

SOUTH GATE OUTFALL UV LINING



Case Study	1
Client	Kaymac & Welsh Water
Scope Of Services	<ul style="list-style-type: none"> • Enabling Works • Ship Landing and Loading • CCTV • Jetting (Recycler) • UV Lining • Over pumping

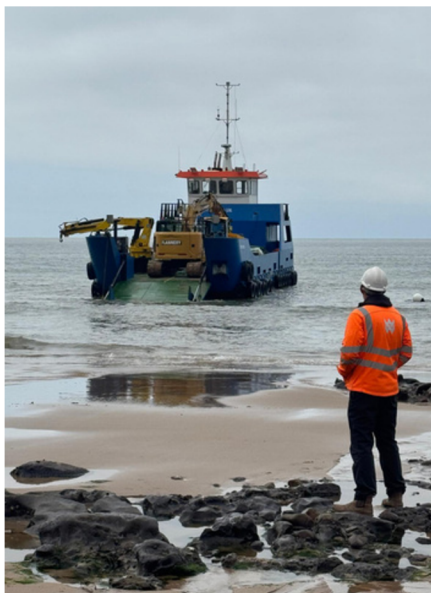
Introduction

Drainforce were commissioned to carry out structural UV lining on 400 m of 150 mm outfall pipe across South Gate Beach – a high-risk site discharging into designated bathing waters. The pipe exhibited continuous Grade 5 structural defects and multiple exfiltration points, requiring urgent rehabilitation. Comprehensive pre-site planning was completed in collaboration with the client and asset owner, including marine licence coordination and tidal logistics. A topographical survey and pre-jetting/CCTV inspections were used to map the system and inform the lining strategy.

To clean the silted line, Kaiser Whale Recyclers were deployed over 500 m away using extended hoses and remote reels. Portable Minicam CCTV units captured inspection footage, which was uploaded directly from site.

Following defect confirmation, Drainforce selected Saertex UV liners with vinylester resins—engineered for durability in saline conditions. Due to restricted access, all materials and equipment were transported via roll-on/roll-off vessel from Swansea.

Tidal constraints allowed only two 2-hour windows in the year for outfall works. With no room for error, the straight sections were completed efficiently. For areas with bends, Kaymac excavated access points and Drainforce installed free-air radial patch repairs, later secured with concrete. All lining was successfully completed, and post-CCTV surveys confirmed full system integrity.



Project Delivery

Due to restricted beach access, all UV lining equipment, materials, and tools were transported by roll-on/roll-off vessel from Swansea. Only two suitable tidal windows existed for the year—each offering a tight two-hour working period—requiring precise planning and flawless execution.

To meet the challenge, Drainforce deployed both an off-road UV rig and a mainline UV Mega Rig with a 500 m air-conditioned cable reel, enabling full control of the lining process from distance. All straight pipe sections were successfully lined within the tidal windows.

Where directional changes prevented UV lining, Kaymac carried out targeted excavations. Drainforce installed radial patch repairs using free-air calibration hoses, followed by concrete backfilling to secure the bends.

All works were verified with post-lining CCTV surveys, and the system was returned to full operational use immediately after completion.



Completion and Results

All elements of the project were delivered entirely in-house by Drainforce's team of highly trained and accredited specialists. By maintaining full control of the workforce and resources, we ensured consistent quality, clear communication, and seamless coordination throughout the operation.

Upon final installation and verification, the outfall system was immediately brought back into full operational service, with no disruption to surrounding infrastructure or marine activity.

The project was successfully completed on time and within budget, despite the logistical challenges posed by extreme tidal constraints and limited access. Our proactive planning and expertise in executing works within narrow windows of opportunity were critical to this achievement.

As part of our commitment to transparency and client collaboration, all survey footage, condition reports, and as-built data were uploaded directly to WinCan Web, providing the client with immediate access to high-quality digital records for review, assurance, and future asset management.

KEY OUTCOMES - TOP 5

- 400 m of structurally defective 150 mm outfall pipe rehabilitated using Saertex UV lining and radial patching techniques.
- Zero environmental incidents recorded on a high-risk, tide-sensitive coastal site.
- Works executed within two critical tidal windows, each with only a two-hour operational timeframe.
- Executed within two limited tidal windows, with just a two-hour working period per tide.
- Project delivered on time and within budget, with no compromise on quality or safety.

Health & Safety

- Zero incidents recorded
- Risks related to water/drowning fully managed

Quality Assurance

- Certified to ISO 9001 and ISO 14001
- Collaborative project planning with weekly client/landowner meetings
- Daily worksheets and progress updates

Training & Competence:

- LUL ICI, PTS, BTA
- First Aid, Track Trolley
- WRC-Approved UV Lining Installers
- Confined Space, Risk Awareness
- Manual Handling, OS19X and 21X
- Asbestos Awareness, Street Works
- Water Jetting Association
- Prokasro/Whale Equipment Training

Value for Money

Drainforce delivers outstanding value by:

- Deploying experienced staff with a right-first-time attitude
- Transparent invoicing based on output not time spent
- Efficient equipment and noise-compliant operations (all < 80 dB)