR RECEPTACLE	----	0.400	B	15/1	13	A	14	15/1	B	1.000	----	UNDERCOUNTER FRIDGE						
	GLASS WASHER	----	1.000	B	15/1	15	B	16	15/1	B	0.360	----	BAR RECEPTACLE						
	BAR RECEPTACLE	----	0.720	B	15/1	17	C	18	15/1	B	0.360	----	BAR RECEPTACLE						
	AREA RECEPTACLE	----	0.500	B	15/1	19	A	20	15/1	B	0.360	----	BAR RECEPTACLE						
	AREA RECEPTACLE	----	0.360	B	15/1	21	B	22	15/1	B	0.360	----	BAR RECEPTACLE						
	AREA RECEPTACLE	----	0.360	B	15/1	23	C	24	15/1	B	0.360	----	BAR RECEPTACLE						
	AREA RECEPTACLE	----	0.360	B	15/1	25	A	26	15/1	B	0.360	----	BAR RECEPTACLE						
	AREA RECEPTACLE	----	0.360	B	15/1	27	B	28	15/1	B	0.540	----	STORAGE RECEPTACLE						
	HRV	----	1.500	D	20/1	29	C	30	15/1	B	0.720	----	WASHROOM RECEPTACLE						
	DUCTLESS SPLIT	----	2.392	D		31	A	32	30/2	D	2.392	----							
		----	2.392	D	30/2	33	B	34		D	2.392	----	DUCTLESS SPLIT						
	DUCTLESS SPLIT	----	2.392	D	30/2	35	C	36	30/2	D	2.392	----							
		----	2.392	D		37	A	38		D	2.392	----	DUCTLESS SPLIT						
	DUCTLESS SPLIT	----	2.392	D	30/2	39	B	40	15/1	E	1.000	----	BASEBOARD HEATER						
		----	2.392	D		41	C	42		E	1.000	----							
	BASEBOARD HEATER	----	1.500	E	20/1	43	A	44	15/1	E	1.000	----	BASEBOARD HEATER						
		----	1.500	E		45	B	46		E	1.000	----							
	HOT WATER HEATER	----	1.0	F	15/1	47	C	48	15/1	E	1.000	----	BASEBOARD HEATER						
		----				49	A	50				----							
		----				51	B	52				----							
		----				53	C	54				----							

PANEL LOAD ANALYSIS									
Load Type	DESCRIPTION	Conn. kVA	Demand kVA	Load Type	DESCRIPTION	Conn. kVA	Demand kVA		
A	Lighting	4.38	4.23	F	Heating	18.00	0.00		
B	Receptacles	8.66	8.66	F	Largest Motor	1.00	1.25		
C	Kitchen Equipment	0.00	0.00	G	Other Motors	0.00	0.00		
D	A/C-Conditioning	25.42	25.42	H	Other Loads	0.00	0.00		
Phase A Connected Load	kVA		BKR OPT		TOTAL CONNECTED LOAD	58.06	kVA	161.2	AMPS
Phase B Connected Load	kVA				TOTAL DEMAND LOAD	47.56	kVA	115.3	AMPS
Phase C Connected Load	kVA								

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THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF SURVEY, ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC., INFORMATION SHOWN ON THIS DRAWING. REFER TO THE APPROPRIATE CONSULTANT'S DRAWINGS BEFORE PROCEEDING WITH THE WORK.

CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES  
AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

THE CONTRACTOR WORKING FROM DRAWINGS NOT SPECIFICALLY MARKED 'FOR CONSTRUCTION' MUST ASSUME FULL RESPONSIBILITY AND BEAR COSTS FOR ANY CORRECTIONS OR DAMAGES RESULTING FROM HIS WORK.

THIS DRAWING IS NOT TO BE SCALED

**NOTE:**  
ALL DIMENSIONS AND ELEVATIONS MUST BE SITE MEASURED  
AND CONFIRMED PRIOR TO FABRICATION AND/OR ERECTION.

## SHOP DRAWINGS


ALL SHOP DRAWINGS SUBMITTED TO THE ENGINEER SHALL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE INTENT OF THE STRUCTURAL DESIGN CONTAINED WITHIN THESE PROJECT DOCUMENTS ONLY.

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NO.	REVISION	DATE

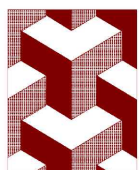
STAGE OF DESIGN AND DRAFTING:

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<input checked="" type="checkbox"/>	Preliminary Design	01/26/2024
<input type="checkbox"/>	Issued for Comments and Coordination	
<input type="checkbox"/>	Issued for Building Permit	
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<input type="checkbox"/>	As Built Record Set	

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THE ENGINEER AND MAY NOT BE USED OR REPRODUCED  
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THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED



**ROBERT E. DALE**  
LIMITED  
CONSULTING ENGINEERS

ENGINEERING DONE UPRIGHT.

429 EXMOUTH STREET  
SUITE 208, SARNIA  
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PROJECT

**PROPOSED NIGHT CLUB  
32 HESS STREET SOUTH  
HAMILTON, ONTARIO**

ARCHITECT

DWG. TITLE  
ELECTRICAL PANEL

DATE	January, 2024	SCALE	1/4"=1'-0"
CHECKED BY	G.DALE	DRAWING No.:	<div style="font-size: 2em; font-weight: bold;">E3.00</div> <div style="text-align: right;">  </div>
DRAWN BY	C.ALMEIDA		
PROJ. No.	240241		

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

- 1.1 THE GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS AS SET FORTH IN THE GENERAL CONTRACT SPECIFICATIONS AND ALL ADDENDA THERE TO SHALL APPLY TO, AND GOVERN ALL PORTIONS OF THE ELECTRICAL WORK.
- 1.2 POINTS NOT SPECIFICALLY MENTIONED SHALL BE IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE CANADIAN ELECTRICAL CODE AND REGULATIONS OF THE ELECTRICAL INSPECTION DEPARTMENT FROM WHICH THE PERMIT WAS OBTAINED.
- 1.3 WHERE THE TERMS "FURNISH", "PROVIDE" OR "INSTALL" APPEAR IN THIS DIVISION, OR A MANUFACTURER IS INDICATED WITH ITEM OR PRODUCT CATALOG NUMBER LISTED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FURNISH AND INSTALL THE ITEM COMPLETE AND OPERATING FOR THE PURPOSE OR FUNCTION INTENDED, UNLESS OTHERWISE NOTED.
- 1.4 WHERE THE TERM "WORK" APPEARS IN THIS DIVISION, IT INCLUDES ALL LABOUR, MATERIALS AND SERVICES REQUIRED AS DESCRIBED IN THE CONTRACT DOCUMENT.
- 1.5 IN CASES OF CONFLICT(s) WITH THE DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.
- 1.6 PRIOR TO PROCEEDING WITH THE WORK, THE CONTRACTOR SHALL THOROUGHLY EXAMINE AND VERIFY DRAWINGS, SPECIFICATIONS AND AMENDMENTS FOR ANY ERRORS, INCONSISTENCIES AND DEVIATIONS, WHICH MAYBE DISCLOSED BY SUCH EXAMINATIONS, THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK WHILE UNCERTAIN TO ANY INTERPRETATION ON THE DRAWINGS OR THE SPECIFICATIONS.

PART 2 - CODES, PERMITS AND INSPECTIONS

- 2.1 THE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE (AS AMENDED BY THE AUTHORITY HAVING JURISDICTION), LOCAL BUILDING CODE AND THE REGULATIONS OF THE ELECTRICAL INSPECTION DEPARTMENT HAVING JURISDICTION.
- 2.2 THE ELECTRICAL TRADE SHALL OBTAIN ALL ELECTRICAL PERMITS REQUIRED AND, AFTER COMPLETION OF THE WORK, SHALL FURNISH TO THE ENGINEER A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE INSPECTION DEPARTMENT.
- 2.3 FEES FOR ALL PERMITS AND LICENSES REQUIRED FOR THE WORK SHALL BE INCLUDED BY THE ELECTRICAL CONTRACTOR.

PART 3 - STANDARD OF ACCEPTANCE

- 3.1 ALL MATERIALS SHALL BE NEW AND OF THE QUALITY SPECIFIED UNLESS SPECIFICALLY SHOWN AS EXISTING TO BE RE-USED IN THE CONTRACT DOCUMENTS. NEW MATERIALS SHALL CONFORM TO THE STANDARDS OF THE CSA AND THE ULC AND APPROVED BY THESE AGENCIES, WHERE APPLICABLE. FOR ANY MATERIAL NOT CSA APPROVED, THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE LOCAL INSPECTION AUTHORITY AND SHALL BEAR ALL INSPECTION CHARGES LEVIED AND ANY MODIFICATION COSTS REQUIRED.
- 3.2 ALL PHASES OF THE ELECTRICAL INSTALLATION SHALL BE EXECUTED IN A SATISFACTORY, WORKMANLIKE MANNER AND SHALL PRESENT A NEAT APPEARANCE WHEN COMPLETED. WORK NOT DEEMED SATISFACTORY TO THE ENGINEER SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

PART 4 - SETTING OUT THE WORK

- 4.1 ELECTRICAL WORK IS TO BE CARRIED OUT BY QUALIFIED, LICENSED ELECTRICIANS WHO HOLD A VALID PROVINCIAL LICENSE IN ACCORDANCE WITH THE ELECTRICAL SAFETY AUTHORITY (ESA).
- 4.2 THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ALL WORK COMPLETED CONTRARY TO THE INTENT OF THE DRAWINGS AND SPECIFICATIONS AND SHALL BEAR ALL COSTS FOR SAME, WHERE THE INTENT OF THE DRAWINGS AND SPECIFICATIONS ARE NOT CLEAR, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- 4.3 WHERE ANY EQUIPMENT SUPPLIED BY THE ELECTRICAL TRADE MUST BE BUILT-IN WITH WORK OF OTHER CONTRACTORS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLYING OF THE EQUIPMENT TO BE BUILT-IN OR MEASUREMENTS TO ALLOW NECESSARY OPENINGS TO BE LEFT SO AS NOT TO HOLD UP THE WORK.
- 4.4 THE ELECTRICAL TRADE, IN SETTING OUT OF HIS WORK, SHALL MAKE REFERENCE TO ALL OTHER DISCIPLINES AND SPECIFICATIONS, THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE RESPECTIVE TRADES IN SETTING OUT LOCATIONS FOR ALL EQUIPMENT AND WIRING SO THAT CONFLICTS ARE AVOIDED AND SYMMETRICAL SPACING IS MAINTAINED.
- 4.5 BEFORE SUBMITTING TENDER, CAREFULLY EXAMINE THE SITE OF THE PROPOSED WORK SO AS TO ASCERTAIN ALL EXISTING CONDITIONS AFFECTING THE WORK, NO EXTRAS WILL BE ALLOWED FOR NECESSITATED BY CONDITIONS ORDINARILY EVIDENT ON THE SITE. REPORT TO THE ENGINEER ANY CONDITIONS THAT MAY AFFECT THE PROPER COMPLETION OF THIS WORK.
- 4.6 WHERE LIGHTING FIXTURES, SPEAKERS, ETC. OCCUR IN ACOUSTIC TILE TYPE CEILING, THE FIXTURE OR SPEAKER LOCATION SHALL BE COORDINATED WITH THE TILE PATTERN AND SHALL BE ADJUSTED, IF REQUIRED TO SUIT THE TILE PATTERN.
- 4.7 WHERE RECEPTACLES ARE MOUNTED ABOVE COUNTERS, BENCHES, BACKSPLASHES, ETC., LOCATION OF THE RECEPTACLE SHALL BE COORDINATED WITH THE BUILT-IN UNITS AND ARCHITECTURAL DRAWINGS.
- 4.8 MOUNTING HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL DETAILS AND SHALL BE ADJUSTED, IF REQUIRED, TO SUIT PANELING, DADOS, MASONRY COURSE LINES, ETC.

PART 5 - TESTING

- 5.1 PERFORM MEGGER TESTS ON ALL FEEDERS TO ENSURE THAT THE C.E.C. REQUIREMENTS ARE MET. TAKE CURRENT READINGS ON ALL FEEDERS AND IF LOAD UNBALANCE EXCEEDS 15%, RECONNECT LOADS TO BRING WITHIN BALANCE.

PART 6 - CO-ORDINATION AND CO-OPERATION

- 6.1 COORDINATE WORK WITH ALL TRADES TO ENSURE A PROPER AND COMPLETE INSTALLATION. NOTIFY ALL TRADES FOR REQUIREMENTS FOR OPENINGS, SLEEVES, INSERTS AND OTHER HARDWARE NECESSARY IN THEIR WORK FOR INSTALLATION OF YOUR WORK, AND, WHERE YOUR WORK TO BE INTEGRATED WITH WORK OF TRADES, CAREFULLY COORDINATE ALL WORK PRIOR TO AND DURING INSTALLATION.
- 6.2 COORDINATE AND PLAN (BY USE OF THE SERVICES OF SERVICES WITH ALL TRADES AFFECTED PRIOR TO INSTALLATION. GENERALLY, PIPING REQUIRING UNIFORM PITCH SHALL BE GIVEN RIGHT OF WAY, WITH OTHER SERVICES LOCATED AND ARRANGED TO SUIT.

PART 7 - GUARANTEE/WARRANTY

- 7.1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE FOR THE FOLLOWING:
- 1. ALL WORK EXECUTED UNDER THIS CONTRACT WILL BE FREE FROM DEFECTS OF WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
  - 2. CONTRACTOR AGREES THAT IT WILL, AT ITS OWN EXPENSE, REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK AND OTHER WORK DAMAGED THEREBY WHICH FAILS OR BECOMES DEFECTIVE DURING THE TERM OF THE WARRANTY PERIOD PROVIDED SUCH FAILURE IS NOT A RESULT OF IMPROPER USAGE.
  - 3. THE PERIOD OF THE GUARANTEE SPECIFIED SHALL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD, BUT SHALL BE BINDING ON WORK NOT OTHERWISE COVERED.

PART 8 - INTERRUPTIONS TO AND SHUT DOWNS OF EXISTING SERVICES AND SYSTEM

- 8.1 DO NOT SHUT DOWN OR DISCONNECT ANY EXISTING SERVICE OR SYSTEM WITHOUT THE OWNER'S APPROVAL. CONTRACTOR TO PREPARE WORK FOR REQUIRED SHUT-DOWN AND INTERRUPTIONS OF EXISTING SERVICES, THE ACTUAL PERFORMANCE OF THE EXISTING SERVICE OR SYSTEM SHUT DOWN SHALL BE PERFORMED BY THE OWNERS OWN AUTHORIZED PERSONNEL. ALL SHUT DOWNS SHALL BE COORDINATED WITH THE CONSULTANT ENGINEER AND THE OWNERS REPRESENTATIVE.
- 8.2 CONTRACTOR TO OBTAIN WRITTEN APPROVAL A MINIMUM OF FIVE (5) DAYS IN ADVANCE OF SHUT DOWNS AND INTERRUPTIONS, INCLUDE FOR ASSOCIATED COSTS OF WORK PERFORMED DURING NIGHTS, WEEKENDS OR TIMES OUTSIDE OF NORMAL WORKING HOURS, AS NECESSARY TO MAINTAIN SERVICES IN OPERATION OR WITH MINIMUM INTERRUPTIONS COMPLYING WITH THE OWNERS REQUIREMENTS, TO AFTER HOURS FOR NIGHTS.

PART 9 - RECORD DRAWINGS (AS-BUILTS)

- 9.1 WHEN WORK BEGINS AT SITE ON A DAILY BASIS, CONTRACTOR TO CLEARLY AND ACCURATELY MARK, ON A BOUND SET OF WHITE PRINTS OF CONTRACT DRAWINGS ALL CHANGES AND/OR DEVIATIONS INCLUDING THOSE MADE BY ADDENDAS, DRAWING ORDERS, AND SITE INSTRUCTIONS.

- 9.2 MAINTAIN A COPY OF THE AS-BUILT WHITE PRINTS AT SITE FOR PERIODIC INSPECTION BY THE CONSULTANT ENGINEER THROUGHOUT THE DURATION OF WORK.
- 9.3 ALL RECORD DRAWINGS ARE TO INCLUDE ROUTING OF ALL FEEDERS, EXCEPT FOR BRANCH CIRCUITS, LOCATION OF ALL JUNCTION BOXES ARE TO BE SHOWN, QUANTITY OF WIRES IN EACH CONDUIT, AND CIRCUIT NUMBERS OF WIRES IN EACH CONDUIT.
- 9.3 PRIOR TO APPLYING FOR A CERTIFICATE OF SUBSTANTIAL PERFORMANCE OF WORK, CONTRACTOR TO SUBMIT THE FINAL "AS-BUILT" SITE DRAWING WHITE PRINTS FOR REVIEW BY THE ENGINEER. CONTRACTOR TO MAKE REVISIONS IF REQUESTED BY THE CONSULTANT ENGINEER.
- 9.4 FINAL AS-BUILT PRINTS/PLOTS SHALL NOT CONTAIN MARKINGS OR CORRECTIONS BY HAND (i.e. PEN, PENCIL, MARKERS, AND, ETC). REFERENCES TO THE ARCHITECT/INTERIOR DESIGNER AND ENGINEER SHALL BE DELETED FROM THE DRAWINGS/PLANS. FINAL AS-BUILT DRAWINGS SHALL BE IN CAD FORMAT.

PART 10 - IDENTIFICATION

- 10.1 LABEL ALL PANELS, STARTERS, DISTRIBUTION CENTRES, LIGHTING CONTROLS, TRANSFORMERS WITH 15MM LAMICOID PLATES, PERMANENTLY ATTACHED TO THE EQUIPMENT.
- 10.2 PROVIDE ADHESIVE LABELS FOR RECEPTACLE CIRCUIT NUMBERS AND VOICE/DATA JACK IDENTIFICATION.

PART 11 - HAZARDOUS MATERIAL

- 11.1 IF AT ANY TIME DURING THE COURSE OF WORK ASBESTOS MATERIALS ARE ENCOUNTERED OR SUSPECTED, CONTRACTOR TO CEASE WORK IN AREAS IN QUESTION AND IMMEDIATELY REPORT IN ACCORDANCE WITH ONTARIO REGULATION 664/85 (SECTION 85) TO THE CONSULTANT. DO NOT RESUME WORK IN AFFECTED AREA WITH APPROVAL FROM THE CONSULTANT.
- 11.2 MATERIALS CONTAINING MERCURY SHALL BE PROPERLY DISPOSED FROM SITE IN ACCORDANCE WITH LOCAL GOVERNING AUTHORITY REGULATIONS.
- 11.3 CONTRACTOR TO RETAIN THE SERVICES OF SPECIALTY FIRMS LICENSED BY THE LOCAL AUTHORITIES TO HANDLE SUCH HAZARDOUS MATERIALS AND TO ENSURE PROPER DISPOSAL, TO A MINISTRY APPROVED SITE. CONTAIN AND SUBMIT COPIES OF PERMITS AND/OR APPROVALS.

PART 12 - CLEAN-UP

- 12.1 DURING THE COURSE OF THE CONSTRUCTION, CONTRACTOR SHALL KEEP THE SITE REASONABLY CLEAR OR REMOVE RUBBISH AND WASTE MATERIALS, ON DAILY BASIS, UPON COMPLETION OF WORK, RUBBISH AND DEBRIS, ARRANGE AND PAY FOR REPAIR OF DAMAGES CAUSED AND LEAVE PREMISES AND WORK IN GOOD ORDER.

PART 13 - INSPECTION OF WORK

- 13.1 CONSULTANTS SHALL HAVE ACCESS TO WORK SITE AT ALL TIMES, AND SHALL BE NOTIFIED AN AGREED UPON TIMES OF STAGES OF WORK.
- 13.2 WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH THE PERFORMANCE SPECIFICATIONS, SUCH DEFICIENCIES SHALL BE CORRECTED AS DIRECTED BY THE CONSULTANT. ANY CHARGES FOR OWNERS STAFF, CONSULTANT OR OTHER PERSONNEL(S) RELATED TO SUCH RETESTING SHALL ALSO BE AT THE EXPENSE OF THE CONTRACTOR.

PART 14 - NOISE CONTROL

- 14.1 WORK WHICH MAY CAUSE NOISE DISTURBANCES MUST BE SCHEDULED AT TIMES APPROVED BY THE CONSULTANT. COORDINATE WORK WITH TRADES TO MINIMIZE NOISE DISTURBANCES.

PART 15 - CUTTING, PATCHING AND CORE DRILLING

- 15.1 CUT, PATCH AND CORE DRILL OF EXISTING BUILDING REQUIRED FOR INSTALLATION, CUT ALL OPENINGS NO LARGER THAN IS REQUIRED FOR THE SERVICE. CORE DRILL FOR INDIVIDUAL SERVICES.
- 15.2 BEFORE WORK BEGINS IN NEAT FASHION WITH PROPER TOOLS AND EQUIPMENT TO OWNERS APPROVAL.
- 15.3 OBTAIN APPROVAL FROM THE STRUCTURAL CONSULTANT PRIOR TO CUTTING OR CORE DRILLING OF ANY OPENINGS OR HOLES.
- 15.4 IN FIRE RATED CONSTRUCTION, PATCH AND SEAL VOID BEHIND OPENINGS AND CONDUITS FOR LENGTH OF OPENING WITH ASBESTOS FREE ELASTOMERIC AND INTUMESCENT ULC LISTED MATERIALS.
- 15.5 INSTALL FIRESTOP AND SMOKE SEAL MATERIALS IN ACCORDANCE WITH ULC AND/OR THE GOVERNING BUILDING CODE REQUIREMENTS.
- 15.5 DO NOT CUT OR DRILL EXISTING WORK WITHOUT OWNERS APPROVAL. IN EXISTING AREAS ALL CUTTING, AND CORE DRILLING FOR INDIVIDUAL SERVICES IS PART OF THIS DIVISION WORK.
- 15.6 UPON COMPLETION OF ALL SERVICES, PATCH ALL OPENINGS TO MATCH THE EXISTING FINISHES.
- 15.7 ANY DAMAGES CAUSED TO THE EXISTING BUILDING AND SERVICES BY CUTTING AND/OR CORE DRILLING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 15.8 ALL ASSOCIATED COST OF CUTTING AND PATCHING IS INCLUDED IN THIS DIVISION.

PART 16 - WIRING METHODS

- 16.1 ALL WIRING TO BE COPPER, UNLESS OTHERWISE NOTED.
- 16.2 ALL CABLING SHALL BE FT4 RATED EXCEPT IN PLENUM SPACES WHICH SHALL BE FT6 RATED. NOTE THAT THE T-BAR CEILING SPACES FOR THIS PROJECT ARE PLENUM SPACES SO THAT WIRING WITHIN THAT SPACE SHALL BE FT6.
- 16.3 FEEDERS SHALL BE SIZED WITH A MAXIMUM OF 2% VOLTAGE DROP.
- 16.4 BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG 90C RATED IN EMT OR AC-90 CONDUIT. LOCATIONS OF CODE GAUGE STEEL DOORS COMPLETE WITH NOT SHOWN, THE AMPACITY MUST MATCH OR EXCEED THAT OF THE PROTECTIVE DEVICE.
- 16.5 WIRING SHALL BE INSTALLED CONTINUOUSLY WITHIN RACEWAYS. SPLICING SHALL ONLY BE PERMITTED AT OUTLETS AND JUNCTION BOXES.
- 16.6 PROVIDE A BONDING WIRE IN ALL RACEWAYS.
- 16.7 ALL WIRING TO BE CONCEALED IN WALLS, CEILINGS OR FLOORS, WHERE POSSIBLE. EXPOSED CONDUIT OR WIRING SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO THE BUILDING LINES.
- 16.8 PULL BOXES SHALL BE INSTALLED TO BE AS HIDDEN AS POSSIBLE WITHOUT IMPEDING ACCESS.

PART 17 - WIRING DEVICES

- 17.1 LIGHT SWITCHES SHALL BE COMMERCIAL GRADE, DECORA STYLE, 15A OR 20A AS REQUIRED, WHITE FINISH, UNLESS OTHERWISE NOTED.
- 17.2 RECEPTACLES SHALL BE COMMERCIAL GRADE, DECORA STYLE, 15A OR 20A AS REQUIRED, WHITE FINISH, UNLESS OTHERWISE NOTED.
- 17.3 COVER PLATES SHALL BE THERMOPLASTIC IN FINISHED AREAS WITH COLOUR TO MATCH DEVICES. PROVIDE STAMPED METAL COVER PLATES IN UNFINISHED AREAS AND WEATHERPROOF "IN-USE" COVERS FOR EXTERIOR RECEPTACLES.

PART 18 - MOUNTING HEIGHTS

- 18.1 MOUNTING HEIGHTS SHALL BE FROM THE FINISHED FLOOR TO THE CENTRE OF EQUIPMENT, UNLESS OTHERWISE NOTED. IF MOUNTING HEIGHT IS NOT SPECIFIED, VERIFY WITH ENGINEER PRIOR TO INSTALLATION.
- 1 SWITCHES: 1200MM (48 IN.)
  - 2 RECEPTACLES: 305MM (12 IN.)
  - 3 TELEPHONE/DATA/TELEVISION OUTLETS: 450MM (18 IN.)
  - 4 COUNTER-TOP OUTLETS: 1120MM (44 IN.)

PART 19 - GENERAL CONDUIT AND CONDUCTOR INSTALLATION REQUIREMENTS

- 19.1 INSTALL CONDUIT AND CONDUCTORS CONCEALED TO DEGREE MADE POSSIBLE BY FINISHES AND PROVIDE INSTALLATIONS IN ACCORDANCE WITH THE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC) AND THE LOCAL GOVERNING STANDARDS.
- 19.2 COORDINATE LOCATIONS AND ROUTING OF SERVICES WITH TRADES PRIOR TO INSTALLATION.
- 19.3 WHERE CONDUITS AND/OR CONDUCTORS ARE EXPOSED, CONTRACTOR TO PREPARE DETAIL DRAWINGS AND SUBMIT TO CONSULTANT/ENGINEER FOR REVIEW PRIOR TO START OF WORK IN THE AFFECTED AREA.
- 19.4 WHERE HORIZONTAL CONDUITS AND/OR CONDUCTORS ARE EXPOSED, INSTALL AS HIGH AS POSSIBLE. DO NOT INSTALL CONDUITS AND/OR CONDUCTORS WITHIN 6" (150mm) OF HOT PIPES OR EQUIPMENT, UNLESS THEY ARE ASSOCIATED WITH THE EQUIPMENT.
- 19.5 CONDUITS AND/OR CONDUCTORS SHALL BE SUPPORT FROM THE CEILING/WALL STRUCTURE. DO NOT SUPPORT FROM CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS, AND ETC.

- 19.6 AT NO EXTRA COST, ALLOW FOR FINAL RELOCATIONS OF DEVICES UP TO 10' (3M) TO SUIT FINAL LOCATIONS PRIOR TO INSTALLATION OF WALL COVERINGS.
- 19.7 GENERALLY, CONDUITS AND/OR CONDUCTORS ARE SIZED IN ELECTRICAL DRAWINGS, IN CASE OF THE TYPE AND SIZING BEING ABSENT IN DRAWINGS, SIZE OF CONDUITS AND/OR CONDUCTORS REQUIRED FOR THE INTENDED APPLICATION IN ACCORDANCE WITH THE APPLICABLE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC) OR THE LOCAL GOVERNING AUTHORITY REQUIREMENTS.
- 19.8 CONDUITS IN PLENUM SPACES AND/OR IN FINISHED FLOOR AREAS SHALL COMPLY WITH THE LOCAL BUILDING CODE (I.E. OBC) AND THE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC).
- 19.9 IDENTIFY CONDUIT RUNS (I.E. TAG BOTH ENDS OF CONDUIT RUNS).
- 19.10 1/2" MAYBE USED IN CEILING SPACE FROM CEILING DISTRIBUTION BOX DOWN TO RECEPTACLES(DIRECT CONNECTION) IN PARTITIONS. BX RUNS IN CEILING NOT TO EXCEED 6096MM(20'-0") IN LENGTH. DO NOT RUN BX CABLES INTO PANELBOARDS.

PART 20 - CONDUITS

- 20.1 INTERIOR CONDUITS SHALL BE GALVANIZED, ELECTRICAL METALLIC TUBING (EMT) IN ACCORDANCE WITH CSA C22.2 NO.83, COMPLETE WITH FACTORY MADE BENDS FOR CASES WHERE SITE BENDING IS NOT POSSIBLE. JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS.
- 20.2 FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND/OR TRANSFORMERS (MINIMUM LENGTH OF 18" (450mm), MAXIMUM LENGTH OF 24" (600mm) WITH 180 DEGREE LOOP WHERE POSSIBLE) PROVIDE GALVANIZED STEEL FLEXIBLE FLUID TIGHT METALLIC CONDUIT IN ACCORDANCE WITH CSA C22.2 NO. 56, COMPLETE WITH IDEAL "STEEL TOUGH" LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AND TERMINATIONS FROM THE CONSULTANT.
- 20.3 FOR EXPOSED EXTERIOR CONDUITS, AND FOR INTERIOR CONDUITS GREATER THAN 2" (50mm) IN DIAMETER AND FOR SURFACE MOUNTED CONDUIT AT HEIGHT LESS THAN 4' (1200mm), PROVIDE RIGID GALVANIZED STEEL IN ACCORDANCE WITH CSA C22.2 NO. 45, COMPLETE WITH FITTINGS, CONNECTORS AND RIGID COUPLINGS.
- 20.4 FOR UNDERGROUND APPLICATIONS, PROVIDE CSA APPROVED, RIGID PVC CONDUIT COMPLETE WITH ELBOWS, COUPLINGS, AND EXPANSION JOINTS AND ETC. AS REQUIRED.
- 20.5 SUPPORT AND SECURE CONDUITS AS SPACING IN COMPLIANCE WITH THE LOCAL STANDARDS BY MEANS OF GALVANIZED PIPE STRAPS, RING BOLT TYPE HANGERS, CONDUIT CLIPS OR BY OTHER CSA APPROVED MANUFACTURED DEVICES.
- 20.6 CONDUIT FITTINGS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE CONDUIT AND SUITABLE FOR THE APPLICATION.
- 20.7 BEND CONDUITS TO FULL CONDUIT DIAMETER, FREE OF KINKING, FLAKING, OR CRACKING OF FINISHES.
- 20.8 CONDUITS SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING GRID WITH THEIR OWN SUPPORT SYSTEM.
- 20.9 USE FLEXIBLE METAL CONDUITS FOR CONNECTING MOTORS, VIBRATING EQUIPMENT IN DRY AREAS, AND/OR FOR MOVABLE METAL PARTITIONS.
- 20.10 USE LIQUID TIGHT FLEXIBLE METAL CONDUITS FOR CONNECTING MOTORS AND/OR VIBRATING EQUIPMENT IN DAMP, WET, OR CORROSIVE AREAS. USE ONLY LIQUID TIGHT FITTINGS FOR SUCH APPLICATIONS. FOR LIQUID TIGHT FLEXIBLE METAL CONDUITS, PROVIDE A JACKET WITH A FT6 RATING IN PLENUM SPACES, OTHERWISE PROVIDE A FT4 RATED JACKET.
- 20.11 PROVIDE EMT CONDUITS WITH BRUSHED ALUMINUM FINISH RACEWAY CIRCUIT PANEL TO JUNCTION BOXES IN THE SUB-FLOOR, AND FROM JUNCTION BOXES TO OUTLET BOXES FOR EQUIPMENT CONNECTIONS IN SUB-FLOORS.
- 20.12 PROVIDE SLEEVES FOR ALL NEW CONDUITS PASSING THROUGH FLOORS, ROOF SLABS, CONCRETE WALLS, BEAMS AND SLAB TO SLAB PARTITIONS.
- 20.13 PROVIDE AIR-TIGHT SEAL AROUND CABLES AND CONDUITS PASSING THROUGH NON-FIRE RATED PARTITIONS AND/OR FLOORS.
- 21.1 FOR CABLES AND CONDUITS PASSING THROUGH FIRE RATED WALLS AND/OR FLOORS, SEAL THE SPACE BETWEEN CONNECTIBLE AND SLEEVES WITH AN APPROVED FIRE STOP MATERIAL.
- 21.15NSTALL SURFACE MOUNTED CONDUITS PARALLEL OR PERPENDICULAR TO BUILDING LINES.
- 21.16 WHEREVER POSSIBLE, GROUP CONDUITS ON SUSPENDED OR SURFACE MOUNTED CHANNELS. CONDUITS SHALL NOT BE USED TO SUPPORT OTHER CONDUITS.
- 21.17 PROVIDE DRYSH CORD IN EMPTY CONDUITS, MADE OF POLYPROPYLENE.

PART 21 - CONDUCTORS

- 21.1 INTERIOR CONDUITS SHALL BE GALVANIZED, ELECTRICAL METALLIC TUBING (EMT) IN ACCORDANCE WITH CSA C22.2 NO.83, COMPLETE WITH FACTORY MADE BENDS FOR CASES WHERE SITE BENDING IS NOT POSSIBLE. JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS.
- 21.2 FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND/OR TRANSFORMERS (MINIMUM LENGTH OF 18" (450mm), MAXIMUM LENGTH OF 24" (600mm) WITH 180 DEGREE LOOP WHERE POSSIBLE) PROVIDE GALVANIZED STEEL FLEXIBLE FLUID TIGHT METALLIC CONDUIT IN ACCORDANCE WITH CSA C22.2 NO. 56, COMPLETE WITH IDEAL "STEEL TOUGH" LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AND TERMINATIONS FROM THE CONSULTANT.
- 21.3 FOR EXPOSED EXTERIOR CONDUITS, AND FOR INTERIOR CONDUITS GREATER THAN 2" (50mm) IN DIAMETER AND FOR SURFACE MOUNTED CONDUIT AT HEIGHT LESS THAN 4' (1200mm), PROVIDE RIGID GALVANIZED STEEL IN ACCORDANCE WITH CSA C22.2 NO. 45, COMPLETE WITH FITTINGS, CONNECTORS AND RIGID COUPLINGS.
- 21.4 FOR UNDERGROUND APPLICATIONS, PROVIDE CSA APPROVED, RIGID PVC CONDUIT COMPLETE WITH ELBOWS, COUPLINGS, AND EXPANSION JOINTS AND ETC. AS REQUIRED.
- 21.5 SUPPORT AND SECURE CONDUITS AS SPACING IN COMPLIANCE WITH THE LOCAL STANDARDS BY MEANS OF GALVANIZED PIPE STRAPS, RING BOLT TYPE HANGERS, CONDUIT CLIPS OR BY OTHER CSA APPROVED MANUFACTURED DEVICES.
- 21.6 CONDUIT FITTINGS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE CONDUIT AND SUITABLE FOR THE APPLICATION.
- 21.7 BEND CONDUITS AT FULL CONDUIT DIAMETER, FREE OF KINKING, FLAKING, OR CRACKING OF FINISHES.

PART 22 - LIGHTING

- 22.1 THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL LUMINAIRES NOTED ON THE DRAWINGS, COMPLETE WITH LAMPS, HANGERS, ACCESSORIES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.
- 22.2 LUMINAIRES SHALL BE LEFT CLEAN AT COMPLETION OF THE PROJECT WITH ALL LAMPS OPERATIONAL AT ALL TIMES.
- 22.3 CLEAN AND RELAMP RELOCATED LUMINAIRES. REPLACE DAMAGED AND/OR BROKEN LENSES AND FAULTY BALLASTS. FOR RELOCATED LUMINAIRES, CONFIRM LUMINAIRES ARE FULLY OPERATIONAL.
- 22.4 REFER TO THE LUMINAIRE SCHEDULE FOR EACH TYPE REQUIRED TO MEET THE NEEDS OF THE PROJECT. ALTERNATES MAY BE CONSIDERED DURING THE TENDER PERIOD.

PART 23 - PANELBOARDS

- 23.1 PROVIDE EATON CUTLER-HAMMER TYPE "POW R LINE 1" FACTORY ASSEMBLED DEAD FRONT PANELBOARDS, 120/208V, 3PHASE, 4 WIRE, MANUFACTURED TO CSA STANDARD C22.2 NO. 29 AND OESC, AND DESIGNED FOR AN INTERRUPTING CAPACITY OF 10KA SYMMETRICAL AT 208V, UNLESS OTHERWISE NOTED.

- 23.2 INSTALL PANELBOARDS WHERE REQUIRED, COMPLETE WITH:
- 1 EMMAC 2 SPRINKLER-PROOF ENCLOSURE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL WITH REMOVABLE BOX ENDS, WIRING GUTTER SPACE ON SIDES, AND WHERE SURFACE MOUNTED, SURFACE MOUNTED TUBS SHALL BE FACTORY FINISHED WITH GREY BAKED ACRYLIC ENAMEL TRIM FOR RECESSED OR SURFACE WALL MOUNTING AS SHOWN.
  - 2 CONSTRUCTED OF CODE GAUGE STEEL, DOORS COMPLETE WITH CONCEALED FASTENERS, CONCEALED HINGE, CHROME PLATED DOOR LATCH AND KEYS ALIKE LOCK WITH KEY, STEEL FRAME HOLDER AND CIRCUIT DIRECTORY.
  - 3 IDENTIFICATION STRIPS, FACTORY FINISHED WITH GREY BAKED ACRYLIC ENAMEL.
  - 4 FACTORY PAINTED DRIP SHIELD FOR SURFACE MOUNTED PANELBOARDS.
  - 5 HARD DRAWN ELECTRICAL GRADE COPPER BUS AND GROUND BUS.
  - 6 HIGH STRENGTH SET SCREW TYPE, ANTI TURNING WIRE CONNECTORS.
  - 7 BOLT ON FULL LENGTH MAIN AND BRANCH CIRCUIT BREAKERS.
  - 8 200% CAPACITY NEUTRALS FOR PANELBOARDS AS SCHEDULED.
  - 9 MAIN BREAKER AND GREEN POWER "ON" INDICATOR LIGHT, WHERE SCHEDULED.
  - 9 EXISTAL CIRCUIT BREAKERS IN PANELBOARDS PRIOR TO SHIPMENT.
  - 10 COPPER BUS UNLESS OTHERWISE NOTED.
  - 11 TVSS PROTECTION AS REQUIRED.

- 23.4 PROVIDE DOUBLE LUGGING TO EXISTING PANELBOARDS AS SHOWN AND AS REQUIRED.
- 23.5 SUPPORT CABINET INDEPENDENT OF CONNECTING CONDUITS. TURN OVER TO CONSULTANT ENGINEER PRIOR TO APPLICATION FOR SUBSTANTIAL PERFORMANCE OF WORK. QUANTITY OF TWO (2) PANELBOARD CABINET KEYS PER PANELBOARD. IDENTIFY PANELBOARD BREAKERS IN PERMANENT MANNER, AND COMPLETE TYPE CIRCUIT DIRECTORY TO OWNERS APPROVAL.
- 23.6 PRIOR TO THE EQUIPMENT BEING INSTALLED, INTERRUPTING CAPACITY (KA) OR AS INDICATED ON DRAWINGS OR PANEL SCHEDULES:
- 1 120/208V PANELBOARDS = 10KA.
  - 2 347/600V PANELBOARDS = 22KA.
- 23.7 INSTALL SURFACE MOUNTED PANELBOARDS ON FIRE RATED PLYWOOD PANELBOARDS OR ON GALVANIZED UNFINISHED STAND-OFFS.
- 23.6 ACCEPTABLE MANUFACTURES INCLUDE: SIEMENS ELECTRIC, EATON CUTLER-HAMMER AND SQUARE D.
- 23.7 PANEL BUSSING AND ALL ASSOCIATED CONDUITS SHALL BE COPPER.

PART 24 - DEVICES FOR EXISTING PANELBOARDS

- 24.1 PROVIDE BREAKERS, SWITCH & FUSE ASSEMBLY IN EXISTING PANELBOARDS OF TYPE TO MATCH EXISTING DEVICES. QUALITY AND STANDARD OF DEVICES SHALL MATCH EXISTING. CONFORMANCE REQUIREMENTS ON SITE PRIOR TO ORDERING.
- 24.2 BREAKERS SHALL BE OF FULL HEIGHT MODULES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 24.3 PROVIDE FOR ALL MODIFICATIONS TO PANELBOARDS FOR DEVICES AND FEEDER INSTALLATIONS.
- 24.4 REVERSE PANEL BOARD DIRECTORY TO REFLECT ADDITIONAL LOADS.

PART 25 - DRY TYPE TRANSFORMERS

- 25.1 PROVIDE CSA APPROVED STAMPED GALVANIZED STEEL OUTLET BOXES IN ACCORDANCE WITH CSA C22.2 NO. 56, COMPLETE WITH FACTORY MADE BENDS REQUIRED FOR SPECIAL DEVICES, REFER TO ELECTRICAL DRAWINGS.
- 25.2 GANG BOXES FOR GROUPED WIRING DEVICES.
- 25.3 PROVIDE BLANK COVER PLATES FOR BOXES WITHOUT WIRING DEVICES.
- 25.4 PROVIDE 347V RATED BOXES FOR 347 SWITCHING DEVICES.
- 25.5 PROVIDE PULL BOXES AND JUNCTION BOXES WHERE NECESSARY TO FACILITATE CONDUCTOR/CONDUIT INSTALLATIONS. GENERALLY, PROVIDE CONDUIT CLIPS OR BY OTHER CSA APPROVED MANUFACTURED DEVICES.
- 25.6 PROVIDE ELECTRO-GALVANIZED STEEL SINGLE AND MULTI-GANG FLUSH DEVICE BOXES FOR FLUSH INSTALLATION, MINIMUM SIZE OF 75mm X 50mm X 38mm (3"x2"x1-1/2") OR AS INDICATED. PROVIDE 100mm (4") SQUARE OUTLET BOXES WHEN MORE THAN ONE CONDUIT ENTERS ONE SIDE WITH EXTENSION AND REQUIRED SUPPLY AND DISCONNECT DOORS OF MINIMUM NO. 12 GAUGE PRIME COATED STEEL WITH HINGES AND FRAME TO PROVIDE ACCESS TO BOXES AND CONDUCTOR JOINTS AND OTHER SIMILAR ELECTRICAL WORK WHICH MAY NEED MAINTENANCE OR REPAIR. CONFIRM FINISHES WITH THE OWNER.
- 25.12 PROVIDE FITTINGS WITH BUSHINGS AND NYLON INSULATED THROUGH CONNECTORS WITH KNOCK-OUT FILLERS FOR PREVENTING ENTRY OF DEBRIS, AND WITH DOUBLE LOCKNUTS AND INSULATED BUSHINGS ON SHEET METAL BOXES.
- 25.13 TRANSFORMER WINDINGS AND ALL ASSOCIATED CONDUCTORS SHALL BE COPPER.

PART 26 - FASTENING AND SECURING HARDWARE

- 26.1 PROVIDE PROPER FASTENERS AND SIMILAR HARDWARE REQUIRED FOR CONDUITS, CONDUCTORS, AND A EQUIPMENT. PROVIDE EXPLOSIVE POWDER ACTUATED FASTENERS WILL NOT BE PERMITTED UNLESS SPECIFIC WRITTEN APPROVAL FOR THEIR USE AND TYPE HAS BEEN OBTAINED FROM THE CONSULTANT. UNDER NO CIRCUMSTANCES SHALL THE USE OF EXPLOSIVE POWDER ACTUATED FASTENERS OR CONDUITS AND/OR CONDUCTORS.

PART 27 - GROUNDING AND BONDING

- 27.1 SUPPLY AND INSTALL COMPLETE GROUNDING AND BONDING SYSTEM AS INDICATED AND AS REQUIRED BY THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE AND ELECTRICAL INSPECTION DEPARTMENT. ALL COMPONENTS SHALL BE SECURELY AND ADEQUATELY GROUNDED AND WHERE REQUIRED TO ACCOMPLISH THIS, GROUNDING JUMPERS, GROUNDING STUDS AND BUSHINGS SHALL BE USED TO ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC. FOR TELEPHONE, LOW VOLTAGE, FIRE ALARM, SOUND, ETC. ARE SECURELY AND ADEQUATELY GROUNDED AND PROVIDE GROUNDING CONDUCTOR TO WATER MAIN WHERE CALLED FOR OR WHERE REQUIRED.

PART 28 - ELECTRICAL CONNECTIONS FOR MECHANICAL, OWNERS, ETC., EQUIPMENT

- 28.1 PROVIDE REQUIRED ELECTRICAL CONNECTIONS TO EQUIPMENT SUPPLIED BY THE MECHANICAL DIVISION, OWNER AND AS PART OF OTHER DIVISIONS. MECHANICAL CONTRACTOR SHALL SUPPLY STARTERS FOR MOTORIZED EQUIPMENT.

- 28.2 ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR:

- 1 COMPLETE INSTALLATION AND CONNECTION OF STARTERS AND NOTED ON THE DRAWINGS, COMPLETE WITH LAMPS, HANGERS, ACCESSORIES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.
- 2 PROVIDE MOTOR STARTER PANEL CONSISTING OF NO 14 GAUGE STEEL TERMINAL PANELS SIZED TO ACCOMMODATE STARTERS AND SUITABLE SPLITTER.
- 3 UNLESS OTHERWISE NOTED OR SHOWN ON DRAWINGS, MOUNT 1 PHASE STARTERS ADJACENT TO EQUIPMENT THEY SERVE AND CONNECT COMPLYING WITH THE FOLLOWING:
- 4 COORDINATE FEEDER ENTRIES TO STARTERS AND STARTER ASSEMBLIES WITH MECHANICAL DIVISION.
- 5 PROVIDE ADDITIONAL DISCONNECT SWITCHES (COMPLETE WITH IDENTIFICATION) DETAILED ON DRAWINGS, REQUIRED BY CODE, OR FOR EQUIPMENT WHICH CANNOT BE SEEN FROM ITS STARTER OR IS IN ACCESS OF 30' (9M) FROM THE STARTER.

PART 29 - DISCONNECT SWITCHES

- 29.1 PROVIDE EATON CUTLER-HAMMER, FUSIBLE (COMPLETE WITH FUSE CLIPS) OR NON-FUSIBLE, HEAVY DUTY, CSA APPROVED, FRONT OPERATED TYPE DISCONNECT SWITCHES, UNLESS OTHERWISE NOTED ON DRAWINGS.
- 29.2 ENCLOSURE TO BE TYPE NEMA 3R SPRINKLER PROOF, AMP RATING, NUMBER OF POLES AND FUSE REQUIREMENTS AS INDICATED ON DRAWINGS.
- 29.3 INCLUDE PROVISION FOR PADLOCKING IN ON-OFF SWITCH POSITION BY THREE LOCKS.
- 29.4 MECHANICALLY INTERLOCKED DOOR TO PREVENT OPENING OF DOOR WHEN HANDLE IN ON POSITION.
- 29.5 FUSE TYPE TO BE CLASS J, CURRENT LIMITING, SIZE AS INDICATED ON DRAWINGS.

PART 30 - FUSES

- 30.1 PROVIDE EATON CUTLER-HAMMER, FUSIBLE (COMPLETE WITH FUSE CLIPS) OR NON-FUSIBLE, HEAVY DUTY, CSA APPROVED, FRONT OPERATED TYPE DISCONNECT SWITCHES, UNLESS OTHERWISE NOTED ON DRAWINGS.
- 30.2 ENCLOSURE TO BE TYPE NEMA 3R SPRINKLER PROOF, AMP RATING, NUMBER OF POLES AND FUSE REQUIREMENTS AS INDICATED ON DRAWINGS.
- 30.3 INCLUDE PROVISION FOR PADLOCKING IN ON-OFF SWITCH POSITION BY THREE LOCKS.
- 30.4 MECHANICALLY INTERLOCKED DOOR TO PREVENT OPENING OF DOOR WHEN HANDLE IN ON POSITION.

- 30.5 FUSE TYPE TO BE CLASS J, CURRENT LIMITING, SIZE AS INDICATED ON DRAWINGS.
- 30.6 FUSE HOLDER TO BE WITHOUT ADAPTORS.
- 30.7 ALL FUSIBLE DISCONNECTS TO BE OF QUICK-MAKE AND QUICK-BREAK TYPE.
- 30.8 PROVIDE ON-OFF SWITCH POSITION ON SWITCH ENCLOSURE.
- 30.9 PROVIDE EQUIPMENT IDENTIFICATION AND LOAD CONTROLLED NAMEPLATE.
- 30.10 ALL FUSES MOTOR LOADS SHALL BE TIME-DELAY TYPE.
- 30.11 ACCEPTABLE MANUFACTURES INCLUDE: SIEMENS ELECTRIC, COOPER-BUSMAN AND SQUIRE D.

PART 31 - SPLITTERS TROUGHS

- 31.1 PROVIDE CSA APPROVED SPLITTER TROUGH AS SHOWN ON DRAWINGS, COMPLETE WITH FORMED PRIMED PAINTED STEEL BOX WITH KNOCKOUTS, TERMINAL BLOCKS COMPLETE WITH PRESSURE TYPE LUGS, HINGED FRONT COVERPLATE, SUITABLE MOUNTING PROVISIONS AND ALUMINUM IDENTIFICATION NAMEPLATE.
- 31.2 PROVIDE CSA TYPE I ENCLOSURES IN NON-SPRINKLERED ENVIRONMENT, AND CSA TYPE 412 IN SPRINKLERED ENVIRONMENTS.
- 31.3 MAIN AND BRANCH LUGS TO MATCH REQUIRED SIZE AND NUMBER OF INCOMING AND OUTGOING CONDUCTORS AS INDICATED.
- 31.4 SECURE AT LEAST THREE TERMINALS ON EACH SET OF LUGS FOR SPLITTERS LESS THAN 400A.
- 31.5 SECURE SPLITTER IN PLACE ON PLYWOOD BACKBOARD, INDEPENDENT OF CONNECTING CONDUIT.
- 31.6 ACCEPTABLE MANUFACTURES INCLUDE: SIEMENS ELECTRIC, HAMMOND AND STELPRO.

PART 32 - SEISMIC PROTECTION

- 32.1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINT AND ANCHORAGE FOR ALL ELECTRICAL EQUIPMENT AND SERVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE BC BUILDING CODE AND ALL APPLICABLE BUILDING BYLAWS.
- 32.2 INCLUDE IN THE TENDERED PRICE ALL SERVICES OF A REGISTERED PROFESSIONAL IN THE FIELD OF SEISMIC RESTRAINT TO PROVIDE SUPPLEMENTAL SCHEDULE S LETTERS OF ASSURANCE IN RESPECT OF THE SEISMIC RESTRAINT OF ALL ELECTRICAL MATERIALS AND EQUIPMENT. CONDUCTING THE NECESSARY SITE REVIEWS AND PROVIDING A LETTER AT THE CONCLUSION OF THE PROJECT CONFIRMING THAT ALL SEISMIC RESTRAINTS FOR THE ELECTRICAL WORKS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE ENGINEER'S INSTRUCTIONS. SUPPLEMENTAL SCHEDULES TO BE SUBMITTED TO THE ELECTRICAL ENGINEER OF RECORD.

PART 33 - FIELD REVIEWS

- 33.1 THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CALLING THE ENGINEER, AS REQUIRED BY THE LOCAL BUILDING CODE, FOR FIELD REVIEWS AT THE PROJECT SITE. SUBSTANTIAL COMPLETION AND THE COMPLETION OF ANY DEFICIENCIES.
- 33.2 THE ELECTRICAL CONTRACTOR MUST GIVE THE ENGINEER TWO BUSINESS DAYS' NOTICE FOR ALL REVIEWS.
- 33.3 FAILURE TO INFORM THE ENGINEER OF PROGRESS MAY RESULT IN THE ENGINEER BEING UNABLE TO ISSUE AN ASSURANCE OF PROFESSIONAL FIELD REVIEW AND COMPLIANCE (SCHEDULE C-B) TO THE BUILDING AUTHORITY.

PART 34 - FIRE ALARM (FA)

- 34.1 INSTALL FIRE ALARM SYSTEM AND/OR DEVICES IN ACCORDANCE WITH LATEST EDITION OF CAN-CSA AND WITH THE REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
- 34.2 ALL FIRE ALARM SYSTEM ALTERATIONS AND REVERIFICATION SHALL BE BY LANDLORD'S FIRE ALARM CONTRACTOR AT THE TENANTS EXPENSE. BASE BUILDING FIRE ALARM CONTRACTOR TO INSTALL ALL DEVICES AND MAKE FINAL CONNECTIONS TO THE FIRE ALARM CONTROL PANEL (FACP).
- 34.3 ALL FA WIRING SHALL BE INSTALLED IN CONDUIT IN COMPLIANCE WITH THE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC). ALL CONDUITS SHALL HAVE A GROUND WIRE.
- 34.4 ANY FIRE ALARM DEVICES NOT SPECIFICALLY NOTED TO BE DEMOLISHED ON PLANS SHALL REMAIN OPERATIONAL AND BE CLEANER AND REVERIFIED AT THE END OF PROJECT.
- 34.5 ALL NEW FIRE DETECTION AND SIGNALING DEVICES ADDED DUE TO RENOVATIONS AND ITS ACTIONS SHALL BE (ANNOUNCED) TO FIRE ALARM SYSTEM AT DESIGNATED CONNECTION POINT AS DETERMINED ON SITE BY LANDLORD. CONTACT OPERATIONS MANAGER AND COORDINATE ON SITE. FINAL CONNECTION WILL BE BY LANDLORD CONTRACTOR AS WELL AS FIRE ALARM VERIFICATION. COST OF THIS WORK WILL BE PAID FOR BY TENANT.
- 34.6 THE MANUFACTURER'S REPRESENTATIVE SHALL MAKE AN INS