

GENERAL MECHANICAL SPECIFICATIONS:

GENERAL

PERFORM ALL mechanical work indicated on these drawings to provide a complete and fully functional operating system to the satisfaction of the mechanical consultant.

SPECIFIED WORK described or detailed on drawings does not delegate function to any specified subcontractor or identify discrete contractual limits between mechanical or subcontractors.

OWNERS FINAL INSPECTION is imperative. Prior to installation of all ceilings, this contractor shall contact the landlord to perform a final inspection. When ceiling tiles have been installed it will be necessary for the contractor to remove portions for inspection.

THE MOST RECURSIVE or THE SPECIFICATION AND BACK BUILDING STANDARDS shall form the basis for this construction. Comply with mechanical and construction system standards and construction standards.

CODES AND BYLAWS shall be strictly adhered to. Obtain necessary permits, approvals and inspections from the authorities having jurisdiction.

PERMITS AND TESTS required by the authorities having jurisdiction shall be obtained and paid for by this contractor. Include all applicable taxes, charges for the inspection of work by all inspection authorities having jurisdiction over the work of this project. All changes and alterations required by such authorities shall be carried out promptly and without charge.

EXISTING SITE CONDITIONS affecting the work of this trade shall be reviewed prior to tender submission. Failure to do so shall not relieve contractor of full contract responsibility.

CUTTING, PATCHING AND CORE DRILLING required by this trade shall be paid for by this contractor. 1-bay concrete structure in accordance with Owner/Landlord structural engineer's requirements. Provide details of new openings through structural components for engineer's approval. Include all related costs for structural approval.

PRE-STEP shall be ULC listed for the required separation and provided at all pipe penetrations through rated assemblies. Repair/Provide all spray proofing required to maintain original ratings.

PREMIUM TIME COSTS shall be included for work outside of normal working hours.

FLASHING AND COUNTER FLASHING for exterior penetrations or water-proofed floors shall be provided under this contract. Flash all mechanical pipes passing through, or built into a roof, outside wall or waterproof floor. Use prefabricated aluminum or pvc flashings for roof, and membrane or copper for walls and floors. Ensure all openings are weather, water and fire proof, using an approved flexible sealant.

SHOP DRAWINGS shall be complete with contractors released stamp. Submit 6 copies. Allow one (1) week for engineers review.

EQUIPMENT SUBSTITUTIONS other than that specified shall not be considered without written explanation and consultant's written authorization. The quality and performance characteristics of substitute product shall be equivalent to the specified product. All substitute products shall be approved by consultants. Any additional costs incurred by all trades for substituted equipment installation must be incurred by the contractor.

CONTROL WIRING AND DEVICES shall be provided under this contract. Control work shall be completed by Owner's/Landlord's approved contractor and paid for under this contract.

PROVIDE A COMPLETE and fully functioning system operating in accordance with the sequence of operations. All load risk wiring and electrical devices shall be provided including wiring, starters, disconnects, VFD's etc. Verify and coordinate voltage and phase with the electrical contractor prior to starting equipment.

ACCESS DOORS shall be provided for all inaccessible mechanical equipment and services requiring inspection or service. Finish shall suit architect/designers requirements. Access doors shall be recessed as required to suit wall finish (eg. tile). Provide fire rated access doors in fire rated partitions.

ARCHITECT/ENGINEER APPROVAL of air terminal, thermostat, and access door locations must be obtained prior to installation.

ONE YEAR WRITTEN WARRANTY shall be provided for the complete mechanical installation from date of completion.

CAO AS-BUILT DRAWINGS shall be completed utilizing AutoCAD. Record accurately installed work on white prints transferring to AutoCAD. Submit both sets. Keep one up to date set on site.

OPERATING AND MAINTENANCE MANUALS containing approved shop drawings, air and water balancing reports, equipment data sheets, written warranty, operating instructions and maintenance procedures shall be submitted to consultant for review. Manuals shall be separated with details in appropriate sections. Make all conditions required by consultant and installers for review.

CHANGE NOTICE QUOTATIONS shall be submitted complete with cost breakdown of labour and materials. Failure to provide will result in rejection. All Mechanical Change Notices shall be priced in accordance with "MECHANICAL CONTRACTORS ASSOCIATION (MCA) Labour and Material" used to reflect site conditions directly for labour and for material cost use "ALL PRICES" less discount of 20%.

TEMPORARY FILTERS 25mm (1 in.) shall be provided at all base building return air openings which remain open during construction. Filters to be replaced weekly. Remove upon construction completion.

BASE BUILDING HVAC components removed i.e. light diffusers, diffusers, air boxes etc. shall be turned over to the landlord/owner at their direction.

COMPLY WITH THE GENERAL contractor construction schedule.

CLEAN UP

During the process of the work each contractor shall keep his work tidy. The premises shall at all times be free from rubbish and surplus materials, clean daily.

PROTECTION - MEASURES

Division 15 is entirely financially responsible for all damage to property or adjacent property, arising of the work of this contractor, whether caused by himself or any persons engaged on his work.

Division 15 contractors are responsible to ensure that their employees and sub-trades use only safe practices and conditions, observe all safety regulations, security regulations and fire safety rules.

WARNINGS AND ALARMINGS

Use only new materials, capitals and code approved in accordance with all laws, regulations and authorities having jurisdiction.

Before proceeding with any changes, submit for approval by the engineers and owner.

All materials and equipment (exhaust fans, pipe, insulation, meters, etc.) to meet or exceed base building standards and have landlord/owner's approval before entering.

Tender price to be as specified, show alternative equipment and itemized cost savings with tender documents.

IDENTIFICATION

Provide name plates on all mechanical equipment showing voltage, designation, CR# and use. Numbers and letters to be 3/8" (10mm) high, white lettering on black laminated plastic.

Identify all valves with tags. Provide a framed list of valves, indicating their location and use, supply to owner/tenant.

DUCTWORK

Fabricate ductwork from galvanized steel metal with a minimum coating of [1.83 grams/m²] [0.60 oz./sq.ft.] (G60G90) unless other materials are specifically named. Duct installation shall conform to the following:

Ductwork shall be smooth on the inside and free of obstructions, internal and rotting.

Flangeless ductwork, except as described in the next item, according to the following classifications:

Class 1: All ducting subject to positive or negative static pressure of [250 Pa] [1 in. w.g.] or less with maximum velocities of [15 m/s] [2500 fpm] shall be constructed in accordance with SMACNA construction standards for [250 Pa] [1 in. w.g.] duct.

Class 2: All ducting subject to positive or negative static pressure of more than [250 Pa] [1 in. w.g.] up to [500 Pa] [2 in. w.g.] with maximum velocity of [30 m/s] [6000 fpm] shall be constructed in accordance with SMACNA construction standards for [500 Pa] [2 in. w.g.] duct.

Class 3: All ducting subject to positive or negative static pressure of greater than [500 Pa] [2 in. w.g.] up to [1250 Pa] [3 in. w.g.] with maximum velocity of [30 m/s] [6000 fpm] shall be constructed in accordance with SMACNA construction standards for [1250 Pa] [3 in. w.g.] duct.

Class 4: All ducting subject to positive pressure greater than [1250 Pa] [3 in. w.g.] up to [1000 Pa] [4 in. w.g.] with maximum velocity of [30 m/s] [6000 fpm] shall be constructed in accordance with SMACNA construction standards for [1000 Pa] [4 in. w.g.] duct.

Class 6: All ducting subject to positive pressure greater than [1000 Pa] [4 in. w.g.] up to [1500 Pa] [6 in. w.g.] with maximum velocity of [30 m/s] [6000 fpm] shall be constructed in accordance with SMACNA construction standards for [1500 Pa] [6 in. w.g.] duct.

DUCTWORK AND HANGERS shall be fabricated in accordance with the latest SMACNA standards as a minimum.

FLEXIBLE DUCTWORK shall be Fleximaster Triple Loc. or equal insulated, spiral wound aluminum. Secure to rigid duct using gear clamps. At the joint of each 10' minimum control unit, provide a minimum of 3 diameter of straight flex duct. Maximum length 1200 mm [4 ft. 0 in.]. Flexible duct serving diffusers shall be installed on one continuous piece and shall not exceed 10' length.

FREE DAMPER shall be cut of direct ULC labeled. Provide fire dampers or required in new and existing ductwork w/ access doors. Provide fire dampers and fire flaps where required by local authority and codes. Note the importance to match the rating of the separation crossed. Provide only ULC labeled dampers, install as specified in NFPA/CSA 90A. Provide access doors as required.

1. Provide curtain or parallel blade type dampers to maintain fire rating integrity of membrane being pierced. Minimum rating to be 1-1/2 hours with [1000C] [217w] fusible link. Provide multiple dampers where close spaced code violation.

2. Provide fire dampers equivalent to the following Ruskin models as follows, to suit application:

| MODEL NO. | APPLICATION |
|---------------------|----------------------------------------------------------------------------------------------------|
| DBD-2, Style B or C | Normal duct application (2 hrs.) |
| DBD-20 Style B | Behind valves (2 hrs.) |
| IBDT | In doors (2 hrs.) |
| DBD-23 | In fire walls (4 hrs.) |
| FSF | Behind outlets in fire rated floor (roof) and ceiling assemblies |
| DFD-25 | Combination fire and balancing damper (2 hrs.) |
| J | Select dampers with or fire resistance not exceeding [13 Pa] [0.05 in. w.g.] of design flow rates. |

FLEXIBLE DUCT CONNECTIONS shall be airtight and resistant to initial leakage and shall be tested to 150 Pa (4 in. w.g.) for 15 minutes.

AIR TRANSFER OPENINGS indicated without duct shall be this contractor's responsibility to advise and confirm provision by general trades.

BALANCING AND VOLUME CONTROL DAMPERS shall be provided in new or existing ductwork to provide a complete and balanced system. Balancing contractor shall be a member of ABC or NIBS. Submit balancing report in triplicate to the consultant and the landlord indicating terminal design and measured flow rates. When required, balancing work shall be completed by Owner's/Landlord's approved contractor and paid for under this contract.

Provide new shaves, batt and oil labour required to balance all Air Handlers, Rooftop Units, Fans as required to meet specified or flow.

All kitchen related exhaust ductwork to be 18 gauge of welded black carbon steel, or 18 gauge stainless steel. To conform to NFPA 96. (Indisposed not acceptable).

Preproofing of kitchen exhaust ductwork where required shall be by Division 15. Verify with local authorities prior to starting any work.

FAN SHAFTS, BELTS AND PULLEYS shall be adjusted or replaced as required to obtain design air quantities. Coordinate this work with Owner/Landlord.

All new dampers must be Tamco series 9000 or equal.

STRUCTURE

All mechanical equipment weights & openings are to be reviewed by a structural engineer, for framing support and building safety. Division 15 to arrange and pay for this structural review and/or action. Submit drawings for review by local building Engineer.

MECHANICAL FOUNDATION

Provide labor, materials, products, equipment and services required to complete the demolition work specified herein.

Refer to Drawings for extent of demolition work. The drawings indicate the approximate locations of services as far as these are known.

Dispose, off site, of all debris in accordance with the jurisdictional authorities.

Remove and storage of salvagable items as directed by this specification section and the Owner of their representative.

Meet the requirements and recommendations of all Municipal, Provincial and Federal Bylaws and Ordinances.

Create this work in accordance with the latest edition of the following codes and standards.

ONTARIO BUILDING CODE - Code of Practice for Safety in Demolition of Structures.

Occupational Health and Safety Act, Regulations for Construction Projects.

Ontario Fire Code, Regulations under fire Marshal Act.

Remove from site and disposal of debris shall be carried out in accordance with the requirements of the local jurisdictional authorities.

Arrange and pay for all permits, notices and inspections necessary for the proper execution and completion of the demolition work.

All materials which have not been designated for salvage from the demolition shall become the property of the Contractor. Remove all material and debris from the site as quickly as possible and dispose of legally.

Burning of debris or selling of materials on the site will not be permitted.

Comform to requirements of municipality's Works Department regarding disposal of waste materials.

Materials prohibited from municipality waste management facilities shall be removed from site and disposed of through recycling companies specializing in recyclable materials.

At the end of each work shift, leave work site in a safe condition.

Platch fire rated partitions and floors to maintain rating upon removal of mechanical services originally spanning fire rated assemblies.

Demolish walls into sections of practical size for removal without damage or disruption to existing partitions.

Store materials only in areas designated by the Owner and as permitted by the local jurisdictional authorities.

Materials and debris shall not be stored in building to the extent that overloading of any part of the structure will occur.

Confer with the Owner concerning schedule, dust and noise control prior to commencing work on or adjacent to existing facilities where such work will affect other facilities or their occupants.

Only elevators, dumbbucklers, conveyors or escalators designed for Contractor's use may be used for moving men and material within building. Protect walls of passenger elevators, to approval of Owner prior to use.

Accept liability for damage, safety of equipment and overloading of existing equipment.

Provide temporary means to maintain security when security has been reduced by Division 15.

Men and material within building. Protect walls of passenger elevators, to approval of Owner prior to use.

Protect all mechanical systems, installed to remain, from damage.

Protect all mechanical systems, installed to remain, from damage.

Provide and maintain ready access to fire fighting equipment at all times.

Provide and maintain proper and suitable fire extinguishers throughout the duration of the work.

The drawings indicate the approximate locations of services as far as these are known. Should any mechanical or electrical service line be broken, or disrupted by operations specified under this contract, report same immediately to the Owner. Notify the Owner immediately whenever any service line is broken or damaged.

Accept liability for costs incurred by the Owner in repairing and clearing equipment, etc., resulting from failure to comply with the above requirements.

Use only those existing entrances and stairs designated by the Owner for access to and egress from the existing buildings and various floors where work of this contract is to be carried out. No traffic through other areas of the building will be permitted without the prior consent of the Owner.

Keep stairs and corridors clear and open as required for the Fire Marshal for exit purposes in case of fire, and as required by use by the Owner's personnel.

Arrange, schedule and perform work with minimum disturbance to existing facilities and services.

Submit a complete schedule of service interruptions and changeovers with approximate dates, required durations and times of day, for approval before proceeding.

Notify Owner in writing at least 72 hours in advance of planned interruption to existing services.

Interruption of service must occur at the times and for the duration stipulated by the Owner.

Keep service interruption duration to the absolute minimum. Carry out all preparatory work, measurements, etc., without interruption of existing services.

If service interruptions are required by the Owner during the night or on weekends, etc., premium time shall be included in the Contract Price. No extra charges will be allowed at a later date for failure to include same.

HANGERS AND SUPPORTS

Provide all required supports on outside of ductwork, installation shall be to the requirements of applicable codes. All support must be from building structure and not from other equipment, piping or ductwork.

GAS PIPING SYSTEMS

Provide all labor, materials, products, equipment and services to supply and install the natural gas piping system indicated on the Drawings and specified in this section of the Specifications.

Install natural gas system only with fittings certified to Ontario Gas Utilization Regulations TSSA and CSA requirements.

If necessary, arrange and pay for a gas service to the building, including registering station gas meter, and associated accessories.

Provide all equipment and materials required for the building natural gas distribution systems in accordance with the requirements of the current version of the Ontario Gas Utilization Regulations and TSSA.

Provide complete natural gas system, to CSA and TSSA requirements.

Provide pressure reducing, regulating and relief valves required for compatibility between equipment and building natural gas distribution system.

Provide gas pressure reducing station(s) where noted on Drawings and where required to reduce building Distribution system pressures to application operating pressure ranges.

Pressure regulators shall be spring-loaded self-operated design and shall be tight closing with replaceable orifices and disc and concealed accessible manual adjustment. Valve bodies shall be cast iron rated for [1034 kPa] [150 psig] gas pressure and all valve materials shall be epoxy painted to resist corrosive ambient conditions.

Provide gas pressure relief stations downstream of all pressure reducing stations.

Provide relief valves of spring-loaded design with throttling characteristics to reduce system pressure surges. Valve bodies shall be cast iron rated for [1034 kPa] [150 psig] gas pressure with replaceable orifices and disc and concealed accessible manual adjustment. All valve materials shall be epoxy painted to resist corrosive ambient conditions.

Install natural gas service to meet CSA, TSSA and The Ontario Gas Utilization Regulations and all authorities having jurisdiction.

Distribute gas within the building at [7.0 kPa] [1 psig].

Select pressure reducing valves to maintain downstream pressures within +5% range of setting. Submit sizing data for each valve with Shop Drawings.

Pipe all relief vents individually to outdoors. Size piping for a maximum pressure drop of 10% of the pressure reducing valve selected group pressure with a CSA capacity safety factor.

Provide upstream and downstream balancing valves and pressure gauges complete with gauge coils at all pressure reducing stations. Connect relief valves so that they cannot be isolated from the appliances which they serve.

Connect gas piping to all gas fired equipment.

Paint gas service piping solid yellow in its entirety.

Contact the local Gas Service Provider to determine if a Gas/CO Gas Meter upgrade is required.

PLUMBING SYSTEMS

SCOPE OF WORK

Provide all hot and cold water systems with complete connections from the water meter to all plumbing fixtures and equipment requiring water connections.

Provide all soil, waste, vent systems inside the building to five feet (5'-0") past foundation walls.

Provide all plumbing fixtures including all required trim and supports.

Rough-in and provide final connection to all equipment.

Provide all final plumbing connections to heating and air conditioning equipment including condensate drains.

Provide all gas piping to all appliances requiring gas. Paint all gas piping yellow in its entirety.

Provide all required fire extinguishers.

Pressure test all piping systems in accordance with local & provincial codes for leaks, before insulation is added. Submit report to the owner and a copy to the engineer.

Provide all trenching and backfilling required for Division 15 work.

Water: co-ordinate and furnish all labour and/or materials, at all in accordance with the requirements of the local water company and/or located.

Provide all required venting to conform to local codes and with authorities having jurisdiction.

Sewer connections shall be by Division 15 and shall be made in strict accordance with the requirements of the local governing authority.

Plumb all piping as required to meet code requirements and requirements of local authorities.

PLUMBING INSULATION

Provide and install all piping as required for a complete installation whether indicated or not and in accordance with relevant codes.

Conform to manufacturer's recommendations.

Provide and install vent piping as per local code requirements.

For underground installations, provide suitable bedding, coverage and slope to ease drainage.

Install temporary caps or closures on the end of all pipes, conduits etc.; to prevent debris entering during construction.

Separate dissimilar metals by means of gaskets, di-electric unions or couplings that prevent electrolytic action. (e.g. Brass between copper and steel).

Support all pipes, in the ceiling space, as high as possible. Coordinate all work with other sub-trades so as not to interfere with ductwork, air duct support and suspended slab drains from ceiling.

Slope hot water & cold water piping to low points for drainage of the system (i.e. drain valves).

Provide accessible shut-off valves on all hot and cold water supplies to each piece of equipment, including kitchen equipment. (provide back flow preventor on all equipment at stand on equipment schedule.)

MEASURES AND SIZES

Pipe sleeves passing through walls, floors and ceilings to be schedule 40, black steel, packed for water tightness and sealed termination with Regalput, or equal, fireable sealant. Install polished chrome escutcheon plates on all pipes, which are visible to staff or public personnel.

HANGERS AND SUPPORTS

Supports and clean type hangers shall be on outside of insulation, installation shall be to the requirements of applicable codes. All support must be from building structure and not from other equipment, piping or ductwork.

EXISTING SANITARY DRAIN locations and invert elevations shall be verified on site prior to commencement of work.

PLUMBING MATERIALS

Pipe Size [160mm] [2-1/2"] & Smaller

SANITARY - ABOVE GROUND DWV copper pipe with drainage fittings and 95/5 tin/antimony solder joints.

SANITARY - BELOW GROUND Profile pvc sewer pipe with solvent welded fittings.

STORM - ABOVE GROUND DWV copper pipe with drainage fittings, 95/5 tin/antimony solder joints.

STORM - BELOW GROUND not applicable.

VENT PIPING - ABOVE GROUND DWV copper pipe with drainage fittings, 95/5 tin/antimony solder joints.

VENT PIPING - BELOW GROUND Type L copper pipe with wrought copper fittings and 95/5 tin/antimony solder joints.

PEX Ring-The SDR35, CSA certified to SDR35 PEX galvanized sewer pipe.

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PIPE VALVES:

1. [50 mm] [2"] and smaller - soldered [2070 kPa] [300 psi] w.o.g. Fig. 10 with suitable compaction etc.

2. [65 mm] [2-1/2"] and larger - flanged [1400 kPa] [200 psi] w.o.g. Fig. 76.

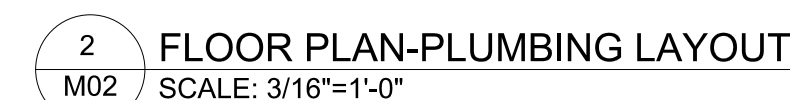
Standard Check Valves:

1. [50 mm] [2"] and smaller - soldered [2070 kPa] [300 psi] w.o.g. Fig. 23.

2. [65 mm] [2-1/2"] and larger - flanged [1400 kPa] [200 psi] w.o.g. Fig. 76.

VERIFICATION OF INVERTS

1. Verify all field service conditions (pipe size, direction of flow) immediately after award of Contract to ensure that drainage runs can



- ① APPROXIMATE LOCATION OF EXISTING 83/4" VALVED & CAPPED DOMESTIC COLD WATER LINE IN CEILING SPACE. CONNECT NEW LINE TO EXISTING COMPLETE WITH BACKFLOW PREVENTOR (BY TENANT, "WATTS" BRAND, MODEL # 1000) TO EXISTING 1/2" WALL IT PER CSA D64-10 AND LOCATED AT 5' FROM FINISH LEVEL AND MAKE GOOD. EXACT LOCATION OF EXISTING LINE TO BE DETERMINED ON SITE PRIOR TO COMMENCING WORK.
- ② 11/2" HOT AND COLD WATER LINES DOWN IN WALL TO SERVE SINK.
- ③ 11/2" COLD WATER LINE SERVES ICE CUBE UNIT C/W BFP LOCATED AT 1' FROM FINISH LEVEL (C/W BFP UNIT NOT SERVED AT THIS TIME).
- ④ DOMESTIC ELECTRIC HOT WATER HEATER, REFER TO SCHEDULE & DETAIL ON DRAWING M3.0 COMPLETE WITH BRASS TEMPER/PRESSURE RELIEF VALVE, SHUT OFF VALVES AND ANODE RODS. PLUMBER TO PROVIDE PRESSURE RELIEF PIPE TO HUB DRAIN. EXHAUST SHALL BE MOUNTED ON 10" HIGH PLATFORM PROVIDED BY G.C. SET DISCHARGE TEMPERATURE @ 120°F.
- ⑤ CONNECT THE NEW SANITARY/VENT PIPES FROM THE FLOOR DRAINS TO THE EXISTING SANITARY SYSTEM ALONG WITH BUILDING VENT SYSTEM.
- ⑥ APPROXIMATE LOCATION OF EXISTING BUILDING SANITARY LINE. CONTRACTOR TO VERIFY ON SITE THE EXACT EXISTING LOCATION AND CONNECT TO THE NEW 3" SANITARY AND NEW 2" VENT TO BUILDING SYSTEMS.

1. FRESTOP AND SEAL ALL DUCTWORK AND PIPING WALL/CEILING/FLOOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
2. THIS CONTRACTOR IS TO CHECK AND VERIFY EXIST, LOCATION AND STATUS OF EXISTING SERVICES IN FIELD AND REPORT ANY DISCREPANCIES TO ENGINEER BEFORE COMMENCING WITH THE WORK.
3. ALL SANITARY DRAINS AND VENTING FOR SAME TO BE INSTALLED AS PER LATEST PLUMBING CODE REQUIREMENTS AND LOCAL AUTHORITY HAVING JURISDICTION.
4. ALL SANITARY VENT PIPING TO CONNECTION TO GRABRANGE VENT CONNECTION BE PROVIDED, EXACT LOCATION AND SIZE OF EXISTING VENT PIPING TO BE DETERMINED ON SITE.
5. REUSE ANY 3" to 4" or 1.0% SLOPE IF THERE IS A PROBLEM FOR INVERT OF SANITARY PIPE.
6. ALL EQUIPMENT WITH WATER CONNECTIONS TO BE INSTALLED WITH SILICONE SEAL BETWEEN EQUIPMENT AND WALL AND FLOOR JOINTS. ALL SILICONE SEALS TO BE BY GENERAL CONTRACTOR AFTER EQUIPMENT IN FINAL LOCATION. TO BE COORDINATED WITH EQUIPMENT SUPPLIER.



| TAG | STORAGE CAPACITY U.S. GAL | HEATER KW | POWER SUPPLY | | | UNIT SIZE | MANUFACTURER | MODEL | SHIPPING WEIGHT LBS | REMARKS |
|--------|------------------------------|--------------|--------------|----|----|--------------|--------------|--------|------------------------|---------|
| | | | V | PH | HZ | | | | | |
| EW-H-1 | 20 | 2.5 | 110 | 1 | 60 | 22"ø x 23" H | A.O. SMITH | DEL-20 | 73 | |

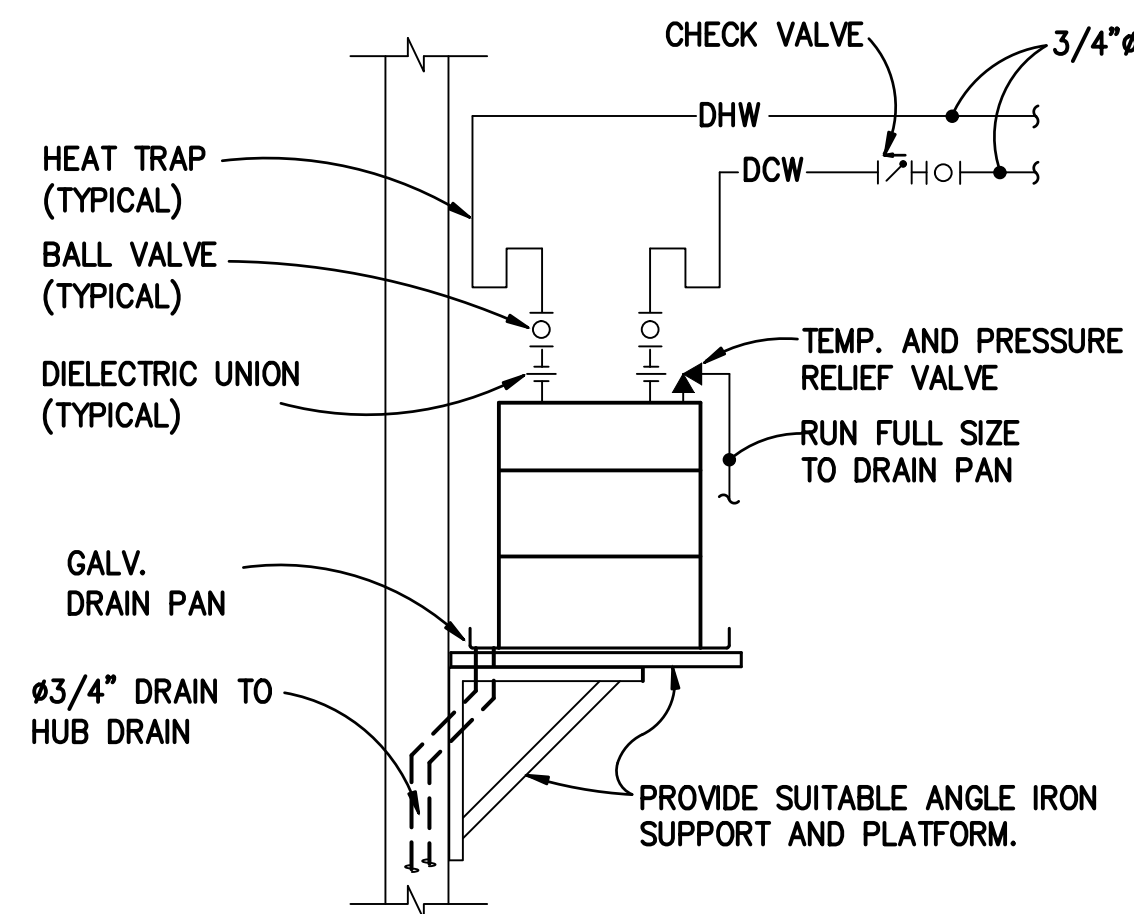
NOTES:

- 1- TEMPERATURE SET: 120°F.
- 2- INSTALL IT PER MANUFACTURER'S RECOMMENDATIONS.
- 3- UNIT'S DRAIN TO BE INDIRECTLY CONNECTED WITH HUB DRAIN IN SAME UTILITY ROOM.
- 4- CSA CERTIFIED AND ASME RATED FOR RELIEF VALVE.
- 5- ANODE ROD MAX. CORROSION PROTECTION, TANK INTERIOR IS COATED WITH GLASS.

| DESIGNATION | | ZURN | SMITH | WATTS |
|-------------|----------------------------------------------------------------------|------------------------|-------------------|-------------------------------------------|
| FD | (FLOOR DRAIN) FINISHED WITH SEDIMENT BUCKET IN PREPARATION AREA ONLY | = ZN-415-B-M-P | 2010 (A05-B-P050) | FD-100-C-A5-6-7 |
| FDD | (FUNNEL FLOOR DRAIN) WITH SEDIMENT BUCKET AND OPEN THROAT | = ZN-211-BF | 2010A-3580NB | FD-100-C-EG |
| HD | (FLOOR HUB) | = - | 2005-3580-P050 | FD-100-C-DD |
| CO | (CLEANOUT) FINISHED CARPET | = ZN-1602 = ZN-1603 | 4020 4020Y | CO-200-RC-1-6-34G CO-200-RC-1-6-34G-CF |
| WCO | STACK | = - | - | CO-460-RD |
| | | | | |

NOTES:

- 1- SMITH, WATTS OR ZURN ARE ACCEPTABLE. ALL FLOOR DRAINS TO BE TRAP SEALED & PRIMED.
- 2- CONNECT THE VENT FROM EACH NEW UNIT TO THE EXISTING VENTING SYSTEM PER CBC CODE.
- 3- EACH PLUMBING FIXTURE SHALL BE LOW WATER CONSUMPTION IN ACCORDANCE TO ONTARIO BUILDING CODE. PROVIDE ALL REQUIRED FITTINGS, TRAPS, VALVES, FAUCETS AND OSCUTCHONS TO COMPLETE EACH FIXTURE INSTALLATION. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BEFORE ORDERING ANY FIXTURE. PROVIDE TRAP SEAL PRIMER FOR EACH FLOOR DRAIN. PROVIDE VENT RIZERS THRU ROOF AND COORDINATE ROUTING ON SITE. PROVIDE FIRE SEAL AROUND EACH PIPE AT EACH RATED FLOOR AND WALL.



N.T.S.

| SYMBOL | DESCRIPTION | MODEL/SPECIFICATION | HW | CW | WASTE | VENT |
|--------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|------------------|------------------|
| "HS-1" | HAND SINK | 20 GAUGE TYPE STAINLESS STEEL TYPE 304, FAUCET IS BRASS-NICKEL PLATED AND ALL ACCESSORIES. 16PM/3.8LPM ADVANCE TABCO/DI-1-10, C/W: K-52 FAUCET, 4" DRAIN BASKET DRAIN/DI-1-25 & 2" DRAIN WITH STRAINER | 12MM (1/2") | 12MM (1/2") | 32MM (1-1/4") | 32MM (1-1/4") |
| "S-1" | SINGLE BOWL SINK | 18 GAUGE TYPE STAINLESS STEEL TYPE 304, FAUCET IS BRASS-NICKEL PLATED AND ALL ACCESSORIES. ADVANCE TABCO/DI-1-2012, C/W: K-50 FAUCET, 4" DRAIN | 12MM (1/2") | 12MM (1/2") | 40MM (1-1/2") | 32MM (1-1/4") |

NOTE:

- PROVIDE ISOLATING VALVE ON, HOT AND COLD WATER LINES TO EACH PIECE OF PLUMBING FIXTURE. (TYPICAL UNLESS NOTED OTHERWISE)
- WRAP ALL EXPOSED HOT WATER AND DRAIN PIPING AT HANDICAPPED LAVATORY WITH INSULATION

CLIENT

| ISSUE | DATE | DESCRIPTION |
|-------|---------------|----------------------------|
| 1 | JUN. 08, 2022 | ISSUED FOR COORDINATION |
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| A | JUN. 23, 2022 | ISSUED FOR BUILDING PERMIT |

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| DESIGNED R.W. | DRAWN R.W. | APPROVED R.W. |
| SCALE N.T.S. | DATE JUN 2022 | |

PROJ.

ONTARIO TECH/DURHAM
COLLEGE CAMPUS RECREATION
& WELLNESS CENTRE
"SMOOTHIE BAR"

G/F/L 21 AVENUE OF CHAMPIONS
OSHAWA ON L1G 8G3

DWG.

**MECHANICAL SCHEDULES &
TYPICAL DETAILS**

| | |
|-------------|---------------|
| CAD FILE | PROJ. No. |
| M3.0 | 22-017 |

DWG No.

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