

220 Commerce Valley Drive West, Suite 110
Markham, ON L3T 0A8 CANADA
T: 905.695.3217 • www.exp.com



CHEO Parking Garage

Site Plan Control Design Brief for
Mechanical Systems

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1.0 INTRODUCTION

The purpose of this Design Brief for Mechanical Systems is to outline the mechanical systems concept for Site Plan Control application, based on the design work which has been completed to date, previous reports, studies and drawings provided, and based on meetings/discussions with CHEO, and other design consultant team members.

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2.0 MECHANICAL SYSTEMS

2.1 Codes, Standards & Guidelines

The mechanical systems of the Parking Garage shall be designed and built in accordance with the applicable legislation, codes, standards and requirements.

The additional requirements outlined in this section supplement those required by the applicable legislation, codes, standards and requirements and shall not to be used to reduce any such requirements.

2.2 Heating and Cooling Systems

Provisions for heating and cooling system will be provided for the following rooms:

- i) Storage Room
- ii) Water Meter Room
- iii) Main Voltage Switch & Transformer Room
- iv) Electrical Room and Telecommunications Rooms

Cooling shall be provided through direct expansion (D/X) split system cooling units. Heating shall be provided through unit heaters.

2.3 Fire Protection Systems

Fire protection systems shall be provided for the parking garage and shall consist of both sprinkler and standpipe systems. The fire protection system will be serviced through a fire pump with a minimum of two (2) pumps in a duty-standby configuration with each pump sized to provide 100% of the required capacity.

The water service for fire protection systems shall be provided from the east side of the parking garage from an existing water main of a private road on the CHEO campus. Refer to Civil site drawings for further details.

The sprinkler system will be a dry type sprinkler system with pendant type sprinkler heads.

The sprinkler system shall be installed in accordance with NFPA 13 while the standpipe system shall be installed in accordance with NFPA 14.

2.4 Plumbing Systems

Domestic water will be provided for the parking garage. The water service for plumbing systems shall be provided from the east side of the parking garage from an existing water main of a private road on the CHEO campus. Refer to Civil site drawings for further details. The incoming service will be provided with backflow protection.

Non-freeze hose bibbs will be located as required throughout the garage for domestic water use.

2.5 Drainage Systems

Storm and sanitary drainage systems will be provided for the parking garage. Drainage from both systems shall be by gravity and drainage piping shall connect to storm and sanitary sewers along the north side of the garage. Refer to Civil site drawings for further details.

2.6 Natural Gas

A natural gas service shall be provided for Emergency Generators serving life safety systems for the parking garage. Piping shall be installed in accordance with the latest revision of CSA B149.1 Natural Gas and Propane Installation Code, as amended by local Gas Codes and CSA 282.

The natural gas pipe shall be provided with a manual isolation valve at the point of entry into the parking garage with a permanent identification sign. Valve shall be provided with provisions to initiate a trouble alarm signal at the generator control panel in the event that the valve is closed.