

# **Executive Committee**

## **16 July 2013**

### **Burton Bradstock Flood Alleviation Scheme**

#### **For Decision**

#### **Briefholder(s)**

Cllr John Russell, Champion for Environment and Assets

**Director:** David Evans, Director of Environment

#### **1. Purpose of Report**

- 1.1 Request for West Dorset District Council to act as the lead authority in securing funding from a range of partners so that the £433,000 Burton Bradstock flood alleviation scheme can be built to protect the village.

#### **2. Officer Recommendations**

- 2.1 That subject to additional funding being received from Dorset County Council and the Environment Agency £55,000 is released from capital receipts to enable this new project, consisting of flood alleviation works, to be constructed.

#### **3. Reasons for Recommendation**

- 3.1 To increase the partnership funding available for this scheme that will enable Environment Agency funding to be released.

#### **4. Background Information**

- 4.1 In 2008, Dorset Engineering Consultancy (DEC) undertook a hydrological and hydraulic assessment of the surface water drainage system and identified potential solutions to the flooding problem. As the Land Drainage Authority, West Dorset District Council decided to take responsibility for arranging an investigation to finding a solution to the existing problems. Subsequently in 2011 WDDC commissioned Hyder Consulting (UK) Ltd. to undertake a flood management study, expanding upon DEC's work, evaluating the potential flood risk management options.
- 4.2 The proposed scheme is applicable for funding from the Environment Agency through both Flood Defence Grant in Aid (FDGIA) and Local Levy. However, in order to release this, funding from partnership organisations is required.

## 5. Report

- 5.1 Burton Bradstock has a long history of flooding from a range of sources, with records dating back to 1824. Although flood defences have been put in place to reduce the risk of flooding from the sea and the River Bride, surface water runoff from the steep hillside above the village continues to cause flooding. The area around Shadrach, Middle Street and Grove Road are the worst affected.
- 5.2 Records show that surface water flooding occurs regularly in the village, on occasion three or four times a year, causing distress, upset and financial burden to the local residents. Thirty two properties are currently at risk of flooding internally every 5 years. In exceptional weather the separate sewer system also floods. Flooding occurs less than half an hour after the water level can be seen rising in a land drain pipe in the centre of the village, so there is very little warning and the residents cannot benefit from an automated flood warning system.
- 5.3 At present the run-off from the upper slopes is intercepted by ditch systems that are channeled to three main ditches all of which lead toward the village. When the ditches reach the more central parts of the village, they are culverted and discharge into either the River Bride or the Mill Leat.
- 5.4 The pipes in Middle Street are not only undersized, but shallow in depth with minimal cover. Regular traffic, some heavy, has caused serious deterioration to the structural integrity of the system. Where the system crosses beneath the Mill Leat at the end of Grove Road the pipes have been reduced to 450mm in diameter to get below the bed of the Mill Leat. These pipes are virtually level. All of these deficiencies prevent the system from working to its full potential and lead to a high risk of internal flooding for property in Grove Road and Middle Street especially, during more than average storms.
- 5.5 Highway drains in Shipton Lane, Annings Lane, Shadrack, Middle Street, Grove Road and part of Darby Lane all discharge to this system via pipes and gullies, and contribute to the problem. It is evident, however, that a proportion of the water in some of these highway drains does originate as run-off from upper land.
- 5.6 A thorough options analysis was carried out in both the DEC report and the Hyder report. The clear preferred option consists of a combination of improvements to the existing culvert, ensuring Shipton Lane water enters the Northern ordinary water courses and the construction of a diversion drain/swale, see Appendix C, across land to the north west of the village to catch and divert the water to the river downstream.
- 5.7 The village flood group is very active and a working party of volunteers meet each month with the Parish Council to clear ditches, waterways, vegetation and build-ups of silt, to ensure that when flooding occurs the water can make its way as best it can to the sea. The local flood group have been lobbying the EA, DCC and WDDC for a long time to promote a solution here and are keen to help in any way they can to get the work started.

- 5.8 The report commissioned from Hyder was inconclusive; therefore an agreement was reached with the EA to use actual flood and rainfall data rather than modelled rainfall events. We have compiled a set of actual flood data with the help of local residents, gone through a thorough options analysis and looked at different flood models of the area which indicate the benefits of the current proposed option. If funding is available from WDDC and DCC the next step is to produce a Project Appraisal Report during summer 2013.

## **6. Financial Implications**

- 6.1 The total estimated cost of these works is £433,000. Advice from the EA is that the scheme is viable for EA Funding Direct Grant in Aid (FDGiA) if partnership contributions are available, as shown in Appendix B. In order to achieve this, a combined contribution from the local authorities (Dorset County Council and West Dorset District Council) of £100,000 is required. The decisions by WDDC and DCC will determine whether this scheme can go forward to EA Project Appraisal Board (PAB).
- 6.2 The EA have also agreed £24,000 of local contributions as a local landowner is willing for spoil from the works to be re-used on his land (with approval from the EA), which reduces the estimated cost considerably.
- 6.3 Funding is also available through the EA Local Levy. This is an additional, locally raised, source of income for the Wessex Regional Flood Defence Committee (WRFDC). The income is raised by way of a levy on the County Councils and Unitary Authorities within the WRFDC boundary, voted for by the County Council and Unitary Authority Member of the Committee.
- 6.4 A funding application has been submitted to the EA for construction of the works during 2014/15 and WDDC has requested a financial contribution from Dorset County Council.
- 6.5 The liability of any overspend on this project would, however, rest with West Dorset District Council as the lead authority.

### **Other Considerations:**

## **7. Legal/Statutory Power**

- 7.1 Under the Flood and water Management Act 2010 West Dorset District Council has permissive powers to carry out flood alleviation works.

## **8. Human Resources (including Health & Safety)**

- 8.1 At present when flooding occurs following exceptional rainfall the foul sewer system discharges causing sewer effluence to be distributed around the village. This obviously has environmental and health consequences. Once the works are complete this discharge should no longer occur as the volume of water entering the drains will be greatly reduced.

## **9. Risk Management**

- 9.1 Burton Bradstock has a long history of flooding but only qualifies for partial funding as a national priority with the Environment Agency. The EA's priorities are historically based on fluvial (river) flooding rather than surface water (rainfall) flooding.
- 9.2 The EA local levy is used to support flood risk management projects that are not considered to be national priorities and hence do not attract national funding. Local Levy therefore allows locally important projects to be undertaken to reduce the risk of flooding within the WRDFC Committee's area.
- 9.3 The thirty two properties which are currently at risk of flooding internally every 5 years (very significant risk) will change to being at risk of flooding just once every 25 years (significant risk). The flood risk of a further 10 properties will also be reduced from a 1 in 10 years to a 1 in 25 years event.
- 9.4 As this project is based on recorded rather than modelled rainfall events there is a risk that the proposals will not eliminate surface water flooding in Burton Bradstock. The level and frequency of flooding will be reduced but flooding from rainfall will still occur after periods of intense sustained rainfall.
- 9.5 If there is an overspend on the design and construction of these proposed works then WDDC will have to find funds to cover the shortfall.

## **10. Consultation**

- 10.1 Discussions have taken place with the local community through the Burton Bradstock Flood Alleviation Group. The local MP, Oliver Letwin, has been consulted on these proposals. Local landowners who are affected by these proposals have been contacted.
- 10.2 WDDC has worked closely with The Environment Agency and Dorset County Council's Flood Risk Management Team in order to develop these proposals and funding structure.

## **11. Equalities**

- 11.1 None

## **12. Crime and Disorder**

- 12.1 None

## **13. Environmental Considerations**

- 13.1 The proposed works will fall under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended). There is a potential for the loss of vegetation, including hedgerows, habitats along the field boundaries and potential loss of semi-mature or mature trees. This will be mitigated by an environmental screening study and environmental survey.
- 13.2 The works involve the excavation of Greenfield land; there is a potential impact on Grade 3 Agricultural Land and unknown archaeological potential on

previously undeveloped land. This will be mitigated by an environmental screening study and environmental survey. There is a potential Visual impact upon AONB, the setting of listed buildings and the Conservation Area during the construction period. This will be mitigated with a Construction Environmental management plan.

- 13.3 The proposal is an innovative 'green' solution to the problem of flooding. The construction of drainage swales as bypass drains is not that common in the United Kingdom.

#### **14. Economic Impact Assessment**

- 14.1 This proposal is not likely to lead to an increase in the level of skills needed in the local workforce.
- 14.2 This proposal is not likely to lead to growth in local employment.
- 14.3 This proposal is not likely to lead to growth in the number of businesses.

#### **15. Corporate Plan (links to corporate aims & priorities)**

- 15.1 Priority C3 - Managing the implications of climate change, including flooding and coastal protection.

#### **16. Appendices**

- 16.1 Appendix A – Map of Burton Bradstock  
Appendix B – Budget sources  
Appendix C – Examples of Drainage Swales

#### **17. Background Documents (including relevant policy documents)**

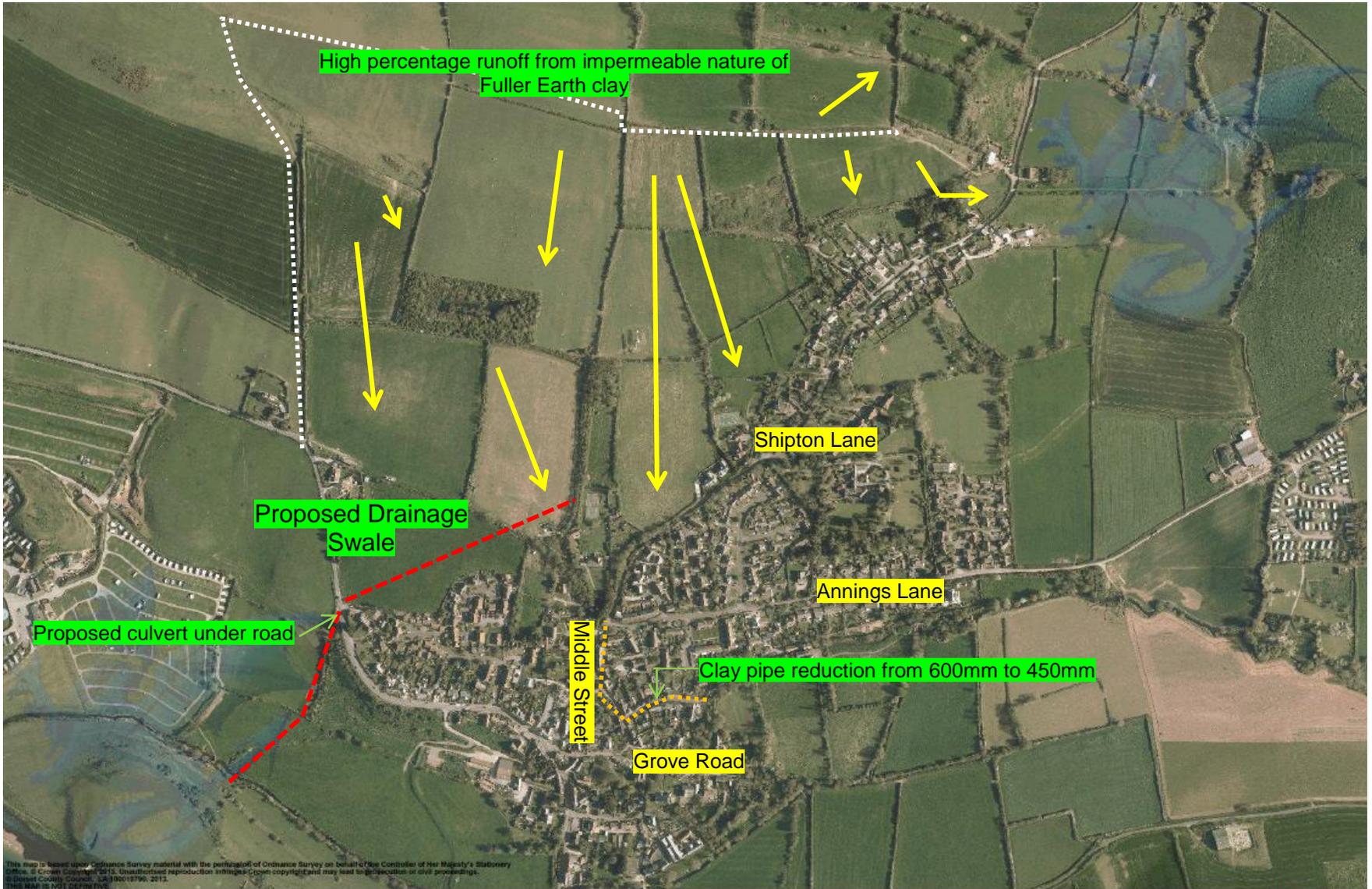
- 17.1 DEC Hydrological and Hydraulic Assessment of Surface Water Drainage System, 2008  
Hyder Flood Management Study, 2011

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**APPENDIX A**  
**MAP OF BURTON BRADSTOCK**



**APPENDIX B**  
**BUDGET SOURCES**

Environment Agency – Funding Direct Grant in Aid (FDGiA)	£129,000
Environment Agency – Local Levy	£180,000
West Dorset District Council (this request)	£55,000
Dorset County Council (requested contribution)	£45,000
Landowner Contribution in kind	£24,000
<b>TOTAL</b>	<b>£433,000</b>

**APPENDIX C**  
**EXAMPLES OF DRAINAGE SWALES**

