

Dukes Mound S278, Brighton

Client: BHCC

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Contract Start: Mar 2021

Contract Completion: Feb 2022

Value: £751K

Description of Contract & Scope

Edburton Contractors Ltd (ECL) as Principal Contractor under the CDM Regulations 2007 constructed highway improvements, road markings, coloured surfacing, hard & soft landscaping works to improve the Dukes Mound area of Brighton as part of the Black Rock redevelopment scheme. The contract was undertaken on a NEC3 Term Contract. ECL worked collaboratively with BHCC's signal installation contractor to carry out the project.



These works included:

- Remove vegetation
- Remove signs and redundant street lighting
- Construct 2 new signal-controlled junctions including duct networks
- Construct new block paved footpaths including tactile crossing points
- Resurfacing of over 1000m2 of tarmac footpath
- Installation of new signage
- 4600m2 of carriageway resurfacing to Marine Drive and Madeira Terrace
- Application of new road markings and coloured surface finishes
- Installation of fencing
- Installation of street furniture
- Street lighting ducting
- Soft landscaping works including tree planting

Risk Management and Scheme Challenges

Road Markings and Coloured Surfaces – The project required a significant amount of road marking work to be undertaken on both the upper and lower junctions to delineate filter lanes, parking bays, cycle lanes, pedestrian walkways and crossing points. Parking enforcement markings were also applied. The Hydro-Blasting technique was used where required to allow the fast and clean removal of existing road markings. The scheme also required nearly 1000m² of green coloured surface, 450m² of grey coloured surface and smaller areas of red surfacing. The application of these surfaces and markings was carefully co-ordinated to ensure they were set out correctly and checks were put in place to ensure that the surface had sufficient curing time before being trafficked over.

Traffic Management – Brighton Seafront is a very popular tourist attraction, and this meant that there is a high volume of pedestrian, cycle and vehicle traffic through the project area. Careful consideration was given to provide a safe means of segregating the public from the construction areas and the works were sequenced to ensure that there was always access along the promenade.

Due to access constraints much of the surfacing and lining works were undertaken at night under a series of road closures. ECL produced multiple traffic management plans demonstrate how the diversion routes would function and used these to apply for Temporary Traffic Regulation Orders (TTRO) from BHCC to allow the closures to take place



Planted Areas – A section of the project involved the creation of a new public realm area constructed on an area of wasteland. This area consisted of a paved section with street furniture and a planted area with shrubs and five new mature trees. Each tree weighed several tonnes and as such a number of logistical challenges needed to be overcome to install them. An area of the seafront parking was set aside so that the lorry trailers that the trees were delivered on could be stored in a safe location until each was required. Traffic marshals and banksmen-controlled pedestrians, cyclists and road users so that a telehandler operator could unload each tree, transport it along Madeira Terrace and then deposit it into a pre-excavated tree pit in the landscaped area. The trees were planted near the Volk's Railway line so careful consideration was made to ensure that the works did not disrupt its operation.

Innovation

Duct Trench – The project included the requirement to lay over 200m of ducting along the seafront to facilitate future street lighting requirements. Using traditional excavation techniques this would have taken approximately three weeks to install. However, by using a top cutter and then backfilling the trench with foam concrete rather than the traditional granular backfill the works were completed in one week greatly reducing the disruption to the public.

Speed Trials – Madeira Terrace is used for the annual Brighton Speed Trials. This introduced the challenge that any traffic islands or bollards situated in the highway must be removable to facilitate the event and any residual chambers or mountings must be flush with the surrounding tarmac surface. ECL sourced and installed bolt down traffic islands which can be quickly removed and re-installed following completion of the trials. Bespoke retention sockets were constructed for the traffic bollards which leave a smooth flush finish once the bollards are removed.



Outcome – Budget, Schedule and Quality

The project successfully delivered two new signal-controlled crossing points improving safety at two junctions as well as rejuvenating a historically run-down area of the seafront with a new landscaped area.

The Project was valued on the BHCC Term Contract Rates and was re-measured over several significant scope changes and variations. Our commercial team worked closely with the Project Manager and provided a high level of commercial detail to ensure budget integrity.

By re-phasing elements of the project and ensuring that all carriageway surfacing works were complete the 2021 Brighton Marathon and Speed Trials were held even though construction activities were still ongoing in the area.

All works were undertaken using the ISO 9001 accredited Quality Assurance scheme. This controlled how works were undertaken and introduced checks to ensure compliance and quality.

The scheme has been very well received by the public receiving many complimentary remarks particularly regarding the new public realm landscaped area.



The project demonstrated ECL's ability to achieve BHCC's key outcomes for this Highways Services Contract as follows:

BHCC Key Outcomes	Project Achievements
Carbon neutrality	Use of recycled aggregates. Large area of new planting
Cost management	Project delivered to budget expectations
Customer satisfaction	Notable appreciation of the new public realm landscaped area
Quality assurance	Hydro-blasting and careful co-ordination of coloured surface application ensured quality finish
Safety	Traffic marshals and banksmen ensured pedestrian safety
Social value	Brighton Speed Trials enabled through innovative traffic bollard solution
Schedule management	Sequencing of works ensured continuous pedestrian access along promenade
Well planned Permits	Permits and TTRO's etc all arranged by good and timely liaison