Roath Flood Scheme Responses to Feedback

April 2017

On 6th April 2017 we held a public drop-in session at St Peter's Rugby Club for members of the public to discuss queries relating to the works. This document provides responses to the queries raised on the completed feedback forms. Where specific questions have been raised and contact details have been provided we have responded directly to residents.

1. Could you please put a railing up at Church Terrace to stop people climbing into Waterloo Gardens to vandalise?

We are looking into if this can be done and have raised it with Cardiff Council, who owns and manages the park. We will keep the public informed of the outcome.

2. Can new seats be placed where they have a good view, rather than placing them all on the paths?

Our landscape architect has carefully considered the locations of new benches in the design. The current design in Waterloo Gardens includes a raised dais area with benches offering views across the park and over to the brook, and in Roath Mill Gardens there will be benches which offer views across the brook. The new benches need to be located alongside footpaths for access and to prevent damage to the grassed areas.

3. Can new pathways in Roath Mill Gardens be made from gravel?

New pathways in this area are made of a crushed stone which will be self-bound. It will have a similar appearance to gravel, but has the benefit of being more robust for long term use.

4. Do we need steps to the dais area and can a tree be put there?

It is necessary to include steps to provide space-efficient access up to the footbridge across the brook from the south of the park. This is preferred to a larger ramp which would reduce green space in the park. The size and configuration of these steps is currently being reviewed by our design team, along with the potential inclusion of a tree in the dais area.

5. Why do we need hand-railing within the upstream end of Roath Mill Gardens?

The scheme design considers the risk of falls from height, and railings are used to identify or guide people away from areas of risk. A guard rail will be provided within the park near Blenheim Road bridge to prevent children on scooters, bikes, etc. running downhill into the brook as the path turns 90 degrees.

6. Can we establish a community orchard in the wasteland end of Railway Gardens?

The community will have to discuss this proposal with Cardiff Council, who own and manage the parks.

7. When was this group of parks downgraded from Grade I to Grade II and why? Who decided this and what is the result of downgrading?

Waterloo Gardens is on Cadw's Register of Landscapes Parks and Gardens of Special Historic Interest in Wales as Grade II (Reference PGW(Gm)29(CDF)). NRW do not hold any information regarding the change in designation, and any enquiries in connection with historic parks and gardens should be addressed to the Inspector of Historic Parks and Gardens, Cadw, Plas Carew, Unit 5/7 Cefn Coed, Parc Nantgarw, Cardiff CF15 7QQ, or via email on cadw@wales.gsi.gov.uk.

8. Can residents be asked their views regarding the inclusion of the pergola in Waterloo Gardens?

We are keen to engage further with all parts of the community and have various avenues available for residents to contact us – drop in sessions, our site-based community engagement officer, our site cabin, our Roath webpage, email and postal address, and via local Councillors. All feedback is gratefully received and we are keen to hear issues raised by the public, whilst remembering the views of those residents and stakeholders already consulted and involved in the scheme's development. We must manage expectations and cannot fulfil every request for change, especially at this stage of the project. We believe the current scheme has been sensitively developed and there is limited scope for improvement whilst fulfilling the project's objectives and business case, but are considering individual suggestions on their merit and will incorporate changes where reasonable and possible to do so. Where it is not possible we shall explain the reasons why.

Since receiving some vocal objections from the start of construction, we have met with the founders of the 'Reconsider Waterloo Gardens Flood Defence Scheme' Facebook page to explain the scheme development and decision process. We provided them with extensive responses to their questions to share with the group. We also agreed a drop-in session would be beneficial and hence arranged the session on 6th April. We are considering the feedback we received at this session and shall respond to each query received. Moving on from this session, we have placed the drop-in session display boards in the Waterloo Gardens cabin for the public to view, alongside a programme of current and upcoming work activities, and plan for the project team to hold informal drop in days to be available for discussion with the public. We will provide samples of the walls to assist the public in understanding how the finished scheme will look. We also regularly update our project website and have prepared a 'Frequently Asked Questions' section for the public's reference.

9. Can the hedge along Sturminster Road be reinstated?

Along with local Councillors, we have raised the inclusion of the hedge in front of the wall facing Newminster Road with Cardiff Council Parks, and they have agreed that this will be reinstated.

10. Won't the new dais area attract skateboarders, drug users and vandals?

The dais area has been carefully designed by our landscape architect and all of the above concerns have been considered:

Skateboarders

The smooth blacktop surfaced ramps can potentially be used by skateboarders, but unfortunately these ramps must be provided for those with disabilities. Low wall copings are also sometimes at risk from 'grinding' (sliding along the edge of the coping with the skateboard) so where the floods walls abut the ramps we will install either a steel railing or steel balustrade to prevent 'grinding'. On the other sides of the ramp and around the outside of the dais away from the flood wall, all flat copings will have anti-skateboard studs fitted at 300mm staggered centres (so that they are 600mm apart on each edge) to deter use.

The surfacing to the level dais top is a sandstone pennant paving slab which is a relatively rough surface and not comfortable for skateboarders to use. Thus the majority of the paved areas will be unattractive to skateboarders.

Drug Users

Seating on the dais is in a very public location with the footbridge being a key link to north-south route as well as east-west routes. Thus the area will be subject to a high level of passive surveillance by the public which will be an unattractive venue for drug users, as they prefer those areas where there is a low risk of being observed. The planting on the dais banks and below the pergola is selected to be low planting and thus the inner seating area will not be hidden by shrubs.

Drug misuse is a wider social issue and designs can be defensive in that seating is omitted as it may risk drug users from congregating. However, this is at the expense of the majority of park users and the aim of the seating located on the dais is to offer places to sit and enjoy the views over the brook

and bridge to the north, as well as the views over the open park area to the south. To some users having somewhere to sit is important in them making the decision to use a park or not as for those with limited mobility in particular, seating can be essential. It also allows social interaction and encourages people to stop and enjoy a park rather than it simply being a route from one place to another.

Vandalism

The dais structure, street furniture, railings and balustrades, and pergola will all be constructed from high quality, robust materials. The planting to the pergola includes thorny, fast growing climbing roses which will deter climbing of the structure. The stone surfaces of the flood walls and stone columns to the pergola do not offer smooth surfaces attractive to graffiti (unlike smooth walls and surfaces). As stated above, the dais is on a cross route and will be subject to a high level of passive surveillance by people passing through or sitting in the space, all unattractive to vandals. The high quality design should also deter vandals and graffitists as they prefer those areas with a 'run-down' appearance.

11. How will traffic be managed whilst the Waterloo Road bridge is closed?

A temporary pedestrian bridge is being installed alongside Waterloo Road Bridge, so pedestrian access across the river will be maintained at all times. A signed traffic diversion route will be in place, agreed with Cardiff Council Highways, along with traffic calming measures on local roads (Blenheim Road in particular). This diversion is currently being finalised, but is likely to be along Marlborough Road, Pen-y-Lan Road, and Colchester Avenue. Buses will be diverted locally, with temporary routes and stops organised by Cardiff Bus operator. The businesses adjacent to Waterloo Gardens will remain open as usual.

12. Can road closure dates be advertised?

We shall advertise the partial or complete closure of roads in the area via our webpage, social media, email distribution list and the site information boards. Temporary traffic lights are being installed intermittently during May and June around Waterloo Road to undertake service diversions ahead of the bridge replacement. Waterloo Road will be closed from early July for approximately six months to replace the bridge, and there will be traffic lights controlling the entrance into Waterloo Gardens during part or all of this period.

13. How will the bronze artwork in Roath Mill Gardens be secured against theft?

The bronze model will be securely fixed to a stone plinth. A similar approach has been used at Caerphilly castle and in Bute Park, and these models have been in place since 2009 and 2014.

14. How many new trees will be planted? Can an equal number be planted as have been removed?

We shall be replanting 105 trees within the gardens (the majority of which will be between 2.5m and 5m high) and up to 200 saplings within Roath recreation ground. The tree planting plans and sample photographs of the various species can be seen on our website (www.naturalresources.wales/roath), and are also available for viewing in our Waterloo Gardens cabin. The choice of tree species has been carefully considered by our landscape architect to ensure the gardens remain rich and diverse.

Unfortunately it will not be possible to re-plant the same number of trees as those that have been removed, as the quantity replanted is governed by the space available and the trees being planted will need space to grow. Additionally, the community requested at drop-in sessions that the open space within Railway Gardens be retained for recreational purposes.

15. The scheme plans include too many man-made structures and paths. Why are these necessary?

The new walls in Roath Mill Gardens, Waterloo Gardens and Railway Gardens form part of the flood defence and are necessary to provide the required standard of protection from flooding. Due to space constraints it is not possible to build embankments and so stone clad or brick clad walls are being

built. A couple of new paths have been included to provide connectivity around the gardens and to allow access to all areas for pushchairs and wheelchairs.

16. Trees absorb a huge amount of water. Won't removing the trees increase flood risk, as they uptake ground water?

Removing the trees will not increase the flood risk as the majority of the fluvial flood water comes from upstream, not from the Park Gardens, or the flood water is tidal. Research indicates that a mature oak tree can draw on average 120l/day of water per day, and up to 200l/day over the summer period. If we assume that flooding occurs during the summer and calculate water uptake for two thirds of the trees removed (as they were not all mature oaks and so will not uptake as much water) the maximum water removal would be 830l/hour during the summer period (for 100 trees, 200l/day which is equivalent to 8.3l/hour). This ignores replanting. The peak flood flow in the brook in a 1:1 flood (with a 100% chance of occurring each year) is 330,000l/hour, and so in a frequent flood the trees would only help absorb 0.25% of the flood flow. This would be an even lower percentage during more infrequent flood events.

17. Could the printing error stating that the scheme would protect against a 1 in 5 year event instead of a 1 in 75 year event have swayed public opinion to favour the scheme?

This printing error was only issued to the public once and was after the scheme had been consulted on, submitted a detailed planning application and received planning consent (May 2016). This consultation was undertaken using the correct standard of defence provided by the scheme (1 in 75 years).

18. Can the railings be left on Waterloo Road bridge?

Unfortunately this is not possible, as the new wall on the bridge forms part of the flood defence.

19. Can the wooden fence in Railway Gardens be left as the boundary line?

Unfortunately this is not possible, as the new wall along this line forms part of the flood defence.

20. Can the new northern boundary wall in Railway Gardens have a stone finish to fit in with the rest of the scheme?

Railway Gardens has a different landscape character and history to Waterloo Gardens, Roath Mill Gardens and Roath Brook Gardens. It did not form part of the original historic park and does not have the outer perimeter railings as the above do, which all have stone clad flood walls proposed within the park area close to the brook.

In Railway Gardens the flood wall forms the outer perimeter of the park on the northern side and is remote from the brook. Hence the design seeks to give this section its own distinct local character. The wall will be clad on both sides to match the red brick which is used for the surrounding housing, but the coping will be the same as for all the flood walls and so this will act as a unifying design element throughout the scheme.

21. Can't the middle bridge in Waterloo Gardens be removed, as then the dais area won't be necessary?

There is currently a bridge in this location which allows access from the north side of the park, and so it is important to retain this feature and connectivity throughout the gardens.

22. Where have you published the model used for predicting flood risk? Who scrutinised this and signed it off? Upon which figures were the current decisions made?

The output of the hydraulic model for predicting flood risk was published as part of our Flood Consequence Assessment, which was submitted as part of the planning application. To develop the hydraulic model we completed the following steps:

1) We completed surveys of the brook to determine the location of any bridges and structures which impact on flow, along with taking measurements of the brook channel and its associated flood plain. This information was then loaded into our hydraulic modelling software (which has been subject to independent verification by the Environment Agency who manage flood risk in England).
2) We calculated the river flows for various flood frequencies (or flood events) which use various parameters such as the size and shape of the river catchment, land use, geology and rainfall records.
3) Using records of rainfall and river levels we then tested our hydraulic model against historical floods (e.g. the 2009 flood) to determine its accuracy.

The hydraulic model was prepared by a consultant employed by NRW. This was then scrutinised and signed off by an independent team within NRW who assess developments for flood risk to ensure that the flood models meet the required level of detail and accuracy for any development.

Once the baseline hydraulic model (for the pre-works situation) had been approved, we used this to develop various scheme options to manage the flood risk in Roath.

By comparing the cost of constructing various options against the predicted flood damage, it was determined that the optimum standard of flood protection to be provided was against a 1 in 75 year fluvial flood event (1.3% chance of flooding in any given year) and a 1 in 150 year tidal flood event (0.67% chance of flooding in any given year).

23. Is this scheme necessary? Isn't it just a waste of money?

Many homes and businesses in the Roath, Penylan and Newport Road areas are at risk of flooding from the Roath Brook and the River Rhymney and it is predicted that the risk will increase as a result of climate change.

Decisions on where and how we undertake work are made on a Wales-wide risk based approach. This approach is defined by Welsh Government policy in their National Strategy for Flood Risk Management. The Welsh Government's policy requires us to prioritise where we focus our work. In order to ensure that our limited funding is targeted in the areas of greatest risk, we have produced a Communities at Risk Register. This register ranks all areas at risk of flooding from main river sources in Wales and allows us to prioritise our work programme. The risk area for the Roath Brook is currently ranked 17th within Wales.

Our flood modelling exercises show that flooding at this location can be as a result of high river flows following periods of heavy and persistent rainfall, high tides or a combination of both (see our flood map online www.naturalresourceswales.gov.uk). 400 properties are predicted to be at risk during a 1 in 75 year fluvial flood event (1.3% chance of flooding in any given year) and a 1 in 150 year tidal flood event (0.67% chance of flooding in any given year). Whilst some people think this is a very small probability to justify the scheme expenditure, the cost to the community in terms of repairs to properties and the general recovery should they flood will far outweigh the cost of providing sustainable protection to reduce the risk. Also, there are factors which do not have a monetary value but are as equally important such as the impact on the health and wellbeing, both mentally and physically, for the people affected by flooding. The effects of flooding remain long after the water has receded.

To allow the flood risk management scheme to proceed, a business case was developed that showed the costs resulting from the impacts of flooding to people and property outweighed the cost of providing the scheme. This business case justified the development and construction of this scheme and was approved by NRW's flood risk board.

24. Where can I access information and updates?

Please visit our webpage - www.naturalresources.wales/roath - or follow us on social media - Twitter: @natreswales, Facebook: NatResWales

For construction related queries please contact Dawnus's Community Officer, Matthew Frewer, who provides a point of contact for local residents throughout the construction works. He can be contacted on: 07880 358541 or roath@dawnus.co.uk.

For any other queries please contact NRW's Roath Flood Team via email: Roath@naturalresourceswales.gov.uk; or by post at: Roath Flood Scheme, Floor 1, Natural Resources Wales, 29 Newport Road, Cardiff, CF24 0TP.