

Project Delivery Method:

[Design-Build \(D-B\)](#)

Construction Management @ Risk (CM with GMP)

Design-Bid-Build (D-B-B)

Owner Team:

Government Agency

[Corporate Owner Representative](#)

[Owner Representative \(consultant\)](#)

Project Manager of Capital Projects

Facility Manager (in-house staff)

[Facility Manager \(outsource staff\)](#)

Project Delivery Team:

[D-B Project Manager](#)

Integrated Project Delivery (IPD) Project Manager

CM Project Manager

[Mechanical-Electrical D-B Coordinator](#)

Architect, Acoustical, Plumbing, Electrical, Structural, Fire Protection, and Security Consultants

HVAC Project Team:

HVAC Supervisor (in-house staff)

[HVAC Supervisor \(outsource staff\)](#)

HVAC Technician (in-house staff)

[ATC Technician \(outsource staff\)](#)

Third-Party Testing, Adjusting, and Balancing (TAB) Technician

OWNER'S BUILDING PROGRAM

Application:

Retail Facilities, Chapter 2

Commercial & Public Buildings, Chapter 3

[Places of Assembly, Chapter 5](#)

Enclosed Vehicle Facilities, Chapter 16

Project Type:

New Construction

[Renovation](#)

Infrastructure (central heating, cooling, and/or cogeneration)

Energy Audit and Retrofit

References:

2017 ASHRAE Handbook – Fundamentals

2018 ASHRAE Handbook – Refrigeration

[2019 ASHRAE Handbook – HVAC Applications](#)

[2020 ASHRAE Handbook – HVAC Systems and Equipment](#)

Other References:

Cooling Technology Institute (cooling towers)

[ASHRAE GreenGuide: Design, Construction, and Operation of Sustainable Buildings](#)

ASHRAE Geothermal Heating and Cooling: Design of Ground-Source Heat Pump Systems

ASHRAE Fundamentals of Design and Control of Central Chilled-Water Plants

[ASHRAE Humidity Control Design Guide for Commercial & Institutional Buildings](#)

ASHARE Guide for Buildings in Hot and Humid Climates

DESIGN INTENT DOCUMENT

The HVAC system selection and design intent is based on the processed outlined in ASHRAE Handbook 2016, Chapter 1, "HVAC System Analysis and Selection"

[Owner building program goals and additional goals](#)

[System constraints and constructability constraints](#)

Finalized system selection shall be centralized HVAC air systems and remote heating and cooling plants

Specialized systems shall include general, toilet, and kitchen exhaust

Automatic controls shall include existing temperature controls and equipment-furnished controls

[Existing VAV terminals; fan-powered terminals with electric heating coils; electric baseboard radiation; and registers, grilles, and diffusers \(floor, wall, and ceiling\).](#)

DESIGN CRITERIA DOCUMENT

The HVAC design criteria shall be in sync with the project delivery method and owner's building program.

The design criteria shall be based on ASHRAE 60.2 and federal energy code compliance for outdoor air temperature compliance.

Existing HVAC systems serving the renovated offices and conference rooms shall be removed, and a new VRF heating and air conditioning system shall be installed.

Utility shall be 480/3/60 electrical power to serve two DOAS units, each 75-ton unit is sized with the new automatic controls and shall be interfaced with the existing BAS system.

[Air filters shall be prefilter MERV 7 and final filter MERV 15, serving the new DOAS unit and MERV-14 FCU filters.](#)

The new automatic controls shall be interfaced with the existing BAS.

The low-velocity sheet metal distribution shall be reused.

Each office and conference room shall have its own programmable thermostat set at 68°F heating and 76° cooling in the occupied cycle and 60° heating and 76° unoccupied set points.

