
**Decision Session - Executive Member for
Environment and Climate Change**

12 August 2020

Report of the Director of Economy & Place

Germany Beck Flood Scheme Update

Summary

1. Significant highway flooding occurred in Fulford during the 2015 flood event, further flooding occurred during February 2020 with flooding of properties avoided through operational interventions.
2. City of York Council (CYC) have taken the lead in the development of a flood alleviation scheme in Fulford as it has the potential to deliver wider benefits than property and business protection alone. Consultants working on the wider Environment Agency (EA) led programme have developed a range of options that would better maintain a dry access to the Fordlands community, protect properties in this location and enhance the existing flood protection works on the A19.
3. The options appraisal report has identified a preferred option that isolates high river levels in the River Ouse from Germany Beck and Tunnel Drain, a pumping station would maintain lower river levels in these watercourse protecting the local roads and properties from flooding.
4. The design, construction and whole life maintenance costs of the preferred solution are £4.9m. £0.3m flood defence grant funding is available if the scheme is approved. Current CYC funding of £0.6m is available for works at this location. It is recommended that some of this funding is used to progress the next stage of project appraisal.
5. £1.5m of wider CYC funding is available to contribute to the delivery of wider benefits from the EA led programme, a significant proportion of this could be targeted to the scheme alongside other available CYC funding, it is recommended that this is considered by the Council Executive.

6. Additional 'booster' funding is available for the EA to deliver the wider flood programme in York, this funding is being considered to support wider CYC funding in the delivery of the project.

Recommendations

7. The Executive Member for the Environment and Climate Change is asked to note the contents of the report, agree to the development of the next stage of appraisal as detailed in paragraphs 31 & 32 and recommend that the funding needs are taken to the Council Executive for further consideration.

Background

8. Following the development and publication of the York Five Year Plan (<https://www.gov.uk/government/publications/york-5-year-flood-plan>) the EA have developed the Defra Strategic Outline Business Case and financial approvals have been sought and obtained from Defra. Detailed businesses cases are being developed for 19 flood cells across the city.
9. The EA continue to work closely with CYC on all aspects of the York Five Year Plan. Due to the multiple benefits that are achievable in the Fulford area, CYC are leading in the development of flood alleviation works of the York programme.
10. The work to date on the Germany Beck Flood Alleviation Scheme has been developed for CYC by Aecom consultants as part of their work across the wider EA programme.

Consultation

11. Public consultation on the potential scheme have been held with members of the parish council on several occasions over the last 18 months, a scheme update and question and answer session was held on the 24th June via Zoom. Views from the local community were considered through the delivery of the flood resilience works on the A19.

Options

12. The principal option open to the Executive Member for Environment and Climate Change is to comment on and review the work undertaken to date, endorse the procurement and development of the detailed design stage of the project and the funding options to deliver the construction phase of the project.

Analysis

13. Flooding in the Fulford area is a consequence of high flood levels on the River Ouse preventing the effective drainage of Germany Beck and its tributary Tunnel Drain. An overview of the way in which flooding occurs is detailed in Annex 1.
14. Flooding of properties in the Fordlands community occurred in 2000 and has been managed through pumping operations in 2012, 2015 and February 2020. This flooding is caused by the inability of Tunnel Drain to flow when flood levels are high in the River Ouse and Germany Beck.
15. Significant road flooding occurs to Fordlands Road in large flood events, 2000, 2012, 2015, 2020 and a number of more minor events have left the Fordlands community isolated by access from motor vehicles often for many days at a time. No properties are affected in this location but residents have to rely on emergency access via boat or 4x4 vehicle during these times severely affecting the community's ability to safely and easily carry out daily commuting and other tasks.
16. The A19 Fulford Road is a major arterial route in and out of the city, the road has flooded with the same frequency as the Fordlands Road flooding causing significant impact on many 1000's of resident, commuter and tourist journeys. A scheme to increase the resilience of the A19 to flooding was delivered by the contractors completing the access road to the Germany Beck housing development. CYC Flood Risk Management engineers worked closely with the developers to ensure an effective scheme could be developed alongside the needs of the access road.
17. A section of walls, berms, flood gates and associated drainage adaptations have delivered a scheme that was able to prevent flooding of the A19 in the February 2020 event.
18. Consultants working on the York flood scheme have developed a detailed assessment of the flooding in the Fulford area supported by flood modelling and hydraulic analysis across a range of flood scenarios and potential options to reduce the impact of future flooding.
19. Like all of the schemes being developed in York the options appraisal report has utilised the national Flood and Coastal Erosion Risk Management – Appraisal Guidance methodology used by flood risk management authorities in England to appraise schemes and allocate funding. The EA have previously carried out a city wide initial assessment of all potential schemes which determined a high level

approach to ensure all schemes fit the needs of the wider funding programme and its evaluation criteria to ensure they technically, environmentally and financially deliver the best outcomes for the city.

20. The need to reduce the impact of flooding to not only property but also Fordlands Road has been strongly factored into the choice of options for a potential scheme. The preferred option outlined in Annex 1 has been developed to ensure that flood flows on the River Ouse are isolated from Germany Beck and Tunnel Drain and a small pumping station will then pass forward any flows in these watercourses maintaining levels that would not endanger housing or reach a high enough level to flood Fordlands Road.
21. In addition to this, the scheme would add further resilience to the A19 works, this solution currently requires additional pumping to manage localised drainage during flood events, the potential scheme would also incorporate this.
22. The report has shown that this option is technically viable and that with close consultation with the community the construction phase and long term physical, visual, heritage and amenity impacts are not significant and that the option could be taken forward to detailed design. All relevant permissions and approvals would be required to ensure the works are designed and delivered appropriately.
23. Defra provides funding via the EA to flood alleviation schemes following the rules of the Partnership Funding calculator. The report has utilised the hydraulic modelling to identify the cost of flooding to properties and infrastructure into the future with an assessment of the impacts of climate change. An assessment has also been made as to the likely costs of construction and future maintenance needs of the preferred option.
24. The funding calculator utilises information on the benefits of flooding that are avoided in future events from the proposed scheme and calculates the funding that could be provided from the agreed national flood funding programme to support the scheme. All schemes receive some allocation of funding based on their effectiveness to deliver flood risk improvements even if 100% funding cannot be justified.
25. The Germany Beck flood scheme will protect 43 properties from current flood risks and the impacts of climate change for the 1 in 100 year flood – or one that has a 1% chance of occurring in any one year, both Fordlands Road and the A19 will be defended from future floods of this level. Whole life costs will be £4.871m.

26. All calculations in the Options Appraisal Report include an assessment of additional cost to reflect the lower level of detail that projects such as this have in the earlier stages of appraisal. Uncertainty and risk of additional costs could arise as more detailed ground investigations, surveys and design of the built infrastructure commence. The additional cost, or optimism bias, is included to cover all likely worst case scenarios that could occur during the delivery of the project – i.e. unforeseen ground conditions that are only understood when more survey information is obtained that could require a more complex, and likely costly, construction method to be used.
27. Treasury guidance is used to assign differing levels of optimism bias across all parts of the project – between 30 and 60% in increased costs at this stage of appraisal – these percentage uplifts are reduced, or removed, as more certainty is achieved through the delivery of further survey or design. This may well lead to a scheme delivery cost that is considerably less than that indicated in paragraph 25, this will be continually reassessed as the project continues.
28. Under the partnership funding calculator the scheme qualifies for £0.329m in direct flood defence grant in aid funding, CYC have allocated £0.5m in funding for works to increase the resilience of Fordlands Road and an additional £0.1m of funding is available as a consequence of the Germany Beck housing planning process to contribute to the works.
29. £1.5m of further funding has been identified by CYC to contribute to the wider flood alleviation schemes across the city, a re-distribution of funding from this allocation is recommended to support the Germany Beck scheme.
30. The funding allocation to the EA flood scheme programme in York consists of direct flood defence grant in aid funding allocated in accordance with the partnership funding calculator and a further element of 'booster' funding provided by Government to manage the impacts of future flooding across the city. Any scheme utilising the booster funding is assessed in accordance with the wider processes detailed in paragraph 19, however, this funding can be targeted based on local need providing all schemes are cost beneficial and deliver the evaluation criterion needs of the city's wider flood programme. At the time of writing booster funding has been allocated across a range of projects but the EA are considering how some of this funding can be targeted towards the Germany Beck scheme.

31. Recent flood events and public consultation sessions have underlined the desire for the scheme to be delivered and preferably within a short timeframe. Although risk still exists over the availability of whole life funding for the project, discussions over the source of possible funding for project delivery are positive. Existing funding could allow the scheme to be developed through to a detailed design and all permissions including planning approval to be sought. The financial uncertainty surrounding the detailed design and construction costs would be better understood and the funding needed for the construction phase of the project would potentially be less than is currently estimated.
32. Estimates of the costs required for the delivery of a fully designed scheme and construction phase delivery plan are currently being sought by the project team and will be reported at the Decision Session.

Council Plan

33. Improved provision of flood defences supports a prosperous city for all through safer communities for residents, businesses and visitors. A wide range of consultation events will ensure this is in line with the needs and expectations of local communities.

Implications

34. **Financial** – Consultants working for CYC have identified £0.33m of funding is available through Defra Partnership Funding allocations, a further £0.6m of CYC funding is available through funding allocated to the protection of Fordlands Road and S106 funding. For appraisal purposes, the whole life costs of the scheme are £4.871m. Additional flood scheme contribution funding of £1.5m is available to support the delivery of wider benefits through the EA led programme. This funding was approved following the budget setting round of the 19/20 financial year.
35. Further 'booster' funding is allocated directly to the EA, the additional funding of £45m allocated to the delivery of improved flood defences in York contains a significant amount of booster funding. This funding has been allocated across a range of projects, the needs of the Germany Beck flood alleviation scheme are being considered for a potential allocation.
36. Costs for the delivery of the detailed design, planning submission and construction phase costs are currently being developed by the project consultants, this is expected to be well within the scope of the existing project finances and will be reported further at the Decision Session.

37. The costs to progress are anticipated to be up to £200k and this can be funded from the £500k Fordlands Road capital budget in the capital programme. There is a potential that as a result of the further work undertaken it would mean that the scheme is ultimately not progressed. If this were the case it would be necessary to class these costs as abortive and written back to revenue. It is likely that the majority of those costs could be offset from contributions and therefore not creating a significant financial liability.
38. **Property** – The preferred pumping station site lies within the boundary of CYC owned land under the management of the Fulford Parish Council. Discussions over the way in which the scheme can be delivered to support all users’ needs for this site will be essential.
39. Human Resources (HR) – No implications
- One Planet Council/Equalities – No implications
- Legal – No implications
- Crime and Disorder – No implications
- Information Technology (IT) – No implication

Risk Management

40. No known risks are identified at this time, detailed risk management work will be developed as the business case and detailed design works commence.

Contact Details

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Wards Affected: Fulford

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Report **Date** 04/08/20
Approved

Background Papers: None

Annexes:

Annex 1 - Germany Beck Flood Alleviation Scheme Overview