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|--------------------------------------------|-----------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------|
| Provided by the Middle Level Commissioners |                                                                       | Item No:             | 7                                                                                    |
| Meeting:                                   | <b>MANEA &amp; WELNEY DDC</b><br>(Hereafter referred to as the Board) | Subject:             | <b>CONSULTING ENGINEERS REPORT: CHIEF ENGINEER'S SUMMARY &amp; CAPITAL PROGRAMME</b> |
| Date:                                      | <b>Wednesday 28<sup>th</sup> January 2026</b>                         | Officer Responsible: | <b>Nicola Oldfield</b>                                                               |

## RECOMMENDATIONS

The Board is asked to:

- A. Authorise the Chairman and Vice Chairman to take decisions on enforcement action on behalf of the Board with advice from MLC.
- B. Consider the development of an investment plan for asset refurbishment/replacement. The Board is asked to instruct the Consulting Engineer accordingly.

### 1. Enforcement & Compliance Overview

Our Enforcement and Compliance Officers Dave Coles and Tony Payne joined us on the 23 June 2025 as a job share. They are currently investigating cases across 17 boards plus Middle Level Commissioners, including:

- 47 active enforcement cases,
- 23 surface water or surface water and foul discharges,
- 24 byelaw cases.

Cases already concluded:

- Eight cases in the last two months including trespass, unlicensed moorings, unauthorised structures and encroachment,
- Six major developments have been referred to Technical Services following enforcement action, as consent applications for outstanding discharge consents.

In September and October, they were successful in recovering more than £70,000 of historic outstanding drainage charges for three developments across two boards and the MLC.

It is recommended that the Board authorise the Chairman and Vice Chairman to take decisions on enforcement action on behalf of the Board, having taken advice from MLC Officers. They will engage other Board Members as they see appropriate and determine whether a Special Meeting of the Board is needed on a risk and complexity basis.

**Author Name: Nicola Oldfield**

**Role: Chief Engineer**

**Appendix 1: Applications responded to since last meeting**

**Appendix 2: M&E Report**

## **Appendix 1**

There have been 11 planning applications responded to since the last meeting.

There have been 1 infiltration device applications have been acknowledged since the last report.

There have been 2 Byelaw Consent applications (to discharge to a watercourse) application processed since the last meeting.

There has been no planning, Byelaw Consent (to undertake works in and around watercourses) applications processed since the last meeting.

|                                            |                                                         |                      |                                                      |
|--------------------------------------------|---------------------------------------------------------|----------------------|------------------------------------------------------|
| Provided by the Middle Level Commissioners |                                                         | Item No:             | 7                                                    |
| Meeting:                                   | MANEA & WELNEY DDC (Hereafter referred to as the Board) | Subject:             | CONSULTING ENGINEERS REPORT: MECHANICAL & ELECTRICAL |
| Date:                                      | Wednesday 28 <sup>th</sup> January 2026                 | Officer Responsible: | Dave Bantoft                                         |

## 1. M&E key messages and advice

Other than the matters described below or previously reported, only routine maintenance has been carried out since the last meeting and the pumping plant at each of the stations is mechanically and electrically in a satisfactory condition. The stations, pumps and control panels are at an age where reliability is a concern and a plan should be put in place to overhaul or replace items as necessary to ensure ongoing reliability.

**The Board is strongly advised to consider the development of an investment plan for asset refurbishment/replacement. The Board is asked to instruct the Consulting Engineer accordingly.**

### 1.1 M&E Equipment Key Health Indicators

Over the past 2 years we have been compiling and verifying Pumping Station Key Date to allow easier identification of equipment age and the need for refurbishment to assist in developing an investment plan for asset refurbishment or replacement. To ensure reliability, resilience and longevity of the pumping equipment it needs to be refurbished or replaced at suitable intervals. We have experienced examples lately of pumps being left too long and failing, or when they are removed for overhaul the condition is very poor and the pump overall lifetime has been reduced significantly, which is not cost-effective use of the asset. The same is true for control panels, component failures often damage other components incurring costly repairs and machine downtime. Overall, it is more cost effective to run well maintained equipment.

The pictures below are of pump bolts that have been in situ for 20 years and have corroded to the point of failure as shown by the gap between the flanges. Although now rebuilt with stainless steel bolts they were not in the past. The pump tubes are also heavily corroded which reduces pump life considerably. Ideally pumps should be refurbished every 10 years because by the time they reach 15 to 20 years it is likely the corrosion will heavily impact their overall residual life.



## Key Health Indicators

| Station      | Built         | Pump                 | Pump Overhaul        | Controls | Weedscreen Bars | WSC  | WSC Overhaul | Controls |
|--------------|---------------|----------------------|----------------------|----------|-----------------|------|--------------|----------|
| Glenhouse    | 1948/<br>1997 | 1997                 | 1997                 | 1997     | 1997            | 1997 | 2021         | 1997     |
| Purls Bridge | 1978          | 1999 (1)<br>1986 (2) | 2016 (1)<br>1986 (2) | 1978     | 2008            | 2008 | 2008         | 2008     |

The Key Health Indicators table above shows the critical area for concern and improvement is the pumps. The pumps range from 28 to 39 years old with last refurbishments ranging from 9 to 28 years ago. The Board is advised to develop and start a pump refurbishment/replacement plan for the pumps that are overdue refurbishment. Having a plan in place and underway helps to secure further grant funding when it comes available, such as the recent IDB Recovery Fund.

Submersible pumps are often not cost effective to repair and lead time on new pumps can be up to a year. Standard pumps are normally cost effective to repair and lead times can be as short as 4 weeks or can be over a year if impellers are damaged and have to be reverse engineered. Costs can be in the range £30k to £100k depending on pump condition.

### 1.2 Electricity Readings

Andy Maddams supplies regular monthly meter readings and pump hours which are greatly appreciated and allow efficient verification of electricity bills.

### 1.3 Purls Bridge

The insulation resistance of pump 1 has improved and has been around 200M ohm at last inspections. Bedford Pumps have advised that a replacement of this type would be in the range of £70k to £100k.

Pump 2 had a slight wobble and will need to be monitored closely, this does sometimes happen will a build up of debris on the impellor, which can clear itself. It was fine at the last inspection. It may also be a sign of a pump issue that will need to be rectified if it continues. There is no record of a pump overhaul since its fitting in 1986. An overhaul of this type of pump is likely to be in the region of £50k.

The electrical control panels are at an age where reliability is a concern and plans should be put in place for their replacement. They are likely to cost in the region of £20k to £30k.

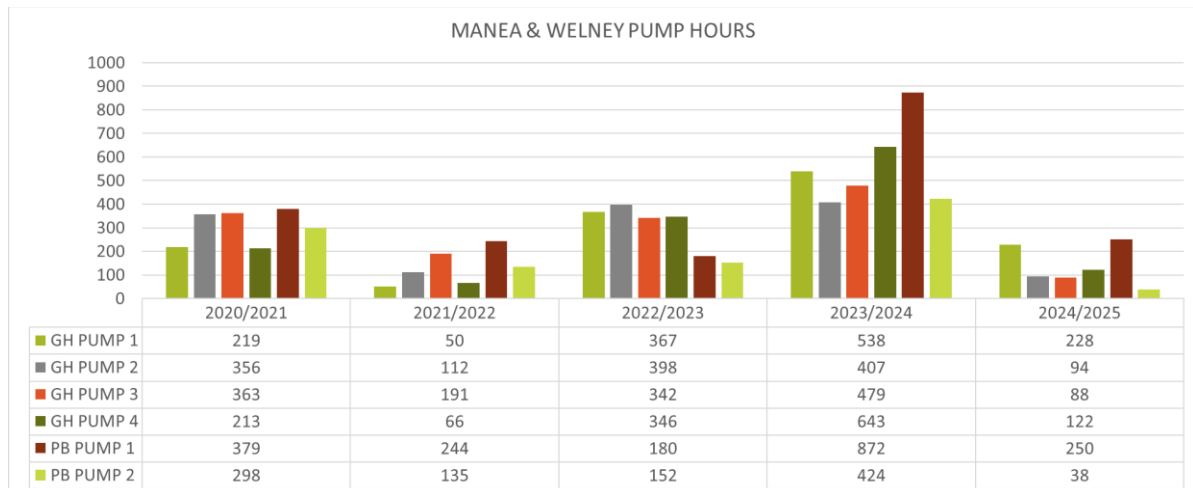
Since the last board meeting routine inspections have been carried out at Purls Bridge Pump Station on 18<sup>th</sup> June 25, 26<sup>th</sup> September 25 and 24<sup>th</sup> November 25. The most recent inspection confirmed the following recommendations/remarks:

- 1) Siphon Heater Failed.
- 2) Pump 2 Motor Heater not powered.
- 3) Recommend replacement electrical panels due to the age and deterioration of the equipment
- 4) Pump 2 has a little bit of a wobble when running.

### 1.4 Glenhouse

No routine inspections carried out by MLC at Glenhouse since last board report.

## 2. Pumping summary



## 3. Inspections

- 3.1 HSB Engineering annual inspection for insurance at Purls Bridge was carried out during September 2025. Glenhouse Inspection date to be confirmed as WSC out of commission in September 2025.
- 3.2 The mandatory site Electrical Installation Condition Reports (due every 5 years) are in date.

|              |             |             |
|--------------|-------------|-------------|
| Glenhouse    | 06-Nov-2025 | 06-Nov-2030 |
| Purls Bridge | 06-Nov-2025 | 06-Nov-2030 |

## 4. Water level Management

The pumping stations have summer and winter pump level references based on historic values which serve as very good reference points. I would actively encourage pump attendants to vary these to suit their current catchment conditions. For example, running pump start and stop levels at intermediate settings above the base winter settings during times of high Soil Moisture Deficit and then reducing towards winter level setpoints as the SMD reduces or if there is heavy rainfall forecast. This needs to be balanced with ensuring the pump has a good operating range so it is never short cycling (hunting). This can also be used to ensure maximum benefit of the lower night electricity rate.

**Ultimately this takes more operator time but will produce more efficient running and reduce costs. We can advise on this if needed and show some good and bad examples to help with setting and monitoring your pumps.**

**Author Name: Dave Bantoft**

**Role: M&E Engineer**