



A Selection of Works on

► CET Installations

February 2021

Design and Build Specialists for UK Infrastructure

*'Leaders in
the provision
of Design and
Build solutions
for over 25
years'.*

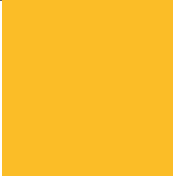
Cairn Cross deliver a complete built environment service to our customers whilst maintaining traditional values and skills. We push the boundaries in providing solutions using modern techniques and technologies, all encompassed by our work ethic and sense of pride in delivering a safe, innovative, quality and valuable service.



Over the last 25 years, Cairn Cross has designed, installed and maintained several bespoke train CET (Controlled Emissions Toilet) systems.

Bringing pioneering innovational products from our in-house specialist design and engineering team, we provide efficient, safe turn-around, we pride ourselves in the works that we carry out.

This brochure highlights recognisable projects previously commissioned to complete.



 **Client:** Northern Railway
 **Location:** Newton Heath, Manchester



This project was procured as a design and build contract for CET and Adblue provisions with Cairn Cross as the principal contractor.

- ▶ The design was developed and submitted for landlord consent
- ▶ Excavation of a trench for the installation of pipe work and back filled
- ▶ Installation of foundations to seat the plant room
- ▶ Saw cut and break out of existing apron and construction of new central concrete beam to house canopy and service modules
- ▶ Erection of new gantry with single skin cladding
- ▶ New lighting installation to canopy
- ▶ Installation of TrackPan system
- ▶ Installation of fuelling points
- ▶ Installation of tanking points

- ▶ Installation of 6 Adblue points along the canopy, including associated Adblue pipework
- ▶ Services installed to CET plant room and electrical works finalised





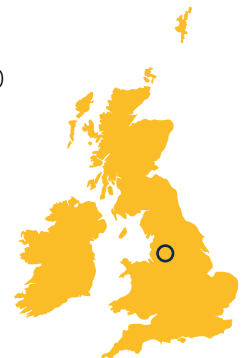
Client: Alstom
Location: Longsight, Manchester



This project was procured as a design and build a contract with Cairn Cross Civil Engineering as the Principal Contractor.

Due to a new timetable, the client required CET and AdBlue provisions to their existing facilities in a demanding time frame successfully met by the construction team.

- ▶ New GRP crossings installed, and short section concrete footpaths formed at various locations.
- ▶ New CET and tanking points installed along the road.
- ▶ Existing concrete footpaths extended at the south end and north end crossing.
- ▶ New concrete bases installed to house the CET and tanking equipment.
- ▶ Trough routes sited on the bottom of the slope of the adjacent road to each of the CET locations
- ▶ New outer footpaths installed along Road 37
- ▶ Existing lamppost heads replaced with a twin spigot and 2 LED street lights.
- ▶ New bollard lighting switched via a photoelectric cell and contactors.
- ▶ New distribution board and contactors to the new bollard lighting installed.
- ▶ Two 63amp IP67 sockets with RCD and isolators installed.
- ▶ Complete removal of Road 9
- ▶ Removal of OLE on Roads 9, 10 and 11 as these are no longer required.





 **Client:** Network Rail
 **Location:** Craightinny, Edinburgh



This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor.

Due to a new timetable, the client required enhancements to their existing facilities in a demanding time frame successfully met by the construction team.

- ▶ Carriage wash installation
- ▶ CET and pump house installation
- ▶ Footpaths
- ▶ Water points
- ▶ Bollard Lighting





 **Client:** Alstom

 **Location:** Polmadie, Glasgow



This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor. The stakeholder management was organised by Cairn Cross Civil Engineering, Alstom and Network Rail.

- ▶ The design was developed and submitted for landlord consent
- ▶ CET modules and pipework was installed on roads 1 and 2 via service troughing and high-level pipework connected to the existing adjacent fencing. This also incorporated tanking water distributed along the fence line and trace heated and lagged, the pipework was then taken across onto the footpath by UTX and tanking points
- ▶ CET pump room; reinforced concrete slab with a GRP kiosk to house pumps and associate CET equipment

- ▶ The connection of a mains water supply to the existing outbuildings.
- ▶ Service channels were cast into concrete to enable the distribution of walkway lighting cables. These were designed to give maximum light on a confined walkway
- ▶ A concrete troughing route was cast into the path for the installation of the lighting bollards, using energy-efficient LED bulbs
- ▶ Replacement of life expired wooden sleepers for concrete sleepers to provide a great life expectancy of the permanent way
- ▶ 300lm of the walkway wase constructed





 **Client:** East Coast Mainline
 **Location:** Ferme Park, London



This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor.

- ▶ The installation of walkway lighting
- ▶ Installation of a new pump room and associated works
- ▶ The installation of a tanking water distribution system
- ▶ Construction of concrete troughs running the length of both roads
- ▶ Installation of CET pipes and hoses
- ▶ Installation of a 2.7m holding tank
- ▶ Installation of GRP walkways





 **Client:** Alstom
 **Location:** Longsight, Manchester



This project was procured as a design and build contract with Cairn Cross as the principal contractor

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- ▶ The building of a new pump room and associated works
- ▶ The structure of a tanking water distribution system
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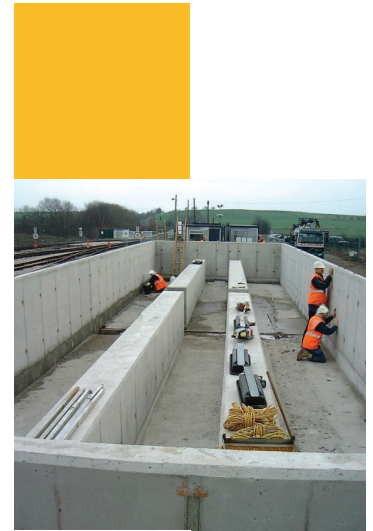
 **Client:** LNWR
 **Location:** Weston Road, Crewe



This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor.

- ▶ Installation of a new carriage wash machine
- ▶ Reinforced concrete foundations works, drainage, UTX, and services trough
- ▶ Installation of a new CET and potable water system





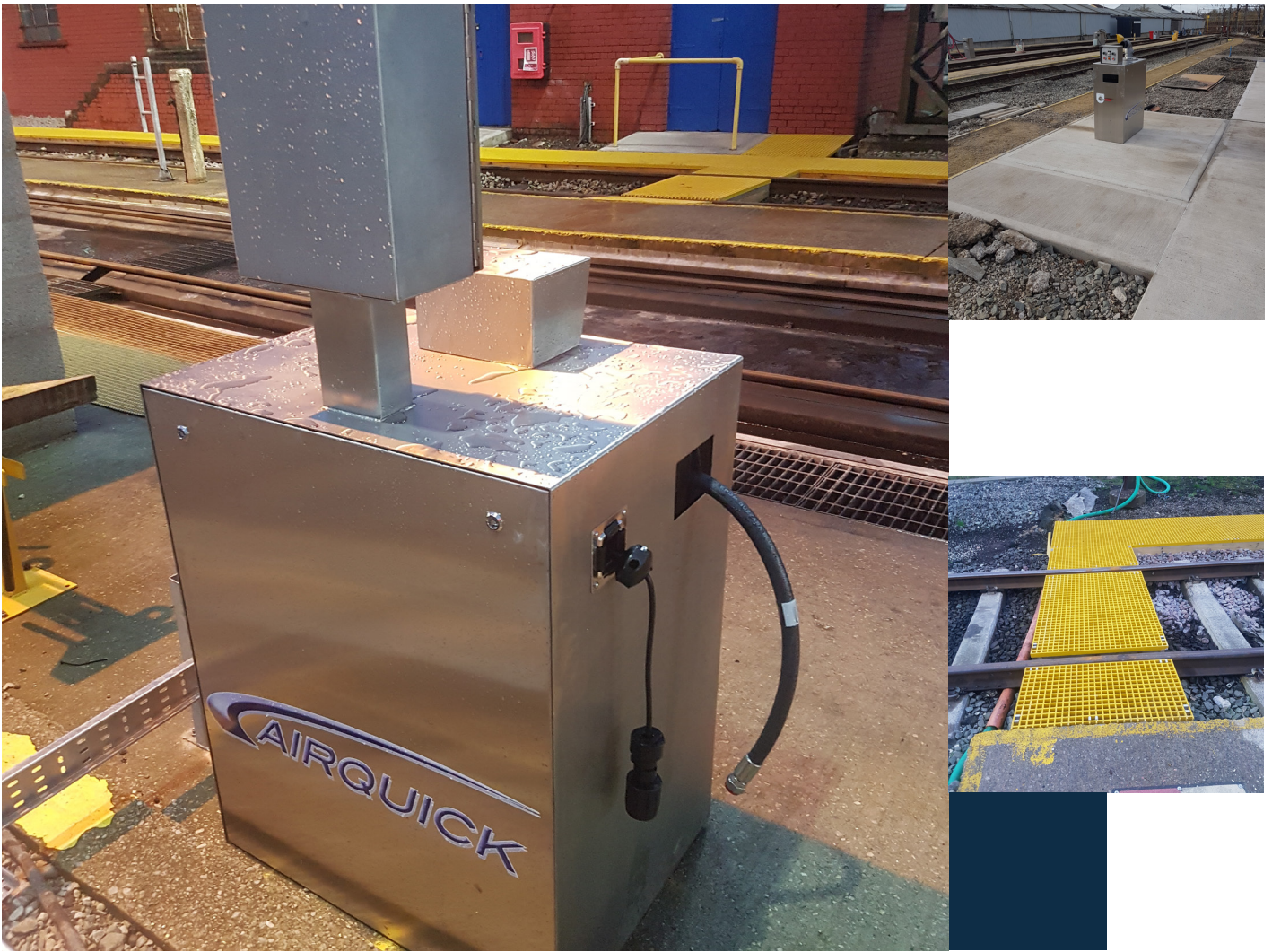
 **Client:** Bombardier
 **Location:** Crofton, Wakefield





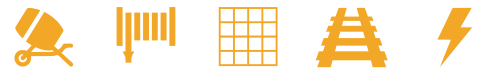
This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor.

- ▶ Constructed fuel containment bunded structure
- ▶ Concrete service trough
- ▶ CET and refuelling infrastructure Installation of drainage
- ▶ Concrete work
- ▶ Track collector pans
- ▶ Innovation, Bespoke trough lids were pre-cast to minimise cost and production time.





 **Client:** Alstom Traincare UK
 **Location:** Edge Hill, Lancashire

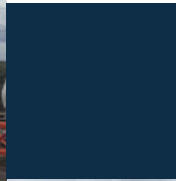


This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor.

- ▶ Installation of two CET Modules
- ▶ Four new Wholesome water cabinets with associated pipework
- ▶ New pump house enclosure
- ▶ New troughing was laid to the shed road
- ▶ Discharge drainage was installed from the new plant room to the foul drainage
- ▶ 30 metre concrete apron extension
- ▶ 140m GRP walkway and crossings installation
- ▶ Upgraded cleaners cabin with installation, electrics, heating and external refurbishment.
- ▶ Access steps construction
- ▶ GRP AdBlue building installed
- ▶ Installation of two new AdBlue dispensers
- ▶ Installation of 10,000-litre tank fully bunded

- ▶ New fuel pump station installed





 **Client:** GTR
 **Location:** Bedford, Midlands



This project was procured as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor.

- ▶ Installation of a new CET system
- ▶ Installation of a new cleaners cabinet
- ▶ Installation of new tanking services
- ▶ Installation of gantries on various roads
- ▶ Construction of concrete walkways
- ▶ Installation of Holdfast Access Points
- ▶ Covering of the pits inside the shed with GRP plates
- ▶ Installation of acoustic fencing
- ▶ Installation of new bollard lighting and associated electrical works
- ▶ Decommission of DPPS
- ▶ Installation of CCTV system





 **Client:** GWR
 **Location:** Reading



The works at Reading Depot were to install a CET plantroom superstructure. Delivery included superstructure erection, fitting out the CET plant room of Controlled Emission Toilet Systems, and installation of Apron pipework. Installation of the CET pipework within the apron troughs

- ▶ Installation of electrical cabling within the apron troughs to each CET module
- ▶ Installation of earthing cabling to the Lucy cabinets
- ▶ CET plant room internal electrical installation
- ▶ CET plant room mechanical equipment installation



Cairn Cross are specialist, collaborative and progressive multi-disciplined engineers. We design and deliver significant infrastructure projects that shape the built environment.

CAIRNCROSS

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