

Coastal Schemes with Multiple Funders and Objectives FD2635

Case Study Report 9

Parrett Estuary Flood Risk Management Strategy



Image of Bridgwater Town Bridge taken from Wikipedia.org, Ken Grainger, 2007

This case study is one of 14 documents supporting the research project Coastal Schemes with Multiple Objectives and Funders - Case Studies FD2635, available from <http://tinyurl.com/6dzyusy>. This research was conducted in 2010/2011 by Maslen Environmental on behalf of Defra and the Environment Agency's Research and Development programme.

Research Contacts:

Defra: Daniel Johns daniel.johns@defra.gsi.gov.uk

Environment Agency: Martin Smalls martin.smalls@environment-agency.gov.uk

Maslen Environmental: Steve Maslen s.maslen@maslen-environmental.com

1 Case Study: Parrett Estuary Flood Risk Management Strategy

1.1 Introduction

The Estuary of the River Parrett between its mouth at Burnham-on-Sea upstream to Bridgwater (Somerset) has raised tidal defences. These embanked defences protect over 8,000 properties and extend along both banks of the Estuary and a short distance along the Brue Pill, which joins the Parrett just south of Burnham-on-Sea (Environment Agency, 2009a). The Strategic Flood Risk Assessment (SFRA) confirmed that the town's future and regeneration depends on continued Flood Risk Management (FRM) to reduce flood risk. Sedgemoor District Council (SDC) aimed to regenerate parts of the town and so was looking for solutions that satisfied planning guidance (Planning Policy Statement 25: Development & Flood Risk) Both SDC and the Environment Agency recognised that trying to find piecemeal FRM solutions to individual developments would be unsatisfactory.

The Parrett Estuary FRM Strategy is now nearing approval. The next stage is now implementation of the Strategy. The work so far has been a collaborative approach between the Environment Agency and SDC. The Parrett Estuary Strategy is aligned with the spatial development proposals in the Local Development Framework (LDF) and proposes a linked funding mechanism for implementing the FRM options.

The Parrett Estuary Strategy can be summarised as:

- To continue to maintain tidal flood banks for the next 30 years with some improvement to standards of service;
- To build a tidal surge barrier to protect Bridgwater in approximately 30 year's time as part of an integrated system of flood defence. This is the anticipated "tipping point" when the barrier would start to provide better value than just improving floodbanks; and
- To improve floodbanks, with some realignment, for rural areas of the estuary after the barrier is built.

A key element of the Parrett Estuary Strategy is the preferred approach for Bridgwater (East and West) - holding the line / improving flood banks in the short to medium terms and building a surge barrier across the Parrett in the long term (between 2030 and 2050).

There are two original and creative elements of the Parrett Estuary Strategy and Local Development Framework (LDF) proposals¹. Firstly, there is now a very close alignment and co-dependency in spatial planning requirements between the Parrett Estuary Strategy and LDF. This required close cooperation between both organisations. Secondly arising from this co-dependency there is also a funding strategy, which has been jointly developed to implement the Parrett Estuary Strategy requirement for a barrier. Any future embankment works are agreed as the EA responsibility. The tidal barrier is intended to be funded by significant contributions arising from new development identified in the LDF. The anticipated total cost of implementing the tidal barrier is currently estimated at £24.6 million and external finance through regeneration and developer contributions is anticipated to contribute £9 million over the next 20 - 30 years. The contributions are collected via a tariff mechanism which was developed as an 'early intervention' to prevent stalling investment and this is now being incorporated into the LDF core policies and further Supplementary Planning Documents on a wider tariff system, prior to the implementation of any CIL system.

In taking the Strategy forward, SDC are liaising with the Environment Agency to decide who does what and to consider more closely the programme. It has already been agreed that the Council collects the contributions and holds the finance.

1.2 Objective Settings

1.2.1 Project Drivers

The main drivers for the project can be summarised as:

- To produce an integrated, sustainable, management strategy for the tidal flood defences of the Parrett Estuary, protecting people and property from the effects of flooding; and
- To identify appropriate development land, in particular for housing to meet local needs and the requirements of Planning Policy Statement 25 (PPS25).

¹ There is an annual review process and reporting to the Environment Agency.
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These offered the opportunities to integrate strategic flood defence options into the LDF.

Integrating flood risk management options into the SDC's LDF was also considered important to ensure future developments take account of climate change. Over the next 30 years, there will be a further 5,700 properties at risk of flooding (these figures account for growth in the area).

Flood risk was only one of many spatial planning issues that SDC had to account for in the preparation of the LDF. However, it was a very significant aspect.

1.2.2 Partnership Objectives

The Environment Agency's overall objectives were to protect people and property from the risks of flooding and to meet habitat objectives. SDC's overall objectives were promote the sustainable development and regeneration of the area consistent with economic growth ambitions and Bridgwater Vision: a 'place' transformation project. Other policy drivers for the approach taken locally by the Environment Agency included to 'create a better place', to promote partnership working and in particular seeking to align objectives, to be a 'proactive' partner and to being a front-end influence in spatially planning development.

1.2.3 Project Objectives

The agreed strategic objectives of the Parrett Estuary Strategy are:

- Produce an integrated management strategy for the tidal flood defences of the Parrett Estuary;
- Protect people and property from the effects of an increase in sea -levels;
- Create compensatory habitats for any losses of Natura 2000 sites; and
- Enhance recreational use; and
- Environmental enhancement.

1.3 Partnerships

1.3.1 Building the Partnership

The following organisations have been involved:

- Environment Agency;
- Sedgemoor District Council.

The partnership could be described as pragmatic and timely. The joint working arose from the simultaneous needs of SDC to have an acceptable FRM solution for imminent key development proposals, its more longer term LDF and the Environment Agency's requirement to complete an FRM asset review along the Parrett Estuary.

SDC required an evidence base and a development policy framework, which fitted planning guidance and so working closely with the Environment Agency's Development Control and Planning Liaison teams was considered by both partners as advantageous.

1.3.2 Partnership Working the Governance

The partnership approach involving the Environment Agency working closely with SDC and their consultants on their LDF flood risk evidence and reports involved additional work. The partners shared these costs and the additional activities, with SDC leading on future development risks and the Environment Agency led on flood risk and on compensatory habitat issues.

Confidence and trust developed between the Environment Agency and SDC and did focus on developing strategic relationships with common objectives and priorities. At the outset previous experience of working together and new initiatives such as a local Water Management Forum and through shared technical challenges helped greatly. Both the Environment Agency and SDC continue to work together on planning applications as part of the strategic urban extension to North East Bridgwater (e.g. 110,000m² of commercial development in building of 2,000 houses and creating 3,000 jobs). Specifically there were regular communications. As a consequence the partners clearly understood each other's needs, requirements and key milestones (Pearce, 2010).

Political and stakeholder support for a long term tidal barrier was an issue in the early stages of the joint work however through an evidence base ('Parrett Tidal Flood Defence Report') and engagement strategies that included visuals and use of an independent chairperson (a local respected individual) political and stakeholder support was achieved for this strategic option. This was particularly important

given that the flood risk had been debated locally for over thirty years and some views on solutions were embedded. There were also key risk with some options, specifically around, environmental impacts and deliverability.

The joint working approach to the Parrett Estuary Strategy and LDF required a 'pragmatic' attitude to be taken by both Environment Agency and SDC in particular on defining appropriate development in locations potentially at flood risk. New development and redevelopment is now proposed for key brownfield sites and areas of low agricultural value to meet the requirements of the wider LDF and to create an enabling framework for economic growth

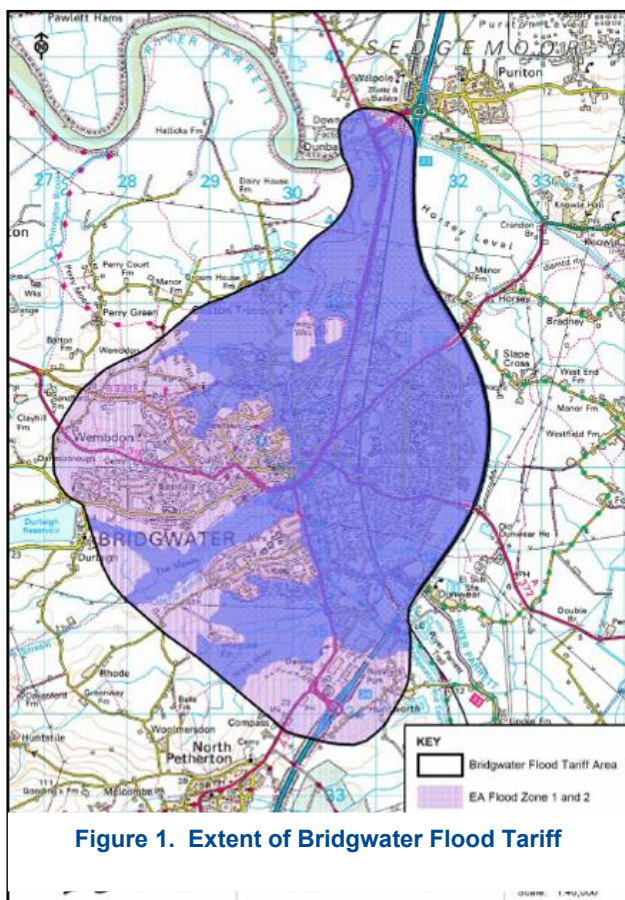
1.4 Approvals, Planning Context and Legislation

The Parrett Estuary Strategy has involved multiple approvals, these include:

- Multi Agency Approval at a Regional level;
- Sedgemoor District Council Executive and Council (political):
 - Parrett Barrier Study
 - North East Bridgwater design principles
- Project Working Group Approval (political / technical / stakeholder);
- SDC Development Management Committee: planning consents

1.5 Funding Arrangements

The Environment Agency provided an additional study for SDC (who paid more than half the £50,000 cost) to provide the evidence base for SDC to satisfy itself that a tidal barrier complied with planning guidance (Planning Policy Statement 12: Local Spatial Planning) and would be a robust decision if challenged by developers. Further costs were integrated into the Bridgwater Challenge budget secured via the South West Regional Development Agency, and latterly SDC in relation to duties on SRFA.



The evidence-based study examined “what if” scenarios for potential developments in the town, to enable SDC to be confident that the solution would be suitable, regardless of how the town developed. It also considered potential developments outside the town that would benefit for example from highways and infrastructure protection. The study also considered potential funding streams for the barrier and when it could be afforded.

The Parrett Estuary FRM Strategy cost approximately £400,000 to prepare and was funded entirely by the Environment Agency/Defra. The Parrett Estuary Strategy and the 'Parrett Tidal Flood Defence Report' led to a recommendation for Supplementary Planning Guidance. This Guidance includes a funding mechanism to deliver strategic flood defences for Bridgwater. It provides the basis for SDC to levy the Bridgwater Strategic Flood Defence Tariff on new development to contribute to new flood defence infrastructure and the capital cost of the barrier (for the extent of the Tariff see Figure 1).

In September 2009, SDC formally adopted the Supplementary Planning Document (SPD). The Tariff of between £1,500 and £2,000 is to be charged on each new house that is built within flood zone 3a until 2036 (often referred to locally as a 'roof tax'). Bridgwater had a housing target

of 3,700 new homes within Flood Zone 3a up to 2026 (the LDF plan period) and a further requirement for 2,000 anticipated by 2036. In addition discounted contributions are sought from residential developments in Flood Zones 1 and 2 and from other forms of development including commercial. Hence, over £9million should be raised towards an estimated cost of the tidal barrier of £24.6million (including

optimism bias). This Tariff aims to raise about 40% of the cost of the barrier which equates to the proportion of new homes that will be protected by the barrier. Further contributions will be sought from Regional Growth Fund, community benefit funds if these can be secured, and FDGiA.

The funds raised will be collected and managed by SDC. The fund must be spent on construction of the barrier and related studies and investigations. The funds cannot be spent on maintaining other flood defences locally. Both partners considered this was the most suitable arrangement. It does however raise the prospect that in 30 years if the tidal barrier is not built how and who receives the returned funds. Partners do not consider this a reasonable scenario given the risks, and that early receipts will be committed to initiate project development.

The Environment Agency and SDC have approached the developers of the nuclear power station at Hinkley Point to highlight the flood risk and to highlight the priority to invest where appropriate in the flood management system both on site but also in relation to all the associated development sites located in Bridgwater. At present, the preferred proposals seek to utilise land for park and ride sites at Junction 23 and 24 of the M5, temporary housing in North East Bridgwater, in addition to a new bypass for Cannington village, a wharf at Combwich. All access to the existing and new power stations will be routed through Bridgwater so will face the same flood risk.

Alongside the funding from new development, other sources of funding to fund the flood defence scheme have been identified. These included:

- Public funding to support regeneration by facilitating infrastructure (e.g. Regional Growth Fund (RGF), Tax Incremental Financing (TIF) via business rate retention, Community Benefits, Regional Funding Allocation (RFA), Homes and Communities Agency (HCA).). Most of these funding sources are competitive bidding processes and are subject to review. Given that there has been a strong delivery focus that has seen housing completions well above the local targets and significant on-going inward investment, it is reasonable to assume that future bids for funding from the public sector have a high likelihood of success.
- External funding streams continue to evolve as expected and the most obvious opportunities are:
 - Regional Growth Fund;
 - Business rates retention;
 - Homes and Communities Agency;
 - National Infrastructure Projects - It is possible to secure funding from projects either as part of 'community benefit' or as a requirement that is needed to enable development to take place. At the current time (2009), there are several national projects in or directly affecting Sedgemoor: new nuclear provision at Hinkley power station, and the associated national grid proposals, as well as plans for waste management projects and other energy generating uses.
- Government / Public sector funding to protect existing development in Bridgwater from future flood risk (e.g. possible future capital bid to the Environment Agency);
- Innovative financial proposals such as the Accelerated Development Zone / tax incremental funding scheme, may present opportunities that will have to be considered on their own merits as potential community benefits associated with new development, but outside the scope of traditional legal agreements to tackle mitigation.

1.6 Lessons Learnt

- The timing of the flood management assets review work aligned with the development of the LDF to the advantage of both partners. The Environment Agency worked with SDC to ensure that the plans fitted through interim guidance;
- The Parrett Estuary Strategy offered opportunities to integrate strategic flood defence options into the LDF;
- SDC and the Environment Agency had a shared brief for the area and were delivery focused. The Strategy shared common objectives with the 'Bridgwater Vision' and the studies as part of the LDF and regeneration plans;
- The Parrett Estuary Strategy has been a success "due to the people involved and a shared passion to make things happen. By developing the planning policy framework alongside the Parrett Estuary Strategy funding has been approached from two different perspectives", with common objectives and planned outcomes (Pearce, 2010);

- The joint work took a long time to complete. Time is required to both align institutional objectives and processes, for example, the Parrett Estuary Strategy tidal barrier is a 30-year proposal, 10 years beyond the SDC's normal 20-year spatial planning cycle;
- There was a need based, proactive approach was taken by both organisations, due to development pressures, and lack of organisational alignment, brought together by the Council to reduce uncertainty establish frameworks which managed risk for all parties, and created positive investment conditions in a deprived area;
- The success of this work demonstrates that FRM strategies are not only a useful vehicle to achieve influence in the planning process but also can be essential in supporting the spatial plans and development aspirations of an authority;
- Success is based on identifying individual items of FRM infrastructure requiring contributions. This means contributions calculations can be robust and contributions policy less challenging by being too vague;
- The interim guidance sets out a funding mechanism consistent with the legal requirements of ODPM Circular 05/2005 to deliver strategic flood defences for Bridgwater. This would comprise a tariff, effectively a form of "roof tax" that ensures that new development, both large and small, contributes towards necessary infrastructure. This approach will evolve through the Core Strategy and a further comprehensive Supplementary Planning Guidance for all infrastructure during 2011, prior to the implementation of CIL. By setting a standard level of contribution it is possible to provide greater certainty to owners and developers as well as reducing the need to lengthy negotiations on contributions secured through legal agreements (S106 Agreements);
- The relationship between the Environment Agency and SDC was described as very good. It was felt the foundations were built on sound relationships, mutual trust and respect, and are embedded to ensure the successful implementation of the scheme (Pearce, 2010; Quarrier, 2010a, b);
- The context for place shaping, flood risk management, infrastructure planning and financing continues to change. Both parties understood this from the outset, and were keen to ensure an evidence base was established, as well as a commitment to shift and flex as the context and funding regimes evolve, with the intent of planned delivery; and
- The need for national infrastructure projects and the degree of integration into spatial plans at a local level has yet to be tested. Whilst providing a positive investment framework it is central that large scale infrastructure projects contribute to meeting local infrastructure priorities, to ensure places are sustainable and resilient.

1.7 References

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