

**MECHANICAL SPECIFICATION – OFFICE WAREHOUSE CONDOMINIUM 240040 FRONTIER PLACE S.E.
ROCKY VIEW, ALBERTA**

GENERAL NOTES

THE DRAWING AND THE DESIGN OF GENERAL MECHANICAL SYSTEMS AND THE PROPERTY OF D.F.K. CONSULTING ENGINEERS CANADA LIMITED. ANY REUSE OR REPRODUCTION OF THIS DRAWING WITHOUT THE WRITTEN CONSENT OF THE OWNER IS PROHIBITED.

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SCALE: N.T.S.

PROJECT NO: 29-2411

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REVISIONS:

APPROVED:

G. PRYBIS

CHECKED:

D. BERTON

DRAWN:

BY: M-7

OF: 7

A - GENERAL

1. The intention of these specifications and drawings is to provide a complete and fully-operating mechanical systems with facilities and services to meet the owner's requirements described herein and in complete accordance with applicable codes and ordinances. The work shall include the provision of all labour, materials, tools and equipment, as well as the application of a competent knowledge of construction, whether or not directly specified or shown on the plans, required for installation, testing and putting into operation the complete mechanical system except where it is specifically mentioned that such materials and/or labour are not part of the contract. The electrical specifications, the general conditions and contract documents shall form an integral part of these specifications and shall be read in conjunction with these specifications.
2. The drawings and specifications are not a detailed installation instruction but a guide to establishing quality of equipment, materials, workmanship and performance. Drawings and specifications are complementary to one another and that which is shown in one is as binding as that which is shown in both. The term "provide" means to supply and install.
3. Before submitting the tender, examine the site and all existing conditions affecting the work under this contract. All alternate than specified equipment must have approval in writing from the Engineer three days prior to the project tender closing.
4. All equipment shall bear CSA and/or CGA approval. In the event that a material specified does not bear this approval or meet the requirements of the inspection authority, then this shall be made known in writing within 30 days of the contract. After this contractor assumes full responsibility for obtaining the approval of the local inspection authority, he shall pay all charges levied by them and shall make any modifications required or provide an approval unit.
5. The mechanical equipment and installation shall comply with the latest edition of the National Building Code and Revisions thereto adopted by the governing authority or local governing codes and requirements in effect at the time of tendering. Where there is no governing codes of nationally recognized standards, the following shall apply: ASHRAE, SMACNA, ASME, ASBCV, NFPA, CUL.
6. File all necessary plans for permits, arrange for all inspections, pay all fees and provide the owner with a certificate of all such inspections prior to final payments.
7. Provide six (6) copies of all shop drawings for all major pieces of equipment for review prior to installation.
8. All mechanical installations shall be made with proper clearances so that all necessary parts of the installations are readily accessible for maintenance.
9. All work shall be executed in a workmanlike manner and shall present a neat and finished appearance when complete. Keep on site a competent foreman and qualified tradesman on the job during the progress of the work.
10. Make all minor changes and relocations of duct, piping and equipment to suit the architectural, electrical and structural conditions of the building at no additional cost to the owner.
11. All major pieces of equipment shall be identified with a name plate. Identify all valves with plastic name tags and provide valve schedule.

B - BASIC MATERIALS

1. All piping shall be as approved for the local inspection authorities and installed to code requirements as shown on the drawings.
2. Domestic hot, cold and recirc. water pipe insulation to be fiberglass #850 with factory applied all service jacket. 25mm thickness, application in accordance with manufacturer's recommendations. In exposed areas finish with one full brush coat of adhesive over canvas. Ensure that vapour barrier is continuous and properly sealed.
3. Underground drains inside building to be DWV, PVC or Class 4000 cast iron.
4. Drainage and vent lines above grade to be DWV Copper or Class 4000 cast iron factory coated in raw lined oil. Use Type 1L copper for urinal drains.
5. Domestic water piping to be Type "M" copper tubing with wrought copper solder fittings.
6. Fire extinguishers to be 10 lb. Type ABC multi-purpose dry chemical type complete with capacity gauge and inspection tags. UL-C labeled.
7. Domestic water valves to be equal to Jenkins Fig. 3 - 34 bronze ball valve with P.T.F.E. seat and seal, lever handle with quarter turn operation.
8. Hose bibbs equal to Zurn#ZN-1320-V/B exposed non-freeze wat hydrant. Key operated with polished bronze face adjustable wall flange and 3/4" hose connection. Indoor hose bibbs equal to Crane #CS5046 with chrome finish.
9. Water hammer arrestors equal to as required by Plumbing and Drainage Institutes Standard PDI-WH201 on branch supplied to each fixture or group of fixtures.

C - VENTILATION & AIR DISTRIBUTION

1. Provide cleanouts as required by code and lubricate all cleanout covers with graphite and oil.
 2. Floor drains equal to Zurn # Z-211B, Type A, heavy duty round strainer uni-vent floor drain with nickel bronze strainer complete with funnel where applicable. Floor drains in shop areas to be complete with sediment bucket.
 3. All piping shall be properly supported using rod hangers and clevis type supports or fabricated angle iron supports for groups of pipes. Maximum spacing of supports - 6' for 1/2" - 9" for 1" to 1 1/2" - 10' for up to 2" - 12' for above 2".
 4. All plumbing supplies and drainage system to be installed with adequate slopes c/w all siphon breakers back water valves, backflow preventors, shut-off valves and all necessary items as all codes whether or not shown on drawings.
 5. Test all pressure pipe at a minimum of 50 psig for four (4) hours or as required by the inspection authority.
- PLUMBING FIXTURES**
- a) Provide all plumbing fixtures as shown on the drawings. All fixtures shall be free from flaws and blemishes with finished surfaces clear, smooth and bright. All visible parts of the fixture brass and accessories, included faucets, supplies, stops, wastes and traps, etc., shall be chrome plated.
 - b) Plumbing fixtures shall be equal to the following:
 - i) Water Closets: Toilet #CST704" water closet, elongated bowl with Benke open closed front seat and cover
 - ii) Lavatories: Toilet #LT502" white vitreous china vanity basin with Moen #4520 supply fitting with pop-up waste and overflow, flexible angle supplies, 1 1/2" P-trap with escutcheon and wheel handle stop.
 - iii) Kitchen Sinks: Single - Aristaline #S9407 c/w Moen trim, crump cup and waste basket
 - iv) Double - Aristaline #D6407-1 c/w Moen trim, crump cup and waste basket.
- Rough-in fixture piping connections in accordance with the following table of minimum sizes or as required for particular fixtures:
- | | Hot Water | Cold Water | Waste | Vent |
|--------------|-----------|------------|--------|--------|
| Lavatories | 1/2" | 1/2" | 1 1/2" | 1 1/2" |
| Kitchen Sink | 1/2" | 1/2" | 1 1/2" | 2" |
| Water Closet | 1/2" | 1/2" | 4" | 2" |
| Floor Drains | - | - | 4" | 2" |
| Hose Bibbs | 3/4" | 3/4" | - | - |

D - INSULATION

1. This Contractor shall provide a flashing collar wherever the ductwork passes through the roof or the walls of the building.
2. Provide in each washroom a Broan, or equal exhaust fan as shown on the drawings. Fans shall be supplied complete with plastic grille, backdraft damper, and shall be ceiling mounted.
3. Fire Dampers Opposed Blade
 - a) Supply and install opposed blade fire dampers as shown on the drawings.
 - b) Fabricate dampers from galvanized steel or prime coated black steel weighted to close and lock when released by fusible line.
 - c) Provide adequately sized access door for inspection and cleaning at fire dampers.
 - d) Provide damper at location indicated. Fire damper shall be complete with required perimeter mounting angles, sleeves, breakaway duct connection, corrosion resistant springs, bearings, bushings and hinges.
4. Provide a complete air balance report done and certified by an independent air balance contractor
5. Provide a complete set of shop drawings and approvals of alternate pieces of equipment prior to tendering process being completed. Upon completion of the project, provide three (3) complete sets of proper Maintenance Manuals to the engineer for approval.

E - CONTROLS

1. The Mechanical Contractor is to employ the services of a Control Contractor and is to ensure that a fully operational system is installed to the satisfaction of the engineer.

F - FIRE STANDPIPES AND SPRINKLERS

1. Supply and install a fully operational fire hose standpipe system and sprinkler system throughout the building as required to meet code. Submit all required engineering drawings direct to the code authorities and obtain all required approvals at your costs and allow for same.

G - SEALS

1. Insulate all items indicated below (products to be fiberglass or equal) or as shown on the drawings.
2. Supply and install all mains of the exhaust ducts with 1" thick foil back duct wrap.
3. Insulate all domestic water lines where they are exposed with 1" thick pipe insulation.
4. Flame spread rating of covering shall not exceed 25.

H - PERMITS TO PRACTISE

Permit to Practise
D.F.K. ENGINEERING CANADA LTD.
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Date: 2009-02-17
Signature: [Signature]

I - PROJECT TITLE

PROJECT TITLE:
OFFICE WAREHOUSE
CONDOMINIUM
240040 FRONTIER PLACE S.E.
ROCKY VIEW, ALBERTA

J - SHEET TITLE

SHEET TITLE:
MECHANICAL
SPECIFICATION

K - COMPANY INFORMATION

D.F.K. ENGINEERING
CANADA LTD.
CONSULTING ENGINEERS
PH: 403.266.1095 FAX: 403.279.2698
ENR.dkeng@shaw.ca
2120 St. - 8800 VENTURE AVE SE.
CALGARY, ALBERTA, T2S 0K2

L - DRAWING INFORMATION

DRAWN: M-7
CHECKED: D. BERTON
APPROVED: G. PRYBIS
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M - LOGO

