

9. MECHANICAL INSTALLATIONS

9.1 GENERAL

9.1.1 All mechanical systems including plumbing, cold and hot water, drainage, rainwater, fire protection, refrigeration, ventilating and air conditioning, controls, compressed air, fuel and LPG (if applicable) systems, and materials shall be in accordance with the DCA Standards and in full compliance with, but not limited to, the following standards or any equivalent standard approved by the Authority.

- ASHRAE American Society for Heating Ventilation and Air Conditioning Engineer
- NFPA National Fire Protection Association
- ANSI American National Standards Institute
- ASPE American Society of Plumbing Engineers – North America
- NPC National Plumbing Code – North America
- UPC Uniform Plumbing Code
- IPC International Plumbing Code
- IMC International Mechanical Code
- AWWA American Water Works Association
- SMACNA Sheet Metal and Air Conditioning Contractors National Association
- ARI Air Conditioning and Refrigeration Institute
- AMCA Air Moving and Conditioning Association
- UL Underwriters’ Laboratories Inc.
- FM Factory Mutual
- AGA American Gas Association
- API American Petroleum Institute

9.1.2 All mechanical systems are to have an identification and color coding system in compliance with ANSI or any equivalent standard approved by the Authority.

9.1.3 Mechanical systems are to be designed in order to achieve LEED certification.

9.2 PLUMBING

9.2.1 Water supply, plumbing and sanitary drainage installations shall be in accordance with the requirements of the American Society of Plumbing Engineers (ASPE-North America) standards, the Uniform Plumbing Code (UPC)

USA and/or National Plumbing Code (NPC-North America), and other standards used and accepted by Authority.

9.3 VENTILATION AND AIR CONDITIONING

9.3.1 The design and installation of all air conditioning and ventilation systems shall be in accordance with latest guidelines of ASHRAE standards, ANSI, applicable NFPA standards, and other standards used and accepted by Authority.

9.3.2 The design of walls and roof shall take into account Ventilation and Air conditioning requirements. The purpose is to limit the accumulation of moisture and pollutants which originate in the building and which would otherwise become a health hazard. An adequate supply of fresh air is necessary to ensure the health and comfort of the occupants of buildings and to limit condensation.

9.3.3 The objective is to provide means of:

- a. Proper ventilation, either natural or mechanical, to ensure acceptable Indoor Air Quality (IAQ) and dilution of pollutants.
- b. Proper air conditioning to ensure comfortable indoor temperature.
- c. Proper extraction of moisture and control of contaminants.

9.3.4 Offices area/ Lounges/ Control rooms/ Electrical rooms

- a. Split room air conditioners will be used to provide cooling for various areas.
- b. Filtered and pre-treated fresh air will be supplied to all areas by means of packaged units.

9.3.5 Toilet rooms may be ventilated by mechanical extraction capable of providing 12 air changes/hour. Such mechanical extraction shall be communicated to the outside with point of discharge at least 3 m away from any fresh air opening.

9.3.6 The ventilation of industrial buildings shall be in accordance with ASHRAE HVAC Application Handbook – latest Edition and ASHRAE Standard 62-2004.

9.3.7 The hangars will be provided with a smoke management system as required by safety codes, and in compliance with NFPA92B.