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## Rail Signalling

Cantilever & Portal Case Studies  
Lightweight Posts and Staging  
Steel Foundations

# Case Study

Adjustable 2/3 track portal gantry on driven pile foundations.



Client:	Volker Rail
Awarded Value:	£18,100
Final Account Value:	£20,200
Delivery Date:	27/11/17

Added Value:  
Friction clamp dropper connections that can be positioned at any point along the boom.  
Hoisting points and welded tabs to assist install, earthing and support of OLE return conductor.

Learning/Innovation:  
We successfully produced a design that would provide a solution to complex needs at short notice.

FLI Structures was awarded the contract to design and manufacture an adjustable 2/3 track portal signal gantry for the NWEF at Blackpool. The 11m span structure supports one set of signals and stands on driven piles. It was designed to be versatile and offers a range of spans dropper heights using the same set of parts.

# Case Study

## Cantilever Gantry, Design and Manufacture.

Client: Global Rail / Cross Rail  
Awarded Value: £61,600  
Final Account Value: £69,220  
Delivery Date: 20/09/16



FLI Structures was contracted to design and manufacture a TTC with a span of 9m for Crossrail at Maidenhead. The structure incorporated a maintenance access walkway and access platforms. It supported two sets of signals, one in the dropper cage and one on the mast, all mounted on a rapid install FLI screw pile and grillage foundation.

### Added Value:

FLI designed Easy-Fit dropper cage connection, allowing safer, faster and simpler install using less plant. Hoisting points and levelling aids to assist install process. Pre-assembled components minimising work at height and on-site labour.

### Learning/Innovation:

FLI went back to basics with the entire superstructure to assist the client in achieving significant cost and programme efficiencies.



## Straight Signal Posts

Simple design reducing cost, mounted on a single screw pile, reducing time on site.

Maintenance Platform:

912mm  
1215mm  
1500mm

OLE Guard

Ladder & Anti Climb

Access Gate

## Lightweight Signal Post Rapid Deployment Foundations.

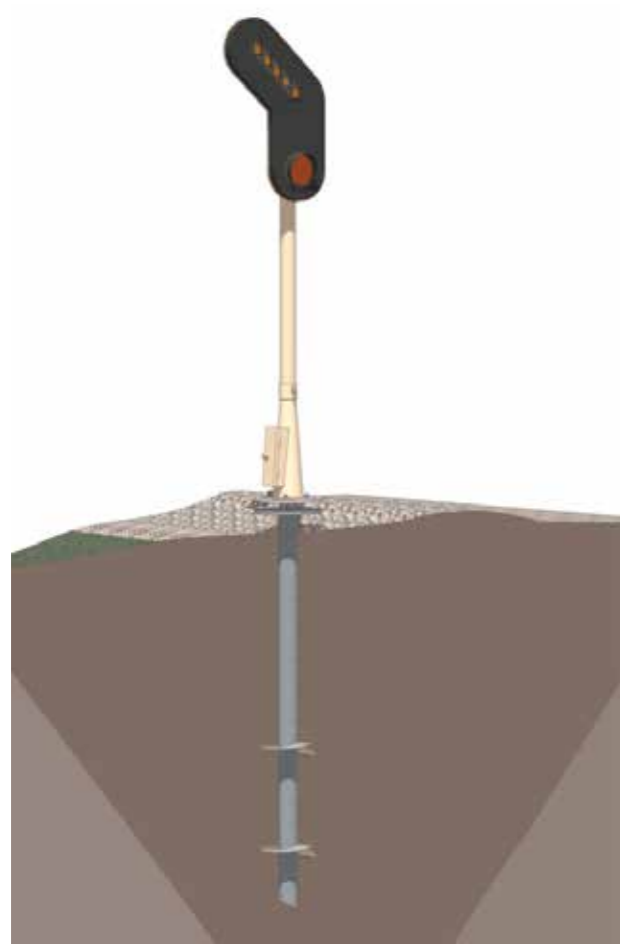
Mounted on a single screw pile.

Suitable for level & sloping sites.

Install several in a single shift.

Form 003 approved.

Screw piles remove the need for concrete foundations, are installed in minutes and can be removed or relocated just as quickly.



## Lightweight Signal Lay-down Platform

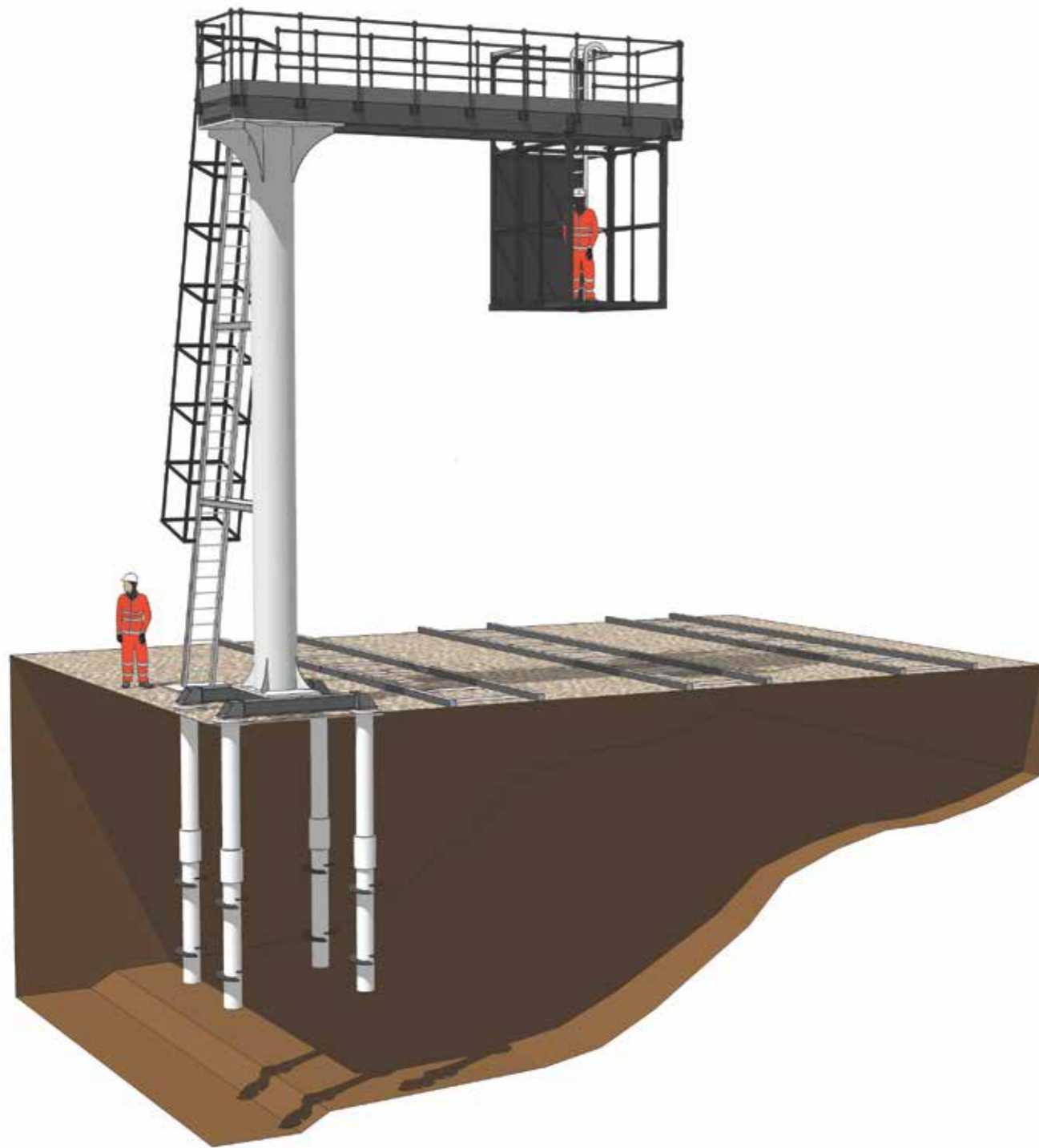
Foundation of just 2 screw piles.

Single pile option.

Complete install in a single shift.

Form 003 approved.





## Integrated gantry and foundation design.

Deflection efficiency shared between the gantry and the foundations.

Fewer interfaces so installation is easier to sign off.

Smaller foundations, reducing cost.

Reduces programme time.

Enhanced overall safety with reduced risk of harm to installation crews.

## Advantages Of Screw Pile Foundations.

Fast installation, typically a single shift.

No concrete so no curing time, small footprint, helpful on restricted sites.

Cost effective solution in soft ground, on site flexibility, bridging services.

Installation possible in low temperatures.

Fewer possessions required for faster installations, less time on site enhances safety.

Lower carbon footprint than concrete, 100% recyclable.