

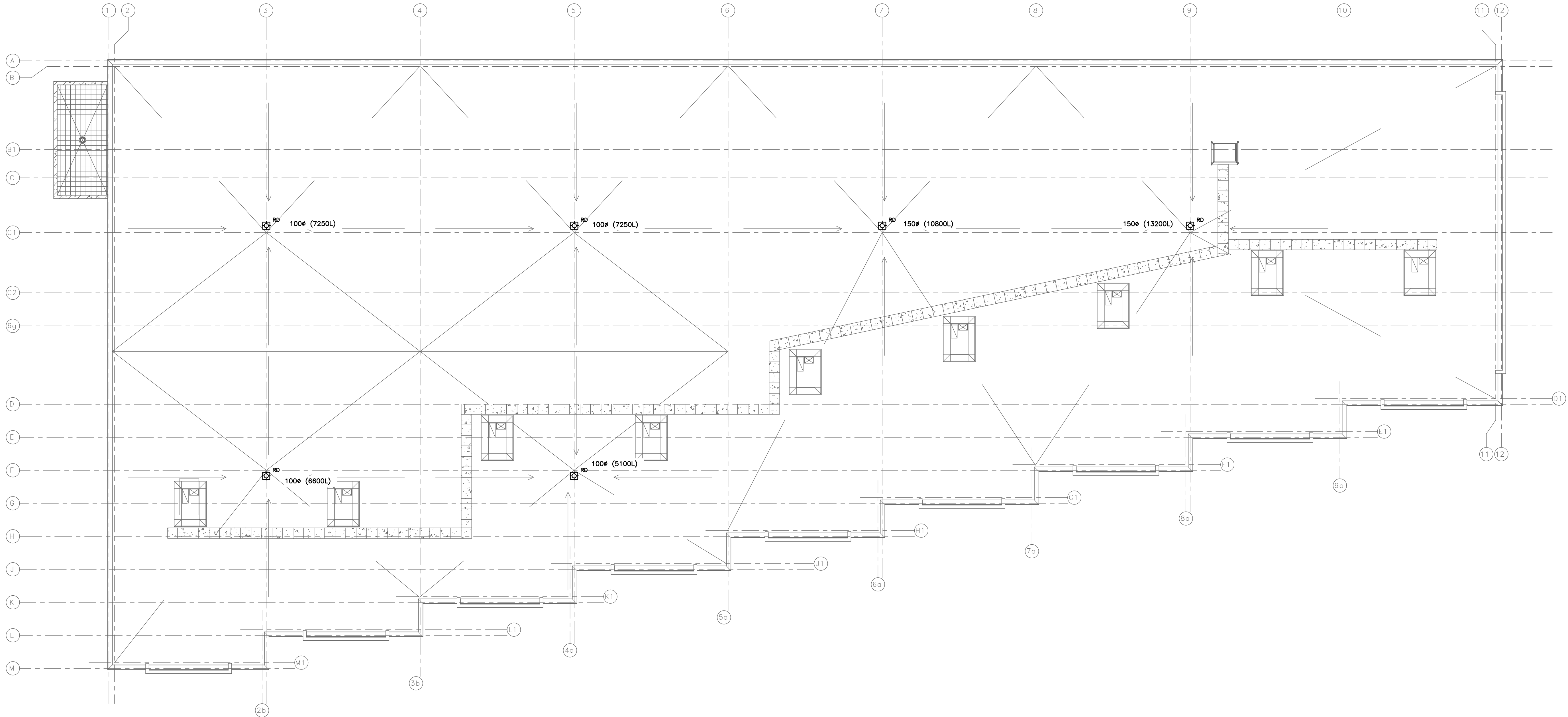


2	ISSUED FOR PERMIT	OCT 2025
1	ISSUED FOR COORDINATION	SEPT 2025
NO.	SUBMISSION	DATE
<p style="text-align: center;">JASS GILL 725 LAKE ROAD, BOWMANVILLE, ON</p> <p style="text-align: center;">MECHANICAL PLUMBING BUILDING 2 LAYOUT</p>		
 <p>D.G. BIDDLE & ASSOCIATES CONSULTING ENGINEERS & PLANNERS</p>		<p>96 King Street East Oshawa, Ontario, L1H 1B6 Phone: 905-576-8500 info@dgbbiddle.com dgbiddle.com</p>
		<p>SCALE: 1:125</p> <p>DESIGNED BY: J.T.C.</p> <p>CHECKED BY: J.T.C.</p> <p>PROJECT NO.: 123081</p> <p>DRAWING NO.: M1.1</p>



PLUMBING CONSTRUCTION AND COORDINATION NOTES:

1. TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.

2. PIPING SHOWN FOR SCHEMATIC AND SCOPE OF WORK PURPOSES IN GENERAL LOCATION OF USE, COORDINATE EXACT ROUTING ON SITE AND WITH BEST PRACTICES.

3. ALL SANITARY AND STORM TO BE RUN AT A MINIMUM SLOPES. ALL HORIZONTAL SANITARY LINES EQUAL TO OR LESS THAN 3/8\"/>

4. RUN ALL DOMESTIC AND SANITARY PIPING TIGHT TO UNDERSIDE OF SLAB

5. ALL PIPING SANITARY, STORM, AND DOMESTIC INCLUDING PEX PIPING BOTH EXPOSED AND CONCEALED SHALL ACCOMMODATE BOTH ACOUSTIC AND/OR INSULATION WRAP. CONTRACTOR TO COORDINATE. NO EXCEPTIONS.

6. COORDINATE SHARED SPACES WITH ELECTRICAL, GAS PIPING, HVAC DUCTWORK AND SPRINKLER PIPING.

7. COORDINATE ALL HOLES THOUGH SLAB AND MASONRY WALLS WITH GENERAL CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.

8. REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS

9. COORDINATE ACCESS DOORS/PANELS FOR ISOLATION VALVES AND CLEANOUTS WITH GENERAL CONTRACTOR

10. PROVIDE CLEANOUTS AS REQUIRED BY CODE. SIZE OF CLEANOUTS TO BE SAME SIZE AS SANITARY/STORM LINES.

11. PROVIDE CLEANOUT AT THE BOTTOM OF EACH SANITARY/STORM STACK.

12. PROVIDE VENTS THROUGH ROOF AS REQUIRED BY CODE. CONTRACTOR TO SUPPLY VENTING DRAWING TO ENGINEER FOR APPROVAL BASED ON PROPOSED VENT LENGTHS AND BEST ROUTING BASED ON SITE CONDITIONS AND COORDINATION WITH OTHER TRADES. FINAL VENTING LAYOUT AND ROUTING TO BE RESPONSIBILITY OF CONTRACTOR.

13. PROVIDE NEW HOSE BIBBS TO BE COMPLETE WITH BACKFLOW PREVENTERS.

14. ALL NEW HOSE BIBBS TO BE COMPLETE WITH BACKFLOW PREVENTERS.

15. COORDINATE BURIED SANITARY LINES WITH STRUCTURAL FOOTINGS.

16. THE CONSULTANT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES REQUIRED TO ACCOMMODATE CONDITIONS ARISING DURING THE PROGRESS OF THE WORK, AT NO EXTRA COST TO THE OWNER.

PLUMBING LEGEND

----	DOMESTIC COLD WATER (DCW)
----	DOMESTIC HOT WATER (DHW)
----	UNBURIED SANITARY DRAINAGE (US)
— S — S —	BURIED SANITARY DRAINAGE (S)
— UST — UST —	UNBURIED STORM DRAINAGE (UST)
— ST — ST —	BURIED STORM DRAINAGE (ST)
— O — O —	PIPE UP, BRANCH DROPPING FROM TEE, PIPE DOWN
—	PIPE BREAK/CONTINUATION
XD	FLOOR (F), ROOF (R), HUB (H), FUNNEL (FF), AREA (A) DRAIN
— S — HCO	CLEAN OUT — EXPOSED
— S — FCO	CLEAN OUT — IN FLOOR
— S —	SANITARY TRAP
WC-1	EQUIPMENT/FIXTURE TAG

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JASS GILL
725 LAKE ROAD, BOWMANVILLE, ON
MECHANICAL PLUMBING
BUILDING 4 ROOF PLAN

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GENERAL REQUIREMENTS FOR MECHANICAL WORK

1. SCOPE OF WORK
- 1.1. CONFORM TO THE APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS OF THE CONTRACT.
- 1.2. THE GENERAL MECHANICAL SPECIFICATIONS SHALL APPLY TO AND BE PART OF EACH OF THE SECTIONS COVERING THE MECHANICAL TRADES WORK.
- 1.3. COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE O.B.C., ALL OTHER APPLICABLE CODES, REGULATIONS, BY-LAWS AND OFFICIAL STANDARDS ACCORDING TO THE REQUIREMENTS AND INTERPRETATIONS OF THE AUTHORITIES HAVING JURISDICTION. THESE CODES AND STANDARDS CONSTITUTE AN INTEGRAL PART OF THESE SPECIFICATIONS. IN CASE OF CONFLICT, THE CODES TAKE PRECEDENCE OVER THE CONTRACT DOCUMENTS.
2. EXAMINATION OF SITE AND INFORMATION
- 2.1. EACH SUBCONTRACTOR, BEFORE PRICING, SHALL EXAMINE THE SITE, THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND THEY SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING CONSTRUCTION AND FINISH IN ORDER THAT THEIR TENDER MAY INCLUDE EVERYTHING NECESSARY FOR THE PROPER COMPLETION OF THE WORK.
3. RELATIONSHIP TO OTHER TRADES
- 3.1. THIS SUBCONTRACTOR SHALL CONFER WITH ALL OTHER CONTRACTORS INSTALLING EQUIPMENT, PIPING, OTHER WORK, FOUNDATIONS, ETC., WHICH MAY AFFECT THEIR INSTALLATION, AND THEY SHALL ARRANGE THEIR EQUIPMENT, PIPING, ETC., IN PROPER RELATION WITH OTHER APPARATUS, AND WITH THE BUILDING CONSTRUCTION. THIS SUBCONTRACTOR SHALL ALSO CONFIRM THE ELECTRICAL CHARACTERISTICS OF THE PROJECT AND ORDER EQUIPMENT ACCORDINGLY.
- 3.2. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF ALL WORK, TO SEE THAT THEY ALL COME WITHIN THE LIMITS ESTABLISHED BY THE FINISH LINES OF ALL WALLS, FLOORS, CEILINGS, ETC.
- 3.3. THIS SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR AND OTHER SUBCONTRACTORS WHO ARE CONCERNED, OF ALL OPENINGS, FOUNDATION WORK, HANGERS, INSERTS, ANCHORS, OR OTHER PROVISIONS NECESSARY IN THEIR WORK FOR THE INSTALLATION OF THE SUBCONTRACTORS WORK, AND THEY SHALL FURNISH ALL INFORMATION AND NECESSARY MATERIALS IN AMPLE TIME SO THAT PROPER PROVISIONS CAN BE MADE FOR SAME, AND SHALL SUPPLY AND CORRECTLY AND

- 3.4. ACCURATELY PLACE ALL INSERTS, SLEEVES, ANCHORS, ETC. FAILURE TO COMPLY WITH THESE REQUIREMENTS ON THE PART OF THIS SUBCONTRACTOR WILL RENDER THEM RESPONSIBLE FOR THE COST OF CUTTING OPENINGS, INSTALLING HANGERS AND OTHER PROVISIONS AT A LATER DATE, AND THE SUBSEQUENT PATCHING, ETC., THEREBY REQUIRED.
- 3.5. NO CUTTING SHALL BE DONE WITHOUT PERMISSION. ALL SUCH WORK SHALL BE DONE BY TRADES-PERSONS SKILLED IN AND CERTIFIED FOR THIS PARTICULAR TRADE.
- 3.6. EACH SUBCONTRACTOR IS TO BE AN EXPERT IN THEIR TRADE.
4. REQUIREMENTS OF INSPECTION DEPARTMENTS
- 4.1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN EACH CASE, PARTICULARLY ALL AFFECTED DEPARTMENTS OF THE MUNICIPALITY AND PROVINCE. ELECTRICAL EQUIPMENT SUPPLIED MUST CONFORM TO THE REGULATIONS OF CSA AND THE LOCAL UTILITY. ANYTHING NECESSARY TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS SHALL BE PROVIDED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNERS IF IT REASONABLY COULD HAVE BEEN FORESEEN WHEN TENDERING. EACH SUBCONTRACTOR SHALL PREPARE DRAWINGS IN ADDITION TO ENGINEER'S DRAWINGS AS MAY BE REQUIRED BY VARIOUS INSPECTION DEPARTMENTS HAVING JURISDICTION, AND OBTAIN THEIR APPROVAL BEFORE PROCEEDING WITH THE WORK.
- 4.2. IN THE EVENT THAT THE INSPECTION DEPARTMENT'S REQUEST DEVIATES FROM THE ENGINEER'S LAYOUT, THE SUBCONTRACTOR SHALL CONSULT ENGINEER BEFORE PROCEEDING WITH THE SAME. IT SHALL BE NOTED THAT ENGINEER'S DRAWINGS ARE GENERALLY ACCEPTABLE TO INSPECTION DEPARTMENTS AND MINOR SUPPLEMENTS NEED ONLY BE MADE BY SUBCONTRACTORS.
5. CERTIFICATES, PERMITS, FEES
- 5.1. SUBCONTRACTORS SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES INCLUDING PAYMENT FOR STREET CONNECTIONS TO STORM, SANITARY, WATER AND GAS IN ORDER THAT THE WORK HEREIN SPECIFIED MAY BE CARRIED OUT AND THEY SHALL FURNISH ANY CERTIFICATES NEEDED AS EVIDENCE THAT THE WORK

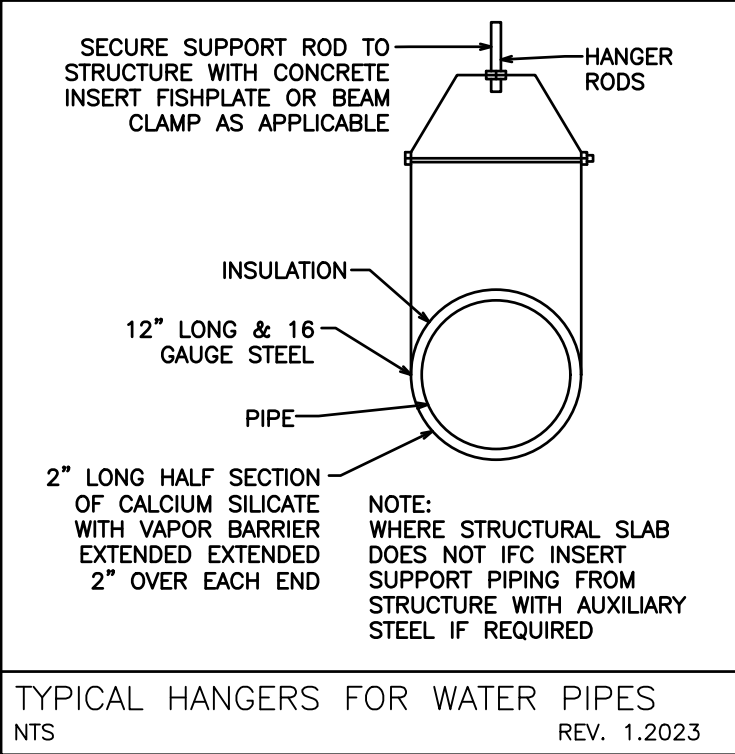
6. GUARANTEE
- 6.1. THIS SUBCONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORKMANSHIP USED IN THE WORK TO BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, OF BEST QUALITY AND TYPE OBTAINABLE TO GIVE FIRST-CLASS CONSTRUCTION AND PROPER EFFICIENT OPERATION, AND FREE FROM ANY DEFECTS. ANY SUCH DEFECTS WHICH MAY APPEAR IN ANY OF THE WORK WITHIN ONE YEAR AFTER WRITTEN ACCEPTANCE OF THEIR WORK, 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 ITEMS OF EQUIPMENT.
- 6.2. ALL INJURIES TO ADJACENT WORK, PARTICULARLY PLASTER, WOOD FINISHES OR OTHER MATERIALS, OR DAMAGE TO OTHER EQUIPMENT, CAUSED BY SUCH DEFECTS OF THIS SUBCONTRACTOR'S WORK OR BY SUBSEQUENT REPLACEMENT AND REPAIR, SHALL BE MADE GOOD AT THE EXPENSE OF THIS SUBCONTRACTOR. ALL REPAIR WORK SHALL BE DONE BY 9.1. TRADES RESPONSIBLE FOR THE ORIGINAL WORK.
- 7.1. THE DRAWINGS SHOW THE APPROXIMATE LOCATION FOR SPECIAL APPARATUS AND THE MATERIALS THROUGHOUT THE BUILDING. THE ARRANGEMENT SHOWN ON THE DRAWING IS MORE OR LESS DIAGRAMMATIC AND AS SUCH APPROXIMATE ONLY, AND MAY BE ALTERED, AS APPROVED BY THE ENGINEER, TO MEET REQUIREMENTS OF THE APPARATUS, ETC., AND OF THE BUILDING. EACH SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL MEASUREMENTS FOR THEIR WORK THROUGHOUT, AND THEY SHALL ARRANGE THEIR PIPING, WIRING AND APPARATUS TO CONFORM TO THE ARCHITECTURAL AND STRUCTURAL DETAILS IN A SATISFACTORY MANNER AND SHALL CO-OPERATE WITH OTHER CONTRACTORS TO ENSURE THAT WORK SHALL MEET ALL REQUIREMENTS OF DIVERSE CONTRACTS.
- 7.2. ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFIED OR SPECIFIED BUT NOT SHOWN SHALL BE INCLUDED.
- 7.3. ITEMS OBVIOUSLY REQUIRED TO PROVIDE A COMPLETE

- WORKING SYSTEM BUT NOT SPECIFIED NOR SHOWN SHALL BE INCLUDED.
8. RESPONSIBILITY AND LIABILITY
- 8.1. EACH SUBCONTRACTOR SHALL SUPERVISE THE LAYING OUT OF THEIR WORK AND SHALL ARRANGE IT IN CO-OPERATION WITH OTHER WHO MAY BE WORKING ON THE PREMISES WHILE THE WORK OF THIS CONTRACT IS IN PROGRESS. THEY SHALL PROTECT FINISHED AND UNFINISHED WORK OF THIS CONTRACT AND/OR WORK OF OTHERS ON THE PREMISES UNTIL THE COMPLETED WORK HAS BEEN ACCEPTED.
- 8.2. THE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES FOUND IN THE DRAWINGS OR SPECIFICATIONS BEFORE SUBMITTING THEIR TENDER. THEY SHALL ABIDE BY DECISIONS GIVEN TO THEM IN WRITING WITH REGARD TO SAME. EACH SUBCONTRACTOR IS CAUTIONED THAT THE WORK AS SHOWN IS INTENDED TO BE COMPLETE IN ALL RESPECTS AND THAT FAILURE ON THEIR PART TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES WILL NOT RELIEVE THEM OF THE RESPONSIBILITY OF COMPLETING THE WORK AS INTENDED AT THE CONTRACT PRICE.
9. CLEAN-UP
- 9.1. DURING THE COURSE OF CONSTRUCTION, EACH SUBCONTRACTOR SHALL KEEP THEIR WORK TIDY AND NOT ALLOW AN ACCUMULATION OF DEBRIS RESULTING FROM THEIR WORK.
- 9.2. UPON COMPLETION OF THEIR WORK THEY SHALL LEAVE THE PREMISES IN A BROOM-CLEAN CONDITION.
10. PROTECTION
- 10.1. SUBCONTRACTORS ARE TO PROTECT THEIR WORK FROM CONSTRUCTION DIRT OR DAMAGE FROM ANY CAUSE. SECURELY PLUG AND CAP ALL OPENINGS IN PIPE, EQUIPMENT AND FIXTURES TO PREVENT OBSTRUCTIONS.
11. ELECTRICAL WIRING AND CONTROLS
- 11.1. ALL POWER WIRING FOR MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL DIVISION. THE MECHANICAL TRADE INVOLVED SHALL PROVIDE STARTERS, THERMOSTATS, VALVES, CONTROL TRANSFORMERS, RELAYS, ETC. ALL CONTROL WIRING SHALL BE DONE BY THE MECHANICAL CONTRACTOR, UNLESS OTHERWISE NOTED ELSEWHERE IN THIS SPECIFICATION.

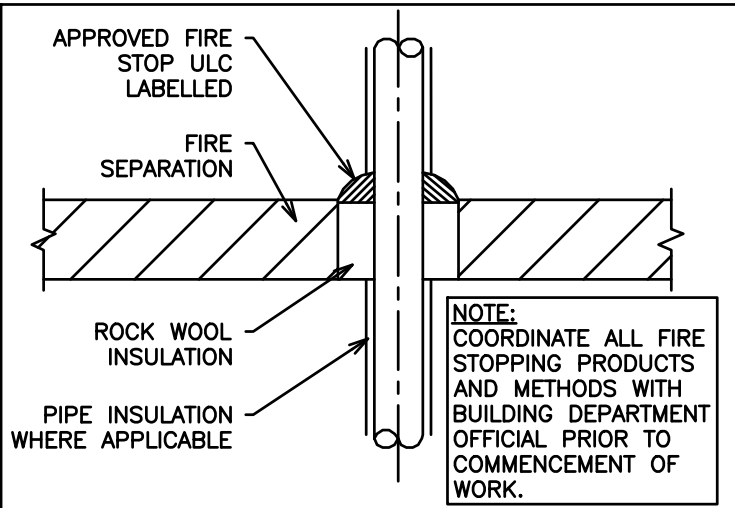
MINIMUM PIPE INSULATION THICKNESS - HEATING AND HOT WATER SYSTEMS BASED ON ASHRAE 90.1 TABLE 6.8.3A				
FLUID OPERATING TEMPERATURE RANGE (°F) AND USAGE	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in)	
	CONDUCTIVITY Btu·in/(h·ft²·°F)	MEAN RATING TEMPERATURE, °F	<1	1 TO 28
100°F-140°F	0.22-0.28	100	1.0	1.5 1.5

PLUMBING NOTES

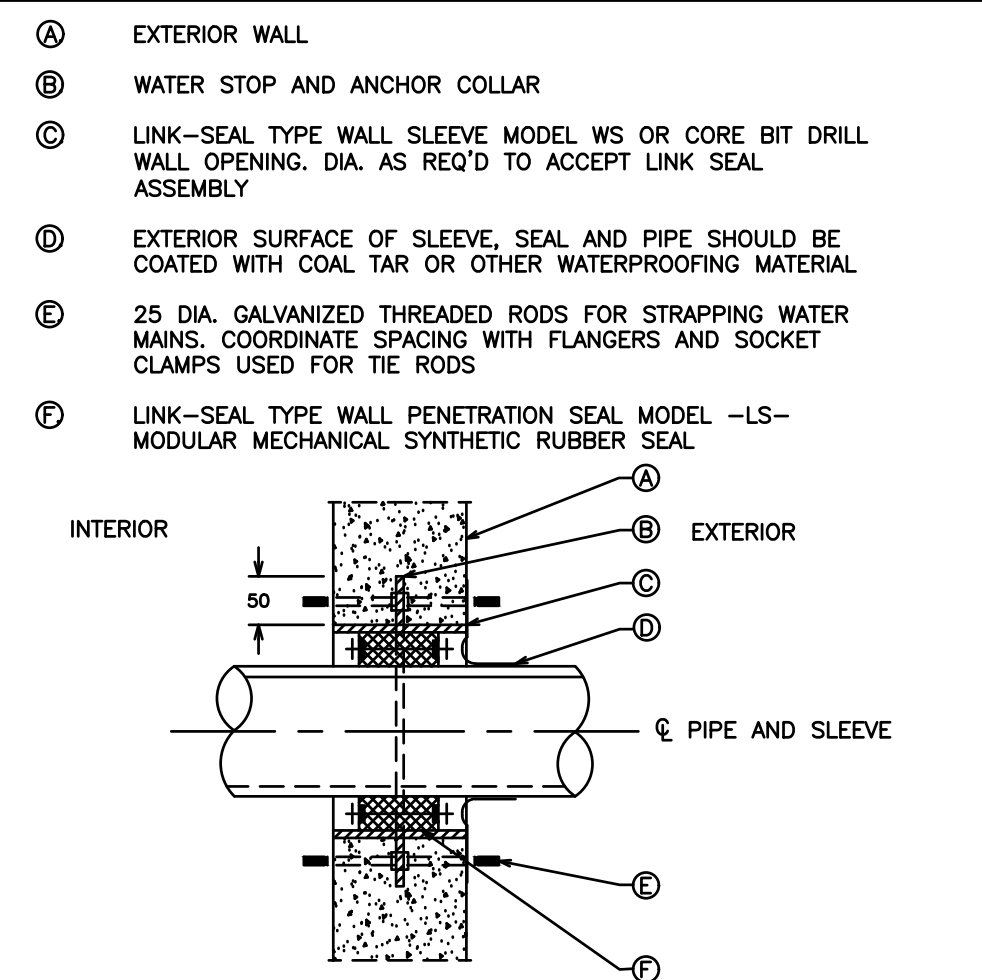
1. GENERAL
- 1.1. FOR CONTINUATION OF SITE SERVICES REFER TO SITE SERVICE DRAWING BY OTHERS. CO-ORDINATE EXACT LOCATION AND INVERTS OF SERVICES.
- 1.2. PROVIDE CLEANOUTS AND TRAP PRIMING FOR SANITARY AS REQUIRED BY O.B.C. AND LOCAL AUTHORITIES. CLEANOUTS SIZE TO BE SAME AS SANITARY LINES.
- 1.3. PROVIDE COMPLETE PLUMBING VENT SYSTEM AS REQUIRED BY O.B.C. AND LOCAL AUTHORITIES, INCLUDING MIN. 3" VENT AT UPSTREAM END(S) OF SANITARY BUILDING DRAIN.
- 1.4. ISOLATION VALVES TO BE PROVIDED AT ALL FIXTURES AND HOT WATER TANK.
- 1.5. PIPE INSULATION TO BE 25mm FOR ALL NEW AND/OR EFFECTED DOMESTIC PIPING. IN EXPOSED AREAS PROVIDE CANVAS WRAP OVER INSULATION.
2. MATERIALS
- 2.1. ALL PVC OR ABS TYPE PIPING TO BE USED ABOVE GROUND SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AND SHALL BE CONFIRMED TO BE ACCEPTABLE BY THE AUTHORITY HAVING JURISDICTION. IF ACCEPTABLE AND USED, IT SHALL BE PROVIDED WITH U.L.C. LISTED AND APPROVED FIRE STOP DEVICE AT ALL PENETRATIONS OF ANY FIRE SEPARATION.
- 2.2. ALL ABOVE GROUND DOMESTIC PIPING SHALL BE TYPE 'L' COPPER.
- 2.3. ALL BURIED DOMESTIC PIPING SHALL BE TYPE 'K' COPPER.
- 2.4. ALL ABOVE GROUND DRAINAGE PIPING SHALL BE CAST IRON 'M' PIPE.
- 2.5. ALL BURIED DRAINAGE PIPING SHALL BE DR26 PVC WITH CLASS P BEDDING.



TYPICAL HANGERS FOR WATER PIPES
NTS REV. 1.2023

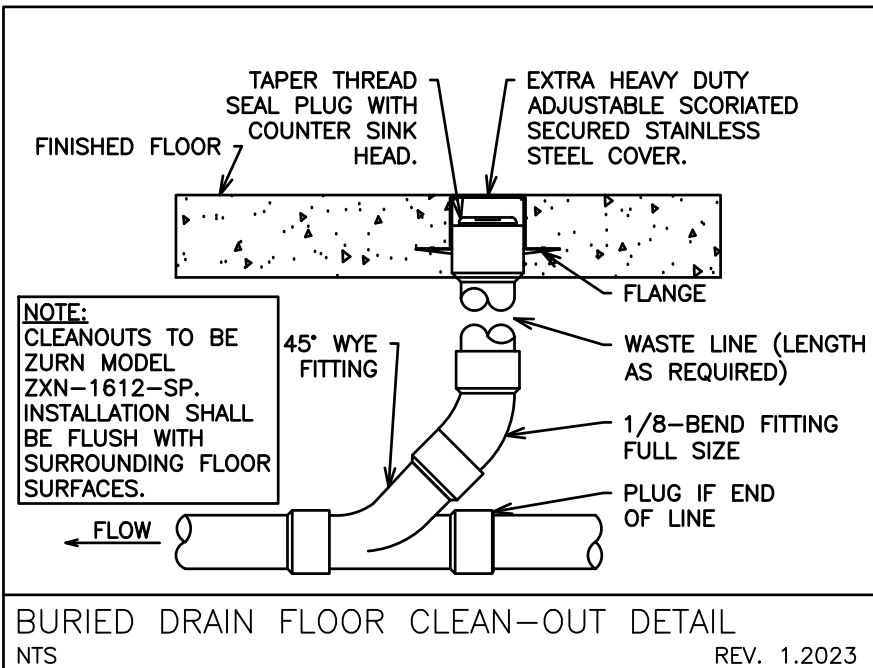


FIRE STOPPING DETAIL
NTS REV. 1.2023

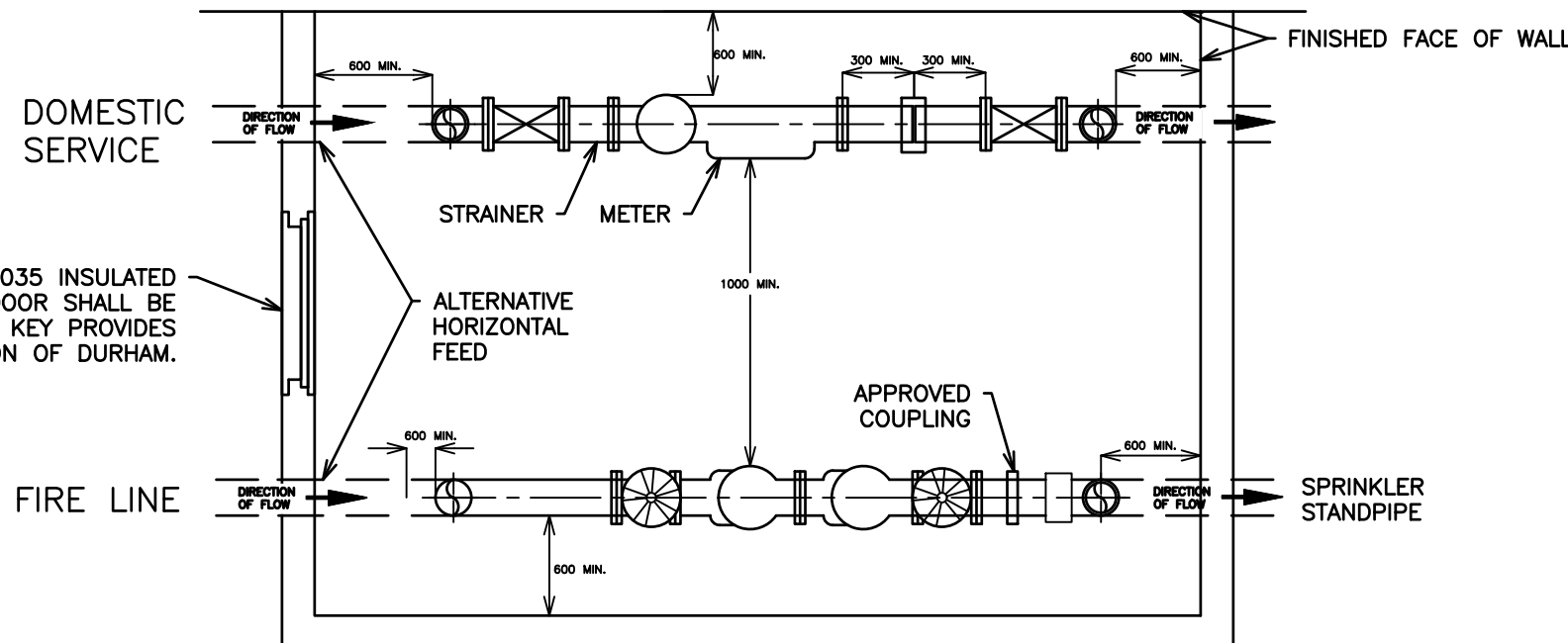


NOTES:
THE PIPE TO WALL PENETRATION CLOSURE SHALL BE "LINK-SEAL". SEALS SHALL BE MODULAR MECHANICAL TYPE, CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINK SHAPED TO CONTINUOUSLY FILL THE ANNULAR SPACE BETWEEN PIPE AND WALL OPENING. EACH LINK SHALL BE PROVIDED WITH PRESSURE PLATE UNDER EACH BOLT HEAD AND NUT. TIGHTENING OF BOLTS SHALL CAUSE THE RUBBER SEALING ELEMENTS TO EXPAND AND PROVIDE AN ABSOLUTELY WATERTIGHT SEAL BETWEEN PIPE AND WALL OPENING.

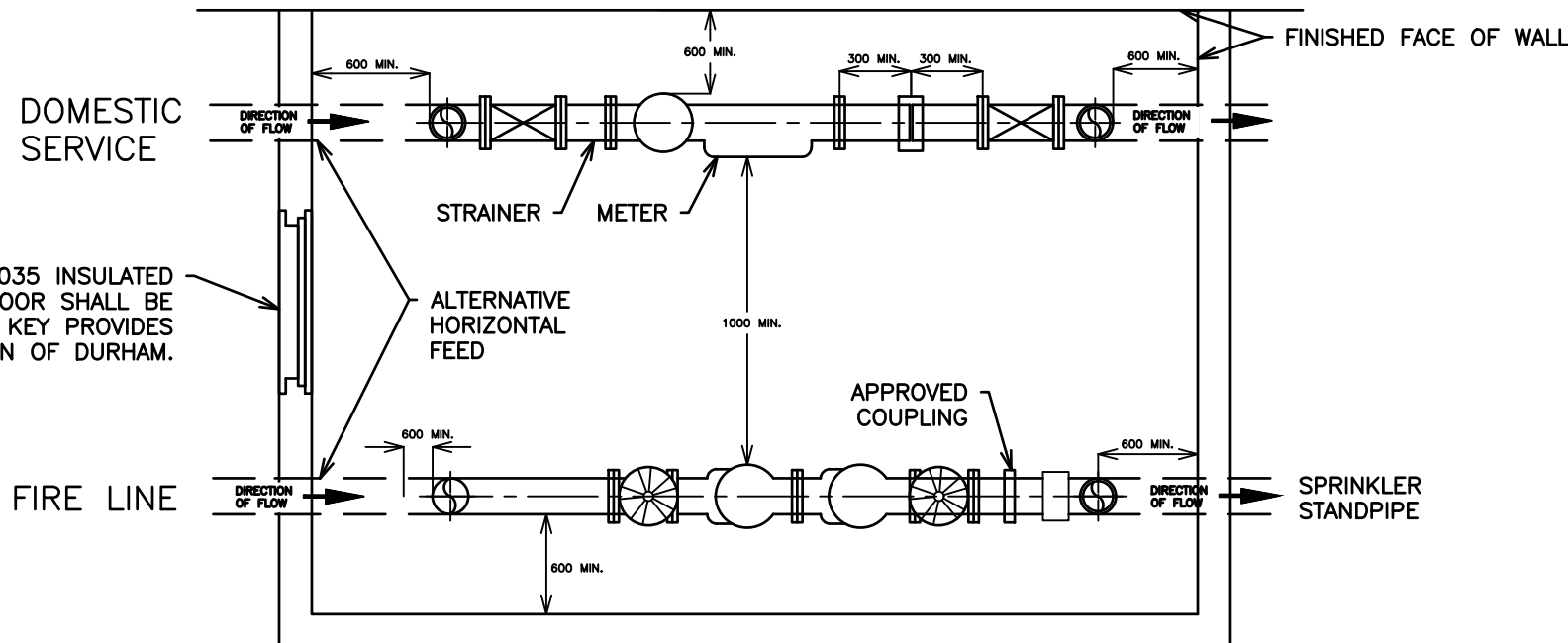
PIPE PENETRATION THROUGH EXTERIOR WALL DETAIL
NTS REV. 1.2023



BURIED DRAIN FLOOR CLEAN-OUT DETAIL
NTS REV. 1.2023



PLAN VIEW: TYPICAL VERTICAL DOMESTIC INSTALLATION/HORIZONTAL FIRE LINE INSTALTION



PLAN VIEW: TYPICAL DOMESTIC INSTALLATION/VERTICAL FIRE LINE INSTALTION

NOTES

1. FOR DETAILS OF BACKFLOW PREVENTION DEVICE SEE S-240.040.
2. FOR DETAILS OF DOMESTIC LINE LAYOUT SEE S-240.040.
3. FOR DETAILS OF METER, VALVE, PRO READ RECEPTACLE AND WIRE INSTALLATION SEE S-240.010.



WORKS DEPARTMENT

COMBINED METER ROOM,
BACKFLOW PREVENTION DEVICE
ROOM LAYOUT SPRINKLER
SYSTEM

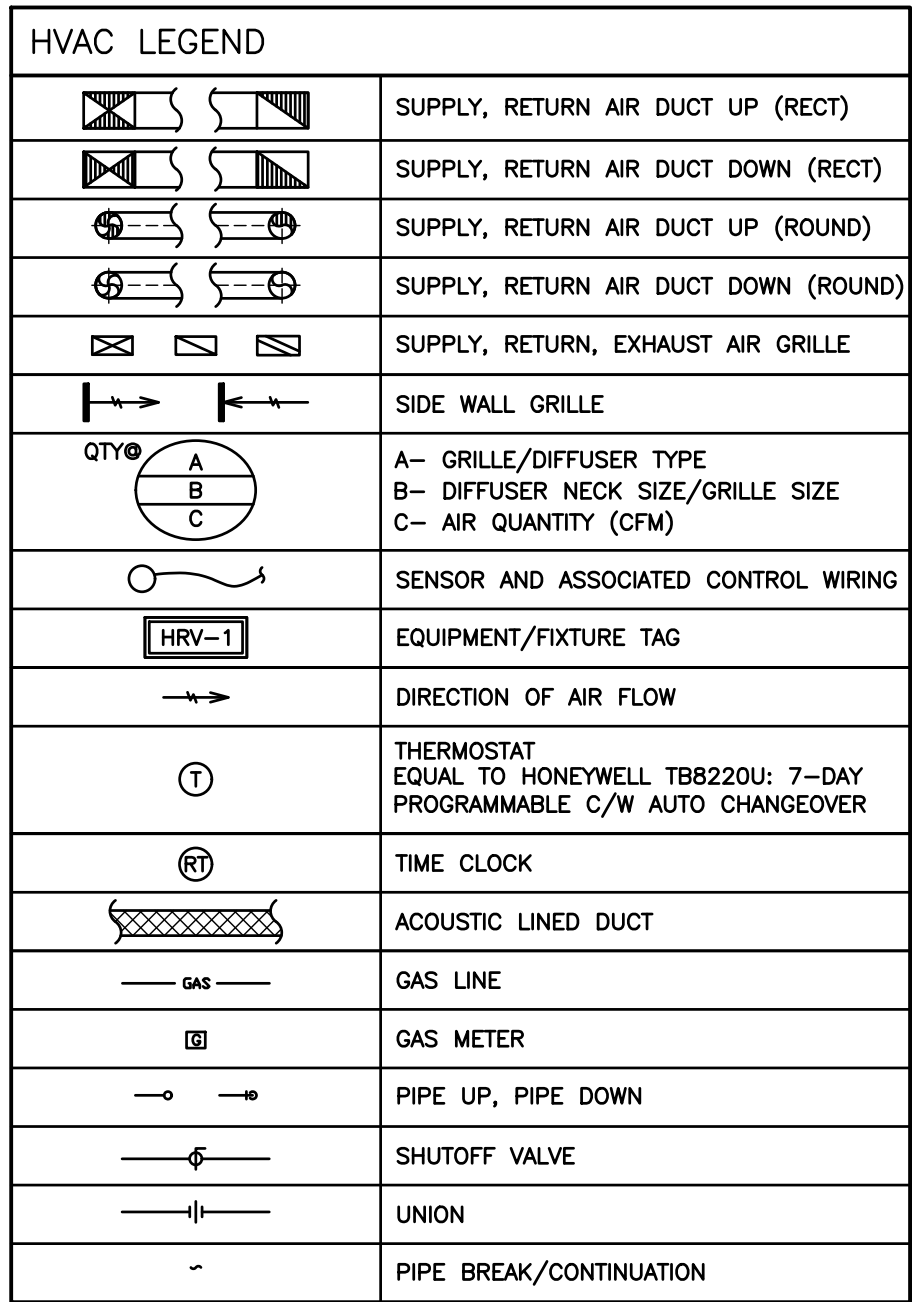
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JASS GILL
725 LAKE ROAD, BOWMANVILLE, ON
MECHANICAL PLUMBING
NOTES AND DETAILS



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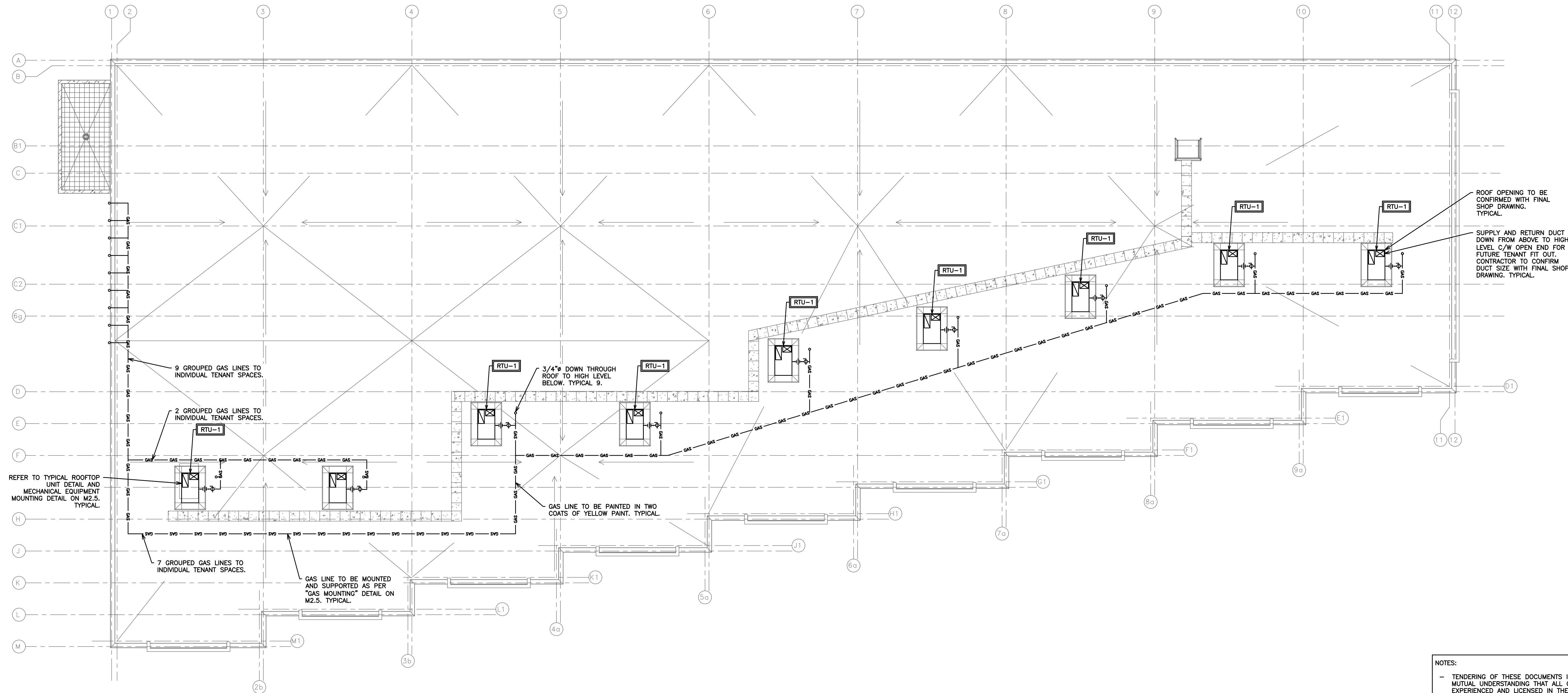


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17/10/2025
K:\STAFF\JOB FILES\123000\123081 JASS GILL LAKE ROAD\123081 DRAWINGS\123081 M2



REFER TO TYPICAL ROOFTOP UNIT DETAIL AND MECHANICAL EQUIPMENT MOUNTING DETAIL ON M2.5. TYPICAL.

9 GROUPED GAS LINES TO INDIVIDUAL TENANT SPACES.

2 GROUPED GAS LINES TO INDIVIDUAL TENANT SPACES.

7 GROUPED GAS LINES TO INDIVIDUAL TENANT SPACES.

GAS LINE TO BE MOUNTED AND SUPPORTED AS PER "GAS MOUNTING" DETAIL ON M2.5. TYPICAL.

3/4\"/>

GAS LINE TO BE PAINTED IN TWO COATS OF YELLOW PAINT. TYPICAL.

ROOF OPENING TO BE CONFIRMED WITH FINAL SHOP DRAWING. TYPICAL.
SUPPLY AND RETURN DUCT DOWN FROM ABOVE TO HIGH LEVEL C/W OPEN END FOR FUTURE TENANT FIT OUT. CONTRACTOR TO CONFIRM DUCT SIZE WITH FINAL SHOP DRAWING. TYPICAL.

- NOTES:
- TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.
 - ALL DETAILS SHOWN ARE SCHEMATIC BY NATURE AND ARE TO BE USED FOR SCOPE OF WORK PURPOSES ONLY. COORDINATE WITH ALL TRADES AND MANUFACTURERS BEST PRACTICES AND DIRECTIONS.
 - COORDINATE ALL ADDITIONAL PROVISIONS INCLUDING, BUT NOT LIMITED TO; COMBUSTION AIR AND VENTILATION AIR WITH GENERAL CONTRACTOR DURING TENDER PERIOD.

HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT UP (RECT)
	SUPPLY, RETURN AIR DUCT DOWN (RECT)
	SUPPLY, RETURN AIR DUCT UP (ROUND)
	SUPPLY, RETURN AIR DUCT DOWN (ROUND)
	SUPPLY, RETURN, EXHAUST AIR GRILLE
	SIDE WALL GRILLE
	A- GRILLE/DIFFUSER TYPE B- DIFFUSER NECK SIZE/GRILLE SIZE C- AIR QUANTITY (CFM)
	SENSOR AND ASSOCIATED CONTROL WIRING
	EQUIPMENT/FIXTURE TAG
	DIRECTION OF AIR FLOW
	THERMOSTAT EQUAL TO: HONEYWELL TB8220U: 7-DAY PROGRAMMABLE C/W AUTO CHANGEOVER
	TIME CLOCK
	ACOUSTIC LINED DUCT
	GAS LINE
	GAS METER
	PIPE UP, PIPE DOWN
	SHUTOFF VALVE
	UNION
	PIPE BREAK/CONTINUATION

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725 LAKE ROAD, BOWMANVILLE, ON

MECHANICAL HVAC
BUILDING 2 ROOF PLAN

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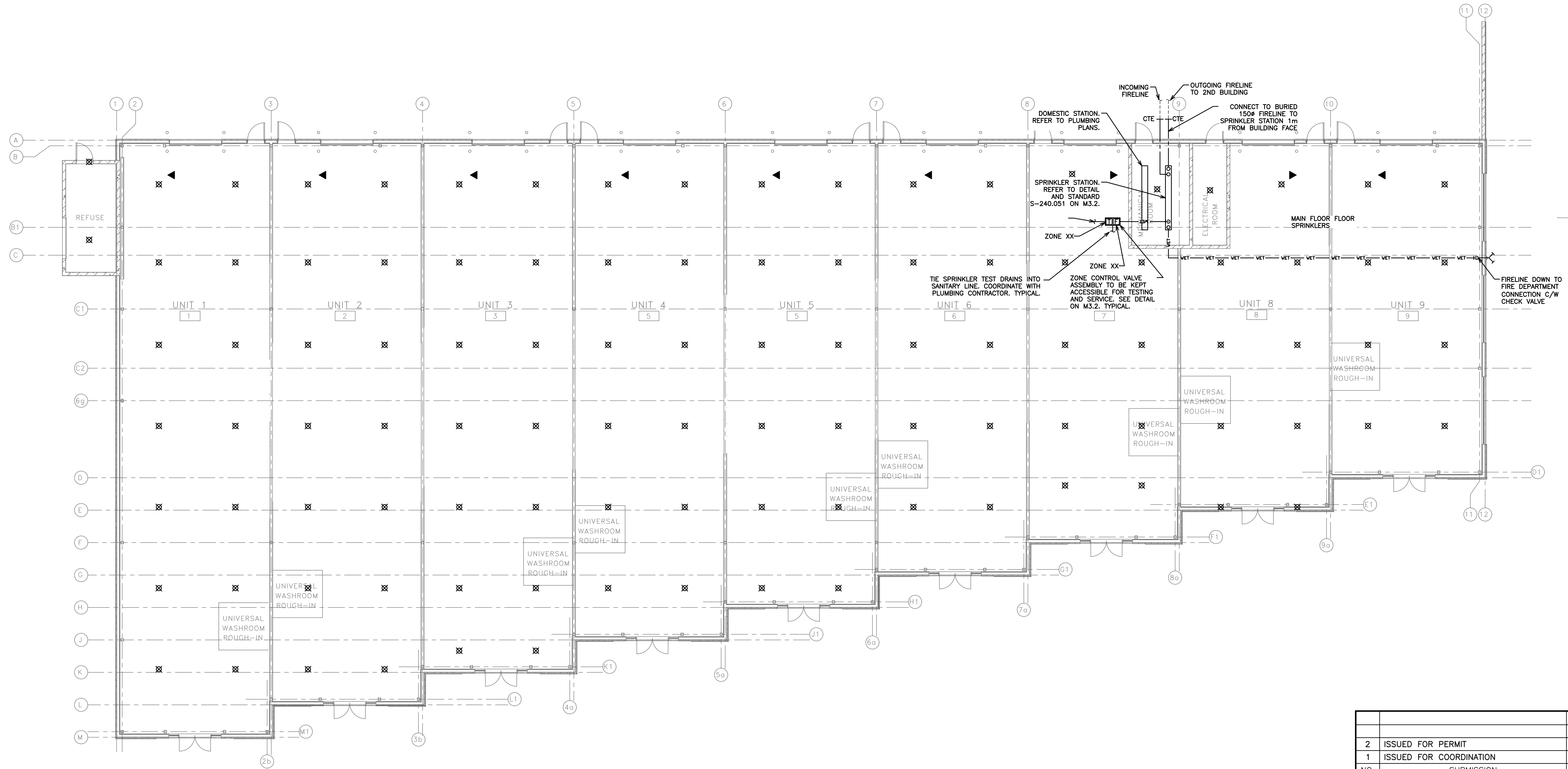
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SPRINKLER LEGEND	
—VET—VET—VET—	SPRINKLER LINE
●	SEMI-RECESSED PENDENT SPRINKLER HEAD C/W ESCUTCHEON
⊗	UPRIGHT SPRINKLER HEAD
▲	SIDEWALL SPRINKLER HEAD
~	PIPE BREAK/CONTINUATION

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**MECHANICAL SPRINKLER
BUILDING 2 LAYOUT**

D.G. BIDDLE & ASSOCIATES
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DRAWING NO.:	M3.1

FIRE PROTECTION NOTES:

THE ENTIRE BUILDING IS SPRINKLERED. IN HEATED AREAS A WET SPRINKLER SYSTEM WILL BE PROVIDED. IN UNHEATED AREAS A DRY SPRINKLER SYSTEM WILL BE PROVIDED. THE CONTRACTOR SHALL PROVIDE A HYDRAULICALLY DESIGNED STANDPIPE AND SPRINKLER SYSTEM TO THE APPROVAL OF LOCAL AUTHORITIES. THE DESIGN DOCUMENTS SHALL BE SEALED BY A PROFESSIONAL ENGINEER.

THESE DRAWINGS ARE INTENDED TO ESTABLISH BASIC GUIDELINES, ASSUME FULL RESPONSIBILITY FOR THE LAYOUT AND DETAILS OF ALL FIRE PROTECTION WORK TO MEET THE REQUIREMENTS OF N.F.P.A. & GOVERNING CODES OR REGULATIONS AND TO THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION AND INSURER FOR THE OWNER.

USE THE LATEST MECHANICAL, ELECTRICAL, ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS FOR LAYOUTS AND INSTALLATIONS.

CONTRACTOR TO PROVIDE HYDRAULIC FIRE PROTECTION CALCULATIONS AND FIRE PROTECTION DRAWINGS IN SHOP DRAWING FORMAT TO THE AUTHORITIES HAVING JURISDICTION AND ONE COPY TO THE ENGINEER PRIOR TO ANY INSTALLATION.

HAZARDS

LIGHT HAZARD (0.1 gpm over 1500 sq.ft.)	ALL AREAS EXCEPT BELOW (INCLUDING ATTIC)
ORDINARY HAZARD I (0.15 gpm over 1500 sq.ft.)	STORAGE LOCKERS, MACHINE, GARBAGE, MECHANICAL AND ELECTRICAL ROOMS

SPRINKLER NOTES

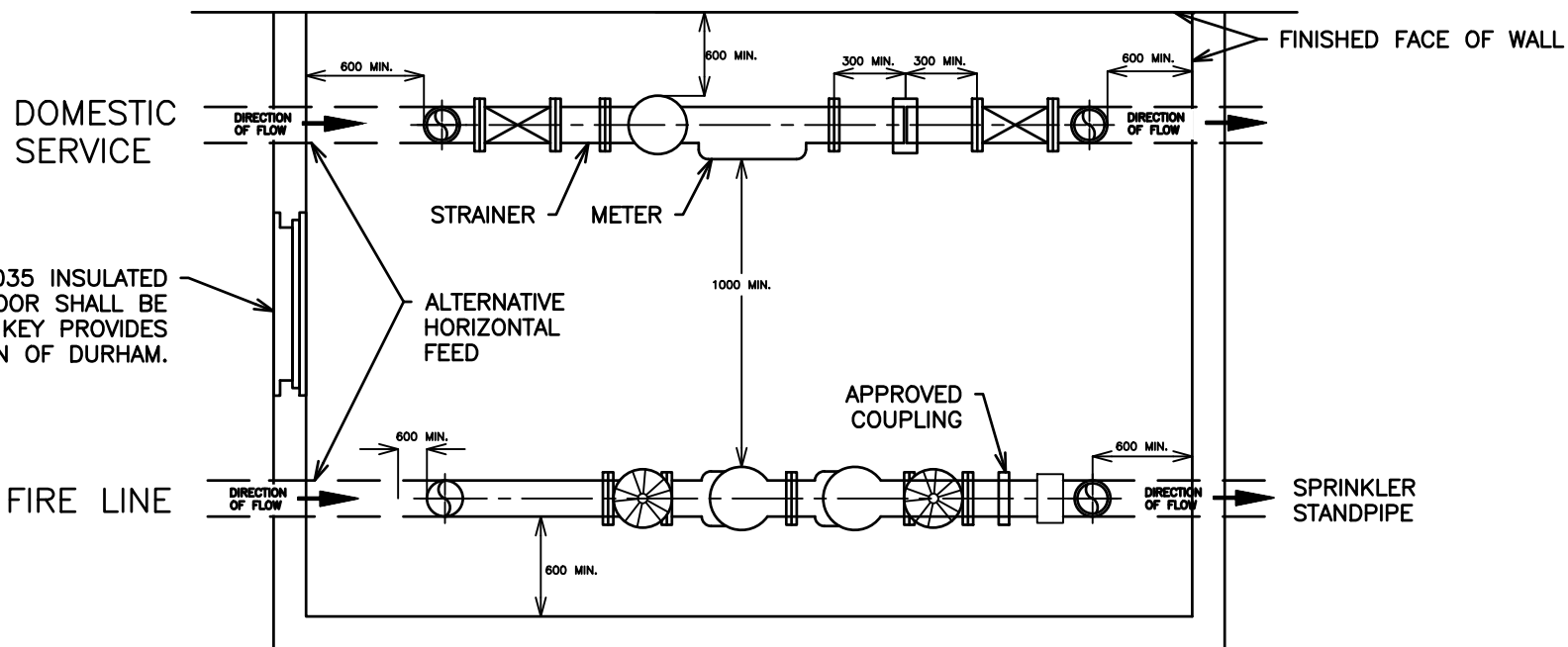
- CONFIRM EXISTING CONDITIONS PRIOR TO PRICING AND INSTALLATION.
- PROVIDE VALVES, HEADS, AND PIPING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SPRINKLER SYSTEM IN CONFORMANCE WITH NFPA 13 AND LOCAL CODES.
- PROVIDE FIRE EXTINGUISHERS AS PER DRAWINGS, NFPA 10, AND AS REQUIRED BY LOCAL FIRE PREVENTION SERVICES. ALLOW FOR FOUR (4) ADDITIONAL FIRE EXTINGUISHERS, FROM THAT SHOWN ON DRAWINGS AND TO BE LOCATED AT THE DISCRETION OF THE FIRE PREVENTION SERVICES.
- SPRINKLER CONTRACTOR TO COORDINATE WITH GRILLE, AND LIGHT LOCATIONS AND WITH MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO LOCATING SPRINKLER HEADS. CONTRACTOR IS TO VERIFY HEAD LAYOUT ON SITE TO ENSURE ADEQUATE COVERAGE AS PER NFPA 13.
- CONTRACTOR SHALL DETERMINE BEST ROUTING OF SPRINKLER PIPING BY COORDINATING WITH ALL DRAWINGS. REFER SPECIFICALLY TO M1-PLUMBING, M2-DUCTWORK AND GAS PIPING. COORDINATE WITH ALL OTHER TRADES ON SITE PRIOR TO INSTALLATION OF PIPING.
- CONCEAL ALL NEW PIPING IN CEILING SPACE OR BULKHEADS.
- PROVIDE ACCESS DOORS IN GYPROCK CEILINGS AND WALLS FOR ACCESS TO VALVES, ETC. WHERE REQUIRED.
- COORDINATE INTERLOCK OF SPRINKLER SYSTEM INTO FIRE ALARM SYSTEM WITH ELECTRICAL CONTRACTOR.
- ALL REQUIRED CUTTING AND CORING BY SPRINKLER CONTRACTOR. ALL PATCHING BY GENERAL CONTRACTOR.
- PROVIDE DESIGN DRAWINGS COMPLETE WITH HYDRAULIC CALCULATIONS FOR SUBMITTAL AND REVIEW BY ENGINEER AND REVIEWING AUTHORITIES.
- SYSTEM SHALL BE TESTED AS PER SPECIFICATIONS AND WITNESSED BY THE ENGINEER.
- COORDINATE TESTING OF DEVICES INTERLOCKED WITH FIRE ALARM SYSTEM WITH CONTRACTOR.
- PROVIDE MATERIAL AND TEST CERTIFICATES UPON COMPLETION OF INSTALLATION AND TESTING TO ENGINEER AND REVIEWING AUTHORITIES.

HANGING NOTES:

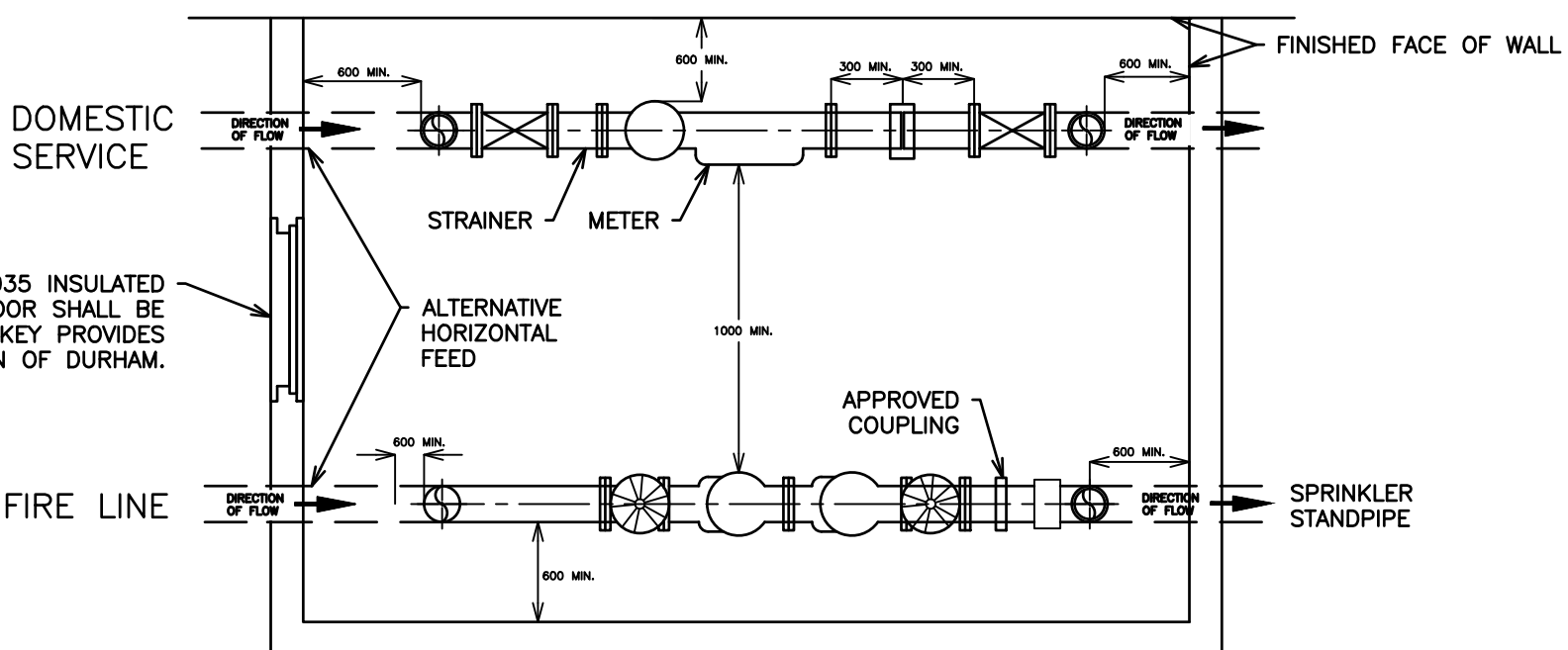
- STEEL PIPE
 - THE DISTANCE BETWEEN HANGERS SHALL NOT EXCEED 12'-0" FOR 1" AND 1-1/4" PIPE AND 15'-0" FOR 1-1/2" AND LARGER PIPES.
 - THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT BE GREATER 36" FOR 1" PIPE, 48" FOR 1-1/4" PIPE AND 60" FOR 1-1/2" OR LARGER PIPE.
 - FOR UP TO AND INCLUDING 4" PIPE USE "ATR" FOR 6" PIPE USE "ATR 8 2"
- CPVC PIPE
 - THE DISTANCE BETWEEN HANGERS SHALL NOT EXCEED 8'-0" FOR 1" PIPE, 10'-0" FOR 1-1/4" TO 1-1/2" AND 12'-0" FOR 2" PIPE.

SPRINKLER INSTALLATION AND COORDINATION NOTES:

- ENTIRE BUILDING SHALL BE PROTECTED WITH SPRINKLER SYSTEM.
- SPRINKLER HEAD LAYOUT SHOWN FOR SCHEMATIC PURPOSES ONLY. THE SPRINKLER CONTRACTOR IS REQUIRED TO DESIGN AND INSTALL A COMPLETE SPRINKLER SYSTEM IN CONFORMANCE WITH NFPA 13-2016 UNDER BASE CONTRACT.
- DESIGN DRAWINGS TO INCLUDE ALL PIPING COMPLETE WITH SIZES, VALVES, ASSOCIATED COMPONENTS AND HYDRAULIC CALCULATIONS.
- NO EXTRA TO BE PROVIDED FOR ADDITIONAL SPRINKLER HEAD REQUIREMENTS. SPRINKLER HEADS SHOWN FOR SCHEMATIC PURPOSES ONLY. THE SPRINKLER CONTRACTOR IS REQUIRED TO DESIGN AND INSTALL A COMPLETE SPRINKLER SYSTEM.
- TYPICAL BULKHEADS DETAILS ARE FOR ILLUSTRATION ONLY. CONTRACTOR IS RESPONSIBLE FOR REVIEWING ARCHITECTURAL DRAWINGS FOR CEILING PLANS WHEN PRICING PROJECT. FINAL SITE COORDINATION BETWEEN ALL TRADES WILL DETERMINE ACTUAL ROUTING.
- COORDINATE SHARED SPACES WITH GAS PIPING, HVAC DUCTWORK AND PLUMBING PIPING.
- CLEARANCES TO BUILDING SERVICES/EQUIPMENT INCLUDING LIGHTING FIXTURES AND HVAC SYSTEMS SHALL BE IN CONFORMANCE WITH NFPA 13-2016 REQUIREMENTS.
- REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS.
- ALL VALVES TO BE SUPERVISED BY FIRE ALARM SYSTEM AND LABELED TO MATCH FIRE ALARM SYSTEM.
- TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.
- SPRINKLER SYSTEM IS TO BE INSTALLED OR EXTENDED IN CONFORMANCE WITH THE ONTARIO BUILDING CODE DIV. B. 3.2.5 & NFPA 13-2013.
- PORTABLE FIRE EXTINGUISHERS MUST BE INSTALLED IN CONFORMANCE WITH THE ONTARIO FIRE CODE.



PLAN VIEW: TYPICAL VERTICAL DOMESTIC INSTALLATION/HORIZONTAL FIRE LINE INSTULATION



PLAN VIEW: TYPICAL DOMESTIC INSTALLATION/VERTICAL FIRE LINE INSTULATION

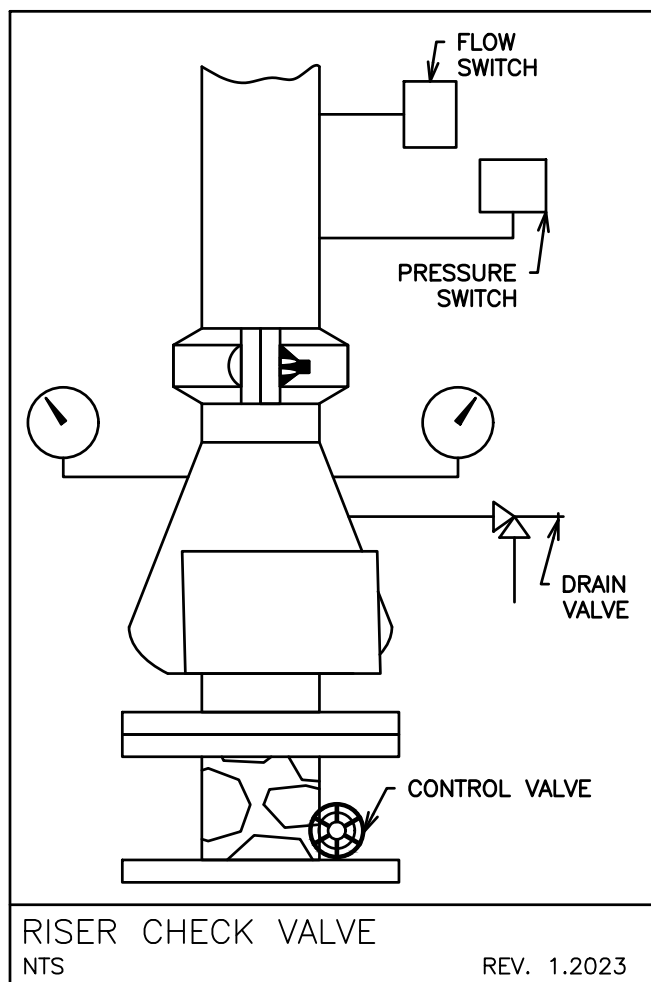
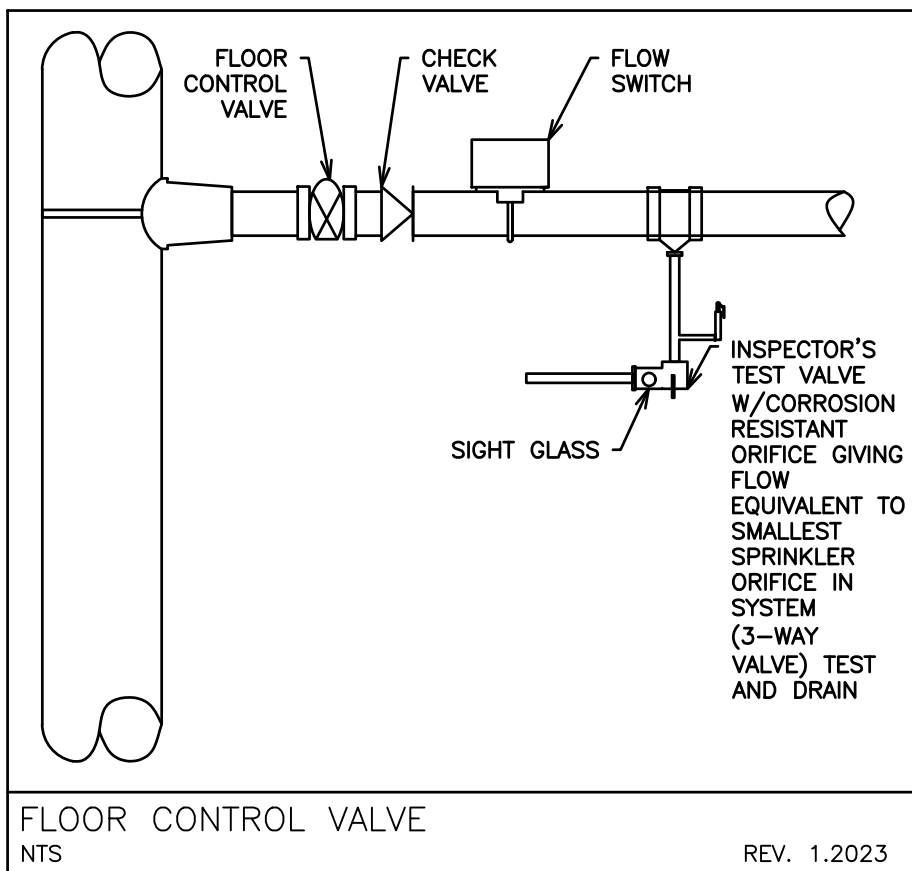
NOTES

- FOR DETAILS OF BACKFLOW PREVENTION DEVICE SEE S-240.040.
- FOR DETAILS OF DOMESTIC LINE LAYOUT SEE S-240.040.
- FOR DETAILS OF METER, VALVE, PRO READ RECEPTACLE AND WIRE INSTALLATION SEE S-240.010.



COMBINED METER ROOM, BACKFLOW PREVENTION DEVICE ROOM LAYOUT SPRINKLER SYSTEM

DWG. DATE 2008 04
REVISION NO.: 1
REV. DATE: 2013 04
SCALE: N.T.S.
S-240.051

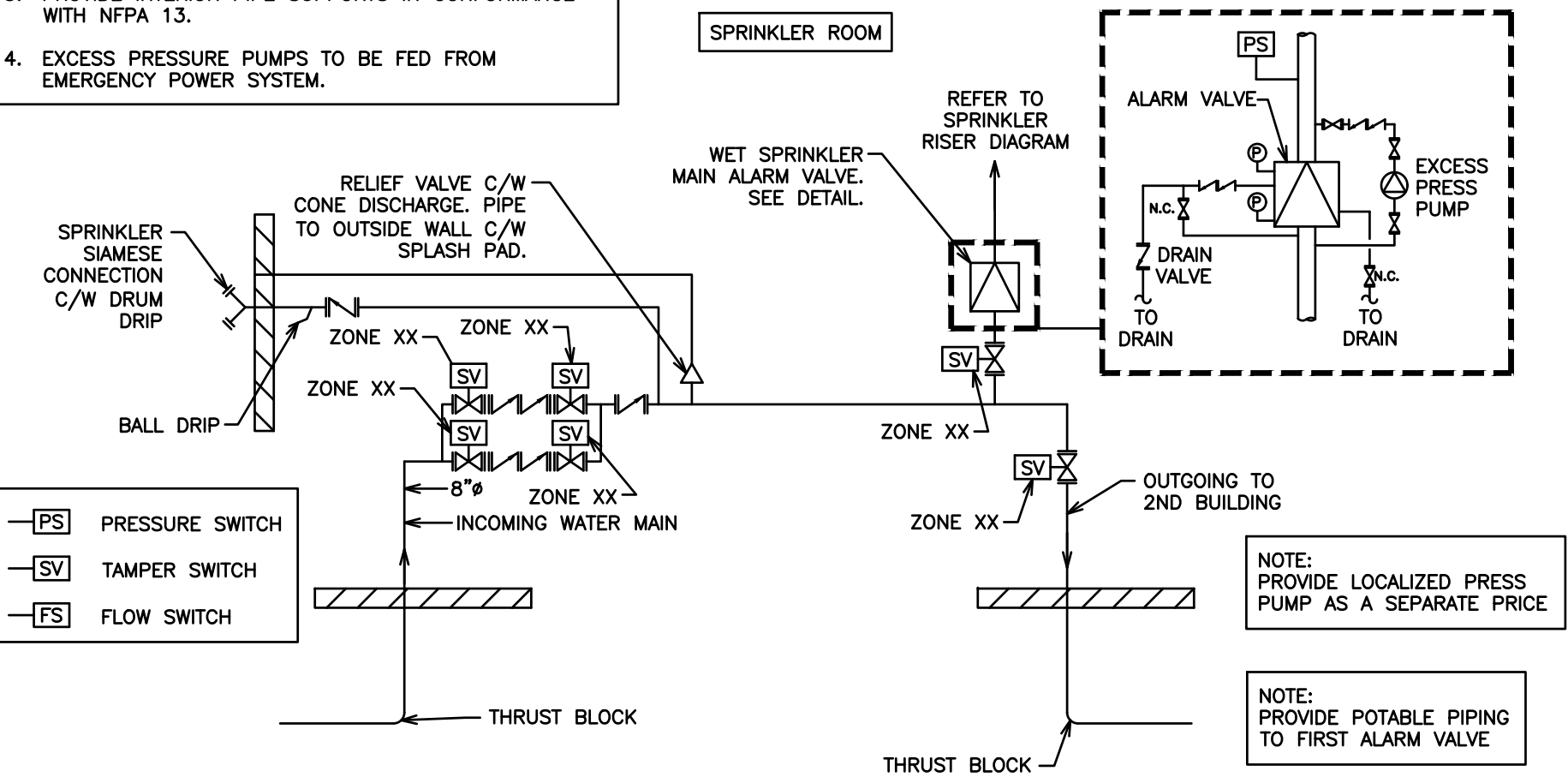


NOTES

- ALL VALVES MUST BE MONITORED THROUGH FIRE ALARM SYSTEM. COORDINATE TIE-IN OF ALL SPRINKLER SUPERVISORIES AND ALARMS INTO FIRE ALARM SYSTEM. COORDINATE WITH FIRE ALARM CONTRACTOR.
- PROVIDE THRUST BLOCKS AND INTERIOR SUPPORTS FOR WATER MAIN AS REQUIRED BY CODE AND LOCAL JURISDICTIONS.
- PROVIDE INTERIOR PIPE SUPPORTS IN CONFORMANCE WITH NFPA 13.
- EXCESS PRESSURE PUMPS TO BE FED FROM EMERGENCY POWER SYSTEM.

NOTE:

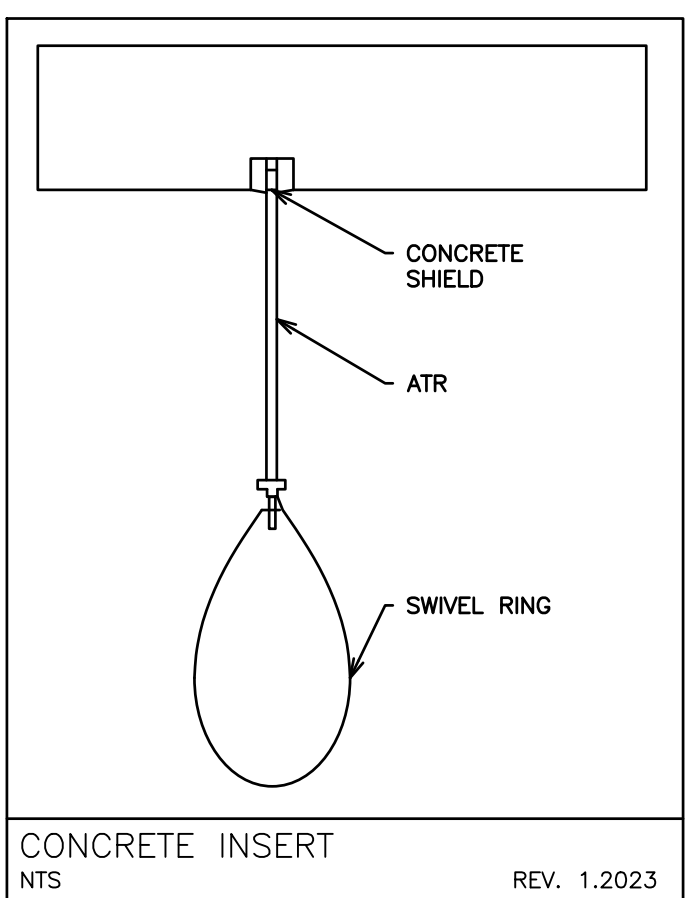
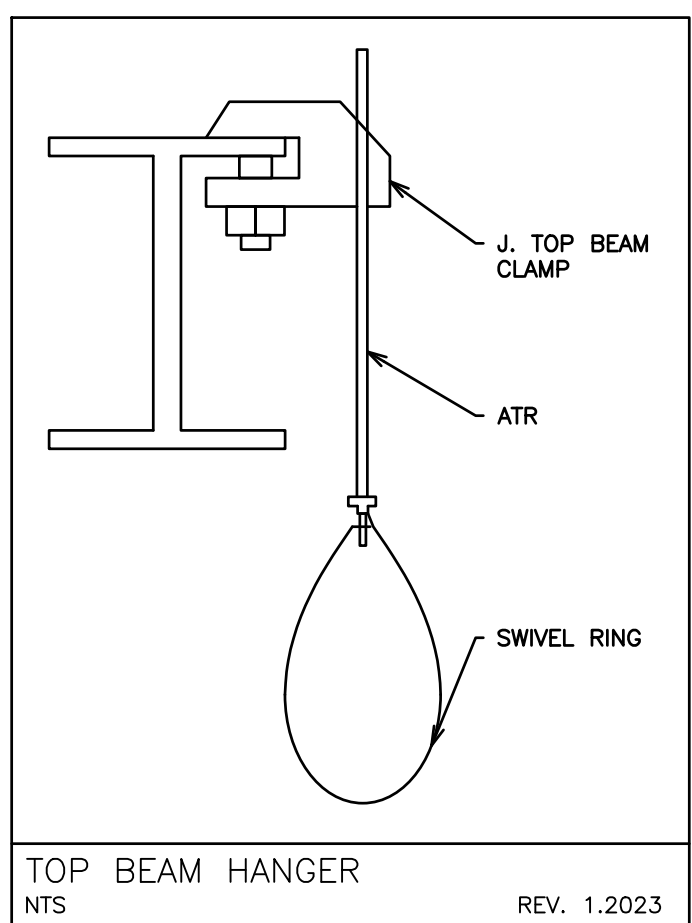
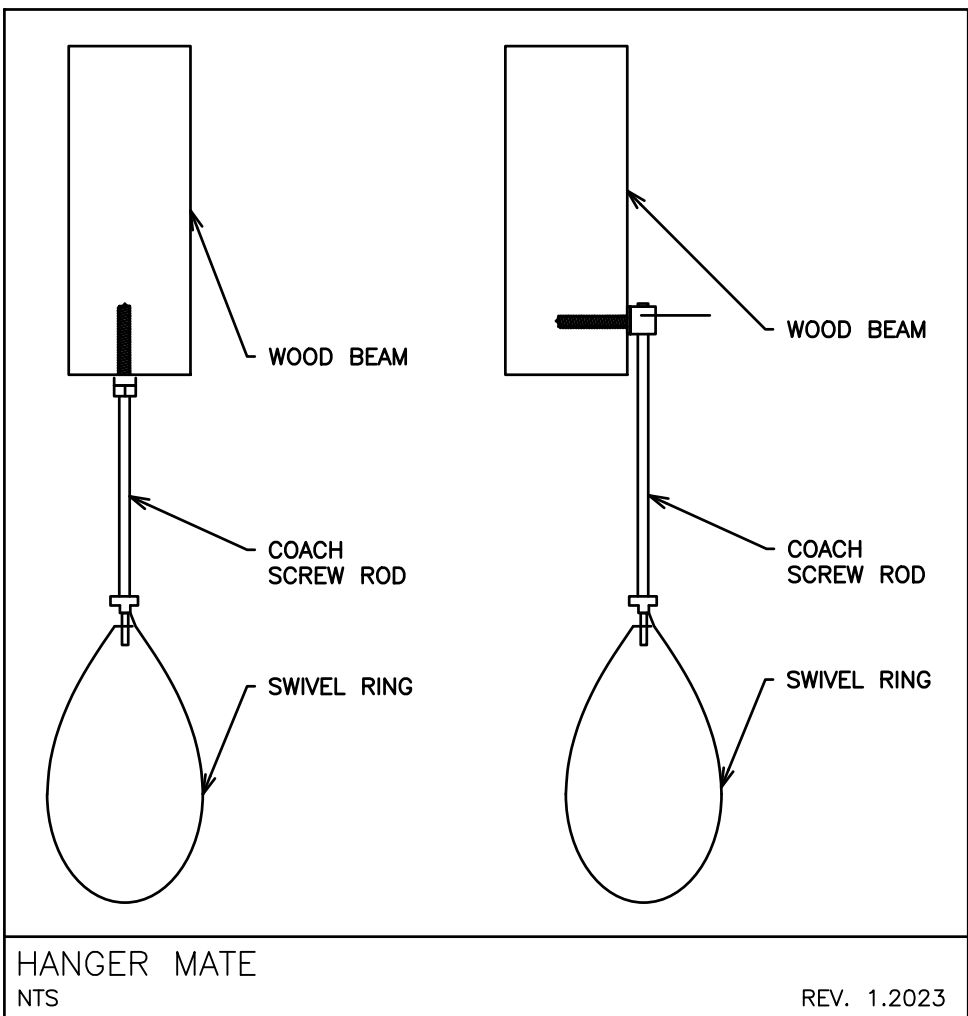
THIS DIAGRAM IS FOR COORDINATION AND GENERAL LAYOUT ONLY. THE FINAL SYSTEM DESIGN WILL BE PROVIDED BY A QUALIFIED FIRE PROTECTION CONSULTANT. IT IS THE DUTY OF THIS CONSULTANT TO COORDINATE THE ACTUAL NUMBER AND LOCATIONS OF DEVICES REQUIRING ELECTRICAL CONNECTIONS AND CONNECTIONS TO THE FIRE ALARM SYSTEM WITH THE ELECTRICAL AND OTHER TRADES AS REQUIRED. THE PIPE SIZING WILL BE PROVIDED BY THIS CONSULTANT BASED ON HYDRAULIC CALCULATIONS.



SPRINKLER VALVE STATION DETAIL

NTS

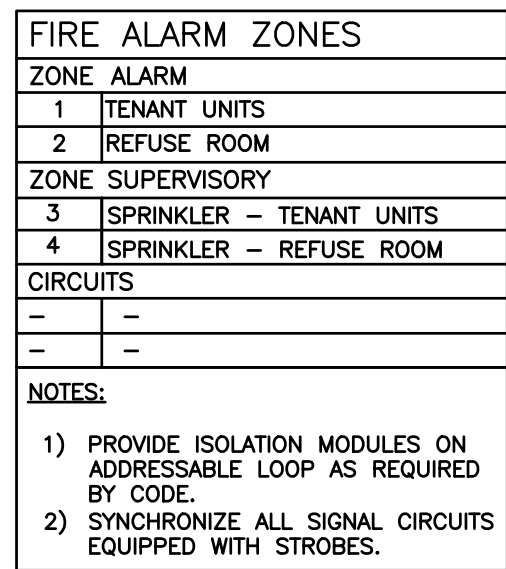
REV. 1.2023



GENERAL REQUIREMENTS FOR MECHANICAL WORK

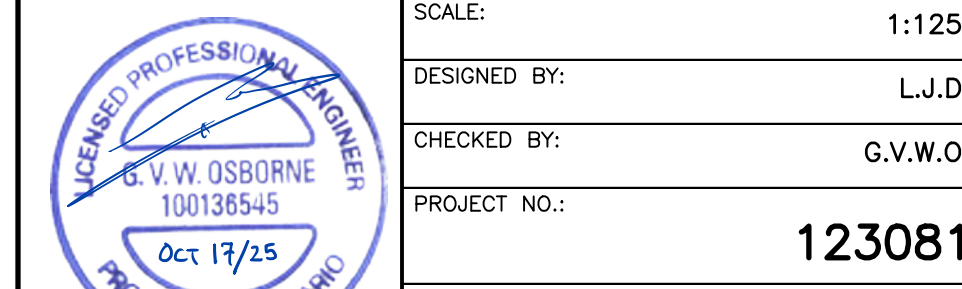
- SCOPE OF WORK
 - CONFORM TO THE APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS OF THE CONTRACT.
 - THE GENERAL MECHANICAL SPECIFICATIONS SHALL APPLY TO AND BE PART OF EACH OF THE SECTIONS COVERING THE MECHANICAL TRADES WORK.
 - COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE O.B.C., ALL OTHER APPLICABLE CODES, REGULATIONS, BY-LAWS AND OFFICIAL STANDARDS AND INTERPRETATIONS OF THE AUTHORITIES HAVING JURISDICTION. THESE CODES AND STANDARDS CONSTITUTE AN INTEGRAL PART OF THESE SPECIFICATIONS. IN CASE OF CONFLICT, THE CODES TAKE PRECEDENCE OVER THE CONTRACT DOCUMENTS.
- EXAMINATION OF SITE AND INFORMATION
 - EACH SUBCONTRACTOR, BEFORE PRICING, SHALL EXAMINE THE SITE, THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND THEY SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING CONSTRUCTION AND FINISH IN ORDER THAT THEIR TENDER MAY INCLUDE EVERYTHING NECESSARY FOR THE PROPER COMPLETION OF THE WORK.
- RELATIONSHIP TO OTHER TRADES
 - THIS SUBCONTRACTOR SHALL CONFER WITH ALL OTHER CONTRACTORS INSTALLING EQUIPMENT, PIPING, OTHER WORK, FOUNDATIONS, ETC., WHICH MAY AFFECT THEIR INSTALLATION, AND THEY SHALL ARRANGE THEIR EQUIPMENT, PIPING, ETC., IN PROPER RELATION WITH OTHER APPARATUS, AND WITH THE BUILDING CONSTRUCTION. THIS SUBCONTRACTOR SHALL ALSO CONFIRM THE ELECTRICAL CHARACTERISTICS OF THE PROJECT AND ORDER EQUIPMENT ACCORDINGLY.
 - SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF ALL WORK, TO SEE THAT THEY ALL COME WITHIN THE LIMITS ESTABLISHED BY THE FINISH LINES OF ALL WALLS, FLOORS, CEILINGS, ETC.
 - THIS SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR AND OTHER SUBCONTRACTORS WHO ARE CONCERNED, OF ALL OPENINGS, FOUNDATION WORK, HANGERS, INSERTS, ANCHORS, OR OTHER PROVISIONS NECESSARY IN THEIR WORK FOR THE INSTALLATION OF THE SUBCONTRACTORS WORK, AND THEY SHALL FURNISH ALL INFORMATION AND NECESSARY MATERIALS IN AMPLIFIED TIME SO THAT PROPER PROVISIONS CAN BE MADE FOR SAME, AND SHALL SUPPLY AND CORRECTLY AND ACCURATELY PLACE ALL INSERTS, SLEEVES, ANCHORS, ETC.
 - FAILURE TO COMPLY WITH THESE REQUIREMENTS ON THE PART OF THIS SUBCONTRACTOR WILL RENDER THEM RESPONSIBLE FOR THE COST OF CUTTING OPENINGS, INSTALLING HANGERS AND OTHER PROVISIONS AT A LATER DATE, AND THE SUBSEQUENT PATCHING, ETC., THEREBY REQUIRED.
 - NO CUTTING SHALL BE DONE WITHOUT PERMISSION. ALL SUCH WORK SHALL BE DONE BY TRADES-PERSONS SKILLED IN AND CERTIFIED FOR THIS PARTICULAR TRADE.
 - EACH SUBCONTRACTOR IS TO BE AN EXPERT IN THEIR TRADE.
- REQUIREMENTS OF INSPECTION DEPARTMENTS
 - ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN EACH CASE, PARTICULARLY ALL AFFECTED DEPARTMENTS OF THE MUNICIPALITY AND PROVINCE. ELECTRICAL EQUIPMENT SUPPLIED MUST CONFORM TO THE REGULATIONS OF CSA AND THE LOCAL UTILITY. ANYTHING NECESSARY TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS SHALL BE PROVIDED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNERS IF IT REASONABLY COULD HAVE BEEN FORESEEN WHEN TENDERING.
 - EACH SUBCONTRACTOR SHALL PREPARE DRAWINGS IN ADDITION TO ENGINEER'S DRAWINGS AS MAY BE REQUIRED BY VARIOUS INSPECTION DEPARTMENTS HAVING JURISDICTION, AND OBTAIN THEIR APPROVAL BEFORE PROCEEDING WITH THE WORK.
 - IN THE EVENT THAT THE INSPECTION DEPARTMENT'S REQUEST DEVIATES FROM THE ENGINEER'S LAYOUT, THE SUBCONTRACTOR SHALL CONSULT ENGINEER BEFORE PROCEEDING WITH THE SAME. IT SHALL BE NOTED THAT ENGINEER'S DRAWINGS ARE GENERALLY ACCEPTABLE TO INSPECTION DEPARTMENTS AND MINOR SUPPLEMENTS NEED ONLY BE MADE BY SUBCONTRACTORS.
- CERTIFICATES, PERMITS, FEES
 - SUBCONTRACTORS SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES INCLUDING PAYMENT FOR STREET CONNECTIONS TO STORM, SANITARY, WATER AND GAS IN ORDER THAT THE WORK HEREIN SPECIFIED MAY BE CARRIED OUT AND THEY SHALL FURNISH ANY CERTIFICATES NEEDED AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF THE MUNICIPALITY AND PROVINCE.
- GUARANTEE
 - 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 ONE FIRST-CLASS CONSTRUCTION AND PROPER EFFICIENT OPERATION, AND FREE FROM ANY DEFECTS. ANY SUCH DEFECTS WHICH MAY APPEAR IN ANY OF THE WORK WITHIN ONE YEAR AFTER WRITTEN ACCEPTANCE OF THEIR WORK, 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 ITEMS OF EQUIPMENT.
 - ALL INJURIES TO ADJACENT WORK, PARTICULARLY PLASTER, WOOD FINISHES OR OTHER MATERIALS, OR DAMAGE TO OTHER EQUIPMENT, CAUSED BY SUCH DEFECTS OF THIS SUBCONTRACTOR'S WORK OR BY SUBSEQUENT REPLACEMENT AND REPAIR, SHALL BE MADE GOOD AT THE EXPENSE OF THIS SUBCONTRACTOR. ALL REPAIR WORK SHALL BE DONE BY TRADES RESPONSIBLE FOR THE ORIGINAL WORK.
- DRAWINGS
 - THE DRAWINGS SHOW THE APPROXIMATE LOCATION FOR SPECIAL APPARATUS AND THE MATERIALS THROUGHOUT THE BUILDING. THE ARRANGEMENT SHOWN ON THE DRAWING IS MORE OR LESS DIAGRAMMATIC AND AS SUCH APPROXIMATE ONLY, AND MAY BE ALTERED, AS APPROVED BY THE ENGINEER, TO MEET REQUIREMENTS OF THE APPARATUS, ETC., AND OF THE BUILDING. EACH SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL MEASUREMENTS FOR THEIR WORK THROUGHOUT, AND THEY SHALL ARRANGE THEIR PIPING, WIRING AND APPARATUS TO CONFORM TO THE ARCHITECTURAL AND STRUCTURAL DETAILS IN A SATISFACTORY MANNER AND SHALL CO-OPERATE WITH OTHER CONTRACTORS TO ENSURE THAT WORK SHALL MEET ALL REQUIREMENTS OF DIVERSE CONTRACTS.
 - ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFIED OR SPECIFIED BUT NOT SHOWN SHALL BE INCLUDED. 7.2. ITEMS OBVIOUSLY REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM BUT NOT SPECIFIED NOR SHOWN SHALL BE INCLUDED.
- RESPONSIBILITY AND LIABILITY
 - EACH SUBCONTRACTOR SHALL SUPERVISE THE LAYING OUT OF THEIR WORK AND SHALL ARRANGE IT IN CO-OPERATION WITH OTHER WHO MAY BE WORKING ON THE PREMISES WHILE THE WORK OF THIS CONTRACT IS IN PROGRESS. THEY SHALL PROTECT FINISHED AND UNFINISHED WORK OF THIS CONTRACT AND/OR WORK OF OTHERS ON THE PREMISES UNTIL THE COMPLETED WORK HAS BEEN ACCEPTED.
 - THE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES FOUND IN THE DRAWINGS OR SPECIFICATIONS BEFORE SUBMITTING THEIR TENDER. THEY SHALL ABIDE BY DECISIONS GIVEN TO THEM IN WRITING WITH REGARD TO SAME. EACH SUBCONTRACTOR IS CAUTIONED THAT THE WORK AS SHOWN IS INTENDED TO BE COMPLETE IN ALL RESPECTS AND THAT FAILURE ON THEIR PART TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES WILL NOT RELIEVE THEM OF THE RESPONSIBILITY OF COMPLETING THE WORK AS INTENDED AT THE CONTRACT PRICE.
- CLEAN-UP
 - DURING THE COURSE OF CONSTRUCTION, EACH SUBCONTRACTOR SHALL KEEP THEIR WORK TIDY AND NOT ALLOW AN ACCUMULATION OF DEBRIS RESULTING FROM THEIR WORK.
 - UPON COMPLETION OF THEIR WORK THEY SHALL LEAVE THE PREMISES IN A BROOM-CLEAN CONDITION.
- PROTECTION
 - SUBCONTRACTORS ARE TO PROTECT THEIR WORK FROM CONSTRUCTION DIRT OR DAMAGE FROM ANY CAUSE. SECURELY PLUG AND CAP ALL OPENINGS IN PIPE, EQUIPMENT AND FIXTURES TO PREVENT OBSTRUCTIONS.
- ELECTRICAL WIRING AND CONTROLS
 - ALL POWER WIRING FOR MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL DIVISION. THE MECHANICAL TRADE INVOLVED SHALL PROVIDE STARTERS, THERMOSTATS, VALVES, CONTROL TRANSFORMERS, RELAYS, ETC. ALL CONTROL WIRING SHALL BE DONE BY THE MECHANICAL CONTRACTOR, UNLESS OTHERWISE NOTED ELSEWHERE IN THIS SPECIFICATION.

2	ISSUED FOR PERMIT	OCT 2025
1	ISSUED FOR COORDINATION	SEPT 2025
NO.	SUBMISSION	DATE
JASS GILL 725 LAKE ROAD, BOWMANVILLE, ON		
MECHANICAL SPRINKLER NOTES AND DETAILS		
96 King Street East Oshawa, Ontario, L1H 1B6 Phone: 905-576-8500 info@dgbiddle.com dgbiddle.com		
		SCALE: 1:125
DESIGNED BY:		J.T.C.
CHECKED BY:		J.T.C.
PROJECT NO.:		123081
DRAWING NO.:		M3.2



2.	ISSUED FOR PERMIT	OCT 2025
1.	ISSUED FOR COORDINATION	AUG 2025
NO.	SUBMISSION	DATE

BUILDING 2
ELECTRICAL LAYOUT



9. RESPONSIBILITY AND LIABILITY

9.1. EACH SUBCONTRACTOR SHALL SUPERVISE THE LAYING OUT OF THEIR WORK AND SHALL ARRANGE IT IN CO-OPERATION WITH OTHERS WHO MAY BE WORKING ON THE PREMISES WHILE THE WORK OF THIS CONTRACT IS IN PROGRESS. THEY SHALL PROTECT FINISHED AND UNFINISHED WORK OF THIS CONTRACT AND/OR WORK OF OTHERS ON THE PREMISES UNTIL THE CONTRACTED WORK HAS BEEN ACCEPTED.

9.2. THE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES FOUND IN THE DRAWINGS OR SPECIFICATIONS. IF HE IS SUBMITTING THEIR TENDER, HE SHALL ABIDE BY DECISIONS GIVEN TO THEM IN WRITING WITH REGARD TO SAME. EACH SUBCONTRACTOR IS CAUTIONED THAT THE WORK AS SHOWN IS INTENDED TO BE COMPLETE IN ALL RESPECTS AND THEREFORE HE IS REQUESTED TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES WILL NOT RELIEVE THEM OF THE RESPONSIBILITY OF COMPLETION OF THE WORK AS INTENDED AT THE CONTRACT PRICE.

10. CLEAN-UP

10.1. DURING THE COURSE OF CONSTRUCTION, EACH SUBCONTRACTOR SHALL KEEP THEIR WORK TIDY AND NOT ALLOW AN ACCUMULATION OF DEBRIS RESULTING FROM THEIR WORK.

10.2. UPON COMPLETION OF THEIR WORK THEY SHALL LEAVE THE PREMISES IN A BROOM-CLEAN CONDITION.

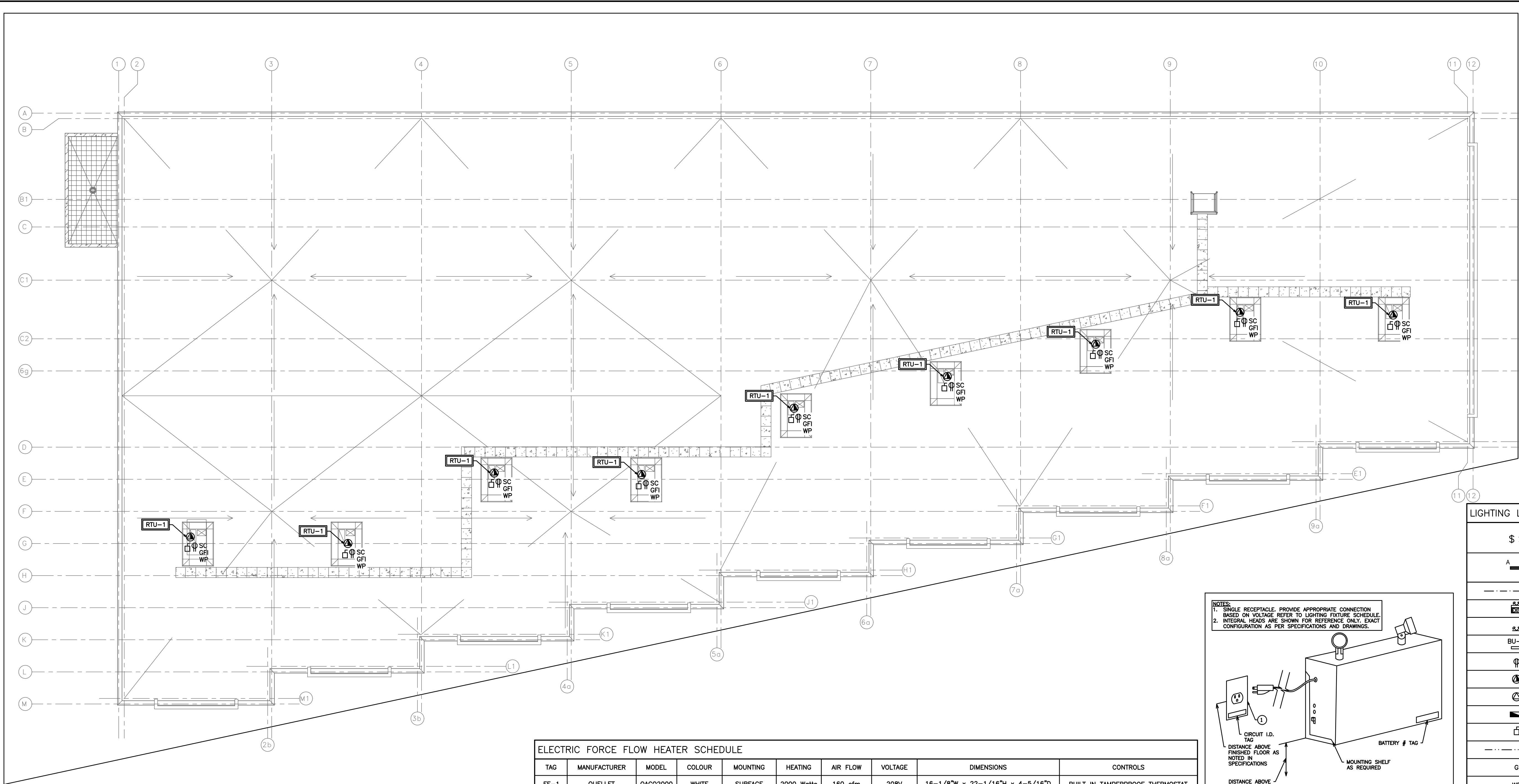
11. PROTECTION

11.1. SUBCONTRACTORS ARE TO PROTECT THEIR WORK FROM CONSTRUCTION DIRT OR DAMAGE FROM ANY CAUSE. SECURELY PLUG AND CAP ALL OPENINGS IN PIPE, EQUIPMENT AND FIXTURES TO PREVENT OBSTRUCTIONS.

12. ELECTRICAL WIRING AND CONTROLS

12.1. ALL POWER WIRING FOR MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL TRADE INVOLVED SHALL PROVIDE STARTERS, THERMOSTATS, VALVES, CONTROL TRANSFORMERS, RELAYS, ETC. ALL CONTROL WIRING SHALL BE DONE BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED OTHERWISE IN THIS SPECIFICATION.

NOTE:
ALL DETAILS SHOWN ARE
SCHEMATIC BY NATURE AND
ARE TO BE USED FOR SCOPE
OF WORK PURPOSES ONLY.
COORDINATE WITH ALL TRADE
AND MANUFACTURERS BEST
PRACTICES AND DIRECTIONS.



ELECTRICAL POWER & LIGHTING NOTES:

1. DISTRIBUTION PANELS TO BE LOCATED IN ELECTRICAL ROOM AND EACH UNIT.
2. PANEL SCHEDULES AND CIRCUITING BY MASTER ELECTRICIAN UNDER THEIR ESA PERMIT. THIS SCOPE TO BE CARRIED IN TENDER PRICE.
3. CABLE, VOICE AND DATA OUTLETS ARE SHOWN FOR SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATIONS WITH OWNER PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT.
4. REFER TO ARCHITECTURAL DOOR SCHEDULE FOR ALL DOOR POWER REQUIREMENTS. PROVIDE ANY POWER REQUIRED AND BREAKERS TO NEAREST AVAILABLE PANEL. REFER TO PANEL SCHEDULES AND ADD IN AS APPROPRIATE.
5. LIGHTING SHOWN IS FOR SCHEMATIC AND SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATION AND ORIENTATION ON SITE.
6. ALL SWITCHES AND CONTROLS WITH BARRIER-FREE AREAS TO BE MOUNTED AS PER O.B.C. 3.8.1.5.(1)(C). ALL SWITCHES IN BARRIER FREE AREA SHALL BE MOUNTED NO LESS THAN 900MM AND NOT MORE THAN 1100MM ABOVE FINISHED FLOOR. SWITCHES FOR ALL OTHER AREAS SHALL BE MOUNTED AT 1100MM ABOVE FINISHED FLOOR. ALL RECEPTACLES SHALL BE MOUNTED AT 450MM ABOVE FINISHED FLOOR TO THE TOP OF THE FACEPLATE.
8. CONTRACTOR TO COORDINATE EXACT LOCATIONS, QUANTITIES AND SPECIFICATIONS OF ALL LIGHTING ON-SITE WITH OWNER PRIOR TO COMMENCEMENT OF WORK.
9. CONTRACTOR TO COORDINATE AN ADDITIONAL LIGHTING, RECEPTACLE AND COMMUNICATION OUTLET REQUIREMENTS WITH CLIENT PRIOR TO COMMENCEMENT OF WORK.
10. CONTRACTOR TO PROVIDE ALL DISCONNECTS, STARTERS, AND ANY OTHER DEVICES NECESSARY FOR COMPLETE AND WORKING SYSTEM. NOT ALL MOTOR DISCONNECTS ARE SHOWN.
11. REFER TO SITE LIGHTING PHOTOMETRIC DRAWINGS BY OTHERS FOR EXTERIOR BUILDING AND LOT LIGHTING.

LIGHTING LEGEND

\$ S	SINGLE POLE, SINGLE THROW TOGGLE SWITCH, ONE, TWO, OR THREE GANGED ('3' DENOTES 3-WAY)
A	SUSPENDED 4' LED STRIP LIGHT, 120V/1PH
---	SWITCHWIRING
EXIT	EXIT SIGN WITH EMERGENCY LIGHTING EQUAL TO LUMACELL LAC WITH BACK-UP BATTERY PACK
2x##	DOUBLE HEAD EMERGENCY LIGHT EQUAL TO LUMACELL MQM2LD10
BU-1	BACK UP BATTERY PACK
⊕	RECEPTACLE
⊕	208V POWER SUPPLY
⊕	120V POWER SUPPLY
⊕	ELECTRICAL PANEL
⊕	ELECTRICAL DISCONNECT
---	WIRING
GFI	GFI RATED RECEPTACLE
WP	WEATHERPROOF
SC	SEPARATE CIRCUIT
FF-1	EQUIPMENT/FIXTURE TAG
⊕	SPRINKLER FLOW SWITCH
⊕	SUPERVISORY VALVE

ELECTRIC FORCE FLOW HEATER SCHEDULE

TAG	MANUFACTURER	MODEL	COLOUR	MOUNTING	HEATING	AIR FLOW	VOLTAGE	DIMENSIONS	CONTROLS
FF-1	OUELLET	OAO2000	WHITE	SURFACE	2000 Watts	160 cfm	208V	16-1/8"W x 22-1/16"H x 4-5/16"D	BUILT IN TAMPERPROOF THERMOSTAT

NOTES: ADDITIONAL COSTS INCURRED AS A RESULT OF ANY ALTERNATIVE MODELS ARE AT THE EXPENSE OF THE CONTRACTOR. CONFIRM WITH ALL DRAWINGS & SITE CONDITIONS PRIOR TO ORDERING.

ELECTRIC BASEBOARD HEATER SCHEDULE

TAG	MANUFACTURER	MODEL	COLOUR	HEATING	VOLTAGE	DIMENSIONS	CONTROLS
BB-1	OUELLET	OFM1000	WHITE	1000 WATTS	208/240V	47-1/2"L x 5-13/16"H x 2-7/16"D	BUILT IN TAMPERPROOF THERMOSTAT

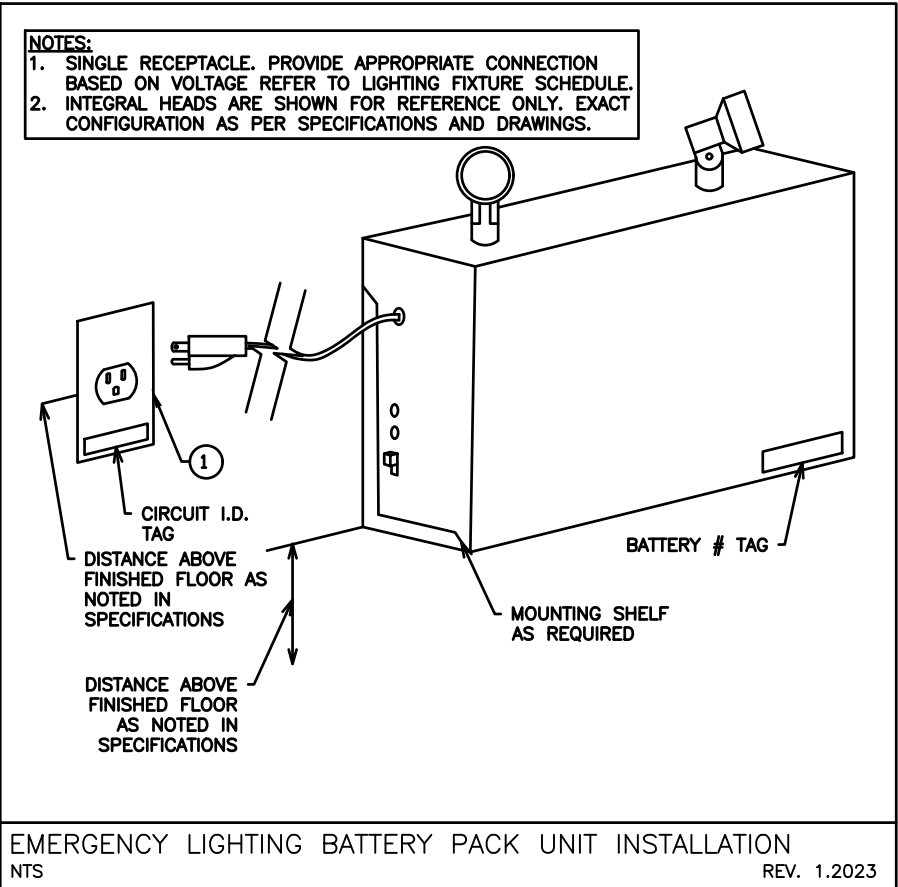
NOTES: ADDITIONAL COSTS INCURRED AS A RESULT OF ANY ALTERNATIVE MODELS ARE AT THE EXPENSE OF THE CONTRACTOR.

EMERGENCY LIGHT BACK-UP UNIT SCHEDULE

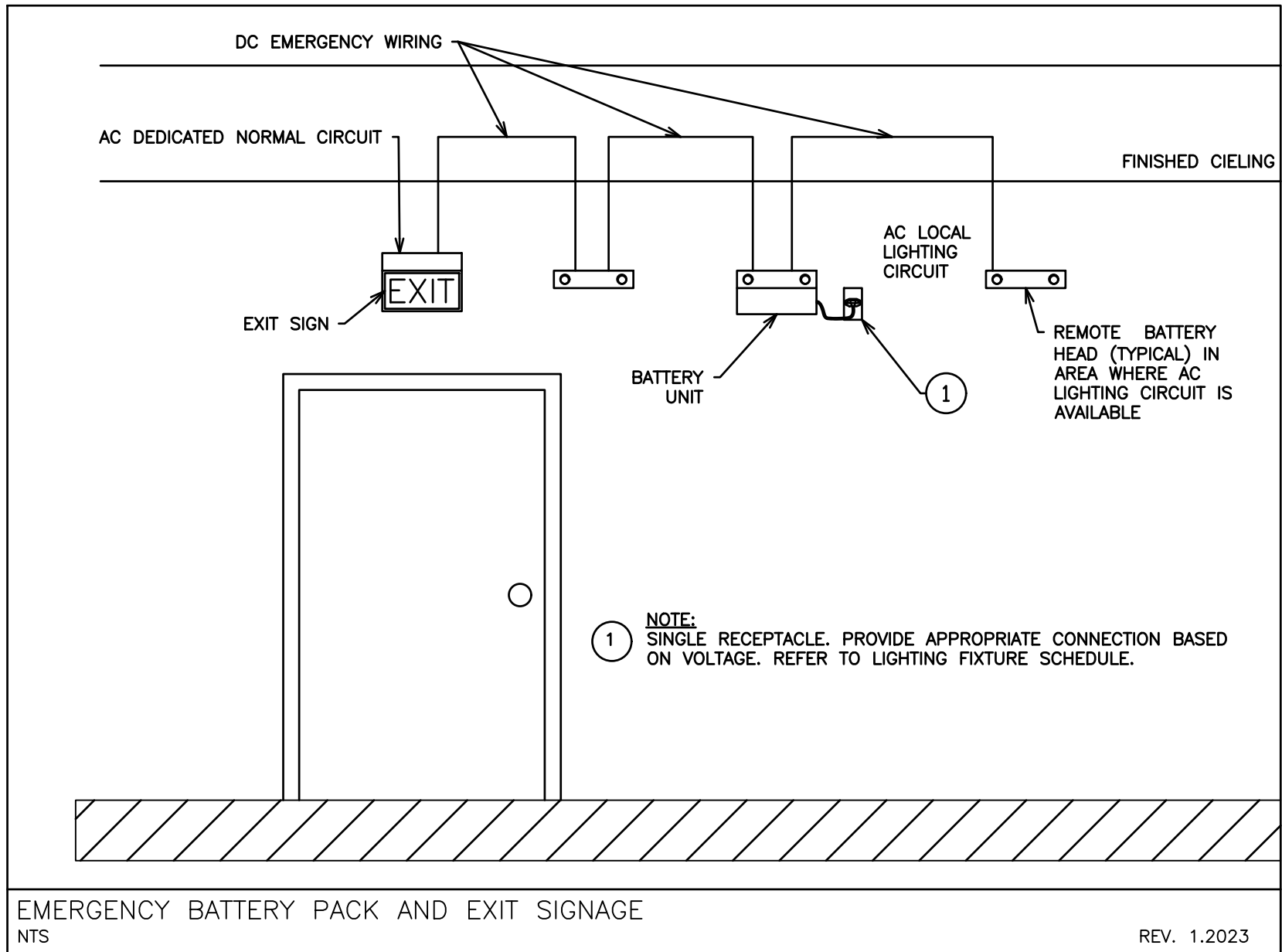
TAG	MANUFACTURER	MODEL
(BU-1)	LUMACELL	RG12S-100-2-LD10-AT

GENERAL ELECTRICAL NOTES

1. GENERAL:
 - 1.1. ARRANGE FOR ESA INSTALLATION PERMIT AND INSPECTION AND FORWARD A COPY OF THE ESA CERTIFICATE TO THE ENGINEER UPON ACCEPTANCE.
 - 1.2. ENSURE THAT ALL ELECTRICAL EQUIPMENT SUPPLIED BY OTHER TRADES IS SUITABLE FOR THE RESPECTIVE VOLTAGE. CONFIRM POWER REQUIREMENTS OF ALL OWNER SUPPLIED EQUIPMENT.
 - 1.3. ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION SHALL BE CARRIED OUT BY THIS DIVISION. NO CHASING BLOCKWORK WILL BE ALLOWED. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BUILDING INCURRED BY WORK OF THIS DIVISION.
 - 1.4. SUBMIT 4 COPIES OF SHOP DRAWINGS FOR REVIEW AND RECORDS.
 - 1.5. ALL MATERIALS USED THROUGHOUT SHALL BE NEW, OF BEST QUALITY C.S.A. APPROVED AND OF ONE MANUFACTURE, WHEREVER TRADE NAMES ARE NOT USED TO DESCRIBE MATERIALS. THESE MATERIALS SHALL BE OF BEST AVAILABLE QUALITY AND MANUFACTURE. OBTAIN AND PAY FOR SPECIAL HYDRO INSPECTION OF SPECIFIED NON-C.S.A. ELECTRICAL EQUIPMENT.
 - 1.6. PROVIDE ALL CONDUIT, WIRING, BOXES, SWITCHES, OUTLETS, DEVICES, ETC., AS REQUIRED. MAKE FINAL CONNECTIONS TO VIBRATING EQUIPMENT WITH FLEXIBLE CONDUIT.
 - 1.7. PROVIDE ALL HANGERS, INSERTS AND SUPPORTS OF APPROVED TYPES REQUIRED FOR THE WORK OF THIS DIVISION. PROVIDE CONDUIT FOR ALL SERVICES PENETRATING THE FLOOR SLAB. SEAL ALL PENETRATIONS THROUGH FLOOR SLABS WITH AN APPROVED NON-SHRINK, WATERPROOF AND FIREPROOF SEALANT APPROVED BY ARCHITECT. NO CONDUITS OR EQUIPMENT SHALL BE MOUNTED DIRECTLY FROM ROOF DECK. PROVIDE ALL NECESSARY UNISTRUT OR OTHER MOUNTING DETAILS TO ENABLE SUPPORT FROM TOP CHORD OF JOISTS.
 - 1.8. ALL CONDUIT SHALL BE RIGID STEEL THICK WALLED OR EMT THINWALL WITH STEEL SET SCREW COUPLINGS AND CONNECTORS WITH INSULATED THROATS UNLESS OTHERWISE NOTED. EXPOSED CONDUITS AND WIREMOLD CHANNELS SHALL BE NEAT IN APPEARANCE, RUN PARALLEL TO BUILDING LINES AND CONCENTRIC RIGHT ANGLE BENDS ONLY SHALL BE USED. ALL EMPTY CONDUITS SHALL BE COMPLETE WITH NYLON FISH WIRE.
 - 1.9. ALL WIRING SHALL BE MINIMUM #12 GAUGE COPPER, EXCEPT AS OTHERWISE NOTED. ALL WIRING SHALL BE 600 VOLT TYPE RW90. BY CABLE MAY BE USED WHERE PERMITTED BY CODE IN CEILING SPACE FOR FINAL CONNECTION TO LIGHT FIXTURE AND FROM CEILING DISTRIBUTION BOXES DOWN PARTITIONS TO RECEPTACLES ONLY. MINIMUM SIZE WIRING FOR DC WIRING SHALL BE #10 GAUGE. MAXIMUM VOLTAGE DROP SHALL NOT EXCEED 2 PERCENT.
 - 1.10. PROVIDE GROUND WIRES WITH ALL FEEDERS AND CIRCUITS IN ACCORDANCE WITH APPLICABLE CODES AND HYDRO APPROVAL REQUIREMENTS. PROVIDE MAIN GROUND TO HYDRO APPROVAL CO-ORDINATE WITH OTHER TRADES IN LAYING OUT OF THE WORK SO AS NOT TO CONFLICT WITH THE WORK OF OTHER TRADES. CARRY OUT WORK PROMPTLY WHICH MAY INTERFERE WITH THE WORK SCHEDULE OF OTHER TRADES.
 - 1.11. MECHANICAL TRADES WIRING: PROVIDE ALL CONDUIT, WIRING, SPLITTERS, OUTLET BOXES AND DISCONNECT SWITCHES AS SHOWN. ALL MOTORS, STARTERS AND CONTROL WIRING PROVIDED UNDER DIVISION 15. INSTALL ALL STARTERS AND WIRE COMPLETE.
 - 1.12. CLEARLY MARK ALL EXPOSED CONDUIT, PULL BOXES, JUNCTION BOXES, ETC., TO INDICATE THE NATURE OF THE SERVICE.
 - 1.13. INSTALL ALL LIGHTING AND POWER CIRCUITS TO MEET CODES.
 - 1.14. PROVIDE LAMACOID NAMEPLATES AND TYPEWRITTEN DIRECTORIES FOR ALL PANELS.
 - 1.15. CLEAN AND TEST ALL EQUIPMENT BEFORE FINAL ACCEPTANCE IS GIVEN FOR THE WORK.
 - 1.16. AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE YEAR COVERING WORKMANSHIP AND MATERIALS. REPAIR OR REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY DEFECTS DUE TO WORKMANSHIP OR MATERIALS WHICH IN THE OWNER'S OPINION, ARE NOT DUE TO MISUSE OR NEGLIGENCE.
2. MATERIALS:
 - 2.1. COVER PLATES:
 - 2.1.1. COVER PLATES FOR RECEPTACLES, SWITCHES, PILOT LIGHTS, TELEPHONE OUTLETS AND OTHER DEVICES REQUIRING COVER PLATES FOR FLUSH MOUNTED BOXES SHALL BE METAL, STAINLESS STEEL #18-8, TYPE 302, UNLESS OTHERWISE NOTED.
 - 2.1.2. WEATHERPROOF COVER PLATES SHALL BE DIECAST CORROSION RESISTANT ALUMINUM TYPE WITH TWO SEPARATE LIDS FOR DUPLEX RECEPTACLES SUITABLE FOR MOUNTING ON F.S. TYPE BOXES. ALL WEATHERPROOF COVER PLATES SHALL HAVE RUBBER OR NEOPRENE GASKETS.
 - 2.1.3. PLATES FOR SURFACE MOUNTED CAST BOXES SHALL BE GALVANIZED FORMED STEEL TYPE. COVER PLATES FOR FLUSH MOUNTED EQUIPMENT SHALL BE SUPPLIED OF QUALITY AND PERFORMANCE SPECIFIED BY THE MANUFACTURER OF THE EQUIPMENT.
 - 2.1.4. COVER PLATES SHALL NOT CARRY MANUFACTURER'S NAME.
 - 2.1.5. COVER PLATES OF QUALITY SPECIFIED SHALL BE PASS & SEYMOUR, BRYANT LEVITON, SMITH & STONE OR HARVEY HUBBELL.
 - 2.2. LIGHT SWITCHES:
 - 2.2.1. SWITCHES SHALL BE, UNLESS OTHERWISE INDICATED, BRYANT QUIET TYPE WITH WHITE SPECIFICATION GRADE FOR 120V AND HEAVY DUTY GRADE FOR 347V. LIGHT SWITCHES OF QUALITY AS MANUFACTURED BY BRYANT, P & S, ARROW HART, LEVITON AND HUBBELL SHALL BE CONSIDERED AS ACCEPTABLE AS SPECIFIED ALTERNATES.
 - 2.3. RECEPTACLES:
 - 2.3.1. RECEPTACLES SHALL BE, UNLESS OTHERWISE INDICATED, U GROUND TYPE, WHITE, SCREW TERMINAL TYPE.
 - 2.3.2. RECEPTACLES SHALL BE SPECIFICATION GRADE.
 - 2.3.3. CONFIRM ALL LOCATIONS AND OUTLETS PRIOR TO INSTALLATION. ALLOW TO RELOCATE ANY OUTLET WITHIN 10'-0" OF SPECIFIED LOCATION, PRIOR TO INSTALLATION. PROVIDE ALL CONCRETE WORK REQUIRED FOR ELECTRICAL WORK IN ACCORDANCE WITH ARCHITECTURAL DIVISION OF SPECIFICATION.
 - 2.4. DISCONNECTS:
 - 2.4.1. DISCONNECT SWITCHES FOR HVAC EQUIPMENT MUST BE INSTALLED WITHIN 10'.
 - 2.4.2. MOTORS OTHER THAN AIR CONDITIONERS MUST HAVE DISCONNECT WITHIN SIGHT AND 30' OF THE MOTOR AND/OR STARTER.
 - 2.5. CONDUITS:
 - 2.5.1. EMT (ELECTRICAL METALLIC TUBING) MUST BE USED IN THE FOLLOWING INDOOR APPLICATIONS:
 - 2.5.1.1. ALL EXPOSED AREAS (USE WIREMOLD ON EXPOSED WALLS IN FINISHED AREAS WHERE EXPOSED WIRING HAS BEEN APPROVED).
 - 2.5.1.2. T-BAR CEILING SPACES
 - 2.5.1.3. ATTIC SPACES
 - 2.5.1.4. CRAWL SPACES
 - 2.5.2. LIQUIDTIGHT MUST BE USED IN THE FOLLOWING INDOOR AND OUTDOOR APPLICATIONS:
 - 2.5.2.1. LAST 5' FOR FINAL CONNECTION TO INDOOR MECHANICAL EQUIPMENT
 - 2.5.2.2. ALL OUTDOOR WIRING
 - 2.5.3. FLEXIBLE CABLE IS ONLY ACCEPTABLE IN THE FOLLOWING INDOOR APPLICATIONS:
 - 2.5.3.1. EQUIPMENT/COMPONENTS IN CEILING SPACES
 - 2.5.3.2. CONCEALED IN DRYWALL WALLS AND DRYWALL CEILINGS THROUGH HOLES IN CONCRETE, BRICKS OR STEEL STUDS PROVIDED IT IS NOT SUBJECT TO MECHANICAL DAMAGE.
 - 2.5.3.3. ROMEX IS AN ACCEPTABLE ALTERNATE FOR ALL INDOOR WIRING IN WOOD CONSTRUCTION BUILDINGS.
 - 2.5.4. WHERE CEILING SPACE IS USED AS A RETURN AIR PLENUM, ALL WIRING SHALL CONFORM TO CODES FOR THIS APPLICATION.



EMERGENCY LIGHTING BATTERY PACK UNIT INSTALLATION
NTS
REV. 1.2023



EMERGENCY BATTERY PACK AND EXIT SIGNAGE
NTS
REV. 1.2023

2.	ISSUED FOR PERMIT	OCT 2025
1.	ISSUED FOR COORDINATION	AUG 2025
NO.	SUBMISSION	DATE

725 LAKE ROAD, BOWMANVILLE
MUNICIPALITY OF CLARINGTON

BUILDING 2 ROOFTOP
ELECTRICAL LAYOUT

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PROJECT NO.:	123081
DRAWING NO.:	E2