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KEYED NOTES

- EXACT LOCATION TO BE DETERMINED ON SITE. ADJUST LAYOUT TO
- 2. CONNECT NEW 1" H+C WATER FROM BUILDING SERVICES BELOW. EXACT LOCATION TO BE DETERMINED ON SITE. ADJUST LAYOUT TO SUIT
- . CONNECT 3/4" H+C AND 2" DRAIN SERVING DISHWASHER INTO SINK SERVICES

PLUMBING NOTES

ALL EXISTING EQUIPMENT, PIPING, ETC BEING RE-USED SHALL BE INSPECTED CONNECT 4" SANITARY DN INTO MAIN IN GROUND FLOOR CEILING. | AND LOCATED BEFORE AND AFTER DEMOLITION AND PRIOR TO ANY NEW CONSTRUCTION. DETAILS OF PERFORMANCE/CONDITION/SIZING AND LOCATION SHALL BE SUPPLIED TO THE ENGINEER AND OWNER. . ANY EXTRA WORK AND REQUIRED TO THE ABOVE MENTIONED SHALL BE DETERMINED PRIOR TO NEW CONSTRUCTION. CONTRACTOR TO ALLOW FOR THE INSPECTION IN HIS PRICE INCLUDING X-RAYING, AIR FLOW MEASUREMENT, SCANNING AND CAMERA SCOPE TO EXISTING BURIED DRAINS. NO EXTRAS WILL BE ALLOWED ONCE NEW CONSTRUCTIONS STARTS.

ALL PLUMBING/DRAINAGE AND EQUIPMENT IS NEW UNLESS OTHERWISE NOTED.

PROVIDE WATER HAMMER ARRESTORS ON HOT AND COLD WATER SUPPLIES TO ALL QUICK VALVES, SOLENOIDS, AND PLUMBING FIXTURES, AND LOCATE IN AN UPRIGHT POSITION BETWEEN THE LAST TWO FIXTURES ON A LINE, OR HORIZONTALLY AT THE END OF LINE CLOSEST TO SUPPLY SOURCE. ON PROJECTS EXCEEDING FIVE STORIES IN HEIGHT, PROVIDE WATER HAMMER ARRESTORS ON PROJECTS WATER BISERS AS FOLLOWS LOCATE ARRESTORS AT THE DOMESTIC WATER RISERS AS FOLLOWS. LOCATE ARRESTORS AT THE END OF RISER OPPOSITE SUPPLY SOURCE. ARRESTOR SHALL BE TWO PIPE SIZES LARGER THAN THE RISER IS AT THE CONNECTION POINT, NOT EXCEEDING THE LARGEST PIPE SIZE DIAMETER IN THE RISER WATER HAMMER ARRESTORS.

ALL TRAPS SERVING FLOOR DRAINS SHALL BE PRIMED AND ALL TRAPS SEAL PRIMERS SHALL BE C/ B.F.P.

PRIOR TO CONSTRUCTION CONTRACTOR SHALL INSPECT OR OBTAIN AS NECESSARY STATIC WATER PRESSURE AT BUILDING AND INFORMER PROBLEMS OF THE CONTRACTOR SHALL INFORMER TO THE CONTRACTOR SHALL INFORMER TO THE PROBLEMS OF THE CONTRACTOR SHALL INFORMER TO THE PROBLEMS OF THE PROBLE SHALL INSPECT STATIC WATER PRESSURE AT THE FURTHEST DOWNSTREAM FIXTURE.

ALL BACK FLOW PREVENTORS SHALL BE INSTALLED AND TESTED AS PER B64.10-07 AND B64.10.1-07 STANDARDS. ALL INSTALLATION AND TESTING MUST BE LICENCED AS PER THE ABOVE MENTIONED STANDARD.

UNLESS SPECIFIED ON THESE DRAWINGS ALL PLUMBING FIXTURES ARE TO BE SPECIFIED BY OTHERS. PLUMBER SHALL PURCHASE AND INSTALL THE FIXTURES AND ASSOCIATED FITTINGS TO FINAL CONNECTIONS. ALL ROUGH IN LOCATIONS AND INSTALLATION SHALL SUIT ARCHITECTURAL AND APPROVED FIXTURE SHOP DRAWINGS. PROVIDE PARTITION VALVE STOPS FOR ALL FIXTURES AND RISERS/WASHROOM GROUPINGS. (INSTALL PARTITION STOPS SO THEY LAND UNDERNEATH LAV'S AND OR BEHIND WATER CLOSETS). ALL EXPOSED DOMESTIC PIPING SHALL BE COPPER FOR FINAL

UNLESS SPECIFIED ON THESE DRAWINGS STEAM SHOWERS, WALK-IN COOLERS, WATER TREATMENT, SAUNA EQUIPMENT, DISHWASHERS, FRIDGES WASHERS, STEAM DRYERS ETC ARE TO BE SUPPLIED BY OTHERS. PLUMBER SHALL ROUGH—IN TO DRYWALL STAGE AND MAKE ALL FINAL CONNECTIONS. ALL ROUGH IN LOCATIONS AND REQUIRED P&D SHALL SUIT ARCHITECTURAL AND APPROVED FIXTURE SHOP DRAWINGS.

PROVIDE ACCESSIBLE ISOLATION VALVES FOR EACH FIXTURE AND EACH PIECE OF EQUIPMENT.

PLUMBER TO PIPE DRAINS AS REQUIRED FOR ALL AIR HANDLERS, WALK-IN COOLERS, BACKFLOW PREVENTORS, HRV UNITS, BOILERS, STEAM HUMIDIFIERS, HOT WATER TANK, COILS ETC TO NEAREST HUB DRAIN AS PER MANUFACTURERS RECOMMENDATIONS. REVIEW HVAC/P&D DRAWINGS/SCHEMATICS FOR EQUIPMENT LOCATIONS, DRAIN REQUIREMENTS AND PROVIDE HUB DRAIN AS REQUIRED.

EXACT LOCATION TO BE CO-ORDINATED AT SITE WITH APPLICABLE TRADES.

10. CONTRACTOR TO ALLOW FOR BACK WATER VALVES ON LEAVING DRAINS. THIS SHALL BE DISCUSSED AS IT PERTAINS TO LOCAL JURISDICTION PRIOR TO BACK FILLING AND POURING OF FLOOR.

1. THIS CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING SERVICES WITHIN BUILDING UP 3 FT OUTSIDE BUILDING OR TO CONNECTION POINTS SUPPLIED BY SITE SERVICING ENGINEER AND OR LANDSCAPE DESIGNER. REFER TO LATEST SITE SERVICING DRAWINGS FOR SIZE AND LOCATION OF INCOMING SERVICES CONNECTION POINTS. ALL SITE SERVICING INFO MUST BE VERIFIED AT SITE. CONTRACTOR TO REFER TO HEATING SCHEMATIC TO DETERMINE WORK BY THEM.

12. ALL PLUMBING SHALL RUN ON THE WARM SIDE OF AN INSULATED WALL/CEILING/FLOOR. WHERE PLUMBING ISN'T ADEQUATELY PROTECTED ENGINEER SHALL BE CONTACTED.

PLUMBING VENTING NOTES

- ALL VENTING TO TERMINATE WITH 3" VENT THRU ROOF.
- CONTRACTOR TO CONNECT ALL NEW VENTING INTO EXISTING AND/OR PROVIDE NEW VENTING AS REQUIRED.
- VENT TERMINATION THRU ROOF SHALL BE A MIN. 10FT FROM FRESH AIR OPENINGS.

GENERAL PLUMBING FIXTURE SIZING NOTES

REFER TO PLAN FOR COMBINED FIXTURE AND MAIN SIZING. PLUMBER SHALL REVIEW ALL SCHEMATICS/EQUIPMENT SCHEDULES FOR WORK NOT DETAILED ON FLOOR PLANS. REFER TO BELOW FOR INDIVIDUAL FIXTURE PLUMBING SIZES.

THE BELOW SCHEDULE IS A GENERAL SCHEDULE AND FIXTURES ONLY APPLY WHERE TAGGED ON PLANS:

MISC SINKS (SI) 2" DRAIN, 1-1/2" VENT, 1/2" H&C.W

WASHING MACHINE (WA) LAUNDRY TUB (LT), KITCHEN SINK (KS), DISHWASHER (DW)

2" DRAIN, 1-1/2" VENT, 3/4" H&CW. PROVIDE F.D UNDER ALL WASHING MACHINES LOCATED ABOVE GRADE AND PROVIDE LAUNDRY P&D BOX FOR WASHING MACHINE EQUAL TO OATEY TO SUIT STUD WALL. INSTALL FOR EASY ACCESS

JANITORS SINK (JS). 3" DRAIN, 1-1/2" VENT, 3/4" H&CW

SHOWERS (SH) 2" DRAIN, 1-1/2" VENT, 3/4" H&C.W.

FLOOR, HUB, FUNNEL FLOOR DRAINS (FD),(HD)(FFD)
2" ABOVE GRADE, 3" BURIED

DRAINAGE SLOPES

UNLESS NOTED ALL DRAINS SLOPES ARE AS FOLLOWS:

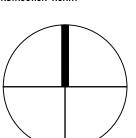
3" AND UNDER SHALL RUN AT 2.0% SLOPE

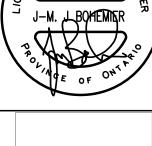
8" AND UP SHALL BE NOTED ON PLANS

ERS			
	6	1/15/2025	ISSUED FOR PERMIT REVISIONS
	5	1/7/2025	ISSUED FOR PERMIT
	4	11/26/2024	ISSUED FOR TENDER
NS	3	9/24/2024	ISSUED FOR PERMIT
	2	9/19/2024	ISSUED FOR REVIEW
	1	7/23/2024	ISSUED FOR PRELIMINARY EQUIP. LAYOUT
₹	NO.	DATE	DESCRIPTION

THIS DRAWING SHALL BE USED ONLY FOR THE PURPOSE INDICATED IN THE LATEST ISSUED COLUMN ABOVE

ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE DESIGNER AND MAY NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION. DRAWINGS MUST NOT BE SCALED.
CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON
SITE AND REPORT ERRORS AND OMISSIONS TO THE DESIGNER. THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION UNLESS COUNTERSIGNED BY THE DESIGNER.





1/15/2025



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POD INN HOTEL 400 UNIVERSITY

TORONTO ONTARIO **MECHANICAL** 24-711 PLUMBING & DRAINAGE LAYOUTS

2024 M-3JW

1/4"=1'-0"

VRF - SCHEDULE										
MARK	MANUFACTURER	MODEL	SUPPLY AIR FAN DATA (VARIABLE SPEED)			NOMINAL COOLING DATA		ELECTRICAL DATA		
			CFM	E.S.P.	HEATING OUTPUT	TYPE	TOTAL	VOLTAGE	MOP	MCA
VRF-3.5T	MITSUBISHI	PEFY-48	2000	.5"	54,000	DX	48MBH	208/1/60	15	4.38
- PROVIDE EXTERNAL HEATER INTERFACE FOR ALL INDOOR UNITS. SUPPLY/INSTALL ALL CONTROL WIRING FOR CONNECTING PERIMETER BASEBOARD HEATERS TO INTERFACE										

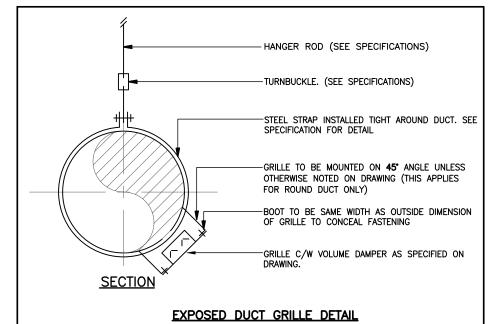
- MANUFACTURER TO PROVIDE DETAILED SELECTIONS AND CONFIRM ALL COMBINATION/CAPACITIES OF OUTDOOR UNITS
- SUPPLY/INSTALL CENTRAL CONTROLLER AE-200A. SUPPLY/INSTALL MANUFACTURER SUPPLIED MOUNTING STANDS FOR ALL OUTDOOR UNITS.
- R410A REFRIGERANT. PROVIDE 12" PRE-MANUFACTURED EQUIPMENT STAND TO LIFT ALL VERTICAL AIR HANDLERS OFF FLOOR.
- MANUFACTURER TO CONFIRM THE REFRIGERANT PIPING LENGTH AND CONFIRM SIZES
- FLEXIBLE CONNECTIONS - VIBRATION ISOLATORS
- PIPE COND. TO NEAREST HUB DRAIN C/W AIR GAP. CONDENSATE PUMPS TO BE PROVIDED FOR ALL BRANCH CONTROLLER UNITS BC-01 THROUGH BC-10

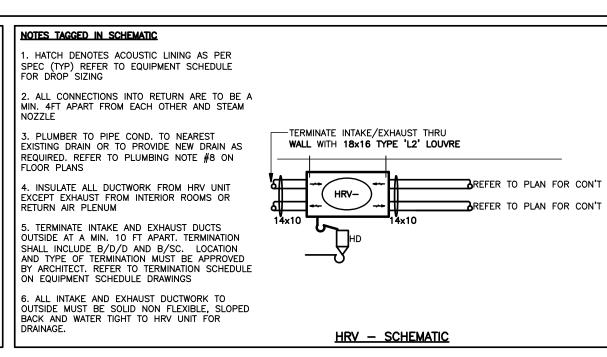
				OUTDO	OR VRF	SCHED	JLE				
				HEATING DATA		COOLING DATA		ELECTRICAL DATA			
MARK	MANUFACTURER	MODEL#	EER	EAT (°F)	CAPACITY (MBH)	EAT (°F)	CAPACITY (MBH)	VOLTAGE	MCA	MOCP	MAX CURB WEIGHT(LBS)
COND-1,2	MITSUBISHI	PURY-(E)P144TNU-A_1	14.1	-4	160	80.2	144	208/3/60	52	80	646
_	SEE MANUFACTURER	S SUBMITTAL FOR COMPLE	TE DETAILS.	•	•	•	•	•	•	•	

			HE	AT RECO	OVERY VI	ENTILATO	RS SCHED	ULE			
TAG NO.	LOCATION	MANUFACTURER	MODEL NO	AIRFLOW	E.S.P	SIZE(IN) LXWXH	VOLTAGE	BLOW HP	FAN WATTS	BLOW NO.	WEIGHT
ERV-730	-	LIFEBREATH	730 ERV	700CFM	0.5 IN W.C.	35x29x32	120/1/60	1/4	1080	2	310 LBS
-	UNLESS NOTED ON PLANS ALL HRV UNITS ARE TO BE , FLEXIBLE CONNECTIONS, C/W 20/40/60 TIMERS IN EACH ROOM BEING EXHAUSTED FROM THE ASSOCIATED HRV UNIT, INSULATED CASE (TO PREVEN CONDENSATION IN NON VENTILATED AREAS),										
-	- VIBRATION ISOLATORS. EXACT LOCATION OF TERMINATION TO BE CO-ORDINATED WITH ARCHITECT.										
-	PROVIDE B/D/D AND B/SCREEN. UNLESS NOTED ON PLANS TERMINATIONS THRU WALL SHALL BE A L2 LOUVRE TYPE . TERMINATIONS THRU ROOF SHALL BE A ROOF CAP OR RV-EXH ROOF VENTILATOR TYPE AS NOTED ON PLANS AND IN SPEC BELOW.										
-	- BOXES AND ATTENUATORS TO BE C/W 1" ACOUSTIC LINING.BOXES TO BE C/W 35.5" LONG INTEGRAL SOUND ATTENUATOR.										
-	- PIPE COND. TO NEAREST HUBDRAIN C/W AIR GAP										

		COM	/JERCIAL E	LECTRIC	C HOT WATE	R TANK SO	CHEDUL	E.	
MARK	MANUFACTURER	MODEL#	CAPACITY	HEATER	RECOVERY @ 100°F	VOLTAGE	DIAMETER	HEIGHT	WEIGHT(LBS)
HWT-120E	A.O.SMITH	DRE-120	119 US GALLONS	9 KW	37 GPH	208/3/60	30"Ø	63"	390 LBS
-	C/W HEAT TRAP, VENTIN				IDATIONS). PIPE RELIEF TO	NEAREST FLOOR DRAI	N. PROVIDE OVE	RSIZED DRAIN PAN	N PIPED TO FLOOR DRAIN, PROVIDE ANGLE

				PUI	MP SCHEDUL	-E			
TAG NO.	MAKE	MODEL#	FLOW RATE (GPM)	HEAD (FT.)	VOLTAGE	POWER	AMPS	LOCATION	NOTES
P-3	GRUNDFOS	UP-15-42B7	0-17	0-15	120/1/60	1/25 HP	0.74	HOT WATER LOOP	C/W AQUASTAT AND TIMER
- ALL PUMPS ARE TO BE C/W ISOLATION VALVE AND CHECK VALVES.									

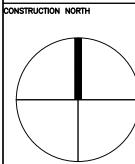




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THESE DRAWINGS ARE NOT TO BE SCALED.



TYPICAL 1/2" HOMERUNNED RECIRC WATER LINE C/W VALVE TO EACH RECIRC POINT. PROVIDE MANIFOLD IN HWT ROOM. CONTRACTOR TO REFER TO PLANS FOR RECIRC POINT LOCATIONS AND QUANTITIES.

HONEYWELL L6006C1018 AQUA-STAT SET TO 10°F LESS THAN MIXED WATER TEMPERATURE

HOT WATER TANK SCHEMATIC

B&G — MODEL PTA EXPANSION TANK. ——— GAL

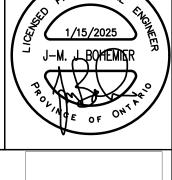
HONEYWELL AMX THERMOSTATIC MIXING VALVE BY PLUMBER FOR 1/2", 3/4" AND 1"

HONEYWELL MX THERMOSTATIC MIXING VALVE BY PLUMBER FOR 1-1/4", 1-1/2" AND 2"

PLUMBER SHALL PROVIDE HUB DRAINS— TO SUIT LOCATION OF EQUIPMENT

PROVIDE DRAIN PANS FOR FLOOR MOUNTED HOT WATER TANKS NOT LOCATED IN MECHANICAL ROOMS

FLOOR MOUNTED. SEE ADJACENT — DETAIL FOR HANGING HWT





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TORONTO ONTARIO MECHANICAL 24-711

EQUIPMENTS SCHEDULES & DETAILS

2024 JW NTS

M-4OF 5

SPECIFICATIONS

REFER TO THE ARCHITECTURAL SPECIFICATIONS, GENERAL CONDITIONS, TENDER FORMS, SCHEDULE OF COMPLETION, ETC. CO-ORDINATE YOUR WORK WITH ALL OTHER TRADES O THE SITE TO THE EXTENT OF PROPERLY LOCATING ALL EQUIPMENT, PIPING, DUCTWORK, ETC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS, OR ONS FROM THE ARCHITECTURAL DRAWINGS, OR

EACH CONTRACTOR SHALL SUPERVISE THE LAYING OUT OF HIS WORK AND SHALL ARRANGE IT IN CO-ORDINATION WITH OTHERS WORKING ON THE SITE WHILE THE WORK OF THIS CONTRACT IS IN PROGRESS. HE SHALL PROTECT FINISHED AND UNFINISHED WORK OF THE CONTRACT AND/OR WORK OF OTHERS ON THE SIT UNTIL THE COMPLETE WORK HAS BEEN ACCEPTED. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH ALL BY-LAWS AND CODES OF THE AUTHORITIE HAVING JURISDICTION. MAKE ALL NECESSARY TESTS AND ALTERATION AS REQUIRED BY AUTHORITIES HAVE

INCLUDE ALL NECESSARY MATERIALS, LABOUR AND EQUIPMENT TO INSTALL MECHANICAL WORK AS SHOWN ON THE DRAWINGS, AS THE MINIMUM REQUIREMENT, AN INCLUDE AS PART OF CONTRACT ANY WORK REQUIRED TO MAKE THE INSTALLATION CONFORM WITH ALL APPLICABLE REGULATIONS. ALL MATERIALS REQUIRED FOR THE PERFORMANCE THE WORK SHALL BE THE BEST OF THEIR RESPECTIVE KINDS, CSA APPROVED, OF UNIFORM PATTERN THROUGHOUT. WHERE THIS WORK IS WITHIN A BASE BUILDING. THE HIGHER SPECIFICATION STANDARD

BETWEEN THE BASE BUILDING AND THIS SPECIFICATION MUST BE ADHERED TO. THE DRAWINGS ARE TO BE CONSIDERED A DIAGRAMMATIC ONLY, AND DO NOT SHOW ALL STRUCTURAL AND CONSTRUCTION DETAILS. ANY INFORMATION INVOLVING ACCURATE MEASUREMENTS THE BUILDING SHALL BE TAKEN AT THE SITE. ANY NECESSARY CHANGES OR ADDITIONS TO ACCOMMODATE STRUCTURE CONDITIONS SHALL BE MADE WITHOUT

ALL ENQUIRIES PERTAINING TO ADJACENT WORK PARTICULARLY PLASTER, WOOD FINISHES AND OTHER MATERIALS OR DAMAGE TO OTHER EQUIPMENT CAUSED BY SUCH DEFECTS OF THIS CONTRACTOR'S WORK OR BY SUBSEQUENT REPLACEMENT AND REPAIRS, SHALL BE MADE GOOD AT THE EXPENSE OF THIS CONTRACTOR CONCEAL PIPING AND DUCTWORK IN PARTITIONS AND WALLS, AT BETWEEN FLOOR AND CEILING, EXCEPT AS SPECIFIED OTHERWISE.

. ALL EXCAVATION, REMOVAL OF EXCESS MATERIAL, BEDDING, BACKFILLING, COVERING, ETC., SHALL BE CARRIED OUT BY THE TRADES CONCERNED. PIPIN BEDDING, BACKFILLING AND TESTING SHALL CONFORM MANUFACTURER'S RECOMMENDATIONS AND LOCAL AUTHORITIES REQUIREMENTS. ALL TRADES MUST KEEP AN UP TO DATE SET OF AS BUILT DRAWINGS ON SITE AS IT RELATES TO THERE SCOPE. A FINAL SET MUST BE PROVIDED TO ENGINEER PRIOR TO FINAL INSPECTION. ALL BURIED PIPING, DUCTWORK AND GEO-THERMAL PIPING MUST BE MARKED ON AS BUILT DRAWINGS SHOWING LOCATION AND DEPTH PRIOR TO COVERING. IN ADDITION PICTURES MUST BE TAKEN OF ALL BURIED PIPING, DUCTWORK AND/OR GEO-THERMAL PIPING PRIOR TO COVERING. AS BUILT MARK UPS MUST BE SUBMITTED PRIOR TO A FINAL

. ALL EQUIPMENT AND INSTALLATION TO BE IN ACCORDANCE WITH ASHRAE STANDARDS, INCLUDING WORKMANSHIP, ENERGY, NOISE, ETC. FURNISH ALL LABOUR, MATERIAL, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE THE INSTALLATION AND TESTING OF MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN, INCLUDING; HEATING, VENTILATION & AIR CONDITIONING, PLUMBING & DRAINAGE AND FIRE PROTECTION.

. ALL INSTALLATIONS ARE TO COMPLY WITH LOCA BUILDING CODE REQUIREMENTS AND ALL APPLICABLE 5. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER AND TO INFORM THE GENERAL CONTRACTOR THAT WE MUST BE CONTACTED FOR AN INSPECTION PRIOR TO POURING THE FLOOR, DRY-WALLING AND AFTER FINAL COMPLETION OF THERE WORK SO WE CAN DO OUR INSPECTIONS. A MINIMUM OF THREE DAYS NOTICE SHALL BE GIVEN. A REQUEST FOR AN INSPECTION SHALL BE DONE IN AN EMAIL TO THE ENGINEER JOB CAPTAIN. BEFORE A FINAL REPORT ISSUED CONTRACTOR TO PROVIDE (WHERE APPLICABLE AIR BALANCING REPORTS, COMMISSIONING REPORTS NEFA LETTERS, BACK FLOW PREVENTOR TESTING

REPORTS, AS BUILT MARK UPS ETC. S. ALL EQUIPMENT, PIPING, INSULATION, CONTROLS,
DUCTWORK, FITTINGS, ETC AND ASSOCIATED PRODUCTS
MUST BE INSTALLED AS PER MANUFACTURES ECOMMENDATIONS. WHERE THERE IS A DISCREPANCY INGINEER MUST BE CONTACTED FOR FURTHER CONTRACTOR IS TO REMOVE FROM SITE AND DISPOSI OF ANY UN-USED EQUIPMENT AND ASSOCIATED DUC

WORK/PIPING/GRILLES ETC AND CAP OFF EXISTING AS

REQUIRED. MAKE GOOD ON ALL REDUNDANT OPENINGS AS A RESULT OF CONSTRUCTION. . ALL ROOF PENETRATION, EQUIPMENT HUNG FROM STRUCTRE AND DUCT SLEEVING THROUGH STRUCTURA MEMBERS SHALL BE APPROVED BY ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
CONTRACTOR TO PROVIDE APPROVED SHOP DRAWINGS TO GENERAL CONTRACTOR FOR REVIEW, ALL DUC S FROM EQUIPMENT IS TO TERMINATE AT 24" BELOW LOWEST STRUCTURE.

MATERIALS BEING RE-USED IN THIS BUILDING ASBESTOS OR NON METALLIC CONTRACTOR SHALL NOTIF ENGINEER TO DETERMINE PIPING MEETS CODE. WHERE THE SCOPE OF WORK TAKES PLACE WITHIN AN ALL WORK MEETS THE BASE BUILDING STANDARDS.
PRICING SHALL BE AS PER THESE DRAWINGS. CHANGES
TO THESE SPECIFICATIONS TO SUIT BASE BUILDING
SHALL BE DETERMINED AND APPROVED.

WHERE IT IS DISCOVERED THAT EXISTING PIPING

THIS SUBCONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORKMANSHIP USED IN THE WORK TO BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, OF BEST QUALITY AND TYPE OBTAINABLE TO GIVE FIRST—CLASS CONSTRUCTION AND PROPER AND EFFICIENT OPERATION, AND FREE FROM ANY DEFECTS. ANY SUCH DEFECTS WHICH MAY APPEAR IN ANY OF THE WORK TO SUIT OF OF OUR PROPERTY OF SUIT OF OF OUR PROPERTY OF SUIT OF SUIT OF OUR PROPERTY OF SUIT OF WORK OF WITHIN I TEAR AFTER WRITTEN ACCEPTANCE OF HIS WORK TO SUIT CLOSE OUT REQUIREMENTS, SHALL BE REPAIRED AND REPLACED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WHERE SUCH DEFECTS OCCUR, THIS SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS INCURRED IN MAKING THE DEFECTIVE WORK GOOD. THIS SHALL NOT OBSOLETE ANY LONGER WARRANTIES ON SPECIFIC ITEM OF EQUIPMENT.

CUTTING AND PATCHING CUTTING, CORING, DRILLING, PATCHING AND REPAIRS TO EXISTING SURFACES REQUIRED AS A RESULT OF THE REMOVAL AND/OR RELOCATION OF EXISTING EQUIPMENT AND PIPING, AND/OR INSTALLATION OF NEW EQUIPMENT AND PIPING TO BE INCLUDED BY DIVISION 15 — MECHANICAL IN TENDER PRICE. DIVISION 15 TO EMPLOY AND PAY APPROPRIATE SUB-TRADE WHOSE WORK IS INVOLVED, FOR CARRYING OUT WORK DESCRIBED ABOVE. THE CUTTING OF OPENINGS NOT REQUIRING LINTELS OF OTHER STRUCTURAL SUPPORT WILL BE THE RESPONSIBILITY OF THE TRADE REQUIRING THE OPENING, THE OPENING SIZE WILL BE THE MINIMUM REQUIRED, AND THAT PATCHING WILL WILL BE THE MINIMUM REQUIRED, AND THAT PATCHING WILL BE THE RESPONSIBILITY OF THE TRADES NORMALLY ENGAGED IN WORKING WITH THE FINISHING MATERIALS REQUIRED TO RESTORE THE OPENING TO THE ORIGINAL OR SPECIFIED CONDITIONS.

WHERE OPENINGS REQUIRE LINTELS OR OTHER STRUCTURAL SUPPORT, OR ROOFING WORK, SUCH OPENINGS WILL BE SPECIFIED UNDER OTHER DIVISIONS.

PRODUCT CHANGES AND SUBMITTALS WHERE THE CONTRACT DOCUMENTS STIPULATE PARTICULAR

PRODUCTS/MATERIALS, EQUAL ALTERNATES MAY BE CONSIDERED BY THE CONSULTANT FOLLOWING THE CONTRACT AWARD. WHEN A REQUEST TO SUBSTITUT PRODUCTS/MATERIALS IS MADE. THE CONSULTANT MAY APPROVE OR REJECT THE SUBSTITUTION. IF A SUBSTITUTION IS REJECTED, A RESPONSE TO THE PARTY SUBMITTING WILL BE RENDERED. IT IS RECOMMEDNED TO GET APPROVAL PRIOR TO DURING TENDER PROCESS. THESE SUBMISSIONS MUST BE DETAILED AND COMPLETE E IDENTIFYING THE PRODUCTS, MATERIALS OR SYSTEMS SPECIFIED AND COMPARED TO AN ALTERNATIVE PRODUCT, MATERIALS OR SYSTEMS. CONTRACTOR MUST STATE THE DIFFERENCE IN THE CONTRACT COST AND TIME. EACH TRADE SHALL EMAIL ONE <u>COMPLETE</u> BOUND PDI OF SHOP DRAWINGS FOR REVIEW TO THE PROJECT ENGINEER FOR REVIEW AND COMMENTS PRIOR TO ORDERING. EQUIPMENT SHALL BE TAGGED TO CORRESPONI WITH EQUIPMENT SCHEDULE AND PLANS NOTING ALL ACCESSORIES ETC. THE ASSOCIATED CONTRACTOR SHALL

NCLUDE THEIR CONTACT INFORMATION WITHIN THE

DOCUMENT. ENGINEER WILL REQUIRE MINIMUM ONE WEEK
TO REVIEW. WHERE PDF FILE IS TOO LARGE TO EMAIL
CONTRACTOR TO CONTACT ENGINEER FOR ALTERNATE

TIRE/SMOKE DAMPERS AND FIRESTOPPING UNLESS NOTED THE BELOW WORK SHALL BE DONE BY THE TRADE WHO IS RESPONSIBLE FOR THE MATERIAL BEING RATED INADE WHO IS RESPONSIBLE FOR THE MATERIAL BEING RATED OR FIRE STOPPED. ALL PRODUCTS SHALL BE INSTALLED AS PER MANUFACTURERS LISTING AND INSTRUCTION GUIDELINES. FIRE AND OR SMOKE DAMPERS SHALL BE INSTALLED IN THE PLANE OF PENETRATION OF FIRE SEPARATIONS AND IN ACCORDANCE WITH NFPA-90A AND U.C.—S505, AND SHALL BEAR THE U.C. SEAL. A TIGHTLY FITTED ACCESS DOOR SHALL BE INSTALLED FOR EACH FIRE DAMPER TO PROVIDE ACCESS FOR INSPECTION. AND RESETTING OF DAMPER AND REPLACING. FOR INSPECTION, AND RESETTING OF DAMPER, AND REPLACING OF FUSIBLE LINK. DAMPERS SHALL BE SUPPORTED INDEPENDENTLY FROM DUCTWORK. DAMPERS SHALL BE OF THE SAME MATERIAL AS THE ASSOCIATED DUCTWORK. FIRE STOP ALL PIPE AND DUCT PENETRATIONS THROUGH ALL RATED SEPARATIONS. FIRE STOPPING MATERIALS TO SATISFY CURRENT CANAL OF THE STOPPING PROPERTY. CAN4/ULC-S115 STANDARD. PROVIDE FIRE-STOPPING FOR ALL OPENINGS IN FIRE SEPARATIONS FOR PASSAGE OF PIPES TO SATISFY THE APPLICABLE FIRE—STOP AND SMOKE SEAL RATING. INSTALLATIONS TO CONFORM TO APPROVED MANUFACTURERS DETAILS AND CURRENT CAN/ULC STANDARDS. FIRE-STOPPING TO BE EQUAL TO 3M, HILTI OR TREMCO FIRE STOP SYSTEMS. CONTRACTOR TO SUBMIT INSTALLATION DETAILS AND SHOP DRAWINGS OF APPROVED SYSTEM FOR EACH VARIATION OF PENETRATION. CONTRACTOR SHALL BE PREPARED TO REMOVE FIRE-STOPPING ASSEMBLY FOR THREE (3) RANDOM

INSPECTIONS BY CONSULTANT AND REPLACE AT NO EXTRA

MATERIAL IDENTIFICATION

IDENTIFY PIPING WITH FACTORY FABRICATED SNAP ON PIFMARKERS AND DUCTWORK WITH FACTORY FABRICATED NAMEPLATES. PIPE MARKERS SHALL BE FLEXIBLE, SEMI—RIGID PREFORMED TO FIT AROUND PIPE WITH OI DIRECTION, FLUID, OR AIR SYSTEM BEING CONVEYE INDICATING ASSOCIATED ZONES WHERE APPLICABLE. APPLY LABELS AT 50 FT INTERVALS, BEFORE AND AFTER PIPES/DUCTS PASS THROUGH WALLS, AT ACCESS DOOR OPENINGS OR CLOSER, COLOR TO CONFORM TO ASME NUMBER STAMPED IN BLACK, SECURED TO VALVE WHEE WITH KEY CHAIN FOR VALVES NOT IN PLAIN SIGHT OF APPARATUS CONTROLLED. PROVIDE NEAT, TYPEWRITTE DIRECTORIES GIVING VALVE NUMBER, VALVE SERVICE AN OCATION OF VALVES. FRAME ONE COPY UNDER GLASS FOR IDENTIFY FOUIPMENT. FLECTRIC STARTING SWITCHES AND REMOTE PUSH-BUTTON STATIONS WITH 1/4" LAMINATED

WHERE HVAC/PLUMBING SERVICES ARE CAPPED IN FUTUR

HVAC/PLUMBING SERVICES MINIMUM 12" INTO SPACE TO

CONTRACTOR TO CONTACT LOCAL WATER SPECIALIST PRIOR

CONSTRUCTION TO ADVISE ON APPROPRIATE WATER TREATMENT THIS CONTRACTOR SHALL ADVISE ENGINEER OF ANALYSIS AND PROVIDE A SEPARATE PRICE TO SUPPLY AND INSTALL THE REQUIRED EQUIPMENT.

PERFORM ALL TESTS AS REQUIRED BY CODE AND/OR LOCAL

AUTHORITIES. APPLY 1035 KPA (150 PSI) WATER PRESSURE

LEAKS AND RE-TEST UNTIL SYSTEM DOES NOT DROP IN PRESSURE OVER 8 HOURS. FLUSH ALL SYSTEMS WITH

L DISINFECTION AND CHEMICAL TREATMENT SHALL BE A SPECIALISTS WITH MINIMUM 3 YEARS OF RELATED

XPERIENCE AND APPROVED BY ENGINEER. CONTRACTOR SHA PROVIDE ALL NECESSARY EQUIPMENT TO OBTAIN DESIRED

DISINFECTION OF DOMESTIC WATER (AWWA C651) INTRODUCE CHLORINE (AWWA B301) INTO SYSTEM FOR 24 HOURS. AFTER 24 HOURS FLUSH SYSTEM AGAIN AND CHECK FOR RESIDUAL CHLORINE. WHERE REQUIRED FLUSH AGAIN TO ACCEPTABLE

CHEMICAL TREATMENT PROVIDE SHOP DRAWING OF EQUIPMENT PREPARATION, MATERIALS AND PROPOSED CHEMICALS FOR APPROVAL. ALL PIPING SYSTEMS SHALL BE CHEMICALLY TREATED AND VENTED AS PER MANUFACTURES COMMISSIONING

WITHIN MANUFACTURERS GUIDELINES. CONTRACTOR TO CONTACT LOCAL WATER COMPANY FOR A CHEMICAL ANALYSIS AND ADVISE IN WRITING TO THE ENGINEER THE RESULT OF THE CHEMICAL

ANALYSIS TO DETERMINE IF FILTERS AND OR WATER SOFTENERS

ADDITIONAL PERMANENT EQUIPMENT IE. WATER SOFTENER/FILTER

YSTEM, IS REQUIRED CONTRACTOR TO PROVIDE A SEPARATE

GUIDFLINES, ENSURE PHILEVELS AND WATER HARDNESS I

MAY BE REQUIRED. PROVIDE AN OUTLINE OF ANY ADDITION TREATMENT AND/OR PERMANENT EQUIPMENT THAT MAY BE

REQUIRED FOR THE SYSTEM. THIS SHALL BE DONE BY THE HVAC CONTRACTOR AT AWARD OF TENDER AND PRIOR TO CHEMICAL TREATMENT PROCEDURE. CONTRACTOR TO ADVISE DATE OF CLEANING FOR ENGINEER PRESENCE. WHERE ANY

CIRCUITS. REMOVE HEAT AND CONTINUE TO CIRCULATE

OR LESS. DRAIN SYSTEM AS QUICKLY AS POSSIBLE, REFILI

TEMPERATURE, DRAIN. REFILL WITH CLEAN WATER AND ADD APPROVED CHEMICALS IN APPROPRIATE CONCENTRATIONS A

PROVIDE EQUIPMENT TO ADD CHEMICALS AS REQUIRED.

PREVENT DEBRIS AND DIRT FROM ENTERING SYSTEM DURING CONSTRUCTION.

PROVIDE ADEQUATE DRAIN CONNECTIONS TO COMPLETELY DRAIN EACH SYSTEM IN ONE HOUR.

CONTRACTOR TO ENSURE ALL SYSTEMS ARE OPERATIONAL TO ENSURE FLOW THROUGH ALL SYSTEMS.

SYSTEM PUMPS MAY BE USED FOR CLEANING PROVIDED SEALS ARE REPLACED, PUMPS ARE DISMANTLED AND INSPECTED BY PUMP MANUFACTURER.

– 6" TO 12" WIDE OR ROUND – 26 GAUGE GALVANIZED,

- 14" TO 30" WIDE OR ROUND - 24 GAUGE GALVANIZED,

- 32" TO 54" WIDE OR ROUND — 22 GAUGE GALVANIZED 20

- NFPA GREASE DUCTWORK SHALL BE 16 GAUGE WELDED

UNLESS NOTED ON PLANS ALL OUTDOOR HORIZONTAL DUCTWORK OR BURIED DUCTWORK WITH EXCEPTION T

ALL DUCTWORK SERVING DISHWASHERS, POOLS OR APPLICATIONS WITH HIGHER THAN NORMAL HUMIDITY

BALANCING DAMPER SHALL BE PROVIDED AT THE

REFER TO BURIED DUCTWORK DETAIL FOR BURIED

DISHWASHER CONNECTION TO THE EXHAUST SYSTEM.

DUCTWORK, IF NOT SHOWN ON PLANS PLEASE CONTAC

NGINEER FOR DETAIL. ALL BURIED DUCT TO BE BELOW

ALL DUCTWORK SHALL BE PRESSURE TESTED AND SEALED

UP TO 18" - PAIR OF 1"X16 GAUGE HANGER STRAPS OR PAIR

8" TO 30" - PAIR OF 1"X16 GAUGE HANGER STRAPS OR

32" TO 42" — PAIR OF 1"X16 GAUGE HANGER STRAPS (PAIR OF 1/4" RODS AND 11/2"X11/2"X1/8" ANGLES.

<u>44" TO 60"</u> - PAIR OF 3/8" RODS AND 11/2"X11/2"X1/8" ANGLES. SUPPORT EVERY 4FT

IN ADDITION TO ABOVE SUPPORT AT 2FT FROM EACH

ELBOW AND WITHIN 4 FT OF EACH BRANCH INTERSECTION

HANGER STRAPS SHALL NOT BE USED WHERE DUCTWORK IS

HANGER STRAPS SHALL TURN 2" AT UNDERSIDE OF DUCT

IN ADDITION TO THE ABOVE SPACING SUPPORT VERTICAL

DUCTS THROUGH FLOOR WITH CONTINUOUS LENGTHS OF STRUCTURAL ANGLE. SIZED AT LEAST TO THAT OF

ROOFTOP EXPOSED DUCTWORK SHALL BE SUPPORTED WITH MIFAB C-PORT DSA SYSTEM

UP TO 24"-1/4" ROD WITH 20 GAUGE BAND AND GRINNELL

4 TURNBUCKLE, SUPPORT EVERY 10FT 25"-36" - 3/8" ROD WITH 18 GAUGE BAND AND GRINNELL

4 TURNBUCKLE. SUPPORT EVERY 8 FT

38"-50" - TWO 3/8" RODS WITH TWO 18 GAUGE BANDS ANI

IN ADDITION TO ABOVE SUPPORT AT 2FT FROM EACH

2FT FROM EACH PIECE OF ASSOCIATED EQUIPMENT TO

ALL HANGERS ARE FROM BUILDING STRUCTURE

ELBOW AND WITHIN 4 FT OF EACH BRANCH INTERSECTION

ROUND FLEXIBLE DUCTWORK SHALL BE SUPPORTED EVERY 5 FT AND SHALL NOT BE USED IN RESIDENTIAL

ALL DUCTWORK SHALL BE SUPPORTED BEFORE AND AFTER

ALL REQUIRED INSULATION TO BE OF 100% COVERAGE AND

NSTALLED WITHOUT SAGGING. PROVIDE ACCESSORIES AS

ALL DUCTWORK SURFACES MUST BE CLEANED PRIOR TO

ALL EQUIPMENT SHALL BE INSULATED TO THE SAME STANDARD AS THE CONNECTED DUCT OR PIPE.

CONTINUE INSULATION THROUGH PENETRATIONS WITH

TYPE A - FLEXIBLE GLASS FIBRE; K VALUE OF 0.29 AT 75 DEGREES F FOIL SCRIM FACING

TYPE B - RIGID GLASS FIBRE; K VALUE OF 0.24 AT 75

OUTDOOR AIR INTAKE - 3" TYPE A (R-8.4) UP TO HEAT SOURCE. 11/2" (R-4.2) AFTER HEAT SOURCE

PROVIDE AS PER MANUFACTURERS RECOMMENDATIONS VENTURECLAD CW1577 INSULATION CLADDING

SUPPLY DUCTWORK - 11/2" TYPE A (R-4.2) - UNLESS

ALL DUCTWORK IN UNHEATED AREAS - 3" TYPE B (MIN R-1.

| DISHWASHER. KITCHEN EXHAUST DUCTWORK - 2" TYPE A

ACOUSTIC INSULATION — ALL SUPPLY AIR AND RETURN AIR DUCTWORK FOR AIR HANDLING UNITS INCLUDING

IDUCTIWORK FOR AIR HANDLING UNITS INCLUDING
INTAKE/EXHAUST FANS SHALL BE INTERNAL ACOUSTICALLY LINED
TO 15 FEET FROM UNIT OR AS SHOWN ON DRAWINGS WITH 1"
TYPE B NEOPRENE COATED RIGID FIBERGLASS, WITH
MECHANICAL FASTENER AT 16" CENTERS. UPSIZE DUCTWORK AS
REQUIRED TO SUIT INSULATION THICKNESS

EXHAUSI - 11/2" TYPE A TO 10 FT. FROM EXTERIOR WALL/ROOF

WALL OPENINGS/SLEEVES. DO NOT REST DUCTS ON WALL

AND BE FASTENED AT SIDES AND BOTTOM.

ROUND DUCTWORK SUPORTS

WHICH IT IS ATTACHED.

OPENINGS/SLEEVES.

DUCTWORK INSULATION

APPLICATIONS.

INSTALLATION.

ALL HANGERS ARE FROM BUILDING STRUCTURE.

2FT FROM EACH PIECE OF ASSOCIATED EQUIPMENT TO

F 1/4" RODS AND 1"X1"X1/8" ANGLES. SUPPORT EVERY 8FT

- PAIR OF 1"X16 GAUGE HANGER STRAPS OR

NFPA DUCTWORK SHALL BE 20 GAUGE.

APPLICATIONS SHALL BE ALUMINUM.

SQUARE DUCTWORK SUPORTS

ALL GOOSENECKS TO BE 22 GAUGE, TERMINATE 24" AFR.

DISHWASHER DUCTWORK SHALL BE SLOPED BACK FOR DRAINAGE AND PIPED TO AN APPROVED DRAIN. ALL JOINTS MUST BE SOLDERED TO PREVENT LEAKING. AN ACCESSIBLE

SIZES ABOVE ARE BASED ON 2" W.G. 2000FPM.

WITH CLEAN WATER CIRCULATE FOR 6 HOURS AT DESIG

PRICE TO SUPPLY AND INSTALL.

CLEAN STRAINERS FREQUENTLY.

DUCTWORK MATERIAL AND GAUGE

24 GAUGE ALUMINUM

GAUGE ALUMINUM

GAUGE ALUMINUM

SUFFICIENT VELOCITY UNTIL WATER IS CLEAR.

FOR EIGHT (8) HOURS WITHOUT A DROP IN PRESSURE, REPAIR

ALLOW FOR IDENTIFICATION.

SPACE FOR FUTURE CONNECTION, CONTRACTOR TO EXTEND

DRAWINGS. A CLEAR, DATED AND LEGIBLE TYPED START I COMMISSIONING AND BALANCING REPORT COMPLETE WITH SYSTEM SCHEMATICS NOTING ACTUAL SITE CONDITIONS SHALL BE PROVIDED TO ENGINEER FOR APPROVAL, ALL SYSTEMS SHALL BE BALANCED BY AN INDEPENDENT LICENSED CONTRACTOR TO WITHIN 10%. CONTRACTOR LICENSED CONTRACTOR TO WITHIN 10%. CONTRACTOR TO MAKE ADJUSTMENTS AS REQUIRED TO ACHIEVE DESIGN. THE ABOVE MENTIONED REPORT SHALL NOTE ALL ADDITIONAL WORK DONE IE REPLACING/CLEANING FILTERS, DUCTWORI CLEANING, WATER TREATMENT, CHANGING PULLEYS ETC. CONTRACTOR TO ALLOW FOR TWO ADDITIONAL SITE VISITS DISINFECTION OF WATER PIPING AND CHEMICAL TREATMENT

SYSTEM BALANCING AND COMMISSIONING

AND AS PER OWNERS REQUIREMENTS.

PRIOR TO COMMISSIONING AND ONCE AGAIN PRIOR TO OCCUPANCY CONTRACTOR SHALL ENSURE ALL FILTERS ARE

LEANED/REPLACED, PARTS LUBRICATED, WATER SYSTEM

CONTRACTOR TO ADJUST AND SET ALL CONTROLS FOR ALL EQUIPMENT THAT FALLS WITHIN THERE SCOPE PRIOR TO COMMISSIONING SO THAT THE SYSTEM WORKS AS INTENDED

ALL SYSTEMS AND EQUIPMENT SHALL BE COMMISSIONED AND BALANCED AS PER DRAWINGS, SPECIFICATIONS AND MANUFACTURES RECOMMENDATIONS FOR A COMPLETE

WORKING SYSTEM. ALL COMMISSIONING SHALL BE

CO-ORDINATED AND EXECUTED WITH THE APPLICABLE CONTRACTOR AND FOR LARGER CENTRAL SYSTEMS TH MANUFACTURERS REPRESENTATIVE. ALL SYSTEMS AND

COMPONENTS MUST BE CONNECTED AND COMPLETE AS PER

CLEANED AND FLUSHED, BELTS TIGHTENED, CONTROLS
COMPLETED, DUCTWORK CLEANED ETC. CONTRACTOR TO
ALLOW FOR THIS IN HIS SCOPE OF WORK.

TO MAKE FURTHER ADJUSTMENTS AS REQUIRED APPLICABLE CONTRACTOR SHALL PROVIDE MAINTENANCE A OPERATION MANUALS CLEARLY HIGHLIGHTING MAINTENANCE SCHEDULE AND OPERATING OF EQUIPMENT/CONTROLS TO BUILDING OWNER AND/OR BUILDING ENGINEER. CONTRACTOR TO REVIEW IN PERSON MAINTENANCE PROCEDURE, SCHEDULE AND OPERATION OF ALL EQUIPMENT AND CONTROLS TO BUILDING OWNER OR ENGINEER. WHERE SEASONAL CONSTRAINTS PREVENT EQUIPMENT FOLLOW THE ABOVE PROCEDURES CONTRACTOR TO SCHEDULE AS REQUIRED FOR SUCH EQUIPMENT AND BALANCING CONTRACTOR SHALL BE A MEMBER OF A.A.B.C OR N.E.B.B. ALL BALANCING SHALL BE IN ACCORDANCE WITH NATIONAL ENVIRONMENTAL BALANCING BUREAU STANDARDS.

GRILLES, DAMPERS, LOUVRES, TERMINATION THE FOLLOWING SPECIFICATIONS ONLY APPLY WHERE NOTED ON PLANS OR IN THE EQUIPMENT SCHEDULE . ALL GRILLES AND DIFFUSERS TO BE C/W APPROPRIATE TO CONFIRM CEILING/WALL/DOOR TYPES PRIOR TO 2. ALL NEW S.A AND R.A GRILLES ARE TO BE OF HIGH QUALITY
AND SAMPLES ARE TO BE SUBMITTED TO ARCHITECT AND OR
INTERIOR DESIGNER OR OWNER FOR APPROVAL PRIOR TO
ORDERING. FINISH IS TO BE SELECTED BY ARCHITECT AND

OR INTERIOR DESIGNER. 3. EXACT LOCATION AND MOUNTING HEIGHTS OF ALL SUPPLY, RETURN AND EXHAUST GRILLES TO BE APPROVED BY ARCHITECT AND/OR INTERIOR DESIGNER PRIOR TO 4. ALL EXTERIOR TERMINATIONS SHALL BE APPROVED B

CHEMICAL TREATMENT PROCEDURE. ESTABLISH CIRCULATION AND APPLY HEAT TO RAISE TEMPERATURE SLOWLY TO 160°F.
CIRCULATE FOR 12 HOURS AND ENSURE FLOW IN ALL 5. AIR EXTRACTORS SHALL BE ADDED WHERE SUPPLY AIR OUTLETS ARE CONNECTED DIRECLTY TO A DUCT SERVING MULTIPLE OUTLETS. 6 CONTRACTOR TO ENSURE ALL NEW WALL LOUVRES AND ROOF 7. FINISH TO BE OFF-WHITE OR TO MATCH INTERIOR.

> GRILLES AND DIFFUSERS SHALL BE EQUAL TO EH PRICE UNLESS NOTED OTHERWISE TYPE A - SUPPLY AIR REGISTER, SIZE AS SHOWN, MODEL 620L C/W ALUMINUM OBVD AND TYPE F BORDER, B-12

TYPE B - RETURN/EXHAUST AIR GRILLE, SIZE AS SHOWN, MODEL 630. C/W ALUMINUM OBVD AND TYPE F BORDER WHEN USED FOR DUCTED EXHAUST, B-12 FINISH. TYPE C - RETURN/EXHAUST AIR GRILLE (EGG CRATE), SIZE AS SHOWN, MODEL CORE 80. PROVIDE TYPE F BORDER/FRAME FOR DUCTED AND SURFACE MOUNTED. PROVIDE ALUMINUM BVD WHEN DUCTED, B-12 FINISH. TYPE D - SQUARE CEILING SUPPLY AIR DIFFUSER, SIZE AS SHOWN, MODEL SCD C/W OBVD, B-12 FINISH. TYPE E - LINEAR SUPPLY SLOT DIFFUSER, 1" SLOT, SURFACE CONCEALED FRAME, SIZE OF LINEAR AND PLENUMS AS SHOWN ON PLANS, MODEL SDS-100 C/W VOLUME CONTROL 6,8,10,12. CUSTOM MADE PLENUMS SHALL MATCH

TYPE F - LINEAR RETURN SLOT DIFFUSER, 1" SLOT, SURFACE CONCEALED FRAME, SIZE AS SHOWN ON PLANS, MODEL

TYPE G — LINEAR SUPPLY BAR GRILLE, SIZE AS SHOWN, MODEL LBP15B FOR ALL APPLICATIONS EXCEPT FLOOR MOUNTED WHICH SHALL BE LBMH15B. C/W OBVD, CONCEALED FASTENING AND 3/4" BORDER, WHERE BEING SERVED BY A BRANCH DUCT CONTRACTOR IS TO PROVIDE INSULATED PLENUM BOOT EQUAL TO EH PRICE UP OR UPL, B-12 FINISH WHERE PAINTED OR #66 WHERE NOT PAINTED. EXACT FINISH TBD. TYPE H - LINEAR RETURN BAR GRILLE, SIZE AS SHOWN, BORDER, B-12 FINISH WHERE PAINTED OR #66 WHERE NOT

TYPE I - ROUND CEILING SUPPLY AIR DIFFUSER, SIZE AS SHOWN IS NOMINAL DUCT SIZE), MODEL RCD C/W OBVD, B-12 TYPE J - DOOR TRANSFER GRILLE SIZE AS SHOWN, MODEL ATG1, B-12 FINISH. TYPE K - FIRE RATED DOOR TRANSFER GRILLE, SIZE AS SHOWN. NAILOR MODEL 61DGD-FR, B-12 FINISH.

TYPE L1 AND L-2 - LINEAR VANE GRILLE, SIZE AS SHOWN, MODEL (L1 FOR LV-1) (L2 FOR LV-2) C/W OBVD, CONCEALED FASTENING AND 3/4" BORDER. WHERE BEING SERVED BY A BRANCH DUCT CONTRACTOR IS TO PROVIDE CUSTOM 1/2' PAIR OF 1/4" RODS AND 1"X1"X1/8" ANGLES. SUPPORT EVERY | LENGTH AND WIDTH 2" LARGER THAN LINEAR COLLAR SIZE AND HEIGHT SHALL BE 2" LARGER THAN ASSOCIATED DUCT BRANCH

TYPE M - SQUARE PERFORATED CEILI SHOWN, MODE APDDR B-12 FINISH. SQUARE PERFORATED CEILING DIFFUSER, SIZE AS TYPE N - LINEAR ADJUSTA SLOT DIFFUSER MUD IN TYPE, SINGLE SLOT MODEL (REFER TO PLANS FOR LENGTH AND SLOT WIDTH) AS210 WITH 22 BORDER, CONCEALED MOUNTING, DUAL PROVIDE INSULATED UNIVERSAL PLENUM MODEL UP22SM WITH 6" CONNECTION TO MATCH ASSOCIATED LINEAR. PLENUMS A OFFERED IN 2,3,4 AND 5FT SECTIONS. LOUVRES AND TERMINATIONS

WALL BOX- GREENHECK - FOR MASONRY USE BRICK VEN BYF808 FOR UP TO 250CFM FOR C/W B/SC AND B/D/D BAKED ENAMEL. COLOUR BY OTHERS. WALL LOUVRE L-2 - MODEL ESD-202 WITH ALUMINUM SLEEVE AS REQUIRED. MIN 8" DEEP. WALL LOUVRE L-4 - MODEL ESD-403 WITH ALUMINUM SLEEVE AS REQUIRED MIN 12" DEEP. L2 AND L-4 LOUVRE SIZES AS NOTED ON PLANS C/W PRIME COAT FINISH FOR FIELD PAINTING, B/SC, B/D/D (UNLESS NOTED AS A MOTORIZED DAMPER ON PLANS). WALL OPENING SIZE SHALL BE LISTED LOUVRE SIZE. EXAMPLE 6X6 LOUVRE WILL NEED AN 6X6 OPENING. OPENING SIZE SHALL BE CONFIRMED AND SUPPLIED TO MANUFACTURER PRIOR TO

RV-EXH. RV-INT (ROOF VENTILATOR FOR EXH./INTAKE) GREENHECK FABRA MODEL FGI FOR INTAKE AND FGR FOR EXHAUST, SPUN ALUMINUM, COLOUR AS PER PITCHED ROOF CURB AS REQUIRED, B/SC, PRIME COAT FINISH (EXACT LENGTH OF DROP T.B.D AT SITE). PROVIDE B/D/D TO EACH CONNECTION AT PLENUM DROP OR MOTORIZED DAMPER WHERE NOTED ON PLANS. ROOF CAP (ALUMINUM) - GREENHECK - MODEL RCC-7 (UNLESS LISTED ON PLAN) C/W B/SC AND HORIZONTAL B/D/D

AND 12" CURB. BACK DRAFT— GREENHECK — COMMERCIAL WD SERIES C/W ACTUATOR PACK WHERE NOTED ON PLANS, CONTRACTOR TO VERIFY ORIENTATION AND DIRECTION OF AIRFLOW WITH MANUFACTURER WHEN ORDERING, HORIZONTAL MOUNTED DAMPERS SHALL BE C/W COUNTERBALANCE WHERE MOTORIZED DAMPER IS NOT SPECIFIED ON PLANS. PROVIDE ALUMINUM SLEEVE AND OR FLANGE AS REQUIRED. WHERE DAMPER IS ATTACHED TO LOUVRE, LOUVRE SHALL BE ORDERED WITH SLEEVE TO ACCOMMODATE THIS DAMPER. CONTRACTOR TO VERIFY WALL OPENING PRIOR TO ORDERING.

MANUAL BALANCING DAMPER— GREENHECK — MDB-15 SERIES. CONTRACTOR TO VERIFY ORIENTATION AND DIRECTION OF AIRFLOW WITH MANUFACTURER WHEN ORDERING. . PROVIDE ALUMINUM SLEEVE AND OR FLANGE AS REQUIRED. MOTORIZED DAMPER- GREENHECK - COMMERCIAL VCD-20 IES C/W --- MOTORIZED DAMPER PACK WHERE NOTED ON PLANS. PROVIDE ALUMINUM SLEEVE AND OR FLANGE AS REQUIRED. WHERE DAMPER IS ATTACHED TO LOUVRE, LOUV SHALL BE ORDERED WITH SLEEVE TO ACCOMMODATE THIS DAMPER. CONTRACTOR TO VERIFY WALL.

FIRE DAMPER— GREENHECK — MODEL FD SHALL BE TYPE B,
——— HOUR FIRE RATED AND COMPLETE WITH 160 DEG.
REPLACEABLE LINK. DISHWASHER, KITCHEN OR ANY DUCTWORK
DISCHARGING HIGH TEMPERATURE SHALL BE COMPLETE WITH A F REPLACEABLE LINK. SMOKE DAMPER— GREENHECK — MODEL SMD, 3—V BLADE CLASS 2 C/W ACTUATOR, SLEEVE AND SMOKE DETECTOR OR TIED INTO BUILDING MONITORING SYSTEM. POWER FOR

FIRE/SMOKE DAMPER- GREENHECK - TBD

PIPE MATERIAL

CONTACTED INSTRUCTION.

POTABLE WATER.

FITTINGS/JOINTS.

EQUIPMENT OR OTHER APPARATUS.

JOINTING DISSIMILAR METALS IN OPEN SYSTEMS.

ALL UNBURIED DOMESTIC WATER PIPING — 4" AND UNDER SHALL
YPF 'I' COPPER COMPLETE WITH WROUGHT COPPER

ALTERNATIVELY WHERE APPROVED DURING TENDER PROCESS BY
LANDLORD/FNGINFER PIPING MAY BE AS FOLLOWS, PEX—A FOR SIZES

TYPE 'L' COPPER COMPLETE WITH WROUGHT COPPER SOLDERED/BRAZED JOINT PRESSURE FITTINGS. PIPING OVER 4"

BURIED DOMESTIC WATER PIPING — FOR SIZE 2" DIAMETER AND SMALLER TO BE TYPE 'K' COPPER COMPLETE WITH WROUGHT CO

COLDERED / RRAZED LIGHT PRESSURE FITTINGS FOR SIZES 3" AND

SOLDERED/BRAZEU JOINI PRESSORE FITTINGS. FUR SIZES 3 AND LARGER TO BE PVC C-900 C.S.A. LABELED AND COMPLETE WITH WIRE TRACER. PIPE TO BE BEDDED AS REQUIRED BY LOCAL AUTHORITIES AND PROVIDE MINIMUM 6FT COVER WHERE EXPOSED T FROST. WHERE 6FT COVERAGE IS NOT POSSIBLE CONTRACTOR TO NOTIFY ENGINEER PRIOR TO ANY WORK BEING DONE. CROSS LINKEI

THE PIPING IS NOT EXPOSED TO FROST IS 11/2" AND SMALLER

LANDLORD AND/OR OWNER. PEX PIPING MUST BE APPROVED FOR

SHALL BE TYPE L DWV COPPER WITH WROUGHT COPPER SOLDERED/BRAZED JOINTS OR CAST IRON PIPE AND APPROVED

ALTERNATIVELY WHERE APPROVED DURING TENDER PROCESS AND PRIOR TO CONSTRUCTION BY LANDLORD/ENGINEER PIPING, MAY BI AS FOLLOWS.

NON HIGH RISE BUILDINGS OF NON COMBUSTIBLE CONSTRUCTION

IPEX SYSTEM 15. SYSTEM XFR SHALL BE USED IN PLENUMS AND UNLESS APPROVED OTHERWISE ALL AREAS LOCATED AT 7FT ABOVE FLOOR. NO COMBUSTIBLE PIPING SHALL BE USED IN VERTICAL

IPEX SYSTEM 15 AND ABS. NO COMBUSTIBLE PIPING SHALL BE USED IN VERTICAL SHAFTS.

IPEX SYSTEM XFR. NO COMBUSTIBLE PIPING SHALL BE USED IN VERTICAL SHAFTS.

ALL IPEX SYSTEMS SHALL BE INSTALLED AS PER MANUFACTURERS GUIDELINES USING THE APPROVED FITTINGS AND SOLVENT CEMENT.

BURIED STORM AND SANITARY PIPING — SHALL BE PVC AND SHALL LEAVE THE BUILDING WITH MINIMUM 6FT OF COVERAGE. PROVIDE

APPROVED SOLVENT CEMENT. WHERE THIS IS NOT POSSIBLE HEAT TRACING AND INSULATION SHALL BE ADDED. ENGINEER TO BE

GAS PIPING — SHALL BE SCHEDULE 40 STEEL SCREWED FOR 2" AI SMALLER AND WELDED FOR LARGER SIZES. ALL SIZED GAS PIPING SHALL BE WELDED WITHIN CONCEALED SPACES. INSTALLATION AND IDENTIFICATION SHALL BE AS PER LOCAL GAS CODE AND INSTALLED BY LICENSED CONTRACTOR FAMILIAR WITH APPLICABLE CODES. PIPIN

LICENSED CONTRACTOR FAMILIAR WITH APPLICABLE CODES.

IEATING/HEATPUMP/CHILLED WATER PIPING — SHALL BE TYPE L

COPPER OR BLACK STEEL SCHEDULE 40 THREADED TO 2" AND

REFER TO ANVIL MANUAL FOR SIZING AND DETAILS FOR ALL

USE TRAPEZE HANGERS WHERE PIPES CAN BE HUNG IS

ONLY USED WHERE PIPING IS INSULATED. USE CT-65 FOR

ONLY USED WHERE PIPING IS INSULATED. USE CT-65 FOR UN-INSULATED COPPER APPLICATIONS.

<u>PIPING UPPER ATTACHMENT</u> — CONCRETE INSERTS USE FIGURE 15 STEEL BEAMS USE FIGURE(S) 92 OR 93 BEAM CLAMPS.

PIPING INTERMEDIATE ATTACHMENT - USE FIGURE 146 THREADED

WALL SUPPORTS - USE FIGURE 67 FOR STEEL, USE FIGURE 67F

VERTICAL SUPPORTS — FOR UNDER 2" USE FIGURE 261 FOR STEEL AND CAST IRON, USE FIGURE CT—121 FOR COPPER.

ALL PIPING SHALL BE SUPPORTED BEFORE AND AFTER WALL

STEEL - 6FT INTERVAL FOR 4" AND LESS, 10FT INTERVAL FOR OVER 4" AND AT ALL PIPE CONNECTIONS.

<u>CAST IRON</u> — AT EACH HUB OR JOINT, INTERVALS NOT EXCEEDING 10FT AND AT INTERVALS NOT EXCEEDING 3FT IF PIPE HAS MECHANICAL JOINTS AND THE LENGTH OF PIPE BETWEEN ADJACENT

DIRECTION/ELEVATION. IF FIXTURE DRAIN IS MORE THAN 3FT PROVIDE

COPPER - 6FT FOR 1" AND LESS AND 8FT FOR 11/4" AND ABOVE

HEATING AND DOMESTIC PEX SYSTEMS — 3FT INTERVAL OR AS PER MANUFACTURERS GUIDLINES.

18 FT FOR 6"-8" AND AT ALL PIPE CONNECTIONS.

TYPE A INSULATION SHALL BE GLASS FIBRE INSULATION; <<K VALUE OF 0.24 AT 75 DEGREES F>>.

ALL EQUIPMENT SHALL BE INSULATED TO THE SAME STANDARD AS THE CONNECTED DUCT OR PIPE.

ALL REQUIRED INSULATION TO BE OF 100% COVERAGE INCLUDING

WHERE THIS WORK IS PART OF AN EXISTING BASE BUILDING TH BASE BUILDING STANDARDS MUST BE ADHERED TO UNLESS THE THE BELOW SPECIFICATION IS MORE STRINGENT. BASE BUILDING CONSULTANTS TO CONSULT.

ALL PIPING AND EQUIPMENT MUST BE TESTED AND SURFACES CLEANED PRIOR TO INSTALLATION.

CONTINUE INSULATION THROUGH PENETRATIONS WITH VAPOUR

FOR INTERIOR CONCEALED AREAS USE VAPOUR BARRIER JACKETS KRAFT REINFORCED FOIL VAPOUR BARRIER WITH SELF—ADHESIVE

FOR INTERIOR EXPOSED AREAS USE PVC JACKETS: ONE PIECE PRE-MOULDED TYPE.

FOR OUTSIDE EXTERIOR PIPING USE ALUMINUM JACKETS: <0.51 MM> <<0.020 INCH>> THICK; SMOOTH FINISH.

ABOVE GRADE DOMESTIC PIPING, CONDENSATE PIPING, TRAP PRIMER LINES AND SUMP PUMP DISCHARGE MAINS -1" INSULATION

ABOVE GRADE SANITARY - 1" INSULATION ON HORIZONTAL PIPING

AND 1" WHERE THERE IS A CONTINUOUS FLOW OF BELOW AMBIENT

SANITARY VENTING - 1" INSULATION UP TO 10 FEET FROM INSIDE FACE OF EXTERIOR WALL.

CHILLED WATER PIPING - 1" INSULATION UP TO 4", 11/2"

HEAT TRACING — UNLESS NOTED OTHERWISE THE FOLLOWING SHALL APPLY. WHERE EXPOSED TO OUTDOOR TEMPERATURES OR LOCATED BELOW 6 FT FROST LINE ALL PIPING MENTIONED IN THESE

FIRE STANDPIPE AND WET SPRINKLER PIPING - 2" TYPE A INSULATION WHERE RUNNING THROUGH UNHEATED AREAS.

ABOVE GRADE DOMESTIC HOT. RECIRCULATION PIPING

ABOVE GRADE STORM - 1" INSULATION

" INSULATION UP TO 2", 11/2" INSULATION OVER 2"

PIPE AND EQUIPMENT INSULATION

CONSULTANTS TO CONFIRM.

21/2"-4" USE FIGURE 260 WITH FIGURE 167 SADDLE. SADDLE

6" AND OVER USE FIGURE 260 WHERE NOT INSULATED AND USE

HOT WATER TANK RELIEF PIPING - SHALL BE DWV COPPER.

NON HIGHRISE BUILDING OF COMBUSTIBLE CONSTRUCTION

HIGH RISE BUILDINGS OF ALL CONSTRUCTION

CONTACTED FOR FURTHER DETAIL.

WELDED OVER 2".

PIPING SUPPORTS

PIPING LOWER ATTACHMENT

PIPE SUPPORT SPACING

UN-INSULATED COPPER APPLICATIONS

FIGURE 260ISS WHERE PIPING IS INSULATED.

UNBURIED STORM, SANITARY, VENT. CONDENSATE, PIPING

POLYETHYLENE MAY BE USED IN AREAS WITHIN BUILDING AS LONG A

RUN IN CONDUIT C/W WIRE TRACER AND IS APPROVED BY BUILDING

SUMP PUMP DISCHARGE LINES AND DRY PIPE DRUM DRIPS PIPING SHALL BE HEAT TRACED C/W 2" OF INSULATION, ONLY TRACE STOR PIPING FROM ROOF DRAIN UP TO 5 FT WITHIN HEATED SPACE. PIF TRACING CABLES SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR INSTALLING ASSOCIATED PIPING. POWER SUPPLY SHALL BE SUPPLIED AND INSTALLED BY ELECTRICAL DIVISION. PIPE TRACING CABLES SHALL BE SELF REGULATING TYPE. MIN 5 WATTS/SQ.FT. CUT WHERE APPROVED ALL NON METALLIC PIPING MUST BE APPRO WHERE APPROVED ALL NON METALLIC PIPING MUST BE APPROV BY ENGINEER IN WRITING AND BE INSTALLED AS PER MANUFACTURERS GUIDLINES. IN ADDITION, TO ENSURE COMPATIBILITY, PERFORMANCE AND MATERIAL QUALITY, IT IS RECOMMENDED THAT THE PIPE AND FITTING DRAINAGE SYSTEM SHALL BE PRODUCED BY THE SAME MANUFACTURER. THE MANUFACTURER OF THE PIPE AND FITTING SYSTEM SHALL BE CONTACTED BY THE TRADE CONTRACTOR PRIOR TO THE INSTALLATION, TO, ORTAIN PRECISE INSTALLATION, INSTRICTIONS LENGTH, HARD WIRED. C/W ALL REQUIRED SENSORS, TERMINAT S. HARDWARE AND ACCESSORIES, 3M TTS SERIES OR APPROVED INSTALLATION TO OBTAIN PRECISE INSTALLATION INSTRUCTIONS TRACING, POWER SUPPLY LOCATIONS AND POWER/VOLTAGE AS WELL, SITE MEETINGS SHALL BE ARRANGED AND INCLUDI CONTRACTOR, MANUFACTURER AND BUILDING INSPECTOR. ALL BLACK STEEL PIPING AND ACCESSORIES LOCATED IN AREAS THAT ARE CORROSIVE OR AREAS WHICH ARE SUBJECT TO HIGH CONDITIONS SUCH AS AN INDOOR POOL OR AN AREN SHALL BE GALVANIZED.

OUTLET SIZE TO BE AS PER PLUMBING SIZING NOTES UNLESS NOTED ON PLANS. IN QUARRY OR MOSAIC TILED AREAS, PROVIDE SQUARE NICKEL ALL PIPING SHALL MEET THE FLAME AND OR SMOKE RATING AS SPECIFIED IN THE APPLICABLE CODES. BRONZE STRAINER. FOR FLOATING FLOORS PROVIDE 9340-WSH. ADD AN ADDITIONAL 1" INSULATION TO THE VALUES BELOW WHERE CONTRACTOR TO CONFIRM WITH SUPPLIER EXACT USE AND INSTALLATION DETAILS FOR FURTHER RECOMMENDATIONS. PIPING IS LOCATED IN UNHEATED AREAS WITHOUT OR WITHOUT HEAT TRACING. PROVIDE EXPANSION LOOPS, COMPENSATORS, GUIDES, ANCHORS OR JOINTS AS REQUIRED BY APPLICABLE CODES. WHERE CONTRACTOR IN UNSURE OF THESE CODES ENGINEER SHALL BE WHERE NON METALLIC PIPING IS NOT APPROVED DURING TENDER PROCESS IT IS ASSUMED THAT IT IS NOT BEING USED.

FLOOR DRAIN (UNFINISHED FLOORS) - SERIES 2320-P050 CAST IRON TRACTOR GRATE, NO HUB, 8" DIA STRAINER, PRIMER FLOOR DRAIN (COMMERCIAL KITCHEN) - PROVIDE 9700-C-U ALL STAINLESS STEEL DRAINS WITH FLASHING CLAMP, 7" STRAINER ANI TAMPER PROOF GRATE. USE UNIONS, FLANGES, AND COUPLINGS DOWNSTREAM OF VALVES AND AT EQUIPMENT OR APPARATUS CONNECTIONS. DO NOT USE DIRECT WELDED OR THREADED CONNECTIONS TO VALVES, (ALTERNATE) FLOOR DRAIN (COMMERCIAL KITCHEN) - PROVIDE 2005-A06NBSS-B-U CAST IRON DRAINS WITH FLASHING CLAMP, 6' STAINLESS STEEL STRAINER, SEDIMENT BUCKET AND TAMPER PROOF USE NON-CONDUCTING DIELECTRIC CONNECTIONS WHENEVER ALL DRAINAGE PIPING SHALL BE CHECKED FOR SLOPES TO THE

SPECIFICATIONS INCLUDING FIRE STANDPIPE, WET SPRINKLER SYSTEM:

FUNNEL FLOOR DRAIN (FINISHED FLOORS) — SERIES
2005—A05NB—2695—3591NB, 5' DIA NICKLE BRONZE OPEN THRROA
STRAINER, NO HUB, NICKEL BRONZE OVAL FUNNEL—— ADAPTER
PRIMER CONNECTION. FUNNEL FLOOR DRAIN (UNFINISHED FLOORS) — SERIES
2320-2695-3591, CAST IRON TRACTOR GRATE WITH FULL OPEN
THROAT, NO HUB, OVAL CAST IRON FUNNEL—— ADAPTER PRIMER <u>IUB DRAIN (UNFINISHED FLOORS)</u> — SERIES 2005—2645—P050, CSAT RON HUB FUNNEL, NO HUB, 4" ADAPTER, PRIMER CONNECTION. TRAFFIC AREA DRAINS (LARGE CAPACITY) — SERIES SQ-2-1717B FLOOR DRAIN. PROVIDE SMITH SQ-2-1717-ADJ-B DRAIN WHEN AN ADJUSTABLE EXTENSION SLEEVE IS REQUIRED — HEIGHT TO SUIT DECK CONSTRUCTION.

GARAGE DRAIN (LARGE CAPACITY) — SERIES SQ-2-1717B FLOOR DRAIN. PROVIDE SMITH SQ-2-1717-ADJ-B DRAIN WHEN AN ADJUSTABLE EXTENSION SLEEVE IS REQUIRED — HEIGHT TO SUIT DECK CONSTRUCTION. TERRACE DRAIN (BALCONY AREA) - SERIES 1670T NICKEL BRONZE SRRAINER, THREADED CONNECTION, 6" DIA STRAINER WITH SIDE TERRACE DRAIN (BALCONY AREA) — SERIES 1610T—B4 NICKEL BRONZE SRRAINER, THREADED CONNECTION, 6" DIA STRAINER WITH 4 DEEP BODY, BOTTOM OUTLET. TRENCH DRAINS — SMITH SERIES 9930 TRENCH DRAIN SYSTEMS. FOR APPLICATIONS WITH TRAFFIC UNDER 3500 LBS—70PSI USE GRATE 9870—451—SSPA GRATE AND TYPE 304 STAINLESS STEEL OVERLAY RAIL EDGE OR 9870—491—HPP POLYPROPYLENE. FOR TRAFFIC OVER 3500 LBS—70PSI AND VEHICLE TRAFFIC USE GRATE 9870—455—SSHD

ROOF DRAIN (FLOW CONTROL) - SMITH SERIES 1083-CAN ROOF DRAIN. INVERTED ROOF INSTALLATION USE SERIES 1017-83 DRAINS.

WHERE POSSIBLE PROVIDE VALVES OF SAME MANUFACTURER THROUGHOUT. PROVIDE VALVES WITH MANUFACTURER'S NAME AND PRESSURE RATING CLEARLY MARKED ON BODY (PER MSS-SP-25). PRODUCT SHALL CARRY VALID CRN (CANADIAN REGISTRATION NUMBER) ISSUED BY RESPECTIVE PROVINCES. AI PRESSURE RATINGS, MANUFACTURERS TRADEMARK AND SIZE TO CONFORM AS PER MSS-SP-25. DISSIMILAR METALLIC CONNECTION USE DIELECTRIC ISOLATING COUPLING FOR BUSHINGS. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT BALL VALVES (ISOLATION & BALANCING) — UP TO 4", 1034 KPA (150PSIG)/600WOG RATING, BRASS AND OR BRONZE BODY, FULL PORT, TFE SEATS, DOUBLE O-RING DESIGN, OR TEFLON PACKING, CHROME PLATED SOLID BRONZE BALL, LEVER HANDLE. PROVIDE STEM EXTENSION WITH PIPING THAT IS INSULATED. SOLDERED: KITZ 59,

DRAIN VALVE - KITZ 3/4" 68AC CHECK VALVES (BACKFLOW PREVENTION) HORIZONTAL & VERTICAL SERVICE. UP TO 2", 860KPA (125PSIG)/200 WOG RATING, BRONZE BODY TO

THREADED: KITZ 58.

SHALL NOT BE RUN IN A HEATING OR VENTILATING PLENUM UNLESS ITS A FAKE REMOVABLE CEILING OR IN A STAIRWELL WITHIN A VENTILATED SHAFT. PIPING WITH FITTINGS CANNOT RUN WHERE THE JOINTS CANNOT BE INSPECTED IN THERE FINAL POSITION PRIOR TO CONCEALING. BURIED GAS PIPING — SHALL BE BURIED MINIMUM 3FT BELOW GRADE
AND C/W TRACER WIRE AND MARKING TAPE. INSTALLATION AND
IDENTIFICATION SHALL BE AS PER LOCAL GAS CODE AND INSTALLED

OF 10 2, 860KPA (1297SIG)/200 WOG RATING, BRONZE TRIM, AND Y SWING PATTERN. SOLDERED: KITZ 2,
AND C/W TRACER WIRE AND MARKING TAPE. INSTALLATION AND
IDENTIFICATION SHALL BE AS PER LOCAL GAS CODE AND INSTALLED

CAST IRON BODY, TO ASTM A126 BRONZE TRIM, BOLTED BONNET, FLANGED, FLANGED: KITZ 78. PLUMBING AND HYDRONIC SPECIALTIES

STRAINERS - UP TO 2", 860KPA (125PSIG)/200 WOG RATING BRONZE BODY, SCREWED CAP, Y-PATTERN, S.S. SCREEN WITH 1/32 ANVIL OR EQUIVALENT. ALL COMPONENTS ARE TO BE GALVANIZED PERFORATION, SOLDERED: KITZ 16, THREADED: KITZ 15. OVER 2" WHERE SADDLE IS SPECIFIED HANGER SHALL NOT TOUGH PIPING. 860KPA (125 PSIG) / 200 WOG RATING, CAST IRON BODY, BOLTED COVER, Y-PATTERN, S.S. SCREEN WITH 1/32 PERFORATION, FLANGED: WALL HYDRANT BOX - SMITH SERIES 5509QTSAP BOX TYPE WALL FOR ROOFTOP PIPE SUPPORTS USE MIFAB C RUBBER SUPPORT CLEANOUTS - SERIES 4100 FLOOR CLEANOUT, DUCO COATED CAST IRON BODY AND REMOVABLE POSITIVE GASKET SEAL CLOSURE. SERIES. PROVIDE PIPE EXTENSIONS AS REQUIRED TO SUIT LOCA BY LAWS AND OBSTRUCTIONS. PLUG AND HEAVY DUTY 6" (150MM) WITH EXTRA HEAVY NICKEL BRONZE COVER AND FRAME, SECURED WITH STAINLESS STEEL SCREWS, C.O. CAST IN COVER. (FOR WATER-PROOFED AREAS PROVIDE UP TO 2" USE FIGURE 65 WITH FIGURE 167 SADDLE . SADDLE C' FLANGE WITH FLASHING CLAMP).

NON FREEZE WALL HYDRANT — BOX — EXTERIOR — JAY R. SMITH SERIES 5509QT BOX TYPE WALL HYDRANT, 1/4 TURN NON—DRIP, CERAMIC CARTRIDGE, 3/4" (19MM) NON FREEZE WALL TYPE WITH BRONZE FACE AND STAINLESS STEEL WITH FULL 180 DEG. COVER OPENING BOX, ADJUSTABLE WALL—FLANGE OPERATING KEY AND SELF—DRAINING INTEGRAL VACUUM BREAKER. LENGTH TO SUIT WALL THICKNESS. WATER HAMMER ARRESTORS - SMS INC. #SC SERIES SC SERIES ERIES 'SC' WATER HAMMER ARRESTORS WITH BRASS PISTON IN A TYPE 'K' COPPER CASING SIZE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS CHART BELOW TO ELIMINATE WATER HAMMER AND SHOCK FROM PIPING SYSTEM. PROVIDE AT ALL FIXTURES TRAP SEAL PRIMER - SERVING 1 TO 4 DRAINS - SMS INC. #PR-500 SMS INC. #PR-500 AUTOMATIC TRAP SEAL PRIMER VALVE, CAST BRASS BODY, SERVING INDIVIDUAL OR REMOTE AREA DRAINS PRIMER AUTOMATICALLY ACTIVATED WHEN THERE IS A PRESSURE DROP IN THE SYSTEM) WITH 1/2" (12.7MM) NPT (MTOF) CONNECTIONS WITH STRAINER AND INTEGRAL BACK FLOW PREVENTER & VACUUM BREAKER. PROVIDE APPROPRIATE DISTRIBUTION FITTING UP O 4 DRAINS MAXIMUM. WHERE CONTRACTOR SUBSITUTES PRIMER WITH ALRERNATIVE REQUIREING POWER CONTRACTOR MUST INFORM

THERMOMETERS - TRERICE BX9 SERIES. PROPER RANGE SHALL BE SELECTED SO THAT OPERATING
TEMPERATURE OF THE MATERIAL BEING MEASURED WILL FALL
APPROXIMATELY IN THE MIDDLE OF THE SCALE. WHERE INSULATION EXCEEDS 2" THICK, A LONGER STEM THERMOMETER WILL BE <u>IPEX_DRAINAGE_SYSTEMS</u> — 4FT INTERVAL OR AS PER MANUFACTURES GUIDELINES. SUPPORT AT END OF BRANCHES, CHANGE OF THE EXTENSION NECK WILL BE AT LEAST 2" LONG. THERMOMETERS FOR MEASURING FLUID WILL HAVE STEMS WITH INSERTION LENGTHS ROUGHLY HALF THE PIPE DIAMETER, MINIMUM INSERTION LENGTH WILL BE 2". THERMOMETERS INSTALLED ON TANKS WILL HAVE MIMIMUM INSERTION LEGTHS OF 5". THERMOMETERS FOR MEASURING AIR TEMPERATURES WILL BE SAME AS LIQUID WITH THE EXCEPTION OF HAVING A PERFORATED GUARD STEM AND A MOUNTING FLANGE INSTEAD OF A BRASS SEPARABLE THERMOWELL. THERMOSTATS SHALL BE EASILY ACCESSIBLE AND READABLE.

> PROPER RANGE SHALL BE SELECTED SO THAT THE AVERAGE OPERATING PRESSURE OF THE MATERIAL BEING MEASURED WILL FALL APPROXIMATELY IN THE MIDDLE OF THE SCALE. GAUGES ON ANY SERVICE WHERE PRESSURE SURGES OR PULSATIONS ARE POSSIBLE WILL BE PROVIDED WITH TRERICE #872 PRESSURE SNUBBERS. GAUGES SHALL BE EASILY ACCESSIBLE AND READABLE. AUTOMATIC AIR VENTS - B&G SERIES #792. INSTALL AIR VENTS AT HIGH POINTS IN PIPING SYSTEMS, WHERE SPECIFIED, WHERE SHOWN ON THE DRAWINGS, AND WHERE REQUIRED TO FULLY VENT PIPING SYSTEMS. INSTALL BALL VALVE IN THE PIPING TO EACH AIR VENT.

PRESSURE GAUGES - TRERICE 450 SERIES WITH 316 STAINLESS STEEL BOURDON TUBE/SOCKET AND STAINLESS STEEL NEEDLE

5. FOR ALL VENTS, EXCEPT FOR CREWDRIVER-OPERATED TYPE AT CONVECTORS AND UNITARY HEATING EQUIPMENT, PROVIDE 9MM (3/8") COPPER DRAINS TO NEAREST FLOOR DRAIN. INSTALL DRAIN PIPING TO NEAREST SUITABLE APPROVED DRAIN OR LOCATION AND TERMINATE SO DISCHARGE IS VISIBLE. AIR SEPARATOR — B&G USE BLA FOR 10 GAL AND UP USE HFT FOR FOR 2" AND UNDER SERIES USE B&G EAS. SIZED AS PER INCOMING/DISCHARGE PIPE SIZE. FOR 3" AND UP SERIES USE B&G ROLAIRTROL. SIZED AS PER INCOMING/DISCHARGE PIPE SIZE.

ZONE VALVES - CALEFFI MODEL 6442 UP TO 1" AND MODEL Z-4

<u>THERMOSTATIC MIXING VALVE</u> — CALEFFI 521 MIXCAL WITH BUILT IN PRESSURE GUAGE PRESSURE REDUCING VALVE - WATTS UB5-Z3 REDUCED PRESSURE BACKFLOW PREVENTOR - WATTS 009 UP TO 3" HEATING WATER PIPING AND TWO PIPE FAN COIL - 1" INSULATION UTO 3/4", 11/2" INSULATION UP TO 11/2", 2" INSULATION FOR SIDE SREAM FILTER - AXIOM CBF SERIES WITH FLOW RATE AS NOTED CHEMICAL POT FEEDER - AXIOM SFP SERIES WITH SIZE AS NOTED

SAFETY RELIEF VALVES - B&G SERIES.

EQUIPMENT SCHEDULE

REFER TO SPECIFICATIONS FOR PRODUCT CHANGES AND SUBMITTAL PROCESS. REFER TO PLANS FOR EXACT QUANTITY AND LOCATION OF EACH PIECE OF EQUIPMENT MANUAL AND MAGNETIC STARTERS

MANUAL STARTERS UNLESS NOTED OTHERWISE OR AS BELOW.
ALL EQUIPMENT WITH MOTORS THAT ARE INTERLOCKED OR NOT MANUALLY OPERATED,
WHERE THE MOTOR WILL START OR SHUT-DOWN BY ITSELF SHALL HAVE MAGNETIC
STARTERS.

DIVISION 15 WILL SUPPLY/MOUNT ALL ELECTRIC MOTORS, STARTERS, TRANSFORMERS, NECESSARY CONTROLS, STATS, CONTROL ACCESSORIES, RELAYS, DISCONNECTS AND SWITCHES FOR EQUIPMENT SUPPLIED BY THEM WHERE EQUIPMENT IS NOT SUPPLIED BY THEM BUT REQUIRES INTERLOCKING BY THEM DIVISION 15 SHALL OBTAIN SHOP DRAWING AND SUPPLY/MOUNT ALL PREVIOUSLY MENTIONED STARTERS, TRANSFORMER ETC. DIVISION 15 SHALL DO ALL INTERLOCKING OF EQUIPMENT AS NOTED ON THESE DRAWINGS. DIVISION 15 SHALL CO-ORDINATE AND OBTAIN SERVICES OF DIVISION 16 FOR ALL LINE VOLTAGE CONTROL WIRING AND ALL CONDUIT. ALL WIRING SHALL BE IN CONDUIT. ALL WIRING SHALL BE PLENUM RATED WHERE REQUIRED. EQUIPMENT GENERAL NOTES

1. ALL APPROVED EQUIPMENT SHALL BE INSTALLED AND COMMISSIONED AS PER MANUFACTURERS RECOMMENDATIONS AND INSTALLATION GUIDLINES. CONTRACTOR TO REVIEW GUIDLINES AND PROVIDE ALL NECESSARY ACCESSORIES AS REQUIRED 2. ALL CEILING HUNG EQUIPMENT THAT RECEIVES WATER OR PRODUCES CONDENSATE THAT IS NOT LOCATED IN A MECHANICAL ROOM WITH A DRAIN SHALL BE C/W A WATERPROOFED DRAIN PAN SIZED TO PROTECT SURROUNDING WALLS AND CEILINGS ETC DRAIN PANS SHALL BE BY ASSOCIATED EQUIPMENT INSTALLER. PLUMBER SHALL

. ALL EQUIPMENT SHALL BE MOUNTED LEVEL AS PER MANUFACTURERS INSTRUCTIONS.

APPLIANCE VENTING

CONTRACTOR TO MODIFY CURBS, ISOLATORS, HANGERS FTC AS REQUIRED

7. REFER TO GRILLES, DIFFUSERS LOUVERS, TERMINATIONS SCHEDULE FOR SPECIFICATION

9. PROVIDE 4" HOUSE KEEPING PADS FOR ALL EQUIPMENT EXTENDING 6" BEYOND

10. PROVIDE CONDENSATE NEUTRALIZING KITS FOR ALL GAS AND OR PROPANE FIRED EQUIPMENT DISCHARGING CONDENSATE

11. ENGINEER SHALL BE INFORMED WHERE APPLIANCE VENTING TERMINATE ON OR OVER A PROPERTY LINE. CONTRACTOR TO ALLOW FOR FLUSH MOUNT ALTERNATIVE VENTING KI

PLANS OR SCHEDULE BELOW DURING CONSTRUCTION UNLESS WRITTEN APPROVAL BY

NOT USE EXISITNG TO REMAIN OR NEW PERMANENT SYSTEMS AS NOTED IN THE

WHERE PUMPS ARE AFFECTED BY CITY WATER PRESSURE CONTRACTOR TO ALLOW

4. ALL EQUIPMENT SHALL BE ADEQUATELY SUPPORTED TO BUILDING STRUCTURE AND ISOLATED TO AVOID VIBRATION TRANSMISSION TO BUILDING STRUCTURE. CONTRACTOR TO PROVIDE UNISTRUT AND ANCHORS AS REQUIRED TO SUIT EQUIPMENT WEIGHT AND BUILDING STRUCTURE. NOISE LEVEL FROM MECHANICAL EQUIPMENT SHALL NOT EXCEED ASHRAE AND MOE STANDARDS. THIS CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO THIS ENGINEER AND STRUCTURAL ENGINEER OF RECORD FOR APPROVAL ALL VENTING FOR APPLIANCES MUST BE AS PER MANUFACTURER RECOMMENDATIONS AND AS PER LATEST B149-1 GAS CODE. WHERE MANUFACTURER ALLOWS PVC OR CPVC IT SHALL BE AS FOLLOWS. ALL IPEX SYSTEMS SHALL BE INSTALLED AS PER MANUFACTURERS GUIDELINES USING THE APPROVED FITTINGS AND SOLVENT CEMENT. WHERE REQUIRED ALL METAL VENTING SHALL BE DOUBLE WALL INSULATED AL-294C OPED BACK TO APPLIANCE. ALL PIPING SHALL MEET THE APPLICABLE FLAME/SMOKE 5. ALL EQUIPMENT CONNECTED TO PIPING AND DUCTWORK SHALL BE C/W FLEXIBLE CONNECTIONS TO AVOID NOISE TRANSMISSION. FLEXIBLE CONNECTIONS SHALL BE PLENUM RATED WHERE LOCATED IN A PLENUM DIRECT VENT PVC OR CPVC TERMINATION KITS MUST HAVE A SIMILAR LOOK TO IPEY

ALL DIRECT VENT PVC OR CPVC TERMINATION KITS MUST HAVE A SIMILAR LOUR TO ITEA LOW PROFILE KITS. KITS SHALL BE HANDED OVER TO ARCHITECT AND OWNER FOR APPROVAL PRIOR TO PURCHASING. KITS SHALL BE APPROVED BY MANUFACTURER AND WHERE MANUFACTURER OF APPLIANCE OFFERS LOW PROFILE KITS THEY SHOULD BE USED. ALL DIRECT VENT APPLIANCES SHALL TERMINATE INTAKE AND DISCHARGE DIRECTLY 6. ALL EQUIPMENT, DAMPERS VALVES, ETC IS TO BE ACCESSIBLE FOR SERVICING. REFER TO MANUFACTURERS GUIDELINES AND PROVIDE ULC LISTED ACCESS PANELS AS REQUIRED. ACCESS PANELS SHALL NOT BE SURFACE MOUNTED NON HIGH RISE BUILDINGS OF NON COMBUSTIBLE CONSTRUCTION

IPEX SYSTEM S636 PVC. SYSTEM 636 CPVC SHALL BE USED IN PLENUMS AND UNLESS APPROVED OTHERWISE ALL AREAS LOCATED AT 7FT ABOVE FLOOR. NO COMBUSTIBLE VENTING SHALL BE USED IN SHAFTS NON HIGHRISE BUILDING OF COMBUSTIBLE CONSTRUCTION
IPEX SYSTEM S636 PVC. NO COMBUSTIBLE VENTING SHALL BE USED IN SHAFTS

HIGH RISE BUILDINGS OF ALL CONSTRUCTION
IPEX SYSTEM S636 CPVC. NO COMBUSTIBLE VENTING SHALL BE USED IN SHAFTS APPLIANCE VENTING INSULATION TYPE A - FLEXIBLE GLASS FIBRE; K VALUE OF 0.29 AT 75 DEGREES F FOIL SCRIM FACING, USE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLL TO SERVE APPROVED INSIII ATIOM AND THICKNESS FOR HOLD AND THE PROPERTY FOR HOLD AND THE PRO JSE APPROVED INSULATION AND THICKNESS FOR HIGH TEMPERATURE

APPLICATIONS LIKE EMERGENCY GENERATOR EXHAUST EXHAUST - 11/2" TYPE A TO 10 FT. FROM EXTERIOR WALL AIR INTAKE - 2" TYPE A UP TO BOILER

WHERE VENTING RUNS THROUGH UNCONDITIONED AREAS FULLY INSULATE INTAKE AND

— — — — — SANITARY DRAIN — BURIED STORM DRAIN — BURIFF — DOMESTIC COLD WATER _____ DOMESTIC HOT WATER ______ _ _ _ DOMESTIC HOT WATER RECIRCULATE GAS LINE FCS FAN COIL SUPPLY FCS — FAN COIL SUPPLY — — — FCR — — FAN COIL RETURN HS HEATING SUPPLY — — HR — HEATING RETURN — — — HPR — — HEAT PUMP RETURN CONDENSATE DRAIN Refrigerant piping FIRE STAND PIPE — SPK — SPRINKLER LINE — v — sanitary vent BALL VALVE UNLESS SPECIFIED SOLENOID VALVE GLOBE VALAVE GATE VALVE CIRCUIT BALANCING VALVE WITH P/T PORT CHECK VALVE THERMOSTATIC MIXING VALVE PRESSURE REDUCING VALVE DRAIN VALVE REDUCED PRESSURE BACK FLOW PREVENTOR AUTO AIR VENT FLOW SWITCH PRESSURE SWITCH THERMOMETER PRESSURE GUAGE 6 1/15/2025 ISSUED FOR PERMIT REVISIONS 5 1/7/2025 ISSUED FOR PERMI STRAINER 4 11/26/2024 ISSUED FOR TENDER THERMOSTAT 9/24/2024 ISSUED FOR PERMI REVERSE ACTING T-STAT 9/19/2024 ISSUED FOR REVIEW SPEED CONTROL 7/23/2024 ISSUED FOR PRELIMINARY EQUIP. LAYOU O O FLOOR, HUB, FUNNEL FLOOR DRAIN NO. I DATE PLUMBING FIXTURE FROM FLOOR AE THIS DRAWING SHALL BE USED ONLY FOR THE PURPOSE INDICATED IN THE LATEST ISSUED COLUMN ABOVE PLUMBING FIXTURE DRAIN D PENDANT SPRINKLER HEAD UPRIGHT SPRINKLER HEAD LL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY O SIDEWALL SPRINKLER HEAD THE DESIGNER AND MAY NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION. DRAWINGS MUST NOT BE SCALED. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON FULLY CONCEALED SPRINKLER HEAD SITE AND REPORT ERRORS AND OMISSIONS TO THE SPLITTER DAMPER CONSTRUCTION UNLESS COUNTERSIGNED BY THE DESIGNER. FIRE DAMPER MOTORIZED DAMPER THESE DRAWINGS ARE NOT BACK DRAFT DAMPER SPIN COLLAR WITH BALANCING DAMPER ROFESSION \dashv o \vdash HUNG/LEAVING/BURIED CLEANOUTS 1/15/2025 END CAP CUT AND EXTEND EXISTING CAP OFF EXISTING CONNECT TO EXISTING FLOOR SUPPLY AIR GRILLE CEILING AND WALL SUPPLY AIR GRILLE CEILING AND WALL RETURN AIR GRILLE SUPPLY DUCT UP \ SUPPLY DUCT DN / UNLESS NOTED. ONSULTING INC MATCH ASSOCIATED RETURN DUCT UP \ HORIZONTAL DUCT 23 - 1111 Davis Rd. Newmarket, Ontario L3Y 9E5 RETURN DUCT DN / T (905) 773-0200 staff@bkconsulting.ca NFHB. NON-FREEZE WALL HYDRANT POD INN HOTEL DOMESTIC WATER UP **400 UNIVERSITY** DOMESTIC WATER DOWN TO ABOVE FLOOR DOMESTIC WATER DOWN TO BELOW FLOOR DOM. VALVED PLUMBING FIXTURE CONNECTION SAFETY RELIEF VALVE TORONTO ONTARIO <u>ABBREVIATIONS</u> **MECHANICAL** GENERAL PLUMBING BACK WATER VALVECONTROL FLOW ROOF BACK FLOW PREVENTO - BELOW ROOF DECK 24-711 NOT APPLICABLE

2024

NTS

JW

M-5

RAIN WATER LEADER VENT THRU ROOF R — RELOCATED TBD — TO BE DETERMINED WATER METER **DRAINS** GENERAL HVAC **SPECIFICATIONS** - AREA DRAIN
- FLOOR DRAIN
D - FUNNEL FLOOR DRAIN
) - HUB DRAIN
) - PAVED AREA DRAIN
D - ROOF DRAIN
AD - SODDED AREA DRAIN
iD - SCUPPER DRAIN - EXHAUST AIF - EXISTING TO - FIRE RATED - GAS METER REMAIN

- NORMALLY CLOSED - OPENED ENDED DUCT - RETURN AIR

TRANSFER AIR DUCT TRANSFER AIR GRILLE

DSD - DUCT SMOKE DETECTOR

BALANCING DAMPER FIRE DAMPERMOTORIZED DAMPER

B/D/D - BACK DRAFT DAMPE

DRAWING LEGEND

SANITARY DRAIN — UNBURIED