

Project name	Central Quay, Cardiff - Riverbank Works		
Design note title	Riverbank Maintenance Strategy		
Document reference	CQC-HYD-XX-XX-TN-C-2000		
Author	Richard Baker		
Revision	P01		
Date	4 March 2022	Approved	☐

1. INTRODUCTION AND PURPOSE OF NOTE

This technical note has been prepared to present the outline maintenance strategy for the permeant works along the river Taff bank at the proposed Central Quay development.

This note will accompany the Marine Licence application for the proposed riverbank re-profiling works (Mid 2022) and the associated permanent development and flood wall works that are part of the Central Quay development (from August 2022).

This statement is intended to summarise and set out a strategy for planning the relevant maintenance activities that will be required on or along the riverbank once the improvement works are complete.

2. LONG TERM MAINTENANCE REQUIREMENTS

2.1 Improvement works to be carried out

The following improvement works are due to commence from Mid-2022 and beyond:

- Riverbank slope reprofiling
- Erosion protection
- Drainage outfalls
- Landscaping to riverbank
- Formation of sustainable drainage "rain gardens" above the river-bank
- Flood protection wall replacement
- Riverside walkway construction to buildings

2.2 Items to maintain

The following riverside items have been identified that will need to be maintained, included in a future detailed maintenance plan for the development management company to undertake.

- The landscaped riverbank
 - » Landscape management (trimming, removal, etc.)
 - » Replacement
- Drainage outfalls
 - » Visual inspection
 - » Cleaning
 - » Replacement
- Litter
 - » Collection and removal
- Sustainable drainage rain-gardens
 - » Visual inspection
 - » Landscape management (trimming, removal, etc.)
 - » Pipe cleaning
 - » Replacement
- River level monitoring equipment
 - » Repair
 - » Servicing
 - » Replacements

3. MAINTENANCE ACTIVITIES

The following maintenance activities and provisions have been summarised below. These will be included in a future detailed maintenance plan for the development management company to undertake.

3.1 The landscaped riverbank

- » Landscape management (trimming, removal, etc.)
 - Landscape is designed as largely maintenance free
 - Safe access required for in-frequent person-access off walkway on to bank
 - Safe tie-off points within the riverside downstand wall, below the walkway, will be provided to provide safe rope access down the slope.
 - Steps and a maintenance path will not be provided due to lack of space and to avoid providing easy-access to the public
- » Replacement
 - Safe access off the riverside walkway, on to and down the slope, is required for person-access and materials.
- » Access
 - Provide removeable panels in the riverside balustrade for maintenance access. In key locations. Minimum width 3m

3.2 Drainage outfalls

- » Visual inspection
 - This will be possible from the riverside walkway, to identify obvious major defects or blockages.
- » Cleaning
 - The outfalls are designed as largely maintenance free. Infrequently the outfall outlets will need to be access for cleaning. Access requirements is the same as that for landscape maintenance access
- » Replacement
 - This exercise will require access from the river by boat and a working platform for plant and equipment.

3.3 Litter

- » Collection and removal
 - Riverbank litter removal is currently carried out by Cardiff Harbour Authority. This operation should continue
 - Periodic litter clearance from the riverbank, in areas that are not near the water's edge shall be done in the same top-down method described in the landscape maintenance

3.4 Sustainable drainage rain-gardens (bio-retention areas)

- » Visual inspection
 - This can be carried out from the riverside walkway, no access to the bank is required
- » Landscape management (trimming, removal, etc.)
 - Refer to the section on landscape maintenance. The rain garden access is simpler as it does not require direct access on to the 1 in 1.5 gradient slope.
- » Pipe cleaning
 - The underdrain will need jet cleaning periodically (approx. 5yrs). A single person access into the raingarden during a dry period, with jetting hose will be sufficient.
- » Replacement
 - Plant and material access and safe edge guarding will be required for the re-construction or major repair of the rain-gardens. This can be done directly down from the riverside walkway

3.5 River level monitoring equipment

- » Repair and Servicing
 - Likewise with the current position, this can be accessed from the river by boat, which should continue in the improved state.
- » Replacement
 - This exercise will require access from the river by boat and a working platform for plant and equipment.

4. POST FLOOD EVENT ACTIONS

In the event of extreme river levels it is likely that debris will be deposited on the landscaped slope and potentially around the drainage features (outfalls and rain gardens). In order to undertake more widespread clean-up exercises, the requirement for accessing the slope will be greater with more personnel involved. In this case the provision of river access by boat and a guarded working platform and edge could be more suitable than rope access down the slope. Both options are possible and the selection should depend on the task to be undertaken, assessed on a case by case basis.