CASE STUDY

Project: Hailsham South WwTW
Location: Hailsham
Client: Southern Water
Value: £3 million

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Project Introduction

This wastewater civil engineering contract on behalf of Southern Water, was awarded to Coleman Construction & Utilities Limited following competitive tender. It comes off the back of the company's superb track record of delivery and performance for CDMP over a number of years, with regards to Health and Safety also the quality of their workmanship.

This contract is underpinned by a firm, collaborative ethos, with both client (PC - CDMP) and civil engineering sub-contractor (Coleman Construction & Utilities), working together to achieve high standards in amongst some complex civil engineering challenges and stakeholder integration.

The purpose of the project is to improve the quality of final effluent being discharged from the works and entering the local water course's and to meet the regulatory output dates set by the Environment Agency.

This is largest individual civils project completed by the company to date. It has been fully managed by Coleman Construction & Utilities Limited site management team and has had up-to 15 full-time personnel delivering the works.

Project Deliverables

- Tertiary treatment pump station
  - > Excavate and install sheet and frame temporary works
  - > Concrete blinding for base steel and shutter installs
  - > Installation of cut and bent steelwork with timber shutters
  - > Pour concrete to base
  - > Installing cut and bent steel work and bespoke shuttering for walls including temporary design works
  - > Internal walls to be installed with steel work and shuttering prior to concrete pouring
  - > Benching to be installed to design
  - > Backfilling to be done in stages
    - Stage 1 up to underside of incoming 900mm main
    - Stage 2 up to surrounding area slabs including temporary works removal
- Final effluent monitoring chamber
  - > Excavation to be completed as a stepped excavation

- > Concrete blinding for base steel and shutter installs
- > Installation of cut and bent steelwork with timber shutters
- > Pour concrete to base
- > Installing cut and bent steel work and bespoke shuttering for walls including temporary design works
- > Pipe work with diameters of 600 and 800mm in ductile iron to be installed to associated manhole

- Pipe and manhole systems
  - > Manholes excavated and installed within temporary works boxes
  - > Bases poured with concrete and manhole rings installed
  - > Manhole surround shutters installed, and concrete poured to gain watertight seal
  - > Pipe penetrations core drilled
  - > Pipe runs excavated and installed using two temporary works systems (1) sheets and frames will be used in congested areas; (2) trench boxes will be used when there are no obstructions
  - > Pipe work to be installed as per manufactures guidelines and air tested for drain runs plus pressure tested for pumping mains
- Ferric dosing unit to dose ferric sulphate to the treatment works to this will remove phosphates from the treatment process
  - > Reduce dig footprint of the area for work
  - > Installation of all required electrical and dosing line ducts
  - > Installation of Cubis rapid stack draw pits
  - > Installation of pipe work for drainage and capturing of any spill of ferric during delivery
  - > 1500 diameter manhole (intercept chamber) to hold large spill of ferric when delivery is taking place
  - > Concrete slab to house ferric dosing unit to be constructed on compacted type 1 and concrete blinding
  - > Concrete access roads to be poured with containment humps in case of ferric spillage
- Actiflo filter system (a 3-stage tertiary treatment plant and will be the first of its kind for Southern Water on a wastewater scheme)
  - > Reduce dig the footprint of the area
  - > Installation of all required electrical ducts
  - > Installation of Cubis rapid stack draw pits
  - > Installation of pipe work for delivering water to the treatment plant from the pump station and then on to FE chamber for sampling before leaving site and entering the local water course
  - > Drainage manholes and pipe work installed to take surface water and drain off from filter clean outs

Challenges and Solutions

A number of challenges have been met throughout the project by Coleman Construction & Utilities Limited, which have been solved, allowing the project to stay on time and within budget:

- Deep excavations - solved with sheet and frame temporary works designs for both the pump station and final effluent chamber.
- Pipes and manholes within the temporary works installed using two systems of manhole boxes and trench boxes.
- Congested areas of works within all new pipes, manholes, ducts, draw pits and chambers joining together - Coleman undertook regular programme and sequencing reviews to enable all works to be planned in advance
- Plant deliveries - a co-ordinated plan of plant and equipment deliveries to ensure works kept on track
- Interface with other contractors/stakeholders – collaborative early engagement meetings, regular planning and liaison through weekly project meetings

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Benefits

- Coleman Construction & Utilities worked with the client, not against them. We developed better working relationships with client site teams, through collaborative working and a solution-based approach.
- We strived for best practice working especially where health, safety and wellbeing are concerned - aiming for zero harm.
- We took pride in our work leaving our sites snag free. Our attention to detail was second to none.

Testimonial

"As CMDP Works superintendent I have worked very closely with Coleman Construction & Utilities Limited for over 10 years. It has been a great journey with a very wide variety of civil engineering challenges, as well as very high standards of health and safety and quality.

"Coleman Construction & Utilities have embraced everything we promote and stand for at CMDP - even going above and beyond in some cases.

"I personally have the pleasure of working very closely with the front line supervisors and have a great deal of respect for them."

Chris Hallam
Works Superintendent
CMDP