

# Glasgow Airport Improvement Area (GAIA) – Black Cart Cycle Bridge

**CLIENT:** Wills Bros / RPS

**LOCATION:** Glasgow

**YEAR OF COMPLETION:** 2022

The GAIA scheme is a series of highway improvements, with the aim of promoting development to the west of Glasgow Airport. The design and build contract was awarded to Wills Bros. Civil Engineering by Renfrewshire Council. We were appointed for the design of the two bridges on the scheme, a 70 metre long highway bridge over White Cart Water and the Black Cart Cycle and footbridge.

The bridge is a single, simply supported 98m span structure, with a 5m deep, steel, warren truss superstructure, supported on traditional pot bearings. In turn the bearings are supported on in-situ reinforced concrete abutments, with parallel in-situ reinforced concrete wing walls spanning horizontally off the back of the abutment walls to retain the approach embankment. An unusual feature of this bridge is that there is a deck below the footway to support the significant number of services required for the new airport development.

The bridge is located directly below the flightpath approach to the runway at the airport meaning that installation of the bridge could only take place within a scheduled runway shutdown.

## KEY FACTS:

- 98m span footbridge
- Upper pedestrian /cyclist deck & lower services deck
- Upper deck panels fully removable for services maintenance

