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# **Flood Compensation Tank Operations and Maintenance Manual Report**

## **Pontardawe Arts Centre – Cinema Extension**

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# 1 Introduction

## 1.1 Project Background

- 1.1.1 KB2 Consulting Engineers Ltd (the consultant) has been commissioned by Pontardawe Arts Centre to produce a Flood Compensation Tank Operations and Maintenance Manual in support of the full planning application for the cinema extension at the Pontardawe Arts Centre
- 1.1.2 Particular reference is paid to the inspection, aftercare and maintenance of the flood compensation tank as part of this manual in order to demonstrate to the NRW / LLFA the effectiveness and longevity of the tank designed within the scheme.
- 1.1.3 This report is based on current best practice guidance.
- 1.1.4 Proposals contained or forming part of this report represent the design intent and may be subject to alteration or adjustment in completing the detailed design for this project. Where such adjustments are undertaken as part of the detailed design, and are deemed a material derivation from the intent contained in this document, prior approval shall be obtained from the relevant authority in advance of commencing such works.
- 1.1.5 In accordance with the Flood Consequence Assessment V2 and KB2 drawings 01, 03 and 04 the flood compensation tank has been designed to accommodate, without flooding, the 1 in 100 year flood event plus an allowance of 25% for climate change. As the flows are being stored on site within the tank, there will be a period of time after flood events where the network is still partially or fully surcharged and is draining down.



## **1.2 Scope of O&M Manual**

- 1.2.1 This manual is intended to give an overview of the operation and maintenance for the range of the flood compensation tank. Where proprietary products are specified the manufacturer's instructions and recommendations should be followed in priority to this document unless specifically noted otherwise due to project constraints.
- 1.2.2 The recommended operations and frequencies are typical only and should be more frequent initially to ensure that there are no unforeseen issues with the operation and then adjusted to suit the site requirements.

## **1.3 Flood compensation tank ownership, maintenance and responsibility**

- 1.3.1 Proposed flood compensation tank is to be private and under the responsibility of the Pontardawe Arts Centre.
- 1.3.2 The maintenance schedules, required actions and frequency laid out in tables in section 2 are the minimum requirements that are to be followed by Pontardawe Arts Centre or their chosen maintenance contractor.



## 2 Flood Compensation Tank

### 2.1 Location and Description

- 2.1.1 Below the cinema there is a flood compensation tank formed in RC40 concrete with a water-proofing admixture as shown on KB2 drawings 01, 03 and 04.
- 2.1.2 Screed is being laid over the slab to provide a free draining tank with falls similar to existing pavement levels
- 2.1.3 The tank features 3 openings onto the pavement with protective gratings to allow flood water to flow in/out freely

### 2.2 Operation

- 2.2.1 The tank is intended to attenuate storage up to the 100 year event plus 25% climate change. The tank is intended to be empty between flood events.
- 2.2.2 Access for maintenance has been provided through 3 large removable gratings at the front of the tank to allow for rodding, jetting and inspection.
- 2.2.3 The lowest point of the tank is adjacent to a grate allowing for good access for preventing sediment build-up in the tank.

### 2.3 Inspection and Maintenance Regime

- 2.3.1 Regular inspection and maintenance is important for the effective operation of the flood compensation tank as designed. A regular inspection regime is very important to ensure the correction functionality of the tank.
- 2.3.2 Sediment\material removal should be undertaken in consultation with the environmental regulator to confirm appropriate protocols, especially where run-off is taken from potentially contaminated areas such as car parks.

| Maintenance Schedule                                                                                     | Required Action                                                                                                           | Frequency                                             | Comments                                                                 |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------|
| Monitoring (to be undertaken more regularly within the first year of operation and adjusted as required) | Inspect grating elements for blockages, and clear if required.                                                            | Monthly and after large storms.                       |                                                                          |
|                                                                                                          | Inspect tank for blockages, and clear if required. If faults persist jetting and CCTV survey may be required.             | Monthly and after large storms.                       | Do <b>not</b> enter tank without correct safety equipment and procedures |
| Regular maintenance\inspection                                                                           | Inspect and identify any areas that are not operating correctly e.g. damaged gratings. If required, take remedial action. | Monthly for 3 months, then six monthly                | (As above)                                                               |
|                                                                                                          | Debris removal from gratings/tank (where may cause risks to performance)                                                  | Monthly                                               | (As above)                                                               |
|                                                                                                          | Remove sediment from tank                                                                                                 | Annually (or as required after heavy rainfall events) | (As above)                                                               |
| Remedial actions                                                                                         | Repair of gratings                                                                                                        | As required.                                          |                                                                          |