

# ***Cuttle Brook Flood Alleviation Scheme***

## **RMA Short Form Cuttle Brook Flood Alleviation Scheme Outline Business Case**



**Version No: 2.0**

***Date: October 2018***

## BUSINESS CASE APPROVAL SHEET

<b>1 Review &amp; Technical Approval</b>				
Project title				
Authority project reference		EA reference		
Lead authority		Date of submission		
Consultant				
'I confirm that this project meets our quality assurance requirements, environmental obligations and Defra investment appraisal conditions, that all internal approvals, including member approval, have been completed and recommend we apply to the Environment Agency for capital grant and local levy in the sum of £				
<b>Job title</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>	
Authority Project Executive				
'I have reviewed this document and confirm that it meets the current business case guidelines for local authority and Internal Drainage Board applications.'				
OBC reviewer				
'I confirm that the project is ready for assurance and that I have consulted with the Director of Business Finance'				
Area Flood & Coastal Risk Manager				
<b>Assurance sign off</b> - (Tick the appropriate box)				
AFCRM Assurance <input type="checkbox"/> Projects < £100k Or Projects < £1m (if GiA & Levy <£100k)		NPAS Assurance <input type="checkbox"/> Projects £100k - £2m		
<b>Recommendation for approval</b>				<b>Date</b>
AFCRM or NPAS Chair				
Project total as approved (£k)		Version Number		
Project total made up of :	Capital Grant (£k)			
	Levy (£k)			
	Other Contributions (£k)			
<b>2 Project Financial approval</b>				
<b>Financial scheme of approval</b>	<b>Project total</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>
Area Flood & Coastal Risk Manager	<£100k or <£1m (if GiA & Levy <£100k)			
Director of Business Finance	All projects >£100k			
<b>Plus:</b>				
Area Manager	£100k- £1m			
Director of Operations	£1m -£10m			
<b>3 Further approvals (if applicable)</b>				
Date sent (or N/A)			Version number (if different)	
Date approved (or N/A)				
Final Comments				

**For FSoD Coordinator use only:**

UNCONTROLLED

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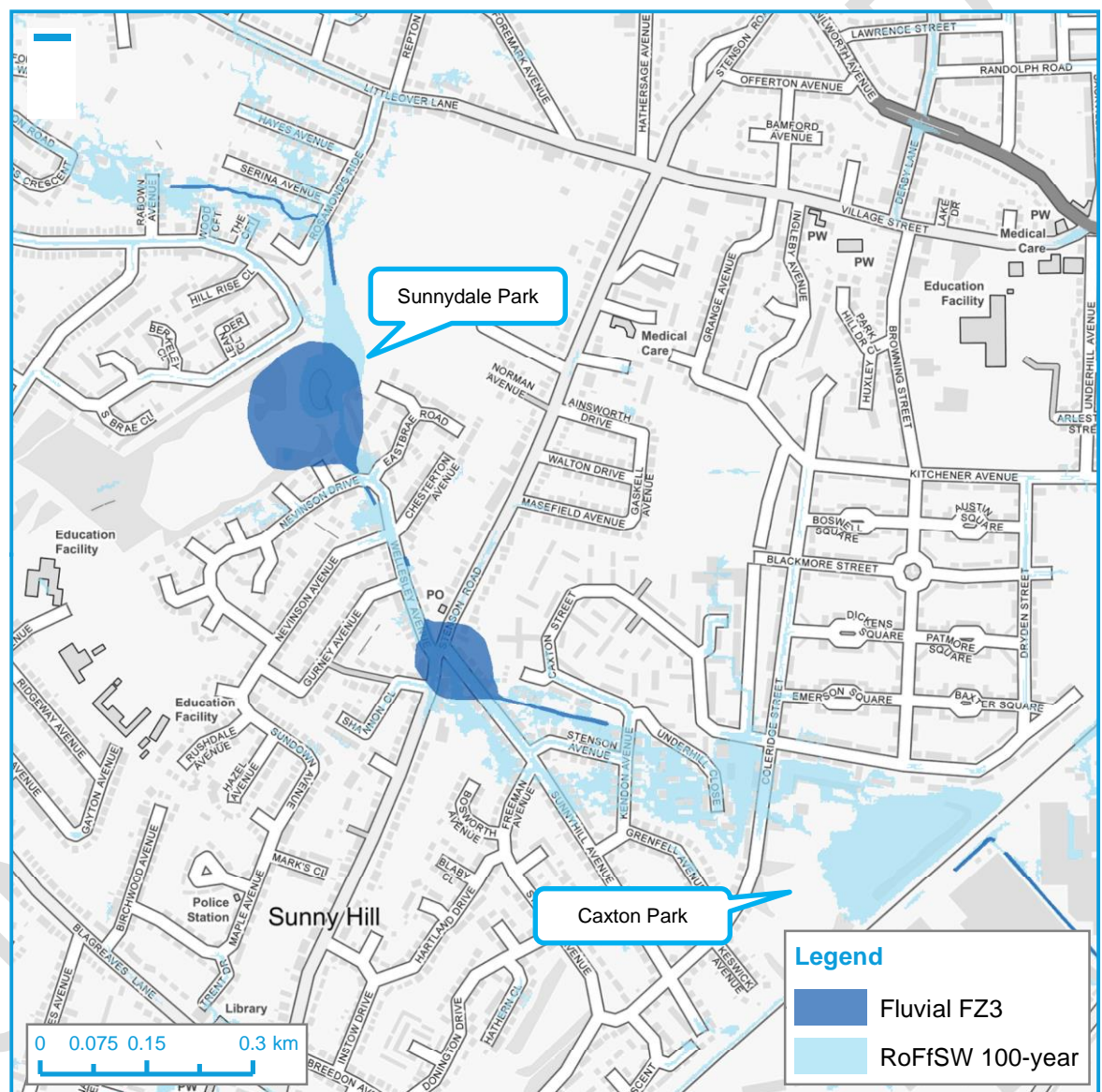
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# Business Case

## 1. Introduction

The Cuttle Brook is a tributary of the River Trent, located in the southern parts of Derby. Cuttle Brook extends from Littleover in the West to Chellaston in the East and is shown to be at risk of both surface water flooding (as detailed in the Risk of Flooding from Surface Water dataset [RoFfSW]) and fluvial flooding with reports of occasional flooding to properties adjacent to the brook being made to Derby City Council as Lead Local Flood Authority over the past 20 years.

Existing flood risk mapping shows properties at risk of surface water flooding up and downstream of Sunnydale Park, notably along Wellesley Avenue and Sunnyhill Avenue. Properties to the east of Sunnyhill Avenue to Coleridge Street are also shown to be at risk.



Several modelling studies have been undertaken to more fully understand the flooding mechanisms along the Cuttle Brook and have highlighted potential interventions to alleviate the flood risk along the upper reaches of the watercourse around Sunnydale Park and Caxton Park.

Derby City Council have bid for additional funding to enable a more strategic flood alleviation and environmental enhancement scheme to be delivered. This Outline Business Case aims to obtain additional funding to deliver a series of flood alleviation measures across the study area.

## 2. Strategic case

### Introduction

The study area is within the Cuttle Brook catchment between Willson Avenue (upstream of Sunnydale Park) and the industrial estate downstream of the railway line south of Caxton Park. The Cuttle Brook is characterised by an urbanised catchment comprising numerous sewer systems draining into an open watercourse with residential developments on one or both sides. Historic flooding in the catchment has been noted from several sources<sup>1</sup>:

- Watercourse flooding (fluvial);
- Surface water runoff from public open space;
- Sewer flooding.

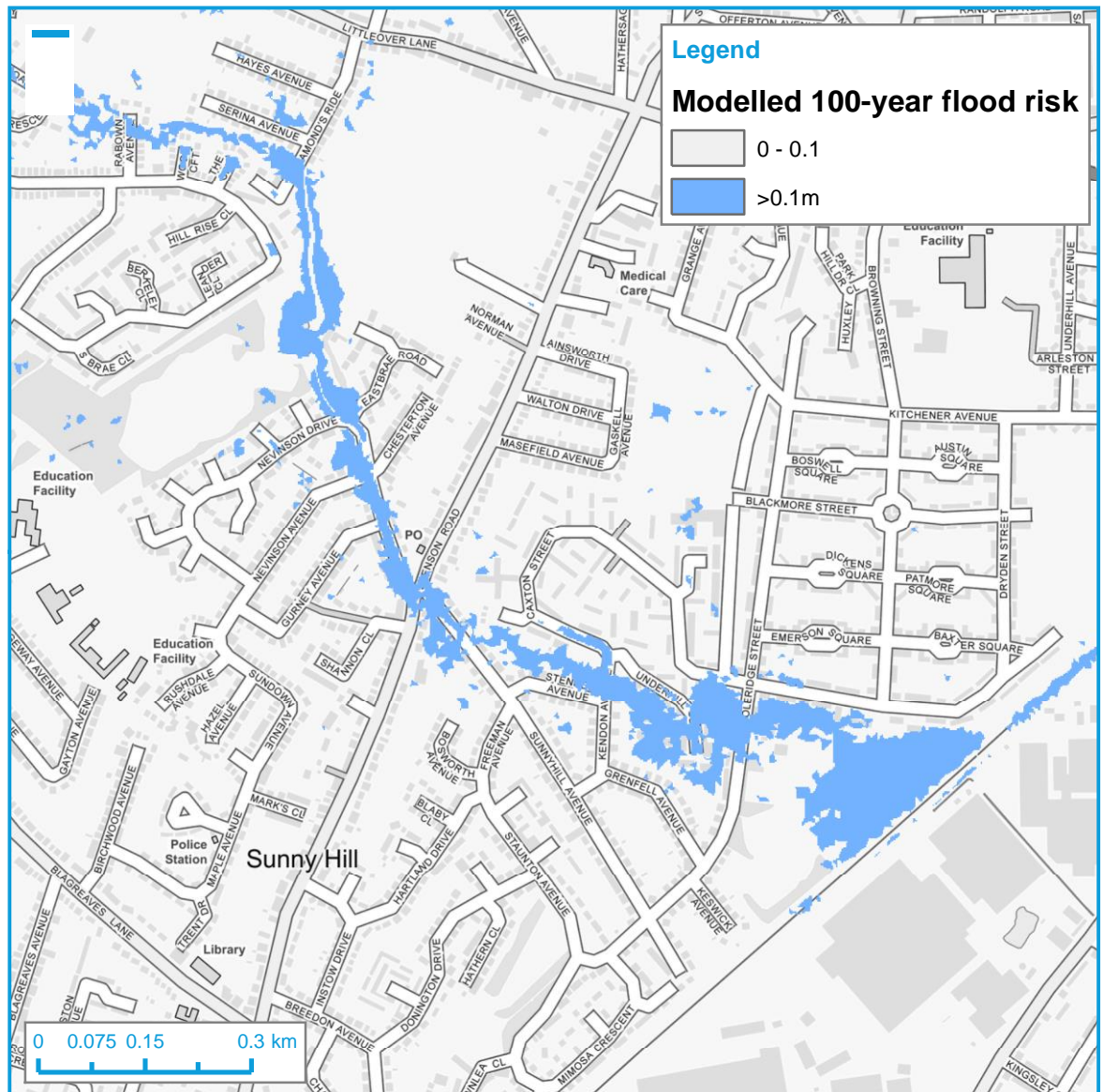
Along the reach of the Cuttle Brook between Sunnydale and Caxton Parks, the watercourse passes through several significant lengths of culvert, in fact in some locations, notably through Caxton Park, it is designated as a Severn Trent Water surface water sewer. It is unsurprising that the existing system cannot convey the 100-year flow and properties are shown to be at risk, therefore a hydraulic modelling exercise has been undertaken using Derby City Council's Integrated Urban Drainage model to account more accurately for the urban nature of the catchment and the potential for flooding from fluvial, sewer and surface water sources.

The output from the updated integrated urban drainage model is shown below and is broadly comparable to that shown in the published RoFfSW dataset.

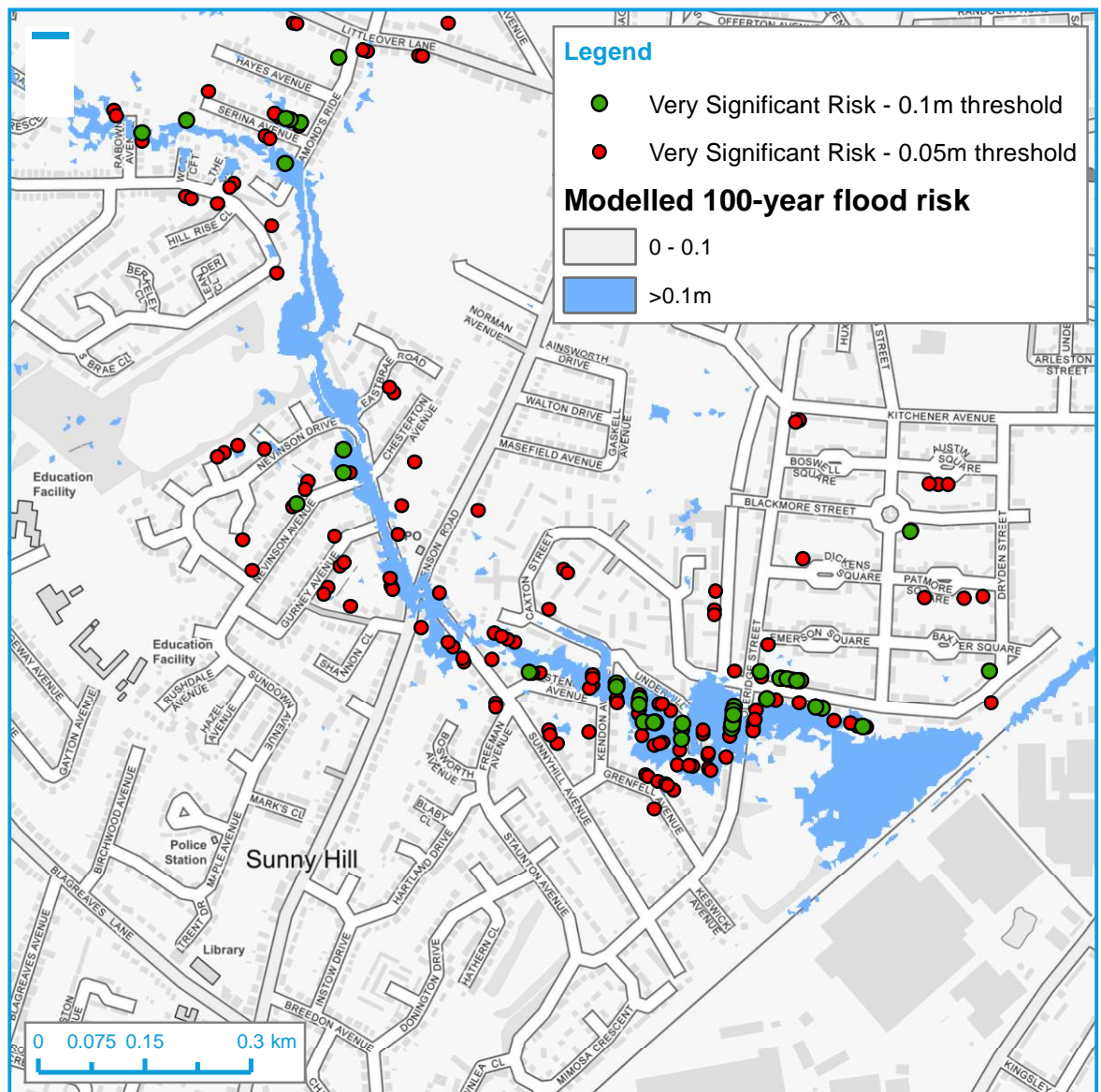
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<sup>1</sup> Derby City Council SFRA (2009)





The modelling has shown 235 residential properties at very significant risk of flooding (assuming a property threshold of 0.05m), this falls to 47 if the property threshold is increased to 0.1m.



## Strategic context

The Flood and Water Management Act 2010 established Derby City Council as a Lead Local Flood Authority (LLFA). This Act placed a number of actions on the Council including managing local flood risk such as groundwater flooding, surface water run-off, ordinary watercourses and preparing and maintaining a strategy for local flood risk management.

The following Business Strategies provide further Strategic Context to support the implementation of improvement works to the Cuttle Brook.

Derby City Council's medium-term plan produced and submitted to the Environment Agency in 2014 prioritised five watercourses within Derby City for investment during the plan period. This included the Cuttle Brook and outlined potential interventions to reduce flood risk in the catchment.<sup>2</sup>

Derby and the Cuttle Brook catchment are located within Policy Area 5 of the Trent Catchment Flood Management Plan<sup>3</sup> (CFMP). Policy 5 covers "areas of moderate to high flood risk where we can generally take further action to reduce flood risk."

<sup>2</sup> Derby City Council Medium Term Plan Support 2014

<sup>3</sup> Trent Catchment Flood Management Plan – Summary Report, Environment Agency, December 2009



The Cuttle Brook is also referenced within Derby City Councils Local Flood Risk Management Strategy, with the delivery strategy stating that Derby City Council will work with the Environment Agency to promote capital flood risk management schemes for the Cuttle Brook.<sup>4</sup>

### The case for change

Properties between Sunnysdale Park and Caxton Park are currently not protected by existing flood defences and are known to have flooded in the recent past. Local residents have reported flooding to Derby City Council, with mixed messages of the source of flooding between surface water and fluvial sources.

Existing flood risk modelling published on the UK Government Flood Maps website is based on historic fluvial modelling and generalised country wide surface water models with no explicit representation of sewers. Derby City Council have also developed an Integrated Urban Drainage model which is currently available in draft format, this shows significantly reduced flood risk when compared to the Risk of Flooding from Surface Water dataset published UK Government Flood Maps website. The model is subject to several recommendations to improve the representation of flood risk across Derby and these have been implemented locally across the Cuttle Brook catchment (incorporating sewer catchments draining towards the watercourse) to improve confidence in the flood risk datasets used to support the Outline Business Case.

### Objectives

The objective of the Cuttle Brook Scheme is to provide a higher standard of protection to existing properties through provision of infrastructure that can be easily be maintained. The performance target will be to provide at least a 1 in 20-year standard of protection to all properties with an aim to achieve a 1 in 75-year standard of protection where possible. The scheme is to also be proactively collaborative in nature, with local groups including the Friends of Sunnysdale Park taking ownership and assisting with maintenance of the assets.

The following investment objectives were outlined at the start of this project. All short-listed options are required to comply with these objectives:

- Communities feel safer once the project is complete and experience reduced incidences of flooding over the appraisal period;
- Improved watercourses that benefit local communities and improve local biodiversity, contributing to Water Framework Directive objectives and/or the Wellbeing of Future Generations Act goals.

### Environmental Considerations

There are no statutory designations (SSSI, Ramsar, etc.) covering the Cuttle Brook study area.

A Preliminary Environmental Assessment and built heritage assessment have been undertaken and are provided in Appendix B. These show some environmental concerns around the presence of Newts in the existing pond at Sunnysdale Park and highlight the requirements for some additional surveys throughout detailed design.

Local residents would be the key receptor of any environmental effects of construction works. Potential sources of environmental impact of construction works, such as exhaust fumes, dust, noise and traffic movements, would require consideration.

### Project constraints and key risks

Constraints that affect the development of flood risk management options include;

- Existing railway downstream of Caxton Park;
- Ecological constraints around Newts in Sunnysdale Park;
- Buried services;
- Funding restrictions on ERD

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<sup>4</sup> Derby Local Flood Risk Management Strategy (2017), Derby City Council

### Key risks

Key risks that may affect the development of flood risk management options include the following;

	Key Risks	Mitigation
1	Design basis changes during design and construction period due to limitations of existing information.	Ensure appropriate site investigations carried out at design stage. Utilise local knowledge of DCC staff.
2	Funding shortfall	DCC to investigate opportunities for additional funding.
3	Environmental impact arising from the works or restrictions due to protected or invasive species.	Works to be programmed to accommodate environmental constraints with appropriate investigations during design stage in line with ecological file note recommendations.
4	Temporary increased flood risk due to potential obstructions during construction.	Commission Contractor suitably experienced in this type of construction and provide measures for over pumping and/or diversions.
5	Unacceptability of option with the public due to disruption during construction phase.	Carry out early and regular public consultation to keep residents informed.

### 3. Economic case

#### Options considered

At the outset of this study, Derby City Council provided their thoughts on potential flood alleviation measures through the work carried out for their Medium-Term Plan. These were used as the basis for the longlist options with variations of the options assessed throughout the study. The longlist options considered, along with a Strengths Weaknesses Opportunities and Threats (SWOT) analysis, is provided below.

In addition to the options presented below, Do Minimum and Do-Nothing Scenarios are also considered.

Option Considered	Strengths	Weaknesses	Opportunities	Threats
1. New culvert/ sewer at Willson Avenue	<ul style="list-style-type: none"> <li>High community visibility</li> </ul>	<ul style="list-style-type: none"> <li>Revised modelling shows limited surface water flow route in this location</li> <li>Disruption to residents</li> <li>Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Allows engagement with local residents</li> </ul>	
2. Enlargement of pond with embankment at Sunnydale Park	<ul style="list-style-type: none"> <li>Provides additional flood storage</li> </ul>	<ul style="list-style-type: none"> <li>Requires some flood walls locally around properties.</li> <li>Residents' concerns over embankments</li> </ul>	<ul style="list-style-type: none"> <li>Could enable additional enhancement of the public open space</li> <li>Potential of collecting highway drainage into expanded pond</li> </ul>	<ul style="list-style-type: none"> <li>Public opinion on changes to public open space</li> <li>Potential need for planning consent?</li> </ul>
3. Environmental enhancements in Sunnydale Park	<ul style="list-style-type: none"> <li>Creation of habitat</li> <li>Provides additional storage</li> <li>Funding available through ERDF</li> </ul>	<ul style="list-style-type: none"> <li>Does not offer significant reduction in flood risk</li> </ul>	<ul style="list-style-type: none"> <li>To be included as part of wider works</li> </ul>	
4. Mound in Sunnydale Park	<ul style="list-style-type: none"> <li>Intercepts surface water flow route and directly reduces flooding to properties</li> </ul>	<ul style="list-style-type: none"> <li>Residents' concerns over changes in levels of Sunnydale Park</li> </ul>	<ul style="list-style-type: none"> <li>Could be linked with environmental improvements</li> <li>Offers opportunities for NFM funding through Local Levy.</li> </ul>	<ul style="list-style-type: none"> <li>Public opinion on changes to public open space</li> </ul>
5. Culvert daylighting in Caxton Park	<ul style="list-style-type: none"> <li>Creation of habitat</li> <li>Provides additional storage</li> <li>Some funding available through ERDF</li> </ul>	<ul style="list-style-type: none"> <li>Does not offer significant reduction in flood risk</li> </ul>	<ul style="list-style-type: none"> <li>To be included as part of wider works</li> </ul>	<ul style="list-style-type: none"> <li>Public opinion on changes to public open space</li> </ul>
6. Pond enlargement without embankment in	<ul style="list-style-type: none"> <li>Provides additional flood storage</li> </ul>	<ul style="list-style-type: none"> <li>Offers lower SoP than option 2 (with</li> </ul>	<ul style="list-style-type: none"> <li>Could enable additional enhancement of the</li> </ul>	<ul style="list-style-type: none"> <li>Public opinion on changes to public open</li> </ul>

Sunnydale Park		embankments )	public open space	space
7. Property Level Resilience	• Can directly protect those properties at risk	• Not a strategic solution • Measures can fail or be exceeded • Not all residents will uptake	• Potential of collecting highway drainage into expanded pond • Could be linked with improving community awareness of flood risk	• May not be acceptable to local residents
	• Can ensure the most benefit	• Costs will increase and benefits may be duplicated.	• As for previous options	• As for previous options
8. Combined options				

The SWOT analysis presented above has been used to assess which options should be shortlisted for further assessment. On the basis of the qualitative assessments of strengths and weaknesses along with opportunities and threats associated with the longest flood alleviation scheme the following changes have been made in producing the shortlist:

Option Considered	Decision
Do Nothing	• Assessed for comparison
Do Minimum	• Assessed for comparison
1. New culvert/ sewer at Willson Avenue	• No flood risk benefit – not carried forward
2. Enlargement of pond with embankment at Sunnydale Park	• Taken forward to shortlist
3. Environmental enhancements in Sunnydale Park	• Taken forward to shortlist
4. Mound in Sunnydale Park	• Taken forward to shortlist
5. Culvert daylighting in Caxton Park	• Taken forward to shortlist
6. Pond enlargement without embankment in Sunnydale Park	• Taken forward to shortlist
7. Property Level Resilience	• Discounted as not considered to be an effective strategic solution. Remains a fall-back option should none of the shortlisted options be deliverable
8. Combined option	• A combined option of works in Sunnydale Park and Caxton Park is also carried forward to shortlist.
9. Combined option	• A combined option of more limited works in Sunnydale Park and Caxton Park is also carried forward to shortlist.
10. Combined option	• A combined option of works in Sunnydale Park but excluding works in Caxton Park is also carried forward to shortlist.

The shortlisted options are presented in the table below.

Options		Description	Technical, Environmental & Social matters
1	Do nothing	No further maintenance on the ditches and drainage system.	Siltation within the culvert occurs.
2	Do minimum	Continue existing maintenance regime	Access to much of the existing watercourse is poor as it runs through culverted sections in highways and through private land. It is considered unlikely that riparian owners are fully aware of their responsibilities.

Options		Description	Technical, Environmental & Social matters
3	Do something A	<i>Pond enlargement with embankment</i>	Refer to SWOT analysis
4	Do something B	<i>Environmental enhancements in Sunnydale park</i>	Refer to SWOT analysis
5	Do something C	<i>Mound in Sunnydale park</i>	Refer to SWOT analysis
6	Do something D	<i>Culvert daylighting in Caxton Park</i>	Refer to SWOT analysis
7	Do something E	<i>Pond enlargement without embankment in Sunnydale Park</i>	Refer to SWOT analysis
8	Do Something F	<i>Combination of options 4, 5, 6 &amp; 7</i>	Refer to SWOT analysis
9	Do something G	<i>Combination of options 4, 5 &amp; 6</i>	Refer to SWOT analysis
10	Do something H	<i>Combination of options 4, 5 &amp; 7</i>	Refer to SWOT analysis

### Key findings

The following table presents the findings of the economic analysis. The present value damages have been obtained from the hydraulic modelling and utilise information from the National Receptor Dataset. The present value costs have been estimated using contractor costs estimates and include an optimism bias of 30%.

Option		Present Value costs (£k)	Present Value damages (£k)	Present Value benefits (£k)	Average benefit: cost ratio (BCR)	Incremental benefit: cost ratio (IBCR)	Option for incremental calculation
1	Do nothing		7,599				
2	Do minimum	82	6,630				
3	Do something A	1,481	5,073	2,526	1.7	1.1	Do Min
4	Do something B	323	7,599	0	0	n/a	n/a
5	Do something C	393	6,406	1,193	3.0	0.7	Do Min
6	Do something D	475	7,599	0	0	n/a	n/a
7	Do something E	721	5,323	2,276	3.2	2.0	Do Min
8	Do Something F	2,062	5,276	2,323	1.2	0.7	Do Min
9	Do Something G	1,564	6,406	1,193	0.8	0.5	Do Min
10	Do Something H	1,164	5,276	2,323	2.0	1.2	Do Min

## 4. Commercial case

### Procurement strategy

On the basis that the Do something options are taken forward it is assumed that Derby City Council would remain the lead organisation in promoting the scheme. In order to successfully deliver the scheme, the following tasks will need to be completed:

- Appoint a designer;
- Ensure that all necessary consents and permits are in place;
- Secure funding;
- Appoint a contractor to construct the scheme;
- Undertaken a post-project evaluation

It is proposed that Derby City Council will appoint Balfour Beatty through the SCAPE framework using a Design and Build contract



## Key contractual terms and risk allocation

The design stages (including ECI) will be carried out under the terms and conditions of the NEC3 Professional Services Contract (June 2005) (with amendments 2006 & 2011). The contract is most likely to be managed under a fixed price structure.

The construction contract will be developed in a two-stage process where the Employer and the Contractor will undertake a design audit, review procurement lead-in periods, develop the risk register and investigate value engineering opportunities during a further ECI stage. Subject to the outcome of this stage, funding levels and the performance of the successful tenderer to complete the construction of the works. The construction works will be carried out under terms and conditions of the Engineering and Construction Contract (June 2005) (with amendments 2006 & 2011) Option A Fixed Fee Contract.

As with any construction project there are substantial risks present in both the design and construction phases. These can include the need to spend money on unplanned items (e.g. diversion of a service not shown on utilities plans), changes in legislation or design standards, and changes in project scope. As part of the tender process a risk register should be developed to provide a tool for quantifying the likelihood of a particular risk occurring and the impact that it will have on delivery (programme and cost).

## Efficiencies and commercial arrangements

The proposed use of an existing framework to procure the works will provide efficiencies in procurement and delivery. Derby City Council should continue to identify other sources of funding and whether the works can be packaged with other schemes to drive additional efficiency.

Where additional efficiencies are materialised or risk does not occur, it is proposed that any funding excess will be returned to Local Levy and Derby City Council on a 50:50 basis.

## 5. Financial case

### Summary of financial appraisal

The financial analysis has been carried out on the combined option, option H.

Contractors and construction fees have been provided by Balfour Beatty through the SCAPE framework and as such have been market tested providing a higher degree of confidence that outturn costs will not significantly deviate from the quoted costs.

Consultant fees have been provided by JBA Consulting.

	Cost for economic appraisal (PV)	Whole-life cash cost	Total Project cost (approval)
Costs up to OBC	N/a – sunk costs	£20k	Exc previous app
<u>Costs after OBC</u>			
Existing staff costs	£30k	£30k	£30k
Further staff costs			
Consultants' fees	£30k	£30k	£30k
Contractors' fees	£50k	£50k	£50k
Cost consultants' fees			
Site investigation and survey	£10k	£10k	£10k
Construction	£588k	£588k	£588k
Site supervision			
Environmental mitigation	£4.6k	£4.6k	£4.6k
Environmental enhancement			
Land purchase & compensation			
Other			
<u>Risk Contingency</u>			
Optimism Bias	£213.78k	£213.78k	£213.78k
Risk - Monte Carlo 95%ile or similar	N/a	N/a	£250k
Risk - Monte Carlo 50%ile or similar	£170k	£170k	N/a
Inflation	N/a	N/a	£0
Future costs (construction + maintenance)	<u>£52.5k</u>	<u>£52.5k</u>	N/a
Optimism Bias on future costs	£15.75k	£15.75k	
<b>Project total cost</b>	<b>£1,164.1k</b>	<b>£1,164.1k</b>	<b>£1,176.38k</b>

## Funding sources

(	%	Description	Total £k
Raw Partnership Funding score	33		
<u>Funding:</u>			
Contributions (list)		ERDF Derby City Council Capital Spend	276.37 250
Other: (list)		Local Levy TBC	234.15
Local Levy			26
<b>Non GiA contributions</b>			728.89
Adjusted Partnership Funding score	100		
Grant in Aid		OM1 + OM2 +OM4	389.85
<b>Project total cost (approval)</b>			1176.38

## Overall affordability

Annualised spend profile (£k)	Yr 0 2018	Yr 1 2019	Yr 2 2020	Yr 3 2021	Yr 4+	Total
Staff costs	5	25				30
Construction & other costs	50	632.6				682.6
Optimism bias & risk contingency	16.5	447.28				463.78
Inflation						
<b>Project total capital cost</b>	71.5	854.9				1176.38

## 6. Management case

### Project management

The key success factors for the scheme are:

- Coordination of Third Party Interfaces
- Timely Delivery
- Delivery of a Quality Product
- Zero Health and Safety Incidents
- Maximum Community and Environmental Benefits
- Delivering within programme and to budget

**The timescales presented below represent a best guess for the likely timescales of delivering the scheme and is based on the assumption that Derby City Council appoint a designer through SCAPE in November 2018.**

Activity	Date (DD/MM/YYYY)	Comment
Other (detail as necessary) Detailed Design complete	April 2019	
Work to be started on site	August 2019	
Work substantially completed by	January 2020	Mitigation measures due to Great Crested Newts may delay start of site work and consequently completion of works until April 2020

### Benefits realisation

Contributions to outcome measures	
Outcome 1 – Ratio of whole-life benefits to costs	
Present value benefits (£k)	2,323
Present value costs (£k)	1,164
Benefit: cost ratio	2.0
Outcome 2 – Households at reduced risk	
2a – Households moved to a lower risk category (number – nr)	31
2b – Households moved from very significant or significant risk to moderate or low risk (nr)	28
2c – Proportion of households in 2b that are in the 20% most deprived areas (nr)	0.28
Outcome 3 – Households with reduced risk of erosion	
3a – Households with reduced risk of erosion (nr)	
3b – Proportion of those in 3 protected from loss within 20 years (nr)	
3c – Proportion of households in 3b that are in the 20% most deprived areas (nr)	
Outcome 4 – Water framework directive	
4a – Hectares of water-dependent habitat created or improved (ha)	0.5
4b – Hectares of intertidal habitat created (ha)	
4c – Kilometres of river protected (km)	

### Project structure and governance

The project will be delivered and managed by officers of Derby City Council with Governance from elected Members of the Council. The Senior Responsible Officers are Kevin Tozer, Team

Leader of Flood Risk within Streetpride and Nick Tolley Senior Engineer within Flood Risk in Streetpride.

### *Project Team*

Stakeholders will be invited to meet approximately quarterly, with meetings chaired by the Head of Engineering and Transport.

### Communications and Stakeholder engagement

Following approval of this OBC, further studies and investigations will be carried out in order to ascertain the required level of information to forward the project to the detailed design stage. Further stakeholder engagement with the following key stakeholders is recommended:

#### *Environment Agency*

As the regulatory authority in England, and also as a client organisation with extensive experience in flood alleviation capital schemes, consultation is imperative to efficiently adhere to environmental legislation and share best practice.

#### *Riparian owners*

Informing, managing and enforcing riparian owner responsibilities for maintenance of flows is an important part of the proposal for managing flood risk. This also helps to make sure that the public purse is not paying for these private liabilities.

Businesses in the area should be consulted regarding their access requirements. This should include identifying any seasonality in their business that may allow the project to minimise disruption through carefully timing the works.

#### *Local businesses, residents and public*

Before the construction phase of the project begins, the local businesses, residents and public need to be informed of issues that may affect them, such as accessibility, construction traffic, and changes to flood risk, most likely via written notices.

#### *Service providers*

Consultation should be sought from utilities providers to confirm exact locations of buried services.

#### *Other interested parties*

The consenting process follows the detailed design stage, and the need for an Environmental Impact Assessment (EIA) will be confirmed via an EIA screening opinion from Derby City Council. Should an EIA not be required, a range of environmental assessments, based on the topics covered in this report, are likely to be required to support the approval of the project. The preparation of an EAP will be required to capture the mitigation and enhancement measures. Other statutory consents relating to footpath or road closures/diversions or protected species, will also be sought if required, subject to consultation with relevant authorities. Stakeholder engagement is imperative at each of these stages.

### Benefits realisation and Post Project Evaluation

#### Risk management

Changes are inevitable in construction projects and Change Management is a critical problem faced by the construction industry. The effort of managing change orders imposes a huge burden on project management. Changes are identified as the major cause of project delay, cost overruns, defects, or even project failure.

The prescriptive processes detailed within the NEC3 are essential in the effective control of change. DCC are advocates of using Contract Change Management Software that improves communications and facilitates a documented proactive approach based around a Risk Register.

The Project Manager will be responsible for the maintenance of the Risk Register and will engage all members of the delivery team to develop a register that is robust and considers all aspects of potential cost, programme, third-party or technical risk. It is essential that the risk



registers are discussed in workshops by team members with differing views and that solutions are owned by members of the entire team.

A Risk Register has been developed at OBC stage and this should remain live throughout the detailed design and construction phases of the scheme.

### Contract management

The scheme will be delivered by Derby City Council. The Council have in-house knowledge of the area and have a record of delivering successful infrastructure and regeneration schemes of this nature.

The proposed procurement approach and contractual arrangements are set out in Section 4. Derby City Council fully advocate the prescriptive management approach prescribed by the NEC Contract Conditions and utilise complimentary communications systems to make sure that the contract is managed proactively and that Value Engineering and Risk Management initiatives are maintained throughout the duration of the scheme.

Contractor performance is benchmarked via Framework KPI's and best practice workshops are encouraged.

### Assurance

#### *EA / Trent RFCC*

Environment Agency and Trent RFCC reviews of the project will be conducted at key decision points for approval of further funding. These will be:

- Progress to Detailed Design
- Progress from Detailed Design to Construction

#### *Local Authority*

Derby City Council is fully aware of the importance of collecting and reporting accurate data relating to its operations and has a proven track record of doing so successfully.

A Monitoring and Evaluation Plan will be developed which will outline the system that will be used to effectively collect all data relating to the Operation. The Monitoring & Evaluation Plan will consider:

- Evaluation Objectives
- Lessons learned from previous projects
- Operational Context
- Activities to be undertaken
- Management Responsibility
- Delivery Plan
- Indicators
- Targets
- Data Quality
- Reporting Arrangements
- Evaluation
- Potential use of Evaluation
- Indicative Timetable
- Dissemination

#### *Post project evaluation*

The Evaluation will report on the impact and effectiveness of the operation and will include feedback on indicators, aims and objectives, effectiveness of project management and will make recommendations or suggestions or improvement or ideas for future operations.

The evaluation final report will be distributed upon completion of the project and will be made available to the Environment Agency, stakeholders and will be reported to the relevant senior management and cabinet boards as appropriate.

The longer-term benefits will be monitored including long term community benefits, business growth, tourism and jobs created on the site following construction.

## 7. Recommendation

The conclusion from this OBC for the Cuttle Brook Flood Alleviation Scheme is that on the basis of the economic analysis Option H comprising works in Sunnydale Park to:

- Develop environmental enhancements adjacent to the watercourse;
- Enlarge the pond and create additional wetland habitat and flood storage;
- Create a bund to divert surface water flows to the watercourse

is the preferred option for delivery of a scheme, delivering a benefit-cost ratio required to attract significant Grant in Aid funding.

Additional partnership funding will be required to deliver the scheme which will be delivered through Derby City Council Capital Spend and Local Levy funding alongside the ERDF contribution that is already committed. Risk and optimism bias of £463,780 is included in the overall budget of £1,176,380, however there is greater certainty in the delivery costs as they have been provided by Balfour Beatty through the Scape Framework, meaning they have been market tested. Under the proposed delivery mechanism (SCAPE) the contractors have a key performance indicator to deliver the project for the budget figure provided, excluding any additional works identified at the detailed design stage, providing additional confidence in the quoted costs.

The risk register includes allowances for ground conditions and environmental mitigation around great crested newts; where these risks do not materialise or where the optimism bias reduces through the detailed design and construction phases then it is proposed that any funding excess will be returned to Local Levy and Derby City Council on a 50:50 basis.

**Appendix A: Partnership funding calculator**

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**Appendix B:     List of reports produced**

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