3rd August 2017

# Engineering and Construction Short Contract Works Information

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| **PROJECT TITLE:** | **Pool Farm By-Pass Channels** |
| **CONTRACT REF:** | **CA18/10/2561** |
| **Cost Centre:** | **3110** |
| **Site Code:** | **EV00361** |
| **Account Code:** | **40102** |
| **Capex Code:** | **401** |
| **DOCUMENT REF:** | **Works Information – Rev 1.0** |
| **DATE:** | **03/08/2017** |
| **Employer's Project Manager:** | **John Hamilton** |

## Contents

# 1 Background

Pool Farm Minewater Treatment Scheme (MwTS) was constructed in 2004 and treats mine-water discharging from an existing adit. It is a gravity-fed scheme and the inflow cannot be controlled.

The flows are conveyed, via an inlet structure, to the treatment scheme. Treated water is discharged to the adjacent Dippool Water.

The treatment system briefly comprises:

- A small aeration cascade
- A single treatment stream comprising: 1no. Conditioning Zone/settlement lagoon; 2 no sequential wetland ponds (reed beds). The Conditioning Zone forms an integral part of the first-stage wetland pond.

The reed beds need a significant amount of maintenance over the next 2 years to address flooding caused by the reed beds being choked by progressive accumulation of leaf litter within the reed beds and a significant increase in flow in the last 12 months. Currently neither of the two reed beds which operate in series can be bypassed, meaning any intrusive work represents a significant risk of pollution of the receiving water (Dippool Water). The site is considered extremely sensitive from a Coal Authority reputational risk perspective.

Earlier this year, SEPA was approached to see if they would consider allowing bypass of the scheme to facilitate reed bed maintenance. They have agreed to a partial bypass to be installed at the exit of reed bed 1 so that reed bed 2 can be worked on. The currently proposed works are to construct that permanent partial bypass facility.

Pending the construction of the permanent bypass, temporary open channels have been excavated in the access track to allow partial bypassing of some flow.

# 2 Current Situation:

The water level in the reed beds is higher than the maximum allowed for in the original design. The water is now above the level of the banks of the reed beds and is being contained by sand bags placed all along the reed bed edges to form an artificial bank. The water level is increasing and shortly another layer of sandbags will be required to prevent the water over-topping and running into Dippool Water.

Seepage through the sand bags is occurring which is causing the ground to become marshy and stained with ochre.

The water level appears to be increasing due to the restriction through the scheme caused by a combination of ochre build up, dead and decaying vegetation and reed growth.

# 3 Requirement

A permanent bypass channel needs installing to allow the maintenance of reed bed 2 this year. This needs to give the flexibility to take the reed bed off-line as required, so control by penstocks or stop-logs will be required.

A blocked-off connection shall be incorporated, to facilitate a future connection to the inlet structure. (This will then form a second partial bypass, allowing reed bed 1 to be taken off-line for maintenance).

# 4 Location and Access

Pool Farm MwTS is an existing MwTS located approximately 1km west of Auchengray, South Lanarkshire. (Grid Reference: NS 986 541).

The site is accessed off several minor roads from the Auchengray Road to Pool Farm and then via shared farm access tracks. The Coal Authority has rights of access to the scheme over the farm access tracks from Pool Farm.

The farm access tracks must not be obstructed at any time and any damage caused by the passage of vehicles associated with the MwTS must be made good.

Keys for all gates will be made available by the Coal Authority.

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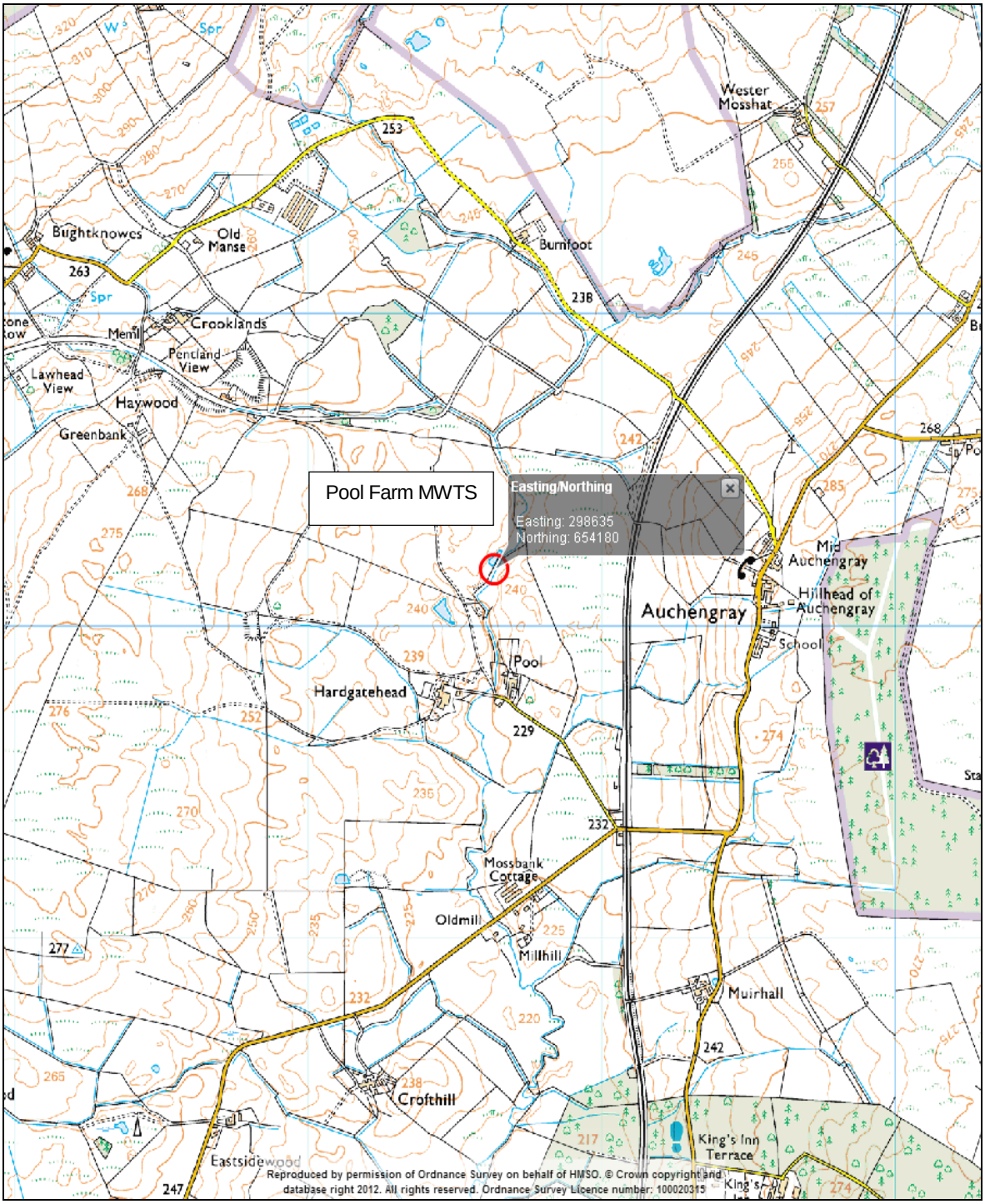

# 5 Description of the *works*

The overall scope of the works comprises:

- Design and construction of a permanent bypass channel and outfall structure to allow the maintenance of reed bed 2. This needs to give the flexibility to take the reed bed off-line as required, so control by penstocks or stop-logs will be required. The required schematic layout is shown on Drawing No. EV00361-SK01 Rev A.
- A blocked-off connection shall be incorporated to facilitate a future bypass connection to the inlet structure.

Specific tasks include:

- Preparation of all Project Management and Health and Safety documentation before, during and after construction to satisfy regulatory requirements.
- Design and construction of a permanent bypass channel and outfall structure to allow the maintenance of reed bed 2. This needs to give the flexibility to take the reed bed off-line as required, so control by penstocks or stop-logs will be required to be incorporated.

  The bypass channel shall be designed to convey the maximum flow rate that enters the MwTS (see Section 7).

  The bypass channel shall be watertight.

  The bypass channel shall have removable open-mesh grp covers in sizes/weights that are suitable for manual removal by one operative.

  The outfall structure shall be designed and constructed to meet SEPA requirements.

  Stone rip-rap shall be placed where the headwall discharges into the watercourse to prevent erosion.

  A handrail shall be provided at the headwall to prevent falls into the watercourse.
- Liaison with stakeholders and local residents throughout the duration of the works.
- Attend site visits and monthly progress update meetings in accordance with the proposed programme.

- 2 weeks before completion hold a meeting with the Coal Authority (TCA) Operations team and the Coal Authority's operation and maintenance contractor, Severn Trent Services Ltd. (STS) to discuss commissioning/handover, including tabling of draft handover documents.
- Commission the new bypass in coordination with the TCA and STS Operations teams.
- Site set up and works management including the provision of appropriate welfare, temporary works, fencing and gates, security, testing facilities and supervisory personnel.
- Make good any damage made to the access tracks, works area, fencing and/or any other area as a consequence of the works being undertaken.

# 6 General constraints on how the *Contractor* Provides the Works

Working Hours:

Working hours will be:

07.00 - 19.00 hours Monday to Friday

08.00 - 13.00 hours Saturday

Not at all on Sundays, Bank or Public Holidays

# 7 *Contractor's* design

All designs shall be in accordance with the relevant sections of the following Coal Authority documents:

- Design and Build of Minewater Treatment Schemes version May 2014
- Coal Authority Environmental Projects Standard Specification Version 4.0

The *Contractor* is required to undertake the design of the whole of the permanent bypass channel and outfall structure, including connections to the existing channels and flow management by penstocks or stoplogs.

The current permanent flow into Pool Farm MwTS is a maximum of 200 l/s, with an average range from 70-100 l/s. The by-pass channel and outfall structure shall be designed for the maximum flow rate, without overtopping.

The *Contractor* shall produce a detailed design based upon these outline requirements and submit to the *Employer* for acceptance. A 'Design for Maintenance' meeting with STS, The Coal Authority Operations team and the Employer shall be held prior to finalising the design.

The *Employer* shall review and respond within 1 week of the design submission with the following responses:

- Accepted: Proceed with construction
- Accepted with Comments: Address the comments, amend design and proceed with construction
- Returned: Revise and resubmit design

A design can only be returned on the basis that it is deemed not to comply with the Works Information.

# 8 Completion

The whole of the *works* shall be completed by the *completion date*.

# 9 Programme

The *starting date* is anticipated to be 18 September 2017 with a *completion date* for the whole of the works of 26 November 2017. The programme for construction of the headwall and commissioning will be subject to amendment dependent on the Contractor's resources and method of working. The *Contractor* shall submit an Initial Programme (with updates as required) within 1 week of receiving the award.

# 10 Tests and inspections

The *Contractor* shall demonstrate that the bypass channel is watertight.

# 11 Working with the *Employer* and Others

Severn Trent Services (STS), as the Operator, may require access to the Site throughout the period of the works.

# 12 Services and other things to be provided

The *Contractor* shall provide the services and other things as stated elsewhere in the Works Information.

The *Contractor* shall ensure that the quality of the discharge from the MwTS shall not be adversely affected during the works.

# 13 Health and safety

The Pre-Construction Information required under the CDM Regulations 2015 is provided under the filename ***Small Works Pre-Construction Information Pool Farm Bypass Channels.***

Severn Trent Services and other contractors may also be working at Pool Farm MwTS and the *Contractor* shall liaise with them as necessary.

A TCA approved Construction Phase Health and Safety Plan (CPP) shall be submitted for approval 1 week prior to mobilising to site.

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) shall be provided within 4 weeks of completing the works.

# 14 Subcontracting

The *Contractor* shall notify the *Employer* of any proposed subcontractors.

# 15 *Employer's* work specifications and drawings

The *Employer's* work specifications and drawings are:

- Coal Authority Environmental Projects Standard Specification Version 4.0
- Design and Build of Minewater Treatment Schemes version May 2014
- Schematic Layout - Drawing No. EV00361-SK01 Rev A
- Site Layout (Record Drawing) - Drawing No. 00838/Z/02 Rev A