

Rapid City Regional Airport Vehicle Detailing - Rapid City, SD



This Rapid City Regional Airport quick-turn-around auto detailing facility was constructed as a joint effort to serve the needs of multiple car rental agencies. The 8800 SF detailing building consists of vehicle detailing bays, storage rooms, mechanical/electrical rooms, two unisex bathrooms, and other ancillary spaces. Project site development included an auto fueling system. The building also includes two state-of-art automatic car washes with a full capacity water recovery system to streamline accounting; both the car wash bays and the fueling station are controlled accessed by an airport access system. (2013 - \$2,000,000)

Project Data

Owner

Rapid City Regional Airport

Location

Rapid City Regional Airport,
Rapid City, SD

Building Type

Garage/Detailing Block

Building Area

8800 SF

Mechanical Systems / Features

- Gas fired infrared heat
- Energy Recovery Ventilation
- High efficient boilers
- Electric unit heaters
- Electric water heaters
- Compressed Air
- Snow melt and radiant in-floor heat
- Full-capacity wash water reclaim

Electrical Systems / Features

- HPS/Fluorescent Lighting
- 1000 Amp Power Service
- Non-Addressable Fire Alarm System
- High-end Card Access Integration

Construction Cost

\$2,000,000

Completion Date

2013

Mechanical Engineering

Mechanical HVAC systems consist of gas-fired infrared heaters serving the detailing and car wash bays. Heaters within the car wash bays will be corrosive resistant. HVAC includes general roof mounted exhaust fans interfaced with CO/NOx for each of the bays. Make-up air for the exhaust will be provided through the use of roof-mounted intake hoods interlocked with motorized dampers. Ventilation for the detailing bays is provided by an ERV (Energy Recovery Ventilator). Supply and make-up air ductwork is wrapped with blanket insulation and a PVC jacket. Electric unit heaters serve all ancillary spaces within the facility. High-efficient boilers provide in-slab snow melt and radiant in-floor heating systems for the car wash bays and aprons.

The building features a water service entrance and plumbing which will serve restrooms, car wash and detailing bays. Electric water heaters will serve the detailing bays. Compressed will be delivered to all detailing bays. Connection of plumbing system to the car wash system will be provided.

Electrical Engineering

Exterior lighting is accomplished utilizing a combination efficient, pole-mounted high-pressure sodium (HPS) sources to match adjacent site fixture and HPS building-mounted fixtures. Interior lighting is provided by high-efficiency F-32, T-8, 4 Ft fluorescent lamps in vapor-tight fixtures listed for these unique services.

A new 1000 amp 208v, 3phase service provides power to the facility. Emergency lighting is provided via unitary battery lighting units.

Systems include limited fire detection and monitoring, data/tele communications and extensive security/control integrated to intertie with the Airport accounting system.