

Somerset Rivers Authority Joint Scrutiny Panel Paper

Key projects update

RECOMMENDATION

The SRA Joint Scrutiny Panel is asked to:

1. Review and comment on the latest position with key SRA projects.

Purpose of the item

The purpose of this paper is to provide the Panel with a summary update of each of the 'key' SRA projects as reported to the SRA Board. Key projects are generally those which are of larger scale and high value, and in receipt of a significant amount of Heart of the SW Local Enterprise Partnership (HotSWLEP) Growth Deal funding.

HotSWLEP allocated £13.049m of Growth Deal funding towards 'Somerset Flooding' in the aftermath of the 2013-14 Floods. The SRA Board is updated on key projects as they are important elements of Somerset's 20 Year Flood Action Plan.

Previously the Panel received individual reports on each project. All projects are now to be reported within one document to make the process more efficient and reduce the amount of information the Panel must review in advance of the meeting.

Background and context

The SRA currently receives regular updates on 6 projects that are classed as key projects which are in the process of being delivered and upon which the SRA Board gets quarterly update on at Board meetings.

Current key projects are:

Project Title	LEP Funding	SRA Funding	Total Estimated Cost
Bridgwater Tidal Barrier (BTB)	£2m	-	£100m
River Brue	£0.275m	£0.225m	£0.5m
Oath to Burrowbridge Pioneer Dredging	£1m	-	£1m
River Sowey – King's Sedgemoor Drain Enhancements	£4.193m	£2m	£6.193m

Taunton Strategic Flood Alleviation Improvements Scheme (TSFAIS)	£0.065m	£0.235m	£6.8m
Strategic Approach to Mitigation	£0.050m	-	£0.050m

Each project supports the delivery of Somerset’s 20 Year Flood Action Plan. Some projects, such as the BTB and TSFAIS, have been in development for many years and the SRA is supporting their further development as part of a much wider funding package. Some projects, such as dredging, are only possible as a direct result of the LEP & SRA funding and came to the fore as a priority during and after the floods of 2013-14.

An important point to note is that LEP funding must be spent by March 2021. This a deadline set by central government. SRA funding does not have any limitations on its use.

Key Projects Summary and Latest Status

Bridgwater Tidal Barrier: The Environment Agency and Sedgemoor District Council (SDC) are working in Partnership to deliver the Bridgwater Tidal Barrier Scheme in 2024, subject to funding and statutory approvals. The project will reduce tidal flood risk to 11,300 homes and 1,500 businesses. The present value of benefits is £1,331 million. The current estimated cost of the Barrier and downstream banks work is £100 million. The benefits cost ratio is 13.

The barrier will be located between Express Park and Chilton Trinity village. It will have two vertical lift gates. The scheme includes improvements to the existing downstream primary flood defences along the River Parrett together with new secondary defences in the flood plain.

Because of the estimated cost of the BTB it must secure approvals from HM Treasury to proceed and must also secure permission through application for a Transport and Works Act Order, a detailed planning process which will put the project through a high degree of public scrutiny with the decision on approval ultimately taken by the Secretary of State.

Latest Status: The project is well into its design and planning stage and has undertaken public consultation. An outline business case has been prepared and been reviewed by the Environment Agency’s Large Project Review Group. Consultation with landowners is ongoing to secure temporary and permanent access for construction. Some objections have been received from the community of Chilton Trinity and these are being investigated further. Investigations are underway to identify potential sites for wetland habitat creation.

Work is progressing on the Environmental Impact Assessment and Environmental Statement which are key to ensuring the project is constructed in a way that minimises or mitigates the impact on the environment. The documentation required to be submitted as part of the Transport and Works Act Order process is being prepared. The intention is to complete preparation of these documents and submit them to the Secretary of State by the end of 2019.

River Brue Projects: In 2015 the SRA allocated £500,000 of its Local Enterprise Partnership (LEP) Growth Deal funding towards delivering dredging on the River Brue. LEP funding must be spent by March 2021. The project was being led by the Axe-Brue Internal Drainage Board. Progress has been difficult, in part due to the environmentally sensitive nature of the area of works. In December 2019 it was reported to the SRA Board that the Axe-Brue Internal Drainage Board could no longer lead on the project due to financial risks associated with failing to spend Growth Deal funding by the 2021 deadline. In March 2019 the SRA Board agreed to set up a sub-group and to delegate responsibility for finding a way forward to that group.

Latest Status: The group met on 15 March 2019 at Wells Town Hall. It was agreed that in order to remove the risk associated with the use of LEP funding for the dredge, £225k of local partner funding would be switched from the Oath to Burrowbridge dredge with LEP funds from the Brue dredge. Local partner funding can then be used to develop a legally compliant dredging proposal for the Brue.

The remaining LEP funds (£275k) will be re-allocated to the following projects within the River Brue catchment.

- a. Field Way, Highbridge, match-funding contribution to Wessex Water scheme to protect 21 houses from surface water and foul sewer flooding (£100,000 contribution to a circa £1.5m scheme).
- b. North Drain Pumping Station (PS) capital refurbishment (£156,000) – the pumping station is an essential part of managing water in the River Brue. Investment will ensure that the benefits of other actions are maximised as a failure at the PS would negate benefits of other investments. North Drain pumping station reduces flood risk to 9700 acres of land.

Oath to Burrowbridge Pioneer Dredging: Additional dredging on the River Parrett was identified as a key action within the 20 Year Flood Action Plan. The Oath to Burrowbridge dredging project is the latest element of dredging to be taken forward by the Parrett Internal Drainage Board on behalf of the SRA. The project will deliver a carefully designed dredge along 2.2kms (1.4 miles) of the river between Stathe and Burrowbridge. Detailed design work has shown that the vast majority of benefits of the dredge are realised by removing silt from this location, hence the project no longer extending all the way to Oath.

Computer hydraulic modelling of the proposed design has indicated reduced flood risks to 65km² of land in the catchment of the River Parrett and to an additional 200 properties currently at direct risk of flooding. One result of dredging between Oath and Burrowbridge may be some minor increase in flood water on Curry Moor and North Moor. However, no properties are predicted to flood in North Moor as a result of this scheme, nor would any more properties in Curry Moor flood. Moreover, because of other 20 Year Flood Action Plan schemes carried out since the 2013-14 flood, the overall situation on Curry Moor and North Moor remains considerably improved, compared with how it was before the 2013-14 flood.

The project must meet strict regulatory standards to ensure the project is delivered in a legally compliant way that, where possible, enhances the environment or mitigates any negative impacts.

Latest Status: On 1 May 2019, a public consultation exercise commenced, which ended on 31 May. Two public drop-in events were held, one at Burrowbridge, the other in Langport. In addition, the project was covered in local newspapers, websites and on local radio.

Further work from the team will now take place to complete the Environmental Statement (ES) such that it can be advertised on 3rd July with a 30 day statutory consultation exercise running until 31st July. This will allow the scheme to gain formal sign off by the Parrett Internal Drainage Board (PIDB) members in early August.

It is hoped that, subject to regulatory compliance on environmental matters, a contractor can be appointed in early August to commence works in September. It is expected that the works will take 8 to 10 weeks (subject to good weather).

River Sowy – King’s Sedgemoor Drain Enhancements: The River Sowy was originally known as the Parrett Flood Relief Channel. It is a man-made river conceived after floods deluged 50,000 acres of Somerset in October 1960. The Sowy is used by the Environment Agency to take excess water away from the River Parrett near Aller. Water flows down via Beer Wall to King’s Sedgemoor Drain (KSD) near Greylake, then re-joins the Parrett at Dunball. Providing more capacity in the Sowy-KSD system, so that it can be used more effectively, is a key aim of Somerset’s 20 Year Flood Action Plan, which is overseen by Somerset Rivers Authority.

Latest Status: Following the successful completion of the de-silting works at Parchey and Dunball Bridge in Autumn 2018, re-instatement of the dredged material (reseedling of the bank) will take place this autumn.

Development of the first phase of in-channel works is ongoing for the channel bank restoration improvements on the Sowy/KSD. Ecological surveys are currently being undertaken; these will inform the environmental assessment activities. Early discussions have been held with Historic England and site visit/discussions with South West Heritage Trust to ensure that the project does not damage any sensitive archaeological sites.

There have been several successful workshops with Natural England and the Internal Drainage Board to discuss water level control to mitigate the combined impacts for both the Sowby/KSD improvements and the Oath to Burrowbridge dredging. The outcome of these being that a package of potential mitigation works has been identified. These works will be supplemented by a package of 'operational changes' across a number of areas along with any eventual revisions required for the Water Level Management Plans.

The intention is to deliver required mitigation works in late 2019-20 with the main in-channel works being delivered towards the end of the 2020-21 Financial Year.

Taunton Strategic Flood Alleviation Improvements Scheme (TSFAIS): Somerset West and Taunton Council and the Environment Agency are working together to provide a long-term strategic solution to reducing flood risk to Taunton and where possible to the wider catchment. It is recognised that the risk to the town will get worse as climate change is predicted to increase maximum flood flows over time. The risk comes not just from the River Tone, but also from three other tributaries that flow into the town centre.

Previous studies, including Phase 1 of the TSFAIS, have pointed towards the need for a combination of (i) improved flood defence walls in the town and (ii) an area for storing flood water upstream, to provide capacity for the long term (100 years). This work formed the basis for Phase 2 of the TSFAIS.

Latest Status: Work completed to date on Phase 2 has shown the major engineering work that would be required, both in the town and in the flood storage area upstream, to provide the desired level of protection for the next 100 years. If the major components of flood defence were constructed at the same time the capital cost would be in the order of £50M+. It is recognised that the capital cost of this overall strategic scheme is unlikely to be found in the short term. The Phase 2 works to date have identified a number of lower cost local intervention options that could provide a useful increase in flood capacity pending the longer-term delivery of the larger scheme.

The list of potential local interventions identified to date is set out below:

1. Bradford on Tone Storage Area;
2. Raised or new flood defences in Taunton Town Centre;
3. Vivary Park, Sherford Stream Improvements;
4. Raising bridges on Mill Stream by Castle Street;
5. Mill Stream flow diversions by French Weir;
6. Optimisation of Long Run meadow storage, upstream of French Weir;
7. Conveyance improvements on Galmington Stream (particularly consideration of culverts) near Parkfield Drive;
8. Bathpool options;
 - a) Closing Canal Route at Firepool;
 - b) Railway Culverts between Obridge and Bathpool;

- c) Flood Relief Channel at Bathpool parallel to Hyde Lane area;
- d) Over pumping at Old River Tone Outfall by Bathpool Bridge;
- e) Old River Tone Flap Valve Bund by Bathpool Bridge.

The intention is that the local interventions will be complementary to the larger strategic scheme (upstream storage and flood walls) and are 'quick wins' which can be delivered in the short term to buy the town additional years' protection whilst work continues on the longer-term strategy and funding is hopefully secured for its delivery.

The Project Delivery Plan technical report is expected to be finalised this Summer, which will describe a suite of measures incorporating a combination of flood defences and storage. It will include information on:

- Recommended order of delivery of the components
- Recommended timing of delivery or "triggers" for delivery (short, medium or long term)
- The benefits of the components, individually and together
- Estimated costs and possible funding sources
- Potential alignment with other programmes/development
- Authority best placed to deliver each component

A key part of the work will be to seek to produce solutions that minimise any adverse impact upon third-party land. The final report will draw out if there is a flood risk change downstream of the M5.

The aim is to have final draft documents by summer 2019 for targeted discussions with key stakeholders that will then allow an agreed approach by autumn 2019. This will be reported to the new SWT Full Council in November 2019 for them to consider how they wish to proceed.

Strategic Approach to Mitigation: The SRA board commissioned Natural England to coordinate the development and implementation of a strategic approach to mitigation for the environmental impact of SRA works. The aim of the strategic approach to mitigation is:

- To develop positive solutions enabling delivery of schemes to reduce flood risk whilst making appropriate use of the flood plain to convey and temporarily store flood water and maintaining the special characteristics of Somerset.
- To provide greater certainty and clarity to Flood Action Plan project developers/deliverers, reducing costs and time spent, and provide a positive solution that works for flood risk, people and nature.
- To ensure compliance with relevant legislation.

Modelling work to confirm the hydraulic changes associated with the proposed dredging and Sowy works has now been completed and progress is being made on finalising mitigation requirements

Latest Status: The immediate priority is to provide strategic mitigation to enable the delivery of the Oath to Burrowbridge (OTBB) dredge and Sowy flood management schemes. Mitigation is required to maintain existing appropriate water levels and splash conditions during the winter period (December to February). This is to ensure no detrimental change to the environmental conditions from the projects thereby enabling legally compliant schemes to be promoted.

Modelling indicates

- **Flood extent** for small low risk floods that are environmentally beneficial reduces by approximately 600ha in the combined **full**¹ OTBB and Sowy scheme scenario. However, this will be significantly less due to the reduced scope of the projects now possible. 500ha of this change in flood extent is outside Sites of Special Scientific Interest (SSSIs) and existing Raised Water Level Areas.
- **Flood duration** for OTBB & Sowy, approximately half of the flood area will have a reduced flood duration between -12hours & -7 days (other half indicates no difference).

The modelling therefore indicates that without mitigation there will be a detrimental effect on suitable habitat available for wintering bird populations within the Somerset Levels and Moors. Much of the area effected outside of the designated area is known as 'functionally-linked land' and, given its importance, must be treated the same under the Habitats Regulations. As a result of the findings of combined scheme modelling it is agreed that mitigation is required.

Mitigation Options being considered

- **Replacement or new water control structures.** Replacement of failing structures required to maintain splash conditions in winter. Identify where new structures are required to hold water.
- **Operational Protocol.** Operating the pumping stations or other assets to effect 'no change' to existing favourable conditions during winter months (December to February). This could be achieved by evacuating flood water in accordance with existing protocols but suspending evacuation for a short period of time once an agreed level is achieved to ensure the splash condition that would otherwise be lost,

¹ Initial project planning was for more significant lengths of dredging and river widening. Subsequent detailed planning has shown this to be unaffordable and projects have been scaled back. Mitigation requirements are being calculated based upon the original full scheme proposals.

continue to be achieved. This will be proposed in small winter floods that pose no increased flood risk.

- **Water Level Management Plan (WLMP) changes.** Operational Protocols will be required to be incorporated in the WLMPs.
- **Maintain a depth of water (minimum of 300mm) in ditches through the winter period.** This will include the ditch network within and outside the designated sites.
- **Monitor and Mitigate.** In areas where there is high confidence that condition will not be affected, new or existing telemetry will be used to monitor splash conditions. Mitigation will be agreed before final implementation of the schemes, and implemented only if monitoring shows an effect.
- **Creation of in-field wet features.** To maintain habitat condition for wintering waterfowls, such as creation of shallow water scrapes and field gutters.

Project teams are working to finalise Strategic Mitigation proposals including costing and timetable for implementation.

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Date: 1 July 2019

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