POISE

CASE STUDY

Centrica
EV Charging Points Installation

IONITY

centrica
Electric Vehicle Serviceses

PROJECT NAME:
Maidstone, Thurrock and Milton Keynes EV Charging Installation

CLIENT – Centrica (on behalf of Ionity)

PROJECT VALUE – Confidential

DATE – July 2018 to Ongoing

PROGRAMME DESCRIPTION:

This Programme comprises the roll out of electric vehicle (EV) charging points across the UK on behalf of a major Client new to the UK market.

Ionity (Client) commissioned Centrica/Poise to complete the detailed designs for the installation of EV charging points across the UK. Some notable sites include:

- Maidstone
- Thurrock
- Milton Keynes

The work entails a mixture of visual survey works and detailed design across Civil, Structural, Electrical, Communications and Architectural engineering disciplines.

PROJECT DESCRIPTION:

The project required Poise Engineers to develop a concept design for the EV Charge points, previously completed for planning purposes into a detailed design that our Design and Build partners could deploy efficiently and cost effectively within the aggressive timescales applied by the Client.

The project delivery required Poise to deliver the following design details:

- Design for 11kV to 415V Transformer
- Design for LVAC Switchboard
- Design for High Power Cabinets
- Design for Charge Posts
- Design for Emergency Power Off systems integration
- System communication control
- Design for High Power Cabinets

Safety by Design

POISE

CASE STUDY

Centrica
EV Charging Points Installation

- Design for Emergency Power Off systems integration
- Design for Charge Post
- System communication control
- Structural design for retaining walls
- Concrete bases for a range of electrical assets
- HV and LV cable routes
- Designing, in and around, complex below ground services
- Architectural and landscape details

Survey Works and other pre-design activities

Working collaboratively with the Client and Contractor, Poise carried out intrusive site surveys to establish a comprehensive understanding of each site including; ground conditions, site levels, below ground infrastructure, existing electrical infrastructure and any other site limitations. During the site survey the location of proposed equipment, cable routing, lighting assessment and other elements of the detailed design were discussed and agreed with the Client.

Information was electronically captured during the survey and to ensure availability and ease of access during detailed design, this information was uploaded to our Share point site. Existing asset information and historical records were requested and received from the Client and were used as baseline for the detailed design.

We also held meetings with the Distribution Network Operator (DNO) to establish the demarcation between our works and theirs.

Detailed Design

Electrical and Communication elements of design including the proposed electrical general layout drawings, cable routing, single line diagrams, control schematics and termination wiring schedules were produced based on manufacturer inputs. Civil, Structural and Architectural aspects of the works included the creation of foundation designs for RMU, Transformer, High Power Cabinets, charge posts, retaining wall and embankment regrading. A compound fence was designed to enclose and secure the equipment layout.

The designs were developed in a staged manner with controlled design stage gate reviews at 40% and 85% completion to ensure that (1) all Client needs were developed and (2) the Contractor could advise of buildability preferences. These gate reviews were held to supplement the weekly progress and technical meetings and the standard verification and validation processes adopted by Poise for all design works. A Designer's Risk Assessment was developed to capture the design risk management and mitigation process followed.

The design was completed in line with the baseline programme and the Client was very satisfied with the high standard of detailed design works produced.