



South Coast Correctional Centre Upgrade

Sketch Design Submission for Mechanical Services

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1 Mechanical Design Philosophy

1.1 Air Conditioning

Generally air conditioning arrangements shall be in building by building basis. New air conditioning at building extensions may be independent from existing air conditioning systems, or may be integrated into existing air conditioning systems.

Air tempering utilising ducted air conditioning systems is to be provided to inmate accommodations except temporary holding areas.

Ducted or unitary air conditioning systems will provide conditioned air to all occupied areas.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units outside the building or at Plant Room.

1.2 Ventilation

Generally ventilation arrangements shall be in building by building basis. New ventilation at building extensions may be independent from existing ventilation systems, or may be integrated into existing ventilation systems.

Centralised exhaust ventilation systems to be provided to inmate accommodations.

Exhaust ventilation systems will be provided to Industries areas, Day Rooms, Amenities areas and Kitchen areas, where applicable.

2 Building Specific Mechanical Design – Stage 1

2.1 Management Mechanical Design – Building G1

2.1.1 Air Conditioning

Centralised ducted air conditioning systems will provide conditioned air to cells.

Miscellaneous ducted or unitary air conditioning systems will provide conditioned air to rooms such as Post, Interview Rooms, Programme Room, Dispensary, Comms Room details of which as per latest .

Air conditioning units will be split air cooled DX reverse cycle type, with ac units located at roof plant rooms where applicable.

2.1.2 Ventilation

Centralised exhaust ventilation systems to be provided to cells.

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

Roof mounted exhaust fans will be provided to Day Rooms.

2.2 Industries Mechanical Design – Building H1

2.2.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to Staff Areas, Lunch rooms, etc.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units outside the building or at Plant Room.

2.2.2 Ventilation

Mechanical ventilation will be provided to Industries Areas as per specific requirements.

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

2.3 AVL Mechanical – Building I

2.3.1 Air Conditioning

Centralised ducted air conditioning system will provide conditioned air to Holding Areas.

Miscellaneous ducted or unitary air conditioning systems will provide conditioned air to all occupied areas. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units outside the building or at Plant Room.

Dedicated ac unit(s) for Computer Room. Air conditioning unit(s) will be split air cooled DX reverse cycle type, with indoor ac unit(s) located inside Computer Room and outdoor unit(s) outside the building or at Plant Room.

2.3.2 Ventilation

Centralised exhaust ventilation systems to be provided to holding areas.

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

2.4 Reception Alterations Mechanical Design – Building N1

2.4.1 Air Conditioning

The existing ducted air conditioning system will be modified to provide conditioned air to search / dress / undress areas. Existing systems to be modified to suit in Search Area.

Ducted or unitary air conditioning systems will provide conditioned air to all occupied areas. Expansion of Main Contact Area shall incorporate upgraded existing system or new system where appropriate.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at Plant Areas.

2.4.2 Ventilation

Centralised exhaust ventilation systems to be provided to dress / undress areas and holding areas.

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

2.5 Reception Expansion Mechanical Design – Building N2

2.5.1 Air Conditioning

The existing air conditioning systems will be modified to provide conditioned air to all occupied areas and storage area. New unitary and / or ducted ac systems to be incorporated as required.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at outdoors.

2.5.2 Ventilation

Centralised exhaust ventilation systems to be provided to holding cells.

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

2.6 Clinic Expansion Mechanical Design – Building N3

2.6.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to Nurse Station, Lunch Room and Office. Observation Cell air tempering optional as it is not incorporated at existing Building N3.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at Plant Areas.

2.6.2 Ventilation

Centralised exhaust ventilation system will be provided to Observation Cells.

2.7 Maximum Security Accommodation Mechanical Design – Building Y

2.7.1 Air Conditioning

The accommodation areas are of modular construction and air tempering systems are self-contained.

2.7.2 Ventilation

The accommodation areas are of modular construction and mechanical ventilation systems are self-contained.

2.8 Satellite Clinic & Programs Security Mechanical Design – Building Z

2.8.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to all occupied areas.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at outdoors.

2.8.2 Ventilation

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

3 Building Specific Mechanical Design – Stage 2

3.1 Medium Security Upgrade Mechanical Design – Buildings M1 to M4

3.1.1 Air Conditioning

Changes to air conditioning grilles and diffusers and control to suit new security requirements.

3.1.2 Ventilation

Changes to ventilation grilles and control to suit new security requirements.

3.2 Additional Programs Mechanical Design – Building M+

3.2.1 Air Conditioning

Additional ducted or unitary air conditioning system(s) will provide conditioned air to new rooms.

Air conditioning unit(s) will be split air cooled DX reverse cycle type, with indoor ac unit(s) located at ceiling void and outdoor unit at Plant Areas.

3.3 Minimum Security Entry & Visits Mechanical Design – Building O1

3.3.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to all occupied areas. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at Plant Areas or outdoors.

3.3.2 Ventilation

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

3.4 Minimum Security Entry & Visits Mechanical Design – Building O2

3.4.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to all occupied areas. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at Plant Areas or outdoors.

3.4.2 Ventilation

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

3.5 Minimum Security Programs Mechanical Design Building O3

3.5.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to all occupied areas. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units at Plant Areas or outdoors.

Dedicated ac units for Computer Room. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located inside Computer Room and outdoor units at Plant Areas or outdoors.

3.5.2 Ventilation

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

3.6 Minimum Security Industries Mechanical Design – Building O4

3.6.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to Staff Areas, Training, Lunch rooms, etc.

Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void and outdoor units outside the building or at Plant Room.

3.6.2 Ventilation

Exhaust ventilation systems to be provided to Industry Area.

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

3.7 Minimum Security Accommodation Mechanical Design – Buildings O5 & O8

3.7.1 Air Conditioning

Centralised ducted air conditioning systems will provide conditioned air to bedrooms.

Ducted or unitary air conditioning systems will provide conditioned air to Dining, Living and Kitchen areas. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located at ceiling void.

A/C condensing units will be located outdoors as per existing minimum security accommodation units.

3.7.2 Ventilation

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

Hood exhaust system with air make up will be provided to Kitchens.

3.8 Staff Amenities Mechanical Design – Building R

3.8.1 Air Conditioning

Ducted or unitary air conditioning systems will provide conditioned air to Staff and Gym areas and Kitchen / Tea Room. Air conditioning units will be split air cooled DX reverse cycle type, with indoor ac units located within the ceiling void and condensing units outdoors.

3.8.2 Ventilation

Miscellaneous exhaust ventilation systems will be provided to amenities areas.

3.9 Medium Security Upgrade Mechanical Design – Buildings W1, W2

3.9.1 Air Conditioning

Changes to air conditioning grilles and diffusers and control to suit new security requirements.

3.9.2 Ventilation

Changes to ventilation grilles and control to suit new security requirements.

3.10 Additional Programs Mechanical Design – Buildings W+

3.10.1 Air Conditioning

Additional ducted or unitary air conditioning system(s) will provide conditioned air to new rooms.

Air conditioning unit(s) will be split air cooled DX reverse cycle type, with indoor ac unit(s) located at ceiling void and outdoor unit at Plant Areas.