

15100 BASIC REQUIREMENTS

1.0 SCOPE OF WORK

- 1.1 Provide all labour, materials equipment and services to complete the work of the mechanical division as further specified and as shown on the drawings. The work consists of but is not necessarily limited to, providing plumbing, heating, cooling and ventilation systems.
- 1.2 Upon completion of the work leave all systems in proper operating order and the premises in a clean and tidy condition to the satisfaction of the Consultant.

2.0 REGULATIONS, CODES AND STANDARDS

- 2.1 The work shall accord strictly with all rules, regulations, by-laws and the requirements and interpretations of all authorities having jurisdiction.
- 2.2 Drawings and specifications should not conflict with the above regulations, but where there are apparent discrepancies the Contractor shall notify the Consultant in writing and obtain clarification before proceeding with the work.
- 2.3 The work of the mechanical division shall conform to the following Codes, Regulations and Standards including, unless referenced otherwise, latest revisions issued up to date of tender submission.
 1. The Ontario Building Code,
 2. NFPA 90A with respect to Air Conditioning and Ventilating Systems.
 3. NFPA 90B with respect to Warm Air Heating and Air Conditioning Systems.
 4. ASHRAE Guide and Data Books.
 5. SMACNA "HVAC Duct Construction Standards"
 6. All other codes, standards, regulations referred to in the above documents, adopted by the authorities having jurisdiction and/or applicable to the work of this Division as shown on the contract documents.
 7. Ontario Natural Gas Utilization Code CGA/CSA B149.1.

- 3.0 EXAMINATION OF SITE
- 3.1 The actual location of services shall be verified in the field before work is commenced.
- 4.0 DRAWINGS, CHANGES AND INSTALLATIONS
- 4.1 The drawings shall be considered to show the general character and scope of the work and not the exact details of the installation. The installation shall be complete with all accessories required for a complete and operative installation. 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.

- 5.0 RECORD DRAWINGS
- 5.1 The Contractor shall clearly mark, as the job progresses, all changes and deviations from that shown on contract drawings. On project completion, the Contractor shall forward to the Consultant the set of drawings indicating the as-built conditions.
- 6.0 SHOP DRAWINGS
- 6.1 Three copies of shop drawings which indicate clearly the materials and/or equipment actually being supplied, all details of construction, accurate dimensions, capacity, operating characteristics and performance shall be submitted to the Consultant for approval. Each shop drawing shall give the identifying number of the specific pump, fan, etc. for which it was prepared (e.g. Fan F-7)
- 6.2 Prior to submission to the Consultant, the Contractor shall review all shop drawings and approve them, indicating that the drawings have been checked and the described equipment has been co-ordinated.
- 6.3 Installation of any equipment shall not be commenced until after shop drawings have been reviewed by the Consultant.
- 6.4 Bind one complete set of reviewed Shop Drawings in each operating and maintenance instruction manual.

- 7.0 QUALIFICATION OF TRADESMEN
- 7.1 The Contractor shall maintain at the job site, at all times, qualified personnel and supporting staff, with proven experience in erecting, supervising, testing and adjusting projects of comparable nature and complexity.
- 8.0 PRODUCT DELIVERY, STORAGE AND HANDLING
- 8.1 Inspect products delivered to the site, and before acceptance ensure that the product is: new, the best of its respective kind, free from defects, is as specified, and is as per reviewed shop drawings, all in accordance with the Contract Documents.
- 8.2 Store materials only in designated areas and protect as necessary to maintain materials in new condition.
- 8.3 Any unpainted steel surface shall be prime coated under this Division.

- 9.0 WARRANTY
- 9.1 The Contractor shall provide a warranty of one year for all systems and equipment installed under this contract. The Contractor agrees to correct promptly, at his own expense, defects or deficiencies in the Work which appear prior to and during the period of one year from the date of acceptance by the Owner of the Work or portions of the work.
- 10.0 OPERATION AND MAINTENANCE INSTRUCTIONS
- 10.1 Three (3) copies of complete operating and maintenance instructions for all mechanical equipment and systems, bound in hard covered manuals, shall be supplied.
- 11.0 INSTRUCTIONS TO OWNER
- 11.1 Instruct the Owner's representative(s) in all respects of the operation and maintenance of systems and equipment. Obtain in writing from the Consultant a list of the Owner's representative(s) qualified to receive instructions.

- 12.0 BASIC MATERIALS AND METHODS
- 12.1 Make and quality of materials in the construction of this project shall be subject to the approval of the Consultant.
- 12.2 Materials and equipment supplied by this Division shall be new and free from defects and shall be equivalent in physical characteristics and performance to that specified by the manufacturer's name and catalogue number.
- 2.0 CUTTING, PATCHING, SLEEVES AND ESCUTCHEONS
- 2.1 The Contractor shall coordinate on site the position of all sleeves and openings required for the work.
- 2.2 Openings shall be made at the expense of the mechanical division, except for louver openings which shall be co-ordinated with the general contractor. Cutting of structural members shall not be permitted without specified written approval by the Consultant.
- 2.3 All drilling for hangers, rod inserts and work of similar nature shall be done under this contract.
- 2.4 It shall be the responsibility of the mechanical division to locate and provide anchor bolts, equipment bases and curbs.

- 3.0 HANGERS AND EQUIPMENT SUPPORTS
- 3.1 Piping and equipment provided under the mechanical division shall be complete with all necessary supports and hangers required for a safe and workmanlike installation. Auxiliary structural members shall be provided under the mechanical section concerned, where piping, ducts or equipment must be suspended between the joists or beams of the structure.
- 4.0 ELECTRICAL CHARACTERISTICS
- 4.1 Electric motors for all driven equipment supplied under the mechanical division shall be provided and installed under this Division.
- 4.2 Motors shall have the following electrical characteristics, unless otherwise specified:
For 1/3 HP or larger - 240-1-60 Hz
For 1/4 HP and smaller - 120 volt - 1 ph - 60 Hz

15200 BASIC MATERIALS AND METHODS (CON'T)

- 5.0 ACCESS PANELS AND ACCESSIBILITY
- 5.1 All parts of the installation requiring periodic maintenance shall be accessible. Wherever valves, dampers, etc. are concealed by the building construction, access doors or panels shall be furnished by this section and installed under this contract. The mechanical division shall be responsible for their proper location.

- 6.0 CLEANING
- 6.1 Clean thoroughly all fixtures and equipment from grease, dirt, plaster or any other foreign material. Any dirt, rubbish or grease on walls, floors or fixtures accumulated from the work of the mechanical division shall be removed promptly from the premises by this division.
- 7.0 NAMEPLATES & SIGNS
- 7.1 Label Thermostats and AC units.
- 8.0 MAINTENANCE MATERIALS
- 8.1 Lubricating oils, greases, spare parts, replacement parts and special maintenance and service tools where called for in the specifications shall be presented to the Owner during the instruction period.

- 9.0 CLEANING, BALANCING AND COMMISSIONING
- 9.1 The interiors of all plenums, casings and ductwork shall be cleaned.
- 15300 INSULATION AND LININGS
- 1.1 Acoustic Lining to be 1" thick rigid, coated liner conforming to NFPA 90A and 90B. Increase duct sizes to compensate for increased thickness. Fasten lining with welded pins and self locking washers. Install lining where indicated on drawings and on all supply and return ductwork to air handling units, furnaces, etc., up to and including the first elbow or a minimum total length of 8'-0"
- 1.2 Fresh air and exhaust ducting is to be insulated with 2" thick #3 rigid fibreglass, equal to Manson AK Board. Fasten with welded pins and self locking washers at 12" centres.
- 1.3 Insulation must be dust free, fibre free and resist mold and mildew.
- 1.4 Insulation materials to have a conductivity of .27 BTU-in/hr-ft2 and have a flame spread index of less than 25 and a smoke developed index of less than 50.

- 2.1 Refrigeration insulation to be flexible closed cell elastomeric pipe insulation, and must conform to ASTM C534 Grade 1, Type 1 All liquid and suction lines are to be insulated continuously.
- 2.2 Thickness to be a minimum of 1/2" wall thickness for suction and 3/8" for discharge.
- 2.3 Install insulation according to manufacturer's requirements. Use adhesive to join butt joints.
- 15400 PLUMBING
- 1.1 Reference: Ontario Building Code
- 1.2 Submit product data for plumbing fixtures, floor drains, etc.
- 1.3 Architectural drawings to govern the number and location of fixtures.
- 1.4 Fixtures to be the product of one manufacturer and of the same type.
- 1.5 Trim in any one washroom to be the product of one manufacturer.
- 1.6 Exposed plumbing brass to be chrome plated.
- 1.7 DCW and DHW above ground piping to be copper tube, hard drawn, type L to ASTM B88M. Bronze or copper fittings, soldering with lead free solder.
- 1.8 Isolation valves: Class 150, screwed or soldered, bronze body, chrome plated brass ball, PTFE teflon adjustable packing, brass gland, PTFE teflon seat, plastic coated steel handle.
- 1.9 Check valves: 200 lb. class, bronze body, Watts CV or equal.
- 1.10 Below Grade Sanitary: ABS to CAN/CSA B181.1 or PVC to CAN/CSA B181.2, solvent welded to ASTM D2235.
- 1.11 Above Grade Sanitary and Venting: PVC to CAN/CSA B182.2, solvent welded to ASTM D2235 with a flame spread rating of 25 or less. Pipe to be IPEX System 15.
- 1.12 Pipe insulation to be 1" thick rigid fibre glass with factory applied vapour barrier and self seal lap joint equal to Manson Alley K with APT jacket. Use premoled PVC covers for fittings over 1" in size.

- 2.0 Execution
- 2.1 Install buried pipe on a 6" bed of clean washed sand, shaped to accommodate fittings and to line and grade as indicated. Backfill with a further 6" layer of sand.
- 2.2 Install clean-outs as indicated and as required by code at base of soil stacks.
- 2.3 Sanitary and floor drains are to be trap seal primed from the nearest cold potable water supply.
- 2.4 Assemble piping using Code and ANSI standards. Maintain straight lines along walls for pipe routing.
- 2.5 Install isolation valves on each plumbing fixture supply line.
- 2.6 Pipe hot water relief lines to nearest floor drain or janitor's sink. Provide drain and vent if no floor drain is nearby.
- 2.7 Insulate all plumbing supply lines with fibrous glass split sectional pipe insulation as above.
- 2.8 Flush out and rinse systems. Clean out aerator screens and strainers. Leak test according to building code before plumbing is closed in or buried. Notify Consultant 48 hours in advance.

- 15500 GAS PIPING
- 1.1 Gas Piping will be threaded, ASTM A53, Grade B, Schedule 40, size as indicated on drawing.
- 1.2 Fittings to be malleable iron, screwed, Class 150 to ANSI B16.3
- 1.3 Unions to be malleable iron, brass to iron seat, to ASTM A47M.
- 1.4 Valves to be ball type, Class 600, WOG, to be installed at each appliance.
- 1.5 Install in accordance with provincial code and CGA/CSA B149.1. Slope pipe in direction of flow, install drip pockets at low points and at connection to equipment.
- 1.6 Support piping from hangers according to code.
- 1.7 Pressure test piping in accordance with CSA/CGA B149.1.
- 1.8 Point gas piping yellow with enamel based paint, where exposed. Where pipe is hidden, band pipe with labels.

- 15600 SHEET METAL DUCTWORK AND SPECIALTIES
- 1.1 Make all ductwork, unless specifically noted otherwise, of galvanized sheet steel to ASTM A525-83, and according to the requirements of SMACNA for a 1" wg pressure class and a seal class of 'C'. Provide reinforcements fabricated from angles, zees, or channels as per SMACNA. Support ducts with hangers and tie-rods. Ductwork will be painted in this contract.
- 1.2 Where ductwork passes through a wall or floor, other than when a fire damper is required, pack around the duct using a fire resistant material to ensure a sound and air-tight joint.
- 1.3 Make changes in direction of horizontal ducts with elbows having an inside radius not less than the width of the duct. Make a change of direction from horizontal to vertical duct with elbows having an inside radius equal to the depth of the duct. Where this is not possible due to the building construction, use turning vanes. These shall be hollow "Duro Vane Roll" manufactured by Duro Dyne or similar turning vanes acceptable to the Consultant.
- 1.4 Provide flexible connections at each air handling unit and fan to duct connection. The frame shall be galvanized sheet metal with fire-resistant neoprene coated glass fabric, clenched by double locked seams. Temperature rating shall be -40oF to 190oF.
- 1.5 Provide duct access panels at all gravity dampers, fire dampers, motorized dampers, coils, fan bearings or similar equipment requiring occasional maintenance or inspections. Panels shall be 1" thick, insulated, low leakage, cam lock closure, and equal to Nalor Series 0800. Minimum size to be 12"x12" or 2" less than the duct width squared, unless duct dimensions do not allow. This Contractor shall also supply drywall access doors.
- 1.6 For duct expansions, the angle formed at each side of the duct shall not exceed 20°. For contractions, the angle formed at each side of the duct shall not exceed 30°.
- 1.7 Provide take-off boots and balancing dampers at all branches, and to SMACNA standards.
- 1.8 Grilles and Diffusers: Refer to schedules on drawings for size, colour and supplier.
- 1.9 Insulated flexible ducting is to be used to connect ductwork to ceiling diffusers. The maximum length of flexible ducting is to be 4'-0". Ducting and insulation to meet NFPA requirements for to flame spread and smoke developed, 25/ 50. Insulation to be 1" thick.
- 1.10 Fire Dampers, where indicated, (FD) shall be installed at all fire separations, which includes the walls of any mechanical room. Dampers shall have a 165oF fusible link, be Type B, ULC listed and be rated for 1½ hours.

15800 HEATING AND AIR CONDITIONING UNITS

- 1.0 GENERAL
- 1.1 Two split furnace /AC system will be used to cool the space. The furnaces and coils have been installed. Condensers and hook-up are required.
- 1.2 Design Conditions: Summer Inside: 78oFDB, 50% RH, Summer Outside: 85oFDB, 72oFWB, 95oF on Condenser

- 2.0 PRODUCTS
- 2.1 Split Systems - F/AC-1 and F/AC-2
- Furnace: 120,000 BTU/hr input capacity, gas fired 2 Stage, single speed high efficiency motor and fan, 1900 cfm nominal at .5" wc 120-1-60 (has been installed)
- Filters: Merv 8, such as Camfil 30 (has been installed)
- Condenser: 5.0 ton, R410A, 1 stage, 208/230-1-60, MCA 32.7, MAX FUSE 50A.
- Coil: 5.0 ton multi position cased coil (has been installed)
- TX Valves: to be installed

- 2.1.1 Indoor unit shall be gas fired, condensing furnace suitable for horizontal installation, c/w direct expansion cooling coil, tubular aluminumized steel heat exchanger, 2 stage gas burner, single speed direct drive with ECM motor, centrifugal fan, vibration isolation, piping connections, and controls. The furnace shall be high efficiency (+96%), have CSA/CGA certification, one year warranty on the unit, 10 years on the exchanger, direct vent sealed combustion with thru-the-wall venting capability.
- 2.1.2 Unit casing shall be painted, zinc coated steel. Cabinet to be insulated.
- 2.1.3 Evaporator Coil to be direct expansion fully cased type, with copper tubing and aluminum fins. Coil to have condensate drip pans with drain connection suitable for horizontal installation.
- 2.1.4 Furnace controls shall include a microprocessor based integrated electronic control board with LED diagnostic display, fuse, and be capable of multiple operational speed settings.
- 2.1.5 F/AC-1 and F/AC-2 shall have 24/7 programmable heating and cooling thermostats, with automatic change over, c/w temperature sensor. Controls to be 24v. Acceptable Product: Honeywell Focus Pro 6000 SI-TH6110D1002.
- 2.1.6 Outdoor Unit shall be a factory assembled unit consisting of scroll compressor, air cooled coil, direct drive propeller type condenser fan, coil guard, and control box, and have a minimum SEER rating of 14.5. Unit shall contain all factory wiring, controls, compressor, refrigerant charge of R-410A. Compressor shall be installed on rubber vibration isolators. Refrigeration components shall include thermal expansion valves, liquid line shut-off valve, vapour line shut-off valve, compressor oil, high pressure switch, low pressure switch. Power to be 240-1-60; control circuit to be 24v. Accessories to include anti-short cycling protection.

- 3.0 EXECUTION
- 3.1 Install equipment where shown on drawings according to manufacturer's recommendations. Units shall be mounted straight and level, aligned with structure, for a neat and workmanlike arrangement.
- 3.2 Disconnects and power wiring shall be provided by Division 16. All power wiring by Division 16. All control wiring is by Division 15 and will be 24 volt.
- 3.3 Provide 3/4" PVC drain line from the evaporator pan to the nearest floor drain.
- 3.4 Install thermostats in locations indicated.
- 3.5 Route refrigerant tubing to condenser locations outside. Insulate refrigeration tubing.
- 3.6 Install fresh air and fuge gas venting, 2". Venting to meet the requirements of CSA B149.1. Venting to be equal to IPEX System 636. Install as per manufacturer's recommendations with concentric vent and combustion air intake.
- 3.7 Start-up the systems, balance the airflows, and demonstrate the units to the Owner.

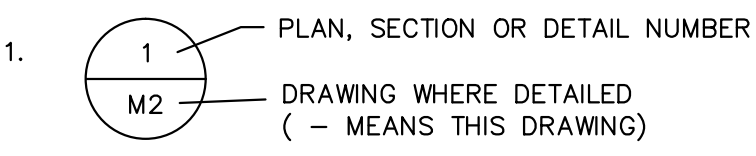
- 15900 CONTROLS
- 1.1 Wall mounted thermostat is to be provided with the AC-1 unit as noted above. Mount thermostat where indicated. Program for constant fan during daytime hours, and on demand at setback temperatures during unoccupied times. Demonstrate to Owner. Refer to Section 15800 for controls description.

- 15950 BALANCING AND TESTING & COMMISSIONING
- 1.0 Hire an independent balancing contractor and balance and test the existing fresh air ventilation HVAC system according to the most recent SMACNA standards. Prepare a written air balance report and submit for approval. All air flows are to be measured on forced air systems, along with motor HP, rpm, amperage draw, static pressures, fresh air intake, exhaust air, etc.
- 2.0 Once the equipment is operating and according to requirements, the Contractor shall arrange for a demonstration of the equipment to the Owner and Consultant to verify that the equipment is operating satisfactory.

DRAWING LIST - MECHANICAL

- M1 TITLE AND SPECIFICATIONS
- M2 PLUMBING PLANS
- M3 HVAC PLANS

GENERAL NOTES



2. CONTRACTOR SHALL VERIFY SITE CONDITIONS AND REPORT ANY DISCREPANCIES AND INCONSISTENCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

LOCATION AND SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
UNLESS NOTED OTHERWISE, DIMENSIONS ARE IN IMPERIAL UNITS.

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Rev.	Date	Description	By	App.

NOVADYNE
269 North Indian Road Tel: (705) 696-2119
Hastings, ON
K0L 1Y0

	DWN.	AB	NOV 2015
	CHK.		
	DSN.	A. BUCHKOWSKI	NOV 2015
	SCALE:	AS NOTED	

CLIENT
GREGG GORDON ARCHITECT

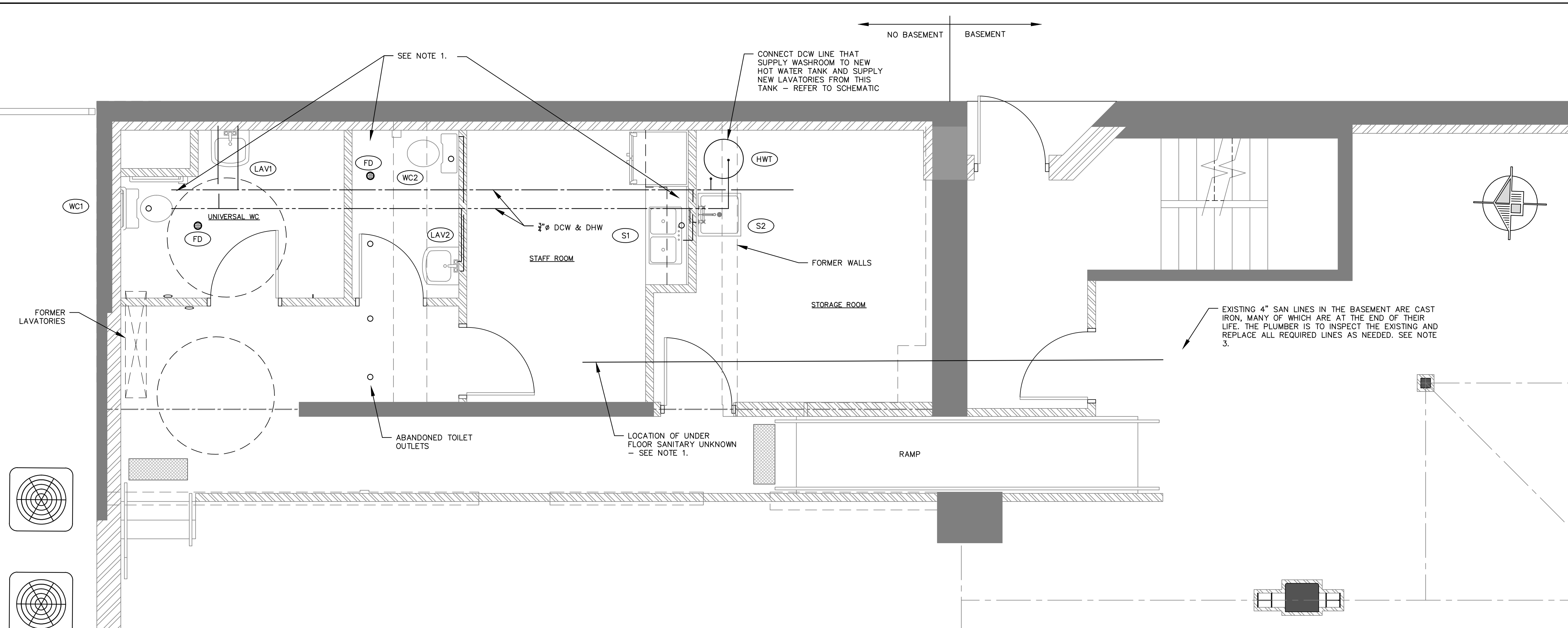
PROJECT
**PROPOSED "BUCK OR TWO"
RETAIL STORE**
172 Simcoe Street
Peterborough, Ontario

TITLE
TITLE AND SPECIFICATIONS

FILE No.	DWG. No.	Rev. No.
0419-M1	M1	2
CLIENT FILE No.		

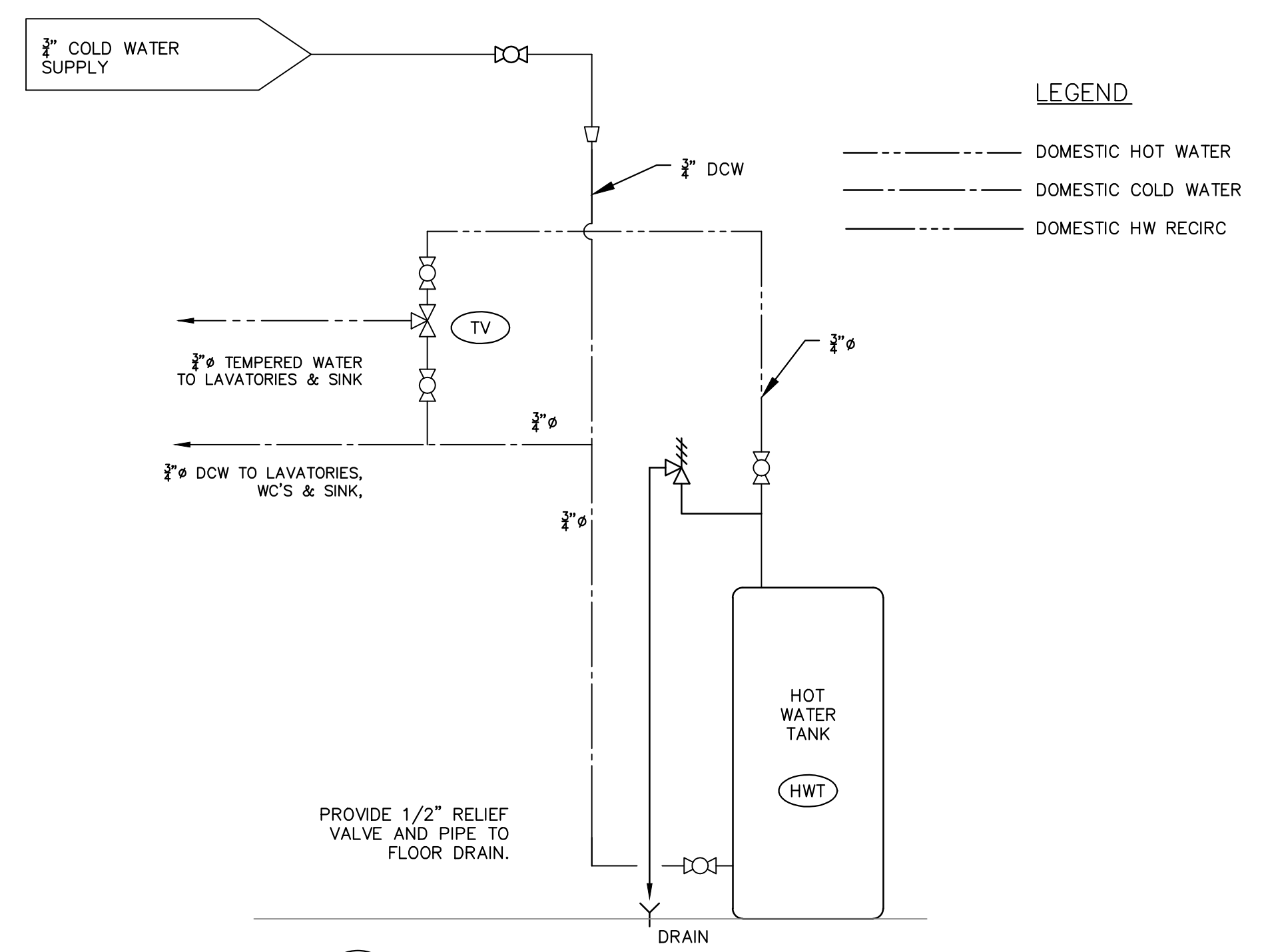
LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	THERMOSTAT		DUCT SIZE: FIRST NUMBER IS PLAN DIMENSION
	TEMPERATURE GAUGE		DIRECTION OF AIR FLOW
	TEMPERATURE SENSOR		FLEXIBLE CONNECTION
	MANUAL BALANCING DAMPER		THERMAL INSULATION
	SOLENOID VALVE		ACOUSTIC INSULATION
	MOTORIZED DAMPER		TURNING VANES
	FIRE DAMPER		EXISTING SUPPLY DUCT
	HIGH TEMPERATURE CONTROL		NEW SUPPLY DUCT
	PRE-FILTER		EXISTING RETURN DUCT
	BAG FILTER		NEW RETURN DUCT
	DIRECT EXPANSION COOLING		EXISTING VENT
	FAN		NEW VENT
	LOW VOLTAGE CONTROL WIRING		EXISTING SANITARY DRAIN
	PRESSURE SWITCH		NEW SANITARY DRAIN
	EXISTING SPRINKLER HEAD		EXISTING COLD WATER
	NEW SPRINKLER HEAD		NEW COLD WATER
	FIRE EXTINGUISHER		EXISTING HOT WATER
	CIRCULATOR		NEW HOT WATER

} PLUMBING



- NOTES**
1. FORMER WASHROOMS HAVE BEEN DEMOLISHED FROM THESE AREAS. NEW WASHROOMS ARE TO BE INSTALLED AS INDICATED. PLUMBER IS TO INVESTIGATE EXISTING UNDERFLOOR SANITARY DRAINS (WHICH ARE CAST BELOW CONCRETE) USING REMOTE CAMERAS, ETC TO DETERMINE WHETHER THEY ARE RE-USABLE. (FORMER WASHROOMS WERE CIRCUIT VENTED.)
 2. EXISTING ABOVE GROUND PLUMBING (SUPPLIES, DRAINS AND VENTING) HAS BEEN CUT BACK TO THE WALLS. PLUMBER TO ASSESS CONDITION AND RE-USE WHERE POSSIBLE. REMOVE ALL ABANDONED PLUMBING WHERE POSSIBLE AND CAP AND SEAL REMAINING IN WALLS AND CEILING.
 3. AFTER THE PLUMBER'S INVESTIGATION MEET WITH THE ENGINEER TO REVIEW THE EXISTING CONDITIONS AND AGREE ON A WORK PLAN.

PLUMBING FIXTURE SCHEDULE (PRELIMINARY)						
REF.	FIXTURE NAME	HOT	COLD	DRAIN	VENT	REMARKS
C.O.	CLEAN OUT	-	-	-	-	ZURN ZN-1602, ADJUSTABLE HEAD WITH BODY SLEEVE SEAL
S1	KITCHEN SINK	1/2"	1/2"	1 1/2"	1 1/4"	31" X 20" X 7" DP. DOUBLE COMPARTMENT, 20 GAUGE LEDGEBACK STAINLESS STEEL SINK, 3 HOLES, EQUAL TO KINDRED STEELQUEEN QDL2031/7. FAUCET TO BE POLISHED CHROME PLATED, 8" CENTRES, SINGLE CHROME LEVER, EQUAL TO MOEN ADLER CAB7539 (NO SIDE SPRAY).
S2	JANITOR SINK	1/2"	1/2"	2"	1 1/2"	24" X 24" X 10" HIGH - FLOOR MOUNTED, MOLDED HIGH DENSITY COMPOSITE JANITOR'S BASIN WITH STAINLESS STEEL GUARDS ON 1 SIDE. DRAIN TO BE 3" STAINLESS STEEL WITH SS STRAINER. PROVIDE 24" SS WALL GUARD SET, EQUAL TO PROFLO PFM82424S, PFB24S BUMPER GUARD AND PFW24S WALL GUARD. FAUCET TO BE CHROME PLATED FINISH BRASS CONSTRUCTION, SPROUT WITH BUCKET HOOK AND THREADED HOSE END, FITTING WITH VACUUM BREAKER, 1/2" CONNECTIONS, EQUAL TO PROFLO PF1118 AND PFSSHE FLEXIBLE HOSE
FD	FLOOR DRAIN	-	-	3"	1 1/2"	DURA-COATED, CAST IRON BODY, CLAMP COLLAR, POLISHED NICKEL BRONZE STRAINER, 3/8" TRAP SEALER PRIMER, EQUAL TO ZURN Z-415-A.
LAV1	LAVATORY (ACCESSIBLE)	1/2"	1/2"	1 1/2"	1 1/4"	ADA COMPLIANT LAVATORY: 22" X 21 1/2" LAVATORY REAR OVERFLOW, FIRE CLAY CHINA, WALL HUNG, WITH CUTOUT TEMPLATE AND MOUNTING KIT. 4" CENTRES FOR FAUCET, AMERICAN STANDARD MURRO D954 000. PROVIDE LOWER SHROUD KNEE CONTACT GUARD. FAUCET TO BE POLISHED CHROME PLATE FINISH, SOLID METAL CONSTRUCTION, PIVOT ACTION LEVER STYLE HANDLE, AERATOR LIMITED TO 1.5 GPM, C/W METAL DRAIN, FLEX SUPPLY LINES WITH COMPRESSION FITTINGS, EQUAL TO MOEN 8437CBN. WASTE PIPING TO BE PVC.
LAV2	LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	18 1/2" X 20 1/2" WHITE VITREOUS CHINA WALL HUNG SINK, SINGLE HOLE, FRONT OVERFLOW, EQUAL TO AMERICAN STANDARD LUCERNE 0356 421. CONTRACTOR TO PROVIDE WALL MOUNT KIT. FAUCET TO BE POLISHED CHROME PLATE FINISH, SOLID METAL CONSTRUCTION, PIVOT ACTION LEVER STYLE HANDLE, AERATOR LIMITED TO 8.3 l/MIN, C/W METAL DRAIN, EQUAL TO MOEN 8414. DRAIN TO BE PVC. PROVIDE ESCUTCHEONS.
WC1	WATER CLOSET (ACCESSIBLE)	-	1/2"	3"	1 1/2"	ADA COMPLIANT, WHITE VITREOUS CHINA, ELONGATED BOWL, FLOOR MOUNTED, INSULATED TANK WATER CLOSET, 6 LPF TOILET, AMERICAN STANDARD CADET PRO 215AA 054 OR EQUAL. SEAT TO BE OLSEN #10C, SOLID PLASTIC IMPACT RESISTANT. (FLANGE IS OFFSET 12" FROM BACK WALL)
WC2	WATER CLOSET	-	1/2"	3"	1 1/2"	REGULAR HEIGHT, WHITE VITREOUS CHINA, ELONGATED BOWL, FLOOR MOUNTED, INSULATED TANK WATER CLOSET, 6 LPF TOILET, AMERICAN STANDARD CADET 215CA 054 OR EQUAL. SEAT TO BE OLSEN #10C, SOLID PLASTIC IMPACT RESISTANT. (FLANGE IS OFFSET 12" FROM BACK WALL)
TV	THERMOSTATIC MIXING VALVE	3/4"	3/4"	-	-	3/4" ADJUSTABLE TEMPERATURE SETTING, CAST BRASS BODY, INTEGRAL CHECK VALVE, MAX 200F, 150 PSI TO CSA B125, EQUAL TO POWERS #LM-490-2-A-0
HWT	HOT WATER TANK	3/4"	3/4"	-	-	16 IMP GAL (73 LITRE) ELECTRIC HOT WATER HEATER, 3000 WATTS, 240V POWER, UNIT TO BE SUPPLIED WITH ASME RATED T&P VALVE, GLASS LINED INNER TANK, INSULATED WITH HIGH DENSITY FIBREGLASS INSULATION, AUTOMATIC TEMPERATURE CONTROLLER, DRAIN VALVE, 3/4" DIELECTRIC WATER CONNECTIONS, 6 YEAR LIMITED WARRANTY, AND BE LISTED BY CSA. THE UNIT SHALL BE EQUAL TO GIANT 119SE0. FILLED WEIGHT APPROX 300 LB.



Rev.	Date	Description	By	App.
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NOVADYNE
 269 North Indian Road Hastings, ON K0L 1Y0
 Tel: (705) 696-2119

MECHANICAL AS NOTED

DWN.	A. BUCHKOWSKI	NOV 2015
CHK.	A. BUCHKOWSKI	NOV 2015
DSN.	A. BUCHKOWSKI	NOV 2015

CLIENT
GREGG GORDON ARCHITECT

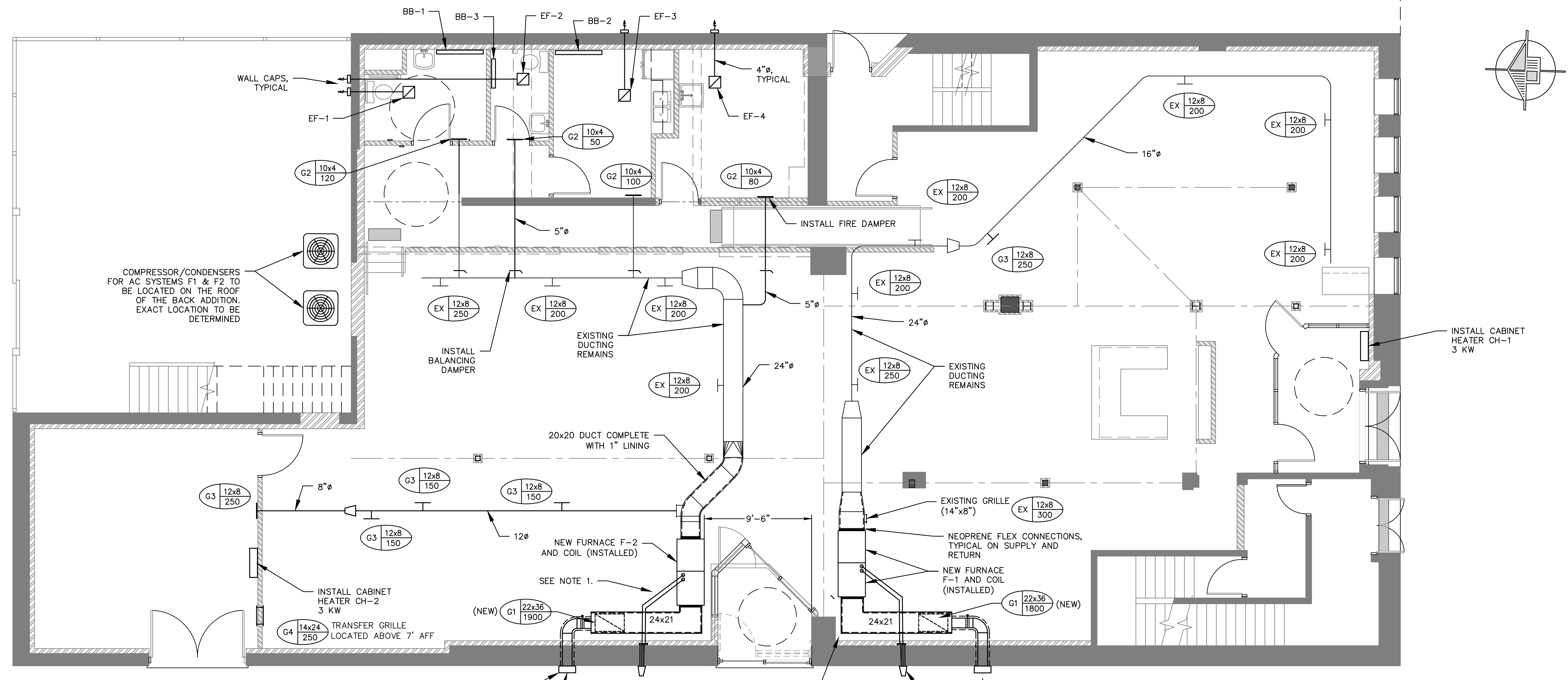
PROJECT
PROPOSED "BUCK OR TWO" RETAIL STORE
 172 Simcoe Street
 Peterborough, Ontario

TITLE
PLUMBING PLANS

FILE No.	0419-M2	DWG. No.	M2	Rev. No.	2
CLIENT FILE No.					

NOTES

1. FURNACES AND AC COILS ARE INSTALLED. FURNACES ARE OPERATING. INSTALL CONDENSING UNITS AS INDICATED AND PUT INTO OPERATION.



1 HVAC PLANS
M3 SCALE: 3/16"=1'-0"

8" FRESH AIR INTAKE (WALL CAP) FOR EACH FURNACE, DUCT INSULATED WITH 2" FIBERGLASS & SCRIM.
INSTALL MOTORIZED SPRING RETURN 8" DAMPER WITH TWO POSITION 120 V ACTUATOR. PROVIDE ONE TIMER TO OPERATE BOTH ACTUATORS SO DAMPERS OPEN DURING BUSINESS HOURS. TIMER EQUAL TO ORTECH DIGITAL 7 DAY TIMER, 120V, SINGLE POLE.

GRILLE SCHEDULE					
Item	Size	Type	Colour	EH Price Model	Remarks
G1	22x36	RET	WHITE	22x36/80/F/A/B12	
G2	10x4	SUP	WHITE	10x4/520/F/L/A/B12	
G3	12x8	SUP	WHITE	12x8/520/F/L/A/B12	
G4	14x24	RET	WHITE	12x24/520/F/L/A/B12	

BASEBOARD HEATERS				
Item	Heat (watts)	Length (inches)	Model	Remarks
BB-1, BB-2	1000	48"	OUELLET OFM1008	WHITE ELECTRIC BASEBOARD HEATER, 240 VOLTS, c/w LINE VOLTAGE TAMPERPROOF BUILT-IN THERMOSTAT
BB-3	500	30"	OUELLET OFM0508	WHITE ELECTRIC BASEBOARD HEATER, 240 VOLTS, c/w LINE VOLTAGE TAMPERPROOF BUILT-IN THERMOSTAT

CABINET HEATERS			
Item	Capacity	Model	Remarks
CH-1, CH-2	3kW/208/240-1PH	OUELLET OAC3000	TAMPERPROOF THERMOSTAT

Cabinet heaters to be surface mounted design, white in colour, 18 gauge steel, louvers, bottom air outlet, tubular heating element circulating fan, 240-1-60 power.

EXHAUST FAN SCHEDULE									
Item	Description	Airflow (cfm)	Static (wc)	RPM	Motor		Starter	Model	Remarks
					HP	volts/ph			
EF-1, 2, EF-3, 4	Washroom Exhaust	80	0.25"	950	80 watts	120/1	ON/OFF	GREENHECK SP-B110 CEILING MOUNT	c/w BACKDRAFT DAMPER, WALL CAP. UNIT OPERATED BY WALL SWITCH.

Rev.	Date	Description	By	App.
2	FEB 15 17	HVAC FOR PERMIT	AB	-
1	NOV 30 15	REVISED AC SPEC	AB	-
0	NOV 26 15	FOR CONSTRUCTION	AB	-
P1	NOV 24 15	FOR REVIEW	AB	-

NOVADYNE
269 North Indian Road Hastings, ON K0L 1Y0 Tel: (705) 696-2119

REGISTERED PROFESSIONAL DESIGNER
A.G. BUCHKOWSKI
Feb 18, 2017
PROVINCE OF ONTARIO
MECHANICAL

DWN.	A. BUCHKOWSKI	NOV 2015
CHK.	A. BUCHKOWSKI	NOV 2015
DSN.	A. BUCHKOWSKI	NOV 2015

SCALE: AS NOTED

CLIENT

PROJECT
PROPOSED "BUCK OR TWO" RETAIL STORE
172 Simcoe Street
Peterborough, Ontario

TITLE
HVAC PLANS

FILE No.	DWG. No.	Rev. No.
0419-M3	M3	2