

Report of the Director of Economy & Place

**Germany Beck Flood Alleviation Scheme Update**

**Summary**

- 1) Significant highway flooding occurred in Fulford during the 2015 flood event, further flooding occurred during February 2019 and 2021 with flooding of properties avoided through operational interventions. Properties flooded in November 2000.
- 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) Following early appraisal, a preferred option that isolates high river levels in the River Ouse from Germany Beck and Tunnel Drain has been identified. A pumping station would maintain lower river levels in these watercourses this will directly protect 43 properties from current flood risks and the impacts of climate change, it will ensure more than 300 properties are able to access Fordlands Road and will add further resilience to the A19 flood works safeguarding more than 16,000 daily journeys on the A19 in times of flood.
- 4) The design, construction and whole life maintenance costs of the preferred solution are £4.9m including risk and contingency. £0.33m Defra flood defence grant funding is available if the scheme is approved. Current CYC funding of £0.6m is available for works at this location, £200k of this has been used to progress the current stage of project appraisal following approval by the Executive Member for Environment and Climate Change.

- 5) £1.5m of wider CYC flood risk funding is available to contribute to the delivery of wider benefits from the EA led programme, a significant proportion of this will be targeted to the scheme, an additional £2m of CYC funding has been allocated directly to this scheme.
- 6) Additional 'booster' funding is available for the EA to deliver the wider flood programme in York, £0.9m of this funding has been provisionally allocated to support wider CYC funding in the delivery of the project but due to potential project pressures on other schemes in the programme this element of the budget may be at risk.
- 7) The project team have developed the proposals to a stage where a planning application can be submitted, this report seeks approval to take the project through the planning process and to seek all other approvals necessary for it to be considered for construction and carry out a procurement process to appoint a construction contractor for the construction phase.
- 8) A further report will be brought to Executive for approval to award the contract to the winning bidder in the event the winning bid is in excess of the budget set out in paragraph 37 this report.

## **Recommendations**

- 9) The Executive is asked to:
  - i) note the contents of the report and progress of the scheme to date
  - ii) agree to submit a planning approval application for the project and commence all further approvals based on the work developed to date
  - iii) Approve the carrying out of a procurement process to procure a contractor to carry out the construction phase and to delegate to the Director of Place (in consultation with the Executive Member for Environment & Climate Change, the Chief Finance Officer and the Director of Governance or their delegated officers) the authority to take such steps as are necessary to procure, award and enter into the resulting contract subject to the winning bid being within the budget set out in paragraph 37 of this report. In the event the winning bid is in excess of the budget set out in paragraph 37 of this report a future paper will be brought to the Executive to seek approval to award the contract to the winning bidder.

Reason: to ensure the flood alleviate scheme in Fulford can be delivered

## **Background**

- 10) 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.
- 11) The EA continue to work closely with CYC on all aspects of the York Five Year Plan. Government committed £38 million to upgrade the Foss Barrier, as well as £45 million funding to provide better flood protection to properties along the Rivers Ouse and Foss in the city.
- 12) Schemes have been substantively completed in most areas with major construction works ongoing at Clifton Ings and the construction of a new flood storage reservoir upstream of Strensall. In total 18 areas of work have been developed across the city where flood defences are being constructed, including installing property level flood protection such as flood doors, temporary barriers, pumps and valves, which reduce the chance of flood water getting into a property.
- 13) The overall project milestone of better protecting over 2000 properties from flooding was achieved earlier this year. We are now working with the Environment Agency to develop long term whole river catchment works upstream of York to manage flows at source and to provide further climate change resilience to the cities defences.
- 14) Due to the multiple benefits that are achievable in the Fulford area, CYC are leading in the development of flood alleviation works here. 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.
- 15) 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.
- 16) Flooding of properties in the Fordlands community occurred in 2000 and has been managed through pumping operations in 2012, 2015, February 2019 and February 2020. This flooding is caused by high river levels in the Ouse back flowing into Germany Beck and preventing the free discharge of its tributary, Tunnel Drain that flows in culvert below the Fordlands community.

- 17) Significant road flooding occurs to Fordlands Road in large flood events, 2000, 2012, 2015, 2019, 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, 4x4 vehicle or a temporary footbridge during these times severely affecting the community's ability to safely and easily carry out daily commuting and other tasks. 336 properties are indirectly affected by flooding when they are unable to use Fordlands Road.
- 18) The A19 Fulford Road is a major arterial route in and out of the city, the road has flooded with the same frequency as Fordlands Road causing significant impact on many 1000's of resident, commuter and tourist journeys. 2019 Department for Transport figures of Annual Average Daily Flow (taken as the last complete figures pre-Covid effects) for this section of the A19 show that there are on average 16,803 journeys per day.
- 19) 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.
- 20) A section of walls, embankments, flood gates and associated drainage adaptations have delivered a scheme that was able to prevent flooding of the A19 in recent flood events, most notably in February 2020.
- 21) The works were a condition upon the developers as part of the planning gain linked to the planning permissions for the housing development. Their plans did not in any way contribute to an increase in the flooding of Fordlands Road or properties within the community, as such the works were delivered in isolation of wider flood risk needs in the area.
- 22) The remaining risk of flooding to properties and Fordlands Road has driven the choice of options for a potential scheme. The preferred option 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 both watercourses maintaining levels that would not endanger housing or reach a high enough level to flood Fordlands Road.
- 23) 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.

- 24) This holistic scheme will directly 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. It will ensure more than 300 properties are able to access Fordlands Road in times of flood and will add further resilience to the A19 flood works safeguarding more than 16,000 daily journey's on the A19 in times of flood. Whole life costs will be £4.871m.

## **Consultation**

- 25) Public consultations on the potential scheme have been held with members of the parish council and the wider community at regular intervals throughout the development of the project to date. Landowner and statutory and non-statutory consultees have provided input into the development of the planning stage appraisal and design works.

## **Options**

- 26) The principal option open to the Executive is to comment on and review the work undertaken to date, approve that the project should be submitted for planning approval and a procurement process undertaken to appoint a construction contractor for the construction phase within budget with further report being brought to Executive for approval to award the contract to the winning bidder in the event the winning bid is in excess of the budget set out in this report.

## **Analysis**

- 27) 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.
- 28) 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.
- 29) 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.

- 30) 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.
- 31) All calculations include an assessment of additional cost to reflect the uncertainty and risk of costs that 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.
- 32) 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 different to that indicated in paragraph 24, this will be continually reassessed as the project continues.
- 33) Executive have previously agreed, 9<sup>th</sup> February 2017, that the Executive Member for the Environment and Climate Change would monitor and assure the delivery of the wider flood alleviation scheme programme in the city. A paper taken to the Executive Member's 12<sup>th</sup> August 2020 decision session resolved that the development of the next stage of appraisal for the Germany Beck scheme should be commenced – including detailed design and all permissions including planning approval.
- 34) The preferred option has been developed further to a point where all plans and documentation have been produced for planning approval to be sought, a recommendation is made in this report for approval to be given for this to be undertaken.

- 35) The planning stage design works, and all associated survey work will enable final agreements to be made with regards land and access agreements and future operational and maintenance roles and responsibilities. Consultation has been ongoing with relevant landowners, including the Parish Council and an agreement in principle with regards to the future maintenance and operational aspects of the asset have been made with the Foss Internal Drainage Board. These discussions will commence in parallel with the planning approval process.
- 36) Following the award of planning approval, Officers will engage with the Council's procurement and legal teams to identify the most appropriate route to market and a procurement process will be carried out to appoint a construction contractor for the construction phase. In the event the winning bid is in excess of the budget for the project a further paper will be brought to the Executive for approval to award the contract to the winning bidder.
- 37) The funding package for the scheme includes Defra grant in aid funding, York Flood Alleviation Funding via the Environment Agency and CYC capital allocations:

Defra Flood Defence Grant in Aid/Partnership Funding	£0.329M
Environment Agency 'Booster Funding'	£0.9M
CYC Capital Funding	<ul style="list-style-type: none"> <li>• £0.6M originally allocated to improve the flood resilience of Fordlands Road</li> <li>• £1.5M (to contribute to the wider flood alleviation schemes across the city, a proportion of this is intended to be directed to this scheme)</li> <li>• £2M directly allocated to this scheme</li> </ul>

- 38) £200k of the £0.6M allocation is being used to develop the planning stage appraisal and design works and deliver the planning stage approvals.

- 39) 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 30, however, this funding can be targeted based on local need providing all schemes are cost beneficial and deliver the evaluation criteria needs of the cities wider flood programme.
- 40) £0.329m in direct flood defence grant in aid funding can be attracted to the scheme, an application to draw down this funding will be made following the granting of planning permission. £0.9m of booster funding has been allocated by the EA towards the delivery of the project but this element of funding may be at risk due to budgetary pressures on other flood schemes in progress in the city.
- 41) Although risk still exists over the availability of whole life funding for the project as detailed above further work will be undertaken to assess scheme delivery and future maintenance costs following the delivery of the planning stage detailed design work. Risk and uncertainty elements of the funding will be reassessed to reconfirm the expected whole life costs. Detailed site information and value engineering following key design solutions may lead to reductions in expected costs but wider economic pressures facing all civil engineering schemes will similarly have to be considered. Other flood risk funding options will be considered as required.
- 42) Once approved a submission will be made for planning permission in Late December 2022 / early January 2023. Once planning and all other permissions are in place it is expected that the construction phase design works can commence in early summer 2023 and delivery can commence following procurement and award of delivery partners in Autumn 2023. Construction completion would be expected in late 2024. All timings are indicative and dependant on all approvals being in place.

## **Council Plan**

- 43) 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.



- 44) The development of a flood scheme at this location is supported by actions 87-90 of the independent York Flood Inquiry which followed the 2015 flooding.

## Implications

- 45) **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. 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 and £2m of CYC funding has been directly allocated to the project, this funding was approved following the budget setting round of the 19/20 financial year.
- 46) 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, £0.9m of booster funding has been allocated to the Germany Beck flood alleviation scheme but the EA have placed this funding at risk due to budget pressures on other ongoing flood alleviation works in the programme.
- 47) Project development to date is c. £200k funded from the £600k Fordlands Road budget in the capital programme. This has delivered the appraisal and design works needed to submit the scheme for planning and other approvals. There is a potential that as a result of the approvals process or confirmation of funding needs that no further work is approved and 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.
- 48) **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 have been held with the parish throughout the development of the project to date. Final layout, design and access needs are now confirmed, and final discussions will be commenced with the Parish Council. A small element of work will be needed on the downstream face of the A19 road bridge, discussions have been held with landowners throughout and similar agreements will be sought utilising the details developed for the planning stage.

- 49) **Human Resources (HR)** – No implications
- 50) **One Planet Council/Equalities** – The Council needs to take into account the Public Sector Equality Duty under Section 149 of the Equality Act 2010 (to have due regard to the need to eliminate discrimination, harassment, victimisation and any other prohibited conduct; advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and foster good relations between persons who share a relevant protected characteristic and persons who do not share it in the exercise of a public authority's functions). An Equalities Impact Assessment will be carried out as part of the planning phase.
- 51) **Legal** – The procurement of the construction contractor to carry out the construction phase will need to be undertaken in accordance with the Public Contracts Regulations 2015 and the Council's Contract Procedure Rules.
- 52) **Crime and Disorder** – No implications
- 53) **Information Technology (IT)** – No implications

### **Risk Management**

- 54) During the development of the appraisal and planning submission design works pre-consultation and communications work have identified relevant risks to the natural and built environment, all have been considered and designs adapted appropriately. However, there are still risks around the acceptability of such a project and this may impact on approvals.
- 55) Risk management work has been carried out to ensure construction phase techniques and construction methods are safe and effective, however, future construction phase risks will need to be considered further in the development of the construction management plans.
- 56) None approval of the construction phase will place final delivery at risk and abortive spend as detailed in paragraph 48.

## Contact Details

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**Report**  **Date** 01/12/22  
**Approved**

**Wards Affected:** Fulford

**For further information please contact the author of the report**

**Background Papers: None**

**Annexes: None**