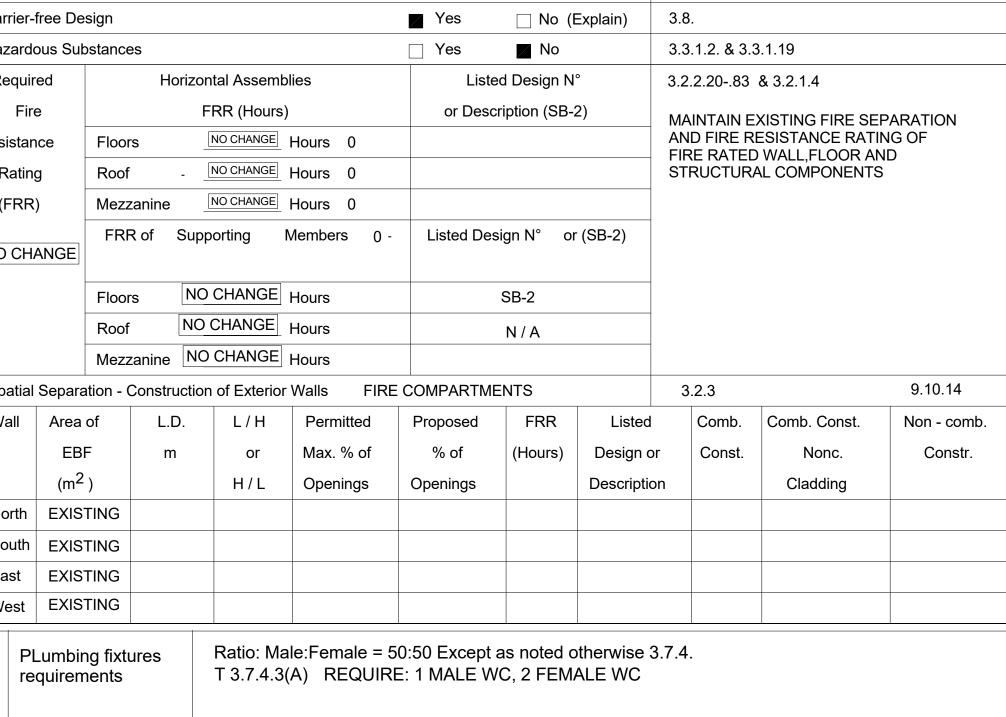
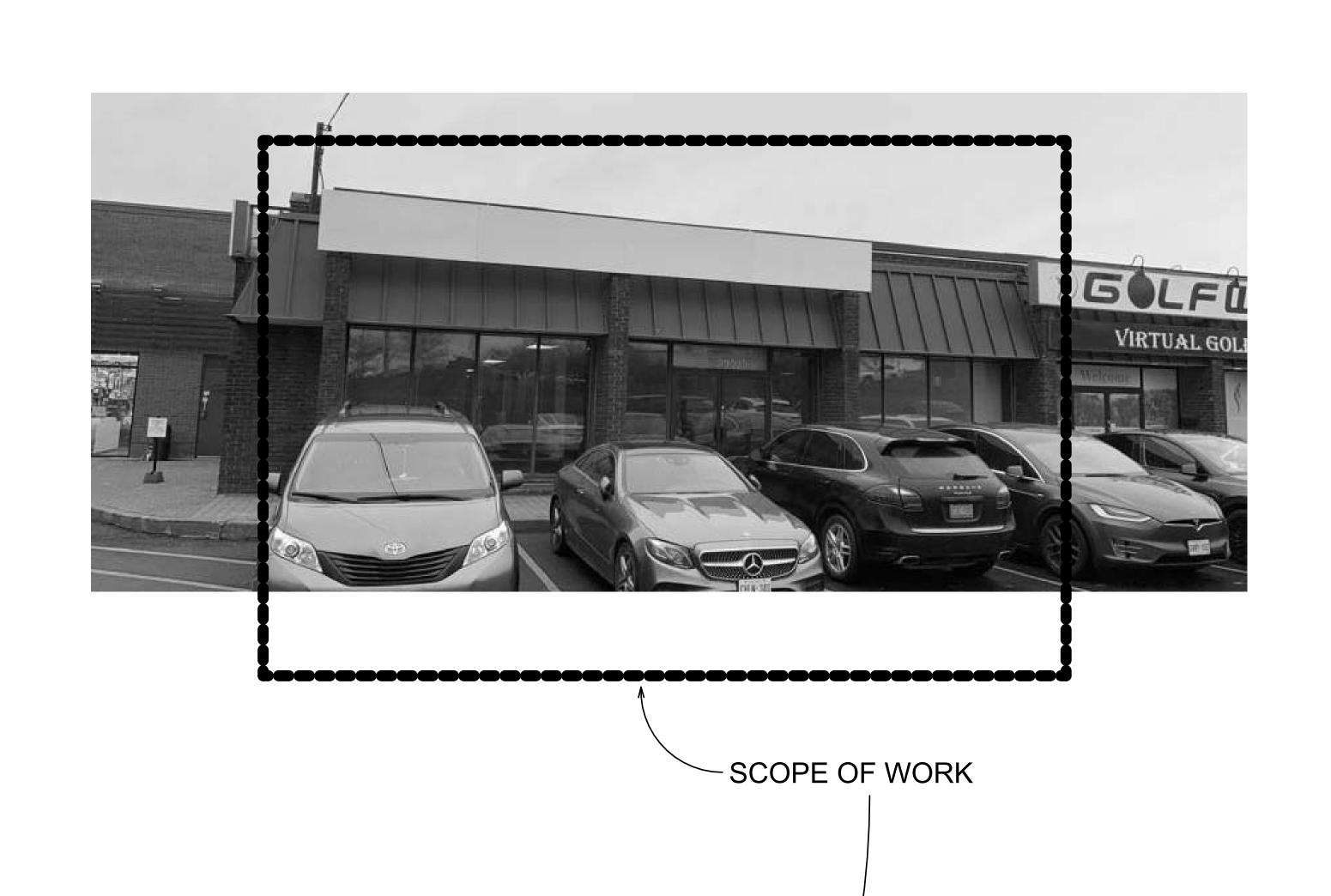
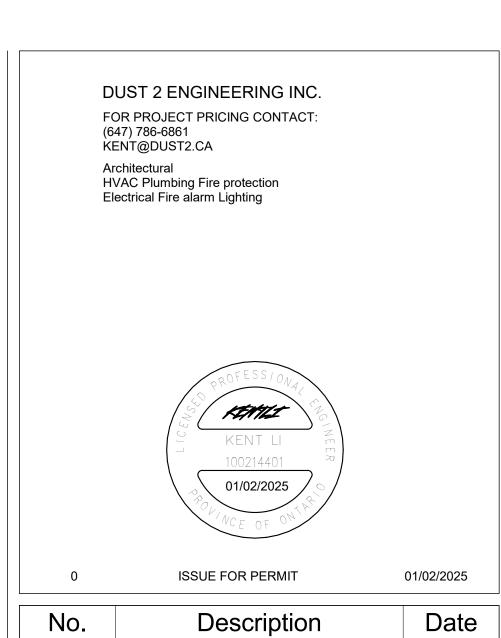
tem	ОВС	BUILD	ING CO)DE	DATA PA	ARTS 3				OBC C	ODE REFERE	ENCE
1	Project	Descript	tion:			☐ New	,			Part 3		
						_ Add	ition			1.1.2		
				□Ch	ange of Use	Alter	ration					
2	Major C	ccupan	cy(s) GR	OUP "A	2" -BILLIARD	OS ROOM	(THIS UNIT V	VAS AN OFFIC	CE USE)	3.1.2.1.(1)		
3	Building	g Area(S	F)	Exis	ting NO	CHANGE New	NO CHANGE Total +-15000SF 1			1.4.1.2.		
4	Gross A	Area of th	he unit					Total <u>+-5100SF</u> 1.				
5	, =1					e 0 NO CI	HANGE	3.2.1.1 & 1	4.1.2.			
6					es NO CH					3.2.2.10 &		
7			loation		7 GROUF	P A2				3.2.2.2083	3	
8	Sprinkle	er Syster	m Proposed	Ł			entire b	_		3.2.2.2083	3	
							baseme	·		3.2.1.5 3.2.2.17		
								f roof rating		0.2.2.		
9	Ctandai	no roqui					not requ			220		
		pe requi rm requi					☐ Yes	■ No		3.2.9		
10 11		<u> </u>	Supply is A		ate		Yes Yes	☐ No ☐ No		3.2.4		
12	High Bu						☐ Yes	No No		3.2.6		
13		d Const	ruction		Combustible	e □ Non-co	ombustible		Both	3.2.2.2083	3	
		Constru			Combustible		ombustible	_ _	Both	0.2.2.20		
14	Mezzan	ine(s) A	rea m ²				N/A			3.2.1.1.(3)-((8)	
15	Total O	ccupanc	y Load		m ² / pe	erson	Design	of building		3.1.17		
	Base	ment	Oc	ccupan	cy N/	A Load	N / A	Persons				
	1st F	loor	Oc	ccupan	cyA2	(the unit) Load	unit) Load 45 Persons (the unit)		(the unit)			
	2nd F	loor	Oc	ccupan			N / A	Persons				
	3rd F	loor	Od	ccupan	cy N/	A Load	N / A	Persons				
16	Barrier-	free Des	ign				Yes	☐ No (Explain)	3.8.		
17	Hazardo	ous Sub	stances				Yes	No		3.3.1.2. & 3	3.1.19	
18	Requir	ed	ŀ	Horizor	ntal Assemb	lies	Lis	ted Design N	•	3.2.2.2083	& 3.2.1.4	
	Fire	e			RR (Hours)		or Des	scription (SB-	2)		EXISTING FIRE SE	
	Resistar	ice	Floors			Hours 0				FIRE RATE	RESISTANCE RAT D WALL,FLOOR A	ND
	Ratin	-	Roof	_		Hours 0				STRUCTUR	RAL COMPONENTS	S
	(FRR)	Mezzanin			Hours 0						
	NO CH	ANGE	FRR of	Supp	oorting I	Members 0 -	Listed De	esign N° o	r (SB-2)			
				NO	CHANGE	11		CD 0				
			Floors		OLIANIOE			SB-2				
			Roof Mezzanine		CHANGE	Hours		N/A				
19	Snatial	Senarat			of Exterior			/FNTS		3.2.3		9.10.14
	Wall	Area		D.	L/H	Permitted	Proposed	FRR	Listed	Comb.	Comb. Const.	Non - comb
		EBF		m	or	Max. % of	% of	(Hours)	Design or		Nonc.	Constr.
		(m ²)			H/L	Openings	Openings		Description		Cladding	
	North	EXIST	,			. 5	. 5					
	South	EXIST	ING									
	East	EXIST	TING									









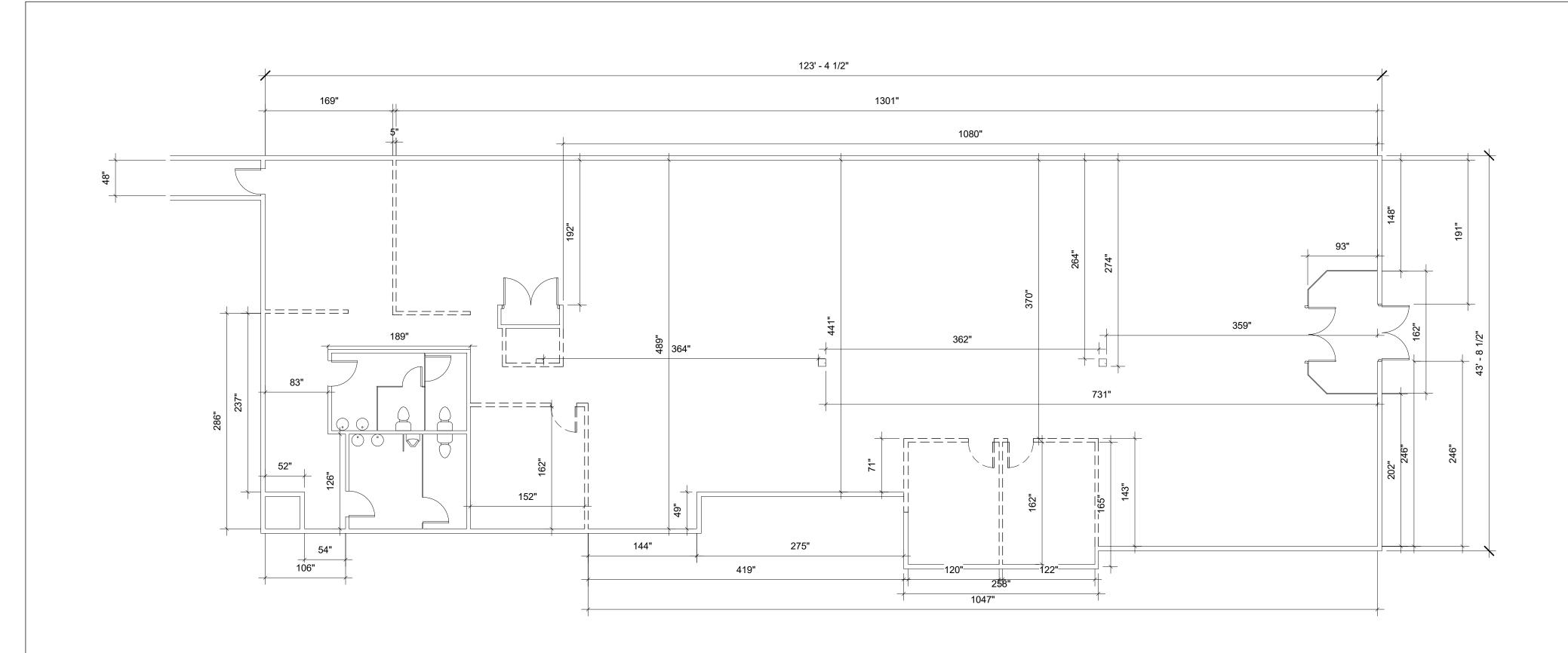


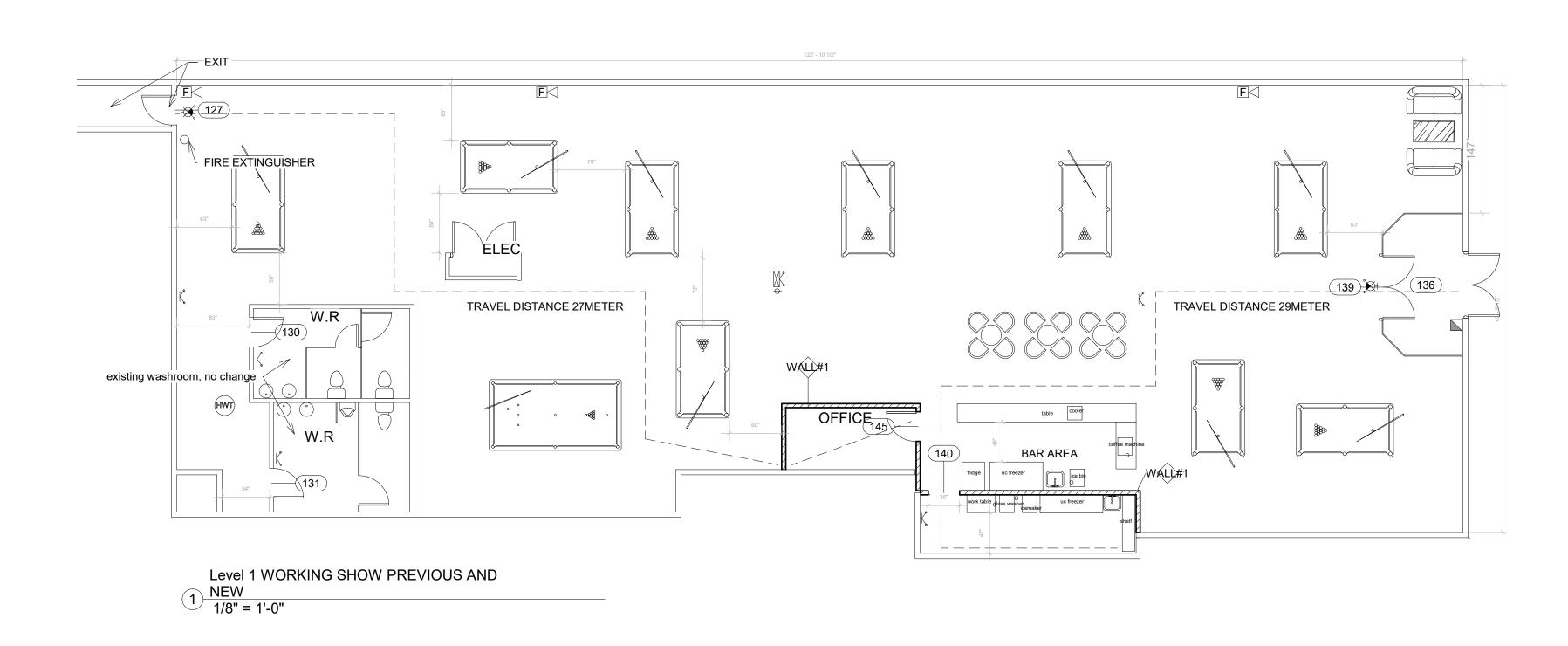
•	

7500 Woodbine Ave, Markham, ON L3R 1A8

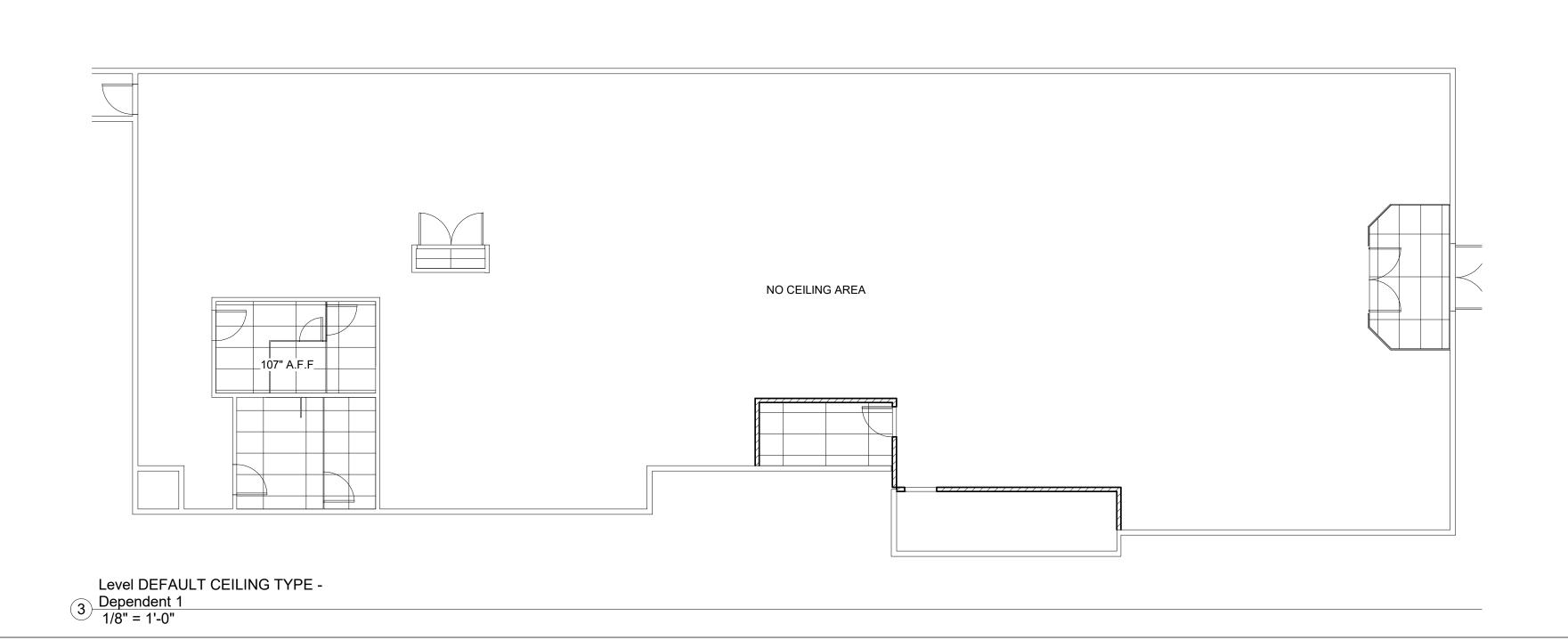
OBC MATRIX / KEYPLAN

Project Number	
Date	
Drawn By	
Checked By	KL
A100)
Scale	3/16" = 1'-0"





2 Level 1 WORKING EXISTING AND DEMO 1/8" = 1'-0"



Mark	Phase Created	Phase Demolished	Width	Height	Note1	Note2
127	Existing	None	34"	80"	automatic door closer	
130	Existing	None	34"	80"		
131	Existing	None	34"	80"		
133	Existing	None				
136	Existing	None			automatic door closer	72X84
139	Existing	None				72X84
140	New Construction	None	36"	80"		
145	New Construction	None	34"	80"		

	Wall Schedu	ule Interior	
Mark	Comments	Assembly Description	Unconnected Height
WALL#1	1/2" DRYWALL ON BOTH SIDES OF STEEL STUD 3 5/8" STEEL STUDS @ 16" O.C.	Partitions - Drywall w/ Metal Stud	

EXISTING WALL

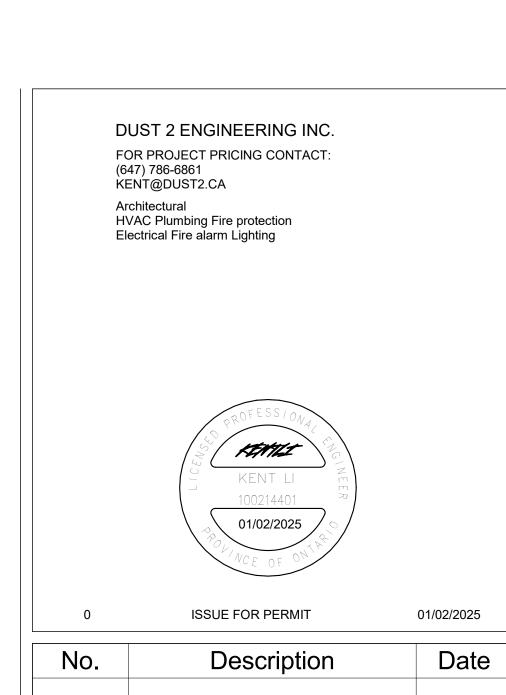
NEW WALL WALL#

Legend 1 wall new existing

1/4" = 1'-0"

H ⊠ (⊠		EXIT LIGHT, SELF CONTAINED, C/W 2 - 7 WATT MICRO QUARTZ HEADS, 120V INPUT, 12V D.C. OUTPUT. GREEN RUNNING MAN SERIES.	
		LED EXIT LIGHT, 2W LED, WALL OR CEILING MOUNTED GREEN RUNNING MAN SERIES.	
		12 VOLT D.C. EMERGENCY BATTERY UNIT, WALL MOUNTED. C/W 2 - 12 WATT PAR 18 MICRO QUARTZ LAMPS, SIZE TO SUIT LOADS.	
	⊢	12 VOLT D.C. REMOTE LIGHT HEAD, C/W 1 - 7 WATT PAR 18 MICRO QUARTZ LAMP.	
	ζ	12 VOLT D.C. REMOTE LIGHT HEAD, RECESSED MOUNTED REMOTE HEAD AT PUBLIC AREA, STANPRO PART#: SRC-2-06-24-4W-LR-WH.	
NOTE:	CONNEC	CT ALL EMERGENCY LIGHTING REMOTE HEADS TO BATTERY UNITS.	
		RY UNIT SHALL BE WIRED TO THE SAME LIGHTING CIRCUIT/VOLTAGE AS AREA LIGHTING IT SERVES.	
	EXIT I	LIGHTS SHALL BE WIRED TO DEDICATED ELECTRICAL CIRCUIT.	
	ALL EX	KIT SIGN TO BE GREEN RUNNING MAN.	
		RY UNIT SHALL BE SIZED TO CARRY A MINIMUM OF ALL THE LOAD CONNECTED TO UNIT INIMUM OF 1/2 HOUR.	
		ENCY LIGHTING MANUFACTURES TO BE EMERGI-LITE, LUMACELL, STANPRO LLI OR APPROVED EQUAL.	

SYMBOL	DESCRIPTION
	MANUAL PULL STATION.
V	WALL/CEILING MOUNTED FIRE ALARM HORN. TYPE TO MATCH EXISTING.
P P	WALL/CEILING MOUNTED FIRE ALARM STROBE LIGHT. TYPE TO MATCH EXISTING.
	WALL/CEILING MOUNTED FIRE ALARM COMBINATION HORN/STROBE. TYPE TO MATCH EXISTING.
	FIRE ALARM ANNUNCIATION PANEL
\oplus	SMOKE DETECTOR.
\(\phi\)	HEAT DETECTOR.



7500 Woodbine Ave, Markham, ON L3R 1A8

ARCHITECTURAL FLOOR PLAN

Date
Drawn By
Checked By

KL

Scale

As indicated

GENERAL REQUIREMENTS FOR MECHANICAL WORK

1. SCOPE OF WORK

(A) CONFORM TO THE APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS OF THE CONTRACT. (B) THIS GENERAL SPECIFICATION SHALL APPLY TO AND FORM A PART OF EACH OF THE SECTIONS COVERING

MECHANICAL AND ELECTRICAL TRADES WORK.

2. EXAMINATION OF SITE AND INFORMATION (A) EACH CONTRACTOR BEFORE TENDERING, SHALL EXAMINE THE SITE, THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND ANY OTHER RELEVANT DOCUMENTS, AND FULLY FAMILIARIZE HIMSELF WITH THE DESIGNER'S INTENT, SO THAT THE TENDER PRICE WILL INCLUDE EVERYTHING NECESSARY FOR THE PROPER COMPLETION OF THE WORK IN ACCORDANCE WITH THE INTENT OF THE DOCUMENTS, OBTAIN THE APPROVAL OF THE ENGINEER, ARCHITECT AND PROJECT MANAGER BEFORE ANY ALTERATIONS TO THE WORK INDICATED.

(B) ENSURE THAT ALL PRODUCTS AND MATERIALS NECESSARY FOR THE EXECUTION OF THE CONTRACT CAN BE BROUGHT INTO THE SPACES WHERE THEY ARE TO BE LOCATED, EITHER THROUGH SPECIFIED OPENINGS OR PARTIALLY ASSEMBLED. ANY CUTTING OR RESTORATION WORK REQUIRED, DUE TO FAILURE TO ACCOMPLISH THIS, WILL BE THE RESPONSIBILITY OF THIS SUBCONTRACTOR.

3. RELATIONSHIP TO OTHER TRADES

(A) THE CONTRACTOR SHALL CONFER WITH OTHER TRADES WORKING IN THE AREA, TO ENSURE THAT HIS INSTALLATION WILL BE THE RESULT OF CO-OPERATION BETWEEN ALL PARTIES. ALL DEVICES MUST BE ACCESSIBLE FOR SERVICE, AND THE RECOMMENDATIONS OF THE EQUIPMENT SUPPLIERS SHALL GOVERN. (B) ENSURE THAT ALL WORK WILL BE INSTALLED WITHIN THE PRESCRIBED LIMITED OF THE BUILDING, SUCH AS CEILING HEIGHTS, AND NOTIFY AND GENERAL TRADE OF ANY REQUIREMENTS FOR INSERTS, SLEEVES, OPENINGS, CURBS AND BASES IN SUFFICIENT TIME TO HAVE THE ITEMS COMPLETED IN THE NORMAL COURSE OF (C) CONFIRM WITH THE ELECTRICAL TRADE, THE AVAILABLE ELECTRICAL POWER SUPPLY CHARACTERISTICS, BEFORE FINALIZING EQUIPMENT ORDERS. NO COMPENSATION WILL BE ALLOWED TO CHANGE ANY DEVICE DUE TO THIS SUBCONTRACTOR'S FAILURE TO VERIFY THE SUPPLY. (D) ANY CUTTING OR PATCHING REQUIRED, FOR WHATEVER REASON, SHALL BE DONE BY QUALIFIED TRADES PEOPLE IN THE REQUIRED TRADE.

4. SHOP DRAWINGS AND ALTERNATIVE EQUIPMENT (A) THIS REVIEW IS FOR GENERAL CONFORMITY ONLY AND DOES NOT RELIEVE THE SUPPLIER AND/OR SUBCONTRACTOR FROM PROVIDING THE NECESSARY PRODUCT (S) TO MEET THE DESIGN INTENT (B) PROVIDE 8 COPIES OF SUBMITTAL DRAWINGS FOR EACH PIECE OF EQUIPMENT, INCLUDING PUMPS, AC AND AIR HANDLING UNITS, FIXTURES, ETC., TO THE ENGINEER FOR RÉVIEW. CERTIFY TO THE ENGINEER THAT THE DRAWINGS CORRECTLY IDENTIFY THE EQUIPMENT THAT WILL BE SUPPLIED, THAT THE EQUIPMENT WILL FIT THE SPACE ALLOTTED, AND PERFORM THE SERVICE INTENDED. (C) EQUIPMENT DESCRIBED EITHER GENERICALLY OR BY BRAND NAME IS TO ESTABLISH THE MINIMUM STANDARD REQUIRED FOR THE INSTALLATION. ALTERNATIVE EQUIPMENT MAY BE SUGGESTED BY THE BIDDER. BUT THE EQUIVALENCE SHALL BE DETERMINED BY THE ENGINEER. BIDDERS MUST TENDER ON THE BASIS OF THE SPECIFIED EQUIPMENT, AN IF ALTERNATIVES ARE PROPOSED, THEY WILL BE CONSIDERED ON THEIR OWN MERITS, AFTER THE CLOSE OF TENDERS. ANY LOWERING OF THE

PRICE BASED ON ALTERNATIVE SUPPLIERS WILL BE PERMITTED WITH THE SAVINGS BEING PASSED TO THE OWNER. 5. REQUIREMENTS OF INSPECTION DEPARTMENTS

(A) ALL WORK SHALL COMPLY WITH THE GOVERNING CODES AND LOCAL REQUIREMENTS. ANY ITEMS REQUIRED TO ACCOMPLISH THIS, WHETHER EXPLICITLY NOTED OR NOT. SHALL BE PROVIDED. (B) WHERE THE INSPECTING PERSON REQUESTS ITEMS NOT DEEMED TO INCLUDED, THE MATTER SHALL BE IMMEDIATELY REFERRED TO THE ENGINEER FOR A RULING. NO EXTRA WILL BE CONSIDERED IF THE WORK DONE BY THE CONTRACTOR TO SATISFY SUCH A REQUEST, COULD HAVE BEEN AVOIDED BY DISCUSSION BETWEEN THE INSPECTOR AND THE ENGINEER. (C) PROVIDE NOTICE TO INSPECTORS AS REQUIRED FOR THE PROGRESS OF THE PROJECT, AND ENSURE THAT SUCH INSPECTIONS ARE CARRIED OUT, BEFORE WORK IS

6. CERTIFICATES, PERMITS AND FEES (A) OBTAIN ALL REQUIRED PERMITS, AND PAY ALL INSPECTIONS FEES, EXCEPT WHERE SPECIFICALLY NOTED TO THE CONTRARY (B) FURNISH TO THE OWNER ANY CERTIFICATES THAT MAY BE NECESSARY AS EVIDENCE THAT THE WORK AS INSTALLED CONFORMS TO ALL THE LAWS AND RÉGULATIONS OF THOSE AUTHORITIES HAVING JURISDICTION. BEFORE FINAL CERTIFICATES ARE ISSUED, MAKE THESE ALTERATIONS THAT ARE REQUIRED BY THE AUTHORITY HAVING JURISDICTION, AND ACCEPTED BY THE ENGINEER AS A LAW, OR REGULATION THAT SHOULD HAVE BEEN FOLLOWED BY THE CONTRACTOR.

(A) GUARANTEE ALL MATERIAL AND WORKMANSHIP FOR TWO FULL YEARS FROM THE DATE OF CERTIFIED SUBSTANTIAL COMPLETION BY THE OWNER, OR HIS AUTHORIZED AGENT. THIS SHALL NOT SUPERCEDE ANY WARRANTIES FOR SPECIFIC ITEMS OF EQUIPMENT. WHICH MAY BE FOR A LONGER TERM. (B) THE COST OF REPAIR OF DAMAGE TO ANY OTHER WORK, CAUSED BY THE FAILURE OF EITHER MATERIAL OR WORKMANSHIP WITHIN THE PERIOD COVERED BY THE GUARANTEE NOTED IN (A). SHALL BE INCLUDED IN THIS WARRANTY. (C) WHERE EQUIPMENT IS PUT INTO OPERATION PRIOR TO COMPLETION OF THE WORK THE PERIOD OF GUARANTEE COVERING SUCH EQUIPMENT SHALL STILL COMMENCE AS NOTED IN ITEM 7(A) ABOVE. THE PUTTING INTO OPERATION OF ANY EQUIPMENT PRIOR TO COMPLETION OF THE WORK SHALL ONLY BE WITH WRITTEN APPROVAL OF THE ENGINEER AND OWNER. NO EQUIPMENT SHALL BE STARTED UP WITHOUT FIRST ASCERTAINING THAT ALL SYSTEMS AND SERVICES ASSOCIATED WITH ITS OPERATION ARE FUNCTIONING AND THAT RESPONSIBILITIES FOR EQUIPMENT MAINTENANCE HAVE BEEN ARRANGED.

8. DRAWINGS (A) THE DRAWINGS PRODUCED BY THE ENGINEER ARE GENERALLY SCHEMATIC IN NATURE AND ARE ISSUED FOR THE EXPRESS PURPOSE OF OBTAINING TENDERS FOR THE WORK AND FOR THE ERECTION OF THE SYSTEMS DESCRIBED IN THE SCOPE OF WORK TO BE DONE. UNLESS SPECIFICALLY SHOWN, THE RESPONSIBILITY FOR THE INSTALLATION AND WORKABILITY OF THE SYSTEM (S) REST WITH THE CONTRACTOR. (B) WHERE NECESSARY, THE CONTRACTOR SHALL PREPARE INTERFERENCE DRAWINGS TO ENSURE THAT THE INSTALLATION WILL BE COORDINATED WITH ALL SERVICES TO BE INSTALLED IN THE AREA. THE ENGINEER AND OTHER PROFESSIONALS OF RECORD MAY HAVE TO APPROVE OF THESE PROPOSALS.

9. RESPONSIBILITY AND LIABILITY (A) THIS CONTRACTOR IS RESPONSIBLE FOR THE LAYING-OUT OF HIS WORK, AND IT SHALL BE DONE IN COOPERATION WITH ALL OTHER TRADES WORKING IN THE AREA. THE WORK OF THESE OTHER SUBTRADES SHALL BE PROTECTED FROM DAMAGE BY THIS SUB'S FORCES. OR RESTITUTION MADE FOR ANY DAMAGE. (B) NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOR INCONSISTENCIES AND ABIDE BY THE DECISION OF THE ENGINEER. FAILURE TO NOTIFY THE ENGINEER WILL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY

TO PROVIDE A FULLY WORKING SYSTEM. 10. CLEAN-UP AND PROTECTION

(A) MAINTAIN A CLEAN WORKING AREA TO MINIMIZE DANGER TO OTHERS ON SITE, AND PROTECT ALL WORK IN PROGRESS FROM DAMAGE DUE TO CONSTRUCTION WORK, WEATHER, OR FROM UNDUE DIRT ENTRY. 11. OPERATOR TRAINING AND INSTRUCTIONS

(A) PROVIDE COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT SUPPLIED,

COMPLETE WITH PARTS LISTS AND THE NAMES OF THE SUPPLIERS. (B) PROVIDE A WRITTEN DESCRIPTION OF THE SYSTEMS AND THE OPERATING CHARACTERISTICS FOR USE BY THE SYSTEM OPERATORS/MAINTENANCE PERSONNEL AND TO INSTRUCT THE USERS HOW TO SET THERMOSTATS, FAN CONTROL SWITCHES, ETC. CONSULT THE ENGINEER WHEN PREPARING THIS INSTRUCTION SHEET, TO ENSURE THAT THE SYSTEM WILL BE OPERATED AS INTENDED. (C) PROVIDE A BALANCING REPORT FOR ALL AIR AND HYDRONIC SYSTEMS, WHICH HAS BEEN PREPARED BY AN INDEPENDENT TESTING COMPANY APPROVED BY THE

(D) TOUCH UP OR REPAINT AS NECESSARY, ALL SCRATCHES OR OTHER FINISH DEFECTS, THAT HAVE OCCURRED ON ANY DEVICES SUPPLIED UNDER THIS CONTRACT. 12. ELECTRICAL WIRING AND CONTROLS

(A) ALL POWER WIRING FOR ALL MECHANICAL EQUIPMENT SHALL BE DONE BY DIVISION 16 - ELECTRICAL, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. (B) THE MECHANICAL DIVISION SHALL PROVIDE ALL STARTERS, RELAYS, CONTROL DEVICES, AND ANY BUILT-IN SAFETY SWITCHES. THE ELECTRICAL WILL PROVIDE ALL FIELD-MOUNTED SAFETY DISCONNECTS. (C) THE MECHANICAL DIVISION SHALL PROVIDE ALL CONNECTIONS AND WIRING FOR CONTROLS, AND INTERLOCKS.

ALL ELECTRICAL DEVICES SHALL BE CANADIAN WHERE POSSIBLE AND ALL MOTORS UP TO 1/3 HP SHALL BE SINGLE PHASE, LARGER MOTORS 3 PHASE, EXCEPT AS NOTED. CONFIRM ALL ELECTRICAL CHARACTERISTICS ON SITE. 13. COMPLETION, TESTING, BALANCING AND ADJUSTMENTS

(A) CERTIFY TO THE ENGINEER THAT ALL SYSTEMS HAVE BEEN COMPLETELY INSTALLED PER THE DOCUMENTS, SET IN OPERATION, AND ADJUSTED TO THE REQUIREMENTS OF THE PROJECT (B) REPLACE ALL FILTERS, AND ANY INDICATOR LIGHTS THAT HAVE BURNED OUT, AND LUBRICATE ALL ROTATING DEVICES IMMEDIATELY PRIOR TO TURN OVER TO THE OWNER OR HIS AGENT.

14. ACCESS DOORS AND FIRE STOPPING

(A) PROVIDE ADEQUATELY SIZED ACCESS DOORS TO PERMIT SERVICING OF ANY MECHANICAL DEVICE, CLEANOUT, CHECK VALVE, ETC. THE DOORS WILL BE INSTALLED BY THE TRADE PROVIDING THE SURFACE WHERE THE DOOR IS TO BE LOCATED. THIS CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ACCURATELY LOCATING THE DOOR, CONSIDERING ALL OBSTRUCTIONS. (B) PROVIDE SLEEVES FOR PIPES PASSING THROUGH WALLS AND FLOORS WHERE PIPE MOVEMENT IS POSSIBLE. USE SCHEDULE 40 PIPE SECTIONS FOR MASONRY WALLS, LARGE ENOUGH TO ACCOMMODATE PIPE INSULATION. FLOOR SLEEVES THROUGH DRAINABLE FLOORS SHALL EXTEND UP ABOVE THE FINISHED FLOOR LEVEL (C) FIRE STOP ALL SLEEVES PASSING THROUGH FIRE SEPARATIONS WITH AN APPROVED FIRE STOPPING MATERIAL, AND MAKE WATERPROOF. PROVIDE ESCUTCHEONS FOR ALL EXPOSED PENETRATIONS THROUGH WALLS, AND FLOORS AS DIRECTED.

WORKMANSHIP (A) ONLY FIRST CLASS WORKMANSHIP WILL BE ACCEPTED, NOT ONLY WITH REGARDS TO SAFETY, EFFICIENCY, DURABILITY, ETC., BUT ALSO WITH REGARDS TO THE NEATNESS OF DETAIL. ALL PIPE WORK SHALL BE LINED UP PARALLEL, OR AT RIGHT ANGLES TO THE BUILDING WALLS WHERE POSSIBLE. EQUIPMENT MUST BE ACCURATELY SET, PLUMB AND LEVEL, AND ALL HANGERS MUST BE IN TRUE VERTICAL ALIGNMENT. IN GENERAL, THE ENTIRE WORK SHALL BE FIRST CLASS AND WORKMAN LIKE AND PRESENT A NEAT CLEAN APPEARANCE UPON COMPLETION.

HEATING, VENTILATING AND AIR CONDITIONING

A) THE GENERAL REQUIREMENT OF THE CONTRACT DOCUMENTS AND THE SUPPLEMENTARY GENERAL RÉQUIREMENTS FOR MECHANICAL WORK SHALL FORM AN INTEGRAL PART OF THIS SPECIFICATION.

WORK INCLUDED

(A) THIS CONTRACTOR SHALL DO ALL HEATING, VENTILATION AND AIR CONDITIONING WORK AS SHOWN ON THE DRAWINGS. PROVIDE ALL GAS PIPING, THERMOSTATIC CONTROLS, INTERLOCKING DEVICES, DAMPER CONTROLS AND WIRING FOR THEM, EXCEPT AS MAY BE SPECIFICALLY NOTED. PROVIDE ALL DUCT INSULATION AS SHOWN AND SPECIFIED, AND EXCEPT FOR ACOUSTIC LINING, ALL INSULATION SHALL BE DONE BY A QUALIFIED SUB-CONTRACTOR.

2.1. WORK NOT INCLUDED WITH A BUILT-IN DISCONNECT PROVIDED AS A PART OF THE PACKAGE

3. TESTING, START-UP AND GUARANTEE (A) START UP ALL SYSTEMS IN CONJUNCTION WITH MANUFACTURER'S REPRESENTATIVE, AND LOG ALL OPERATING CONDITIONS SUCH AS TEMPERATURE RISE, AIR VOLUME AND PRESSURE AND FILE THREE COPIES OF THE REPORT AND BALANCING REPORT WITH RECORDING THE DATE OF START AND THE DURATION OF WARRANTY.

(B) LUBRICATE ALL EQUIPMENT, CHANGE FILTERS AND ANY INDICATOR LAMPS, AND PROVIDE A WARRANTY LETTER TO THE OWNER (C) WARRANTY ON ALL SYSTEMS IS ONE FULL YEAR PARTS AND LABOR, AND AN ADDITIONAL ONE YEAR ON ALL ALL RÉFRIGERATION SYSTEMS INCLUDING LABOR. 4. HEATING & VENTILATING UNITS

(A) PROVIDE UNITS AS SHOWN ON THE DRAWINGS COMPLETE WITH DISCHARGE MODULATING THERMOSTAT WITH ELECTRONIC MODULATION GAS VALVE FOR SMOOTH LINEAR DISCHARGE TEMPERATURE. UNITS WITH AIR CAPACITIES OF 2000 CFM OR GREATER SHALL HAVE SMOKE SENSING UNIT CUTOUTS INSTALLED WIRED TO STOP THE SYSTEM ON ACTIVATION. PROVIDE FACTORY STANDARD HIGH TEMPERATURE LIMIT CUTOFF, ALL TO SUIT AGA APPROVAL REQUIREMENTS. (B) MAKE SURE THAT UNIT WILL NOT DRAW IN AIR FROM EXHAUST FANS OR GAS OR PLUMBING VENTS. IF THIS IS A POSSIBILITY, EXTEND THE VENTS TO MAINTAIN 10 FEET ABOVE THE UNIT. PROVIDE MANUFACTURER'S STANDARD HIGH VELOCITY FILTER SYSTEM AND MAKE SURE THAT FILTER SCAN BE EASILY RÉMOVED FROM THE UNIT. PROVIDE 2 SPARE SETS OF FILTERS.

DUCTWORK (A) PROVIDE DUCTWORK AS SHOWN AND REQUIRED. ALL METAL SHALL BE PRIME COAT GALVANIZED COLD ROLLED STEEL WITH GAUGES AND CONSTRUCTION PER SMACNA AND ASHRAE STANDARDS.

12" OR LESS 26 13 TO 30" 24 31 TO 54" 22 55 AND UP 20

(B) WHERE DUCTS ARE ACOUSTICALLY LINED, DUCT SIZES SHOWN ARE NET. DUCTS SHALL BE SUPPORTED USING ANGLE IRON TRAPEZE HANGERS WITH THREADED ROD SUPPORTS. 18GA. STRIPS ARE ACCEPTABLE FOR DUCTS LESS THAN 18" LONGEST SIDE. D) ELBOWS SHALL BE ROUND THROAT WHERE POSSIBLE WITH ONE DUCT WIDTH RADIUS. SQUARE THROAT OR BACK ELBOWS SHALL ONLY BE USED WHERE SPACE DOES NOT PERMIT STANDARD ELBOWS AND TURNING VANES SHALL BE INSTALLED. E) ALL TAKE-OFFS SHALL BE FITTED WITH DAMPERS AND SHALL BE EXPANDED THROAT TYPE, EXCEPT SPIN-IN FITTINGS ARE

ACCEPTABLE FOR DIFFUSED BRANCHES. F) FLEX DUCTS SHALL NOT EXCEED 10' IN LENGTH AND WHERE FLEX DUCTS CONNECT TO A DIFFUSER, A METAL ELBOW SHALL BE MOUNTED ON THE DIFFUSER AND CONNECTED TO THE DUCT. TO PROVIDE EQUAL FLOW OUT OF THE DIFFUSER. G) PROVIDE FLEX CONNECTIONS TO ALL PIECES OF EQUIPMENT, AND WHERE THE UNIT IS OUTSIDE, PROVIDE A RAIN SHIELD OVER THE TOP OF THE CONNECTION. FLEXIBLE DUCTWORK TO BE FLEXMASTER TRIPLE LOC OR EQUAL INSULATED, SPIRAL WOUND ALUMINUM. FOR EXTERIOR DUCTS, BREAK THE DUCT ON TOP TO PROVIDE POSITIVE RAIN SHEDDING, AND BRACE FROM INSIDE IF

DUCT INSULATION

9) PROVIDE MOLD PROOF ACOUSTIC DUCT LINER 1" THICK FOR THE FIRST 15' FROM THE SUPPLY FAN, COMPLETE WITH METAL RETAINER STRIPS ON THE LEADING EDGE ON EACH SECTION OF DUCT. (C) PROVIDE 1/2 " MOLD PROOF ACOUSTIC LINER AS ABOVE FOR THE RETURN DUCT ENTIRE LENGTH FROM THE PLENUM PICKUP FOR 5' WHICHEVER IS LESS. ALL EXHAUST DUCTS SHALL BE SIMILARLY INSULATED D) ALL DUCTS OUTSIDE AND EXPOSED TO WEATHER SHALL BE INSULATED WITH 2" RIGID FIBERGLAS AND COVERED WITH AN

VERCALLING OF 26 GA. GALVANIZED STEEL OR 22 GA. ALUMINUM ALONG THE TOP AND SIDES OF THE DUCT, AND EXTENDING BELOW THE INSULATION BUT CLEAR OF WATER PONDING ON THE ROOF. TIE THE SECTIONS TOGETHER TO ENSURE STABILITY OF THE FINAL (E) ALL DUCTWORK FROM VVT TERMINAL UP TO ROOF TOP AIR CONDITIONING UNIT SHALL BE OF MEDIUM PRESSURE DUCT (F) ALL AIR CONDITIONING DUCTWORK SHALL BE SEALED WITH HIGH PRESSURE DUCT SEALER.

7. N/A 8. GRILLES, DIFFUSERS AND REGISTERS

(A) PROVIDE UNITS AS SHOWN ON THE PLANS AND LISTED IN THE SCHEDULE. CEILING DIFFUSERS SHALL BE ADJUSTABLE PATTERN, LAY-IN STYLE IN OFF-WHITE COLOR TO MATCH CEILING GRID. EACH UNIT SHALL HAVE A VOLUME DAMPER AND WHERE CLOSE TO A WALL PROVIDE ADDITIONAL BLANK-OFF BAFFLES TO PREVENT (C) REGISTERS SHALL BE DOUBLE DEFLECTION, WITH FRONT BARS TO SUIT THROW PATTERN AS LISTED ON DRAWINGS, AND BE COMPLETE WITH OB DAMPER. ALL CEILING REGISTERS SHALL HAVE CURVED BLADES, EXCEPT WHERE NOTED OTHERWISE, AND ALL WALL REGISTERS FOR CORRIDOR SUPPLIES SHALL BE CURVED

(D) RETURN GRILLES SHALL BE ½" ALUMINUM GRID FOR CEILINGS AND STEEL, FRAMED UNITS WITH FIXED 35 DEG. BARS FOR WALL OR CEILING INSTALLATION WITH DUCTED RETURN, COMPLETE WITH OB DAMPER. EXHAUST GRILLES SAME. (E) DOOR GRILLES SHALL BE SINGLE 'V; WITH FRAME ON BOTH SIDES.

(A) FAN SHALL BE MANUFACTURED AT AN ISO 9001 CERTIFIED FACILITY, SHALL BE INSTALLED AS PER NFPA 96-2014. GAS PIPING

A) PROVIDE ALL GAS PIPING AS SHOWN ON THE DRAWINGS TO THE REQUIREMENTS OF THE NATIONAL FUEL CODE MOST RECENT EDITION. PIPING SHALL BE WELDED FOR 21/2" AND LARGER SIZES AND WHERE LOCATED IN PLENUMS OR CONCEALED SPACES. (B) PAINT ALL EXPOSED GAS PIPING TO CODE AND IDENTIFY ALL GAS PIPING IN OTHER AREA WITH COLORED BANDING.

C) WHERE HIGHER GAS PRESSURES ARE USED, PROVIDE POUNDS TO INCHES GAS REGULATORS WITH INTERNAL RELIEF, FOR EACH

 GAS FIRED HEATING APPLIANCES INSTALLATION PER ONTARIO BUILDING CODE AND ITS REFERRED STANDARDS.

APPLIANCE OR GROUP AND VENT THE RELIEF TO THE EXTERIOR IN A SAFE MANNER.

PLUMBING AND DRAINAGE

PLUMBING AND DRAINAGE NOTES

ALL PIPING SHALL BE ROUTED ABOVE CEILING UNLESS OTHERWISE INDICATED. ALL PIPING EXPOSED TO VIEW SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO THE UNDERSIDE OF STRUCTURE.

EXPOSED PIPNG IN FINISHED AREAS SHALL BE CHROME PLATED WITH CHROME PLATED ESCUTCHEON AT PIPE ENTRY TO FINISHED AREA. SLEEVE OR CORE - DRILL FLOOR SLABS, WALLS, ETC. AS REQUIRED FOR PIPING AND FIRE STOP OPENING AROUND PIPE. VERIFY LOCATION OF STRUCTURAL BEAMS, JOISTS ETC, BEFORE DRILLING. ALL OPENINGS IN DRAINAGE AND/OR VENT SYSTEMS AS A RESULT OF INSTALLATION ROUGH-IN SHALL BE PROTECTED WITH A TEST PLUG THAT IS SECURELY LOCKED IN PLACE UNTIL FINAL FINISHED WHEREVER FOUNDAINTION WALLS, OUTSIDE WALLS, ROOFS, ETC. ARE PENETRATED FOR INSTALLATION OF SYSTEMS, THEY SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND SEALED WEATHER TIGHT.

PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN, AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE. ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENTS AND MAINTENANCE IS POSSIBLE THROUGH LAY - IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED). ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. (A) POWER WIRING TO ALL EQUIPMENT AND PROVISION OF SAFETY DISCONNECTS, EXCEPT WHERE THE PIECE OF EQUIPMENT COMES 10.

INSTALL ALL PIPING AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK INCLUDING DUCTS AND ELECTRICAL CONDUITS. PROVIDE AN ISOLATING, DIELECTRIC UNION AT ALL CONNECTIONS BETWEEN FERROUS AND NONFERROUS PIPING.

PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. FIELD VERIFY LOCATION OF EXISTING SERVICES TO BE REUSED OR CONNECTED TO AND REPORT TO ARCHITECT/ENGINEER IF OTHER THAN THAT WHICH IS INDICATED ON DRAWINGS. COORDINATE LOCATION OF FLOOR DRAINS IN MECHANICAL ROOMS WITH MECHANICAL EQUIPMENT. COORDINATE ELECTRICAL VOLTAGES WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING ANY EQUIPMENT. COORDINATE FIXTURE TYPES WITH THE ARCHITECTURAL DRAWINGS. AREAS DESIGNED FOR THE USE BY THE HANDICAPPED SHALL BE SUPPLIED WITH FIXTURES AND TRIM AS SET FORTH IN THE

BARRIER FREE DESIGN REGULATIONS. 17. INSTALL AND TEST ALL PLUMBING AND DRAINAGE SYSTEMS IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND THE REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. 18. ALL SANITARY DRAINAGE, VENTING AND PLUMBING PIPING INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF THE ONTARIO BUILDING CODE AND THE REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION. PLUMBING AND DRAINAGE PIPING NOTES

ALL DRAINAGE PIPING 3" DIAMETER AND LESS SHALL BE SLOPED IN THE DIRECTION OF FLOW WITH SLOPE 1:50. ALL DRAINAGE PIPING 4" DIAMETER AND LARGER SHALL BE SLOPED IN THE DIRECTION OF FLOW WITH SLOPE 1:100. SANITARY DRAIN AND VENT PIPING ABOVE GRADE SHALL BE TYPE DMW HARD COPPER CERTIFIED TO ASTM B306, WITH CAST BRASS OR WROUGHT COPPER FITTINGS CERTIFIED TO CAN/CSA B125, OR ABS SCHEDULE 40 PLASTIC PIPE CERTIFIED TO CAN/CSA-B181.1, "ABS DRAIN, WASTE AND VENT PIPE AND PIPE FITTINGS", OR PVC SCHEDULE 40 PLASTIC PIPE CERTIFIED TO CAN/CSA-B181.2, "PVC DRAIN, WASTE AND VENT PIPE AND PIPE FITTINGS". XFR-PVC SCHEDULE 40 CERTIFIED TO CAN/CSA-B181.2, "PVC DRAIN, WASTE AND VENT PIPE AND PIPE FITTINGS".

IPEX-System 15 (DWV) SCHEDULE 40 CERTIFIED TO CAN/CSA-B181.2, "PVC DRAIN, WASTE AND VENT PIPE AND PIPE FITTINGS", OR CAST IRON PIPE CERTIFIED TO ASTM A888, PLAIN ENDS. ALL COUPLINGS SHALL BE HUBLESS JOINT COUPLINGS WITH NEOPRENE GASKETS AND STAINLESS STEEL SHIELD AND CLAMPS. 4. SANITARY DRAIN PIPING BELOW GRADE SHALL BE HUBLESS CAST IRON PIPE CERTIFIED TO ASTM A888, PLAIN ENDS. ALL COUPLINGS SHALL BE HUBLESS JOINT COUPLINGS WITH NEOPRENE GASKETS AND STAINLESS STEEL SHIELD AND CLAMPS DRAIN BELOW GRADE SHALL BE ABS SDR, USED UNDERGROUND OUTSIDE A BUILDING OR UNDER A BUILDING. A SANITARY DRAINAGE SYSTEM SHALL BE CERTIFIED TO, (C) CAN/CSA-B182.2, CAN/CSA DRAIN BELOW GRADE SHALL BE PLASTIC PIPE, USED UNDERGROUND OUTSIDE A BUILDING OR UNDER A BUILDING. A SANITARY DRAINAGE SYSTEM OR VENTING SYSTEM SHALL BE CERTIFIED TO, (C)

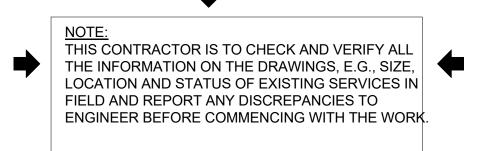
CAN/CSA B181,2, "PVC DRAIN, WASTE, AND VENT PIPE AND PIPE FITTINGS". PUMPED DRAIN BELOW GRADE SHALL BE TYPE K SOFT COPPER CERTIFIED TO ASTM B88, SEAMLESS PLAIN ENDS. DOMESTIC COLD/HOT WATER PIPING ABOVE GROUND SHALL BE EXISTING COPPER AND NEW PEX COMPOSITE PIPE CERTIFIED TO CAN/CSA B137.10. UNDERGROUND WATERMAINS SHALL BE DUCTILE IRON IN CONFORMANCE WITH ANSI/AWWA C151/A21-51 AND SHALL HAVE CEMENT-MORTAR LINING IN CONFORMANCE WITH ANSI/AWWA C104/A21-4. 8. PROVIDE TRAP SEAL PRIMING TO ALL FLOOR DRAINS AS INDICATED WITH P-TRAPS IN ACCORDANCE WITH THE ONTARIO BUILDING CODE, PART 7 AND THE REQUIREMENT OF ALL LOCAL AUTHORITIES HAVING JURISDICTION.

PLUMBING AND DRAINAGE MISCELLANEOUS NOTES 1. ALL Plumbing, Drainage and Vent piping shall conform to Ont.Reg.332/12 Building Code, part 7.

2. ALL MATERIALS/EQUIPMENT AND PIPINGS/FITTINGS/FIXTURES FOR PLUMBING/DRAINAGE (WHERE PROPOSED) SHALL CONFORM TO OBC 7.2. AND ANY RELEVANT CSA STANDARDS. 3. WHERE BUILDING IS OF NONCOMBUSTIBLE CONSTRUCTION, ANY COMBUSTIBLE PIPINGS BEING USED SHALL COMPLY WITH O.B.C. 3.1.5.16.(1). 4. FIRE STOPPING OF PIPE PENETRATION SHALL CONFORM TO O.B.C. 3.1.9.
5. MATERIALS WHERE IN PLENUM SHALL MEET OBC 3.6.4.3. REQUIREMENTS. MAX. 25 FLAME SPREAD RATING AND 50 SMOKE DEVELOPED CLASSIFICATION

9. ALL PIPING LOCATED IN CEILING SPACE (PLENUM) USED AS AN AIR RETURN, SHALL BE IPEX XFR (DWV) HAVING A SMOKE INDEX OF 35 (OR LESS)

ISSUED FOR PERMIT



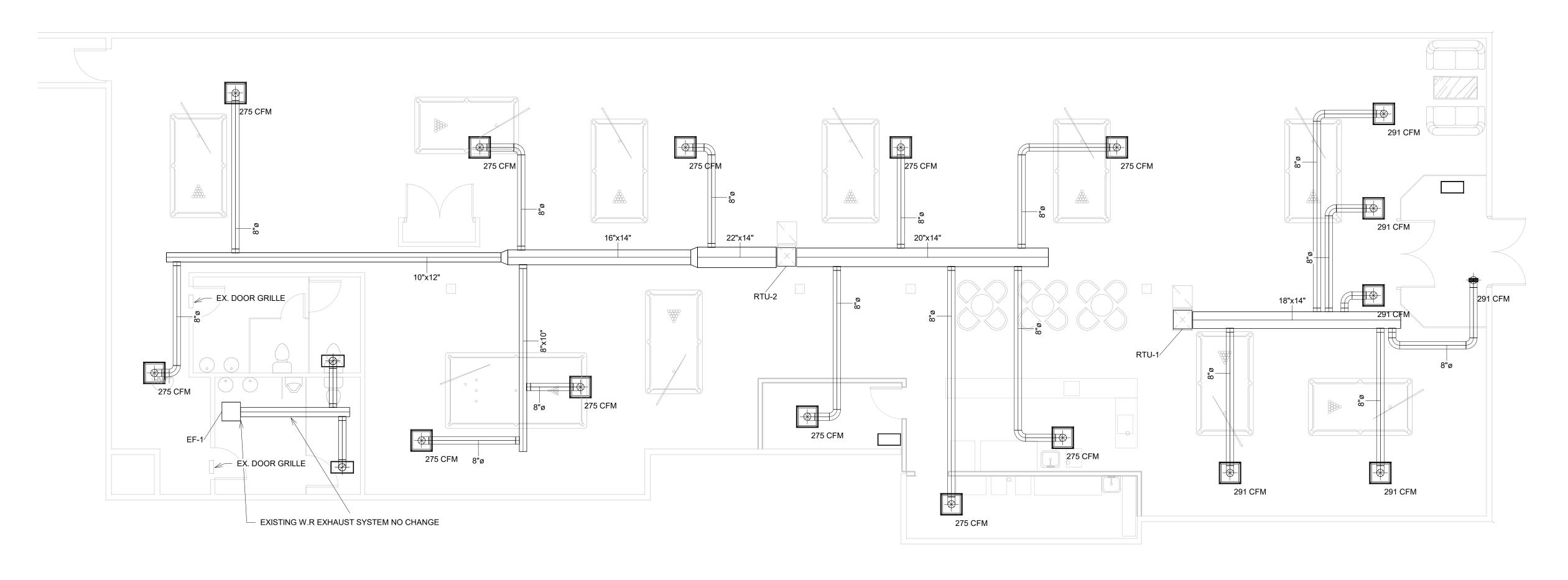
DUST 2 ENGINEERING INC. FOR PROJECT PRICING CONTACT: (647) 786-6861 KENT@DUST2.CA Architectural **HVAC Plumbing Fire protection** Electrical Fire alarm Lighting 01/02/2025 ISSUE FOR PERMIT 01/02/2025

No.	Description	Date
		I

7500 Woodbine Ave, Markham, ON L3R 1A8

SPECIFICATION

MC	_
Checked By	Checke
Drawn By	Autho
Date	
Project Number	



1 HVAC 1ST FLOOR LEVEL 3/16" = 1'-0"

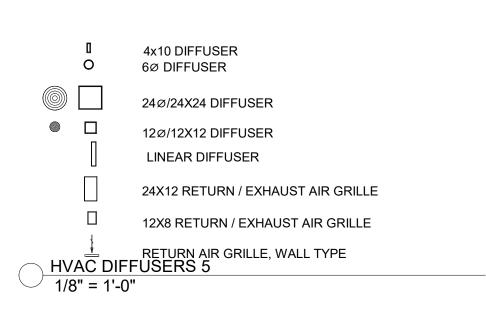
Number ID	Equipment Description	Phase Created	Comments	project address
RTU-1	EXISTING CARRIER 48TFE006 ROOF TOP UNIT OUTPUT 92MBTU/H 5 ton Cooling Capacity @1750cfm	Existing	BALANCED TO 440CFM O/A	7500 Woodbine Ave, Markham, ON L3R 1A8
RTU-2	EXISTING CARRIER 48TME009 ROOF TOP UNIT OUTPUT 144MBTU/H 6 ton Cooling Capacity @2750cfm	Existing	BALANCED TO 700CFM O/A	7500 Woodbine Ave, Markham, ON L3R 1A8
EF-1	EXISTING WASHROOM EXHAUST FAN MOUNTED ON ROOF , 400cfm	Existing	NO CHANGE	7500 Woodbine Ave, Markham, ON L3R 1A8

GENERAL NOTES (HVAC):

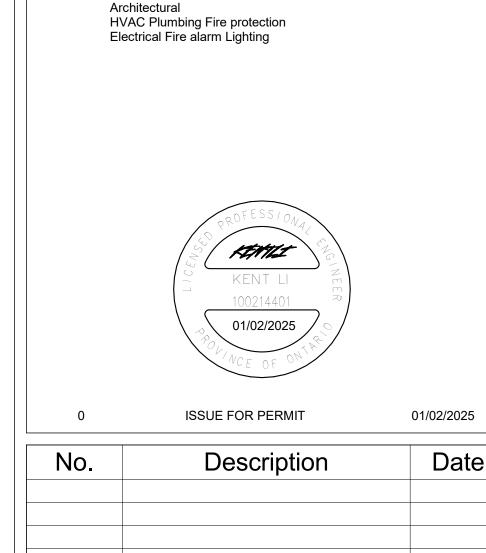
- INSTALLATION TO COMPLY WITH ONTARIO BUILDING CODE.
- THIS HVAC PLAN TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS, SPECIFICATIONS AND EQUIPMENT SHOP DRAWINGS. REFER TO CALCULATION SHEET FOR LOAD CALCULATION AND EQUIPMENT SELECTION FOR CAPACITY. CONTRACTOR TO VERIFY CONDITIONS AND DIMENSIONS ON SITE WITH EXISTING CONDITIONS.
- USE EQUIVALENT DUCT AREA AS REQUIRED TO FIT SPACE, EITHER ROUND OR RECTANGULAR ARE BOTH ACCEPTABLE.USE EQUIVALENT DUCT AREA AS REQUIRED TO FIT SPACE, EITHER ROUND OR RECTANGULAR ARE BOTH ACCEPTABLE.
- PROVIDE FIRE DAMPER WHEN DUCT RUN THROUGH FIRE RATED WALL, CEILING OR FLOOR ASSEMBLY. NON COMBUSTIBLE MATERIAL IN CEILING SPACE WHEN CEILING SPACE BEING USED AS RETURN AIR PLENUM, MEET FIRE
- ALL BRANCH TAKE-OFFS HAVE MANUAL CONTROL DAMPER AT THE BOOT OR LOCKABLE DIFFUSER.
 PROVIDE ADEQUATE NOISE CONTROL FOR ALL SUPPLY DIFFUSER / PLENUM SLOT AS PER RECOMMENDATION.DIFFUSERS AND
- GRILLES SELECTION IS TO FOLLOW EQUIVALENT AIR FLOW AND NOISE LEVEL SUITABLE TO THE SITE CONDITION. INSULATE ALL DUCTS EXPOSED IN UNHEATED SPACE WITH R-12 C/W VAPOR BARRIER. ALL DUCTWORK ROUTINGS ARE FOR REFERENCE, CONTRACTOR SHOULD RUN DUCTWORKS ACCORDING TO SITE SITUATION.
- KEEP ALL DUCTS AS CLOSE TO BEAM AS POSSIBLE AND RUN BETWEEN JOISTS. RETURN AIR SYSTEM TO BE UNOBSTRUCTED AND CAPABLE OF RETURNING ENTIRE AIR VOLUME INDICATED.
- ALL INTERIOR DOORS HVAE 1" UNDER CUT FOR ROOM WITHOUT RETURN GRILLE
- EXAMINE ON-SITE SITUATION AND ARCHITECTURAL PLAN TO COORDINATE SPRINKLER HEAD LAYOUT & LOCATIONS. ALL PLUMBING AND HVAC INSTALLATION IS TO BE INSTALLED TO SATISFY THE PROPER COVERAGE AND UNOBSTRUCTED SPRINKLER DISCHARGE AND RELEVANT REQUIREMENT PER NFPA-13 AND AHJ.
- EXHAUST FANS SHALL BE COMPLETE WITH GRAVITY BACKDRAFT DAMPERS, FLEX DUCT CONNECTIONS AND INSULATED
- AVAILABLE POWER SUPPLY SHOULD BE VERIFIED BEFORE PURCHASING ANY ELECTRICAL EQUIPMENT. ELECTRICIAN TO VERIFY POWER AND UPGRADE THE ELECTRICAL PANEL AND POWER FEED AS NECESSARY.
- EQUIPMENTS E.G RTU EXACT LOCATION TO BE DECIDED ON SITE BY CONTRACTOR AND SUBJECT TO STRUCTURAL VERIFICATION AND REINFORCEMENT BY CONTRACTOR AND STRUCTURAL ENGINEER. CONTRACTOR TO PROVIDE GAS LINES AND VALVES TO COOKING EQUIPMENT, H.W.T AND MUA WITH APPROPRIATE SIZE,
- INSTALLATION PER CODE.

GENERAL NOTES (SOW):

NOTE: EQUIPMENT SELECTION IS FOR DEMONSTRATION OF HEATING, EXHAUST AND MAKE UP AIR ETC CAPACITY ONLY, AVAILABLE POWER SUPPLY SHOULD BE VERIFIED BEFORE PURCHASING ANY ELECTRICAL EQUIPMENT. CONTRACTOR AND CLIENT ARE RESPONSIBLE FOR UPGRADING THE ELECTRICAL FACILITIES IF NECESSARY. THIS HVAC DESIGNER IS NOT BEING HOLD LIABLE FOR THE ADEQUACY OF THE ELECTRICAL SUPPLY. PURCHASE ONLY EQUIPMENT OF THE CORRESPONDING VOLTAGE AND PHASES OF THE SITE CONDITION. THIS SELECTION IS NOT TO BE USED FOR PURCHASE AND ORDERING.



1.08 0.05 0.083 5 0.48 0	78 78 78	21185 15667 0 28155 155902 calculation		ith saftey m	1010
0.05 0.083 5 0.48 0	78 78 78	21185 15667 0 28155 155902			nargin 101(
0.05 0.083 5 0.48 0	78 78 78	21185 15667 0 28155 155902		ith saftey m	nargin
0.05 0.083 5 0.48	78 78	21185 15667 0 28155			
0.05 0.083 5 0.48	78 78	21185 15667 0 28155			
0.05 0.083 5 0.48	78 78	21185 15667 0			
0.05 0.083 5 0.48	78 78	21185 15667 0			
0.05 0.083 5	78 78	21185 15667 0		-	
0.05 0.083	78	21185 15667			
0.05	78	21185			
				<u> </u> 	
1.08	78	90895			
				+	
		BTU/HR		†	
		<u> </u>		†	
SS CALCU	LATI	ONS		†	
			-6		
		OUTSIDE °F	85		
֡	SS CALCU	SS CALCULATI HEAT LOSS	OUTSIDE °F SS CALCULATIONS HEAT LOSS	SS CALCULATIONS HEAT LOSS	OUTSIDE °F 85 -6 SS CALCULATIONS HEAT LOSS



DUST 2 ENGINEERING INC.

FOR PROJECT PRICING CONTACT:

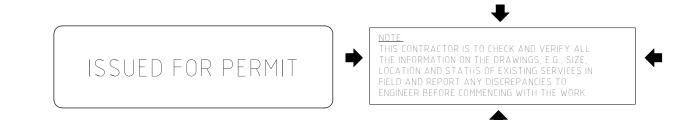
(647) 786-6861 KENT@DUST2.CA

No.	Description	Date

7500 Woodbine Ave, Markham, ON L3R 1A8 HVAC

Project Number Drawn By Checked By

As indicated



APPROXIMATE LOCATION OF EX. COLD WATER/HOT WATER

SERVICE, EXACT LOCATION, SIZE AND INVERT TO BE

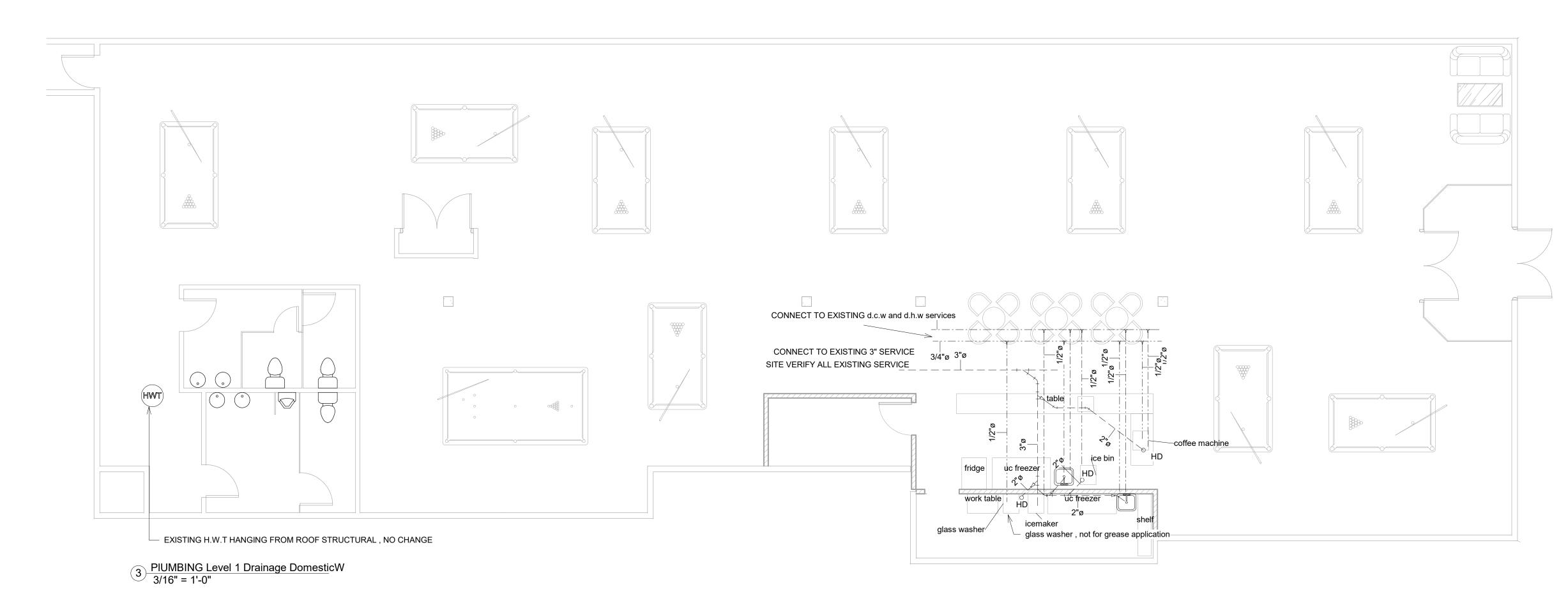
CONFIRMED ON SITE BY CONTRACTOR.

NOTE:1. THE INSTALLATIONSHALL BE IN ACCORDANCE WITH O.B.C DIV B, PART7

ZURN MINIMUM 20GPM or EQUIVALENT CAPACITY, SELETION FIT IN SINK SIZE FOR

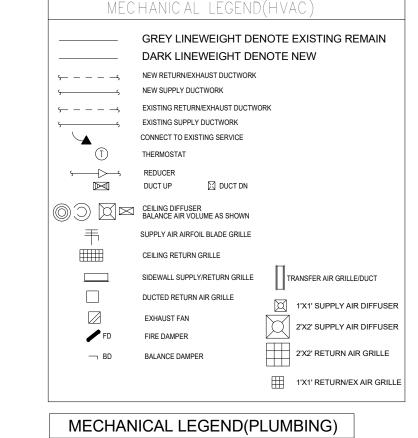
ABOVE GROUND APPLICATION

ZURN MINIMUM 20GPM or EQUIVALENT CAPACITY, SELETION FIT IN SITE CONDITION



Key Value

DESCRIPTION	HW	CW	WASTE	VENT	DRAIN FU	COLD FU	HOT FU	TOTAL D.FU	REMARKS
SINK	12 MM (1/2")	12 MM(1/2")	40 MM(1-1/2")	32 MM(1-1/4")	1.5	1	1	1.4	
2-COMP SINK , domestic kitchen	12 MM (1/2")	12 MM(1/2")	40 MM(1-1/2")	32 MM(1-1/4")	1.5	1	1	1.4	
LAVATORY 8.3LESS PUBLIC	12 MM (1/2")	12 MM(1/2")	40 MM(1-1/2")	32 MM(1-1/4")	1.5	1.5	1.5	2	
LAVATORY 8.3LESS PRIVATE	12 MM (1/2")	12 MM(1/2")	40 MM(1-1/2")	32 MM(1-1/4")	1.5	0.5	0.5	0.7	
WATER CLOSET(PUBLIC)		>=3/8"	75 MM(3")	40 MM(1-1/2")	4	2.2		2.2	
Shower drain	12 MM (1/2")	12 MM (1/2")	40 MM(1-1/2")		1.5	1	1	1.4	private
Shower drain	12 MM (1/2")	12 MM (1/2")	40 MM(1-1/2")		1.5	3	3	4	public
bath group						2.7	1.5	3.6	3 pcs
sink, laundry		12 MM (1/2")	40 MM(1-1/2")	32 MM(1-1/4")	1.5	1	1	1.4	prv/pub
Clothes washer 3.5kg	12 MM (1/2")	12 MM (1/2")	-	-	1.5	1	1	1.4	prv
Clothes washer 6.8kg	12 MM (1/2")	12 MM (1/2")	-	-	1.5	3	3	4	public
Disk washer, domestic	0.375"	-	40 MM(1-1/2")	-	1 OR 0	-	1.4	1.4	
Hose bibb	-	12 MM (1/2")				2.5	-	2.5	



CONNECT TO EXISTING SERVICE

SANITARY DRAIN WITH CLEAN OUT

DOMESTIC COLD WATER

DOMESTIC HOT WATER

PERDIHD

PERDIHD

(UP)

(DN)

SHUT OFF VALVE

CONNECT TO EXISTING SERVICE

SANITARY DRAIN WITH CLEAN OUT

DOMESTIC COLD WATER

DOMESTIC HOT WATER

PERDIHD

PERDIHD

FUNNEL FLOOR DRAIN/HUB DRAIN

FLOOR DRAIN

MIXING VALVE

GC site verifty all existing drain

- GENERAL NOTES (PLUMBING):
- SLOPE PER O.B.C Table 7.4.10.8. 3" AND SMALLER DRAIN PIPES SLOPE AT LEAST 1:50, 4" DRAIN
- PIPES SLOPE AT LEAST 1:100

 CONTRACTOR IS TO CHECK AND VERIFY EXACT SIZE, LOCATION AND STATUS OF EXISTING SERVICES IN FIELD AND REPROT ANY DISCREPANCIES TO ENGINEER BEFORE COMMENCING WITH
- THE WORK.

 3 ALL HOT WATER PIPES SHALL BE INSULATED
- VENT ALL PLUMBING FIXTURES AS PER ONTARIO BUILDING CODE. CONNECT TO EXISTING SAN VENT IN CEILING SPACE, COORDINATE WITH LANDLORD FOR EXACT LOCATION.
- FOR DRAINAGE PIPE 4" AND LESS, MINIMUM CLEAN OUT OPENING SIZE IS THE SAME AS DRAINAGE PIPE.
- USE APPROPRIATE FITTING IN CONFORMANCE WITH OBC TABLE 7.2.4.5.
- LOCATE & CONNECT TO EXISTING SERVICES OF ADEQUATE SIZE INCLUDING DCW, DHW, VENT & SANITARY DRAINAGE.
- PER 7.4.7.2 (SIZE AND SPACING OF CLEANOUTS), ON DRAINAGE PIPING LARGER THAN THE 4 IN. SIZE, THE CLEANOUT OPENING SHALL BE 4 IN. OR LARGER. RESPECT THE CLEANOUTS SPACING REQUIREMENT PER PIPE SIZES.
- 9 PER OBC 7.6.1.1, IN A HOT WATER DISTRIBUTION SYSTEM OF A DEVELOPED LENGTH OF MORE THAN 30 M OR SUPPLYING MORE THAN 4 STOREYS, THE WATER TEMPERATURE SHALL BE MAINTAINED BY RECIRCULATION, OR A SELF-REGULATING HEAT TRACING SYSTEM.
- PROVIDE ISOLATING VALVE ON, HOT AND COLD WATER LINES TO EACH PIECE OF PLUMBING FIXTURE. (TYPICAL UNLESS NOTED OTHERWISE; WRAP ALL EXPOSED HOT WATER AND DRAIN. PIPING AT HANDICAPPED LAVATORY WITH INSULATION. ALL FLOOR DRAIN SHALL BE PRIMED FROM NEAREST COLD WATER SERVICE AND SHALL BE VENTED. ALL HUB DRAINS SHAL BE TRAPPED, VENTED AND PRIMED.
- RECOMMENDED SERVICE WATER SIZING IS BASED ON BEST ENGINEERING PRACTICE WITH CONSIDERATION OF VELOCITY AND PRESSURE DROP.
- (12) REFER TO 7.4.6.2 O.B.C FOR LOCATION OF SOIL OR WASTER PIPES IN FOOD PROCESSING AREA
- PROVIDE CLEANOUTS AND VENT PIPES PER O.B.C.7.4.7.1.(8) AND 7.5.5.2.(6) AND (7) FOR GREASE INTERCEPTOR
- PROVIDE ISOLATING VALVE ON, HOT AND COLD WATER LINES TO EACH PIECE OF PLUMBING FIXTURE. (TYPICAL UNLESS NOTED OTHERWISE; WRAP ALL EXPOSED HOT WATER AND DRAIN. PIPING AT HANDICAPPED LAVATORY WITH INSULATION. ALL FLOOR DRAIN SHALL BE PRIMED FROM NEAREST COLD WATER SERVICE AND SHALL BE VENTED. ALL HUB DRAINS SHAL BE TRAPPED, VENTED AND PRIMED.
- ALL PLUMBING, DRAINAGE AND VENT PIPING SHALL CONFORM TO ONT. REG.332/12 BUILDING CODE, PART 7.
 ALL MATERIALS/EQUIPMENT AND PIPINGS/FITTINGS/FIXTURES FOR PLUMBING/DRAINAGE (WHERE PROPOSED) SHALL CONFORM TO OBC 7.2. AND ANY RELEVANT CSA STANDARDS.
- WHERE BUILDING IS OF NONCOMBUSTIBLE CONSTRUCTION, ANY COMBUSTIBLE PIPINGS BEING USED SHALL COMPLY WITH O.B.C. 3.1.5.16.(1).
 - FIRE STOPPING OF PIPE PENETRATION SHALL CONFORM TO O.B.C. 3.1.9.
 MATERIALS WHERE IN PLENUM SHALL MEET OBC 3.6.4.3. REQUIREMENTS. MAX. 25 FLAME SPREAD RATING AND 50 SMOKE DEVELOPED CLASSIFICATION

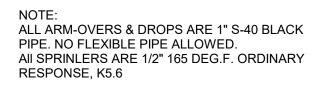
	DUST 2 ENGINEERING INC. FOR PROJECT PRICING CONTACT: (647) 786-6861 KENT@DUST2.CA Architectural HVAC Plumbing Fire protection	
	Electrical Fire alarm Lighting	
	KENT LI 100214401 01/02/2025	
0	ISSUE FOR PERMIT	01/02/2025

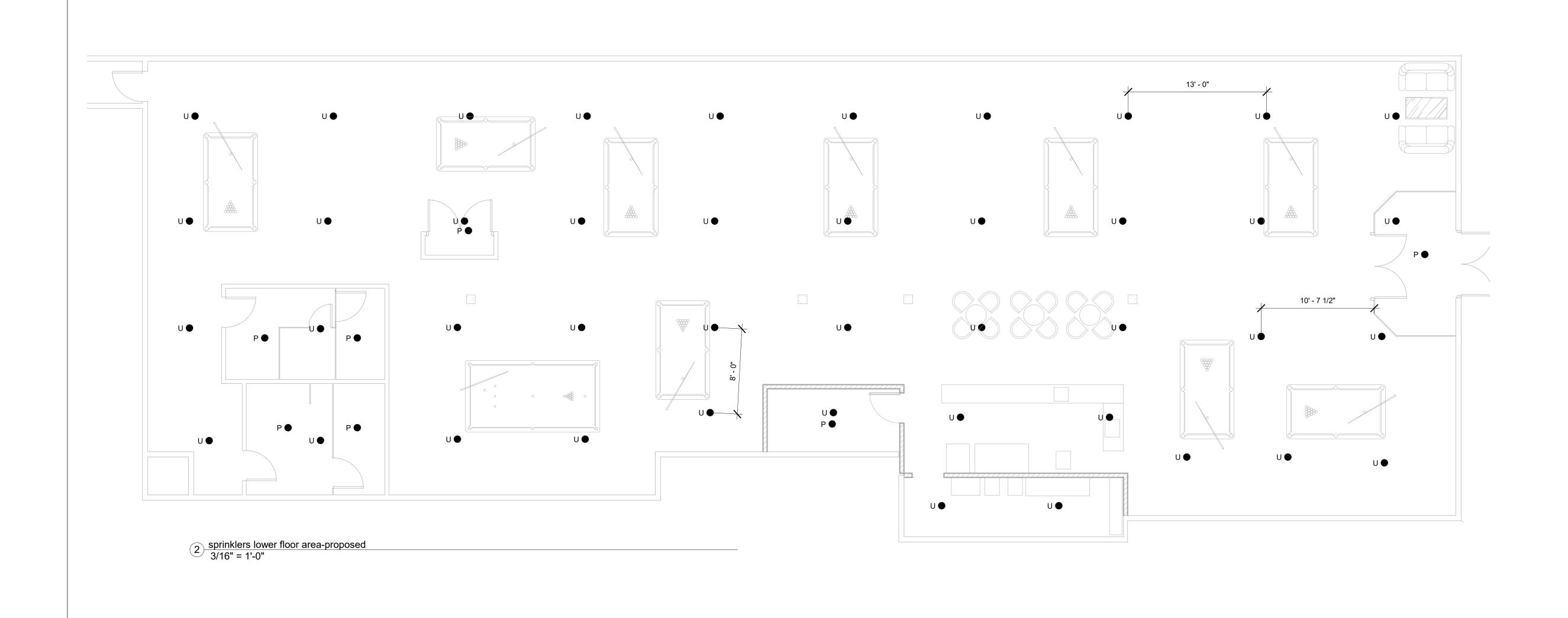
No.	Description	Date

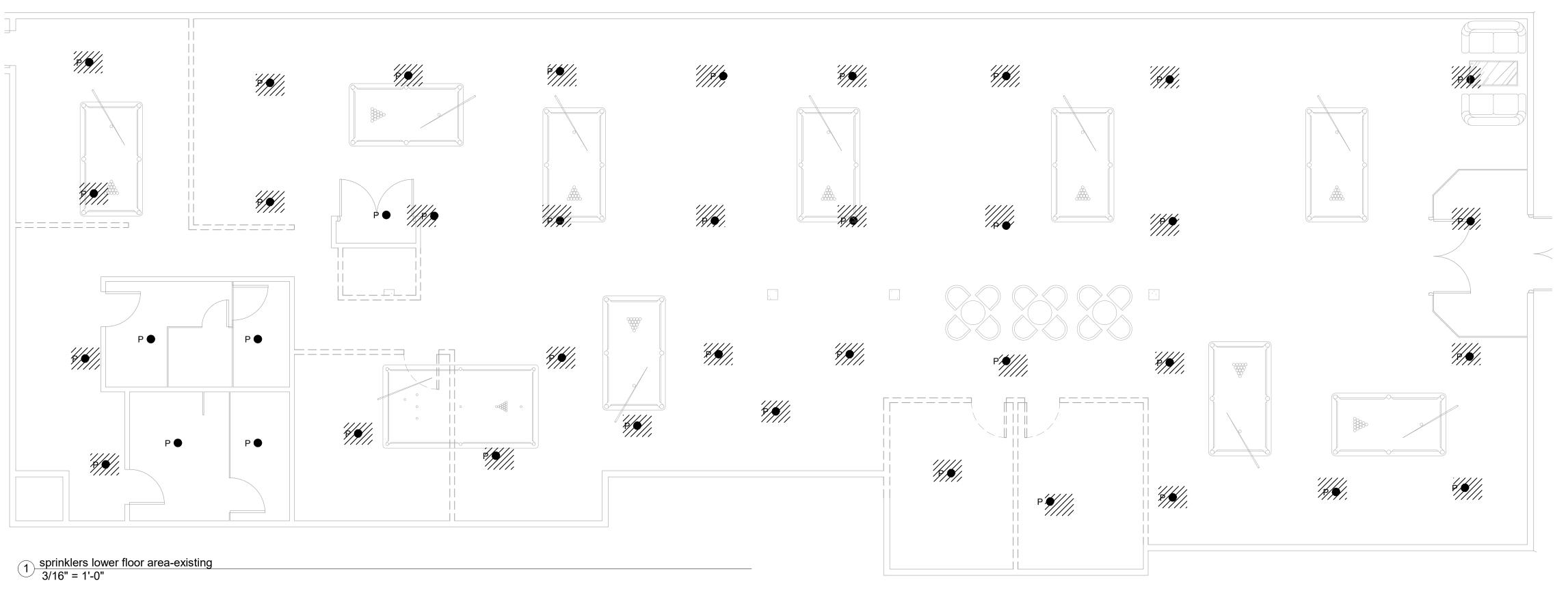
7500 Woodbine Ave, Markham, ON L3R 1A8

Plumbing

Project Number		
Date		
Drawn By		KL
Checked By		
	M02	
Scale		As indicated







NOTE:
ALL ARM-OVERS & DROPS ARE 1"
ALL SPRINLERS ARE 1/2" 165 DEG.F.
ORDINARY RESPONSE, K5.6

GREY LINEWEIGHT DENOTE EXISTIN

GREY LINEWEIGHT DENOTE EXISTING, DARK LINEWEIGHT DENOTE NEW

PENDANT SPRINKLER

UPRIGHT SPRINKLER

DRY PENDANT SPRINKLER

DP • DEMOLISH OR RELOCATE

Legend 4 sprinklers
1/2" = 1'-0"

CHECK ARCHITECTURAL CEILING PLAN FOR CEILING LAYOUT

ALL DIMENSIONS SHOULD BE VERIFIED BY SPRINLER FITTER AT SITE

NOTE FOR SPRINKLER SYSTEM

- 1. VISIT THE JOBSITE BEFORE TENDERING TO FAMILIARIZE WITH EXISTING SERVICES.
 2. VERIFY ALL DIMENSIONS BEFORE CONSTRUCTION. ANY ERROR OR OMISSIONS MUST BE
- REPORTED TO THE OWNER AND ENGINEERS PRIOR TO CONSTRUCTION.

 3. DO NOT SCALE DRAWINGS. DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED BY THE ENGINEER.
- 4. CO-ORDINATE WITH ALL OTHER TRADES IN ALL PHASES TO AVOID INTERFERENCES
- AND DELAY IN CONSTRUCTION.

 THE SPRINKLER CONTRACTOR TO MODIFY EXISTING SPRINKLER SYSTEM IF NECESSARY AND INSTALL NEW SPRINKLER HEAD WHERE IS REQUIRED TO SUIT NEW ARCHITECTURAL LAYOUT INCLUDING PIPING, HANGER FITTING ETC. FOR A COMPLETE INSTALLATION ALL IN ACCORDANCE WITH THE STANDARDS AS STIPULATED BY N.F.P.A. 13 REVISED TO DATE AND THE REQUIREMENT OF ALL LOCAL AUTHORITIES
- HAVING JURISDICTION.

 6. IF NECESSARY, THE SPRINKLER CONTRACTOR TO PREPARE COMPLETE SHOP DRAWINGS AND HYDRAULIC CALCULATION AS PER N.F.P.A. 13 REQUIREMENT.
- 7. THE FIRE PROTECTION WORK MUST BE CARRIED OUT BY A LANDLORD APPROVED SPRINKLER CONTRACTOR.
- 8. ALL NEW SPRINKLER HEADS SHALL MATCH BASE BUILDING STANDARD. PROVIDE 1 YEAR WRITTEN WARRANTY FOR WORKMANSHIP AND MATERIAL, FROM THE DATE OF ACCEPTANCE.
- 9. CONTRACTOR TO PROVIDE FIRE EXTINGUISHER AS PER N.F.P.A. 10-2013. FIRE EXTINGUISHERS TO BE INSTALLED AND LOCATED NEAR ALL EXITS AND OTHER AREAS AS DEFINED BY OFC DIV. B SECTION 6.2.
- 10. THE SPRINKLER CONTRACTOR TO PREPARE ENGINEER SEALED GENERAL REVIEW OF SPRINKLER INSTALLATION LETTER TO MECHANICAL ENGINEER, INDICATING THE NUMBER OF ADDITIONAL AND/OR REPLACED SPRINKLERS.
- 11. ALLOW FOR THE INSTALLATION OF ADDITIONAL SPRINKLER HEADS INCLUDING PIPING FOR PROTECTION UNDER DUCTWORK AND UNFORESEEN OBSTRUCTIONS.
- 12. ALL NEW SPRINKLER HEADS SHALL MATCH BASE BUILDING STANDARD AS NECESSARY. MODIFICATIONS TO SPRINKLER SYSTEM TO BE IN ACCORDANCE WITH THE SPACING REQUIREMENTS AND OBSTRUCTION RULES OF NFPA 13. REMOVED SPRINKLERS ARE NOT TO BE REINSTALLED. ADDED SPRINKLERS AND REPLACED SPRINKLERS TO HAVE EQUAL DESIGN CRITERIA AS EXISTING BUILDING SPRINKLERS AND BE OF EQUAL RESPONSE TYPE (STANDARD OR QUICK).



7500 Woodbine Ave, Markham, ON L3R 1A8

SPRINKLERS

- · -···· - J	7 (01101
- · -···· - ,	, (ati 101
Drawn By	Author
Date	