

**SURREY COUNTY COUNCIL****CABINET****DATE: 27 OCTOBER 2020****REPORT OF: MRS NATALIE BRAMHALL, CABINET MEMBER FOR  
ENVIRONMENT AND CLIMATE CHANGE****LEAD OFFICER: KATIE STEWART- EXECUTIVE DIRECTOR FOR ENVIRONMENT,  
TRANSPORT AND INFRASTRUCTURE****SUBJECT: CATERHAM ON THE HILL AND OLD COULSDON FLOOD  
ALLEVIATION SCHEME****SUMMARY OF ISSUE:**

Caterham on the Hill in Tandridge is at high risk of surface water flooding from intense summer storm events and prolonged periods of high rainfall. On 7th June 2016, over 80 properties suffered internal flooding with an additional 60 suffering external flooding following heavy rain in the catchment.

Surrey County Council and our partners have been investigating potential measures to reduce the risk of flooding to this community and has identified Property Flood Resilience as the preferred approach in this mainly urban and relatively steep sided catchment. This will offer Property Flood Resilience Measures to 205 properties and will cost a maximum of £1.9m depending on uptake. This will be largely paid for by Environment Agency Flood Defence Grant in Aid and Regional Flood and Coastal Committee Levy with possible small contributions from Surrey County Council, Tandridge District Council and London Borough of Croydon. An Outline Business Case has been submitted to the Environment Agency for approval.

In parallel, a multi-agency project board is managing a phased wider programme of sustainable flood intervention measures in order to slow the flow of surface water throughout this drainage catchment.

This report seeks approval for the delivery of the Caterham on the Hill and Old Coulsdon Flood Alleviation Scheme, the procurement of the works and the wider sustainable drainage flood mitigation measures.

**RECOMMENDATIONS:**

It is recommended that Cabinet:

1. Approves the addition of the Caterham on the Hill and Old Coulsdon Flood Alleviation Scheme to the Capital Programme through external funding subject to the approval of the Outline Business Case by the Environment Agency;
2. Delegates the approval of any changes to the Outline Business Case to the Director for Highways and Transport and Strategic Finance Business Partner in consultation with the Cabinet Member for Environment and Climate Change;
3. Approves the procurement of the works through the Environment Agency Property Flood Resilience Framework as the scheme was not included in the 2020/21 Annual Procurement Forward Plan approved by Cabinet in January 2020; and

4. Support the development of the wider flood mitigation measures in the catchment and delegate decisions on individual schemes as they come forward to the Director for Highways and Transport and Strategic Finance Business Partner in consultation with the Cabinet Member for Environment and Climate Change.

#### **REASON FOR RECOMMENDATIONS:**

The Caterham on the Hill and Old Coulsdon Flood Alleviation Scheme will reduce the impacts of flooding to 205 properties within the catchment currently at risk.

Recent flooding in the area has caused significant disruption to the area and damage to infrastructure and properties. The long term impacts on residents' lives cannot be underestimated, and these proposals will offer protection and some comfort to those living with the threat of flooding to their homes.

#### **DETAILS:**

##### **Description of Project**

1. The Caterham on the Hill catchment in Tandridge has a long history of flooding. In this mainly urban area, medium rainfall events often result in minor flooding commonly located in low points where the road network focuses the surface water run-off. However, on 7 June 2016, a localised intense storm event resulted in much more severe impacts, with 82 properties with reported internal flooding and 64 properties with reported external flooding. Much of the highway network infrastructure in the area was affected
2. The Caterham on the Hill and Old Coulsdon flood alleviation scheme (FAS) aims to reduce the flood risk to properties, infrastructure and the community through a programme of interventions throughout the catchment over the medium to long term. As the scheme is primarily related to surface water flooding and 85% of properties affected are in Surrey, Surrey County Council (SCC) as Lead Local Flood Authority (LLFA) is leading on the scheme.
3. The Scheme is being managed as a partnership project, with a Project Board comprising of officers from the following organisations: SCC, Environment Agency (EA), London Borough of Croydon (LBC), Tandridge District Council (TDC), and Thames Water Utilities Limited (TWUL). Residents have also been consulted through quarterly meetings with the resident-led flood action group.
4. The Outline Business Case was submitted by SCC to the EA on 7 August 2020, in order to seek approval of the preferred option for the Caterham-on-the-Hill FAS and recommendation for the project to progress. The Outline Business Case is attached as an annex to this report.
5. The scheme looks to reduce flood risk to 205 properties through Property Flood Resilience (PFR) measures. The total scheme cost is £1.95M with a SCC contribution of up to £14K. It is proposed to make this contribution from the Surrey Flood Alleviation Programme, which has been developed by SCC to deliver the objectives of the Surrey Local Flood Risk Management Strategy across the county. Although SCC is only contributing circa £14K, the total scheme value is over £1M and as such requires Cabinet approval
6. The Outline Business Case has been submitted to the EA for approval by the National Project Assurance Service (NPAS) and sets out the strategic, economic,

financial, commercial and management cases for the scheme. Approval of the Business Case is expected in October 2020 along with confirmation of the funding.

### **Scheme and Economic Case**

7. The Caterham on the Hill and Old Coulsdon FAS preferred option of PFR will reduce the risk of flooding from surface water and surcharging from sewers to 205 properties to a 1 in 20 year standard of protection.
8. The scheme will involve fitting PFR measures to individual properties to reduce the impact of flooding to households during a flood incident. These measures include fitting products to buildings such as flood-proof doors, non-return valves and airbrick covers to prevent flood water entering the home. Improvements can also be made internally to reduce the damage should flood water get in to a property.
9. As part of the development of the Outline Business Case, residents have been asked to submit expressions of interest to indicate whether they would want the measures fitted. To date, 82 properties have confirmed their interest (which amounts to 40% of properties at risk within the catchment). Residents will be given further opportunity to express an interest during the next stage and this number is expected to increase as the Council continues to work with the community.
10. Each individual property will require a survey, design, legal agreement and installation. The PFR scheme is estimated to take 2 years to deliver. The scheme costs will vary depending on the type of property and complexities but will become clearer following the survey and design stages. The project delivery contingency has been determined using an optimism bias of 30% which is appropriate for PFR schemes.
11. Procurement of the surveys and installation will be through Lot 3 of the Environment Agency's Property Flood Resilience Framework. As this programme was not included in the Council's 2020/21 Annual Procurement Forward Plan, Cabinet approval for the procurement of this work will be required. Through the Framework, the Environment Agency has identified suitable contractors with experience of similar schemes across the country.
12. The cost and funding available also depend on the uptake of the measures. If fewer residents take up the measures, then the scheme would cost less but the proportion of funding available from Environment Agency Flood Defence Grant in Aid would also reduce. Where this means the funding does not cover the total cost of the scheme, financial contributions would be required from the partner authorities in addition to the Flood Defence Grant in Aid. This is explained in more detail in the next section. Experience of a similar scheme in Leatherhead and Fetcham has seen an uptake of 70%.
13. The Outline Business Case for the scheme goes into more detail regarding the economic appraisal of the scheme. In summary, the Present Value (PV) cost of the scheme, assuming 100% uptake, is £1.95m, and the PV benefits are £11.4m, giving a Benefit Cost Ratio (BCR) of 6 over a 25-year appraisal period. The business case for taking this option forward has been demonstrated to be robust regardless of the uptake rate, as well as to any changes to assumptions on property threshold levels.

14. **Table 1** shows how the total cost of the scheme and the BCR vary against different levels of uptake, from 100% to the current uptake level (40%).

<b>Table 1: Scheme Costs</b> Item	<b>Cost (100% uptake)</b> £000	<b>Cost (40% uptake)</b> £000
Appraisal Cost (sunk)	£243	£243
Design & Construction	£1,309	£542
Risk	£393	£163
<b>Sub total</b>	<b>£1,702</b>	<b>£705</b>
<b>Total Scheme Cost (nPV)</b>	<b>£1,945</b>	<b>£948</b>
<b>BCR</b>	<b>6</b>	<b>5.4</b>

## Funding and Contributions

15. Government funding for flood defence schemes is allocated using Department for Environment, Food and Rural Affairs (DEFRA) Partnership Funding Principles. Funding is allocated based on a set of outcome measures, including numbers of properties protected and environmental enhancements. This means that only a proportion of the total cost will come from Flood Defence Grant in Aid (known as the Partnership Funding or PF score), with the remainder from local contributions. These contributions will ordinarily come from local authorities but also from Thames Regional Flood & Coastal Committee (Thames RFCC) Local Levy. If the PF score is greater than 50%, then Thames RFCC will contribute the remaining funding up to £500K. If less than 50%, it would contribute half the remaining costs with partners contributing the rest.

16. Where the cost of the scheme is not covered by Flood Defence Grant in Aid and Thames RFCC Local Levy due to a lower uptake then the constituent authorities of the Project Board have agreed to contribute the remaining amount. This would be on a proportionate basis against the proportion of properties affected in each administration. This equates to 15% for LBC and 85% split equally between SCC and TDC. **Table 2** below shows the contributions required for both a 100% uptake and that for the current uptake of 40%.

**Table 2: Funding sources and contributions**

<b>Item</b>	<b>Cost (100% uptake)</b> £000	<b>Cost (40% uptake)</b> £000
<b>PF Score</b>	<b>71%</b>	<b>48%</b>
FDGiA	£85	£85
TRFCC Levy	£0	£0
SCC (Revenue)	£138	£138
Tandridge DC	£10	£10
LB Croydon	£10	£10
<b>Appraisal costs (sunk)</b>	<b>£243</b>	<b>£243</b>
FDGiA	£1,689	£641
TRFCC Levy	£13	£32
SCC (Surrey Flood Programme)	£0	£13.6
Tandridge TDC	£0	£13.6
LB Croydon	£0	£4.8
<b>Sub total</b>	<b>£1,702</b>	<b>£705</b>
<b>Total Scheme Cost (nPV)</b>	<b>£1,945</b>	<b>£948</b>

## Wider Catchment Interventions

17. In parallel to progressing PFR, a range of additional interventions have been identified that would further reduce flood risk across the catchment in line with Surrey's Local Flood Risk Management Strategy. Detail on these wider measures are being investigated and will be finalised in the next six months. These will be funded through the Surrey Flood Alleviation Programme and the Capital Drainage Budget separate to the PFR scheme outlined above. In addition, by encouraging the use of sustainable drainage systems (SuDS) in the catchment through the Council's LLFA role as a statutory consultee on SuDS, the pressure on the drainage systems will be reduced.
18. These wider approaches have multiple benefits of reduction in flood risk, increased biodiversity, improved mental health for residents benefiting from these measures, a reduction in heat islands and improvements to air and water quality.
19. Measures being considered include:
  - a. The use of raingardens, swales and water butts in Hillcroft Primary School, Queens Park Road and Townend Car Park. We have partnered with the Imagine Project from Surrey County Council's Youth Offer team to offer planters that disconnect downpipes from community buildings (Westway Community Centre, Hillcroft Primary School, Caterham Library) from the surface water sewer system;
  - b. Flood storage to be included in any future redevelopment of Queens Park;
  - c. Natural flood management measures, such as "leaky dams" and landscaping, being incorporated in Coulsdon Common by London Borough of Croydon; and
20. In addition, TDC has submitted a draft aspirational planning policy to improve drainage requirements and reduce the flood risk impacts of both minor and major developments.
21. As these interventions are developed, we will seek approval through the appropriate channel depending on the value of the works and will consult with the Cabinet Member for Environment and Climate Change where required.

<b>CONSULTATION:</b>
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22. Following the 2016 flood event, a community-led flood action group was setup, facilitated by the National Flood Forum, in order to coordinate resident concerns and actions to mitigate flooding. The flood action group organises quarterly meetings which provide the mechanism for the community to communicate with the relevant authorities directly in a coordinated fashion. We have been engaging with this group throughout the development of the scheme.
23. As part of the development of the PFR Outline Business Case, residents have been asked to submit expressions of interest to indicate that they would want the measures fitted. A letter was sent to 205 properties on 19 June 2020 asking for residents to express their interest in the scheme. 82 properties have so far confirmed their interest (40%). On 14 July, an online meeting (which replaced a planned

community meeting due to the Covid 19 restrictions) was held to inform residents on the project. Residents will be given further opportunity to express an interest during the next stage in the Autumn.

24. The agencies together with the flood action group are working together to extend the reach of the project and flood risk awareness to the wider community. This flood scheme was selected as a national DEFRA / EA pilot project entitled "Working together to adapt to a changing climate: flood and coast." This project aims to review and learn how to effectively engage with community areas where there are increasing flood mitigation challenges due to climate change. This is being facilitated with resources from ICARUS, an organisation specialising in community engagement, who are contracted by DEFRA and the EA. Results from this pilot project, including developing a collaborative community engagement and decision making framework, will be shared with other community groups at risk of flooding across the UK.

#### **RISK MANAGEMENT AND IMPLICATIONS:**

25. To reduce the risk of installing sub-standard flood products, we propose to use the EA's PFR framework to procure a suitable contractor. This ensures that contractors used for the project use industry standards for carrying out surveys and installing PFR products.
26. The cost of the scheme is dependent on individual house-owners signing up to the scheme. The property level survey will assess which resilience measures are viable. It is possible that the survey will indicate that no viable measures are suitable at the property; however, in such cases, the EA and relevant LLFA would identify whether any alternative options or remedies are available to the property owner in question.
27. There will be monthly meetings between the successful contractor and Surrey County Council to review the operation of and all matters affecting the contract, and where necessary, to agree corrective action when problems have been identified by either party. All contractors will have to adhere to robust performance targets.

#### **FINANCIAL AND VALUE FOR MONEY IMPLICATIONS**

28. The expected PV cost over the maximum 2-year period is £1.95 million. This will deliver a combined benefit of £11.4 million benefit over 25 years through reducing the damage to homes caused by flooding. Expenditure will be controlled and scrutinised by the Project Manager, and costs are expected to be met at least in part from Flood Defence Grant in Aid and Regional Flood and Coastal Committee Levy funds. Depending on the take-up of the property flood resilience scheme by the community, some contribution may be required by SCC, TDC and the LBC. The cost estimate includes an appropriate risk allowance, recognising that costs may change as the scheme is developed and implemented. Any additional cost would be met from the Surrey Flood Alleviation Programme.

#### **SECTION 151 OFFICER COMMENTARY**

29. Although significant progress has been made over the last twelve months to improve the Council's financial position, the medium term financial outlook is uncertain. The public health crisis has resulted in increased costs which are not fully funded in the current year. With uncertainty about the ongoing impact of this and no clarity on the



extent to which both central and local funding sources might be affected from next year onward, our working assumption is that financial resources will continue to be constrained, as they have been for the majority of the past decade. This places an onus on the Council to continue to consider issues of financial sustainability as a priority in order to ensure stable provision of services in the medium term.

30. Construction of the Caterham Hill and Old Coulsdon Flood Alleviation Scheme will be funded primarily through Flood Defence Grant in Aid and Regional Flood and Coastal Committee Levy funds, although SCC may need to contribute depending on the take-up of the scheme, and the final costs. Any such costs falling on SCC would be met from the existing highways capital budget, and as such the Section 151 Officer supports the recommendations.

#### **LEGAL IMPLICATIONS – MONITORING OFFICER**

31. Surrey County Council has a duty under the Flood and Water Management Act 2010 to develop, maintain, apply and monitor a strategy for managing flood risk from surface water, ground water and ordinary watercourses. This strategy was approved by the Council in April 2017. Objective 7 of this strategy sets out how the authorities will invest capital to make the residents of Surrey more resilient to flooding. The management of surface water flood risk specifically lies with Surrey County Council as the Lead Local Flood Authority (SCC).

#### **EQUALITIES AND DIVERSITY**

32. The scheme includes all properties that have been identified are at high risk of flooding in the Caterham Hill and Old Coulsdon catchment. The measures being selected will be passive and require no action from the resident to deploy. To ensure that the measures being installed will not be impede residents or require residents to actively fit themselves ahead of flooding, the programme will be installing passive measures.
33. To ensure that we have reached all residents within the project area, SCC has sent letters to all properties, put information on our website and through the relevant parish council. Officers have also followed up with telephone calls to discuss details with residents.
34. There will be opportunities for residents yet to sign up to the scheme to do so up until project completion. The Council will follow up with those residents as the scheme progresses.
35. All future works carried out will be compliant with the Equalities Act 2010 with an Equalities Impact Assessment carried out prior to construction if required.

#### **WHAT HAPPENS NEXT:**

36. Property flood resilience outline business case process:
- a. Approval of outline business case: October 2020
  - b. Property flood resilience contractor appointment: December 2020
  - c. Property surveys: January to April 2021

- d. Installation of property flood resilience measures: May 2021 to September 2022.

37. Wider sustainable drainage programme

- e. Project plan development: October 2020
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**Contact officer**

Doug Hill, Strategic Network Resilience Manager

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**Consulted**

The residents at high risk of flooding have been consulted. The Caterham on the Hill and Old Coulsdon Flood Action Group meet quarterly. Update and progress on the scheme is communicated at these meetings. Engagement with the wider community is through local Parish Councils. Surrey County Council has setup a website to inform the public on project progress (<https://ourroads.today/flooding>). In June, Surrey County Councillors and District Councillors attended an online meeting which outlined the current phase of the project and the next steps

The project boards consisting of officers from Surrey County Council, Tandridge District Council, London Borough of Croydon, Thames Water Utilities Limited and the Environment Agency meet regularly to progress the flood scheme.

**Annexes:**

Annex 1: Caterham on the Hill and Old Coulsdon Flood alleviation Scheme Outline Business Case 2020