

Agglomeration Name: Mullagh, Co. Cavan

WWDA No: D0252-01

Licensee Return Subject: Inlet Works, Storm and Sludge Management Upgrade Works at Mullagh WWTP, Co. Cavan

Date: 12/01/2023

Proposed Start Date: 20/02/2023

Duration: 40 weeks

Dear Inspector,

Irish Water (IW) and Cavan County Council (CCC) wish to advise the Agency that upgrade and improvement works are required at Mullagh WwTP, Co. Cavan.

Background

The existing wastewater treatment plant is to the southeast of Mullagh town, Co. Cavan, and is accessed off the R194. It is bordered on all sides by agricultural land.

Operation of Existing Plant

The existing WwTP was designed for 3,000PE, it was installed and commissioned in 2004. Flows enter the plant by gravity from the network. There are no storm overflows along the network and there is 1 no. pumping station at Rosehill.

The gravity flows enter the treatment plant via an inlet chamber before flowing to the inlet works. The incoming flows gravitate through an SKE-SFC 4 combined spiral inlet screen with 6mm apertures, which is reported to have a maximum hydraulic capacity of 40l/s, which is insufficient to cater for Formula A flows (62.4 l/s). There is a bypass channel complete with a manually raked bar screen.

Incoming flows are measured by a flume located downstream of the screens. There is no grit or FOG removal. Full flow to treatment gravitates to a primary settlement tank (old Imhoff tank) with a capacity of 144m³. Flows in excess of 3xDWF are diverted to a stormwater holding tank. Storm flows are returned to treatment at the inlet chamber upstream of the screens and this return pumping is controlled manually by the Operator.

Primary Treatment

The primary treatment consists of 1 no. dual stream Imhoff tank. This primary settlement tank provides a surface loading rate of 1.57 m/hr and a detention time of 2.17 hours. Settled sludge is pumped directly to the sludge holding tank.

Secondary Treatment

Secondary wastewater treatment is provided by 2 no. conventional Percolating Bio Media Filters, each having a diameter of approximately 12m. Each filter has a capacity of 385m³. A plastic honeycomb media is installed, wastewater is distributed using a 4-arm reaction driven rotating sprinkler system on each filter.

Existing Sludge Storage Capacity On-site

The wasted sludge from the primary settlement tank and the secondary settlement tank is pumped from the sludge pumping station to a sludge holding tank. The sludge capacity of this tank is 190m³. Sludge is removed from the sludge holding tank twice per week, approximately 60m³.

The decant valves are operated manually and the supernatant is drained back to the incoming inlet chamber upstream of the Inlet Works. Sludge is transferred to Bailieborough WWTP for further dewatering before removal by Enva for Lime Stabilisation.

Proposed Upgrade Works

1. New 19mm manual bypass screen
2. New Inlet screen
3. New stormwater overflow
4. Grit removal system
5. Storm tank cleaning system
6. Automation of existing storm return pumps
7. Final effluent wash water pumping station
8. Automation of decant system at sludge tank
9. Form 4 Panel for new equipment

Mitigation Measures:

Construction Management and interface with existing plant

Our focus is to minimise disruption to the operation of the existing plant during construction works. We want the operational site and associated existing operational personnel to go about their daily activities with minimal disruption caused by the construction works being undertaken by us. We are acutely aware of the requirement to keep wastewater treatment plants in full operation during upgrade/ retrofit works.

Our general approach can be summarised as follows:

- **Consideration:** All work will be carried out with positive consideration to the needs of operational personnel visitors, pedestrians, the general public and the environment in general.
- **Environment:** Noise from construction operations and all other sources will be kept to a minimum at all times. Consideration will be given to the selection and use of resources with local resources assigned wherever possible. Attention will be paid to waste management and the avoidance of pollution; recycling of surplus materials will be implemented.
- **Cleanliness:** The working site will be kept clean and in good order at all times. Temporary safety barriers, lights and warning signs will be maintained in a clean and safe condition. Surplus materials, rubbish etc., will not be allowed to accumulate on the site or spill over to the surrounding environment. Dust from construction operations will be kept to a minimum.
- **Good Neighbours:** Full and regular consultation with possible affected neighbours and existing operational staff regarding programming of site activities will be maintained from pre-start to completion. General information regarding any project can be made available for operational staff
- **Safe:** Construction operatives and site vehicle movements will be carried out with great care and consideration for the safety of the general public, operational staff and any possible affected residents. No activity will constitute a risk to others.
- **Responsible:** Considerate Construction will ensure that all site personnel, specialist subcontractors, drivers and any other persons working on the site will understand and implement the obligations of this Code and monitor their compliance with it.

- **Accountable:** Posters will be displayed around the site and on the main site notice board providing names and contact details of our staff who can be contacted in response to issues raised by the existing operational personnel.

Phasing and Sequencing of Works

To keep plants operational, we sequence and phase proposed works, such as service connections, upgrades to internals of tanks, electrical upgrades etc, to enable the continued operation of the existing plant. A large factor to the successful completion of projects within live plants is to complete our design so the works can progress in a phased and sequenced manner. During the design stages the construction team will work closely with the design team to ensure the phased constructability of designs. The majority of the works in Mullagh WWTP have been designed to allow them to be carried out/ installed offline to minimise disruption to the existing process.

Conclusion:

Irish Water and Cavan County Council propose for works to commence on the week beginning 20th February 2023, and to run over a period of 40 weeks. We will continue to work closely with the EPA, IFI and other statutory bodies and endeavour to minimise any impact on the Mullagh Lough Stream. Should the Agency so wish we would welcome an opportunity to discuss at a suitable time and location. If there are any queries in relation to this project, please feel free to contact me at your convenience.

Kind regards,
Pearse Casey
Project Manager IWSS Programme
Irish Water