GENERAL REQUIREMENTS FOR MECHANICAL WORK

1. SCOPE OF WORK

(a) Conform to the applicable provisions of the General conditions of the Contract.

(b) This General Specification shall apply to and form a part of each of the sections covering
Mechanical and Electrical Trades work.

2. EXAMINATION OF SITE AND INFORMATION

(a) Each Contractor before tendering, shall examine the site, the Architectural, Structural, Mechanical, Electrical and any other relevant documents, and fully familiarize himself with the designer's intent, so that the tender price will include everything necessary for the proper completion of the work in accordance with the intent of the documents. Obtain the approval
of the Engineer, Architect and Project Manager before any alterations to the work indicated.

(b) Ensure that all products and materials necessary for the execution of the contract can be brought into the spaces where they are to be located, either through specified openings or partially assembled. Any cutting or restoration work required, due to failure to accomplish this, will be the responsibility of this subcontractor.

3. RELATIONSHIP TO OTHER TRADES

(a) The Contractor shall confer with other trades working in the area, to ensure that his installation will be the result of co-operation between all parties. All devices must be accessible for service, and the recommendations of the equipment suppliers shall govern.

(b) Ensure that all work will be installed within the prescribed limited of the building, such as ceiling heights, and notify and General trade of any requirements for inserts, sleeves, openings, curbs and bases in sufficient time to have the items completed in the normal course of construction.

(c) Confirm with the Electrical trade, the available electrical power supply characteristics, before finalizing equipment orders. No compensation will be allowed to change any device due to this subcontractor's failure to verify the supply.

(d) Any cutting or patching required, for whatever reason, shall be done by qualified trades people in the required trade.

(e) All existing surface must be cut, core to install new works as shown shall be patched to match existing condition. Any holes left by removal of ducts, pipes, apanels shall also be patched to match existing adjacent sufaces.

4. SHOP DRAWINGS AND ALTERNATIVE EQUIPMENT

(a) This review is for General conformity only and does not relieve the supplier and/or subcontractor from providing the necessary product (s) to meet the design intent.

(b) Provide 8 copies of submittal drawings for each piece of equipment, including pumps, AC and Air Handling units, Fixtures, etc., to the Engineer for review. Certify to the Engineer that the drawings correctly identify the equipment that will be supplied, that the equipment will fit the space allotted, and perform the service intended.

(c) Equipment described either generically or by brand name is to establish the minimum standard required for the installation. Alternative equipment may be suggested by the bidder, but the equivalence shall be determined by the Engineer. Bidders must tender on the basis of the specified equipment, an if alternatives are proposed, they will be considered on their own merits, after the close of tenders. Any lowering of the price based on alternative suppliers
will be permitted with the savings being passed to the Owner.

5. REQUIREMENTS OF INSPECTION DEPARTMENTS

(a) All work shall comply with the governing Codes and local requirements. Any items required to accomplish this, whether explicitly noted or not, shall be provided.

(b) Where the Inspecting person requests items not deemed to included, the matter shall be immediately referred to the Engineer for a ruling. No extra will be considered if the work done by the Contractor to satisfy such a request, could have been avoided by discussion between the Inspector and the Engineer.

(c) Provide notice to Inspectors as required for the progress of the project, and ensure that such inspections are carried out, before work is covered.

6. CERTIFICATES, PERMITS AND FEES

(a) Obtain all required permits, and pay all inspections fees, except where specifically noted to the contrary.

(b) Furnish to the Owner any certificates that may be necessary as evidence that the work as installed conforms to all the laws and regulations of those authorities having jurisdiction. Before final certificates are issued, make these alterations that are required by the authority having jurisdiction, and accepted by the Engineer as a law, or regulation that should have been followed by the contractor.

7. GUARANTEE

(a) Guarantee all material and workmanship for two full years from the date of certified substantial completion by the Owner, or his authorized agent. This shall not supercede any warranties for specific items of equipment, which may be for a longer term.

(b) The cost of repair of damage to any other work, caused by the failure of either material or workmanship within the period covered by the guarantee noted in (a), shall be included in this warranty.

(c) Where equipment is put into operation prior to completion of the work the period of guarantee covering such equipment shall still commence as noted in item 7(a) above. The putting into operation of any equipment prior to completion of the work shall only be with written approval of the Engineer and Owner. No equipment shall be started up without first ascertaining that all systems and services associated with its operation are functioning and
that responsibilities for equipment maintenance have been arranged.

8. DRAWINGS

(a) The drawings produced by the Engineer are generally schematic in nature and are issued for the express purpose of obtaining tenders for the work and for the erection of the systems described in the scope of work to be done. Unless specifically shown, the responsibility for the installation and workability of the system (s) rest with the Contractor.

(b) Where necessary, the Contractor shall prepare interference drawings to ensure that the installation will be coordinated with all services to be installed in the area. The Engineer and other Professionals of Record may have to approve of these proposals.

9. RESPONSIBILITY AND LIABILITY

(a) This Contractor is responsible for the laying-out of his work, and it shall be done in cooperation with all other trades working in the area. The work of these other subtrades shall be protected from damage by this sub's forces, or restitution made for any damage.

(b) Notify the Engineer of any discrepancies for inconsistencies and abide by the decision of the
Engineer. Failure to notify the Engineer will not relieve this Contractor of the responsibility
to provide a fully working system.

10. CLEAN-UP AND PROTECTION

(a) Maintain a clean working area to minimize danger to others on site, and protect all work in progress from damage due to construction work, weather, or from undue dirt entry.

11. OPERATOR TRAINING AND INSTRUCTIONS

(a) Provide complete operating and Maintenance instructions for all equipment supplied,
complete with parts lists and the names of the suppliers.

(b) Provide a written description of the systems and the operating characteristics, for use by the system operators/maintenance personnel, and to instruct the users how to set thermostats, fan control switches, etc. Consult the Engineer when preparing this instruction sheet, to ensure that the system will be operated as intended.

(c) Provide a Balancing Report for all air and hydronic systems, which has been prepared by an INDEPENDENT Testing company approved by the Engineer.

(d) Touch up or repaint as necessary, all scratches or other finish defects, that have occurred on any devices supplied under this contract.

12. ELECTRICAL WIRING AND CONTROLS

(a) All power wiring for all mechanical equipment shall be done by Division 16 – Electrical,
except where specifically noted otherwise.

(b) The Mechanical division shall provide all starters, relays, control devices, and any built-in
safety switches. The Electrical will provide all field-mounted safety disconnects.

(c) The Mechanical division shall provide all connections and wiring for controls, and interlocks.

(d) All electrical devices shall be Canadian where possible and all motors up to 1/3 HP shall be single phase, larger motors 3 phase, except as noted. CONFIRM ALL ELECTRICAL
CHARACTERISTICS ON SITE.

13. COMPLETION, TESTING, BALANCING AND ADJUSTMENTS

(a) Certify to the Engineer that all systems have been completely installed per the documents, set in operation, and adjusted to the requirements of the project.

(b) Replace all filters, and any indicator lights that have burned out, and lubricate all rotating devices immediately prior to turn over to the Owner or his agent.

14. ACCESS DOORS AND FIRE STOPPING

(a) Provide adequately sized access doors to permit servicing of any mechanical device, cleanout, check valve, etc. The doors will be installed by the Trade providing the surface where the door is to be located. This Contractor shall be fully responsible for accurately locating the door, considering all obstructions.

(b) Provide sleeves for pipes passing through walls and floors where pipe movement is possible.
Use Schedule 40 pipe sections for masonry walls, large enough to accommodate pipe insulation. Floor sleeves through drainable floors shall extend up above the finished floor level.

(c) Fire stop all sleeves passing through fire separations with an approved fire stopping material,
and make waterproof. Provide escutcheons for all exposed penetrations through walls, and floors as directed.

15. WORKMANSHIP

(a) Only first class workmanship will be accepted, not only with regards to safety, efficiency, durability, etc., but also with regards to the neatness of detail. All pipe work shall be lined up parallel, or at right angles to the building walls where possible. Equipment must be accurately set, plumb and level, and all hangers must be in true vertical alignment. In general, the entire work shall be first class and workman like and present a neat clean appearance upon completion.

PLUMBING AND DRAINAGE

1. GENERAL CONDITIONS

(a) The General Requirements of the Contract Documents, and the Supplementary Requirements for Mechanical Work, shall form an integral part of this Specification.

2. WORK INCLUDED

(a) This Contractor shall do all plumbing, drainage, and fire protection work, including all underground services within the building lines, except where specifically noted otherwise. Remove all obsolete piping from the site, and cap all unused services.

(b) This contractor to cut new trench on existing floor for all new buried sanitary drain and provide wall opeing to accomodate new mechanical equipment and piping. exact location shall be coordinated with the Architrct.

(c) This contractor to patch up and make good on any floor and wall opeing where mechanical equipment and piping being removed.

3. WORK NOT INCLUDED

(a) Electrical wiring

4. SERVICE CONNECTIONS

(a) Provide all work from the existing service connection points and coordinate on site exact locations of any existing service points with Site Engineer as to the exact location. Start all drain work at the connection point to ensure that connection provided by the existing service
will be at an elevation equal to or lower than the design.

5. DRAINAGE SYSTEMS

(a) Provide complete drainage systems as shown on the drawings and/or modified as required,
all as noted.

6. PIPE AND FITTINGS FOR PLUMBING

(a) Unless otherwise noted, all buried drainage pipes shall be SDR-35 or acceptable alternative piping as noted below. When located on unstable soil special bedding in reinforced concrete shall be used.

(b) All above ground domestic water piping shall be Cirtified copper type "M", waste and vent piping shall be System 15 XFR. Where piping running in return air plenum or penatrating through fire rated wall shall be copper or cast iron hubless (MJ) depending on size. Accaptable Plastic shall be system 15 XFR, see specifications below. All rain water leaders shall be hub & spigot cast iron with caulked joints and hub support at each floor.

(c) All sewer lines shall be graded as shown on the drawings and inside the building drains shall be sloped at not less and 1%, except where noted. Flush all lines after installation, and chlorinate all water piping.

7. VALVES

(a) Provide isolation water valves for each fixture, group of fixtures, each main

(b) Valves shall be certified for the use, and minimum 150 psi pressure rated, except where noted otherwise.

c) Wall hydrants or hose bibs shall be with detachable key and with inside stop and waste valve located in common area.

(d) Wherever isolating valves are located behind wall finishes, provide suitably sized access doors in the proper location to permit access.

8. PIPE SUPPORTS

(a) Pipe supports shall be provided at maximum 8' intervals, more frequent intervals for smaller sizes. Where structural members are not spaced accordingly, provide intermediate support members as required.

(b) Hangers shall be clevis type with threaded rod supports fastened into the structure. Isolate pipe from hanger where dissimilar materials exist such as copper on steel or aluminum hanger straps. Perforated strap material shall not be accepted under any circumstances. Where hangers are supporting large diameter pipes subject to lateral movement provide spring isolation.

(c) Vertical piping shall be supported at each floor, and all elbows at the bottom of, or offset in stacks shall be independently supported to eliminate longitudinal force in the MJ clamp. Use riser clamps to fasten the pipe, and isolate the clamp from bearing on concrete with neoprene pads.

9. EXPANSION COMPENSATION

(a) Make adequate provision for pipe expansion through the use of pipe loops with anchors at the appropriate points and use swing offset take-offs at each branch.

(b) Make sure that pipes are free of structure so that they can move without noise.

(c) Provide anchors in all horizontal piping networks to constrain overall movement, and prevent branch breakage.

10. CLEANOUTS

(a) Provide cleanouts at every change in direction, ends of lines and wherever else in necessary for the proper maintenance of the drainage system. Cleanout spacing shall not exceed 50' on all pipe sizes up to 4" and 100' for larger sizes.

(b) Extend all cleanouts in buried drains up to the floor level, and provide bronze screw cap, or special cover for tile or carpet insert as directed on site. Clarify with the Architect prior to ordering.

(c) For stack cleanouts, provide Barrett style at the base of the stack, and ensure accessibility by locating cover on proper side of stack. Provide access door as required.

11. TRAPS AND VENTS

(a) Provide every fixture and drain with a proper trap and vent as required by the Code. Provide certified flashing cone fitting for each vent penetrating the roof.

12. SHOCK ABSORBERS

(a) Provide "shockstops" at the top of all risers, and in the water piping, hot and cold, at each group of fixtures.

13. DOMESTIC HOT WATER SYSTEM

(a) Provide system as shown on the drawings, complete with all required fittings, pumps, tanks, and heaters etc. Vents will be provided by Heating Contractor.

14. PLUMBING FIXTURES

(a) Provide fixtures as shown on the drawing and as listed ,for specification.

(b) All fixtures shall be new and be complete with all trim and support hardware specified or required.

15. PIPE INSULATION

(a) Compliance: Materials shall conform to Flame Spread and Smoke Developed requirements of the Ontario Building Code. Pipe Insulation shall be Greenguard Certified

(b) All exposed domestic water piping shall be insulated as follow:
Materials: Pipe Insulation shall be Knauf Pipe Insulation with a self-seal factory applied vapour retarder jacket. The thickness shall be 1 ½". All fittings shall be

(c) insulated with an equivalent thickness insulation having the same installed R-value as the adjacent pipe insulation.

(d) PVC jacket and fittings shall be Proto or Zeston and shall be white in colour, and shall be .015 in thickness.

(e) Application: Pipe Insulation shall be installed according to the manufacturer's recommendations.

(f)PVC jacket and fittings shall be installed according to the manufacturer's recommendations. All longitudinal and circumferential joints shall be sealed

(g) with a clear manufacturer approved bonding compound. Taping or rivets are not acceptable closure methods. White silicon shall be applied where necessary to seal and finish where jacket and/or fittings attach or terminate.

16. PIPE SLEEVES

(a) Provide sleeves for all piping passing through walls or floors of a sufficient size to accommodate insulation.

(b) Sleeves for wet floors shall extend 6" above the floor level to prevent water damage to the insulation.

(c) Stop all sleeves with Listed firestopping applied over packing as shown on drawing.

HEATING, VENTILATING AND AIR CONDITIONING

1. GENERAL CONDITIONS

(a) The General Requirement of the Contract Documents and the Supplementary General Requirements for Mechanical work shall form an integral part of this Specification.

2. WORK INCLUDED

(a) This contractor shall do all heating, ventilation and air conditioning work as shown on the drawings, including flue gas vents, and provision of any gas fired equipment.

(b) Provide all gas piping, thermostatic controls, interlocking devices, damper controls and wiring for them, except as may be specifically noted.

(c) Provide all duct insulation as shown and specified, and except for acoustic lining, all insulation shall be done by a qualified sub-contractor.

3. WORK NOT INCLUDED

(a) Power wiring to all equipment and provision of safety disconnects, EXCEPT where the piece of equipment comes with a built-in disconnect provided as a part of the package.

4. TESTING, START-UP AND GUARANTEE

(a) Start up all systems in conjunction with manufacturer's representative, and log all operating conditions such as temperature rise, air volume and pressure and file three copies of the report and Balancing Report with the Engineer.

(b) Lubricate all equipment, change filters and any indicator lamps, and provide a warranty letter to the Owner recording the date of start and the duration of warranty.

(c) Warranty on all systems is one full year parts and labor, and an additional one year on all all refrigeration systems including labor.

4. HEATING & VENTILATING UNITS

(a) Provide units as shown on the drawings complete with discharge modulating thermostat with electronic modulation gas valve for smooth linear discharge temperature. Units with air capacities of 2000 cfm or greater shall have smoke sensing unit cutouts installed wired to stop the system on activation. Provide factory standard high temperature limit cutoff, all to suit AGA approval requirements.

(b) Make sure that unit will not draw in air from exhaust fans or gas or plumbing vents. If this is a possibility, extend the vents to maintain 10 feet above the unit.

(c) Provide manufacturer's standard high velocity filter system and make sure that filter scan be easily removed from the unit. Provide 2 spare sets of filters.
5. DUCTWORK

(a) Provide ductwork as shown and required. All metal shall be prime coat galvanized cold rolled steel with gauges and construction per SMACNA and ASHRAE standards.

Longest Side	USG
12" or less	26
13 to 30"	24
31 to 54"	22
55 and up	20

(b) Where ducts are acoustically lined, duct sizes shown are net.

(c) Ducts shall be supported using angle iron trapeze hangers with threaded rod supports. 18ga. Strips are acceptable for ducts less than 18" longest side.

(d) Elbows shall be round throat where possible with one duct width radius. Square throat or back elbows shall only be used where space does not permit standard elbows and turning vanes shall be installed.

(e) All take-offs shall be fitted with dampers and shall be expanded throat type, except spin-in fittings are acceptable for diffused branches.

(f) Flex ducts shall not exceed 10' in length and where flex ducts connect to a diffuser, a metal elbow shall be mounted on the diffuser and connected to the duct, to provide equal flow out of the diffuser.

(g) Provide flex connections to all pieces of equipment, and where the unit is outside, provide a rain shield over the top of the connection. For exterior ducts, break the duct on top to provide positive rain shedding, and brace from inside if necessary.

A/C UNIT SCHEDULE (OR ALTERNATIVE MANUFACTURER APPROVED)

UNIT No.	MAKE & MODEL	CFM	E.S.P. (INCH W.C.)	TOTAL COOL. CAP. (BTU/HR)	SENSIBLE COOL. (BTU/HR)	GAS INPUT (CFH)	HEAT OUTPUT (MBH)	EVAP. MOTOR H.P	V/PH/C	FRESH AIR INTAKE SETTING (CFM)	DOWN DISCHARGE	APPROX. WEIGHT (LBS)	CONTROL	REMARKS
FU-1	LENNOX MODEL # EL296UH110XV48C	1600	0.50	48,000	38,200	110	70	1/2	208V/3/60	400	HORIZONTAL DISCHARGE	175	AUTO/ HTG/COL T-STAT	ROOF JOISTS PLATFORM MOUTED C/W POWER VENT, FILTERS, AND MATCHING COOLING COIL, PROGRAMMABLE THERMOSTAT, HORIZONTAL SUSPENSION KIT. PROVIDE FLEXIBLE DUCT CONNECTION ON S/A & R/A DUCT PLENUM AND ACOUSTICALLY LINE S/A & R/A DUCT WITH 1" ACOUSTIC INSULATION FOR A MINIMUM OF 15FT.
CD 1	LENNOX MODEL # 14ACX-048-230	4 TON						1/3	208V/3/60			250		FLOOR MOUNTED CONDENSING UNIT, TO BE SUPPORTED WITH CONCRETE PAD AND C/W LOW AMBIENT KIT. - FOR REFRIGERATION LINES SIZING, REFER TO MANUFACTURES RECOMMENDATION AS REQUIRED.

NOTE:
1. ENERGY EFFICIENCY RATINGS TO CONFORM TO ASHRAE 90.1-1989 STANDARD FOR ENERGY CONSERVATION.
2. ALL ECONOMIZERS TO BE DUAL ENTHALPY CONTROLLED.
3. ALL UNITS TO BE PROVIDED WITH HEATING\COOLING PROGRAMMABLE AUTO CHANGE OVER THERMOSTAT UNLESS NOTED OTHERWISE.
4. ALL VOID SPACES IN ROOF CURBS TO BE PACKED WITH ACOUSTIC INSULATION, REFER TO MECHANICAL SPECIFICATIONS.
5. ACCEPTABLE ALTERNATIVE MANUFACTURER WILL BE "LENNOX"
6. AC-UNIT GRATER THAN 5TON SHALL BE COMPLETED WITH SMOKE DETECTOR MOUNTED IN R/A DUCT.

FAN SCHEDULE

SYMBOL	DUTY	C.F.M	SP (IN)	R.P.M	WATTS	V/PH/C	STARTER	MAKE AND MODEL	REMARKS
EF 1	WASHROOM 1	100	0.50	1550	65	120/1/60	LIGHT SWITCH	COOK MODEL# GC-240	CEILING MOUNTED EXHAUST FAN, UNIT WEITHT 22 lbs
EF 2	WASHROOM 2	100	0.50	1550	65	120/1/60	LIGHT SWITCH	COOK MODEL# GC-240	CEILING MOUNTED EXHAUST FAN, UNIT WEITHT 22 lbs
EF 3	LUNCH ROOM	100	0.50	1550	65	120/1/60	ON/ OFF SWITCH	COOK MODEL# GC-240	CEILING MOUNTED EXHAUST FAN, UNIT WEITHT 22 lbs
EF 4	ELECTRICAL ROOM	250	0.25	1205	170	120/1/60	REVERSE ACTING T'STAT	COOK MODEL# GC-420	CEILING MOUNTED EXHAUST FAN, UNIT WEITHT 32 lbs

NOTE:
.1 MOTORS TO CONFORM TO ASHRAE 90.1-1989 STANDARD FOR ENERGY CONSERVATION.
.2 ALL EXHAUST DUCTWORK SHALL BE EXTERNALLY WRAP WITH 25MM (1") THICK FIBER GLASS VINYL JACKET INSULATION FOR A MINIMUM OF 6'-0" (1.8M) FROM EXTERIOR WALL (OR INSULATION SLEEVE)

GRILLE AND DIFFUSER SCHEDULE

SYMBOL	CFM	SIZE	MAKE AND MODEL	REMARKS
A	AS NOTED ON PLAN	AS NOTED ON PLAN	NAILOR MODEL No. RN5	24x24 DIFFUSER C/W VOLUME DAMPER
B	AS NOTED ON PLAN	AS NOTED ON PLAN	NAILOR MODEL No. 6T45H-O	RETURN AIR GRILLE
C	AS NOTED ON PLAN	AS NOTED ON PLAN	NAILOR MODEL No. 6145H-O	EXHAUST AIR GRILLE

GAS FIRED UNIT/TUBE HEATER SCHEDULE

SYMBOL:	MANUFACTURER AND MODEL No.	GAS INPUT (M.B.H.)	OUTPUT CAP. (M.B.H.)	HP		APPROX. WEIGHT (LBS)	FLUE SIZE	REMARKS
UH 1 TO UH 4	LENNOX MODEL No. LF-24-45A	45	36.5	1/20	120/1/60	100	4"Φ	C/W VERTICAL ROOF VENT KIT AND THERMOSTAT

PLUMBING FIXTURE SPECIFICATIONS

'W' TOILET – FLOOR MOUNTED TOILET

FLOOR MOUNTED TANK TYPE TOILET – VITREOUS CHINA – AMERICAN STANDARD #215AA.105, 'CADET PRO RIGHT HEIGHT ELONGATED', FLOOR MOUNTED, 4.8 L (1.28 US GAL) PER FLUSH, TWO PIECE, ELONGATED BOWL. – CENTOCO #820STS.001, EXTRA HEAVY DUTY TOILET SEAT, WHITE SOLID PLASTIC, OPEN FRONT WITH COVER.
– MCGUIRE #LFH172BV, POLISHED BRASS TOILET SUPPLY.
– PROVIDE FLOOR FLANGE, (SAME MATERIAL AS THE CONNECTING PIPE DRAIN), WITH ALL BRASS BOLTS AND WITH RUBBER GASKET.

'L' BASIN – COUNTER MOUNTED (CHINA)

American Standard 'CADET UNIVERSAL ACCESS' #AF-9494 Basin, centre holes, 21 1/2" x 18" (546mm x 457mm) vitreous china, overflow, self-rimming with sealant. Trim fitting Symmons Symmertrix Single Handle lavatory Faucet #SLS-2012-1.5 C.C. with 1.5 GPM (8L) flow aerator and single control metal lever handles. C.P. Drain offset with chain and plug. C.P. 'p' Trap 20 gauge (1.0mm) 1-1/4" (32mm) and escutcheon. Offset Supplies short horizontal with angle Stops, escutcheons and flexible risers.

'KS' SINK – S.S. SINGLE COMPARTMENT

Kindred 'STEEL QUEEN' #QSL-2020-8 S.S. Single Compartment Sink, 31" x 20-1/2" x 8" deep (794mm x 521mm x 200mm), grade 18-8 type 302 stainless steel, single compartment, back ledge, mirror finished rim, satin finished bowl, with spillway, self-rimming, counter mounted, with crumb cup strainer and sound deadening. 'p' Trap Cast Brass, 1-1/2" (38mm) with clean-out, unions and escutcheon. Trim fitting: SYMONS #S-23-LST, C.P. 8" (203mm) C.C., deck mounted, cast brass lead-free waterway with metal deck plate, ceramic disc valve cartridges, swing spout with 1.84 GPM (8L) flow aerator outlet and single control metal lever handle. Connect with flexible tubes 1/2" (12.7mm) rough stops on supply piping and escutcheons.

'JS' JANITOR SINK

Stern-Williams #MTB-2424 Mop Sink, 24" x 24" x 10" (610mm x x 610mm x 254mm) deep, floor mounted, precast terrazzo and integral drain with strainer. Trim fitting #T-10-VB Faucet, C.P. 8" (203mm) C.C. wall mounted, solid cast brass body, with cast metal handles, vacuum breaker, integral stops, #T-35 S.S. Bracket 36" (915mm) hose with coupling. 'p' Trap, 3" (75mm).

'RD' ROOF DRAIN - STANDARD FLOW
SMITH 1010ERCGID
DUCO COATED C.I. BODY, UNDER DECK CLAMP SOLID EXTENSION TO SUIT ROOF, SUMP RECEIVER, FLASHING CLAMP WITH SEEPAGE OPENING.

'SD' SCUPPER DRAIN
SMITH SERIES 1510SG SCUPPER DRAIN

'FD' FLOOR DRAIN TO BE MANUFACTURED BY 'J.R. SMITH' MODEL #SQ-2-1717B C/W TRAP PRIMER. (TYPICAL)

'HD' HUB DRAIN TO BE MANUFACTURED BY 'J.R. SMITH' MODEL #3822 C/W TRAP PRIMER. (TYPICAL)

'NFHB' NO-FREEZE HOSE BIBB - EXTERIOR
SMITH SERIES 55DMGT BOX TYPE WALL HYDRANT

DATE	NO.	DESCRIPTION	BY
AUG. 08/016	4	RE-ISSUED FOR PERMIT	JK
JUNE 27/016	3	ISSUED FOR CONSTRUCTION	JK
MAY 04/016	2	ISSUED FOR TENDER	JK
AUG. 25/015	1	ISSUED FOR PERMIT	HZ

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT DISCREPANCIES TO THE ENGINEERS BEFORE PROCEEDING WITH WORK

THIS DRAWING IS THE PROPERTY OF THE ENGINEERS AND MUST BE RETURNED ON COMPLETION OF THE WORK

D R A W I N G S A R E N O T T O B E S C A L E D

CONSULTING ENGINEERS

REGISTERED PROFESSIONAL ENGINEER J. D. HUBBERT PROVINCE OF ONTARIO

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DRAWING TITLE
MECHANICAL SPECIFICATIONS AND SCHEDULES

MECHANICAL

PROJECT TITLE
NEW WAREHOUSE

1340 HEINE COURT
BURLINTON ONTARIO

DRAWN BY	CHECKED BY	SCALE
HZ	JDH	N.T.S
DATE	PROJECT NUMBER	DRAWING NUMBER
AUG 2015	5-4687	M-2 OF 2