

A Selection of Works on

► Power, Mechanical & Electrical

November 2023

Design and Build Specialists for UK Infrastructure

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

Delivering 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.



Our in-house dedicated Electrical and Mechanical specialists work on every project supplying exceptional knowledge and leadership. This versatile dynamic allows Cairn Cross to deliver a variation to projects completing a wide variety of roles and needs.

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:** Met-Fab Solutions Ltd.
 **Location:** Leeds



PV System Peak Power:	250kWp
Annual Energy Production:	198,250 kWh
CO ₂ Avoided:	107 tonnes per annum
Modules:	1000 x Solarworld 250Wp panels
Inverters:	8 x SMA Sunny Tri-Power
Location:	Units 1, 2 & 3 Lockwood Close
Solar energy used on site:	90%
Total site energy provided by solar:	16.1%






Client: Northern Depot, Allerton Depot

Location: Allerton Depot, Liverpool



Solar PV capacity	AC capacity	Export Capacity	Annual Generation	Protection settings
18 kWp	15 kW	15 kW	14,022kWh/yr	G99
Equipment installed	Manufacturer	Model	Serial no	Capacity
INVERTER	SolaX	X3-PRO-15K-G2	redacted	15kW
PV MODULES	Canadian Solar	CS3L-375MS	48 panels	375Wp
MOUNTING KIT	Van De Valk	ValkPro L-10	n/a	n/a
GENERATION METER	Emlite	EMP1.av	EML2308921760	n/a
Grid connection permission	G99	Ref	redacted	System Commissioned
09/06/23				
<p>Leeds Solar confirms that the above completed installation meets the requirements of MIS3002. This standard specifies the requirements of the MCS for contractors undertaking the supply, design, installation, set to work, commissioning and handover of solar photovoltaic (PV) microgeneration systems for permanent buildings.</p>				
Signed:		Gavin Andrews	Leeds Solar	Date 09/06/23
<p>In the event of queries or problems please contact Leeds Solar in the first instance on info@Leeds-Solar.co.uk or 0113 3350533. MCS helpdesk 0333 103 8130, hello@mcs-certified.com.</p>				





🏠 **Client:** Widd Signs (North West) Ltd.
📍 **Location:** St. Helens



Solar PV capacity	AC capacity	Export Capacity	Annual Generation	Protection settings	
64.61 kWp	40kW	40kW	47,841 kWh/yr	G99	
Equipment installed	Manufacturer	Model	Serial no	Capacity	
INVERTER 1	Solis	40K-5G	Redacted	40kW	
PV MODULES	JA Solar	JAM72S20455/MR	142	455Wp	
MOUNTING KIT	Clenergy	Trap Metal Roof Mounting System	n/a	n/a	
GENERATION METER	Emlite	EMP1.av	Redacted	n/a	
Grid connection permission	G99	Ref	Redacted	System Commissioned	13/04/2023





 **Client:** Junction 4 Pallets

 **Location:** Doncaster



Solar PV capacity	AC capacity	Export Capacity	Annual Generation	Protection settings
332.54 kWp	190kW	190kW	261,441 kWh/yr	G99
Equipment installed	Manufacturer	Model	Serial no	Capacity
INVERTER 1-7	SMA	Tri-Power 20000TL	redacted	20kW
PV MODULES	BISOL	BBO455	228 Panels	445Wp
	BISOL	BMO325	724 Panels	325Wp
MOUNTING KIT	S:Flex	ST-AK 1-12,	n/a	n/a
	S:Flex	Delta Triangle (20° - 30°)	n/a	n/a
GENERATION METER	Emlite	EMP1.av	redacted	n/a
	Iskra	MT174	redacted	n/a
Grid connection permission	G99	Ref	redacted	System Commissioned 14/09/23





 **Client:** Team Impression Printers
 **Location:** Leeds



Solar PV capacity	AC capacity	Export Capacity	Annual Generation	Protection settings	
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Equipment installed	Manufacturer	Model	Serial no	Capacity	
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- 🏢 **Client:** Network Rail
- 📍 **Location:** Craightinny, Edinburgh
- £ **Value:** £1,750,000



Installation of a new single headed wheel lathe and associated electrical works

- ▶ Installation of Endurance Luminaire pit lights
- ▶ Connection of electrical services to the new wheel lathe
- ▶ Design and installation of associated mechanical and electrical work
- ▶ Removal and isolation of existing machinery
- ▶ Demolition of the existing pit
- ▶ Construction of a new wheel lathe pit
- ▶ Supply and install a new wheel lathe





 **Client:** Network Rail

 **Location:** Perth, Scotland



Turn key design and building contract to provide a new enclosed carriage wash facility. Pollution containment was required for the wash water run off. The new Unipart Rail & Cairn Cross Solutions TrackPan with safe walking access were utilised.

- ▶ New building to house new carriage wash
- ▶ New carriage wash plant room
- ▶ Installation of troughing and walking routes
- ▶ Installation of TrackPans
- ▶ New drainage connections
- ▶ Innovation: Use of the new Cairn Cross TrackPan system.





 **Client:** Winvic
 **Location:** Castle Donington, Midlands




This project included the installation of a new telecommunications system, trackside and high mast lighting.

Marks and Spencers required a new freight terminal to service their new distribution centre at Castle Donington incorporating approximately 3.5 kilometres of permanent way.

- ▶ Buffer Stops
- ▶ BV8 Turnouts
- ▶ Safe Cess Walkways
- ▶ Bollard Lighting
- ▶ Lighting Columns
- ▶ Telephone Systems





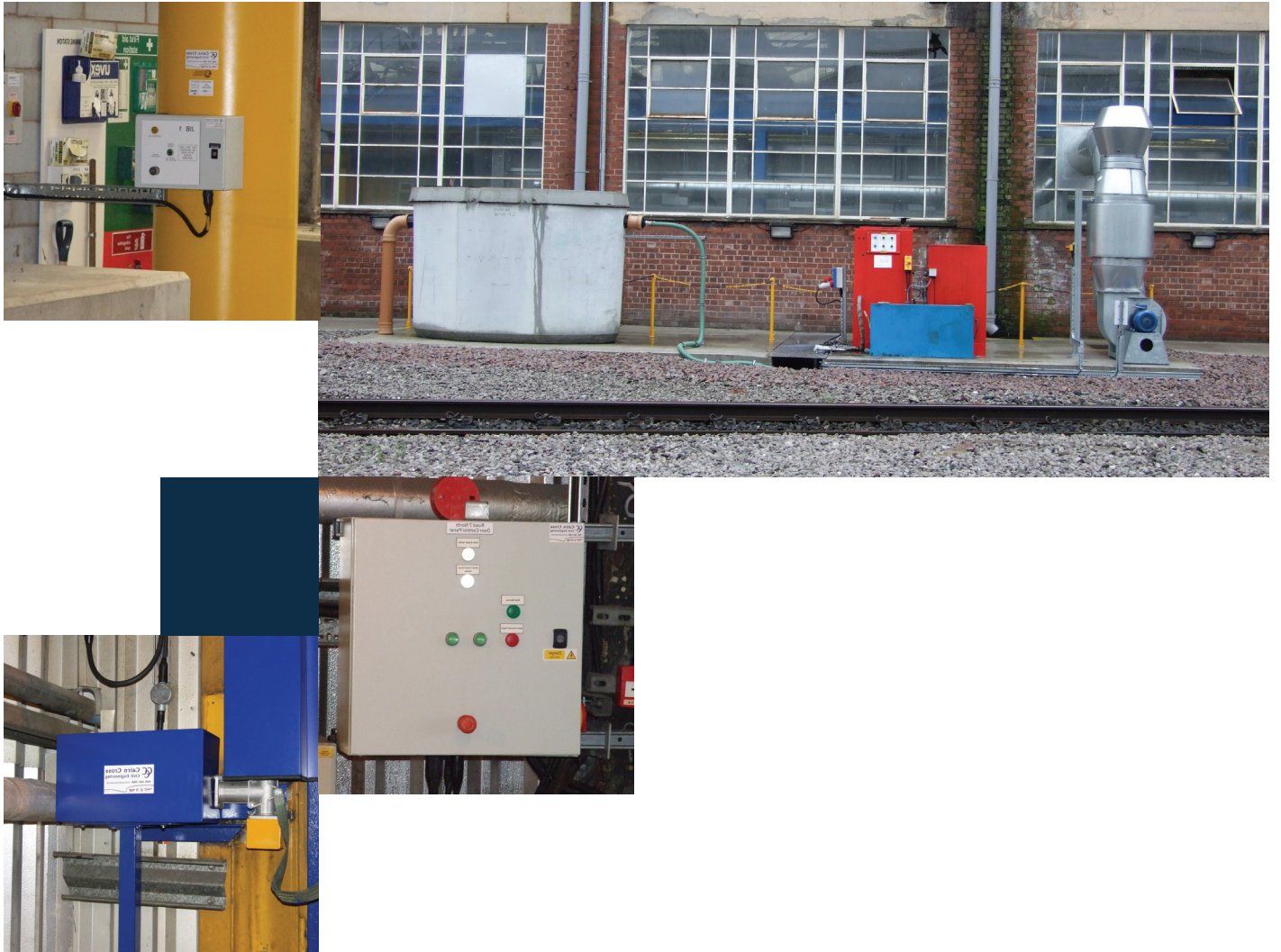
 **Client:** Network Rail
 **Location:** Wistaston Road, Crewe



Design and build a new RRV maintenance facility
The scheme outline was to provide a new shed facility to accommodate Road Rail Vehicles (RRV) on the depot so that rail maintenance can be carried out indoors.

- ▶ Installation of LED lights to both the exterior & interior of the building
- ▶ Installation of a new electrical sub main
- ▶ New electrical containment and small power works
- ▶ Installation of new crane shed
- ▶ New reinforced concrete transition slab
- ▶ New steel frame & concrete foundations
- ▶ New cladding to the superstructure & roof
- ▶ New Roller Shutter Doors & Pedestrian Fire Doors
- ▶ New Local Ventilation Exhaust System Installed
- ▶ New car park & Pedestrian Walkways





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



Design and build a bogie wash building, power distribution and lighting.

- ▶ Bogie wash facility with extraction and power washes
- ▶ 2-tonne pillar jib cranes
- ▶ Bi-folding door operating system





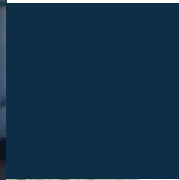
🏠 **Client:** East Coast Mainline
📍 **Location:** Ferme Park, London



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:** Network Rail
 **Location:** Heaton, Newcastle



Installation of a new CET system and associated mechanical and electrical works

- ▶ CET facility infrastructure works including design
- ▶ Troughing
- ▶ UTX
- ▶ Fencing and drainage
- ▶ Innovation: Use of shallow trough to house services and minimise excavation work along existing servicing roads – the first use of this vacuum type CET system in the UK.





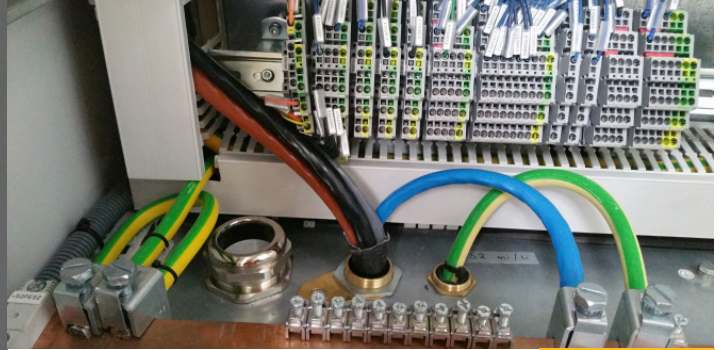
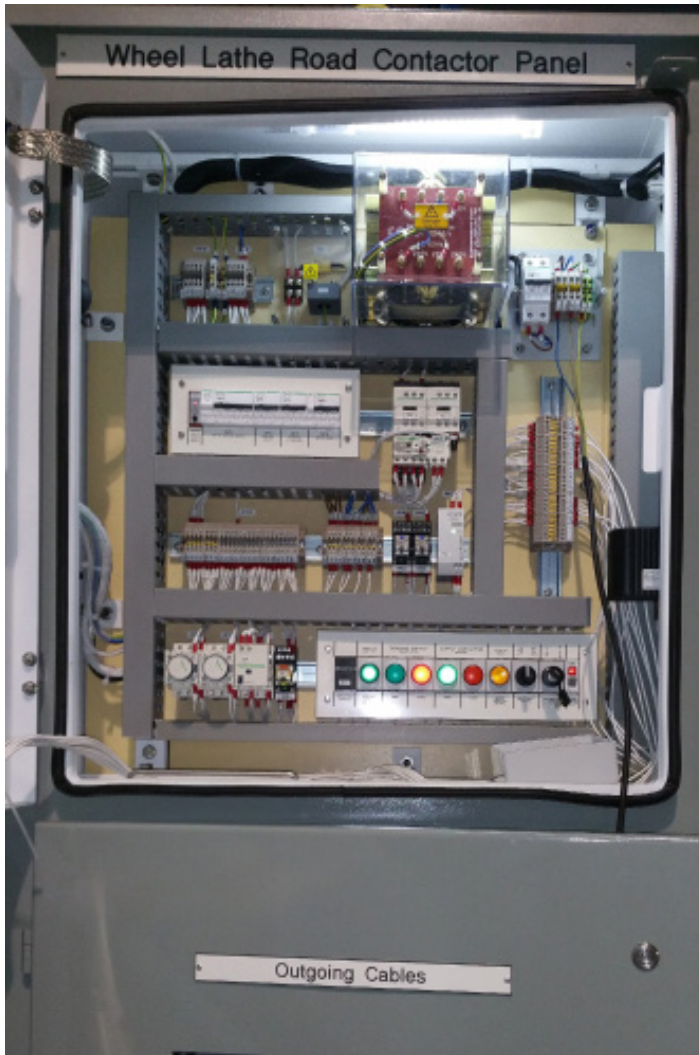
 **Client:** Stagecoach Metrolink
 **Location:** Queens Road, Manchester



Design and build contract for power distribution, installation of fire alarm, oil distribution system, and depot protection.

- ▶ Overhead monorail crane
- ▶ Installation of the depot protection system
- ▶ Low voltage power distribution and lighting
- ▶ Installation of compressed air system
- ▶ Installation of the oil distribution system
- ▶ Installation of radiant heating system and associated gas pipework





- 🏢 **Client:** South West Trains
- 📍 **Location:** Wimbledon, London
- £ **Value:** £3.5m



This project was delivered as a design and build contract with Cairn Cross Civil Engineering as the Principal Contractor to install a new Hegenscheidt CNC underfloor wheel lathe.

- ▶ Removal of existing machinery
- ▶ Demolition of the original pit
- ▶ Construction of a new wheel lathe pit
- ▶ Supply and install a new wheel lathe and Swarf Conveyor
- ▶ Installation of new sub mains and distribution
- ▶ Installation of small power
- ▶ Supply and install of crane hoist and beams
- ▶ Gable end cladding works
- ▶ Installation of the Cairn Cross Solutions Endurance Luminaire - a robust lighting solution for maintenance pits





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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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