

CASE STUDY

CLIENT: **Anglian Water**

Site: **St.Osyth STW**

Background

As part of their servicing contract framework, M&N are responsible for repair & maintenance of all inlet screens throughout the Anglian Water territory.

M&N engineers were called to St.Osyth STW following the failure of a long-standing **Escalator Screen**. M&N engineers were to assess the causes of the failure notification and ascertain what level of repair may be necessary to re-establish operational stability.

Initial on-site inspection found evidence of extensive age related damage, deeming it necessary to remove the screen to M&N's dedicated workshop for immediate repair.



To ensure no downtime to operations at the works, M&N provided a dedicated hire unit that was rapidly deployed to site so removal of the damaged screen could proceed without further delay.

Anglian Water were supplied with a quotation to carry out the necessary repairs to bring the escalator screen back up to operational standards. The level of work required and associated cost made it more financially viable to purchase new equipment that could meet the demands of the site.

M&N was instructed to provide options for a replacement escalator screen and collaborate with site personnel to ensure minimal impact to operations during the transition to installation.

Challenges

- Disruption to operational stability had to be kept to a minimum
- Screening operations had to be maintained
- Flows from Pumping Station could not be isolated for a long period of time
- New screen needed to retrofit existing launder channel & Hand Rake

Implementation

M&N's team had to work closely with St.Osyth STW Optimiser **Colin Brett** to establish the best approach to maintaining operational stability during both the initial screen removal phase and subsequent installation of replacement equipment.

A collaborative approach was of significant importance throughout the job as the site presented challenges in both its infrastructure and issues relating to isolation of pumped flows to the works.

A temporary screen was deployed to site to facilitate removal of the damaged screen, with a view to it being in operation for a short period of time whilst potential repairs were undertaken.

Once Anglian Water had established that new equipment would be more viable, it was necessary for the team to work closely together to:

1. Select the appropriate replacement
2. Administer an efficient and speedy installation



A **Frankenberger FSM Escalator Screen** was selected to meet both operational and budget targets. M&N's project team set about analysing site layout and existing infrastructure to develop a comprehensive installation sequence.

To compensate for the inability to isolate pumped flows and provide access by M&N engineers to the inlet channel, a secondary hire unit was installed at ground level with associated support pumps.

“A good working relationship was created between M&N and Anglian Water when the new inlet screen was installed. There were operational issues with isolating the pumped flows to the works, but with forward planning and the installation of a hire screen we were able to overcome all issues together.”

Colin Brett: Site Optimiser St.Osyth STW

Modifications to infrastructure

- Modifications made to the original weir plate
- New screen adapted to retrofit to existing launder channel and Hand Rake
- New wash water pipe work installed



- Electric safety features updated
- Existing Control Panel updated with new back plate & control door
- 3m high gantry widened and new concrete piers constructed to accommodate new screen
- Clear access point to rear of screen created

New installation achieved within 10 working days.

Feedback

“The new inlet screen is fantastic and works very well with no problems. The stainless steel lifters work very well removing large balls of material and eliminating the issue of ‘rag rolling’.

The main cover shielding the cleaning brush is easily removed on the supporting gas struts. This means we do not have to struggle when cleaning the rear section of the screen.

The main cleaning brush is self-adjustable. This is a great modification. It means we are not reliant on engineers to adjust the cleaning brush. Maintenance has also been well thought about as all grease points are accessible and the lower bearing grease lines are brought back to a common manifold for easy access.”

Colin Brett: Site Optimiser St.Osyth STW