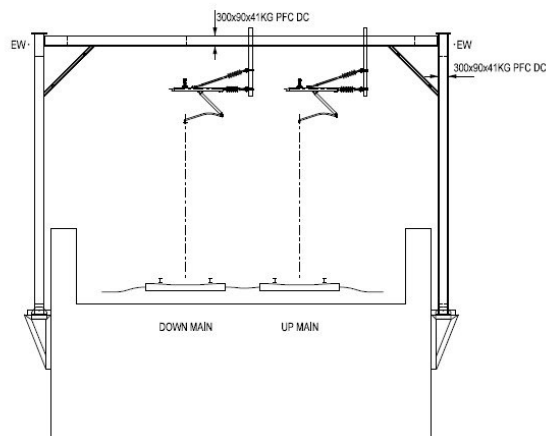


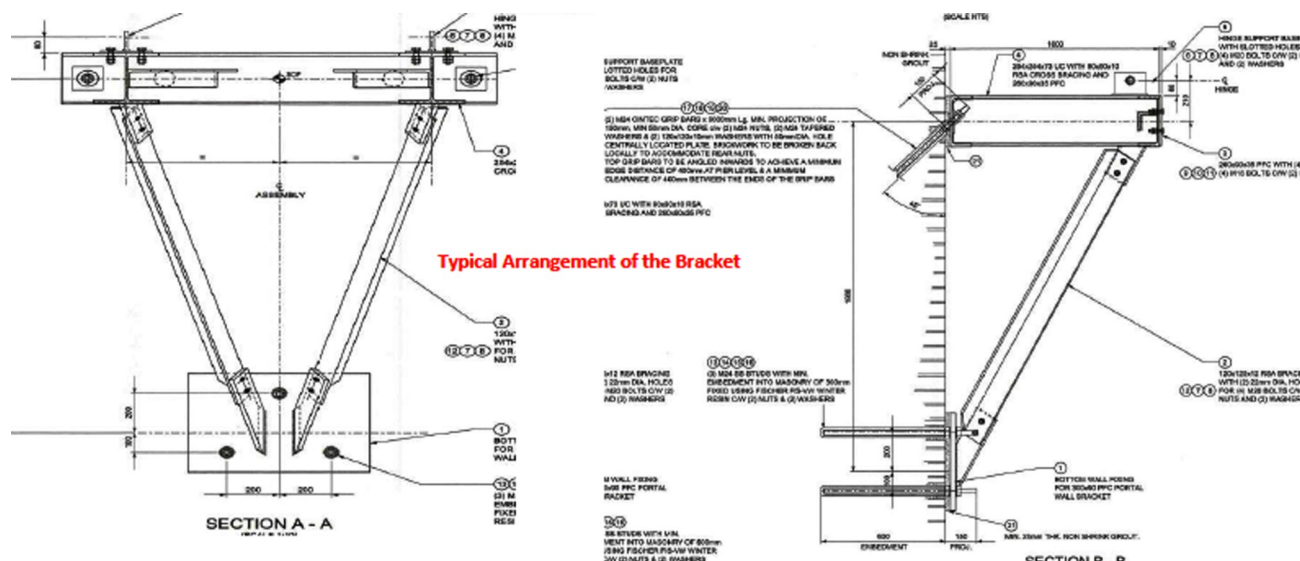
Gospel Oak to Barking Electrification for Network Rail

As a significant part of the UK Network Rail electrification programme, the Gospel Oak to Barking line some 13 miles long required Overhead Line Equipment (OLE) for the cabling system.

As the track is routed through a mainly urban environment a substantial part of the track is elevated on brick built viaducts. The OLE therefore needed to be supported by a durable and reliable fixing system to secure the steelwork supports to the brick structures. For this reason the Cintec anchor system was chosen by the client and their engineers AECOM.



The twin track gantries were fixed to one or both of the external faces of the brick built structures utilizing the strength of the unique Cintec anchor system. This enabled the number of fixings to be minimized due to the extremely high load capacity of the Cintec anchors working in shear and tension installed into the brickwork. The anchor capacity and design was devised by Epoc structural engineers working in conjunction with Aecom.



Due to the varying nature of the quality of the brickwork and the known high tensile and shear loads the gantry supports would be carrying a number of test anchors were installed and load tested to confirm the design parameters for the anchors.

The Cintec GB30 anchor was selected as appropriate which generally would be housed in a 76mm diameter core drilled hole.



Test anchors were drilled and installed at suitable locations along the route of the line. Test core samples were also taken and tested from numerous locations to determine the nature and thickness of the brickwork which was of a variable consistency.

Much of the viaduct was in relatively confined areas with lock-up units housed beneath the viaduct arches which meant difficult access and working restrictions.

The main contractor was Murphy who provided attendances of access, welfare and storage in addition to gaining access to occupied areas.

Anchors varied in length from 1500mm to in excess of 6000mm and bar size from 30mm up to 42mm in holes of 76mm to 86mm. Anchors were both horizontal and inclined. Specialist double casing drilling equipment was necessary in places due to the unstable nature of the fill material encountered within the viaduct fill,.

