



The Coal
Authority

Works Information

PROJECT TITLE: Taining Drain Subsidence
Pumping Station MEP Works

CONTRACT REF: CA18/1/10/2556
Cost Centre: 3110
Project Code: EV00315B
Account Code: 40122
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DATE: 30th May 2017

CA Project Manager: John Rowlands

Taining Drain Subsidence Pumping Station MEP Works

Works Information

1 Introduction

The Subsidence Pumping Station Capital Refurbishment works 2016/17 was set up to provide a Design and Install of the Mechanical & Electrical installation and Civils construction to Five Number Subsidence Pumping Stations in the South and West Yorkshire region. It has been identified that at these sites the M&E equipment has exceeded their asset life and require replacement along with the need to address some Health & Safety issues.

This works Instruction is for the M&E Works for 1 of the 5 sites which is Taining Drain SPS site only.

The pumping stations typically comprise of either pump house Brick building or kiosk in a fenced areas. Common to all will be sump chambers, hard-standing areas, Weedscreen inlet bays, discharge bays, fenced compounds and pump control panels. The main elements of MEP works identified are detailed below in the list of requirements:

The period of time for the works is 4 Months from issue of the NEC ECC Contract.

The Coal Authority's (TCA) representative whilst carrying out this work will be TCA Project Manager John Rowlands.

Third Parties

The Working Areas are operational pumping stations. The *Contractor* shall co-operate with the *Employer*, and the *Third Party* representatives.

Access on to the sites will be arranged by The Coal Authority representative with the Third Parties, they will also arrange meetings as and when required.

The *Contractor* shall submit to the *Employer* a method statement and risk assessment for the works the *Contractor* intends to carry out at the various site.

The Contractor may need to undergo an induction from relevant third parties

Taining Drain Subsidence Pumping Station MEP Works

Works Information

MEP Requirements (Details in Tables below)

Taining Drain SPS:

Ref	Recommendations	Specification
	Site Establishment.	Site set up and access to the site. Programme duration to be advised by Contractor.
	Over pumping.	Over pumping at via 2 No. Pumps totalling 500l/s (suggest 2 No. 250l/s pumps) including 150m of 200mm dia bauer coupled suction and discharge lines
	Access Scaffold.	Access scaffold for the inlet structure. Access scaffold for the outlet structure.
	Civils Recommendations	
	Inlet Structure	
1	Clean out inlet structure.	
2	Install new fold down hinged based lighting column 5m high within the compound.	Remove the bulkhead lighting and replace with new 8m high hinged based pole mounted flood lighting (camera to be added to the pole).
3	Stone up area to the side of the inlet. This can be used to site the crane during the refurbishment works and a skip following the completion of construction.	40t DOT Type 1.
4	Install monitoring points on the sheet pile retaining wall to identify additional movement of the sheet piles.	Due to access and the capping beam and fence it is not possible to install monitoring points using tilt meters plates . Therefore a total station monitoring point shall be installed and retroreflective targets placed on each of the sheets (10No.) at the anchor plate location. 2 Sets of reading are to be taken during the works. Prior to installation of the targets, the ground anchors are to be checked by tightening the bolts
	Pumping Station	
5	Install new security rated door, this shall be positioned externally with slotted/over sized holes to allow for movement of the structure should this occur without the door distorting or damaging the brickwork.	2 No. 2.1m x 1m Security rated doors c/w externally mounted frames to LPCB LPS1175 Class SR3 Bespoke frame required for top door due to rebate in brickwork. Door frames to be externally mounted using resin fixed security bolts. Clearance of door to landing to be checked.
6	Install monitoring points to asses any for further movement of the building.	A total station monitoring point shall be installed and retroreflective targets placed on the building (10No.). 2 Sets of reading are to be taken during the works. Targets shall be positioned to show movement in all planes, as shall allow an assessment of the total tilt of the building.
7	Remove the trees to the rear of the structure. Grubbing or stump grinding out the root ball but not undertaking full root removal.	
8	If trees are to be replanted then install root barrier protection.	Install 20m tree root barrier protection and replant trees.

Taining Drain Subsidence Pumping Station MEP Works

Works Information

9	Install a cut off drain around the perimeter of the building draining back into the Taining Drain.	28m x0.45mx 1m deep linear stone filled cut off drain to be installed an piped back into Taining Drain. Drain to be 1.5m from building footings. Drain to discharge into inlet structure.
10	Replace the roof membrane and repair any damage to the roof structure.	Replace the roof coating with 16m2 1.6mm thick EPDM roof membrane. Access scaffolding 2 storey. Allow for removal of the existing coating.
11	Rake out cracked bed joints to 25mm and re-mortar.	5m ² rake out and re-mortar bed joints.
12	Refurbish the protective coating on the Z pile retaining wall.	30m ² of pile painting with surface tolerant Copon (3M) Hycote 152. Treatment to include wire brush abrasion before recoating. 1 No. General Operative 4 days (Estimate) Free standing tower scaffold (2m high) 1 week (Estimate)
Mechanical Recommendations		
Inlet Structure		
13	Replace the pumps with eel friendly equivalent .	2 No Hydrostal Submersible Screw Centrifugal (Eel Friendly) Model: H12K-SS1+HE030X8-MSEK1+NC1B4OM-10. Design Flow 200 l/s . Design Head 5 M. Power Rating 18.5kW. Running Speed 719 rpm. Full Load Current 40 A. Notes: May require modifications to the sump cover slab. Contractor to check market for alternatives.
14	Refurbish valves and make them accessible.	Refurbish sluice valves including a full strip down of component parts, cleaning, inspection, reporting, recoating and reassembly, including replacement of lubrication, seals and fixings. Construct 2No.new accessible valve chambers.
15	Install NRVs (butterfly wafer style to avoid significant disruption) to prevent backflow in the pumps.	
Electrical Recommendations		
MCC		
16	Provide a new main earth bar in the control room for supplementary earthing requirements and for main incomer earthing.	SEE URS from J N Bentley.
17	Provide earthing for a generator supply and associated earth rod / mat system.	
18	Replace all motor cable will need to be changed this will include new water tight junction boxes.	
19	Replace the MCC.	
20	Provide new labelling with IE warning labels for MCC.	

Taining Drain Subsidence Pumping Station MEP Works

Works Information

21	Provide a new intermediate isolator between the DNO supply and the MCC incoming isolator.	SEE URS from J N Bentley.
Building Services		
22	Provide emergency lighting in the MCC Room and the ground floor room.	
23	Replace the lighting on both floors to provide the correct lux level.	
24	Remove the bulkhead light fitting mounted off the control building.	
25	Provide new wall heaters.	
26	Replace all internal wiring.	
Inlet Structure		
27	Provide electrical wiring for the flood lighting to illuminate the sump pump area and wiring.	
Additional Works		
28	Replace Flap Valves on pumped systems with NRV's.	Replace the flap valves with WaSTOP

2 Deliverables

The following items have been identified as key deliverables for the works and are to be provided by the Principal Contractor as part of his scope of works:

- A TCA approved Construction Phase Health and Safety Plan (CPH&SP) 1 week prior to mobilising to site.
- Initial Programme (with updates as required) within 1 week of receiving the award.
- Initial Risk Register (with updates as required) within 1 week of receiving the award.
- 2 weeks before completion hold a meeting with IDB's/TCA Operations teams to discuss handover, including tabling of draft handover documents.
- Health and Safety File / Handover information including O&M manuals, as built drawings, copies of any consents & licences obtained, site diary, monitoring and testing results, CDM/H&S data, and any communications with key stakeholders (e.g. local residents) to be provided within 4 weeks of completing the works.

Taining Drain Subsidence Pumping Station MEP Works

Works Information

3 Milestones

The key milestones are as follows:

- Mobilisation to site week commencing 4th September 2017.

4 Exclusions

The Exclusions are as follows:

- Site Access works to be at TCA Risk and will be assessed as required depending on the ground conditions during the life of the Project.
- TCA will only bear any prior agreed costs in resolving any site access issues.

5 Site Address Details

PUMP STATION	Internal Drainage	Site Address	Nearest
Taining Drain	Danvm	River Ln, Fishlake, Doncaster	DN7 5JN

6 Location

Danvm Commissioner's IDB Station

