

GRAHAM to provide bridge across Great Eastern Main Line

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GRAHAM has been awarded a contract to build a new three-span bridge and link road which will take traffic over the Great Eastern Main Line and A12 slip-road.

The project is part of the Chelmsford East Beaulieu S278 Works (RDR Phase 3) project.

The £16.77 million project will connect the A130 Essex Regiment Way and the Beaulieu and Channels housing developments, on the west side of the Great Eastern Main Line (GEML), to the A12 Boreham interchange on the east side of the railway.

The scheme will see the delivery of new highways infrastructure to facilitate future phases of development at the Beaulieu Development in Chelmsford for the client Countryside and L&Q.

The infrastructure will also form part of a local bus route and the principal HGV traffic route between the A12 and Braintree.

The development will also mean a link to the proposed new Beaulieu railway station on the east side of the

railway.

GRAHAM has already delivered the pre-construction phase of the contract, which required a fully coordinated design and installation methodology to meet the approval and standards of Highways England and Network Rail.



Image supplied by GRAHAM

As part of the contract, GRAHAM will provide the construction of a range of new highway infrastructure, including:

- A new three-span highway bridge structure
- Piling
- Earthworks
- Soil retaining walls
- Bearings
- Stormwater (SUDS) drainage
- Road construction to include provision for pedestrians
- Traffic signs and road markings
- Traffic signal loops
- Street lighting
- Fencing
- Vehicle restraint systems.
- Utility ducts
- Temporary works
- Other ancillary works
- Coordination with and programming of the works of statutory undertakers to carry out required diversion/protection works on the public highway
- All associated Traffic Management Works

The new Beaulieu Rail Bridge will be a 161m long three-span structure of composite weathering steel fabricated plate girders on in-situ reinforced concrete column abutments and piers, with reinforced concrete pile-caps and bored cast in place reinforced concrete piles. The girders will be a constant depth over their full length.

The superstructure will be constructed on site, off-line on adjacent land. GRAHAM will carry out the installation by raising the complete superstructure using Self Propelled Modular Transporters (SPMT) which will carry it to its final position before lowering it onto the permanent bearings.

This methodology has been used by GRAHAM successfully on previous bridge installations, notably on the Carpenter's Land Bridge in 2020, a project that linked London's East Bank to its International Quarter.

GRAHAM has a proven track record in the Chelmsford area having completed the award-winning A138 Chelmer Viaduct – a £32m strategic highway, which has increased transport capacity and significantly improved journeys for motorists, cyclists and pedestrians.

Discussing the award of this next phase of works, GRAHAM managing director Leo Martin said: "Following our appointment to design the bridge for this scheme under a Stage 1 Pre-construction Services contract which focused on optioneering, outline design and detailed design development, we were delighted to secure the build phase for the Chelmsford East Beaulieu S278 Works.

"The use of SPMTs to install the complete bridge rather than the traditional usage of a crane is an example of our innovative approach to civil engineering infrastructure projects and this methodology will help us install the new superstructure in the safest and most efficient manner.

Leo added: “We’re thrilled to be delivering another important infrastructure scheme in the Chelmsford region following our work on the award-winning A138 Chelmer Viaduct. The Chelmsford East Beaulieu S278 works will provide important new transport links for the Beaulieu and Channels housing developments to the A12 Boreham Interchange, as well local bus and HGV routes between the A12 and Braintree. The project is another excellent opportunity for our team to show its capabilities in both the highways and rail sectors.”

Work on the Chelmsford East Beaulieu S278 (RDR Phase 3) project is currently underway with an anticipated completion date in Spring 2023.