Henrietta Street Bridge Replacement Scheme

Manchester

Keller actively got involved at an early stage with the contractor and designers to produce a cost-effective, valued and buildable scheme.

The project

A Pali Radice minipiling solution was developed to strengthen the existing bridge abutments to part of the Manchester to Stalybridge Line Upgrade, involving a number of over bridge deck replacements. The existing bridge abutments were retained and strengthened by raking micropiles.

The challenge

The need to retain and strengten the existing bridge abutments

The solution

This works involved the installation of 54 No x raking 220/190mm diameter Pali Radice micropiles (27no per abutment). They were installed parallel to the skew of the bridge and at alternating rakes of +20deg and -15deg to the vertical.

The micropiles were installed at 0.85/1.7m centres. The proposed pile layout has been arranged to accommodate the existing steel bridge beams.

All piles were reinforced with a single full depth 40mm diameter centrally spaced Type 2 deformed continuously threaded Gewi bar complete with full strength couplings. Additionally the pile heads were reinforced with a 4m long 139.7mm OD x 8mm thick API grade circular hollow section extending 1.0m into the abutment and 3.0m below it.

Project facts

Owner(s)
Network Rail

Keller business unit(s)
Keller UK

Main contractor(s)
J Murphy and Sons

Engineer(s)
Opus

Solutions
Underpinning

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Infrastructure

Techniques
Minipiles

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