



## Tom Blackwell Ltd.

Contractors & Plant Hire

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### **Rivenhall – Abstraction and Discharge Pipeline: Construction and Installation**

The proposed development(s) will comprise either the excavation and installation of: one 90 mm abstraction main within a 1 m wide and 1.275 m deep trench to an existing licenced abstraction position within the former Coggeshall Pit quarry; or, two 90 mm (one abstraction, one discharge) and one 225mm (abstraction) mains within a 1.6m wide and 1.275m deep trench to a new and alternative location [subject to, we understand, an application by Gent Fairhead that may be submitted to the Environment Agency over the coming weeks] downstream from the existing site access road Bailey Bridge crossing. The maximum length of pipeline(s) will be approximately 3.1 km to the existing Blackwater River abstraction point or 3.5 km to the proposed abstraction point.

All of the works to the existing abstraction point would be within restored mineral workings. Approximately 1.2 km of the route to the proposed abstraction point would be in existing access road and the remainder in restored quarry workings or virgin agricultural fields or wetlands. At least 1 km of both routes would be installed during the construction of the new access road to the IWMF.

The pipelines will be installed in open trenching, excavated by tracked or wheeled excavators. However, where the proposed abstraction and discharge pipeline(s) cross either Cuthedge Lane, Church Road and Ash Lane, they would be installed using trenchless technologies (i.e. directionally drilled) to avoid the need for temporary road closure (s) and/or diversion(s).

Using this technique it is anticipated that the contractor would achieve 50 to 100m of trench per day per team; however, it is anticipated that three teams would be employed to work at different targeted points along the route of the pipeline(s) to reduce the installation time. A more detailed description of the likely installation methodology is given below:

#### **Contractor's Facilities**

Prior to any work starting, contractor's compounds will be established at the main IWMF site in accordance with details submitted under planning condition 20, or as may be subsequently approved by the Waste Planning Authority. Working hours will be in line with the existing planning permission and carried out between 07:00-19:00 hours Monday to Sunday.

#### **Abstraction and Discharge Pipeline(s) Installation Statement**

1. The abstraction and discharge pipeline(s) will be installed within the verge of the IWMF access road, across restored sections of former quarrying operations, or across agricultural land.
2. Using utility plans CAT scan the area and mark the position of any utilities with spray paint.
3. Once the existing services are marked out excavate trial holes as necessary, investigate manholes or drainage ducts etc.



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4. The exact route of the trench can then be decided, prior to commencement of the work.
5. Before excavation works start, recheck the utility plans to determine all existing services have been located.
6. Mark out the width of the trench.
7. Establish a working area which will include space for the temporary storage of subsoil and topsoil and a laydown area for the pipelines adjacent to the trench.
8. Excavate trench to depths shown on the detailed construction plans.
9. The pipeline(s) will be laid out adjacent to the trench and prepared for fusion welding the joints, before laying the pipe into the trench onto the required depth of bedding sand.
10. A drainage team will consist of one tracked or wheeled excavator to excavate trenches with a smaller supporting tracked or wheeled excavator to load delivered bedding materials via small 9 tonne 4 x 4 dumpers for delivery and placement within the trench. Compaction of backfill materials will be by a specialist remote trench-vibrating roller controlled from outside the trench. Although trench depths are shallow, sufficient proprietary trench boxes will be maintained on site in the event that ground conditions necessitate their use.
11. The pipeline(s) will be laid by two CSCS certified experienced pipe layers with two similar CSCS trained ground workers controlling material and pipe movement top side of the trench. A two-man fusion welding team will progress along the route as the pipeline(s) are installed working within a locally widened and tent covered section of the trench run at the joint locations. Pipe sections will be pressure air tested as the installation progresses and the completed pipelines will be air pressure tested to Sewers for Adoption 7th Edition specification requirements.
12. Sand over pipeline(s) to the required depth and lay marker tiles over each pipeline.
13. Backfill the trench with the excavated subsoil, compacting it in layers until the original subsoil level is reached.
14. Replace, where appropriate, previously excavated and stockpiled subsoils and top soils.
15. Particular attention will be paid to the preservation of agricultural land drainage systems. Land drainage in each field will be carefully inspected and recorded. All drains severed by the trenching operations will be identified and an appropriate method of reinstatement discussed and agreed with the landowner.



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### **Pipeline Installation Programme**

Based on a production rate of 50 to 100 m per day of trench excavation per team it is anticipated that the pipeline(s) will be installed within a 7 week working programme.

### **Pumping Chambers and Abstraction Positions**

Pumping chambers and abstraction and/or discharge points will comprise below ground structures installed outside the approximate extent of the flood plain, with abstraction points [and discharge] located adjacent to the River Blackwater. There will be no-above ground structures or buildings.

The general arrangement and detail of the pumping chamber and abstraction position will be provided prior to finalising contracts with the installation company.

Construction of the pumping chambers and/or abstraction and discharge points will comprise the staged installation of standard precast concrete rings or structures within an open (supported) excavation, or installed by pipe jacking the chamber into its required position. Once installed the excavated (or jacked) annulus will be backfilled with concrete (or similar inert and nonreactive grout).

Pumping chambers will be internally staged out with certified scaffold systems to permit installation of pump rest bends and guide rails etc. Ventilation will be provided into the chamber during construction (and any maintenance) owing to confined space operating conditions.

By phasing the pump station and abstraction point works to suit any seasonal constraints, the overall completion of the abstraction and discharge pipeline(s) works will be completed over a 6 month working period.