
ROATH FLOOD SCHEME

Reason for the Report

1. To provide Members with the opportunity to review the progress of the development and implementation of the Roath Flood Scheme.

Background

2. Roath is a central suburb in Cardiff, through which runs Roath Brook. The Roath Brook burst its banks most recently during high river flows in 2007 and 2009 and during high tidal events in 2010 and 2012. An ariel image of the Roath Brook Area has been attached to this report as **Appendix 1**.
3. Many homes and businesses in the area are at risk of flooding. This is from high river flows, high tides or a combination of both. It is anticipated that the likelihood of flooding will only increase over time, as a rise in sea levels and more frequent and intense heavy rainfall are predicted because of climate change.
4. Welsh Government has made a commitment to provide funding for flood management schemes across Wales in order to minimise the risk and mitigate the impact of flood events. In light of the flood risk Natural Resources Wales is in the process of delivering a Flood Risk Management Scheme in the Roath area. Natural Resources Wales has already undertaken local works to increase the flood protection at the River Rhymney in January 2015.

Roath Flood Scheme – Concept & Design

5. The Roath Flood Scheme will increase the level of protection for the community up to a one in 75 year flood event (1.3 percent chance of flooding in any given year) from high river flows and one in 150 year flood event (0.6 percent chance of flooding in any given year) of extreme tidal flows. The scheme will reduce the flood risk to 360 homes and 45 businesses.
6. Natural Resources Wales plans to make improvements at several locations along the brook between Roath Brook Gardens and the River Rhymney at Newport Road (near to the Morrison's supermarket). The main areas for improvement are Roath Brook Gardens; Roath Mill Gardens; Waterloo Gardens and Railway Gardens (The Sandies). The areas identified for improvement are shown in **Appendix 2** of this report.
7. Natural Resources Wales is looking to build flood walls and embankments, but soften these hard features with urban landscaping. They will also widen the river channel in Roath Brook Gardens and enhance a number of bridges to increase the brook's flow capacity.

Tree Removal & Planting

8. To achieve the required flood protection and construct the new flood walls and embankments the removal of some trees along the banks of Roath Brook is required. Natural Resources Wales commissioned a survey of all the trees in the four gardens and identified the trees that needed to be removed, those that that needed to be protected and where additional tree planting was required.
9. Natural Resources Wales acknowledges the concern that the community has for the trees in the area and so has focused the design efforts to minimise these impacts, for example, by avoiding removing trees around the edge of the park boundaries.
10. The scheme will involve the removal of 149 trees across the four gardens and to compensate this Natural Resources Wales will replant 105 trees. From the 149 trees identified for removal 111 are categorised as low quality, decaying, dead, or young

trees and 38 are categorised as mature, good quality or high quality, and able to make a significant contribution for at least 20 years.

11. The current 'Arboricultural Impact Assessment' for the gardens provides further information and shows the locations of the trees to be removed. Natural Resources Wales has explained that it cannot save every tree within the gardens, but has tried to get the correct balance of protecting the conservation area and the heritage features of the park, whilst still being able to construct the scheme and meet the required standard of flood protection.

Community Tree Bank

12. Natural Resources Wales aims to ensure that the Roath Flood Scheme provides a positive contribution to the community. In line with this they are currently looking to plant additional trees, both in parkland throughout Cardiff and through working with a local school, offering tree saplings to school children for home planting. This allows them to increase the overall planting to offset those which are removed and cannot be re-established within the existing Roath parkland.

Public Art

13. As part of the Natural Resources Wales commitment to meeting the goals of the 'Well-being of Future Generations (Wales) Act', the integration of public art into Roath has been identified as one scheme which will support these goals. The aims of the public art commission to be installed in Roath Mill Gardens will be to:
 - Recognise and interpret Roath Mill Gardens' historic and environmental interest;
 - Contribute to a sense of identity for Roath Mill Gardens;
 - Promote an attractive, safe and well-connected community;
 - Advocate local culture and heritage through encouraging people to participate.
14. The artist Rubin Eynon has been working on a piece of art to be integrated into Roath Mill Gardens. The commission has been informed by community consultation via a drop-in session and Rubin Eynon's dedicated Facebook page. The chosen design is a bronze model of the old Roath Mill, as shown in **Appendix 3**. This will be approximately 50cm by 50cm wide on a 100cm high plinth, and will be located on a

widening of the footpath upstream of Waterloo Road bridge, near where Roath Mill was located. Local schools will be approached to involve them with development of the model. This art proposal has been developed in partnership with the Council, Natural Resources Wales, CADW and the local community.

Consultation

15. During the design and implementation of the Roath Flood Scheme Natural Resources Wales has undertaken consultation with local residents, businesses and stakeholders. They have used the feedback from the consultation exercise to shape the final design – this includes minimising tree removal and reduction in walls across the scheme. Public consultation activities undertaken to date include:
 - Door knocking and meetings to raise flood awareness and produce Community Flood Plan: from 2012 to 2014;
 - Public drop-in sessions: May 2014, October 2014, July 2015, January 2017;
 - Stand at Waterloo Gardens Fete: August 2014, July 2015, July 2016;
 - Walkover of site with local residents: September 2015;
 - Press adverts, site notices and consultation letters to properties that border the gardens;
 - Regular updates via newsletters, posters, the Roath Flood Scheme webpage and social media.

16. In July 2015 Natural Resources Wales revised its proposals for the fluvial section of the route between Roath Brook Gardens and Railway Gardens, as well as the tidal section downstream of Sainsbury's. The changes were put on display at a drop-in session at Roath Church House in July 2015. Approximately 150 people attended and were able to discuss the proposals with members of the Roath Flood Scheme Project Team, recording all comments on feedback forms. Natural Resources Wales also presented the proposals to the Design Commission for Wales in August 2015.

17. Since the consultation in July 2015 Natural Resources Wales has made a few small changes to the design. In Railway Gardens, rather than replacing the hedge along Newminster Road a grass verge and localised pockets of planting will be provided, and due to construction requirements an additional three trees will be removed from

the park. In Waterloo Gardens a timber and stone pergola will be installed on the new raised dais area adjacent to the footbridge, and additional planting will be undertaken within the park. In Roath Mill Gardens the design of the handrail has been changed from timber to metal, in keeping with the Victorian style railings in the area.

18. Natural Resources Wales held a drop-in sessions on 11 January 2017 for the public to meet the contractor and to discuss queries relating to the works. This was later followed by a further drop in session on 6 April 2017 for people to discuss queries relating to the ongoing works, this included the use of 'Before' and 'After' images which are shown in **Appendix 4**.

Construction, Disruption & Local Businesses

19. A project of this scale is bound to have an impact on day-to-day activities in the local area whilst it is being delivered. With this in mind Natural Resources Wales has made a number of pledges to the local community around how the scheme will be delivered, these include:
- Doing everything that they can to minimise disruption to local residents and businesses while undertaking the improvements. Further to this, they appreciate the support and cooperation of the local community;
 - Informing people of activities taking place during the construction phase, these include tree clearance prior to construction and the actual construction programme;
 - Keeping people informed of any planned road and garden closures or diversions as early as possible, for example, by using the webpage and social media - Twitter: @natreswales, Facebook: NatResWales;
 - To deal with any queries or complaints properly through the appropriate channels. They have been informed that members of the workforce have been subjected to rude and abusive treatment by a minority of members of the public and urge the community to please respect them whilst they undertake the work.

20. Natural Resources Wales has also stressed that local businesses in the Waterloo Gardens area will remain open as usual during the construction of the scheme, these include the Waterloo Gardens Teahouse; Sands Hairdressing; the Post Office and the Lifestyle Express Waterloo Gardens Food Store.

Key Dates

21. The previous, current and future key dates relating to the design and implementation of the Roath Flood Scheme are:
- October 2015 - Submission of a planning application for the scheme;
 - April 2016 – Planning application for the scheme is accepted;
 - End 2016 – A contractor is appointed to deliver the scheme;
 - Early 2017- Construction of the scheme starts;
 - Summer 2018 – Construction of the scheme is due to end.

Recent Developments & Construction Updates

22. Since the Council accepted the planning application in April 2016 a number of key actions have taken place to help deliver this scheme, these include:
- **July 2016:** The discharge of the Planning Conditions, for example, providing details to the Council for all elements of the work including ecological and archaeological surveys and proposals for land remediation.
 - **September 2016:** They were working to appoint a contractor for the main works. Part of the requirement included a dedicated Community Officer to provide a point of contact for local residents throughout the construction works. They were also in the process of appointing a local public artist to provide an art installation in Roath Mill Gardens.
 - **November 2016:** A Welsh artist, Rubin Eynon, was appointed to create an art installation for the Roath scheme. The artist has worked on many community and park schemes and was going to discuss and share ideas with the local community to help shape the art. Cooke and Arkwright were appointed to

undertake surveys for properties nearest to the planned construction areas. They were planning to carry out a letter drop for any properties highlighted for survey.

- **December 2016:** Dawnus was appointed as the main contractor to carry out the flood scheme works on behalf of Natural Resources Wales. At this point they were preparing the relevant documentation prior to any site works which were due to start in early 2017. A public drop in session was being organised to meet with the contractor and public artist on 11 January 2017 between 3pm to 7pm at St Peter's Rugby Club to discuss the programme of works.
- **January 2017:** The drop in session took place on 11 January for the public to meet the contractor and raise any questions they had about the works. Approximately 100 people attended the event and received feedback on the scheme. At this point it was anticipated that the construction was due to start in mid-February, with closure of the parks advertised in advance. Traffic management plans were being discussed with the Council.
- **March 2017:** The contractor Dawnus was on site, having set-up a site compound in Railway Gardens and erected timber hoarding boards as a site boundary. They had almost completed tree and vegetation removal and pollarding in Waterloo Gardens, Railway Gardens and the downstream end of Roath Mill Gardens. They had also started the main construction works which included excavating for the flood walls and embankments in Railway Gardens. They anticipated that they would be piling the flood walls in Waterloo Gardens after the Easter period, and informed the public that this would be a disruptive process involving noise and vibration. They announced that they would be closing the footbridge from Newminster Road to Waterloo Gardens road from early April for approximately five months to replace it and construct the adjacent flood walls. They were looking to open this bridge as early as possible. It was explained that during this time pedestrian access across the Brook would be maintained at Waterloo Road bridge as an alternative route. They maintained a cabin in Waterloo Gardens for people to come and find out more information and speak with the Natural Resources Wales Community Officer. They were in the process of arranging a drop-in event on Thursday 6 April between 3pm until 7pm at St Peter's Rugby

Club. They had received feedback from the community regarding the pergola structure located on the raised dais area in Waterloo Gardens and were in the process of reviewing design options for this area.

- **May 2017:** They were continuing with the construction of the flood walls and embankments in Railway Gardens, and utility providers were undertaking services diversions in the vicinity of Waterloo Road Bridge, as well as in and around Waterloo Gardens. They were still reviewing design options for the raised dais area in Waterloo Gardens, following comments provided during the drop in session. They were planning to begin piling the flood walls in Waterloo Gardens in mid May, and explained that although measures were in place to reduce the impact on the surrounding area, the process would be disruptive with noise and vibration.
- **June 2017:** During June 2017 progress was made in the following two areas:
 - **Dais Area** - To maintain access through Waterloo Gardens they connected the pathways and new raised bridge across the new flood walls. In the south side of the park this required an elevated pathway and access ramps to the bridge. Landscape design extended this area to become a feature space, which was named the “Dais Area”. In response to public interest in the Dais Area, they presented four options at a scheme drop-in session on 6 April 2017 and received feedback from members of the public. After considering the feedback, and further consulting with key stakeholders and statutory authorities, they decided to proceed with a modification of Option 4 (the Dais with pergola).
 - **Piling works** - The new sheet pile flood wall was being constructed within the parks. The piles were installed using a tracked machine which loosened the ground prior to installing the metal sheet piles using a vibratory hammer. Loosening the soil in advance reduces the noise and vibration created. Natural Resources Wales were planning to monitor for noise and vibration during the piling to ensure they were not excessive and were within acceptable limits.

- **July 2017** – Natural Resources Wales closed the Waterloo Road Bridge to demolish it and build a new one as part of the scheme. They expect to reopen the road by February 2018. Diversion routes were signed along Marlborough Road / Pen-y-Lan Road and Newport Road / Colchester Avenue. A reduced 20mph speed limit had been put in place in the area and it was anticipated that some speed humps would be installed along Marlborough Road in the short term. Cardiff Bus diverted routes 1 and 2 along Blenheim Road. Pedestrian access across the brook was provided by a temporary footbridge next to the road bridge in Roath Mill Gardens. There were 2-way traffic lights to access Waterloo Gardens from Waterloo Road, however, Natural Resources Wales planned to remove these as quickly as possible.

- **29 August 2017** - Construction works for the Roath Flood Scheme were progressing throughout Railway Gardens (the Sandies), Waterloo Gardens, Waterloo Road Bridge and Roath Mill Gardens. At this point they had been progressing well and to schedule on the construction of the concrete / brick flood walls within Railway Gardens, and the works to replace Waterloo Road Bridge. A key part of these works is the installation of steel sheet piles to form the foundations for the new flood defences. These piling works had progressed slower than expected due to difficult ground conditions, however, they were hoping that all piling work would be completed in the next few months.

- **October 2017** – Natural Resources Wales announced that they had encountered difficulties installing the piles both sides of the Brook between Railway Gardens and Waterloo Gardens – this was due to the ground conditions that were causing delays. They had tried to mitigate this delay by using different equipment to install the piles, and undertaking further ground investigation to inform an update of the design. Works to replace Waterloo Road Bridge and the construction and cladding of the flood walls in Railway Gardens had been progressing to programme. At this time the forecast dates for piling works were anticipated to be:
 - **Railway Gardens** - South side of the brook, completed by the end of October.
North side of the brook, completed by the middle of October.

- **Waterloo Gardens** - South side of the brook (central area by old footbridge), to be completed by the end of October. North side of the brook, November and December 2017, to be completed by the middle of December.
- **Roath Mill Gardens** - South side of the brook, completed. North side of the brook, completed. Both sides, additional piles to tie into new bridge foundations – January. Completed by the end of October 2017.

Legal Implications

23. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf of the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers on behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

Financial Implications

24. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

RECOMMENDATION

The Committee is recommended to:

- i. Note the contents of the attached report;
- ii. Consider whether they wish to pass on any comments following scrutiny of the item titled 'Roath Flood Scheme'.

DAVINA FIORE

Director of Governance & Legal Services

29 November 2017