

# Heritage Statement regarding works to Grade II\* Listed Richmond Lock and Weir

## CCTV Proposal

September 2024

### 1. Introduction

Richmond Lock and Weir was opened in 1894 and is situated about 300 metres down river of Twickenham Bridge. The Lock and Weir is operated by the Port of London Authority (PLA) and forms a half tide barrier across the River Thames. It comprises a lock to the Surrey side, three weirs with gates that can be raised and lowered and a boat slide, at the Middlesex side, to allow skiffs and other small boats to be rolled safely across the weir rather than transit the lock. Two buildings are associated with the Lock and Weir, one on the Surrey side and one on the Middlesex side of the river. These are used as offices and workshops/stores and are an integral part of the bridge structure forming the abutment and access stairs to the twin footbridges. The downriver footbridge is open to pedestrians and cyclists to cross the river.



**Figure 1: Richmond Lock & Weir existing**

The moveable weir gates are raised and lowered between the central three arches of the twin bridge which span the River Thames in this location. The weir gates are raised over high tide allowing vessels

to pass beneath the bridges. Once the water level drops to about mid tide, the three weir gates are lowered into the river to maintain up-river water levels at a level predetermined in the PLA Act 1968 (as amended). When lowered, the gates are continually maintained and adjusted to maintain the water up-river to the correct level.

The site is located within a Flood Risk Zone 3 area (Flood Risk Zone 3 Plan submitted separately)

The PLA is a Statutory Harbour Authority for the Tidal Thames, acting as custodians for the river across 95 miles from Teddington in West London into the Thames Estuary. The PLA works to keep commercial and leisure users safe, protect and enhance the environment and promote the use of the river for trade and travel. The Port of London oversees 230,000 vessel movements handling over 53m tonnes of cargo each year and is currently the largest Port in the UK.

## **2. The Proposed Works**

This application for full planning and Listed Building Consent seeks approval for the installation of seven new CCTV cameras and the relocation of three existing cameras (permitted under application 14/3012/FUL) at the Richmond Lock & Weir facility.

There are a number of CCTV cameras which have been installed at Richmond Lock & Weir previously. These assist with weir operations, navigational safety and the security and safety of the facility and its staff who are on site 24 hours a day 7 days a week throughout the year.

The cameras are located to have an overview of the river, the PLA and public footbridges, the stairways leading to and from the footbridges and the tow path approaches that lead to and from the PLA footbridge stairways.

After a series of internal Port of London Authority Health & Safety reviews, it has been decided that some additional cameras would assist in providing the safe working environment required for PLA employees at Richmond Lock & Wier. This is due to a number of recent incidents, including 7 incidences in the first 6 months of 2024 with intruders gaining access to the site, predominantly from surrey side.

Drawings RLW/C/1053 and RLW/C/1024-B1 show the location of all existing and proposed cameras. More detail is also provided in the document entitled 'Richmond Lock Planning Request Information' and associated appendices. This includes photographs of the existing cameras, a specification of the proposed cameras. The body of cameras would be white an all with a blackface out of the box but can be painted to match as required. Any cabling would not be visible as it would be under the camera fixing point and fed straight through to the equipment room behind following existing routes. For the

avoidance of doubt new cameras are numbered 5, 9, 12, 13, 14, 15 and 16 and relocated cameras are 6, 7 & 11 and it is for these that planning permission and listed building consent is being sought.

### **3. Listed Building Status**

*“Richmond Footbridge incorporating lock and sluices”* (list entry 1250044) is Grade II\* listed and was first listed on the 25 May 1983. The most recent amendment was on the 5 March 1992. The entry of the listing states:

*“Foot bridge incorporating lock and sluices. 1891, designed by the engineer F.G.M. Stoney (1837-97) who took out 7 patents relating to sluices between 1873 and 1894, but design of the lock-houses by the surveyors Hunt and Steward and ironwork by the firm of Ransome and Rapier of Ipswich. 2 parallel 5 arched bridges of cast iron supported by stone piers with brick and stone lock houses at each end. Each bridge has 5 flat arches of cast iron with spandrels lightened and decorated by vertical slots. Stone piers have round-headed niches to keystones above pointed cutwaters. Elaborate cast iron balustrade with lamp standards positioned over centres of arches. On each bank the bridge is elevated on a brick base serving as a lock keepers cottage with stone dressings and double flight of steps. The overall span is of 348 feet. The central 66 feet spans incorporating 3 sluices which can be raised and stowed horizontally in the space between the 2 bridges. Beneath the outer spans, each of 50 feet were three parallel lines of rollers of which one now remains. the bridges carry public walkways (all closed at time of survey) and there is a toll booth of brick and weather boarding with fretted canopy at the upper level on the Surrey side. This bridge has considerable importance in the history of hydraulic engineering as Stoney first applied here the principal of the floating sluice gate and here pioneered his apparatus for turning the lifted gates into the horizontal position. These principals were later used in his Manchester Ship Canal (1894) and Aswan Dam (1902).”*

## **4. Policy Context**

### **4.1: National Planning Policy Framework**

The National Planning Policy Framework (NPPF) was introduced on 27 March 2012. This document was revised in December 2023; where paragraphs 165 to 175 inclusive establish the Planning Policy relating to flood risk management. The Technical Guide to the NPPF was superseded by the Planning Practice Guidance (PPG) in March 2014.

It states all plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – to avoid where possible, flood risk to people and property. They should do this and manage residual risk, by:

- a) applying the sequential test, and if necessary, the exception test as set out below;
- b) safeguarding land from development that is required for current and future flood management;
- c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and
- d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development including housing, to more sustainable locations.

The Planning Practice Guidance (PPG) provides the methodology required to undertake the Sequential and Exception Tests.

### **4.2: Flood and Water Management Act (2010)**

The Flood and Water Management Act places a duty on all flood risk management authorities to cooperate with each other. The act also provides lead local flood authorities and the Environment Agency with a power to request information required in connection with their flood risk management functions.

### **4.3: London Borough of Richmond Local Plan (2018)**

The adopted Local Plan sets out policies and guidance for the development of the borough over the next 15 years. It looks ahead to 2033 and identifies where the main developments will take place, and how places within the borough will change, or be protected from change, over that period.

Policy LP 21 (Flood Risk and Sustainable Drainage) Sets out that all developments should avoid, or minimise, contributing to all sources of flooding, including fluvial, tidal, surface water, groundwater and flooding from sewers, taking account of climate change and without increasing flood risk elsewhere.

## **5. Context & Assessment**

### **5.1: Existing Structure:**

Richmond Lock and Weir was opened in 1894 and is situated about 300 metres down river of Twickenham Bridge. It forms a half tide barrier across the River Thames and comprises a boat lock on the Surrey side, three weirs with gates that are raised and lowered to control river levels and boat rollers on the Middlesex side. The adjoining area of Richmond Deer Park is functional flood plain.

Two number five span arched footbridges cross the lock, three weirs and the boat rollers. The weir gates and machinery are located between them. The buildings on the Surrey side are used as offices and workshop/stores are an integral part of the bridge structure forming the abutment and access stairs to the bridges.

The downriver footbridge is open during daylight hours for use by the public.

### **5.2: Operation of structure:**

The moveable weir gates are raised between the two footbridges over high tide allowing vessels to pass beneath the bridges. During normal river flows as the tide ebbs and the water level drops to about mid tide the three weir gates are lowered into the river to maintain upriver water levels at about half tide level through the low tide period.

Vessels travelling up or down river use the lock during the low tide period when water levels downriver of the structure are below the upriver maintained level. However vessels of a suitable size (skiffs, canoes, kayaks etc) are encouraged to use the boat rollers, as large locks are unsuitable for small boats.

The weir gates are fully raised about every 12 hours and remain in the raised position for about 4 hours over high tide on each tidal cycle.

Water levels are monitored on the EA/PLA tide gauge by the PLA Lock Keeper. The tide gauge forms part of the EA flood alert system.

When lowered the gates are continuously monitored and adjusted to maintain the water upriver at the correct level. The PLA Lock Keeper maintains contact with Teddington Lock and during flood conditions the weirs are operated to reduce flood risk and may with extreme river flows be left in the open position over a number of tidal cycles.

### 5.3: Site Levels and Record of Water Levels

The normal tidal levels are shown on PLA chart 303 and 304 and are as follows (to Ordnance Datum Newlyn

	Upriver of Richmond Lock	Downriver of Richmond Lock
Mean high water springs	+4.34	+4.33
Mean high water neaps	+3.13	+3.12
Maintained Level	+1.72	-
Mean low water neaps	-	*
Mean low water springs	-	*

\*Height greatly affected by river flow

The highest recorded water level at Richmond Lock is +5.47AOD which occurred in 1978

#### **5.4: Assessment of proposal**

The existing buildings are in an area that is at risk of flooding. The buildings are used by PLA staff who operate the Lock and Weir for navigational and flood relief purposes. The proposed works would not change the use of the buildings.

The site is at risk from a combination of river flooding and tidal (sea) flooding. The risk of flooding from groundwater, land and artificial sources is negligible. There are no canals or reservoirs in the immediate vicinity.

Flooding of the towpath and adjacent park land occurs due to a combination of very high tide and very high fluvial flow in the river. The flooding of the tow path is of very limited duration over the top of a high tide.

The existing buildings and surroundings are not affected by surface water flow and the proposed CCTV would be placed at a height which means it would be unaffected by flooding

#### **5.5: Flood Risk Management Measures**

Flooding at Richmond Lock occurs at the top of a very high tide when there are very high fluvial flows and is for a limited duration, often under an hour. PLA Lock staff have direct contact with the EA at Teddington Lock and the PLA Control Centre at the Thames Barrier and have very early warning of flood alerts

#### **5.6: Drainage**

The proposal will not have an adverse effect on the existing drainage of the structure

Run off and displacement of water it is considered that there would be no changes to run off or to the local storage capacity flood flows as a result of the proposed development.

### **5.7: Sequential Test:**

The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.

The proposed development comprises the minor enhancement of an existing piece of infrastructure with no changes to the footprint or ground level. The proposed development involves works to an existing facility and essential piece of infrastructure already located within a Flood Risk Area, within land owned by the applicant (The Port of London Authority). According to the NPPF Annex 3 (Flood risk vulnerability classification) the proposed development comes under the water – compatible development category as Flood control infrastructure and navigational facility. Therefore in terms of flood risk vulnerability, the proposed development is considered to be water compatible. As a result, the Sequential Test is not required.

### **5.8: Exception Test:**

In terms of flood risk vulnerability, the proposed development proposals are considered to be water compatible. In line with Table 2 of the Planning Practice the Exception Test is not required.

## **6. Conclusions**

Richmond Lock and Weir is operated by the PLA for navigational purposes and control of water level of the River Thames. Water levels are continuously monitored by the tide gauge on site and the lock keepers receive flood alerts from the Environment Agency.

The proposal is a water compatible use to aid the continued and safe use of a navigational facility. As such it is considered to be appropriate to its location.