

## Coastal Schemes with Multiple Funders and Objectives FD2635

### Case Study Report 5 East Lane Bawdsey



Image courtesy of the Environment Agency/Terry Oakes Associates

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.

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# 1 Case Study: East Lane, Bawdsey Coast Protection and Flood Defence Scheme

## 1.1 Introduction

### 1.1.1 Description

East Lane is situated in the village of Bawdsey on the Suffolk coastline between the mouths of the Rivers Alde/Ore and Deben.

The headland, as identified in the Shoreline Management Plan (SMP), acts as a control point on the coast and provides some shelter to the coast to the south. Overall, the headland provides the underlying structure to the coast supporting 4km of flood defence in Hollesley Bay and retaining sediment in front of the northern hamlet of Shingle Street. To the south of the headland, coastal defences (owned by the Environment Agency and Suffolk Coastal District Council (SCDC) protect the Martello Tower, a scheduled ancient monument, and two residential properties.

To the north of East Lane, the shoreline comprises low-lying coastal floodplains, to the south between East Lane and the River Deben the shoreline comprises of high ground and soft cliffs.

Despite the co-operation between the Environment Agency, SCDC and local land owners plus the economic justification for a combined long term approach, the 'priority score' defined by grant-in-aid funding criteria was not sufficient to guarantee funding for a combined long term approach.



**Figure 1. Hollesley Bay and East Lane Point (Oct 2007). Source: Terry Oakes Associates**



**Figure 2. Erosion threatening Martello Tower (Scheduled Ancient Monument) at East Lane (August 2005). Source: Terry Oakes Associates Ltd**

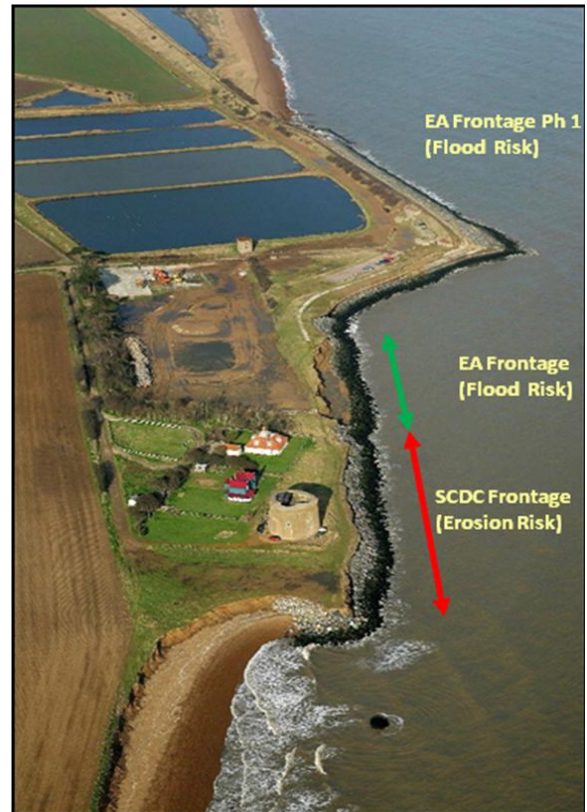
Therefore, in 2005, SCDC undertook 'low-cost' short-term emergency works along the SCDC frontage south of the Point (see Figure 2) while grant-in-aid funding was sought. These works could only delay the inevitable loss of the Environment Agency flood embankment.



However, in 2006, the Environment Agency was able to carry out emergency improvements to their defences north of the Point see Ph 1 on Figure 2. Phase 2, which included the Environment Agency and SCDC frontages to the south of the Point, was more difficult to implement because grant-in-aid funding was still not available. This was despite the increased rate of cliff cut back to the south threatening the loss of the Martello Tower and a significant increase to the flood risk to the inland villages of Bawdsey and Alderton.

Aware of the funding shortfall and the probable difficulties in implementing a scheme at East Lane, Bawdsey, a group of local landowners and residents had formed a charitable trust in 2004 titled the East Lane Trust (ELT). ELT was set-up as 'not for profit' charitable trust, whose purpose was to promote, facilitate and raise funds for the rebuilding and maintenance of local flood protection and coastal defences. Their core initiative was to acquire and then sell land at development value to generate the required funds for the implementation of a coastal defence scheme.

Through the use of a Planning Agreement (Section 106) the District Council were assured of receiving the profits from the sale of the land and therefore had the confidence to pursue the design and necessary approvals for the coast protection scheme and, with the active support of the Environment Agency, works on the adjoining flood risk frontage.



**Figure 3. East Lane, Bawdsey Coast Protection and Flood Defence Scheme.**  
 Source: Terry Oakes Associates Ltd



**Figure 4. Erosion of Environment Agency flood defence embankment (Nov 2004).** Source: Terry Oakes Associates Ltd

The land sale produced funds to cover the cost of constructing the scheme, however due to the downturn in the housing market the land value was lower than expected and it meant there was no allowance for a contingency sum to cover unforeseen costs arising during the construction of the scheme. As part of their contribution to the scheme the Environment Agency agreed to provide a contingency sum to allow the scheme to progress.

SCDC as the local maritime authority agreed that they would act to promote the scheme under the Coast Protection Act (1949), in order to ease the approvals process.

With all the necessary permissions in place, works commenced on site in October

2008.

A scheme was completed in the summer of 2009 (see Figure 5) which involved the construction of rock armour revetment in front of soft cliffs to protect the vulnerable area of the coast at Bawdsey and reduce longer-term erosion. This scheme provides protection for the next 50 years.

## 1.2 Objective Setting

### 1.2.1 Project Drivers

The frontage has been vulnerable to erosion for many years and in 1997 sections of the beach were lost. The District Council had been carrying out emergency works to prevent further damage. The defences at East Lane have been programmed for rebuilding since the mid-1980s but no significant work was undertaken because of a lack of funding. The defences were deemed to be at the end of their useful life.

A key driver was no funding could be secured from Defra FDGiA, the cost /benefit ratio was simply not high enough to justify government support for a combined long term approach, owing to the limited value of agricultural land, community benefits and properties at risk.



**Figure 5. East Lane, Bawdsey Coast Protection and Flood Defence Completed Scheme. Source: M Page**

At the time of the project there were particular pressures on national coast protection funding and there was a limited value given in the Treasury Green Book<sup>1</sup> assessments to agricultural land and community benefits. With the residual life of the SCDC temporary revetment estimated at 3-5 years and the failed Environment Agency embankment, increasing the flood risk to the inland villages of Bawdsey and Alderton and the potential loss of the Martello Tower, it was evident that a long-term solution was overdue.

Low cost, short-term emergency works aimed at extending the life of the existing revetment by up to 5 years were undertaken to provide time for another grant-in-aid solution to be identified. This work had an extremely short design life, and could only delay the apparent inevitable loss of the Environment Agency flood embankment and the erosion of the cliffs in front of the Martello Tower and the two residential properties.

<sup>1</sup> [www.hm-treasury.gov.uk/d/green\\_book\\_complete.pdf](http://www.hm-treasury.gov.uk/d/green_book_complete.pdf)  
Case Study 5 East Lane Bawdsey - FD2635.doc

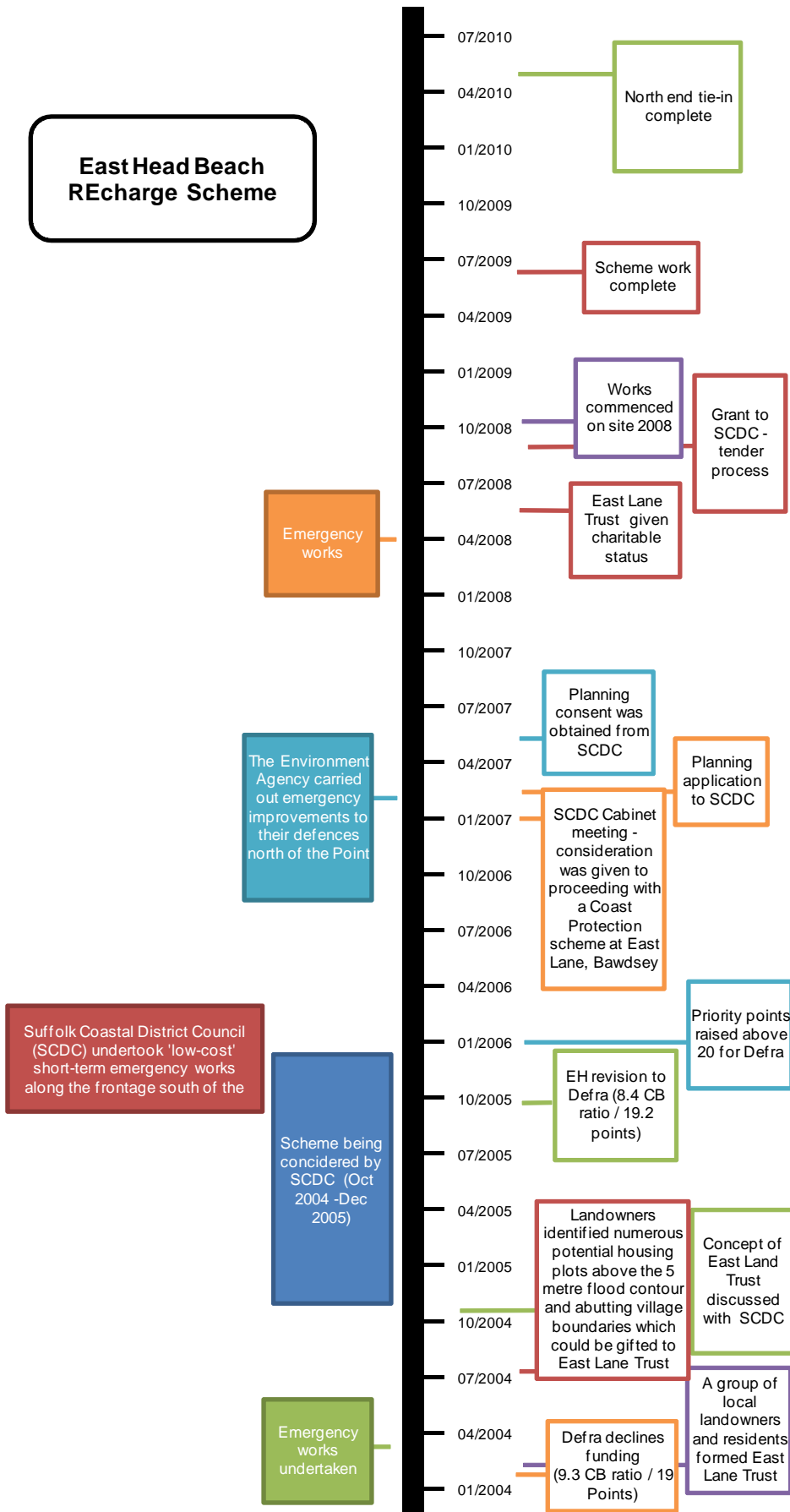


Figure 6. East Lane Bawdsey Scheme Timeline

Time pressure was a key driver as there was significant increase to the flood risk to the inland villages of Bawdsey and Alderton and the potential loss of the Martello Tower was imminent.

## **1.2.2 Partnership Objectives**

The Environment Agency has responsibility for the coastline to the north of the ditch line immediately to the north of Rose Cottage at East Lane, behind which land is protected against flooding. The District Council looks after the frontage to the south of this point which comprises low cliffs which are susceptible to losses through coastal erosion.

East Lane Trust was formed by local landowners to promote, facilitate and raise funds for the rebuilding and maintenance of the flood protection and coastal defences at East Lane. The landowners' priority was to protect their land, whilst the Environment Agency's and SCDC was for overall management of the risk of flooding and coastal erosion.

The District Council had to address challenges around the development of greenfield land (part of the larger Area of Outstanding Natural Beauty) and departures from the Suffolk Coastal Local Plan and the countryside and housing policies of the Development Plan. Members of the Trust, Parish and District Councillors and officers met regularly to find a solution and agreed that to overcome the challenges in developing a scheme a partnership should be formed between the Environment Agency, the District Council and the East Lane Trust.

## **1.2.3 Project Objectives**

The landowners, Environment Agency and the District Council had a number of meetings to develop objectives. The main driver of the scheme was to reduce the risk of the loss of Grade 1 Agricultural land through flooding and the eventual loss of the Martello Tower and two residential properties.

## **1.3 Partnerships**

### **1.3.1 Building the Partnership**

The core partnership took almost one year to become fully established. It included the following partners who all played an active role:

- The East Lane Trust;
- Suffolk Coastal District Council;
- The Environment Agency;
- Senior Elected Members and the local MP;
- Land owners;
- Three Parish Councils; and
- Residents.

### **1.3.2 Partnership and Working Governance**

The partnership was structured through regular dialogue between parties. The East Lane Trust formed by local landowners donated proceeds from the sale of three parcels of land to the Council who let and managed the Works Contract. As their contribution to the scheme the Environment Agency agreed cover risk of contingencies.

The Partnership agreed scheme details and design standards.

The Environment Agency oversaw and assisted in the development, approval and implementation of the scheme.

Stakeholders, including the Bawdsey, Alderton and Hollesley Parish Councils, English Heritage and Natural England, were consulted during the development and approval stages of the scheme

The wider community was kept informed of progress of the project through regular newsletters



## 1.4 Approvals, Planning Context and Legislation

In order to provide the finance for coast/flood protection and sea defence at East Lane, Bawdsey, planning applications were made by the East Lane Trust for the development of three parcels of land on the edge of three villages most affected by the East Lane defences, Bawdsey, Alderton and Hollesley. The developments lay outside the physical limits boundary of each village, and involved the development of greenfield land that forms part of the larger Area of Outstanding Natural Beauty. Each development advocated departure from the Suffolk Coastal Local Plan and was contrary to the countryside and housing policies of the Development Plan. As an exception to current planning policies planning consent was obtained in 2007 from the SCDC. SCDC considered that the public benefit of securing the protection of a significant part of the AONB and the Martello Tower, a valuable heritage asset, justified the departure from planning policy. The scale of the enabling housing development was the minimum necessary to secure the necessary funding for the works. A full and detailed evaluation of all the potential sites in the three villages was undertaken to minimise the impact of the developments.

Natural England was responsible for making sure that the Habitats Directive was delivered and to assess the schemes impact on the environmental designations.

## 1.5 Funding Arrangements

The coastal defence scheme cost approximately £3.06 million (inclusive of consultancy fees). The East Lane Trust raised £1.8million and £1.26million was secured through the Environment Agency's grant-in-aid national flood and erosion risk management funding programme.

An important role of East Lane Trust was to promote, facilitate and raise funds for the rebuilding and maintenance of local flood protection and coastal defences. Their core objective was to acquire and then sell land at development value to generate the required funds for the implementation of a coastal defence scheme.

Through regular consultation and partnering with SCDC, including engagement with elected councillors, East Lane Trust developed proposals based on landowners donating (at no cost) a parcel of land in three nearby villages (outside the floodplain), for which planning permission for housing was then sought.

These proposals were contrary to the normal planning policies for the area, but in the light of general support from the local communities and the over-riding importance of the coast defences to the future of the area and despite some vehement local opposition, planning permission was granted for the housing development.

Through the use of a Planning Agreement (Section 106) the District Council were assured of receiving the profits from the sale of the land and therefore had the confidence to pursue the design and necessary approvals for the coast protection scheme and, with the active support of the Environment Agency, works on the adjoining flood risk frontage.

A downturn in the housing market meant that the land sale produced insufficient funds to construct the scheme but no contingency was available. The Environment Agency agreed to provide a contingency sum. Within this partnerships it was appreciated that this is not an ideal situation but the acceptance of risk by one or more of the partners is often essential to allow schemes to develop and progress. As the market value of third party assets can fluctuate it could be argued that these risks such as these could have been better avoided.

## 1.6 Summary of Key Issues

- The District Council was unable to obtain Defra FDGiA for the coast protection works and alternative funding was required;
- The East Lane Trust (a charitable trust) formed to secure funds for coastal works;
- The East Lane Trust obtained planning permission for a proposed housing development, these funds were gifted by the East Lane Trust to fund the coastal defence scheme;
- The main driver of the scheme was to reduce the risk of flood and coastal erosion and protect Grade 1 Agricultural land and the Martello Tower that would eventually be lost;
- The scheme involved the construction of rock armour revetment in front of soft cliffs and a flood embankment;
- As an exception to current planning policies consent was obtained in 2007 from the District Council (see section 1.4);

- The District Council and the East Lane Trust signed a Planning Agreement (Section 106) to the housing development proposals which provided funding for the scheme;
- A downturn in the housing market meant that the land sale produced sufficient funds to construct the scheme but no contingency was available. As the site was extremely exposed with a risk that work may extend into the winter months, the Environment Agency agreed to provide a contingency sum as a risk pot (see section 1.2.2);
- SCDC as the local maritime authority, promoted the scheme under the Coast Protection Act (1949), in order to ease the approvals process;
- The scheme was completed in 2009; at a total cost was approximately £3.06 million of which £1.8 was donated from the East Lane Trust and the remainder from the Environment Agency.

## 1.7 Lessons Learnt

- To overcome the challenges and to develop the scheme a partnership evolved between the Environment Agency, the District Council and East Lane Trust;
- The District Council had to address challenges around development of greenfield land and departures from the Suffolk Coastal Local Plan and the countryside and housing policies of the Development Plan;
- The development proposals were contrary to the normal planning policies for the area, but in the light of general support from the local communities and the over-riding importance of the coast defences to the future of the area and despite some local opposition, planning permission was granted;
- The scheme was successful due to the willingness of partners to recognise that there were hurdles to overcome and joint willing to overcome them;
- It represents an innovative way to consider and obtain funding;
- Market values of third party assets being sold to raise funds can fluctuate during the development of the scheme details, meaning it is extremely difficult to forecast the available budget with any certainty;
- Community ownership of the problem led to an innovative solution; and
- Innovative schemes a longer more time to conceive evolve and implement than well-understood traditional solutions.



## 1.8 References

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