



Transportation Aviation

Client

Metropolitan Washington Airports Authority

Location

Washington, DC, USA



Washington Dulles International Airport New Runway 1C-19C and New Taxiways W & W1

This project includes the design of the reconstruction of current Runway 1L-19R (future Runway 1C-19C) and new Taxiways W and W1, and reconstruction of High Speed Exit Taxiways Y3, Y4, Y5, and Y6. The project scope also includes the replacement of all runway in-pavement lighting and pavement condition sensors, the establishment of vehicular tunnels beneath new taxiways W and W1, and 5-cell box culverts to convey Stallion Branch beyond the project limits. The project also integrates portions of the previously designed transitions bid package from the Runway 1L-19R Program into the contract documents for this project.

The complex construction phasing provides continuous access to the new fourth runway. Several construction phasing alternatives have been developed for this project and reviewed with a group of project stakeholders including the Metropolitan Washington Airports Authority, airline representatives, FAA Air Traffic Control Tower (ATCT), and the construction management team. The phasing plan maintains three operational runways at all times throughout construction. The selected alternative minimizes impacts to the remaining portions of the airfield while maximizing access to new Runway 1L-19R and limiting runway construction to one season.

New Runway 1L-19R

As an equal partner in a prime design team, CH2M HILL completed the conceptual design of the two new runway complexes and the final design of the preferred runway alternative, Runway 1L-19R. CH2M HILL provided technical design management, airfield traffic and geometric analyses, airspace analyses (including air traffic control tower line of sight), grading, drainage/stormwater analysis and design, environmental support, deicing pad "B" facility design, airfield electrical design, and navigational aid system analysis and design for the fourth runway complex. CH2M HILL is also providing construction administration services.

Additional project elements include designing associated high-speed, parallel, and connector taxiways, perimeter roadways and associated tunnels, holding/deicing aprons, support/ancillary facilities, airfield lighting, navigational aids, utility relocations, stormwater management, and environmental issues support.



Washington Dulles International Airport and Ronald Reagan Washington National Airport Civil Engineering Task Order Design Services

Project Description

Engineering design and associated deliverables have been a variety of tasks including boundary survey and perimeter security fencing; maintenance of traffic for Arrival/Departure/Ground Transportation Ramp expansion joint replacement; sanitary sewer and lift station design; runway visual condition survey; airside roadway design; taxilane structural shoulder design; 800 MHz radio antenna sitework and tower design; domestic water network analysis and pump station renovation, runway centerline conduit/cable replacement; and new aircraft apron design.