



Report to Policy Committee

Author/Lead Officer of Report: James Mead,
Flood & Water Service Manager

Tel: 07425 635790

Report of: *Executive Director, City Futures*

Report to: *Transport, Regeneration and Climate Policy Committee*

Date of Decision: *12th June 2024*

Subject: *Clough Dike, Deepcar, culvert repair/replacement*

Type of Equality Impact Assessment (EIA) undertaken	Initial <input type="checkbox"/>	Full <input checked="" type="checkbox"/>
Insert EIA reference number and attach EIA		
Has appropriate consultation/engagement taken place?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Has a Climate Impact Assessment (CIA) been undertaken?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the report contain confidential or exempt information?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If YES, give details as to whether the exemption applies to the full report / part of the report and/or appendices and complete below:-		
<p><i>“The (report/appendix) is not for publication because it contains exempt information under Paragraph (insert relevant paragraph number) of Schedule 12A of the Local Government Act 1972 (as amended).”</i></p>		

Purpose of Report:

A failed culvert in Sheffield City Council ownership on Clough Dike in Deepcar has been presenting a significant risk of flooding for some years and requiring ongoing and reactive operations to prevent a repeat of the flooding of 9 homes in November 2019. The temporary arrangements, although having avoided a repeat of the property flooding are expensive, circa £80k per year, and at high risk of failure. We came very close to a repeat of property flooding in October 2023’s Storm Babet.

We are now pleased to report to committee that a bid for £1,390,163 of FCERM GiA and £112,000 of Local Levy to the Environment Agency to fully fund the project has been successful and we are able to progress to a permanent fix of the failed asset.

Recommendations

Transport, Regeneration, and Climate Policy Committee is recommended to:

Note the successes set out in this report and support the progression of the project into delivery.

Background Papers:

(Insert details of any background papers used in the compilation of the report.)

Single Stage Business Case:

- Sheffield City Council, Clough Dike, Wood Royd Road, Deepcar, Sheffield, YOC501E/000A/442A (Environment Agency reference)

Lead Officer to complete:-		
1	I have consulted the relevant departments in respect of any relevant implications indicated on the Statutory and Council Policy Checklist, and comments have been incorporated / additional forms completed / EIA completed.	Finance: <i>Damian Watkinson, Mark Wassell & Thomas Clarkson (see section 4.2.2)</i>
		Legal: <i>To be completed, see section 4.2.2</i>
		Equalities & Consultation: <i>Carried out at Programme level to be reviewed before financial sign off</i>
		Climate: <i>Carried out at Programme level to be reviewed before financial sign off</i>
	<i>Legal, financial/commercial and equalities implications must be included within the report and the name of the officer consulted must be included above.</i>	
2	SLB member who approved submission:	<i>Kate Martin</i>
3	Committee Chair consulted:	<i>Cllr Ben Miskell</i>
4	I confirm that all necessary approval has been obtained in respect of the implications indicated on the Statutory and Council Policy Checklist and that the report has been approved for submission to the Committee by the SLB member indicated at 2. In addition, any additional forms have been completed and signed off as required at 1.	
	Lead Officer Name: <i>James Mead</i>	Job Title: <i>Flood & Water Service Manager</i>
	Date: 31/05/2024	

1. PROPOSAL

- 1.1 Clough Dike drains a 74 ha catchment of urban, agricultural and recreational land into a stream, through a steeply graded valley of deciduous broadleaved woodlands, into the town of Deepcar where it enters the Fox Glen culvert. Clough Dike then drains to the Little Don downstream of Deepcar.
- 1.2 The culvert which drains under made ground of uncertain history and under Woodroyd Road has partly failed and subsequently blocked (see Figure 1) presenting a significant risk of flooding to homes in the area. A flood in November 2019 resulted in internal flooding to 9 properties and flood assessment suggests up to 35 homes could be at risk.



10, 00:10:31, 78.59 m
Survey abandoned, XP

Figure 1: Image of failed and blocked culvert

- 1.3 Since 2019 a scheme of flood risk mitigation consisting of pumps and enhanced response procedures has been in place. This has prevented a repeat of property flooding but disruption and flooding to the parkland and roads has occurred on numerous occasions, most recently in October's Storm Babet where a repeat of 2019's flooding was only narrowly avoided. This flood risk mitigation is expensive, costly around £80k on an annual basis.

- 1.4 The failed culvert lies predominantly in Sheffield City Council ownership and runs also under the highway. As an authority we have liability for this flood risk as both landowner and Highway Authority and as Lead Local Flood Authority our Flood & Water Management team has taken ownership of this problem and promoted the development of the business case for flood risk funding from the Environment Agency.
- 1.5 We are now pleased to report to committee that our bid for £1,390,163 of FCERM GiA and £112,000 pf Local Levy funding from the Environment Agency has been successful and we are able to progress to a permanent fix of the failed asset.
- 1.6 A copy of the Outline Business Case as submitted to the Environment Agency is available.

2. HOW DOES THIS DECISION CONTRIBUTE?

- 2.1 Progressing a permanent fix of the Fox Glen Culvert will remove the current liability of Sheffield City Council regarding the direct risk of flooding to 35 homes, the highway and the public open space, which includes a small children's playground.
- 2.2 We will no longer have to rely on emergency operations to prevent flooding, as well as the removal of this cost we will be improving our overall ability to respond to flooding through the freeing up of resources. The reduced stress to householders and the reduced distribution to all users of the road and parkland is a further significant benefit.
- 2.3 Climate change predictions suggest that more frequent and intense storms are becoming increasingly likely, as such providing a robust permanent fix to this failed culvert helps mitigate future risk.

3. HAS THERE BEEN ANY CONSULTATION?

- 3.1 The project team have been communicating with stakeholders in the local area about this project for a number of years, since the flooding started to occur. Stakeholders include local residents and businesses, local councillors, SCC Parks Service (who manage the land immediately upstream of the blocked culvert) and SCC Highways department.
- 3.2 Some concerns were expressed at one stage when it appeared that the adjacent children's playground would be affected by the works, but this has been avoided. Other than this, there haven't been any objections to the proposals.

4. RISK ANALYSIS AND IMPLICATIONS OF THE DECISION

4.1 Equality Implications

- 4.1.1 SCC have undertaken an Equalities Impact Assessment for the projects which form their city wide flood risk management programme (of which

this project is one) which suggests that the projects within the programme will generally have positive impacts, particularly to those groups which are most vulnerable, and that there isn't a significant risk of causing a negative impact on a protected characteristic.

4.2 Financial and Commercial Implications

4.2.1 We have been successful in securing external funding via the Environment Agency to fully fund the permanent works. This will remove the ongoing revenue liability for the temporary pumping and response arrangements.

4.2.2 The project will be delivered by Sheffield City Council's Capital Delivery Service (CDS) as part of Sheffield City Council's Capital programme using our established governance and delivery structures and procedures.

4.3 Legal Implications

4.3.1 Sheffield City Council as both landowner and Highway Authority carry a responsibility for risk resulting from the failed asset. The primary risk is of flooding to property, but safety risks associated with water on the highway and public open space and the possibility of culvert collapse and resulting subsidence could also result in substantial liabilities to the council.

4.4 Climate Implications

4.4.1 Climate change predictions suggest that more frequent and intense storms are becoming increasingly likely, as such providing a robust permanent fix to this failed culvert helps mitigate future risk.

4.4.2 Both options considered to reinstate the culvert to a functioning state eliminate the need for continued, regular pumping. Due to the emissions associated with pumping using diesel generators reinstating/repairing the culvert is demonstrably a lower carbon solution when compared to the current situation.

4.5 Other Implications

4.5.1 We have consulted with Parks and Highways through project development, as mentioned under consultation, some concerns were raised over potential disruption to the playground, but we have been able to mitigate this through design.

4.5.2 The permanent fix will reduce liabilities and risk for all, both council departments and the public.

5. ALTERNATIVE OPTIONS CONSIDERED

5.1 A copy of the Outline Business Case as submitted to the Environment

Agency is available on request. The short-listed options appraisal considered 2 possible methods of culvert repair which were both shown to be cost beneficial over continuing the current arrangements.

- 5.2 Full details of the proposed works are available on request. The works will consist of caisson excavation of the blockage and remediation of the remaining culvert using ultraviolet cured in place pipe lining techniques (UV CIPP). The section of collapsed culvert will then be replaced allowing the entire concrete section of culvert to be remediated using a UV cure in place liner.

6. REASONS FOR RECOMMENDATIONS

- 6.1 As well as the strong economic case for this, now fully funded, permanent repair the wider risks associated with the current arrangement already laid out in this report further support the need for change.
- 6.2 The removal of our ongoing revenue liability for the flood mitigation and the significant reduction in flood risk to people and property further recommends the need for this work.