

# **North Norfolk Coastal Change Pathfinder Programme:**

## **Wolferton Creek to South Hunstanton**



### **Mechanisms for Securing Contributions and Discussion of Alternative Actions**

**Final Report  
for**

**BCKLWN**

***RPA***

**April 2011**

# **North Norfolk Coastal Change Pathfinder Programme**

## **Evaluating Options for Business/Private Contributions to Sea Defences between Wolferton Creek and South Hunstanton**

Report on:  
Approaches for an equitable  
mechanism for securing contributions

prepared for

**BCKLWN**

by

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## EXECUTIVE SUMMARY

### 1. Introduction

On 1 December 2009, Defra announced the names of 15 coastal change pathfinder authorities who were to receive financial support to investigate ways of adapting to coastal change in partnership with local communities. North Norfolk District Council (NNDC) and its partners (including the Borough Council of King's Lynn and West Norfolk (BCKLWN)) were successful in securing £3 million of funding to test possible approaches to managing coastal change.

This report follows the specification issued by BCKLWN to involve local business interests, stakeholders and the Environment Agency in evaluating options for securing contributions towards the long-term cost of coastal defences and to investigate adaptation measures.

### 2. Objectives

The objectives of the project are to:

- evaluate the options for establishing an equitable mechanism for securing business and private contributions towards the long-term costs of coastal flood defence, building on the initial indications of support already expressed by the key stakeholders amongst the business community; and
- investigate the policy, practical and financial implications of alternative actions such as the potential 'rolling back' of tourism facilities and other adaptation measures.

It is important that the results from this project, although initially focused on the coastline between Wolferton Creek and South Hunstanton, provide a template for adaptation elsewhere in the UK.

### 3. The Key Role Played by Stakeholders

The study has been structured around a series of different engagement events and methods. Table 1 summarises the events and the information, feedback and outcomes they provided. In addition, all stakeholders have been invited to provide feedback on workshop reports or views and opinions on the Pathfinder project more generally.

<b>Engagement Event</b>	<b>Date and Location</b>	<b>Outcomes</b>
Workshop for Key Stakeholder Group and project team	Loddon 4 November 2010	Initial list of possible approaches to securing contributions. Initial list of possible issues and constraints. These were worked up into ideas for discussion at subsequent workshops
Workshop for invited businesses, parish councillors, Key Stakeholder Group, etc.	Hunstanton 19 November 2010	Discussion of a range of issues including who benefits from defences/management of the coast, what might be 'fair' when considering contributions and ideas for possible approaches for securing contributions

<b>Table 1: Role and Outcomes of Stakeholder Engagement</b>		
<b>Engagement Event</b>	<b>Date and Location</b>	<b>Outcomes</b>
Drop-in session, open to all	Heacham 2 December 2010	Identification of the activities undertaken by attendees, what they like about the area, what changes they think need to be made, and their views on contributions for defences versus adaptation, who should contribute, how much they would be willing to contribute and which adaptation options they think are more and less appropriate
Workshop for invited businesses, parish councillors, Key Stakeholder Group, etc.	Snettisham 3 December 2010	Discussion of the likely level of contributions that might be payable across the different approaches. Discussion of likely fairness and affordability, need to raise awareness of risks and how to explain the need for contributions, and issues associated with how to collect the contributions
Workshop for invited businesses, parish councillors, Key Stakeholder Group, etc.	Hunstanton 16 December 2010	Discussion on what people like about the area, why people move here and what attracts tourists. Discussion on the potential contributions that might be payable and agreement on the most appropriate way forwards
Questionnaires sent by BCKLWN to all businesses and caravan owners (at their residential addresses, where held by BCKLWN)	January 2011	Due to the low turnout at the drop-in session, this engagement activity was added to increase the number of responses, and hence, views received. The questionnaire included the same questions as the drop-in session for consistency, so views could be combined
Newsletter articles published in the Hunstanton and Heacham newsletters <sup>1</sup>	February 2011	Due to the low turnout at the drop-in session, this engagement activity was added to increase the number of responses, and hence, views received. The newsletters asked the same questions as the drop-in session for consistency, so views could be combined
Notes: <sup>1</sup> Publication dates for Snettisham News & Views meant that it was not possible to publish within the timescale of the study		

#### **4. Identifying an Approach for Securing Contributions**

The approaches suggested by stakeholders and developed through this study were:

- a parish-wide charge based on a simple flat rate;
- a borough-wide charge with a surcharge for those buildings/dwellings below the 5m contour; and
- a borough-wide charge based on a simple flat rate.

#### **5. How Much Money is Needed?**

The Wash Shoreline Management Plan 2 (SMP2) gives an indication of the costs of continued management of the coastline for the next 50 years. Using the cost estimates in the SMP2 gives annual costs that would need to be raised through local contributions of:

- £800,000 per year for the Wolferton Creek to South Hunstanton frontage; or
- £1,470,000 per year for the full BCKLWN frontage.

## 6. How Much Would the Contributions Be?

Stakeholders at the workshop in Hunstanton on 16 December 2010 agreed on a preferred approach of contributions collected across the Borough, with a surcharge for those living inside the floodable area. It was felt that this surcharge would help raise awareness of the risk, but that it needed to be set at a level that would not cause blight. As a result, the surcharge was set at a contribution that was twice that to be paid by those living outside the floodable area. Table 2 summarises the annual contribution that would be payable by different contributors.

Contributor	By Income Paid to Borough Council			
	Inside Floodable Area <sup>1</sup>		Outside Floodable Area <sup>1</sup>	
	Contribution	Units	Contribution	Units
Residents	£4	paid by Council Tax, for a Band D property	£2	paid by Council Tax, for a Band D property
Businesses	£29	per £1,000 of business rates	£15	per £1,000 of business rates
Utilities	£740	per installation	£370	per installation
Transport	£460	for the section of A149 in the floodable area	-	Not applicable (no payment for roads outside the floodable area)
Landowners	£0.72	per hectare of farmed land	£0.36	per hectare of farmed land

Notes:  
<sup>1</sup> The floodable area roughly corresponds to land below the 5m contour

Table 2 shows the amounts that people may have to pay to maintain the defences (assuming all contributions are raised locally). Opinions on what people would be willing to pay were sought at the drop-in session, through the postal questionnaires and through the information published in the local newsletters. People were given the choice of ticking a box depending on what amount they would be comfortable with paying annually. The responses gave an annual WTP per respondent of £33 (sample size of 75). Note that due to the relatively small number of business respondents, responses from residents and businesses have been combined to produce this figure.

## 7. How Could the Contributions be Collected?

Figure 1 identifies the most promising mechanisms for securing the contributions needed to maintain the defences. The figure shows that local contributions could be used to help lever funds from the RFCC through Grant-in-Aid. This will depend on competition for funds with other schemes. Even if no (or very small amounts of) Grant-in-Aid funding were forthcoming, it may be possible to collect the contributions needed to maintain the defences through the three mechanisms shown. The mechanisms shown in Figure 1 would require some obstacles and barriers to be addressed. These obstacles and barriers, and possible ways of reducing them are summarised in Table 3.

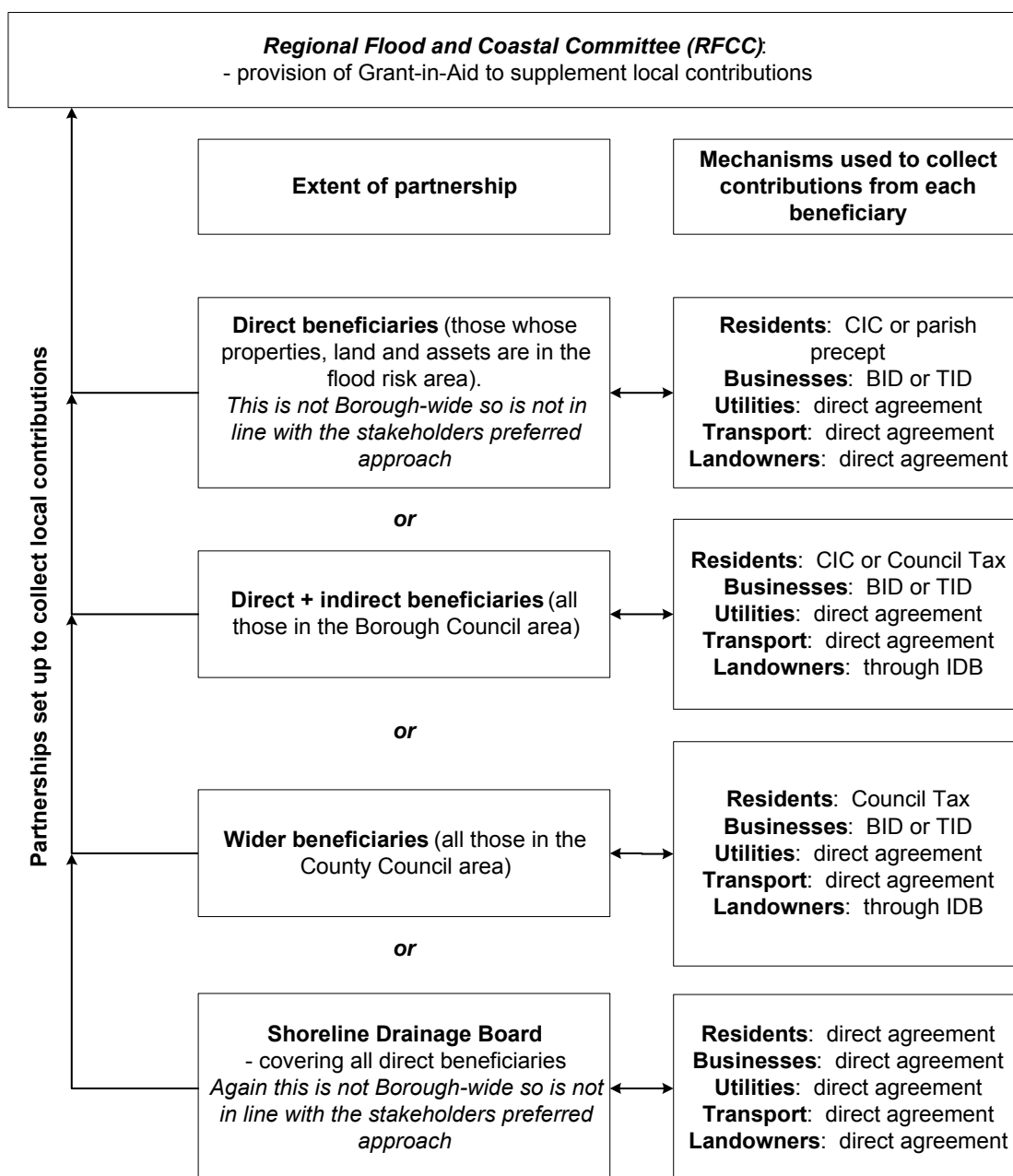


Figure 1: Potential Mechanisms for Securing Contributions

Table 3: Obstacles and Barriers to Implementing a Mechanism to Secure Contributions		
Mechanism	Obstacles and Barriers	Possible Ways to Reduce or Remove the Barriers
RFCC	<ul style="list-style-type: none"> <li>Risk that RFCC does not provide Grant-in-Aid (GiA) such that the full contribution has to be raised locally</li> <li>Risk that members of the RFCC will not agree to raise the levy</li> </ul>	<ul style="list-style-type: none"> <li>Contributions considered and reported here assume no GiA funding, so are a worst-case</li> <li>Investigation into the likely willingness of RFCC members to agree to a flood levy that would only benefit the coast</li> </ul>
Partnership approaches	<ul style="list-style-type: none"> <li>Risk that agreement on how much each beneficiary should provide cannot be achieved</li> </ul>	<ul style="list-style-type: none"> <li>Need for round-the-table discussions and agreement on how much each beneficiary should contribute</li> </ul>

**Table 3: Obstacles and Barriers to Implementing a Mechanism to Secure Contributions**

<b>Mechanism</b>	<b>Obstacles and Barriers</b>	<b>Possible Ways to Reduce or Remove the Barriers</b>
	<ul style="list-style-type: none"> <li>• Risk that potential contributors will not sign up to binding, legal agreements, thus affecting the potential success of the partnership</li> <li>• Risk that the legal agreements will only be short-term, affecting the ability of beneficiaries to plan for the future</li> </ul>	<ul style="list-style-type: none"> <li>• Need for each beneficiary to provide a Memorandum of Understanding or legal agreement to provide the agreed level of contributions.</li> </ul>
Parish Precept	<ul style="list-style-type: none"> <li>• Preference of stakeholders for a Borough-wide charge, with higher contributions likely to be needed if contributions are from affected parishes only</li> <li>• Lack of transparency and auditability</li> <li>• Risk of blight where one area is identified as having to pay a parish precept due to flood risk (this may be exacerbated where there is also a surcharge)</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation into acceptability of parish precepts as an (uncapped) method of collecting contributions</li> <li>• Investigation into how a mechanism based on a parish precept could be made transparent and auditable (e.g. inclusion in explanatory booklet accompanying Council Tax bills, as a separate entry on the bill, etc.)</li> <li>• Investigation into the potential for blight</li> </ul>
Council Tax	<ul style="list-style-type: none"> <li>• Risk that Elected Members will not consider the funds needed as required expenditure</li> <li>• Risk that referendum on Council Tax increases returns a 'no' vote</li> <li>• Issue of capping preventing new money from being raised (requiring savings to be made elsewhere)</li> </ul>	<ul style="list-style-type: none"> <li>• Localism Bill may provide opportunity to hold referendum to assess agreement across Borough for an increase. This will require an education campaign to explain the risks and how the Borough benefits (it may also raise other issues such as the need to cover costs of flood risk management in other areas)</li> </ul>
Community Interest Company (CIC)	<ul style="list-style-type: none"> <li>• Difficulty of making contributions compulsory</li> <li>• Risk that voluntary pledges may not collect sufficient money (making it impossible for the CIC to sign up to a legal agreement to provide a specified level of contributions each year)</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation into opportunities to formalise collection of money, such as through use of subsidiaries set up as charities</li> </ul>
Business Improvement District	<ul style="list-style-type: none"> <li>• Lack of interest from businesses, as a whole or from specific sectors</li> <li>• Low affordability for some sectors (e.g. retail)</li> <li>• High costs of setting up the BID</li> <li>• Short lifespan of a BID (maximum 5 years), with implications for securing contributions over the long-term</li> <li>• Land/property ownership issues where the BID requires the owner to pay the contribution and the implications of passing the cost on</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation into the interest of local businesses in setting up a BID to collect contributions</li> <li>• Investigation into funding set up and marketing of the BID</li> <li>• Investigation into potential for renewal of the BID and/or revision of the policy or legislation controlled BIDs</li> <li>• Investigation into who would pay into the BID</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>• Lack of interest from utilities, as a whole or from specific sectors</li> <li>• Requirement for agreement to enter into the partnership and associated legal agreements falls outside of utility planning periods such that they are unable to commit in the timescale identified for setting up the partnership</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation the likely willingness of utility companies to be involved</li> <li>• Investigation into opportunities that fit with planning periods and protocols.</li> </ul>

<b>Mechanism</b>	<b>Obstacles and Barriers</b>	<b>Possible Ways to Reduce or Remove the Barriers</b>
Transport	<ul style="list-style-type: none"> <li>Lack of interest from transport authority at County Council</li> <li>Lack of available funds to contribute</li> </ul>	<ul style="list-style-type: none"> <li>Investigation the likely willingness of the County Council highways agency to be involved</li> <li>Investigation into the funds that might be available (linked to the likely contribution that may be payable)</li> </ul>
Landowners	<ul style="list-style-type: none"> <li>Lack of interest from landowners, especially where they are already paying into the IDB</li> <li>Lack of available funds to contribute</li> <li>Some landowners may want to increase the flood risk (e.g. for nature conservation purposes)</li> </ul>	<ul style="list-style-type: none"> <li>Investigation the likely willingness of landowners to be involved, potentially through the IDB</li> <li>Investigation into the funds that might be available</li> <li>Investigation into opportunities to flood some land for nature conservation purposes. This will need to include an assessment of any technical implications that might arise.</li> </ul>
Shoreline Drainage Board	<ul style="list-style-type: none"> <li>Current legislation tailored towards Internal Drainage Boards (IDBs) may not allow SDB to be set up</li> <li>Lack of clarity over who would be identified as members of the SDB, and how the SDB would be organised</li> </ul>	<ul style="list-style-type: none"> <li>Investigation into current legal restrictions with revision of legislation, where necessary</li> <li>Development of new guidance concerning the structure and membership of SDBs (linked to revision of legislation)</li> </ul>

## 8. Adaptation Approaches

Attempts were made to gauge stakeholder opinion on adaptation actions in the drop in session, the questionnaire sent to businesses and caravans in the at-risk area and in the articles published in the local newsletters. The question asked was what adaptation actions people thought should be used if there was not enough money to maintain defences. In general, the more dramatic the action, the fewer people thought that it should be implemented. All of the actions have some implications whether these are policy, practical or financial. Table 4 summarises the main implications associated with possible adaptation options.

<b>Action</b>	<b>Main Implications Likely</b>
Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area	<ul style="list-style-type: none"> <li>PEN policy likely to require modification, with potential extension of area covered by policy;</li> <li>Public information campaign required although the action is likely to be considered acceptable;</li> <li>Costs of remaining in high flood risk area</li> </ul>
Property level flood resistance/resilience should be increased	<ul style="list-style-type: none"> <li>Potential implications for insurance policies;</li> <li>Public information campaign required although the action is probably acceptable;</li> <li>Costs of remaining in high flood risk area</li> </ul>
Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied	<ul style="list-style-type: none"> <li>Change in planning protocol would be required to implement action;</li> <li>Potential implications for tourism and growth policies;</li> <li>Lost income for caravan parks, also potential lost business for those relying on tourists in the at-risk area</li> </ul>



<b>Table 4: Summary of the Main Implications of the Adaptation Actions</b>	
<b>Action</b>	<b>Main Implications Likely</b>
No extensions or changes of use allowed in the flood risk area and no new development in the flood risk area	<ul style="list-style-type: none"> <li>• Limited inwards investment in the area</li> <li>• Planning protocol already contains such restrictions</li> </ul>
People should move out of the flood risk area (rollback) as risk increases	<ul style="list-style-type: none"> <li>• Action is consistent with “large scale adaptation” thus assumes that SMP policy moves towards NAI;</li> <li>• Change in planning protocol would be required to implement action;</li> <li>• Potential implications for tourism and growth policies;</li> <li>• Non-acceptability of moving at current time since risk is not believed to be too great;</li> <li>• Cost of relocating and losing value of current asset</li> </ul>
All properties in the flood risk area should be moved or demolished within the next few years	<ul style="list-style-type: none"> <li>• Action is consistent with “large scale adaptation” thus assumes that SMP policy moves towards NAI;</li> <li>• Change in planning protocol would be required to implement action;</li> <li>• Severe policy implications for all policy areas;</li> <li>• Availability of land and properties in the local area;</li> <li>• Non-acceptability of abandoning the area to the sea;</li> <li>• Cost of relocating and losing value of current asset;</li> <li>• Costs for local area and potentially for regional economy if tourist bed spaces are lost</li> </ul>

## **9. Recommendations**

The key recommendations are as follows:

- **discussions** need to be held **with Defra and/or RFCC** on the potential that Grant-in-Aid funding could be made available to help cover the costs of maintaining the defences;
- **engagement** is needed **with all potential contributors/partners** to ensure that there is wide consensus on the ‘best’ approach and the amount that each partner would contribute, with consideration given to affordability;
- **wider engagement and an information campaign** may be required **if all those living in the Borough (or wider) are to be asked to contribute** (also tailored to potential partners). This will need to include an education campaign emphasising how people (including businesses, utilities, transport and landowners) benefit from flood defences even if they are located outside the floodable area;
- further **investigation** is needed into how a **flood levy can be made fully transparent and accountable**. This includes providing information on money spent and planned to be spent to maintain auditability; and
- if sufficient contributions cannot be collected, there will be a need to adapt to coastal change. There will be a need for dialogue and discussion with stakeholders so they are aware of the level of risk and can make informed decisions regarding how to adapt. It may also be appropriate to **discuss the potential for long-term adaptation**, with the contributions used to buy time to enable adaptation measures to be implemented.



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**Annex 1: Step-by-Step Explanation of Calculations**

**Annex 2: Stakeholder Workshop Report (Hunstanton 19 November)**

**Annex 3: Stakeholder Workshop Report (Snettisham 3 December)**

**Annex 4: Stakeholder Workshop Report (Hunstanton 16 December)**

**Annex 5: Drop-in Session Report (Heacham 2 December)**

**Annex 6: Analysis of Questionnaire Responses**

## **1. INTRODUCTION**

### **1.1 Background to the Study**

Coastal change brings both opportunities and threats to coastal communities, their infrastructure and the environment (Defra, 2010). Indeed, in areas where it may no longer be sustainable or affordable to build or maintain defences, local communities will need to begin to adapt to the impacts of coastal change (ibid). A recent consultation on the draft Coastal Change Policy suggested that work was required to identify the implications for local authorities and communities of managing such adaptation (ibid). This led to the launch of the Pathfinder Programme, which is expected to run from December 2009 to spring 2011 and aims to<sup>1</sup>:

- improve understanding of how coastal communities can adapt to coastal change, as well as what the costs and benefits of different approaches are; and
- provide practical lessons and examples that can be shared with other practitioners, particularly on community adaptation planning and engagement, and delivery of adaptive solutions.

On 1 December 2009, Defra announced the names of 15 coastal change pathfinder authorities who will receive financial support to investigate ways of adapting to coastal change in partnership with local communities. North Norfolk District Council (NNDC) and its partners (including the Borough Council of King's Lynn & West Norfolk (BCKLWN)) were successful in securing £3 million of funding to test possible approaches to managing coastal change.

This report follows the specification issued by BCKLWN to involve local business interests, stakeholders and the Environment Agency in evaluating options for establishing an equitable mechanism for securing contributions towards the long-term cost of coastal defences and to investigate alternative actions such as rollback and other adaptation measures.

### **1.2 Objectives**

The objectives of the project are to:

- evaluate the options for establishing an equitable mechanism for securing business and private contributions towards the long-term costs of coastal flood defence, building on the initial indications of support already expressed by the key stakeholders amongst the business community; and

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<sup>1</sup> Information sourced from the Defra Internet site ([www.defra.gov.uk/environment/flooding/manage/pathfinder/index.htm](http://www.defra.gov.uk/environment/flooding/manage/pathfinder/index.htm)).

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- investigate the policy, practical and financial implications of alternative actions such as the potential ‘rolling back’ of tourism facilities and other adaptation measures.

It is important that the results from this project, although initially focused on the coastline between Wolferton Creek and South Hunstanton, provide a template for adaptation elsewhere in the UK.

### **1.3 Stakeholder Involvement**

The nature of the Pathfinder Projects means that stakeholder involvement is crucial. The study has therefore been structured around a series of different engagement events and methods. These include:

- stakeholders on the Key Stakeholder Group were invited to a workshop at RPA’s offices in Loddon on 4 November 2010;
- a wider group of stakeholders, including all businesses in the affected area were invited (by letter and/or email) to a workshop in Hunstanton on 19 November 2010 or at Snettisham on 3 December 2010;
- an open drop-in session was held for all members of the community in Heacham on 2 December 2010;
- a final workshop was held in Hunstanton on 16 December 2010;
- questionnaires were sent by BCKLWN to all businesses and caravan owners (at their residential addresses, where held by BCKLWN) in the Precautionary Evacuation Notice (PEN) area to ensure that people who were unable to attend any of the above events were still able to feed in their views and comments; and
- summary information on the Pathfinder project and questions on contributions and adaptation were published in the February editions of the Hunstanton and Heacham Newsletters (note that the publication dates for Snettisham News & Views meant that it was not possible to publish within the timescale of the study).

In addition, all stakeholders have been invited to provide feedback on workshop reports or views and opinions on the Pathfinder project more generally.

### **1.4 Structure of this Report**

Although this report covers both of the study objectives, it focuses on the work undertaken to identify and assess different approaches to establishing an equitable mechanism for securing contributions. The remaining sections of the report are structured as follows:

- Section 2 discusses the possible approaches that have been identified on the basis of input from the project team, the Key Stakeholders and information from the wider community;
- Section 3 identifies the number of beneficiaries for each of the possible approaches suggested in Section 2;

- Section 4 considers the potential costs of managing the coastline, as well as how the total contribution could be divided between the five main beneficiary groups;
- Section 5 provides the results of the detailed investigation of the approaches. It includes estimations of how much each type of beneficiary would pay under each approach;
- Section 6 compares the results under each of the different approaches and assesses which approaches are likely to be more or less fair;
- Section 7 investigates the mechanisms which might be used to implement the various approaches;
- Section 8 reports on stakeholder feedback and views on the approaches and the estimated contributions;
- Section 9 discusses the potential policy, practical and financial implications of adaptation actions; and
- Section 10 provides conclusions and recommendations.

## **2. IDENTIFYING POSSIBLE APPROACHES TO SECURING CONTRIBUTIONS**

### **2.1 Overview**

The identification of possible approaches to securing contributions towards funding for future management of the coast has been undertaken using the expertise of our project team combined with the knowledge and experience of stakeholders. Stakeholder ideas, opinions and feedback have been collected to help inform the types of approaches that should be considered.

### **2.2 The Approaches Identified**

An initial list of approaches was identified by our project team. These were:

- length of frontage exposed;
- area of land protected;
- relative value of land/property protected;
- occupancy level;
- number of users of the land and their home base;
- level of risk; and
- type of land/property and use.

Further suggestions were provided at a workshop held on 4 November 2010 at RPA's offices in Loddon. This workshop was attended by several members of the Steering Group and a small number of key stakeholders. The main discussion points were:

- consideration that it may not be possible to justify protecting all areas;
- ability and willingness to pay;
- zoning of the area to avoid breaking up communities (e.g. which could happen if the approach used were based on level of risk);
- value received from the area (or value placed on the area);
- level of Business Rates;
- vulnerability to change (e.g. in number of customers);
- income received from the area (this could cover the local authority through pay and display car parks as well as businesses);
- potential benefits from continued management of the coast (e.g. linked to opportunities to obtain insurance); and
- future potential benefits (and losses, e.g. there may be negative impacts on wildlife and habitats if defences are maintained).

The workshop in Hunstanton on 19 November 2010 discussed a range of issues including who benefits from defences/management of the coast, what might be 'fair' when considering contributions and ideas for possible approaches for securing contributions (see Annex 2 for further details).



As a result of all of the above discussions, the approaches proposed and subsequently tested in this Report are:

- a parish-wide charge based on a simple flat rate; and
- a borough-wide charge with a surcharge for those buildings/dwellings below the 5m contour.

A third approach is also considered:

- a borough-wide charge based on a simple flat rate.

Stakeholder views on these options were sought at the workshops and the drop-in session, as well as through the postal questionnaires and questions published in the local newsletters. Further discussion of these views occurs in Section 8, whilst the full reports from the workshops and drop-in session can be found in the annexes.

### 3. THE NUMBER OF BENEFICIARIES

#### 3.1 Overview

There are a wide range of potential beneficiaries, as shown in Table 3.1 (based on beneficiaries identified in the stakeholder workshop held in Hunstanton on 19 November 2010).

<b>Beneficiary Group</b>	<b>Beneficiary Sub-Group</b>
Residents	Permanent
	Second homes/caravans/weekends, etc.
	In flood area
	Outside flood area
Local businesses	Caravan parks
	Holiday accommodation
	Shops
	Restaurants
	Pubs
	Supermarkets
Farmers/landowners	Landowners
	RSPB
	Arable
	Livestock
	Estates
IDB	Drainage system
Hand picking	Cockles, shrimps
	Lugging
Infrastructure/utilities/transport	Water
	Sewage treatment
	Electricity sub-stations
	BT junction boxes
	A149
	Bus companies
Car parks	Parish Council
	Borough Council
Designated sites	Flora and fauna
Leisure facilities	Golf courses
	Fairground
	Sealife centre
	Park Farm
	Sailing club

<b>Table 3.1: Summary of Potential Beneficiaries</b>	
<b>Beneficiary Group</b>	<b>Beneficiary Sub-Group</b>
	Watercraft association
	Boat trips
	Beach huts
Visitors using these facilities, beach	Walkers
	Dog walkers
	Windsurfers
	Kitesurfers
	Locals
	Tourists
	Birdwatchers
Wider area (day trips)	Kings Lynn, North Norfolk coast, etc.

Some of these beneficiaries would be difficult to capture in a simple contributions system (e.g. visitors using facilities) and, in some cases, it may be residents who are the ones benefiting from the facilities (e.g. dog walkers). Similarly, leisure facilities will be captured under businesses. To avoid the risk of double counting, the potential contributors have been identified as:

- residents (covering both permanent and weekend/holiday home owners);
- businesses;
- farmers/landowners;
- utilities; and
- transport.

The number of beneficiaries is needed as it is these people (and organisations) that would pay the contributions. Each of the three approaches identifies beneficiaries in a different way:

- Approach 1 (parish-wide charge based on a simple flat rate): estimates beneficiaries in the affected parishes;
- Approach 2 (borough-wide charge with a surcharge for those buildings/dwellings below the 5m contour): estimates beneficiaries below and above the 5m contour, giving two groups of beneficiaries; and
- Approach 3 (borough-wide charge based on a simple flat rate): uses the total beneficiaries from Approach 2

These three approaches assume that the total costs needed to maintain and manage the defences are raised locally. Opportunities for contributions from central Government may also be available. Any such funding would reduce the level of local contributions (see Section 7.6 on potential funding from Defra/Environment Agency through Grant-in-Aid from the flood and coastal erosion risk management budget).

### 3.2 Approach 1: Flat Rate Paid by Parishes

There are two sub-approaches here:

- Approach 1a: rate paid by Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe; and
- Approach 1b: rate paid by Heacham, Hunstanton and Snettisham (*not* Dersingham and Ingoldisthorpe).

Table 3.2 contains a range of information on each beneficiary to enable the contribution payable to be estimated. A full explanation of how the numbers, Rateable Values and areas have been calculated is provided in Annex 1.

Beneficiary	Number		Rateable Value		Area (ha)	
	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>
Residents <sup>2</sup>	10,962	8,195	-	-	-	-
Businesses <sup>3</sup>	1,017	918	£6.7 million	£5.8 million	-	-
Utilities <sup>4</sup>	10	9	-	-	-	-
Transport <sup>5</sup>	1	1	-	-	-	-
Landowners <sup>6</sup>	29	21	-	-	6,549	4,692

Notes:

<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe (from number of households paying Council Tax: [www.voa.gov.uk/counciltax](http://www.voa.gov.uk/counciltax))

<sup>2</sup> Taken from the 2001 census data from [neighbourhood.statistics.gov.uk](http://neighbourhood.statistics.gov.uk)

<sup>3</sup> Taken from Valuation Office Agency web-site ([www.2010.voa.gov.uk](http://www.2010.voa.gov.uk)) for postcodes: PE31 6, PE31 7, PE36 5 and PE36 6; data are for 2010

<sup>4</sup> Based on total number of hereditaments in King's Lynn and West Norfolk and reduced according to the percentage of total hereditaments in study area (based on data on total number of hereditaments, from [http://www.voa.gov.uk/business\\_rates/draftliststats/pdc/ba%5Cba2635.html](http://www.voa.gov.uk/business_rates/draftliststats/pdc/ba%5Cba2635.html); data are for 2005)

<sup>5</sup> Includes organisation responsible for maintenance/management of A149

<sup>6</sup> Number of farms is an estimate based on the total number of farms in King's Lynn and West Norfolk (from the 2007 June Agricultural and Horticultural Survey – England and the total area farmed, to give an area for a 'typical' farm). Area of land is based on the total area of the parish minus the urban area (urban areas in ha are taken from Norfolk County Council (2005): 2001 Census key statistics for urban areas)

### 3.3 Approach 2: Borough-wide charge with a Surcharge for those Buildings/Dwellings below the 5m Contour

AddressPoint data on properties at risk from flooding is used to divide properties into those that are below (or above) the 5m contour. The AddressPoint data show 408 properties that are at risk in the parishes of Heacham, Snettisham, Hunstanton, Dersingham and Ingoldisthorpe. These properties have been separated into residential/dwellings and businesses using the Valuation Office Agency Rateable Value dataset and house price web-sites (such as [zoopla.co.uk](http://zoopla.co.uk) and [houseprices.co.uk](http://houseprices.co.uk)). The proportion of residential properties and proportion of Rateable Value (for

businesses) has been used to extrapolate across to all residential and business properties in the Borough as a whole (assuming the same proportions are found below 5m in the whole Borough). The data on beneficiaries below and above the 5m contour are summarised in Table 3.3. Full details on the calculations used to estimate the number of beneficiaries above and below 5m are given in Annex 1.

Beneficiary	Number		Rateable Value		Area (ha)	
	Below 5m	Above 5m	Below 5m	Above 5m	Below 5m	Above 5m
Residents <sup>1</sup>	566	49,892	-	-	-	-
Businesses <sup>2</sup>	1,330	3,417	£23.9 million	£52.7 million	-	-
Utilities <sup>3</sup>	14	35	-	-	-	-
Transport <sup>4</sup>	1	1	-	-	-	-
Landowners <sup>5</sup>	145	368	-	-	32,547	82,459

Notes:  
<sup>1</sup> Taken from BCKLWN Financial Plan 2009/2013 as Council Tax Base number of properties, with number below 5m assumed to be 408 properties shown in AddressPoint data as being at risk minus the number of businesses (262) in the at-risk zone from the VOA data  
<sup>2</sup> Taken from [http://www.voa.gov.uk/business\\_rates/draftliststats/pdc/ba%5Cba2635.html](http://www.voa.gov.uk/business_rates/draftliststats/pdc/ba%5Cba2635.html), with number/RV below 5m based on VOA data (and location of business)  
<sup>3</sup> Assumed to be proportional to percentage of businesses (by RV) that are located below 5m as no direct data on location of utilities is available (rounded to nearest whole number)  
<sup>4</sup> Includes organisation responsible for maintenance/management of A149. This is shown as being within the at-risk area near to Dersingham so is included in the below 5m zone here  
<sup>5</sup> From the 2007 June Agricultural and Horticultural Survey – England for King’s Lynn and West Norfolk (later versions of the database only give statistics for Norfolk), based on proportion of parish area that is below 5m (33% Snettisham CP, 33% Heacham CP, 20% Dersingham CP, 25% Ingoldisthorpe CP and 10% Hunstanton TC)

### 3.4 Approach 3: Flat Rate Paid across the Whole Borough

As with Approach 2, this approach assumes that all those living and working in the Borough of King’s Lynn and West Norfolk would pay towards the cost of maintaining the coast. Table 3.4 summarises the key data on the beneficiaries that would be expected to contribute under Approach 3.

Beneficiary	Number	Rateable Value	Area (ha)
Residents <sup>1</sup>	50,458	-	-
Businesses <sup>2</sup>	4,747	£76.6 million	-
Utilities <sup>3</sup>	49	-	-
Transport <sup>4</sup>	1	-	-
Landowners <sup>5</sup>	513	-	115,006

Notes:  
<sup>1</sup> Taken from BCKLWN Financial Plan 2009/2013 as Council Tax Base number of properties  
<sup>2,3</sup> Taken from [http://www.voa.gov.uk/business\\_rates/draftliststats/pdc/ba%5Cba2635.html](http://www.voa.gov.uk/business_rates/draftliststats/pdc/ba%5Cba2635.html)  
<sup>4</sup> Includes organisation responsible for maintenance/management of A149  
<sup>5</sup> From the 2007 June Agricultural and Horticultural Survey – England

## 4. THE PERCENTAGE OF THE TOTAL CONTRIBUTION PAYABLE BY DIFFERENT BENEFICIARIES

### 4.1 Potential Contribution by Beneficiary

The division of contributions between the five beneficiary groups identified in Section 3, above, could be based on a number of different methods:

- method A: the income currently paid to the Borough Council (through Council Tax or Business Tax);
- method B: amount paid into national taxation (as a more generic indicator across all tax); or
- method C: the potential benefit they receive from continued management of the coast (this is difficult to estimate unless it is assumed to be based on area/property values, which will then be reflected in the amount of Council or Business Tax that is currently paid).

Other approaches, such as length of frontage, have been excluded as discussions at the workshops suggested this is unlikely to be considered fair and could lead to divisions within villages. For example, a small residence may have a large frontage while a large caravan park could have a small frontage but a large area of land behind this frontage. Also, some properties may be just behind the frontage such that they are at risk (and benefit from the defences) but would not pay if the contribution was based on length of frontage.

The proportion of the total charge to be paid by each beneficiary group under each of the three methods is summarised in Table 4.1.

<b>Beneficiary</b>	<b>A. By Income Paid to Borough Council</b>	<b>B. By National Taxation (All Tax)</b>	<b>C. By National Taxation (Council Tax/Business Rates)</b>
Residents	14%	86%	52%
Businesses	76%	12%	46%
Utilities	3%	1.5%	3%
Transport	0.06%	0.2%	0.005%
Landowners	7%	0.04%	Not applicable
<p>Notes:                      All percentages are given to nearest 1% (unless the value is significantly less than 1% where the nearest 0.1% or 0.01% is given, as appropriate). In some cases, this means the sum of percentages for each column may not add to 100% (this is a rounding error resulting from presentation and does not affect the results, which are calculated using a spreadsheet so figures are not rounded).                      Full details explaining how these percentages have been calculated are provided in Annex 1</p>			

These three alternative methods for assessing contributions are used through the rest of this Section to give an indication of the payments required. Method A results in much of the cost being borne by businesses, Method B places most of the costs on residents, while Method C spreads costs more or less equally over residents and

businesses. Contributions from the other beneficiaries are generally much smaller, although utilities would pay 3% under Method A.

## 4.2 How Much Has to be Paid to Manage the Coast?

The Wash Shoreline Management Plan 2 (SMP2) gives an indication of the costs of continued management of the coastline for the next 50 years. Using the cost estimates in the SMP2 gives annual costs that would need to be raised through local contributions of (full details of the calculations are given in Annex 1):

- £800,000 per year for the Wolferton Creek to South Hunstanton frontage; or
- £1,470,000 per year for the full BCKLWN frontage<sup>2</sup>.

The contributions to be paid annually by each beneficiary group are calculated by multiplying the annual costs by the proportion to be paid by each beneficiary (from Table 4.1). Table 4.2 shows how the level of contributions varies by beneficiary. These potential contributions are used as the basis for estimating the amount to be paid by individual residents, businesses, landowners, etc. in Section 5.

<b>Table 4.2: Total Amount Payable per Year by Beneficiary Type (to two significant figures)</b>			
<b>Beneficiary</b>	<b>A. By Income Paid to Borough Council</b>	<b>B. By National Taxation (All Tax)</b>	<b>C. By National Taxation (Council Tax/Business Rates)</b>
<b><i>To Cover Costs for PDZ2 (Wolferton Creek to South Hunstanton)</i></b>			
Residents	£110,000	£690,000	£410,000
Businesses	£610,000	£96,000	£370,000
Utilities	£23,000	£12,000	£22,000
Transport	£460	£1,700	£40
Landowners	£53,000	£320	-
<b><i>To Cover Costs for PDZs 1(part), 2, 3 and 4 (whole BCKLWN frontage)</i></b>			
Residents	£210,000	£1,300,000	£760,000
Businesses	£1,100,000	£180,000	£670,000
Utilities	£43,000	£22,000	£40,000
Transport	£840	£3,000	£70
Landowners	£98,000	£590	-
Notes: These values are calculated by multiplying the appropriate percentage from Table 4.1 by the annual cost payable to maintain the coast			

<sup>2</sup> This includes an assumption that 30% of the costs for Policy Development Zone (PDZ) 1 in the Wash SMP2 apply to BCKLWN and assumes the worst case, erosional scenario. The total annual costs would be £1,350,000 if the best case, accretional scenario, is taken for PDZ1.

## **5. ESTIMATING THE CONTRIBUTION BY BENEFICIARY**

### **5.1 Overview**

This Section identifies the potential contributions that would have to be paid by each beneficiary and by approach. It describes the calculations performed to estimate the potential contributions that would be payable.

The basis across which the contribution is charged varies by beneficiary with contributions from:

- residents: divided across number of properties, so they can be related to Council Tax<sup>3</sup>;
- businesses: divided across Rateable Value, so they can be related to level of Business Rates currently paid;
- utilities: divided across number of installations. This is a simplification that results in the contribution payable being the same across all utilities. However, it is likely to be expected that a sewage treatment plant would pay a different level of contribution to, say, an electricity sub-station or telephone junction box;
- transport: divided across number of organisations responsible, to reflect who is responsible for maintaining/repairing the road; and
- landowners: divided across number of hectares (area), to reflect a charge that is similar to the drainage levy paid to Internal Drainage Boards (IDBs).

### **5.2 Approach 1: Flat Rate Paid by Parishes**

Approach 1 involves a flat rate payable across the affected parishes. Two sub-approaches are used:

- 1a covering Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe; while
- 1b covers Heacham, Hunstanton and Snettisham.

Table 5.1 presents the annual contribution payable per beneficiary. All contributions are given to a maximum of two significant contributions to reflect uncertainty.

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<sup>3</sup> It is important to note here that the Localism Bill (published 13 December 2010) provides the public with the right to veto excessive Council Tax rises. A referendum will be triggered where this increase is above a ceiling set by the Secretary of State. All registered electors in the area will then have the power to decide if the Council Tax increase is too high. The Localism Bill also provide an opportunity to hold a local referendum on a local issue. This could be used as a mechanism to obtain the views of the community, which could then be used to inform decision-making. Such an approach could raise awareness of the need to raise contributions for defences locally and could reduce the risk that contributions that were to be collected through Council Tax would be vetoed in a referendum on Council Tax increases.



Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>
<b>Residents:</b> per Band D property <sup>2</sup>	£10	£14	£63	£84	£38	£50
<b>Businesses:</b> % of Business Rates (medium/large businesses) <sup>3</sup>	22%	25%	3.5%	4.0%	13%	15%
<b>Businesses:</b> % of Business Rates (small businesses) <sup>3</sup>	22%	25%	3.4%	4.0%	13%	15%
<b>Utilities:</b> per installation	£2,200	£2,500	£1,100	£1,300	£2,100	£2,300
<b>Transport:</b> per organisation responsible	£460	£460	£1,600	£1,600	£40	£40
<b>Landowners:</b> per ha of farmed land	£8.20	£11	£0.05	£0.07	-	-
Notes: <sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe <sup>2</sup> Costs across other Council Tax Bands are set out in Annex 1 <sup>3</sup> Assumes multiplier of 41.4p for medium/large businesses and 40.7p for small businesses						

### 5.3 Approach 2: Borough-wide charge with a Surcharge for those Buildings/Dwellings below the 5m Contour

Approach 2 considers the application of a surcharge for beneficiaries below the 5m contour. In the following calculations, it is assumed that the surcharge should be assigned so that those below 5m pay twice as much as those above 5m.

Table 5.2 presents the total payable by beneficiary for those below and above the 5m contour based on costs for managing the coast from Wolferton Creek to South Hunstanton.

Contribution	By Income Paid to Borough Council		By National Taxation (All Tax)		By National Taxation (Council Tax/Business Rates)	
	Below 5m	Above 5m	Below 5m	Above 5m	Below 5m	Above 5m
<b>Residents:</b> per Band D property <sup>1</sup>	£4	£2	£27	£14	£16	£8
<b>Businesses:</b> % of Business Rates (medium/large businesses) <sup>2</sup>	2.9%	1.5%	0.5%	0.2%	1.8%	0.9%
<b>Businesses:</b> % of Business Rates (small businesses) <sup>2</sup>	2.9%	1.4%	0.5%	0.2%	1.7%	0.9%
<b>Utilities:</b> per installation	£740	£370	£380	£190	£690	£350
<b>Transport:</b> per organisation responsible	£460	-	£1,600	-	£40	-
<b>Landowners:</b> per ha of farmed land	£0.72	£0.36	£0.004	£0.002	-	-
Notes: <sup>1</sup> Costs across other Council Tax Bands are set out in Annex 1 <sup>2</sup> Assumes multiplier of 41.4p for medium/large businesses and 40.7p for small businesses						

## **5.4 Approach 3: Flat Rate Paid across the Whole Borough**

### **5.4.1 Contribution Payable**

Approach 3 involves a flat rate payable across the whole Borough. Table 5.3 presents the results of calculating the annual contribution payable per beneficiary (total costs divided by numbers of beneficiaries). All contributions are given to a maximum of two significant contributions to reflect uncertainty. The table includes two figures:

- 3a: based on costs for managing the coast from Wolferton Creek to South Hunstanton only; and
- 3b: based on the costs of managing the whole frontage within the Borough.

Contribution	By Income Paid to Borough Council		By National Taxation (All Tax)		By National Taxation (Council Tax/Business Rates)	
	3a <sup>1</sup>	3b <sup>1</sup>	3a <sup>1</sup>	3b <sup>1</sup>	3a <sup>1</sup>	3b <sup>1</sup>
<b>Residents:</b> per Band D property <sup>2</sup>	£2.30	£4.20	£14	£25	£8.20	£15
<b>Businesses:</b> % of Business Rates (medium/large businesses) <sup>3</sup>	1.9%	3.5%	0.3%	0.6%	1.2%	2.1%
<b>Businesses:</b> % of Business Rates (small businesses) <sup>3</sup>	1.9%	3.5%	0.3%	0.5%	1.1%	2.1%
<b>Utilities:</b> per installation	£480	£870	£250	£450	£440	£810
<b>Transport:</b> per organisation responsible	£460	£840	£1,600	£3,000	£40	£70
<b>Landowners:</b> per ha of farmed land	£0.46	£0.85	£0.003	£0.01	-	-
Notes: <sup>1</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage <sup>2</sup> Costs across other Council Tax Bands are set out in Annex 1 <sup>3</sup> Assumes multiplier of 41.4p for medium/large businesses and 40.7p for small businesses						

## 5.5 How do the Contributions Change if the Costs Go Up or Down?

The costs of managing the coast have been calculated using estimates made in the Shoreline Management Plan. Although these are based on the best information available, they are calculated at a high level, without taking full account of specific details of the actual work that may be required along the frontage. There is, therefore, some uncertainty as to the actual costs and, hence, the contributions that may be chargeable. To assess this uncertainty, two sensitivity tests have been performed:

- assuming that the SMP2 over-estimates the costs and the detailed estimates of costs are lower, at an estimated £400,000 per year (Wolferton Creek to South Hunstanton frontage) or £750,000 (whole Borough frontage); and
- assuming that the SMP2 under-estimates the costs and the detailed estimates of costs are higher, at an estimated £1.5 million per year (Wolferton Creek to South Hunstanton frontage) or £3.0 million (whole Borough frontage).

Table 5.4 summarises the change from the main estimates (where the annual costs are £800,000 for the Wolferton Creek to South Hunstanton frontage or £1,470,000 for the whole Borough frontage).

**Mechanisms for Securing Contributions and Discussion of Alternative Actions**

<b>Table 5.4: Impacts of Contributions by Residents if Costs of Managing the Coast Change</b>										
<b>Approach</b>	<b>Sub-Approach</b>	<b>Method</b>								
		<b>A</b>			<b>B</b>			<b>C</b>		
		<b>Total Costs of Managing Coast<sup>1</sup></b>								
		<b>£400k</b>	<b>£800k</b>	<b>£1.5m</b>	<b>£400k</b>	<b>£800k</b>	<b>£1.5m</b>	<b>£400k</b>	<b>£800k</b>	<b>£1.5m</b>
<b>Costs Payable by Residents (Based on Band D Council Tax)</b>										
1	1a <sup>2</sup>	£5	£10	£19	£31	£63	£120	£19	£38	£71
	1b <sup>2</sup>	£7	£14	£26	£42	£84	£160	£25	£50	£94
2	2a <sup>3</sup>	£2.20	£4.50	£8.40	£14	£27	£51	£8	£16	£30
	2b <sup>3</sup>	£1.10	£2.20	£4.20	£7	£14	£25	£4	£8	£15
3	3a <sup>1</sup>	£1.10	£2.30	£4.20	£7	£14	£26	£4	£8	£15
	3b <sup>1</sup>	£2.10	£4.20	£8.50	£13	£25	£51	£8	£15	£31
<b>Costs Payable by Businesses (as % of Business Rates)</b>										
1	1a <sup>2</sup>	11%	22%	40%	1.7%	3.4%	6.4%	6.5%	13%	24%
	1b <sup>2</sup>	13%	25%	47%	2.0%	4.0%	7.4%	7.5%	15%	28%
2	2a <sup>3</sup>	1.4%	2.8%	5.4%	0.2%	0.4%	0.9%	0.9%	1.7%	3.2%
	2b <sup>3</sup>	0.7%	1.4%	2.7%	0.1%	0.2%	0.4%	0.4%	0.9%	1.6%
3	3a <sup>1</sup>	0.9%	1.9%	3.5%	0.1%	0.3%	0.6%	0.6%	1.1%	2.1%
	3b <sup>1</sup>	1.8%	3.5%	7.1%	0.3%	0.5%	1.1%	1.1%	2.1%	4.2%
<b>Costs Payable by Utilities (per Installation)</b>										
1	1a <sup>2</sup>	£1,100	£2,200	£4,200	£570	£1,100	£2,100	£1,000	£2,100	£3,900
	1b <sup>2</sup>	£1,200	£2,500	£4,600	£640	£1,200	£2,400	£1,100	£2,300	£4,300
2	2a <sup>3</sup>	£370	£740	£1,400	£190	£380	£720	£350	£690	£1,300
	2b <sup>3</sup>	£190	£370	£700	£96	£190	£360	£170	£350	£650
3	3a <sup>1</sup>	£240	£480	£890	£120	£230	£460	£220	£440	£830
	3b <sup>1</sup>	£450	£870	£1,800	£230	£420	£920	£420	£810	£1,700
<b>Costs Payable by Transport (By Highway Authority)</b>										
1	1a <sup>2</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
	1b <sup>2</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
2	2a <sup>3</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
	2b <sup>3</sup>	£0	£0	£0	£0	£0	£0	£0	£0	£0
3	3a <sup>1</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
	3b <sup>1</sup>	£430	£840	£1,700	£1,500	£3,000	£6,000	£40	£70	£150
<b>Costs Payable by Landowners (by Hectare of Farmed Land)</b>										
1	1a <sup>2</sup>	£4.10	£8.20	£15	£0.02	£0.05	£0.09	-	-	-
	1b <sup>2</sup>	£5.70	£11	£21	£0.03	£0.07	£0.13	-	-	-
2	2a <sup>3</sup>	£0.36	£0.72	£1.40	£0.002	£0.004	£0.008	-	-	-
	2b <sup>3</sup>	£0.18	£0.36	£0.70	£0.001	£0.002	£0.004	-	-	-
3	3a <sup>1</sup>	£0.23	£0.46	£0.90	£0.001	£0.003	£0.005	-	-	-
	3b <sup>1</sup>	£0.43	£0.85	£1.70	£0.003	£0.01	£0.01	-	-	-

**Table 5.4: Impacts of Contributions by Residents if Costs of Managing the Coast Change**

Notes:  
<sup>1</sup> Costs given are for managing the Wolferton Creek to South Hunstanton frontage (Approach 3a). For Approach 3b the costs reflect the cost across the whole Borough frontage, i.e. £750k, £1.5m and £3.0m  
<sup>2</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>3</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m

## 5.6 How do the Contributions Change with a Different Level of Surcharge?

This sensitivity analysis only applies to Approach 2 (borough-wide charge with a surcharge for those buildings/dwellings below the 5m contour). The current surcharge is set so that beneficiaries below 5m pay (approximately) twice as much as beneficiaries above 5m. Two sensitivity analyses are undertaken:

- beneficiaries below 5m pay 10% of the total costs<sup>4</sup>. This means some beneficiary groups will be contributing more than twice as much as beneficiaries below 5m, while the difference for other groups is smaller; and
- beneficiaries below 5m pay five times as much as beneficiaries above 5m.

Table 5.5 presents the contributions that become payable under these changes to the surcharge.

**Table 5.5: Impacts of Changing the Surcharge on Contributions Payable**

Beneficiary	Approach	Method								
		A			B			C		
		Surcharge for those living below 5m <sup>1</sup>								
		10%	2x	5x	10%	2x	5x	10%	2x	5x
Residents: per Band D property <sup>2</sup>	2a	£20	£4.50	£11	£120	£27	£66	£73	£16	£39
	2b	£2	£2.20	£2.20	£12	£14	£13	£7	£8	£8
Businesses: % of Business Rates (medium/large businesses) <sup>3</sup>	2a	0.6%	2.9%	4.3%	0.1%	0.5%	0.7%	0.4%	1.2%	2.6%
	2b	2.5%	1.4%	0.9%	0.4%	0.2%	0.1%	1.5%	2.1%	0.5%
Businesses: % of Business Rates (small businesses) <sup>3</sup>	2a	0.6%	2.9%	4.2%	0.1%	0.5%	0.7%	0.4%	1.1%	2.5%
	2b	2.5%	1.4%	0.8%	0.4%	0.2%	0.1%	1.5%	2.1%	0.5%
Utilities: per installation	2a	£170	£740	£1,100	£88	£380	£580	£160	£690	£1,000
	2b	£590	£370	£220	£310	£190	£120	£550	£350	£210

<sup>4</sup> This does not apply to transport as there is only one organisation responsible and that is allocated to the below 5m group as the road is at risk from flooding.

<b>Table 5.5: Impacts of Changing the Surcharge on Contributions Payable</b>										
<b>Beneficiary</b>	<b>Approach</b>	<b>Method</b>								
		<b>A</b>			<b>B</b>			<b>C</b>		
		<b>Surcharge for those living below 5m<sup>1</sup></b>								
		<b>10%</b>	<b>2x</b>	<b>5x</b>	<b>10%</b>	<b>2x</b>	<b>5x</b>	<b>10%</b>	<b>2x</b>	<b>5x</b>
<b>Transport:</b> per organisation responsible	2a	£460	£460	£460	£1,600	£1,600	£1,600	£40	£40	£40
	2b	-	-	-	-	-	-	-	-	-
<b>Landowners:</b> per ha of farmed land	2a	£0.16	£0.72	£1.10	£0.001	£0.004	£0.007	-	-	-
	2b	£0.58	£0.36	£0.22	£0.004	£0.002	£0.001	-	-	-
Notes:										
<sup>1</sup> Contributions are based on costs for managing the Wolferton Creek to South Hunstanton frontage										
<sup>2</sup> Costs across other Council Tax Bands are set out in Annex 1										
<sup>3</sup> Assumes multiplier of 41.4p for medium/large businesses and 40.7p for small businesses										

Basing a surcharge on 10% of total contributions results in those above 5m paying a *higher* contribution than those below 5m for businesses, utilities and landowners. An approach based on a preset proportion of the total contributions is, therefore, unlikely to be appropriate as it does not result in greater contributions being delivered. This means a more complex formula for assessing contributions is required, such as deciding how much more those below 5m should pay over those above 5m. The main assessment considered this surcharge should be two times, the sensitivity analysis assesses the impact of a surcharge that is five times greater.

Table 5.5 shows that the contributions from residents increase from £24 (when the surcharge is two times) to £56 per Band D household per year (under Method B). Under Method A, contributions from businesses below 5m increase from 2.5% of Business Rates to 5.5% of Business Rates per year (small businesses).

## 6. COMPARISON OF APPROACHES

### 6.1 Overview

Section 5 presented the contributions that would be payable under each of the three approaches and the three methods (where Method A means businesses pay the most, Method B means residents pay the most and Method C shares most of the contributions more or less equally between residents and businesses). This Section compares the results and then assesses which are likely to be considered more (or less) fair.

### 6.2 Results by Beneficiary Group

#### 6.2.1 Overview

The results presented below are based on the potential costs to residents, businesses, utilities, transport and landowners. This information enabled stakeholders to feedback on the likely affordability of the different costs. Costs across the different beneficiaries are compared separately.

#### 6.2.2 Comparison of Contributions from Residents

Table 6.1 presents a comparison of contributions for a Band D property, payable by residents through Council Tax. The table presents the annual costs for each approach (and sub-approach) and for each method.

Approach	Sub-Approach	Method		
		A	B	C
1	1a <sup>1</sup>	£10	£63	£38
	1b <sup>1</sup>	£14	£84	£50
2	2a <sup>2</sup>	£4	£24	£16
	2b <sup>2</sup>	£2	£12	£8
3	3a <sup>3</sup>	£2	£14	£8
	3b <sup>3</sup>	£4	£25	£15

Notes:  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>2</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m  
<sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

Table 6.1 shows that the amount payable by residents varies greatly, from £2 per year (under Approach 2 (Method A) for those living above the 5m contour) up to £84 per

year (under Approach 1 (Method B) where only those living in the parishes of Heacham, Snettisham and Hunstanton pay).

The current Council Tax charged by BCKLWN for a Band D property (2010/2011) is £111.97<sup>5</sup>. Other than under Method A (where the majority of contributions come from businesses), the contributions estimated in Table 6.1, above, would represent a significant increase. The maximum estimated contribution of £84 per household per year (Approach 1b, Method B) represents an increase of 75%, or £7 per household per month. The minimum estimated increase (Approach 2b (below 5m), Method A) of £2 represents an increase of less than 2%.

### **6.2.3 Comparison of Contributions from Businesses**

Table 6.2 presents a comparison of contributions from businesses, payable through a percentage increase in Business Rates. The table presents the annual costs for each approach (and sub-approach) and for each method. As there is very little difference between the contributions to be paid by small versus medium or large businesses, Table 6.2 presents the results for small businesses.

Approach	Sub-Approach	Method		
		A	B	C
1	1a <sup>1</sup>	22%	3.4%	13%
	1b <sup>1</sup>	25%	4.0%	15%
2	2a <sup>2</sup>	2.8%	0.4%	1.7%
	2b <sup>2</sup>	1.4%	0.2%	0.9%
3	3a <sup>3</sup>	1.9%	0.3%	1.1%
	3b <sup>3</sup>	3.5%	0.5%	2.1%

Notes:  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>2</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m  
<sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

Table 6.2 also shows considerable variation in the contribution that would be needed from businesses. Under Method 1 (where businesses pay 87% of the total costs of managing the coast), the increase in business costs could be as high as 25% if it is only paid across the parishes of Heacham, Snettisham and Hunstanton. The increase reduces where the cost is spread over the Borough, although it could still be 3.5% where management costs for the whole Borough are collected through contributions (Approach 3b, Method A).

Where residents pay the majority of the contributions (Method B) or there is a (roughly) equal split between residents and businesses (Method C), the increase in

<sup>5</sup> As opposed to full Council Tax, which is £1,487.33 for a Band D property in Heacham.



Business Rates ranges from 0.2% (for those above 5m, Approach 2b) to 15% (where the contributions are only collected from Heacham, Snettisham and Hunstanton).

The contribution payable through Business Rates can be illustrated through use of some typical businesses<sup>6</sup>, based on the percentages given in Table 6.2. The results for a caravan park, beach hut and shop are set out in Table 6.3.

<b>Table 6.3: Costs for some 'Typical' Businesses (per year)</b>				
<b>'Typical' Business</b>	<b>Sub-Approach</b>	<b>Method</b>		
		<b>A</b>	<b>B</b>	<b>C</b>
<b>Caravan Park</b> with Business Rates of £16,000 per year	1a <sup>1</sup>	£3,500	£550	£2,100
	1b <sup>1</sup>	£4,000	£630	£2,400
	2a <sup>2</sup>	£450	£71	£280
	2b <sup>2</sup>	£230	£36	£140
	3a <sup>3</sup>	£300	£48	£190
	3b <sup>3</sup>	£560	£88	£340
<b>Beach Hut</b> with Business Rates of £120 per year	1a <sup>1</sup>	£26	£4	£16
	1b <sup>1</sup>	£30	£5	£18
	2a <sup>2</sup>	£3	£1	£2
	2b <sup>2</sup>	£2	£0	£1
	3a <sup>3</sup>	£2	£0	£1
	3b <sup>3</sup>	£4	£1	£2
<b>Shop</b> with Business Rates of £1,400 per year	1a <sup>1</sup>	£300	£48	£180
	1b <sup>1</sup>	£350	£55	£210
	2a <sup>2</sup>	£39	£6	£24
	2b <sup>2</sup>	£20	£3	£12
	3a <sup>3</sup>	£26	£4	£16
	3b <sup>3</sup>	£49	£8	£29
Notes: <sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe <sup>2</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m <sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage				

#### **6.2.4 Comparison of Contributions from Utilities**

Costs to utilities (electricity, water, sewage treatment, telephone, etc.) are presented in Table 6.4. The table shows that costs to utilities vary from a few hundred to a few thousand pounds. The contributions per installation have a high degree of uncertainty as the type of installation is likely to vary widely across the area. For example, it would not be appropriate to expect a telephone junction box to be considered

<sup>6</sup> Average Rateable Values across BCKLWN have been used to give these 'typical' Business Rates.

equivalent to a sewage treatment works (and therefore pay the same contribution). The number of installations across which the contributions have been calculated may therefore need more detailed investigation.

Approach	Sub-Approach	Method		
		A	B	C
1	1a <sup>1</sup>	£2,200	£1,100	£2,100
	1b <sup>1</sup>	£2,500	£1,200	£2,200
2	2a <sup>2</sup>	£700	£340	£690
	2b <sup>2</sup>	£350	£170	£350
3	3a <sup>3</sup>	£480	£230	£440
	3b <sup>3</sup>	£870	£420	£810

Notes:  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>2</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m  
<sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

### 6.2.5 Comparison of Contributions from Transport

The contributions from transport are assumed to come from the Highway Authority, Norfolk County Council, based on responsibility for maintaining the A149. The contributions are therefore simply calculated as the amount that would be payable by transport under methods A, B or C and attributed to this organisation. Table 6.5 summarises contributions payable by the Highways Authority, Norfolk County Council.

Approach	Sub-Approach	Method		
		A	B	C
1	1a <sup>1</sup>	£460	£1,600	£40
	1b <sup>1</sup>	£460	£1,600	£40
2	2a <sup>2</sup>	£460	£1,600	£40
	2b <sup>2</sup>	£0	£0	£0
3	3a <sup>3</sup>	£460	£1,600	£40
	3b <sup>3</sup>	£840	£3,000	£70

Notes:  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>2</sup> Under Approach 2, the contribution is payable under Approach 2a (floodable area) as there is a vulnerable section of the A149 wets of Dersingham  
<sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

## 6.2.6 Comparison of Contributions from Landowners

Costs to landowners are compared in Table 6.6. The costs given are based on a charge per hectare of farmed land. There are no costs under Method C, as this method assumes 0% contribution from landowners, (as it is based on payments made through Council Tax and Business Rates).

Approach	Sub-Approach	Method		
		A	B	C
1	1a <sup>1</sup>	£8.20	£0.05	-
	1b <sup>1</sup>	£11	£0.07	-
2	2a <sup>2</sup>	£0.69	£0.004	-
	2b <sup>2</sup>	£0.34	£0.002	-
3	3a <sup>3</sup>	£0.46	£0.003	-
	3b <sup>3</sup>	£0.85	£0.01	-

Notes:  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>2</sup> Approach 2a is the amount payable by owners of land below 5m, Approach 2b is the amount payable by owners of land above 5m  
<sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

Table 6.6 shows that the contribution per hectare of farmed land is again quite variable, depending on the method, but also the approach. Approach 1, which only receives contributions from the affected parishes, results in much higher costs, even when compared with Approach 3b (which covers costs for managing the whole frontage within the Borough). Table 6.7 gives the annual costs for a ‘typical’ farm of 224 ha<sup>7</sup>.

Typical Farm	Sub-Approach	Method		
		A	B	C
1	1a <sup>1</sup>	£1,800	£11	-
	1b <sup>1</sup>	£2,600	£15	-
2	2a <sup>2</sup>	£150	£0.93	-
	2b <sup>2</sup>	£80	£0.46	-
3	3a <sup>3</sup>	£100	£0.63	-
	3b <sup>3</sup>	£190	£1.20	-

<sup>7</sup> Number of farms is an estimate based on the total number of farms in King’s Lynn and West Norfolk (from the 2007 June Agricultural and Horticultural Survey – England and the total area farmed, to give an area for a ‘typical’ farm). Area of land is based on the total area of the parish minus the urban area (urban areas in ha are taken from Norfolk County Council (2005): 2001 Census key statistics for urban areas)

Typical Farm	Sub-Approach	Method		
		A	B	C
Notes:				
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe				
<sup>2</sup> Approach 2a is the amount payable by owners of land below 5m, Approach 2b is the amount payable by owners of land above 5m				
<sup>3</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage				

### 6.3 Assessment of Fairness

There are a number of different ways of defining what might be considered fair, often judged according to the viewpoint of the person in question. There are though three definitions of fairness, as defined in Table 6.8 that can be used here to give an impartial comparison of the approaches.

Justice principle	Interpretation for Pathfinder
Equality	Every beneficiary should be treated equally
Rawls’ Maximin rule	Consideration should be given to affordability, with those that are less able to afford being expected to contribute less (if at all)
Maximum utility	Those who benefit more should pay more

Source: Middlesex University (2008): **Social Justice in the Context of Flood and Coastal Erosion Risk Management: A Review of Policy and Practice**, report for Defra FD2605, March 2008.

#### *Fairness based on Equality*

Under the ‘equality’ rule, it could be said that Method C (which splits contributions equally across residents and businesses) is the fairest of the methods. However, this fails to take account of the number of residences versus the number of businesses. If contributions were done on number, then residents would be expected to contribute considerably more since there are:

- Parishes:
  - Heacham, Snettisham and Hunstanton: 8,195 households paying Council Tax compared with 918 businesses paying Business Rates, i.e. 89% of properties are residential; and
  - plus Dersingham and Ingoldisthorpe: 10,962 households paying Council Tax compared with 1,017 businesses paying Business Rates, i.e. 92% of properties are residential.
- Borough:
  - 50,458 households paying Council Tax compared with 4,747 businesses paying Business Rates, or 91% of properties are residential.

Based on number alone, therefore, it could be said that Method B is fairer, as that requires 86% of contributions to be made by residences and where 89% to 92% of properties are residential.

This simple consideration, however, fails to take account of affordability, which is considered by the second rule (Rawls' maximin utility).

***Fairness based on Affordability and Vulnerability***

Household income and business income should be considered when assessing affordability and vulnerability and which method or approach may be fairest. Stakeholders discussed the issue of businesses (especially shops) that were struggling to survive. Expecting these businesses to pay for contributions (even when they are significant beneficiaries) could result in the businesses closing.

For businesses, fairness may relate more to income and affordability in terms of viability and competitiveness. A substantial increase in Business Rates to enable the contribution to be collected may have to be passed onto customers. This would raise costs and could drive customers elsewhere. This would be a particular concern for the tourist industry as loss of staying visitors is likely to affect many businesses (accommodation, shops, visitor attractions, car parking, etc.).

The potential fairness of the contribution payable by landowners can be compared against average farm business income to give an indication of likely affordability. The 2007 June Agricultural and Horticultural Survey for England shows the most common farm type in King's Lynn and West Norfolk is 'general cropping'<sup>8</sup>. For general cropping, average farm business income in 2009/2010 was £77,000 (Nix, 2010). The range of total contributions over a typical farm of 224 ha can be compared with average farm business income to give an indication of likely affordability:

- Greatest contribution: £2,600 per year (Approach 1b under Method A). This is around 3% of total income;
- Lowest contribution: £0.46 (Approach 1b (above 5m) under Method B). This is negligible in terms of total income.

This compares with an increase in Council Tax for residents of less than 2% (2b, A) to 75% (1b, B).

This again illustrates the trade-off between Method A (low for residents, but high for businesses) and Method B (high for residents, but low for businesses). Method C (which has approximately equal contributions from residents and businesses) might be seen as fairer, although the burdens placed on each beneficiary are then moderate (to high) across all (illustrated through the maximum and minimum contributions under Method C, excluding Approach 2):

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<sup>8</sup> With 393 of 593 farms assigned to 'general cropping'.

- resident:
  - Approach 1b: increase in Council Tax for Band D property of 33%; or
  - Approach 3a: increase in Council Tax for Band D property of 8%.
- caravan park:
  - Approach 1b: £2,400 per year;
  - Approach 3a: £190 per year.
- beach hut:
  - Approach 1b: £18 per year;
  - Approach 3a: £1.40 per year.
- shop:
  - Approach 1b: £210 per year;
  - Approach 3a: £16 per year.

Method C does not apply to landowners (due to the basis for the calculation, which does not include taxation of farmers).

***Fairness based on those who Benefit being those who Pay***

The third fairness rule suggests that those who benefit most should pay the most. This would seem to suggest Approach 2, which requires those at greatest risk to pay a surcharge. They are the beneficiaries that would receive the greatest direct benefit (reduction in flood risk), so it would seem fairer under this rule that they would also pay the most. There were concerns raised at the stakeholder workshop over the risk of blight, such that those who are also paying the most under Approach 2 might find it difficult to sell their property or obtain loans to invest in their business. In such cases, they could be effectively paying twice (although the impact of blight could be reduced because the management of the coast is being undertaken as a result of contributions paid).

One element of fairness that was raised at the stakeholder workshop was the issue of second homes. It is assumed in the calculated contributions that second homes pay the same level of contribution as permanent residents, i.e. no occupancy factor applies.

Finally, there is one further issue in terms of fairness in relation to the number of times a beneficiary may be paying a contribution. The suggestion that residents, businesses, utilities, transport and landowners all pay something towards the costs of managing the defences could mean that some people pay a number of times. For example, a resident may pay through Council Tax, they may also own a business and may pay through Business Rates, they would then use the local utilities so may pay through increased bills, and there may be reduced investment in other (local) roads due to the need to pay the contribution to avoid repair costs for the A149. Similarly, landowners may find themselves paying a drainage charge to an IDB as well as a contribution to avoid flooding from the sea.

## **7. MECHANISMS TO IMPLEMENT THE APPROACHES**

### **7.1 Overview**

The previous sections identify who might pay and how much they might pay towards continued management of the coast. The calculations assume that the total costs of options to maintain the defences have to be collected through local contributions. This Section considers whether there may be other funds that could be used to help reduce the amount of local contributions that are required. It also investigates which mechanisms could be available to enable the money to be collected.

### **7.2 Obtaining Contributions from Residents**

#### **7.2.1 Introduction**

It is assumed that the contributions from residents could be collected by the Borough Council as part of Council Tax, either as a parish precept (for Approach 1) or a special expense (for Approaches 2 or 3). The mechanisms that enable this include:

- Local Government Finance Act 1992;
- Flood and Water Management Act; or
- Community Interest Company.

#### **7.2.2 Local Government Finance Act 1992**

The Local Government Finance Act 1992 allows different amounts of Council Tax to be calculated for different areas, depending on the special items that relate to those areas. Sections 34 and 35(1)(a) of the Act can be used to ensure that only council taxpayers in the affected parish(es) pay towards the cost of the precept. This mechanism could be used to enable contributions to be collected under Approach 1.

Another form of special item is special expenses. There are five different types of special expense (as listed in Section 35(2)). The most relevant of these are expenses to meet a levy or special levy. To count as a special expense, the function must be carried out by the district on only part of its area and the same function must be carried out in another part of the district by one or more parish councils. This requirement could potentially restrict the use of special expenses as a way of gathering the necessary contributions (based on DfT, 2002).

#### **7.2.3 Flood and Water Management Act**

The Pitt Review (2008) made several recommendations relating to local authorities and their role in flood risk. These included:

- Recommendation 14: local authorities should lead on the management of flood risk, with the support of the relevant organisations; and
- Recommendation 15: local authorities should positively tackle local problems of

flooding by working with all relevant parties, establishing ownership and legal responsibility.

Many of the recommendations made by the Pitt Review are incorporated in the Flood and Water Management Act (FWMA). Although the Act received Royal Assent on 8 April 2010, it is being implemented in stages.

The Act identifies the unitary authority or county council as the lead local flood authority for an area (Defra, 2010a). A lead authority can delegate flood or coastal erosion functions to other risk management authorities by agreement (ibid). Such authorities include district/borough councils, internal drainage boards, highways authorities, water companies and the Environment Agency (ibid). Although these authorities have some influence over the development of the local flood risk management strategy, the lead authority is responsible for ensuring that the strategy is put into place (Defra, 2010a).

Under the FWMA, the Environment Agency is allowed to issue levies to the lead local flood authority for a particular area (Defra, 2010a). These levies can be used to carry out the Agency's flood and coastal risk management functions in that area. A flood risk management function is defined in Section 4 of the FWMA as a 'function...which may be exercised by a risk management authority for a purpose connected with flood risk management'. The functions listed are<sup>9</sup>:

- 'a function under this Part;
- a function under section 159 or 160 of the Water Resources Act 1991;
- a flood defence function within the meaning of section 221 of that Act;
- a function under the Land Drainage Act 1991;
- a function under section 100, 101, 110 or 339 of the Highways Act 1980; and
- any other function, under an enactment, specified for the purposes of this section by order made by the minister'.

However, an important caveat under this approach is that the Environment Agency requires the consent of the Regional Flood and Coastal Committee (RFCC) for the area to raise funds through the levy, and to spend this money in the local area (Defra, 2010b). RFCCs have replaced Regional Flood Defence Committees (RFDCs) under the FCMA. Their role is to guide the Environment Agency's flood and coastal risk management activities in the region, as well as to check the local authority risk assessments, maps and plans required by the EU Floods Directive (Defra, 2010b).

The Regional Flood and Coastal Committees (England and Wales) Regulations 2011 came into force on 1 April 2011<sup>10</sup>. They state that RFCCs are to consist of:

- a chair appointed by the Minister;
- representatives appointed on behalf of a constituent authority, a constituent authority representing a group of constituent authorities or a group of constituent authorities; and

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<sup>9</sup> See Flood and Water Management Act 2010 (<http://www.legislation.gov.uk/ukpga/2010/29/contents>).

<sup>10</sup> See Regional Flood and Coastal Committees (England and Wales) Regulations 2011 (<http://www.legislation.gov.uk/uksi/2011/695/introduction/made>).

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- representatives appointed by the Environment Agency.

The number of people within a committee is to be between 11 and 25 (but may be higher if the Minister approves). However, if the composition of the RFCC changes on or after 1 December in any given year, then the Environment Agency cannot issue a levy for the following financial year. There are various other rules relating to the application of levies. The Environment Agency (Levies) (England and Wales) Regulations 2011 came into force on 1 April 2011 and they apply to any levies issued after 1 April 2012<sup>11</sup>. They include the following points (amongst others):

- when a levy is issued, the area to which the levy relates has to be declared, along with the basis on which the levy is calculated;
- any levy should be issued before 15 February in the financial year prior to that in which it applies;
- where an authority has paid more towards an old levy than was due under a new levy, the excess has to be repaid; and
- if there is more than one constituent authority in the Regional Flood and Coastal Committee, the levy for each authority is calculated using a formula relating the individual council tax bases of the authorities, the Environment Agency's qualifying expenses for the area and the sum of the council tax bases for all authorities concerned.

Any such levy is raised by the Environment Agency and issued to the local lead flood authority with the agreement of all the local authority members of the RFCC. Levies are issued in accordance with regulations made under Section 74 of the Local Government Finance Act 1998 (i.e. through Council Tax and/or Business Rates) (Defra, 2010c).

Local Authorities can choose to invest more if they wish (at their discretion through the RFCC) with funding established through the local government revenue support grant settlement, as well as other sources of funding (such as Council Tax and business rate supplements).

Overall, therefore, the use of a local levy provides a potential mechanism for obtaining the contributions through Council Tax or Business Rates, with the agreement of the RFCC. The RFCC may agree a lower levy but the Local Authority can raise additional funds through its local sources of funding (Council Tax/Business Rates). Where the levy is raised through the RFCC, the costs could be distributed wider than just Council Tax payers in the Borough of King's Lynn and West Norfolk such that the contributions required could be lower than those estimated in Sections 5 and 6 of this report. The central RFCC, which covers The Wash coastline, includes eight members from<sup>12</sup>:

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<sup>11</sup> See the Environment Agency (Levies) (England and Wales) Regulations 2011 (<http://www.legislation.gov.uk/ukxi/2011/696/introduction/made>).

<sup>12</sup> Number of members of the Anglian (Central) RFCC, consultation report, downloaded from the Environment Agency web-site: <https://consult.environment-agency.gov.uk/portal/ho/flood/rfcc/membership?pointId=1291981762666>

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- Bedford Borough;
- Central Bedfordshire;
- Buckinghamshire, Hertfordshire, Northamptonshire (one member jointly);
- Cambridge (two members);
- Essex, Suffolk (one member jointly);
- Milton Keynes; and
- Norfolk.

It is important to note that the use of a levy has implications for accountability and reporting, both issues which have been mentioned at the stakeholder workshops held for this study. If a levy is collected, as soon as possible after the end of the financial year, the Environment Agency has to provide information to the RFCC on:

- the amount of levy raised for the year;
- the amount carried forwards from the previous year;
- the amount which was actually spent; and
- what the levy was spent on.

Where expenditure is less than the levy collected (plus any funds carried forward from the previous year), then the Environment Agency must either carry the money forward for future years, or apportion the remaining money between the constituent authorities.

#### **7.2.4 Community Interest Company**

A Community Interest Company (CIC) is a limited company with special features to ensure that it works for the benefit of the community. It differs from a charitable company in that it can be established for any legal purpose that benefits the community (whereas a charity must have exclusively charitable purposes). A CIC may not be eligible for funding which is available to a charity.

CICs commit their assets and profits permanently to the community by means of an ‘asset lock’ ensuring that assets cannot be distributed to shareholders. They report to the Regulator of Community Interest Companies. A big advantage is that not-for-profit status is visible as well as assured. A CIC cannot register as a charity but it may set up its trading subsidiary as a charity.

CICs have to register with Companies House as a company, either limited by guarantee or by shares, and then apply to the Regulator for CIC status.

Bucklebury village in Berkshire set up a CIC to help fund a flood alleviation scheme. This included a village pledge mechanism for raising funds: this calculates suggested pledges from the villagers based on the Council Tax band of their property. The mechanism also used pledge anonymity so people could pledge what they could afford. It is important to note though that almost all the properties (24 out of 26 houses) were affected by flooding in 2007 (Bucklebury FAG, 2010). A similar approach along the frontage from Wolferton Creek to South Hunstanton would require pledges from the 146 residences, 262 businesses and 24 ‘typical’ farms at risk, a total of 432 potential pledgers. With annual costs of £800,000, the individual

contribution required would be £1,850 per year. However, it may be possible to request pledges from those residents, businesses and landowners in the local area as they benefit indirectly from the provision of flood defences. Success in obtaining sufficient contributions may depend on publicity surrounding the benefits that are received by those outside the flood risk area.

The Bucklebury CIC includes a financial mechanism that allows more money to be collected than is needed and then allows money to be returned to contributors where there is over-collection. The company is ‘asset-locked’ so it can only spend money on the flood alleviation scheme. Asset locking could similarly be applied to ensure that pledged money cannot be spent on activities other than continued management of the coast (although money could also be made available to help those recover in the event of a flood). The inclusion of a financial mechanism that allows more money to be collected than is needed could help smooth some of the potential costs associated with having to collect contributions each and every year. This may be particularly important where there is a need for capital works in some years, and (lower cost) maintenance works in other years. The ability to collect more money than is needed in some years would help keep the contribution payable to a more consistent amount. This is likely to be beneficial to businesses in terms of financial planning.

The final element is a contract that was set up between the CIC and the Environment Agency. This commits the CIC to pay the Environment Agency and, in return, the Environment Agency to implement the scheme. A similar contract could be used to commit the Environment Agency to deliver continued management of the coast (the potential efficiencies of using the Environment Agency with its available expertise and equipment could help minimise the costs).

There may be potential to use a CIC as a mechanism to enable the ongoing management of the coast. The main issue that would need to be overcome is how to obtain the required level and consistency of pledges that would be needed. Mechanisms that enable contributions to be collected on the back of Council Tax (and Business Rates) may be more efficient to administer and more consistent in terms of providing the funds needed.

## **7.3 Obtaining Contributions from Businesses (including Utilities)**

### **7.3.1 Introduction**

The main mechanisms available for obtaining contributions from businesses are:

- Tax Increment Financing; or
- Business Improvement Districts.

### **7.3.2 Tax Increment Financing**

Tax Increment Financing (TIF) provides powers for Local Authorities to borrow against predicted growth in locally raised Business Rates. The borrowing can be used to fund key infrastructure and other capital projects that support economic

development and growth. One of the issues with the use of TIF is that it is linked to predicted growth. While investment in flood defences is likely to result in economic growth, continued management of the coastline is also designed to mitigate against the economic damages that could occur if there is a flood. Therefore, it may be difficult to apply TIF to actions that are intended to prevent economic losses (rather than against economic growth) (HM Treasury, 2010).

The rules by which TIF will operate are still being developed, with a White Paper on local growth published on 28 October<sup>13</sup>. This gave Local Authorities until 1 December to influence how the TIF model should be implemented. It was subsequently noted on 13 December 2010 that the Government would legislate to introduce powers to allow TIF (House of Commons Library, 2011). However, the TIF model would need to be considered in relation to wider proposals on the retention of business rates (House of Commons Library, 2011). The CLG Structural Reform Plan Monthly Implementation Update for March 2011 subsequently notes that work to develop and introduce proposals to implement local retention of business rates and TIF is ongoing, with an anticipated completion date of April 2012 (CLG, 2011). Therefore, although TIF might be applicable to the area, it seems likely that the legislative framework might not be available in time for the scheme to be used to fund coastal defences, if funding is needed from 2012 onwards.

### **7.3.3 Business Improvement Districts**

Business Improvement Districts (BIDs) are intended to provide a flexible mechanism for funding the management of, and improvements to, a clearly defined commercial area. The BID requires a vote to be carried out across all defined business ratepayers to agree an additional levy (which could be the level of contributions needed to ensure continued management of the coast). The vote is considered successful if a majority of the ratepayers (in terms of number and Rateable Value) agree with the proposal to set up the BID, the levy becomes mandatory on all defined ratepayers. The levy is then collected in the same way as Business Rates (London BIDs, 2005).

The levy is collected from the owner of the property (rather than the occupier) and relies on businesses being able to afford a small additional levy. As a result, BIDs are more likely to be successful where there is sufficient scope for businesses to pay the levy. In addition, the BID may require some up-front funding (although this could come from another source, such as the Local Authority or maybe the Environment Agency given that they would make considerable savings once the BID is operational).

The development of the BID could take up to two years and could cost between £100,000 and £500,000. It would require strong involvement from the local authority and would benefit where there are already good levels of communication with local businesses (as is the case with the Key Stakeholder Group).

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<sup>13</sup> White Paper available from:  
<http://www.bis.gov.uk/assets/biscore/regional/docs/l/cm7961-local-growth-white-paper.pdf>

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In the USA, a special type of BID, a Tourism Business Improvement District (TID) is used to increase occupancy and room rates. The approach enables tourism-related industries to work together and collaborate on how best to maximise the potential of the area as a tourist destination. This approach could be applied in the UK, and could be used by tourism businesses to raise money for flood defences to ensure the continuation of tourism activities and accommodation in the at-risk area. For example, a single sector BID could be set up for the Wolferton Creek to South Hunstanton frontage. It could involve all those businesses in the area which are reliant on and serve tourists (i.e. providers of accommodation, entertainment, food, etc.). Money raised from the BID levy could be used to fund coastal defences, thus ensuring that tourists would continue to visit, and businesses would consequently be supported.

#### **7.4 Obtaining Contributions from Transport**

The process for obtaining contributions from the organisation responsible for maintaining (or repairing after a flood) the A149, is likely to be through negotiations and discussions. This will require the benefits of the contributions to be highlighted, for example, as repair costs saved and disruption costs avoided.

#### **7.5 Obtaining Contributions from Landowners**

Contributions from landowners could be facilitated through close working with Internal Drainage Boards. This would align well with the aim of local management of the flood defence system, although landowners may feel like they are paying twice for the same service. It would be important to be clear, therefore, that the contributions are paying towards avoiding flooding from the sea. There may be other benefits for the IDB from continued coastal management work, such as prevention of water backing up onto farmland if coastal defences were not maintained. There may be some potential cost reductions associated with continued coastal management that could help sell the need for contributions to landowners that are already paying IDB drainage levy charges.

There may also be opportunities to follow the principles of the IDB, but for those who directly benefit from flood defences. This could take the form of a 'shoreline drainage board' (SDB) reflecting those whose risk of tidal flooding was reduced by the work undertaken by the shoreline drainage board. The shoreline drainage board could be designed to manage tidal flood risk and cover the area that could be directly affected (in the same way that an IDB area is determined by the water catchment area, rather than by local authority or parish boundaries). The ability of the shoreline drainage board to raise levies from beneficiaries within its area may require changes to legislation under which IDBs are set up (potentially the Land Drainage Act 1991 and/or Coast Protection Act 1949). Importantly, SDBs would need to be able to collect contributions from all those directly benefiting from the flood defences, including businesses and residential properties as well as landowners.

The Public Bodies (Reform) Bill includes enabling provisions to allow the constitutional arrangement of IDBs to be modified (Section 3) or functions modified or transferred (Section 5) at a subsequent date by delegated legislation<sup>14</sup>. This may provide the opportunity for creating SDBs. The potential need for changes to legislation to enable the creation and management of SDBs would need to be explored further.

## **7.6 Defra Consultation on the Future Capital Grant-in-Aid Allocation Process**

Defra recently consulted (November 2010 to February 2011) on a new process for allocating grant-in-aid for capital projects (Defra, 2010d). This relies on the use of a system based on payments for outcomes. The consultation document suggests payments in line with the reduction in annual damages associated with capital works, so are most applicable to flooding schemes. In addition, the ‘guiding principles’ indicate that ‘funds...should...not be expected to pay for benefits that are localised or result in private financial gains’. This principle may make it difficult to utilise the payments approach for adaptation options (which are targeted towards reducing private financial losses<sup>15</sup>).

Using the payments illustrated in the consultation document suggests that grant-in-aid could be provided at (Defra, 2010d):

- £1 per £18 of benefit to businesses, agriculture, public bodies, communications (including roads), utilities and public health (payable over 50 years) (OM1);
- for houses moved from one category of flood risk to a lower category (houses built before January 2009), there is a payment of £30 per household per year for 50 years (OM2a); and
- for houses moved from significant (>1.3%) or very significant risk of flooding (>5%) to moderate or lower category (<1:75), there is a payment of £240 per household per year (OM2b).

Note that the reduction in annual damages would be calculated against the do-nothing baseline. It is expected that any additional costs would be collected locally to cover the total costs of the project.

The SMP2 indicates that the benefits of With Present Management for PDZ2 are £31 million (compared with the do-nothing option). This will include damages to houses as well as businesses (and visitor enjoyment). Excluding damages to households leaves £27.3 million of damages under OM1. The amount payable towards defences through OM1 would, therefore, be £1.5 million (from £27.3 million ÷ 18).

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<sup>14</sup> Article downloaded from [www.parliament.uk](http://www.parliament.uk) on Future Flood and Water Management Legislation: <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmenvfru/522/52205.htm>.

<sup>15</sup> Adaptation options should also deliver benefits to the local society, but these can be difficult to capture in monetary terms and the consultation document links the level of payments to monetary damages reduced. In addition, it is important to note that the suggested payments are all related to ‘protection against loss’ rather than adaptation.

With Present Management would deliver a reduction in flood risk (compared with doing nothing) such that houses would move to a lower risk category. However, the level provided would reduce flood risk to 2%. This would put the properties into the significant flood risk band. This means that the scheme would be eligible for the £30 per household per year payment (OM2a), but may not be eligible for the £240 per household per year payment (OM2b). The payment for OM2a would be £30 over 123 households for 50 years (in PV terms), this gives total contributions of £90,000. If the area was eligible for the OM2b payment, this would add a further £720,000.

Total payments from Defra (through the Environment Agency) are estimated at:

- OM1: £1.5 million;
- OM2a: £90,000; and
- OM2b: £720,000 (only available where flood risk is reduced to below 1.3%).

The total payment of £1.6 million (OM1 plus OM2a) is just 8.2% of the total costs of with present management (PV terms over 50 years). This could increase to £2.3 million (12%) if the area is eligible for the OM2b payments.

The effect on the contributions payable by local beneficiaries would therefore be a reduction of around 8% to 12% per year.

## **7.7 Community Infrastructure Levy**

The Localism Bill, published on 13 December 2010<sup>16</sup>, amends the Community Infrastructure Levy (CIL) from that in Part II of the Planning Act 2008. The CIL may be spent on the ongoing costs of providing infrastructure. Provisions are also made for regulations to set out activities relating to maintenance, operation and promotion that may (or may not) be funded by CIL (although none are stated as yet) (HM Government, 2010).

Clause 95 of the Localism Bill provides regulation-making provisions on directing authorities to pass funds raised through CIL to other bodies to spend on infrastructure<sup>17</sup>. These regulations will include the area in which it will apply, the bodies it will apply to, the amount and timing of payments, monitoring, accounting and reports responsibilities of charging authorities and when funding is to be returned to the charging authority. This will be important information if CIL is to provide a potential mechanism for raising contributions towards providing flood defences in PDZ2. However, there is insufficient detail at present to comment further on if and how CIL could work. One issue that could affect the ability of CIL being used to cross-subsidise investment in one area from development in another is the requirement for local authorities to allocate a proportion of the CIL back to the

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<sup>16</sup> Localism Bill, Part 5 – Planning, Chapter 2 – Community Infrastructure Levy, available from: <http://www.publications.parliament.uk/pa/cm201011/cmbills/126/11126.65-71.html>

<sup>17</sup> Localism Bill: Explanatory Notes, 13 December 2010, available from: <http://www.publications.parliament.uk/pa/cm201011/cmbills/126/en/2011126en.pdf>

neighbourhood from which it was raised, to allow those most directly affected by development to benefit from it. This could affect the amount of money that is available to use elsewhere (although this depends on the definition of neighbourhood which is given as ‘an area within the area of a local planning authority...which has been designated by the authority as a neighbourhood area’).

## 7.8 Summary and Comparison of Mechanisms

Table 7.1 compares the mechanisms described above in terms of whether they could be used to raise contributions for flood defences at the parish or borough levels, and whether they would allow different levels of charge to be applied to enable a surcharge to be collected from those in the floodable area. The table shows that, although none of the mechanisms described are clearly not applicable, there are issues with some that would require changes to legislation to enable them to be used to secure contributions for flood defences. These include special expenses, Tax Increment Financing and the Community Infrastructure Levy. The Shoreline Drainage Board may be possible under existing legislation (for example, the Land Drainage Act 1930, Land Drainage Act 1991 and/or the Coast Protection Act 1949), but this needs to be explored further.

Mechanism	Applicable to...		
	Parish-wide contributions	Borough-wide contributions	Surcharge
Parish precept	Y	N	?
Special expenses	?	N	?
Flood levy collected through Council Tax	Y	Y	?
Flood and Water Management Act/ Regional Flood and Coastal Committees	Y	Y	?
Community Interest Company	Y	Y	?
Tax Incremental Financing	?	?	?
Business Improvement District	Y	Y	?
Shoreline Drainage Board	?	?	?
Community Infrastructure Levy	?	?	?

Key: Y – likely to be applicable, ? – may be applicable/not clear, N – not applicable

Table 7.2 identifies the policy, practical and financial implications associated with each mechanism. This highlights where changes would need to be made to enable the mechanisms to be used to secure contributions. Issues that could affect potential use of the mechanism are shown with a minus (-) sign, while positive issues that mean the mechanism could be used, or is more likely to be acceptable, are shown with a plus (+) sign.



<b>Table 7.2: Policy, Practical and Financial Implications of Mechanisms</b>			
<b>Mechanism</b>	<b>Policy Implications</b>	<b>Practical Implications</b>	<b>Financial Implications</b>
Parish precept	<ul style="list-style-type: none"> <li>- Precept set by Parish Council so may not explicitly distinguish flood levy element (reduces transparency)</li> </ul>	<ul style="list-style-type: none"> <li>- Issue of high parish precepts, may be low acceptability</li> <li>- Risk of blighting area with higher precepts</li> </ul>	<ul style="list-style-type: none"> <li>- Required contributions would be much higher (than if Borough wide)</li> </ul>
Special expenses	<i>Function would have to be carried out by a number of parishes. It is not clear if this is appropriate</i>		
Flood levy collected through Council Tax	<ul style="list-style-type: none"> <li>- Issue of capping of Council Tax (where no additional tax could be collected, this would mean savings would have to be made elsewhere)</li> <li>- Potential restriction on raising flood levy through Council Tax due to restrictions on the money raised being used only for services provided by the Council</li> </ul>	<ul style="list-style-type: none"> <li>- May be low acceptability across Borough, with potential for referendum if threshold increase were exceeded (this could mean the increase is vetoed)</li> <li>- Need to secure agreement from Elected Members (to enable the funds needed to pay for the defences to be added to the budget)</li> <li>- Need to show value for money for the District Audit</li> </ul>	<ul style="list-style-type: none"> <li>+ Could be used to ensure second homes are required to pay</li> </ul>
Flood and Water Management Act/ Regional Flood and Coastal Committees	<ul style="list-style-type: none"> <li>+ Links well with policy of encouraging local participation and local contributions</li> </ul>	<ul style="list-style-type: none"> <li>- Wolferton Creek to South Hunstanton would be competing for funds with other projects</li> </ul>	<ul style="list-style-type: none"> <li>+ Could be used to supplement local contributions, so not all the cost of defences would have to be met locally</li> <li>+ RFCCs can raise local levy where Grant-in-Aid funding is over-subscribed</li> </ul>
Community Interest Company (CIC)	<ul style="list-style-type: none"> <li>+ Allows bespoke social enterprises to be established with assurance that assets would be used for the benefit of the community</li> </ul>	<ul style="list-style-type: none"> <li>- May work on voluntary pledge basis, unclear if there is a mechanism that would make contributions compulsory</li> </ul>	<ul style="list-style-type: none"> <li>- Voluntary pledges may not collect amount required every year (how would the shortfall be funded?)</li> </ul>
Tax Incremental Financing (TIF)	<i>May not be applicable when looking to avoid financial losses</i>		
Business Improvement District (BID)	<ul style="list-style-type: none"> <li>+ Initiated, financed and led by the commercial sector</li> <li>+ Potential to set up single business sector BID, or</li> </ul>	<ul style="list-style-type: none"> <li>+ Can be defined to cover specific area with specific objective through the BID business plan</li> </ul>	<ul style="list-style-type: none"> <li>+ Enables mandatory contributions to be collected through Business Rates</li> <li>- High set-up costs</li> <li>- Risk that businesses</li> </ul>

<b>Mechanism</b>	<b>Policy Implications</b>	<b>Practical Implications</b>	<b>Financial Implications</b>
	Tourism Business Improvement District (TID), as a special type of BID	<ul style="list-style-type: none"> <li>- Set up for maximum of 5 years, so would need to be renewed</li> <li>- Levy is paid by owner (not the occupier) so may be paid by Local Authority where it owns the land/property</li> </ul>	could vote against the BID such that the required funds cannot be raised (but risk could be reduced through use of single business sector or tourism BID)
Shoreline Drainage Board (SDB)	<ul style="list-style-type: none"> <li>- Legislation may be required to set up SDBs</li> </ul>	<ul style="list-style-type: none"> <li>- Could be defined to cover specific area, but likely to only cover those directly benefitting</li> </ul>	+ If SDBs follow the model of IDBs, contributions could be collected from ratepayers, who would be the beneficiaries (i.e. those who would benefit from reduced flood risk)
Community Infrastructure Levy (CIL)	<i>Requires clear definition of neighbourhood and how money raised in one area can be used elsewhere</i>		

Table 7.2 shows that the most appropriate methods may be:

- through the RFCC, where local contributions collected through other mechanisms could be used to help increase the potential that funding is available from Grant-in-Aid. This could mean that the level of local contributions is reduced from the £800,000 per year used in estimating the contributions payable in Sections 5 and 6 of this report. The RFCC could agree a local levy contribution through Council Tax and Business Rates if additional money was required (but the need for this approach could be supplement or replaced by any or all of the following);
- through partnerships between the beneficiaries with agreement on the amount of money to be provided by each partner. This could be based on identifying and including different beneficiaries, e.g. just the direct beneficiaries (those protected by the flood defences), the direct and indirect beneficiaries (such as those within the Borough Council area) or wider (potentially up to County level);
- individual beneficiaries could be involved in the partnership through some of the mechanisms described above:
  - **residents:** through a Community Interest Company (potentially on the basis of voluntary pledges, although this is unlikely to result in a consistent contribution and would make it difficult for the CIC to commit (e.g. through a legal agreement) to a set amount to be contributed year-on-year). An alternative would be for the Parishes, Borough Council or County Council to pledge the money on behalf of

- residents, with this being collected through Parish Precepts or Council Tax;
- **businesses:** through Business Improvement Districts, especially where these are tailored at the businesses that benefit directly from the flood defences. Many of these businesses have expressed an interest in contributing. A single business sector BID, or TID could be used to formalise the contributions and help ensure that they are collected each year, although the BID would need to be renewed after five years;
  - **utilities:** through legal agreements with the utility companies based on the benefits they would accrue from the reduction in flood risk;
  - **transport:** through legal agreements with the County Council highways department based on the savings they would make from avoiding costs of repairing the road following flooding, or from reduced disruption as a result of flooding; and
  - **landowners:** potentially through direct contributions to the partnerships (from individual landowners) or through a legal agreement with the IDB (this could be linked to the savings made from reducing the risk that farmland would be flooded).
- alternatively a new partnership could be developed based on the idea of a Shoreline Drainage Board. This would be responsible for collecting contributions from ‘ratepayers’ (defined as all those with the SDB area that benefit from the flood defences) in a similar way to IDBs. The potential for this mechanism to be implemented would require consideration of the existing legislation and whether this would need to be reformed. The Public Bodies (Reform) Bill could provide an opportunity to provide the opportunity for creation of SDBs, although this would need to be explored further.

## **8. STAKEHOLDER VIEWS AND FEEDBACK**

### **8.1 Overview**

The involvement of stakeholders in the management of coastal change is crucial. The Wash SMP identifies that there is a need for a sustainable solution and that this can only be delivered through close working with those involved. It is essential, therefore, that stakeholders have an opportunity to provide feedback and views on the approaches assessed here and the likely affordability of the contributions as estimated.

### **8.2 Stakeholder Views on the Approaches**

The main points raised on the approaches include:

**Borough wide contributions** - there is a need to be careful with the borough wide contributions. There may be the requirement to pay for more defences in other parts of the Borough. If it is necessary to pay for defences all around the Borough's coastline, the costs from the SMP indicate that the estimated contributions could double (the costs would increase from an estimated £800,000 per year to around £1.5 million per year if PDZs 1, 2, 3 and 4 are included). The effects of including the costs of defences all around the Borough's coastline are illustrated in the contributions estimated under Approach 3b. However, in a related point, the economy of the borough is heavily reliant on tourism, so if the area is not protected then there will be an economic downturn which will affect everyone. The more people who share the cost, the less it will be.

**Risk-based contributions** - a surcharge for those more at risk was considered a good idea, as long as it is a fair contribution. There is likely to be a significant issue of where to put the line between those paying a surcharge and those not.

**Ring-fencing of contributions** - it is important that any money raised is ring-fenced. People have to be able to see that their contribution is being spent locally and on defences. There is also an issue of value for money and what they are paying for – their contribution needs to be linked to what they will get in return. For example, if they pay more they could get an improvement in the defences, rather than maintenance of what they already have. There is a need to work closely with the Environment Agency and the Environment Agency's project will need to take the results of the Pathfinder forwards to provide the information on what the contributions could provide.

**Understanding the reason for the contributions** - it is important that people are clear about who is benefiting from defences and how (especially those that would not be flooded). This is the only way that people will understand better how they benefit (and hence why they need to contribute). This might be easier for businesses than residents.

**Level of contributions** – it was commented that no one at the workshop thought that the level of contribution was unreasonable (even when compared with £111.97 as Borough Council Tax). But how should these figures be explained to the general public? People may not actually appreciate the problem. There need to be answers ready for when people ask questions, e.g. will the beach eventually be lost if hard defences are provided and maintained in the long-term?

**Continuity** – if a defence was built, businesses in particular would want a guarantee or contract to say that it would be maintained, provided that contributions were paid.

**Deadlines** – the timescale of the study is too short to come up with an answer. The project has to be used to raise awareness first, then tell people what it might mean. The project has to be made personal to them, e.g. tell them what they would have to pay (and why). The point was raised that the process of stakeholder engagement should not be limited by the Pathfinder deadlines since information can continue to feed into the Environment Agency's strategy work.

### **8.3 Stakeholder Preferences**

There was a general consensus in the final workshop (held on 16 December 2010 in Hunstanton) that Method A (where businesses pay a higher proportion) seems the most appropriate. Also, the consensus was that the contribution should be payable Borough-wide with a surcharge for those in the floodable area (rather than below/above 5m). This is consistent with the results from the questionnaire, where the majority (65%, or 28 out of 43 responses) thought that contributions should be collected Borough wide. This perhaps relates to the point made by many respondents that the economy of the Borough is heavily dependent on tourism, thus it could be seen as fair that contributions are sought from the whole Borough, rather than just the affected parishes. However, despite the above, it should be acknowledged that a not insignificant number (35%, or 15 out of 43 responses) thought that money should only be collected from those in the parishes of Heacham, Snettisham, Hunstanton, Dersingham and Ingoldisthorpe.

The practicalities of administering the charge were considered at the third workshop in Hunstanton. Key points noted included:

- **keeping the system as simple as possible:** the simplest way from an administration viewpoint is for the charge to be included as part of the parish precept. An explanation for the increase could then be added to the explanatory booklet which is sent out with the bill. BCKLWN has pledged not to increase its part of the Council Tax, hence it would be difficult to add a flood defence charge into this. It could perhaps be done by adjusting the figures so that the charge would be taken out of the BCKLWN payments. However, this would not be very transparent. One problem is that the software used for the production of the Council Tax bills does not allow additional payment lines to be added (i.e. Flood defence fund...£x). It would cost several thousand pounds for a programme to be written to allow this;

- **using the estimated contributions as a way of raising awareness:** if people living outside the at-risk area realised that they might have to pay via their Council Tax bills, they might decide to get involved in the study. They are probably keeping quiet in the hope that they will not have to pay (note that RPA submitted some text on the study to both Heacham and Hunstanton Newsletters; some of those who responded do live outside the at-risk area);
- **there will be some up-front costs to get the system set up and underway;**
- **inflation needs to be built in,** so everyone (businesses included) can plan for future contributions. A fixed price is perhaps a better option; and
- **potential that some money might be provided from central Government** (rather than all having to be raised locally): the Defra consultation document on future funding suggests some payments could be available to help with the costs. However, based on the approach set out in the consultation document this might be small, estimated at around 8% to 12% in Section 7.6 (although the full details and interpretation of the future funding approach have not yet been agreed). Note though that there is also the possibility that some money might be assigned to the area by the RFCC.

Summing up the contribution collection mechanism, stakeholders at the workshops felt that it should be:

- simple and transparent, with contributions ring-fenced for defences;
- ready for when the money runs out in 2012; and
- there needs to be a contract between the Environment Agency and the local area, with the parishes receiving an annual report on work undertaken and work planned.

#### **8.4 Stakeholder Views on Payment Amounts and Affordability**

The contributions calculated within this report were discussed with stakeholders at two of the workshops. It is of note that attendees, although not necessarily pleased with the potential prospect of having to make an annual contribution towards sea defences, nonetheless did not view the possible payment amounts as unreasonable. There was however considerable concern over how to explain the figures to the general public. The point was made that there needs to be information available for when people ask questions. This would allow people to better appreciate the problem. This issue is perhaps particularly important for caravan businesses. Indeed, one attendee noted that since their caravan park had not had any problems with flooding, they would find it difficult to persuade their customers to pay an additional flood defence charge. It is also of note that a representative of the retail sector felt that businesses in the local area would not be able to afford an increase in business rates. They suggested that it might be an idea to place a charge directly on each caravan instead. Although this report does not look at charges specifically for caravans, it should be remembered that any charge put on tourism businesses such as caravan

parks will ultimately be passed onto those using the businesses (i.e. people renting caravans or pitches).

Opinions on what people would be willing to pay were sought at the drop-in session in Heacham, through the postal questionnaires and through the information published in the local newsletters. People were given the choice of ticking a box depending on what amount they would be comfortable with paying annually. The amounts were totalled and divided by the number of respondents to determine annual willingness to pay (WTP) figures. These were:

- drop in session: average WTP of £31 per year<sup>18</sup> (sample size of 9);
- postal questionnaires: average WTP of £41 per year (sample size of 48); and
- responses to newsletter article: average WTP of £14 per year (sample size of 18).

Combining all these results gives an annual WTP per respondent of £33 for a sample size of 75. Note that due to the relatively small number of business respondents, responses from residents and businesses have been combined to produce this figure.

The average WTP can be compared with the amounts calculated earlier in this report. Table 8.1 compares the average WTP with the amounts that would be payable by residents under the three methods if the charge is only applied at the parish level. Table 8.2 shows similar information but for a borough wide charge with a surcharge for those buildings/dwellings below the 5m contour, whilst Table 8.3 compares the average WTP with the residential contribution if there was a flat rate across the whole borough.

It can be seen from Table 8.2 that for residents, the average WTP is much greater than the contributions which would be required under the preferred approach (Approach 2: Borough wide with surcharge for those at risk) and method (Method A: by income paid to the Borough Council). However, it needs to be noted that people living elsewhere within the Borough have not been asked about their willingness to pay. It is likely that they would be willing to pay less, due to the greater distance between them and any defences built as a result of the contributions. Therefore it should be expected that the average WTP would fall. However, the WTP calculated as part of this study is much higher than the suggested residential contributions of £4 and £2 (for below and above the 5m contour respectively) under the preferred approach and method. Thus it is possible that even if the Borough wide WTP was much lower than the figure found here, it would still be above the amount which people would be required to contribute. There is however another caveat which should be mentioned at this point. The costs estimated under Approach 2 are for managing the Wolferton Creek to South Hunstanton only. If the whole Borough were required to contribute, it would only be fair that the whole Borough was able to have defences (i.e. the contributions would need to cover coastal management for King's Lynn, etc.). This would require more money, and therefore an increase in the size of the average contribution.

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<sup>18</sup> One of the nine respondents did not tick a box but noted that they would only be willing to pay through national taxation. This calculation therefore assumes that they would contribute £0.

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**Table 8.1: Comparison of Estimated Residential Contributions under Approach 1 (Parish wide) with Average WTP**

	Method A: by income paid to borough council		Method B: by national taxation		Method C: by national taxation (council tax/business rates)	
	Approach 1a	Approach 1b	Approach 1a	Approach 1b	Approach 1a	Approach 1b
<b>Residential contribution: per band D property</b>	£10	£14	£63	£84	£38	£50
<b>Is contribution greater or smaller than annual average WTP of £33</b>	smaller	smaller	greater	greater	greater	greater

Notes: Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes, whilst Approach 1b excludes Dersingham and Ingoldisthorpe. Costs are based on the estimates for Wolferton Creek to South Hunstanton only.

**Table 8.2: Comparison of Estimated Residential Contributions under Approach 2 (Borough wide with surcharge) with Average WTP**

	Method A: by income paid to borough council		Method B: by national taxation		Method C: by national taxation (council tax/business rates)	
	Below 5m	Above 5m	Below 5m	Above 5m	Below 5m	Above 5m
<b>Residential contribution: per band D property</b>	£4	£2	£27	£14	£16	£8
<b>Is contribution greater or smaller than annual average WTP of £33</b>	smaller	smaller	smaller	smaller	smaller	smaller

Note: Costs are based on the SMP estimates for Wolferton Creek to South Hunstanton only.

**Table 8.3: Comparison of Estimated Residential Contributions under Approach 3 (Flat rate across the borough) with Average WTP**

	Method A: by income paid to borough council		Method B: by national taxation		Method C: by national taxation (council tax/business rates)	
	Approach 3a	Approach 3b	Approach 3a	Approach 3b	Approach 3a	Approach 3b
<b>Residential contribution: per band D property</b>	£2.30	£4.20	£14	£25	£8.20	£15
<b>Is contribution greater or smaller than annual average WTP of £33</b>	smaller	smaller	smaller	smaller	smaller	smaller

Note: Approach 3a covers just the costs of managing the coast at Wolferton Creek to South Hunstanton, whilst Approach 3b includes the costs of managing the coast along the whole Borough frontage.



## **8.5 Stakeholder Criticisms**

It is important to acknowledge that many stakeholders indicated that they would not be willing to contribute towards the sea defences. Several reasons were given including:

- “we pay enough council tax and business rates”;
- “on principle. I pay council tax, PAYE, so stand up for these protected areas and fight”;
- “this is a nationwide concern not just a selected small area”; and
- “the government should fund as necessary to protect people’s properties and land”.

Many people were also concerned that the wider benefits of the area should be recognised. Comments included:

- “possibly local contribution but national/government contributions as well as the area is for everybody – not just locals and needs protecting”;
- “everyone uses the area”;
- “this is our heritage we have a duty to preserve it for future generations”; and
- “the majority of the burden should fall on property owners/occupiers in the parishes indicated. However, this should be weighed against the financial gain for both the local and national economy of people holidaying in the area concerned”.

Therefore, although there is some support for contributions towards defences from the local community, it should be recognised that this is not universal. There is also considerable strength of feeling that people from a wider area should contribute. Many also feel that there should be some input from central government, even if full government funding is not available following the proposed revisions to funding for flood and coastal erosion risk management.

## **8.6 Other Issues Raised by Stakeholders**

As part of the consultation process, stakeholders were given the opportunity to make comments on the Pathfinder Project as a whole, as well as on any other related issues. Matters which were raised included:

- the need to protect the environmental areas which may be affected by coastal change;
- the potential for a Wash barrier; and
- the privatisation of parts of Snettisham beach<sup>19</sup>.

Regarding the Pathfinder process itself, concerns raised related to the timescale and

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<sup>19</sup> Note that a similar issue could arise if a contributions mechanism was set up. If people living, working and holidaying in the affected area contribute towards the coastal defences, it is possible that they will feel a sense of ownership. This may, in cases, lead to people wanting to exclude others, i.e. those who have not contributed.

timing of the project, as well as the numbers of people consulted. It is recognised that the winter months are not the ideal time for undertaking a study which is based on stakeholder engagement. However, the study is constrained by the overall Pathfinder deadlines which have been set by Defra. It was therefore not possible to undertake the study during the summer months, when more people would be expected to be around. Attempts have been made to deal with this problem, for example, by sending questionnaires to caravan owners at their residential addresses, and by including details on the project in the February editions of both the Hunstanton Newsletter and the Heacham Newsletter. It should additionally be noted that the Environment Agency are undertaking a Coastal Management Review which includes the Wolferton Creek to South Hunstanton frontage. Therefore, it is anticipated that views and comments from local residents, affected businesses and visitors can continue to be fed into the Environment Agency's review after the Pathfinder Project has finished.

Considering the number of people consulted, one questionnaire respondent noted that they had spoken to several people and discovered that not everyone had received a questionnaire. Given the time and budget limits of the study, the questionnaires were only targeted at caravan owners and those in the PEN area. Therefore, there will be people within the affected settlements who will not have received a questionnaire. There will also be those who were aware of the study but decided not to comment for various reasons. For example, a representative of the retail businesses suggested that they had not really got involved with the study because they had thought that the idea of contributions was purely theoretical.

Regarding the resident population, although attempts have been made to consult local people through holding a drop-in session in Heacham and putting text into local newsletters, it is recognised that not everyone will have been made aware of the project. Communication with local stakeholders (and indeed all those who may ultimately be asked to contribute) is therefore a matter which needs to be given serious thought as further work on coastal management of the area is undertaken. Indeed, as noted at the Snettisham workshop, there need to be answers available for when people ask questions, thus ensuring that all stakeholders receive consistent and correct information regarding the sea defences.

## **9. POLICY, PRACTICAL AND FINANCIAL IMPLICATIONS OF ALTERNATIVE ACTIONS**

### **9.1 Overview**

The second objective of the study was to investigate the policy, practical and financial implications of alternative actions such as the potential ‘rolling back’ of tourism facilities and other adaptation measures. Such actions would be necessary if funding for coastal defences was not secured, or if local people and businesses were unwilling to contribute towards coastal management. This section therefore considers a range of alternative actions which involve adaptation to the changing coastal conditions. Consideration is also given to the implications of such adaptation, as well as the views expressed by stakeholders.

### **9.2 Background to the Area and Current Situation**

The Wolferton Creek to South Hunstanton frontage (PDZ2 in the Shoreline Management Plan) has a large volume of holiday and seasonal accommodation along the sea front, with the main residential areas of the settlements of Dersingham, Ingoldisthorpe, Heacham and Snettisham set back from the coast. There are currently two flood defences along the coastline. The first defence is part concrete and part shingle ridge whilst the second defence, which is approximately 500m inland from the first, is an earth embankment. Both of these defences currently provide protection to a standard of around 1:50 years<sup>20</sup>. It should be noted that within the area between the two defences, there are around 3,000 caravans and holiday homes. There are additionally 285 businesses and 123 residences located in the flood risk area.

Due to the large number of people who may be present in the flood risk area, and the consequent time needed for evacuation should a flood event be expected, the area is covered by a Precautionary Evacuation Notice (PEN). If a flood event is considered likely, then a PEN will be issued prior to any other flood warnings to ensure that people present in the area have time to evacuate<sup>21</sup>. Although winter occupancy levels in the PEN area are expected to be lower than during the tourist season, the situation regarding caravan occupancy is complicated. Many caravans are restricted to a six month period of occupancy (i.e. April to September). However, several have year round permission. There is also a range of ownership options. For example, some people may rent a caravan from a site owner, whilst others may rent the pitch and actually own their static caravan. There are some people who own both their pitch and their caravan.

Combining the range of different occupancy types with the business and residential interests in the area means that it is unlikely that one generic adaptation action would be suitable. Rather, it is probable that different actions would be required for different groups of people, i.e. businesses, residents, holiday home owners and tourists. It

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<sup>20</sup> Note however that PPS 25 suggests a 1:200 year standard for tidal flood risk.

<sup>21</sup> Further information on the PEN can be found in the document Flood Warning Information 2010-2011, published by the Borough Council of King’s Lynn & West Norfolk.

should also be recognised that the situation is distinctly different from one involving coastal erosion. For the Wolferton Creek to South Hunstanton frontage, the flood risk exists for all those in a specified area, rather than just the properties and caravans on the front line. This has implications for the practicalities of the various adaptation options. For example, there may be little benefit to be gained from rolling back caravans away from the coast if they simply move further away from the shore but remain in the same flood risk area.

## **9.3 Potential Adaptation Actions**

### **9.3.1 Introduction**

Several adaptation options were introduced to stakeholders at the drop-in session in Heacham, on the postal questionnaire and in the text submitted to the local newsletters. Although attempts were also made to discuss alternatives to coastal defences at the various workshops, there was a reluctance on behalf of attendees to consider adaptation; those present generally felt that defences would be maintained even if this involved local contributions. However, the study still needs to consider the potential implications of adaptation options, should funds for defences not be available. Any such adaptation options need to deal with the increased risk of flooding which would likely result if defences were not maintained or improved. The aim of such actions would therefore be to manage or decrease the risk from coastal flooding.

### **9.3.2 Types of Adaptation Action**

Adaptation actions can be categorised in terms of the extent of the change they require from the status quo. Some actions might only require small changes, for example, more frequent PEN announcements, flood warnings and associated evacuation of the flood risk area. Other actions would necessitate greater and more permanent upheaval. Such actions might include people moving out of the flood risk area, and even the demolition of properties. As noted earlier, given the variety of properties and holiday accommodation within the flood risk area, it is likely that different actions would be more appropriate for different at-risk groups. The property groups that would be directly affected by any adaptation actions are therefore assumed to include:

- businesses providing holiday accommodation;
- businesses – other (e.g. shops, amusement arcades, etc.);
- permanent residential properties;
- second homes;
- holiday accommodation (excluding caravans) which is privately owned; and
- static caravans.

Although second homes might be structurally similar to residential properties which are occupied permanently, the implications of adaptation for the owners are likely to be significantly different. The same argument applies to caravans as opposed to fixed holiday accommodation such as chalets and bungalows. One of the attendees at the

second workshop in Hunstanton noted that many static caravans are insured on a new for old basis. Thus it is possible that recovery after a flood event would be quicker and potentially even lead to accommodation of a better standard (if for example a nine year old caravan was replaced by the latest model). However, it should be borne in mind that if flood risk increased to the extent that flooding was almost certain, then insurance costs would increase significantly. Also, it has to be considered that caravans can be moved around, thus actions such as movement out of the at risk area (so called rollback) are physically possible provided land is available. In contrast, such an action would not be applicable to permanent accommodation.

Table 9.1 provides a list of potential adaptation actions, along with the groups to which the actions would probably be applicable. It is recognised that the table only refers to the applicability of the actions for property groups. Some adaptation actions might well result in knock-on impacts for other groups, for example, day trippers visiting the beach, or local people walking their dogs or undertaking other informal recreation along the shore. Depending on the extent of the actions, there may also be more widespread impacts, including impacts on the local economy resulting from the loss of accommodation close to the sea. Further consideration is given to these impacts in Section 9.4 (Implications of Adaptation Actions) below.

<b>Table 9.1: Potential Adaptation Actions</b>	
<b>Action</b>	<b>Groups to which action is most applicable</b>
1 Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties; Second homes; Holiday accommodation; Static caravans
2 Property level flood resistance <sup>22</sup> should be increased (e.g. air brick covers, water resistant door and window covers, flood resistant gates, etc.)	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties; Second homes; Holiday accommodation
3 Property level flood resilience measures should be increased (e.g. raising electricity plugs, concrete floors, basement/cellar tanking, plastic skirting boards, flood resilient internal doors, etc.)	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties; Second homes; Holiday accommodation
4 Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied	Caravans
5 No new development in the flood risk area	Businesses providing holiday accommodation; Businesses - other
6 No extensions or changes of use allowed in the flood risk area	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties; Second homes; Holiday accommodation

<sup>22</sup> Resistance measures are assumed to be those which prevent water from entering a property, thus avoiding damage from shallow floods or increasing the preparation time for deeper floods. In contrast, resilience measures do not prevent flooding damage, but decrease the impacts and hence the repair costs (Defra/ Environment Agency, 2007).

<b>Table 9.1: Potential Adaptation Actions</b>		
<b>Action</b>		<b>Groups to which action is most applicable</b>
7	Permanent residents should move out of flood risk area, restricting occupancy of the area to a six month period when flood risk is lower	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties;
8	Everyone should move out of the flood risk area (rollback) as risk increases	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties; Second homes; Holiday accommodation; Static caravans
9	Caravans should be moved out of the flood risk area	Caravans
10	All properties in the flood risk area should be moved or demolished within the next few years	Businesses providing holiday accommodation; Businesses – other; Permanent residential properties; Second homes; Holiday accommodation; Static caravans
<i>Note:</i> actions such as equity release and equity transfer schemes and opportunities (e.g. buy and rent back) which may be appropriate for areas affected by coastal erosion are not assessed here since they would not contribute towards decreasing the risk from tidal flooding.		

## **9.4 Implications of Adaptation Actions**

### **9.4.1 Overview**

To ensure that all potential adaptation actions are properly assessed, it is necessary to investigate how they perform against a range of criteria. For this study, consideration will be given to the policy, practical and financial implications of the actions listed in 9.3.2. This will ensure that all potential actions are compared on a like-for-like basis.

### **9.4.2 Policy Implications of Adaptation Actions**

There are various policies that will affect which adaptation actions are feasible, as well as the implications of the actions. This section considers a range of policies relating to coastal management and flooding in the area including the Shoreline Management Plan (SMP) and relevant planning and development policies, including Planning Policy Statement 25 Supplement (Development and Coastal Change). It then looks at the likely policy implications of adaptation actions.

#### ***Shoreline Management Plan***

SMP 2 – The Wash (Gibraltar Point to Old Hunstanton) was formally adopted on 18 November 2010 (Environment Agency, 2010). This outlines the approach for shoreline management for the area for the next 100 years, as well as describing the likely impacts under a range of management regimes (Environment Agency, 2010). The two baseline scenarios which are described include (ibid):

- with present management (WPM): this involves annual recycling, reprofiling and repairs to the shingle ridge, as well as management of the stretches of hard

defences and the earth embankment. Under this regime, there might be a need for hard defences to be built in the future should the shingle ridge not prove adequate; and

- no active intervention (NAI): under this scenario, it is probable that the shingle ridge will move landwards. If sediment supply is large enough, the height of the ridge may be retained. However, if supply decreases, then the ridge may decrease in height, thus increasing the risk of overtopping. The ridge would therefore be more likely to breach or even fail completely. It is also likely that the concrete sections of the defence would gradually wear away and fail in the short-term. The secondary defence (the earth embankment) is also expected to cease to be functional in the medium-term. In the longer term, it is anticipated that there will be frequent and significant overtopping of the shingle ridge, with the land immediately behind it possibly changing to become mud flat and salt marsh.

The implications of these two scenarios are relatively clear. Under WPM, although reprofiling work on the shingle ridge would have to happen much more frequently, the current land uses (predominantly tourism) could continue (Environment Agency et al, 2010b). However, it should be acknowledged that there would be a significant risk to life due to the positioning of a large amount of temporary accommodation behind the ridge (ibid). The implications of NAI would be much more severe, with an unmanaged increase in flood risk, in particular for the area directly behind the ridge (ibid). The SMP subsequently notes that this policy would not be realistic if there was no time available for current land uses to adapt (ibid). It proceeds to comment that a time period of up to 2025 is the minimum time required to enable changes to land use (Environment Agency et al, 2010). Such changes would result from the implementation of adaptation actions.

When assessing the suitability of any adaptation actions, it is also necessary to give some consideration to the so called ‘big decisions’ which the SMP has highlighted for PDZ2. Three of these are highlighted below (Environment Agency et al, 2010b):

- having a shingle ridge as the main defence is likely to be difficult in the medium and long-term for three reasons. Maintenance may become too expensive, there is already a significant risk to life and the environmental impacts might not be acceptable;
- large-scale adaptation would be required if a policy of no active intervention existed. This would have implications for tourism; and
- important habitats including saline lagoons and intertidal areas are present either side of the shingle ridge.

The SMP does intend that flood defence is provided for all properties and infrastructure in PDZ2 in epoch 1, with the policy being to hold the existing frontline defences (Environment Agency et al, 2010b). However, the main outcome is for (ibid):

“a sustainable long-term solution to be developed by establishing a process of cooperation between the partner organisations and all people and businesses with an interest in the area”.

It subsequently notes that any long-term solution needs to allow sufficient time for adaptation, as well as ensuring that risk to life is acceptable (Environment Agency et al, 2010b). At this point it should be acknowledged that even if defences are built, the risk of flooding is not completely removed. Some risk still remains. Indeed, if a defence were built and a flood event happened, the consequences could still be great since building the defence does not limit the number of people present within the at-risk area. A coastal defence in the short-term would however provide time for adaptation and land use change in the long-term.

***Planning Policy Statement 25 Supplement (Development and Coastal Change)***

The objectives associated with coastal change<sup>23</sup> included in the PPS25 Supplement ensure that (CLG, 2010):

- policies and decisions in coastal areas are based on an understanding of coastal change over time; and
- new development is not put at risk from coastal change by:
  - avoiding inappropriate development in areas that are vulnerable to coastal change; and
  - directing development away from areas vulnerable to coastal change.
- risk to development which is, exceptionally, necessary in coastal change areas because it requires a coastal location and provides substantial economic and social benefits to communities, is managed over its planned lifetime; and
- plans are in place to secure the long-term sustainability of coastal areas.

The PPS25 Supplement identifies the need for Coastal Change Management Areas (CCMAs). These are areas that are likely to be affected by physical changes to the coast. When defining CCMA, local planning authorities are required to (CLG, 2010):

- draw on evidence on current and predicted impacts on physical changes to the coast. This should reflect the long-term nature and uncertainty of coastal processes, and take account of climate change. The evidence should be drawn from the Shoreline Management Plan and data developed by the Environment Agency and local authority, together with other strategic plans applying to the coastal area. It is also important to identify how coastal change could be affected by development and how development could be affected by coastal change;
- take into account the wider social, economic and environmental policy objectives; and

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<sup>23</sup> Defined as any physical change to the shoreline, including permanent inundation (CLG, 2010).

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- work in partnership with other local planning authorities and relevant agencies and bodies with an interest in the coast, making connections with any wider community adaptation activity.

The CCMA itself needs to identify the type of development that will be appropriate, taking account of any variation in risk across the area. It also needs to specify which type(s) of development may be permissible and any land that has been allocated for appropriate development. In addition, planning applications for development in a CCMA need to be accompanied by an assessment of the vulnerability of the proposed development to coastal change, and any impact on coastal change.

Where there is a need for development and infrastructure to be relocated from a CCMA, the local authority is required to make provision for sufficient, suitable land. This land has to be close enough to maintain the integrity of the coastal community from which it has been displaced. This will help to secure the long-term future sustainability of the coastal area.

### ***Coastal Flood Risk - Planning Protocol***

The Borough Council of King's Lynn & West Norfolk and the Environment Agency have produced a Planning Protocol for the affected stretch of coast which is in Flood Category 3 and/or a Hazard Zone<sup>24</sup> (BCKLWN and Environment Agency, 2010). The Planning Protocol followed on from the publication of the SMP and aimed to provide planning applicants with information about the changing level of flood risk in the area along with the associated controls on planning. It should however be noted that there may be changes to the Protocol in the future as further investigations are undertaken.

The Protocol links to many other planning documents including national planning policy such as Planning Policy Statement 25 Development and Flood Risk (PPS 25), and local policies, for example the Core Strategy<sup>25</sup>. The Protocol notes that the Core Strategy has a policy for development in coastal areas (CS07), which indicates that the council will (BCKLWN and Environment Agency, 2010):

- resist new and replacement dwellings and the extensive alteration of dwellings and the relaxation of occupancy limitations unless the outcome of the Shoreline Management Plans acknowledge the absence of risk or promote the retention and/or improvement of local sea defences; and
- ensure that any development on the coast is sustainable and able to withstand the effects of climate change.

These points are very pertinent to some of the potential adaptation actions listed in Table 9.1, in particular those relating to the relocation of caravans and other mobile homes.

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<sup>24</sup> Note that the Protocol refers to a Hazard Zone as an area where rapid flooding could occur if defences were overtopped or breached.

<sup>25</sup> Note that the Core Strategy examination has recently begun (see <http://www.west-norfolk.gov.uk/default.aspx?page=26072>).

Since both the first and second defences currently offer a standard of protection of 1:50 years, they are both below the standard of 1:200 which is suggested by PPS 25. This means that the standard is too low for new development in the area to occur (BCKLWN and Environment Agency, 2010). The level of risks means that there are several planning restrictions which are applied to the area. These include (BCKLWN and Environment Agency, 2010):

- no new dwellings or new/additional park homes or caravans will be permitted in tidal flood zone 3;
- replacement dwellings will be permitted in flood zone 3 on condition that
  - a flood risk assessment is undertaken;
  - all habitable accommodation is provided above ground floor level;
  - the dwelling will only be occupied between 1<sup>st</sup> April and 30<sup>th</sup> September;
  - the dwelling will include flood mitigation and resilience measures in accordance with CLG publications;
  - the building must be suitably designed to withstand and be resilient to hydrostatic pressure resulting from a breach or the overtopping of tidal defences;
  - a flood warning and evacuation plan will be prepared for the property and retained on site; and
  - the level of the habitable accommodation provided by the new dwelling would not be materially greater than that provided by the original dwelling. Proposals should not lead to an increase in the number of bedrooms over and above the number in the original dwelling.

The Protocol also notes that extensions are not permitted if they increase the number of habitable rooms (and thus increase the number of people within the flood risk area) (BCKLWN and Environment Agency, 2010). Change of use may also not be allowed if overall flood risk vulnerability is increased as a result (ibid). Seasonal occupancy is to be limited to the period between the 1<sup>st</sup> April and 30<sup>th</sup> September (ibid). It is hoped that this will avoid developments being used at times of year when the flooding risk is increased (BCKLWN and Environment Agency, 2010).

Importantly for the nature of the majority of the accommodation in between the two flood banks, there are several points which relate to existing park/mobile homes and caravans. The protocol notes that no new caravan, mobile homes or park home pitches will be allowed within the at-risk zone (BCKLWN and Environment Agency, 2010). However, it is recognised that some caravans and mobile homes have longstanding temporary permissions (ibid). A further such consent is unlikely to lead to an increase in the risk to property or life, provided that the caravan is removed or relocated before the flood risk increases (ibid). It is therefore noted that further temporary consents may be granted on a site if there have been or still are temporary consents, there are still caravans and mobile homes on the site, and the following conditions are met (BCKLWN and Environment Agency, 2010):

- planning permission is time limited until 30<sup>th</sup> September 2020;
- occupancy is limited to April to September;
- there is no intensification in the number of replacement park/mobile homes and caravans;

- any planning application for existing park homes and mobile homes/caravans has to be submitted with a flood risk assessment.

The above list therefore suggests that in the near future, those owning and/or renting caravans may well have to adapt their activities in some way regardless of whether there are any other planning policies implemented in the area.

### ***The PEN Area***

As noted earlier, the flood risk area is covered by a Precautionary Evacuation Notice (PEN) procedure, due to the large number of people who may need to be evacuated should a tidal flood event be anticipated. The PEN evacuation procedure currently covers parts of Hunstanton, Heacham and Snettisham, including the low lying land between the two defence lines. The procedure has been put into place by the Environment Agency, BCKLWN and Norfolk Police (BCKLWN, 2010). Once a PEN is in force, the Environment Agency sends the message to the emergency services, the Borough Council and the caravan site owners (BCKLWN, 2010). There are also a variety of signs in place in the affected area to warn people. Although a PEN does not mean that flooding will definitely occur, it provides people with more time to prepare and evacuate.

Should flood risk in the area increase, it is likely that the frequency of PEN announcements will also need to increase. These are already seen as quite significant events, since they are featured in both local and national news reports<sup>26</sup>. It is possible that if such notices were to be issued frequently, and no flooding did occur, they might lose their impact since people would start ignoring them. Conversely, tourists might start to avoid the area since they might not want their holidays interrupted. This would have knock-on impacts for the local and indeed wider economy.

### ***Likely Policy Implications of Individual Adaptation Actions***

Table 9.2 summarises the main policy implications that may result from the individual adaptation actions listed in Table 9.1. As can be seen, the actions which allow continued use of the area (i.e. increase of PEN frequency, fitting resistance and resilience measures, etc.) are not anticipated to have any significant policy implications. This is because they would involve continuing to implement current policy decisions, or are viewed as actions which individuals could be encouraged to undertake themselves. However, potential adaptation actions that are further down the list and therefore more dramatic would require significant changes in policy. This could include the provision of land for relocation of development and infrastructure, through development of a CCMA.

Actions such as permanent residents moving out of the at-risk area, and moving or demolishing all properties within the at-risk area would change the nature of the locality completely and have knock-on impacts for many other policies in addition to those directly related to coastal erosion and planning. It is not known whether such

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<sup>26</sup> See <http://news.bbc.co.uk/1/hi/england/6469683.stm> and [http://www.edp24.co.uk/news/flood\\_risk\\_agency\\_advises\\_precautionary\\_evacuation\\_1\\_695312?action\\_login](http://www.edp24.co.uk/news/flood_risk_agency_advises_precautionary_evacuation_1_695312?action_login) (both viewed 10/03/11) for reports of PEN notices being issued in March 2007.

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actions could even be implemented since there would likely be legal restrictions preventing the enforced movement out of the at-risk area (unless perhaps the risk increased dramatically and permanent evacuation was necessary due to health and safety). Such evacuation would affect all groups within the area, and would also have knock on impacts for those outside the area, for example, people displaced from the at-risk area might try to purchase other properties in the vicinity. This could push up prices, leading to development pressures and ultimately the need for further planning policies. In contrast, high flood risk in the area could lead to blight and a subsequent drop in prices.

Despite the potential legal issues surrounding compulsory movement of property out of the at-risk area (so called rollback), it is possible that those in the area might voluntarily move if an SMP policy of NAI were followed. This is because if the flood risk increased, and flood events actually occurred with greater regularity than has previously been the case, people living within the at-risk area might become fed up with the increasing regularity of PEN notices, as well as the probability of higher insurance premiums and the cost of repair bills. Residents might therefore reach the point where they decide of their own accord that they no longer wish to live in the area. However, even if residents themselves decided to move away, this would raise other issues of whether they could afford to do so. If the property within the at-risk area were their main home, as opposed to a holiday caravan or second home, then it is possible that its value would fall if an NAI policy were implemented and regular flooding became the norm. The property could even become uninsurable or unmortgageable. This would likely restrict the ability of the property owner to sell the property, since they would be restricted to cash buyers. This issue is discussed further under the financial implications section.

### ***Summary of Policy Implications***

The above discussion therefore shows that there would be significant policy implications for some of the options, in particular those which limit the length of time which people can stay within the at-risk area and those which require people to move out of the area (and indeed, out of any CCMA which might be designated). However, from a policy perspective, it would be relatively straightforward to implement some of the more minor adaptation actions. Such actions could include promoting the uptake of resistance and resilience measures at the individual property level. Actions which currently occur (e.g. no new development in the flood risk area) could also be continued. However, these actions would not decrease the level of risk posed by tidal flooding since the population within the at-risk area would not be changed. Indeed, the SMP notes that it will likely be difficult to maintain a shingle ridge as the main defence in the medium and long-term, partly because there is already a significant risk to life. It is probable that this risk will increase with time. Thus even with the presence of coastal defences, there may be a need to tackle some of the policy implications associated with potential adaptation actions such as further restrictions on caravan occupancy.

<b>Table 9.2: Policy Implications of Potential Adaptation Actions</b>					
<b>Action</b>	<b>Are there any Policy Implications?</b>				
	<b>SMP</b>	<b>CCMA</b>	<b>Planning Protocol</b>	<b>PEN</b>	<b>Any other Significant Policy Implications</b>
1: Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area	No implications anticipated for SMP policy	Possible implications in terms of vulnerability of proposed new development and need to manage risk over the lifetime of the development	No implications anticipated for planning protocol	PEN policy might require adapting to ensure that it is continually effective. Area covered by PEN notices may need to be expanded as risk increases	No other significant policy implications anticipated
2: Property level flood resistance should be increased (e.g. air brick covers, water resistant door and window covers, flood resistant gates, etc.)	No implications anticipated for SMP policy	Possible implications in terms of vulnerability of proposed new development and circumstances in which certain types of development may be permissible	No implications anticipated for planning protocol – actions are undertaken at the individual level	No implications anticipated for PEN policy	Potential implications for insurance policies
3: Property level flood resilience measures should be increased (e.g. raising electricity plugs, concrete floors, plastic skirting boards, flood resilient internal doors, etc.)	No implications anticipated for SMP policy	Possible implications in terms of vulnerability of proposed new development and circumstances in which certain types of development may be permissible	No implications anticipated for planning protocol – actions are undertaken at the individual level	No implications anticipated for PEN policy	Potential implications for insurance policies
4: Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied	No implications anticipated for SMP policy	Possible implications in terms of vulnerability of proposed new development and circumstances in which certain types of development may be permissible and need to manage risk over the lifetime of the development	Current policy time limits further temporary consents for caravans. However, substantial changes would be required to impose shorter time limits on all consents. Uncertainty as to whether this would be legally possible	Unlikely to be any implications for PEN policy since PEN notices will still need to be issued for permanent residents within the at-risk zone	Potential negative implications for any growth and tourism policies

<b>Table 9.2: Policy Implications of Potential Adaptation Actions</b>					
<b>Action</b>	<b>Are there any Policy Implications?</b>				
	<b>SMP</b>	<b>CCMA</b>	<b>Planning Protocol</b>	<b>PEN</b>	<b>Any other Significant Policy Implications</b>
5: No new development in the flood risk area	No implications anticipated for SMP policy	Implications in terms of allocation of land for appropriate development within CCMA, taking account of wider social, economic and environmental policy objectives and need to manage risk over the lifetime of the development	Currently, no new dwellings or additional park homes, caravans or mobile homes are allowed in tidal flood zone 3. Thus action is unlikely to have any implications for the planning protocol	No implications anticipated for PEN policy – action would not lead to a change in the number of people present within the at-risk area	No other significant policy implications anticipated
6: No extensions or changes of use allowed in the flood risk area	No implications anticipated for SMP policy	Implications in terms of allocation of land for appropriate development within CCMA, taking account of wider social, economic and environmental policy objectives and need to manage risk over the lifetime of the development	Currently, planning protocol does not permit extensions and/or change of use unless SMP policy shows that risk is decreased or promotes maintaining or improving sea defences. At the present time, this action is therefore unlikely to have any implications for the planning protocol	No implications anticipated for PEN policy – action would avoid any increase in the number of people present within the at-risk area	No other significant policy implications anticipated – this action is implemented currently
7: Permanent residents should move out of flood risk area, restricting occupancy of the area to a six month period when flood risk is lower	Action would be consistent with the “large scale adaptation” which the SMP notes would be required if the policy were NAI. Action therefore assumes SMP policy moves towards NAI thus increasing flood risk in the area	Implications in terms of need to make provision for sufficient, suitable land outside the CCMA to maintain the integrity of the coastal community from which development has been displaced	Planning protocol currently only prevents an increase in the number of people within the at-risk area. Policy would require alteration should there be a decision to restrict occupancy to the summer months. Uncertainty as to whether this would be legally possible	PEN policy might require modification to deal with two distinct seasons and risk levels (i.e. summer period, when people are likely to be in the area overnight, and winter period when people are only likely to be in the area during the day)	Implications for housing and employment policies

<b>Table 9.2: Policy Implications of Potential Adaptation Actions</b>					
<b>Action</b>	<b>Are there any Policy Implications?</b>				
	<b>SMP</b>	<b>CCMA</b>	<b>Planning Protocol</b>	<b>PEN</b>	<b>Any other Significant Policy Implications</b>
8: People should move out of the flood risk area (rollback) as risk increases	Action would be consistent with the “large scale adaptation” which the SMP notes would be required if the policy were NAI. Action therefore assumes SMP policy moves towards NAI thus increasing flood risk in the area	Implications in terms of need to make provision for sufficient, suitable land outside the CCMA to maintain the integrity of the coastal community from which development has been displaced and to secure the long-term future sustainability of the area	Planning protocol currently only prevents an increase in the number of people within the at-risk area. Policy would require alteration should the decision be made to move people out of the area as flood risk increases. Uncertainty as to whether this would be legally possible	PEN policy might not be relevant anymore since the area would not contain a high population	Potential negative implications for any growth and tourism policies
9: Caravans should be moved out of the flood risk area	Action would be consistent with the “large scale adaptation” which the SMP notes would be required if the policy were NAI. Action therefore assumes SMP policy moves towards NAI thus increasing flood risk in the area	Implications in terms of need to make provision for sufficient, suitable land outside the CCMA to maintain the integrity of the coastal community from which development has been displaced and to secure the long-term future sustainability of the area	Planning protocol currently only prevents the location of new caravans within the flood risk area (but temporary consents may be continued). Any caravans which are rolled back would have to be moved out of the flood risk area completely since permission for a new site further back within the flood risk zone would be unlikely to be given under current planning policy	PEN policy might not be relevant anymore since the area would not contain a high population	Potential negative implications for any growth and tourism policies

<b>Table 9.2: Policy Implications of Potential Adaptation Actions</b>					
<b>Action</b>	<b>Are there any Policy Implications?</b>				
	<b>SMP</b>	<b>CCMA</b>	<b>Planning Protocol</b>	<b>PEN</b>	<b>Any other Significant Policy Implications</b>
10: All properties in the flood risk area should be moved or demolished within the next few years	Action would be consistent with the “large scale adaptation” which the SMP notes would be required if the policy were NAI. Action therefore assumes SMP policy moves towards NAI thus increasing flood risk in the area	Implications in terms of need to make provision for sufficient, suitable land outside the CCMA to maintain the integrity and secure the long-term future sustainability of the area, plus manage the removal of the development to minimise impact on the community and environment	Planning protocol currently only deals with new properties and changes of use that would increase risk. Policy would need to be altered if action were to be implemented. Uncertainty as to whether this would even be legally possible	PEN policy would no longer be relevant since the area would not contain a high population	This action could have knock-on implications for many policy areas including housing, growth, and the viability of settlements in the area. It is the most extreme of all the potential adaptation actions



### 9.4.3 Practical Implications of Adaptation Actions

#### *Potential Practical Implications*

When considering the practical implications of adaptation actions, there are many issues which need to be taken into account. The most significant of these are likely to include:

- **land availability:** this is likely to be a particularly pertinent point for caravan parks which want to rollback but remain in the local area, near to the beaches and sea front. The availability of land is constrained by local development policies, ownership and cost as well as designations (for both environmental and heritage reasons). If a caravan park decides to move out of the area completely, this has significant implications for all the tourism businesses which are supported by the large visitor population;
- **residential and business property availability:** where adaptation involves the movement of permanent residents and businesses out of the at-risk area, the availability of housing and business premises within the vicinity is important. If people have friends, family and employees living nearby, or have moved here to retire, they may well wish to remain in the local area. This could be a problem if there is insufficient housing or business premises to match the demand;
- **proximity to the sea:** people are likely to live, work or have holiday accommodation within the at-risk area because they want to be close to the seaside. Indeed, 49 of the 51 people who responded to the question on features in the questionnaire said that one of the features that they liked best was “being able to visit the beach/see the sea”. Thus this desire for proximity to the sea has to be taken into account when assessing the practicalities of adaptation options. Those options which allow people to stay in the area (e.g. increasing frequency of PEN notices, fitting resistance and resilience measures, etc.) are likely to be seen as more practical and workable than options requiring people to move away. A caravan owner might even see a further restriction on occupancy period as preferable to having to move the caravan several miles away from the sea, especially if the main reason why they obtained the caravan was to be close to the sea;
- **proximity to employment:** although there is more holiday than residential accommodation within the at-risk area, it is likely that some people live in the area so that they are close to their place of work. This category could include people maintaining the caravan parks and other businesses which are reliant on the large visitor population. Having to move out of the area could be a problem for these people (but note that large scale adaptation would likely mean that their job would be lost and they might need to move to find employment);
- **timescale and planning:** any adaptation actions need thorough planning. Being at flood risk does not mean that a flood will definitely occur, but that it might happen. This means that at the current time, some of the adaptation actions might be difficult to implement, since people may not feel that the risk is sufficient to

warrant actions such as greater occupancy restrictions. This issue was borne out by one of the questionnaire respondents (a caravan park) who noted that they would find it difficult to justify any further costs to their customers simply because the park has not suffered from any coastal flooding for at least 35 years. Although the tidal flood risk may well increase with time, people are likely to base their opinions on their past experience and not what might happen. Thus the timescale for implementation of any adaptation actions is likely to be limited to a certain extent by public perception and whether there is any willingness to adapt. There currently appears to be an awareness issue, with people not really seeming to appreciate or understand the risks. Any adaptation timescale needs to be clearly linked to information on current risk and the likely future risk. This information needs to be available to the general public so that timescale does not become a barrier, with people saying that they have had no warning of the need to adapt;

- **need to discuss and inform:** this is a very important practical point which is relevant for all affected stakeholder groups. With all the options, there will be a need for discussions as well as information provision for all those who will be directly affected. However, even with the rather more minor actions such as increasing the frequency of PEN notices, there will be a need to ensure that everyone knows that the frequency of such notices is likely to increase, and they should not be ignored just because they happen more often and are thus more inconvenient than in the past. This particular action may be required even if the current defences are maintained, since maintenance of the shingle ridge is likely to become more difficult with the result that the risk to those behind the ridge is likely to increase. Engagement and information provision are therefore important at the current time, whether or not defences are maintained into the future; and
- **level of acceptability:** although not an implication as such, acceptability of an action is likely to determine whether or not it can be implemented effectively. Although this study has attempted to discuss adaptation with stakeholders, it is clear that people are currently unwilling to even talk about changing the current situation (i.e. moving away from coastal defences).

### *Likely Practical Implications of the Different Actions*

The implications discussed above have differing levels of significance for the various different actions. Even a relatively straightforward action such as increasing the frequency of the PEN notices would have some practical implications. Table 9.3 summarises which of the above practical implications are likely to result from each of the 10 potential adaptation actions. It can easily be seen that the more dramatic the action, the more practical implications there are likely to be. However, all actions will require attention to timescale and planning, as well as the need to discuss the issue and provide information to stakeholders.

Actions	Likely Practical Implications						
	Land availability	Residential and business property availability	Proximity to the sea	Proximity to employment	Timescale and planning	Need to discuss and inform	Level of acceptability
1: Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area					√	√	√
2: Property level flood resistance should be increased (e.g. air brick covers, water resistant door and window covers, flood resistant gates, etc.)					√	√	√
3: Property level flood resilience measures should be increased (e.g. raising electricity plugs, concrete floors, plastic skirting boards, flood resilient internal doors, etc.)					√	√	√
4: Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied					√	√	√
5: No new development in the flood risk area					√	√	√
6: No extensions or changes of use allowed in the flood risk area					√	√	√
7: Permanent residents should move out of flood risk area, restricting occupancy of the area to a six month period when flood risk is lower		√	√	√	√	√	√
8: People should move out of the flood risk area (rollback) as risk increases	√	√	√	√	√	√	√
9: Caravans should be moved out of the flood risk area	√		√		√	√	√
10: All properties in the flood risk area should be moved or demolished within the next few years	√	√	√	√	√	√	√

For those actions requiring movement out of the at-risk area, in particular the rollback of caravan parks, land availability is likely to be one of the more pressing practical problems. There are several designations which will affect the uses to which land in the area can be put, as well as the level of development which will be allowed. The intertidal habitat in the area is designated at the highest level. The Wash Ramsar site, which runs from Skegness (Lincolnshire) to Hunstanton (Norfolk) consists of the largest estuarine system in the country and is very important for migrant wildfowl and

waders (JNCC, 2008). It also supports a commercial shellfish fishery as well as being a nursery area for flatfish (JNCC, 2008). The area is additionally designated as a Special Area of Conservation (SAC) under the Habitats Directive and a Special Protection Area (SPA) under the Birds Directive (Environment Agency et al, 2010b). Habitats present include intertidal mudflats, shingle and saltmarsh, as well as a brackish lagoon just behind the defence at Snettisham. At the national level, parts of the study area are covered by the Norfolk Area of Outstanding Natural Beauty (AONB) (ibid). There are also various Sites of Special Scientific Interest (SSSIs) which are mainly located on higher ground (Environment Agency et al, 2010b).

Historic and archaeological designations are also present in the vicinity. It should be noted that part of Heacham's Conservation Area is at extreme risk of coastal flooding (Environment Agency et al, 2010). Various other assets are also at risk including one Scheduled Ancient Monument (SAM) in Dersingham, another SAM near Shernbourne to the east, one listed building south of Snettisham and another in Heacham (Environment Agency et al, 2007). It is therefore necessary for any adaptation policies to take into account the implications for both environmental and historic designations. Such sites are likely to be impacted by any actions involving movement or rollback of property in particular. Given that most of the caravans and mobile homes present are located in large parks, to maintain business viability it is likely that large areas of land would be needed for rollback options. Indeed, should a caravan park owner have to rollback, they are not going to want to have their caravans scattered around the local area. Instead they will be looking for a whole new site on which they can re-establish their business. Such a site is likely to be difficult to find in the area since there will be considerable competition for development land which is not at direct risk of coastal flooding but is still close enough to the sea to attract visitors. Rollback could therefore increase demand and raise prices in the area. However, for actions such as the rollback of whole caravan parks to be successful, there would need to be considerable engagement with those in the at-risk area, with clear and consistent information provision to enable businesses to plan and adapt in a reasonable timescale.

### ***Summary of Practical Implications***

Although it can be seen that the practical implications of the various adaptation actions are likely to vary according to the stakeholder group affected, all actions would require the provision of information as well as detailed discussions with those likely to be affected. Such discussions could help to deal with some of the issues raised regarding when to undertake the adaptation actions, and any assistance which might be available to help people adapt. Public engagement is also important to ensure that there is acceptance of the need to adapt to coastal change. Indeed, the CAPE guidance on adaptation notes that where uncertainty is dealt with in a proper manner, then robust adaptation planning can follow. However, if there is poor handling of uncertainties, then there can be conflict and an erosion of trust (Defra, 2009). Thus even before issues such as land availability and stock of alternative accommodation are investigated, people need to be informed about the need to adapt and given the opportunity to make their own suggestions and provide their thoughts and opinions. It is important to note that any of the potential actions are liable to

being labelled as unacceptable by stakeholders if the reasons for adaptation are not properly explained.

Table 9.4 therefore provides a brief summary of whether the adaptation actions are likely to be practical. It also gives an indication of the likely acceptability of the different actions.

<b>Table 9.4: Practicality of the Options</b>	
<b>Action</b>	<b>Could this Action be Implemented?</b>
1: Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area	Yes, action likely to be considered acceptable. Minimal work would be required to implement option. Educating and informing stakeholders would be the main issue to deal with
2: Property level flood resistance should be increased (e.g. air brick covers, water resistant door and window covers, flood resistant gates, etc.)	Yes, action probably acceptable. Public information campaign could be undertaken to inform people of the benefits and costs of resistance measures. However, it may be difficult to measure the effectiveness of this action since benefits will accrue to individuals (and their insurance companies)
3: Property level flood resilience measures should be increased (e.g. raising electricity plugs, concrete floors, plastic skirting boards, flood resilient internal doors, etc.)	Yes, action probably acceptable. Public information campaign could be undertaken to inform people of the benefits and costs of resilience measures. However, it may be difficult to measure the effectiveness of this action since benefits will accrue to individuals (and their insurance companies)
4: Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied	Possibly Potential for legal issues (see policy implications), but action would decrease the number of people within the at-risk area for part of the year. Consistent information provision would be required along with public engagement so that affected stakeholders would be able to provide their own informed views on what the new occupancy limits should be. Without sufficient engagement and clear information, it is possible that people might just decide to ignore any new restrictions. Approach to implementation will therefore determine acceptability of action
5: No new development in the flood risk area	Yes Planning protocol already contains such restrictions
6: No extensions or changes of use allowed in the flood risk area	Yes Planning protocol already contains such restrictions
7: Permanent residents should move out of flood risk area, restricting occupancy of the area to a six month period when flood risk is lower	Unlikely Availability of residential property within the local area might be an issue (as well as affordability). Also, if people live in the at-risk area because they want to be close to the sea or to their place of employment, this action is not likely to be practical (or popular). Permanent residents are unlikely to want to move away from the sea whilst holiday accommodation is still allowed to remain in the at-risk area. They may therefore view this action as unacceptable if it is carried out in isolation. As noted earlier, this is an action which may only occur when residents voluntarily decide to move out of the at-risk area because they judge the tidal flood risk to be too great. However, the flood risk could lead to lower house prices with the result that people are not able to move. If they do

<b>Table 9.4: Practicality of the Options</b>	
<b>Action</b>	<b>Could this Action be Implemented?</b>
	move out, it could be the case that more vulnerable people move in (due to the cheaper properties)
8: People should move out of the flood risk area (rollback) as risk increases	Possibly Action is likely to be something which happens over time if flood events start occurring on a regular basis. Action is particularly dependent on availability of land for caravans/mobile homes and availability of houses/properties for residents and businesses. Action unlikely to be acceptable at current time
9: Caravans should be moved out of the flood risk area	Possibly Dependent on land availability, timescale and planning (and also financial implications) as well as caravan park owner accepting the need to relocate. Action unlikely to be viewed as acceptable at current time (especially if several caravan park owners are willing to contribute money towards defences)
10: All properties in the flood risk area should be moved or demolished within the next few years	Not practical at current time; action likely to be viewed as totally unacceptable  Tidal flood risk would need to increase to the point that occupying the at-risk area became impossible due to the frequency of flooding. Likely to be insufficient land for the relocation of all caravans and mobile homes within the locality yet still close to the sea. Development pressures in local settlements would increase markedly. House prices would also be affected.  (Note that this action has significant policy implications)

#### **9.4.4 Financial Implications of Adaptation Actions**

##### *Potential Financial Implications*

There are various financial implications which need to be considered when looking at adaptation. These include:

- **the costs of remaining in the at-risk area as the risk of tidal flooding increases:** such costs include paying for temporary accommodation if flooding happens frequently, clean-up costs, higher insurance premiums, and paying for resistance and resilience measures;
- **the cost of relocation:** purchasing a new property or a new piece of land, obtaining any planning or change of use permissions, financing the construction, removal costs, etc.;
- **the loss of the current asset:** if a resident or business has to move out of the at-risk area because the risk of tidal flooding is too great, it is unlikely that there will be a purchaser waiting to buy the at-risk property. Thus it would be probable that the resident would have difficulty finding the money to move to another property;

- **loss of income:** this relates to businesses who operate in the at-risk area, and also those who are themselves located outside the at-risk area but rely on residents and/or visitors in the at-risk area. A significant decrease in the population could affect the viability of small local businesses. There could also be knock-on impacts for the region. The brief for this study noted that that the study area contributes significantly to the tourism industry in West Norfolk. It comments that tourism is a key sector, which supports around 5,500 full time equivalent jobs and has an estimated value of £395 million to the West Norfolk economy; and
- **the administrative and operational costs of implementing the adaptation actions:** these costs may be continual (for example, for PEN notices) or one-off (for example, changing the planning protocol to restrict occupancy, initial identification of CCMA, etc.).

***Likely Distribution of Financial Costs***

Table 9.5 provides an overview of the types of cost likely to be associated with each potential adaptation option. It also gives an indication of whether these costs are likely to fall at the individual level, or if they are believed to be more widespread with potential impacts for the local area or even region. It should be noted that even the actions which are a continuation of current policy (e.g. more frequent PEN notices) could have significant financial costs in the future should the tidal flood risk increase to the extent that flooding events occur regularly. However, those actions which have the greatest financial costs by far are those relating to the movement of properties, caravans or both out of the at-risk area. These actions have implications not only for those directly involved but for the wider area.

<b>Action</b>	<b>Types of Cost</b>	<b>Distribution of Costs</b>
1: Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area	Costs of clearing up after flood events, higher insurance premiums, temporary accommodation; Costs of administering the PEN notices	Costs fall on those living or holidaying in the at-risk area, as well as organisations implementing the PEN notices
2: Property level flood resistance should be increased (e.g. air brick covers, water resistant door and window covers, flood resistant gates, etc.)	Costs of resistance measures; Costs of publicising resistance measures	Costs fall on those with permanent residential and business properties in the at-risk area (note that caravans are not likely to install resistance measures since they are often insured on a new for old basis. However, if flood risk increased significantly, caravans might even become uninsurable). Also some costs for organisation which promotes uptake of resistance measures
3: Property level flood resilience measures should be increased (e.g. raising electricity plugs, concrete floors, plastic skirting boards,	Costs of resilience measures; Costs of publicising resilience measures	Costs fall on those with permanent residential and business properties in the at-risk area (note that caravans are not likely to install resilience

<b>Table 9.5: Types of Cost Likely under Each Action and their Anticipated Distribution</b>		
<b>Action</b>	<b>Types of Cost</b>	<b>Distribution of Costs</b>
flood resilient internal doors, etc.)		measures since they are often insured on a new for old basis). Also some costs for organisation which promotes uptake of resilience measures
4: Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied	Lost income for caravan parks (also loss of opportunity for those owning caravans); Potential costs of storing caravans off-site; Potential loss of income for other businesses in the area who rely on holidaymakers	Costs fall on caravan parks (and those owning caravans); Indirect costs for businesses in the local area which rely on holidaymakers.
5: No new development in the flood risk area	Lost opportunity	At-risk area as a whole – policy of no new development may limit inwards investment, as well as continuing investment by existing businesses
6: No extensions or changes of use allowed in the flood risk area	Lost opportunity	At-risk area as a whole – policy of no new development may limit inwards investment, as well as continuing investment by existing businesses
7: Permanent residents should move out of flood risk area, restricting occupancy of the area to a six month period when flood risk is lower	Cost of relocation; Loss of current asset	Majority of costs fall on those with residential properties in the at-risk area; some costs for local businesses which these residents use (if residents ultimately move away from the area)
8: People should move out of the flood risk area (rollback) as risk increases	Cost of relocation; Loss of current asset	Majority of costs incurred by those who have to move; Some costs for local businesses reliant on the population within the at-risk area
9: Caravans should be moved out of the flood risk area	Cost of relocation; Partial loss of current asset (infrastructure, clubhouse, etc.); Loss of income if replacement site is not as large and thus cannot support the same number of units. Also, site may be away from the sea and therefore not as attractive.	Main costs fall on the caravan park owners (and thus their customers); Some costs for local businesses reliant on those staying in the caravan park
10: All properties in the flood risk area should be moved or demolished within the next few years	Cost of relocation; Loss of current asset; Loss of income; Cost of demolition	Costs likely to be felt by the whole area including those directly affected and all the businesses and services which are reliant on the large population with the at-risk area; potential for regional economic impacts due to loss of large amount of holiday accommodation
<b>Note:</b> it is recognised that all actions will have costs associated with public engagement and awareness raising, as well as costs related to changing policy		



Businesses which are currently reliant on the large tourist population may suffer if this population is no longer in such close proximity. There may even be knock-on impacts for the region if the Wolferton Creek to South Hunstanton frontage can no longer provide holiday accommodation. In terms of year-round employment, the county of Norfolk as a whole was recently estimated to have around 11,100 jobs directly supported by seaside tourism (Beatty et al, 2010). If the amount of tourist accommodation is decreased, then the number of jobs supported in the area will also decrease. It is possible that this loss of accommodation and jobs will be replaced elsewhere in the country, thus ensuring that there is no economic loss for UK Plc. For example, one of the big caravan parks may relocate to a different coastal region. However, this would not prevent there from being a large economic impact in this area.

The costs at the individual level are also likely to be significant. If people have their main home within the at-risk area, and they cannot sell this property due to the level of risk, then it is likely that their ability to finance a move elsewhere will be severely restricted. The issue is complicated if the property is mortgaged. If the residents ultimately decide not to move, or are unable due to a lack of money, then they may start to incur the costs of remaining within the at-risk area. As noted in Table 9.5, such costs are likely to include higher insurance premiums, costs of temporary accommodation and costs of cleaning up after any flood event. It should be borne in mind that in the long-term, properties might even become uninsurable.

### ***Summary of Financial Implications***

Even without a detailed breakdown of the figures, it can be seen that the majority of the costs of the potential adaptation actions fall on those within the at-risk area. However, there would also be costs for those businesses which rely on the population within the area. As people move out of the at-risk area, the more significant these costs become. If all properties and accommodation within the at-risk area are relocated or demolished, then these indirect costs could have impacts at the regional level, due to the loss of the large visitor population.

## **9.5 Initial Comments and Views of Stakeholders**

Attempts were made to gauge stakeholder opinion on adaptation actions by putting a question on the issue onto the questionnaire which was sent to businesses and caravans in the at-risk area. The issue was also raised at the drop-in session and in the articles published in the local newsletters. People were asked what adaptation actions should be used if there was not enough money to maintain defences. The options given ranged from those requiring minimal change from the status quo, to those which would involve movement of people and properties out of the area. They included:

- increase flood warnings;
- homes and businesses should be made more flood-proof;
- people should not be allowed to build in the floodable area;
- people should move out of the floodable area (roll-back); and
- properties in the floodable area should be moved or demolished.

In general, the more dramatic the action, the fewer people thought that it should be implemented. From the questionnaire responses<sup>27</sup>:

- 32 (78% of respondents) thought flood warnings should be increased;
- 21 (51% of respondents) thought that homes and businesses should be made more flood-proof;
- 10 (24% of respondents) thought that people should not be allowed to build in the floodable area;
- 3 (7% of respondents) thought that people should move out of the floodable area (rollback); and
- 1 (2% of respondents) thought that properties in the floodable area should be moved or demolished.

A similar pattern of answers was received at the drop-in session in Heacham and from those responding to the article in the local newsletters. Of the people who responded to the question<sup>28</sup>:

- 7 (32%) thought that flood warning should be increased;
- 7 (32%) thought that homes and businesses should be made more flood-proof;
- 14 (64%) thought that people should not be allowed to build in the floodable area;
- 4 (18%) thought that people should move out of the floodable area (rollback); and
- 1 (5%) thought that properties in the floodable area should be moved or demolished.

Thus attendees at the drop-in session and respondents to the newsletter articles are more concerned with stopping development in the floodable area than with increasing flood warnings. It should be noted that the differences in the opinions of the two groups are likely to be due to the fact that the questionnaires were targeted at those in the at-risk area, thus they would be responding to the question on the basis that the adaptation action might affect them personally. The newsletter responses and the drop-in session picked up the opinions of those who do not necessarily reside or work in the at-risk area. Thus these people might be more willing to select more dramatic adaptation actions on the basis that they personally will not be directly affected. Nevertheless, both sets of results indicate that moving out of the at-risk area (i.e. rollback) and demolishing properties are not popular options. This is likely to be due to the policy, practical and financial implications of such actions, as well as people generally being wary of change.

It should additionally be noted that some attendees suggested their own adaptation options. These are given in Box 9.1. Several of these actions are also likely to have considerable implications; many of these will be the same as those implications already highlighted. For example, controlled flooding of marshland has financial and policy implications, as well as practical ones regarding how to safely flood certain areas and not others. The level of acceptability would also need to be investigated in

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<sup>27</sup> Note that respondents could tick as many actions as they wished. A total of 41 respondents ticked at least one box. Other respondents either did not answer the question or provided their own response.

<sup>28</sup> A total of 22 respondents ticked a box. Other respondents either did not answer the question or provided their own response.

detail, especially as marshland in the area concerned is likely to be environmentally designated.

<p><b>Box 9.1: Adaptation Actions Suggested by Respondents</b></p> <p>These included:</p> <ul style="list-style-type: none"> <li>• controlled flooding of marshland;</li> <li>• people should make their own provisions [for the flood risk];</li> <li>• as long as people are aware of the risk and own their own properties then they should be allowed to take responsibility for themselves;</li> <li>• a siren;</li> <li>• let the saltmarshes expand onto reclaimed farmland; and</li> <li>• elevate buildings above ground level and build on floodable pontoons.</li> </ul>
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## 9.6 Summary of Implications of Adaptation Actions

In summary, there are a range of adaptation actions which may be possible within the Wolferton Creek to South Hunstanton area. However, all of these actions have some implications whether these are policy, practical or financial. Table 9.5 provides a brief summary of the main implications for the different potential adaptation actions. It is important that the various different implications are not taken in isolation. For example, even if a caravan site finds a piece of land on which to relocate (to allow rollback), this then leads to policy and financial implications (will planning permission be granted, does the caravan park have the funding to relocate, etc.).

<b>Action</b>	<b>Main Implications Likely</b>
1: Increase frequency of PEN notices, flood warnings and number of times per year where people have to evacuate the flood risk area	PEN policy likely to require modification, with potential extension of area covered by policy; Potential implications for insurance policies; Public information campaign required; Costs of remaining in high flood risk area – people may become trapped if they own their property and are unable to sell it and move away
2: Property level flood resistance should be increased (e.g. air brick covers, water resistant door and window covers, flood resistant gates, etc.)	Potential implications for insurance policies (this could be a positive implication); Public information campaign required; Costs of remaining in high flood risk area
3: Property level flood resilience measures should be increased (e.g. raising electricity plugs, concrete floors, basement/cellar tanking, plastic skirting boards, flood resilient internal doors, etc.)	Potential implications for insurance policies; Public information campaign required; Costs of remaining in high flood risk area
4: Decrease length of season for which caravans and other mobile homes in the flood risk area can be occupied	Change in planning protocol would be required to implement action; Potential implications for tourism and growth policies; Lost income for caravan parks, also potential lost business for those relying on tourists in the at-risk area; Lost opportunity for caravan owners (also reduced attractiveness of area as a place to buy a caravan. This could lead to competitiveness issues)

<b>Table 9.6: Summary of the Main Implications of the Adaptation Actions</b>	
<b>Action</b>	<b>Main Implications Likely</b>
5: No new development in the flood risk area	Limited inwards investment in the area; Potential implications for tourism and growth policies
6: No extensions or changes of use allowed in the flood risk area	Limited inwards investment in the area; Potential implications for tourism and growth policies
7: Permanent residents should move out of flood risk area, restricting occupancy of the area to a six month period when flood risk is lower	Action is consistent with “large scale adaptation” thus assumes that SMP policy moves towards NAI; Change in planning protocol would be required to implement action; Potential implications for housing policies; Availability of property; Non-acceptability of moving away from the sea; Cost of relocating and losing value of current asset
8: People should move out of the flood risk area (rollback) as risk increases	Action is consistent with “large scale adaptation” thus assumes that SMP policy moves towards NAI; Change in planning protocol would be required to implement action; Potential implications for tourism and growth policies; Non-acceptability of moving at current time since risk is not believed to be too great (but note there is uncertainty over the extent to which people understand the risk); Cost of relocating and losing value of current asset
9: Caravans should be moved out of the flood risk area	Action is consistent with “large scale adaptation” thus assumes that SMP policy moves towards NAI; Change in planning protocol would be required to implement action; Non-acceptability of moving away from the sea; Potential implications for tourism and growth policies; Availability of land; Cost of relocating and losing value of current asset
10: All properties in the flood risk area should be moved or demolished within the next few years	Action is consistent with “large scale adaptation” thus assumes that SMP policy moves towards NAI; Change in planning protocol would be required to implement action; Severe policy implications for all policy areas; Availability of land and properties in the local area; Non-acceptability of abandoning the area to the sea; Cost of relocating and losing value of current asset; Costs for local area and potentially for regional economy if tourist bed spaces are lost

## **10. CONCLUSIONS AND RECOMMENDATIONS**

### **10.1 Overview**

This report identifies, through engagement with stakeholders, a range of possible approaches for securing contributions in an equitable manner and, in the absence of contributions (or a shortfall in funding), a series of possible adaptation options to reduce flood risk in the future. The report also includes estimates of how much would have to be paid by different groups of beneficiaries under each of the approaches to secure the necessary contributions to continue maintenance of flood defences. It also identifies the current policy, practical and financial limitations that could affect the potential for adaptation. This Section provides the conclusions of the study. This includes identification of stakeholders' preferred approaches, possible mechanisms for implementing this approach and the most acceptable future adaptation actions should there be difficulty in raising the required levels of contributions.

### **10.2 Conclusions**

#### **10.2.1 Stakeholders' Preferred Approach to Securing Contributions**

Discussions at the workshops suggest that stakeholders' preferred approach is a Borough-wide charge with a surcharge for those in the floodable area. The charge could be based on apportionment similar to the proportion of taxes paid to BCKLWN where each beneficiary group pays the following percentage of the total cost:

- residents: 14%;
- businesses: 76%;
- utilities: 3%;
- transport: 0.06%; and
- landowners: 7%.

This would result in the contributions set out in Table 10.1 being payable by each beneficiary, divided into those inside the floodable area (and who would pay the surcharge) and those outside the floodable area. The table shows that the surcharge used is for those in the floodable area to pay twice as much as those outside the floodable area. The contributions shown are based on the £800,000 per year that is needed to maintain the defences along the frontage from Wolferton Creek to South Hunstanton. If the whole of the Borough frontage was to be included, the contributions would have to roughly double, to meet the costs of £1.5 million per year (based on the costs set out in the SMP2).

Contribution	By Income Paid to Borough Council	
	Inside floodable area	Outside floodable area
<b>Residents:</b> per Band D property <sup>1</sup>	£4	£2
<b>Businesses:</b> % of Business Rates (medium/large businesses) <sup>2</sup>	2.9% (equivalent to £29 per £1,000 of business rates)	1.5% (equivalent to £15 per £1,000 of business rates)
<b>Businesses:</b> % of Business Rates (small businesses) <sup>2</sup>	2.9% (equivalent to £29 per £1,000 of business rates)	1.4% (equivalent to £14 per £1,000 of business rates)
<b>Utilities:</b> per installation	£740	£370
<b>Transport:</b> per organisation responsible	£460	-
<b>Landowners:</b> per ha of farmed land	£0.72	£0.36
Notes: <sup>1</sup> Costs across other Council Tax Bands are set out in Annex 1 <sup>2</sup> Assumes multiplier of 41.4p for medium/large businesses and 40.7p for small businesses		

### 10.2.2 Mechanisms to Enable the Contributions to be Collected

The mechanism for securing the contributions set out in Table 10.1 could be established in a number of different ways. The most promising mechanisms are set out in Figure 10.1. The figure shows that partnerships could be set up to enable local contributions to be collected. These contributions could be used to help lever funds from the RFCC through Grant-in-Aid. This will depend on competition for funds with other schemes. Even if no (or very small amounts of<sup>29</sup>) Grant-in-Aid funding were forthcoming, it may be possible to collect the contributions needed to maintain the defences through the three mechanisms shown.

The mechanisms shown in Figure 10.1 would require some obstacles and barriers to be addressed. The obstacles and barriers that would need to be overcome are summarised in Table 10.2. Approaches that may be needed to remove (or reduce) these obstacles and barriers are described in Section 10.3 (Recommendations).

<sup>29</sup> As may be the case based on payments for outcomes, under the proposed approach to future funding for flood and coastal erosion risk management (Defra, 2010d).

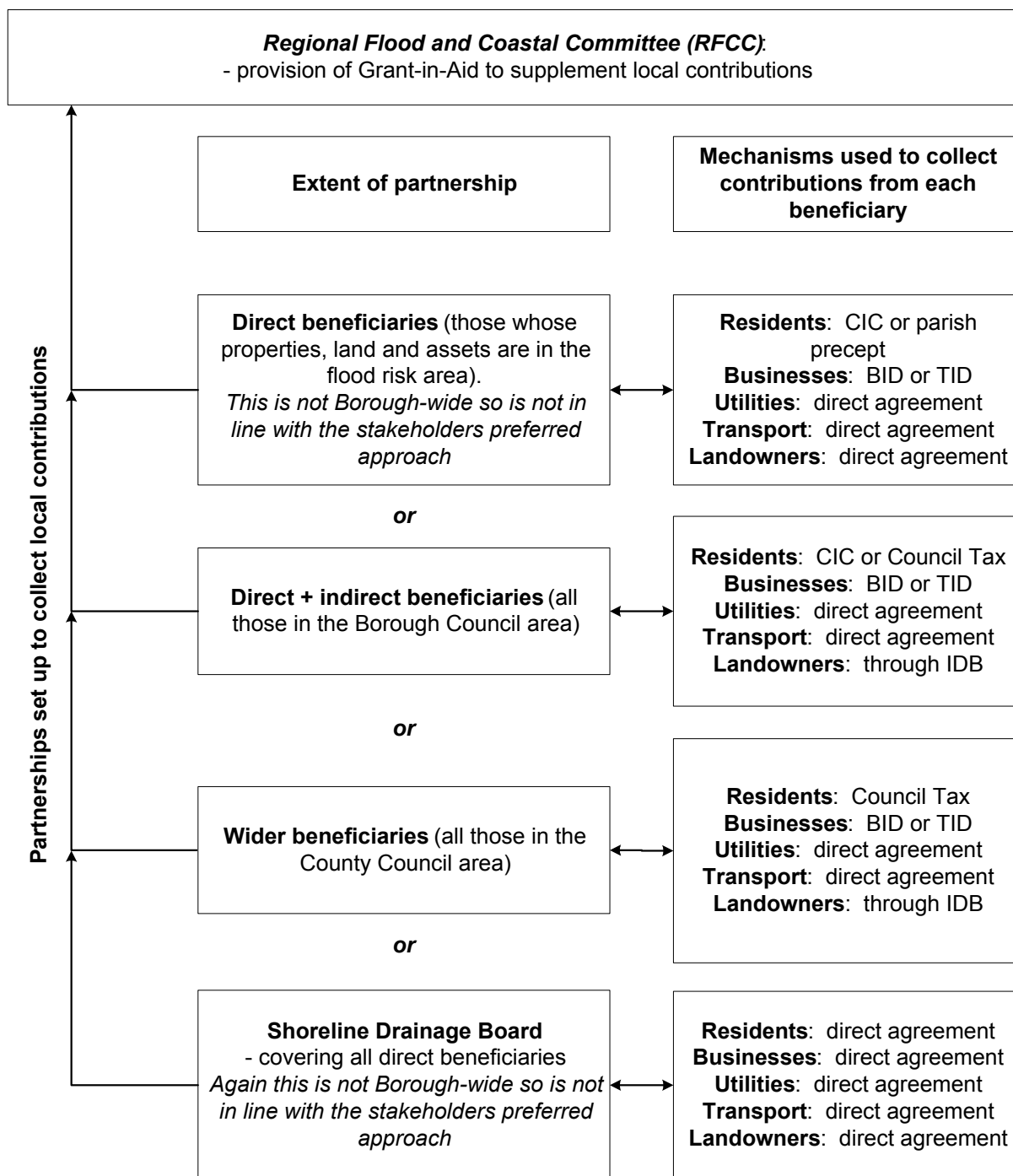


Figure 10.1: Potential Mechanisms for Securing Contributions

Table 10.2: Obstacles and Barriers to Implementing a Mechanism to Secure Contributions	
Mechanism	Obstacles and Barriers
RFCC	<ul style="list-style-type: none"> <li>• Risk that RFCC does not provide Grant-in-Aid (GiA) such that the full contribution has to be raised locally</li> <li>• Risk that members of the RFCC will not agree to raise the levy</li> </ul>
Partnership approaches	<ul style="list-style-type: none"> <li>• Need for round-the-table discussions and agreement on how much each beneficiary should contribute (this could draw on the calculations provided in Sections 3 to 6 of this report). Risk that agreement on how much each beneficiary should provide</li> </ul>

<b>Table 10.2: Obstacles and Barriers to Implementing a Mechanism to Secure Contributions</b>	
<b>Mechanism</b>	<b>Obstacles and Barriers</b>
	<ul style="list-style-type: none"> <li>cannot be achieved</li> <li>Need for each beneficiary to provide a Memorandum of Understanding or legal agreement to provide the agreed level of contributions. Risk that potential contributors will not sign up to binding, legal agreements, thus affecting the potential success of the partnership</li> <li>Risk that the legal agreements will only be short-term, affecting the ability of beneficiaries to plan for the future</li> </ul>
Parish Precept	<ul style="list-style-type: none"> <li>Preference of stakeholders for a Borough-wide charge, with higher contributions likely to be needed if contributions are from affected parishes only</li> <li>Lack of transparency and auditability</li> <li>Risk of blight where one area is identified as having to pay a parish precept due to flood risk (this may be exacerbated where there is also a surcharge)</li> </ul>
Council Tax	<ul style="list-style-type: none"> <li>Risk that Elected Members will not consider the funds needed as required expenditure and, thus, will not provide the opportunity to collect the fund as part of the overall Council Tax budget (especially at Borough Council level where there is no statutory duty to provide flood defences)</li> <li>Risk that referendum (if a Council Tax increase including the funds needed for management of defences is over the threshold) returns a 'no' vote</li> <li>Issue of capping preventing new money from being raised (requiring savings to be made elsewhere) (to avoid Council Tax rises or minimise risk that threshold increase is exceeded)</li> </ul>
Community Interest Company (CIC)	<ul style="list-style-type: none"> <li>Difficulty of making contributions compulsory</li> <li>Risk that voluntary pledges may not collect sufficient money (making it impossible for the CIC to sign up to a legal agreement to provide a specified level of contributions each year)</li> </ul>
Business Improvement District	<ul style="list-style-type: none"> <li>Lack of interest from businesses, as a whole or from specific sectors</li> <li>Low affordability for some sectors (e.g. retail)</li> <li>High costs of setting up the BID</li> <li>Short lifespan of a BID (maximum 5 years), with implications for securing contributions over the long-term</li> <li>Land/property ownership issues where the BID requires the owner to pay the contribution and the implications of passing the cost on</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>Lack of interest from utilities, as a whole or from specific sectors</li> <li>Requirement for agreement to enter into the partnership and associated legal agreements falls outside of utility planning periods such that they are unable to commit in the timescale identified for setting up the partnership</li> </ul>
Transport	<ul style="list-style-type: none"> <li>Lack of interest from transport authority at County Council</li> <li>Lack of available funds to contribute</li> </ul>
Landowners	<ul style="list-style-type: none"> <li>Lack of interest from landowners, especially where they are already paying into the IDB</li> <li>Lack of available funds to contribute</li> <li>Some landowners may want to increase the flood risk (e.g. for nature conservation purposes)</li> </ul>
Shoreline Drainage Board	<ul style="list-style-type: none"> <li>Current legislation tailored towards Internal Drainage Boards (IDBs) may not allow SDB to be set up</li> <li>Lack of clarity over who would be identified as members of the SDB, and how the SDB would be organised</li> </ul>

### **10.2.3 Stakeholders' Views on Adaptation Actions to Reduce Flood Risk**

In general it appears that many of the respondents would rather contribute towards coastal defences than lose what they have. Considering the questionnaire responses alone, out of a total of 52 responses, 36 said that 'local people and businesses should



raise the money needed to ensure that local sea defences continue to be managed and maintained' whilst only five thought that local people and businesses should be prepared to adapt. When questioned further on adaptation actions, the majority of respondents to the questionnaire, as well as those attending the drop-in sessions and submitting their comments on the newsletter article preferred less dramatic adaptation options, namely:

- increasing flood warning;
- making homes and businesses more flood-proof; and
- not allowing people to build in the floodable area.

There was little support for actions requiring caravans to have further occupancy restrictions, or for people to have to move out of the area altogether.

### **10.3 Recommendations**

The recommended next steps are as follows.

1. Establish how much Grant-in-Aid may be available.

Further engagement is likely to be required in the future as the costs required to maintain the flood defences are estimated in more detail by the Environment Agency and as more is known about contributions that may be available from central Government. It is also recommended that **BCKLWN, in association with the Environment Agency and businesses, residents and landowners in the study area, are involved with discussions with Defra on the potential that Grant-in-Aid funding could be made available to help cover the costs of maintaining the defences.** It will be important to identify whether (and what level) of Grant-in-Aid funds could be made available and, hence, to identify what level of contributions would be needed. This information is an important pre-requisite before any negotiations can begin on who would pay, how much they would pay and how they would pay. Consideration will also need to be given to the level of contributions required and the likely affordability, particularly if the number of contributors is small i.e. limited to just those within the floodable area.

2. Establish the need for a partnership to collect the contributions, and the members of that partnership. This will need to consider who should pay (direct beneficiaries only, direct plus indirect beneficiaries, or a wider group, such as at County level). Alternatively, a Shoreline Management Plan could be used as a mechanism for collecting contributions from direct beneficiaries.

The choice of preferred method and approach (a Borough-wide charge) was taken by a relatively small number of stakeholders at the third workshop. **Engagement is needed with all businesses, residents, landowners, utility owners and the highways agency** (Norfolk County Council) to ensure that there is wider consensus on who should pay to confirm which approach is most likely to achieve the required level of contributions. This will be particularly important if a voluntary pledge mechanisms were to be used (such as through a CIC), although this raises additional

issues over who would have to pay for the shortfall if sufficient pledges were not received. Discussions would have to be held with all partners to assess the risk of a shortfall and what would need to happen if it occurred, if a CIC is to be involved in the partnership.

**Wider engagement and a public information campaign** may also be required if all those living in the Borough (or wider) are to be asked to contribute, as opposed to just people living and working in the affected parishes. This will need to emphasise how people (including businesses, utilities, transport and landowners) benefit from flood defences even if they are located outside the floodable area. This will depend on the mechanism that is identified as the best way of securing contributions.

Assuming any future contribution mechanism does include a surcharge for those living in more at-risk areas of the Borough, it is vital that **discussions are undertaken to determine where the line is drawn and what it is based on**. This is likely to be a very controversial topic since there are several possible arguments, for example, the line could be based on the flood risk area, or the 5m contour, or even on roads. Drawing the line along a road would help ensure that neighbours would be charged similar amounts, rather than having one household paying the surcharge and the one next door paying much less. This will be particularly important if an approach similar to the Shoreline Drainage Board is used, where those outside the area may not be required to pay at all.

**Further investigation into legislative, policy, practical and financial implications of the mechanisms is likely to be required**. This will be needed before a mechanism can be rolled out for the Wolferton Creek to South Hunstanton frontage. However, there would be real advantage in identifying how these implications could be addressed at the national level, so the mechanisms could form a template that could be rolled out to enable local contributions to be collected in more areas that are potentially facing a funding shortfall. Ultimately, whichever mechanism is chosen, it needs to have sufficient public support and backing to be enforceable. **Specific actions to reduce the obstacles and barriers associated with the mechanisms include:**

- Parish Precepts/Council Tax:
  - Investigation into acceptability of parish precepts as an (uncapped) method of collecting contributions from those directly benefitting (but also those within the parishes that would not necessarily be directly benefitting where they are located outside the floodable area). This will be particularly important as stakeholders attending the workshops preferred a Borough-wide charge. Collection of contributions from affected parishes only (rather than Borough-wide) would mean higher contributions are required from each beneficiary. However, these could be reduced where this mechanism is combined with Grant-in-Aid funding through the RFCC and/or business contributions through a BID;
  - Investigation into how a mechanism based on a parish precept could be made transparent and auditable;

- Investigation into the potential for blight where one area is identified as having to pay a parish precept due to flood risk (this may be exacerbated where there is also a surcharge);
- Investigation into the likelihood that other members of the RFCC would be willing to agree to a flood levy that would only benefit the coast (or a small part of the coast); and
- Investigation into the likelihood that Elected Members would consider funds for flood defences as an expenditure that should be added to the Council Tax budget (especially given that the Borough Council does not have a statutory duty to provide flood defences). Investigation may also be needed with the County Council to explore opportunities at county level, given the County Council's role as Lead Local Flood Authority under the Flood and Water Management Act 2010 and the Flood Risk Regulations 2009.
- Community Interest Company:
  - Investigation into willingness to pay of people across the Borough to assess the risk that voluntary pledges may not provide sufficient income to meet any agreed level of contributions from residents; and
  - Investigation into opportunities to formalise collection of money for contributions from residents through the CIC, such as through use of subsidiaries set up as charities.
- Business Improvement District:
  - Investigation into the interest of local businesses in setting up a BID to collect contributions. This may need to include consideration of single business sector or a tourism BID to ensure that the required level of acceptability can be assured before a vote is taken to establish the BID;
  - Investigation into how the proposal to set up and market the BID could be funded (as there is a risk that this could be a high cost option);
  - Investigation into ensuring that the BID and, hence the contributions, can be assured over a period longer than the maximum for any one BID of five years. This may require formalised renewal of the BID and legal agreements to provide businesses with the certainty that they need for planning purposes;
  - Investigation into who would pay into the BID. Payments are usually collected from the owner (not the occupier). This could result in the Borough Council paying contributions to the BID where it owns the land or premises on/in which businesses are located.
- Utilities:
  - Investigation the likely willingness of utility companies to be involved. This may require detailed information on the risk of flooding, change in flood risk over time and potential implications; and
  - Investigation into opportunities to involve utilities in a partnership and through legal agreements such that it fits with their planning periods and protocols.
- Transport:
  - Investigation the likely willingness of the County Council highways agency to be involved. This may require detailed information on the risk of flooding, change in flood risk over time and potential implications; and
  - Investigation into the funds that might be available (linked to the likely contribution that may be payable).

- Landowners:
    - Investigation the likely willingness of landowners to be involved, potentially through the IDB;
    - Investigation into the funds that might be available (linked to the likely contribution that may be payable); and
    - Investigation into opportunities to flood some land for nature conservation purposes to either reduce the amount of money needed to maintain the defences or to reduce contributions required from landowners. This will need to include an assessment of the impacts of flooding some land while protecting other land, and any technical implications that might arise.
  - Shoreline Drainage Board (SDB):
    - Investigation into the extent to which existing legislation may have to be revised to allow SDBs to be set up to collect contributions from those benefitting from coastal flood management; and
    - Investigation into who would be identified as members of the SDB, and how the SDB would be organised. This will need to include consideration of the potential for the SDB to be linked with other organisations (such as the existing IDBs or the Environment Agency) who would undertake flood defence works.
3. Ensure that the money collected and spent is transparent, auditable and accountable. This will be particularly important if there is agreement through Elected Members to collect money as part of Council Tax, as value-for-money will need to be demonstrated for the District Audit.

**Further investigation is needed into the opportunities (and potential barriers) to making a flood levy fully transparent and accountable.** This includes the need to work with the Environment Agency (or organisation that would undertake any flood defence work) to provide information on money spent and planned to be spent to maintain auditability of the contribution. Further investigations are needed on how the contribution could be collected, for example, how it could be made transparent if it is to be collected through parish precepts. There may also be issues relating to awareness and understanding of what the flood levy covers. This will require clarification on the coastal frontage that is covered by the contributions, whether fluvial and/or pluvial flooding is covered, etc. Some of these issues may be addressed where the levy is agreed through the RFCC.

4. Consider the need for long-term adaptation.

If sufficient contributions cannot be collected for whatever reason, there will be a need to adapt to coastal change since the tidal flood risk will increase in the area. Prior to any adaptation action being implemented, there will be a need for **ongoing dialogue and discussion with local stakeholders so that they are aware of the level of risk and are able to make informed decisions regarding how to adapt.** Such discussions could be undertaken as part of the ongoing Environment Agency's Coastal Management Review. This could also include discussions on the potential for local contributions to defences to cover improvement as well as maintenance, thus potentially decreasing the tidal flood risk within the case study area.

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## **Annex 1:**

### **Step-by-Step Explanation of Calculations**



## **A1.1 Introduction**

This Annex sets out the step-by-step calculations used to estimate the amount of contribution that would have to be paid by each beneficiary group to provide the annual income needed to continue with present management of the coast.

## **A1.2 Basic Data on Number of Beneficiaries**

### **A1.2.1 Overview**

Three sets of basic data on the number of beneficiaries are required, reflecting the three approaches used to estimate potential contributions. These data are:

- number of beneficiaries in the affected parishes (Heacham, Snettisham and Hunstanton, plus potentially Dersingham and Ingoldisthorpe);
- number of beneficiaries in the Borough as a whole; and
- number of beneficiaries in the Borough divided into those below and above the 5m contour (Note: the 5m contour has been chosen to differentiate between those directly at risk and those outside the risk area).

### **A1.2.2 Number of Residences**

The number of residences is based on information from BCKLWN (2010)<sup>30</sup> on the Council Tax Base. This is the estimated full-year equivalent number of liable dwellings in the Borough. As the data used are full-year equivalents, they may include occupancy factors for second homes and it may be more appropriate to give the total number of dwellings. The Council Tax Base is given as 50,458 for 2010/2011. This compares with 69,120 total dwellings on the valuation list. Use of the Council Tax Base may, therefore, over-estimate the contributions that are payable since use of all dwellings would increase the number contributing by 18,662. However, it is important that contributions can be collected from all the dwellings (to ensure that the required income is attained), therefore, the lower number of dwellings has been used in the calculations.

The number of residences by parish is based on information in the census (2001). This shows 10,962 households that pay Council Tax in the parishes (taken from the Valuation Office Agency Council Tax data<sup>31</sup> for Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe). If households in Heacham, Hunstanton and Snettisham only are counted, this reduces to 8,915.

The number of residences below and above 5m is based on identifying the total number of properties within the flood risk zone (as provided by the Borough Council from AddressPoint data). The total number of properties includes both businesses and residences, so it is necessary to subtract the number of businesses to give an estimate

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<sup>30</sup> BCKLWN (2010): **The Financial Plan 2009/2013**, available from:  
<http://www.west-norfolk.gov.uk/default.aspx?page=24818>

<sup>31</sup> Source: [http://www.voa.gov.uk/council\\_tax/cti\\_home.htm?banner-cthome](http://www.voa.gov.uk/council_tax/cti_home.htm?banner-cthome)

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## ***Annex 1: Step-by-Step Explanation of Calculations***

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of the number of residences. As a check on the number of businesses (which are identified using the 2010 Rateable Value (RV) database from the Valuation Office Agency), information on house prices is used to check which properties are more likely to be residential than business. This was done using house price web sites ([www.zoopla.co.uk](http://www.zoopla.co.uk), [www.hometrack.co.uk](http://www.hometrack.co.uk), and [www.houseprices.co.uk](http://www.houseprices.co.uk)).

The total number of properties identified as being in the at-risk zone is 408. Of these, 285 were identified as being as businesses (see Section A1.2.3, below), leaving 123 residences in the at-risk zone. To estimate the number of residential properties below 5m in the Borough as a whole, it is assumed that the percentage of residences below 5m in the affected parishes can be used to indicate the percentage below 5m more widely. This simplification is necessary as data were not available on all properties below 5m in the Borough. The percentage below 5m in the parishes is estimated as 123 residences below 5m divided by the total number of households paying Council Tax (10,962), or 1.1%. Assuming, therefore, that 1.1% of all households paying Council Tax are below 5m in the Borough as a whole, gives a total of 566 households below 5m in the Borough (50,458 x 1.1%).

Table A1.1 summarises the number of residents estimated for use in the calculation of contributions by resident.

<b>Group</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham, Dersingham, Ingoldisthorpe</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham</b>	<b>In BCKLWN</b>	<b>In Borough, below 5m</b>	<b>In Borough, above 5m</b>
Residents (as number of households paying Council Tax)	10,952	8,195	50,458	566	49,892

### **A1.2.3 Number of Businesses**

The number of businesses is based on data on the number of hereditaments from the Valuation Office Agency 2010 Rateable value lists<sup>32</sup>. This gives 4,747 hereditaments in King's Lynn and West Norfolk.

The Valuation Agency Office Rateable Value database has also been used to estimate the number of businesses in the parishes of Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe. Businesses in these parishes were identified by searching for businesses in specific postcodes: PE31 7, PE36 5, PE36 6 and PE31 6. This gave a total of 1,017 hereditaments, which has been used as the number of businesses. The total RV of these businesses is £6.7 million. If only those businesses in Heacham, Hunstanton and Snettisham are included, the number of businesses reduces to 918 and the RV to £5.8 million.

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<sup>32</sup>

[http://www.voa.gov.uk/business\\_rates/draftliststats/pdc/ba%5Cba2635.html](http://www.voa.gov.uk/business_rates/draftliststats/pdc/ba%5Cba2635.html)

The number of businesses below 5m is based on AddressPoint data (provided by the Borough Council) and checked using the 2010 Rateable Value database (from the Valuation Office Agency, VOA) using postcodes and addresses to identify businesses that may be located in the flood zone. The AddressPoint data suggested only a small number of businesses were located below 5m (around 33), which seemed too low. To assess the number of businesses that were actually located below 5m, it was necessary to plot the location of each business in the VOA data using postcode and address information. The location was then compared with the flood risk area to assess if a business was likely to be below (or above) 5m. Identification of the location of businesses in relation to the flood risk area is considered to be a more robust and reliable method for identifying businesses at risk.

Assessment of the location of the hereditaments in the VOA database shows 285 businesses in the at-risk area. This includes a large number of beach huts, caravan pitches and self-catering holiday units:

- total businesses below 5m: 285 (from VOA database):
  - caravan and pitch (and premises): 108;
  - beach hut (premises and/or site): 98;
  - self-catering holiday unit: 23;
  - caravan park (and premises): 18;
  - shop (and premises): 6;
  - club (and premises): 5;
  - amusement arcade (and premises): 5;
  - car park (and premises): 4;
  - public convenience (and premises): 4;
  - site of/for kiosk: 2;
  - café (and premises): 2;
  - camping site (and premises): 2;
  - community centre: 1;
  - hairdressing salon (and premises): 1;
  - land used for storage: 1;
  - leisure centre (and premises): 1;
  - store (and premises): 1;
  - public house (and premises): 1;
  - stables (and premises): 1; and
  - vehicle repair workshop (and premises): 1.

The above data show that 229 of the VOA 285 businesses could be considered 'dwellings' (self-catering units, caravan pitches, beach huts) such that the difference between the VOA and AddressPoint datasets is not as large as it initially seems. Therefore, it is assumed that the 285 businesses are included as businesses (through their Rateable Value), leaving 123 residences below the 5m contour. The Rateable Value (RV) of the businesses below 5m is £2.1 million.

As most of the calculations for businesses are based on RV (to avoid the potential unfairness of assuming all businesses are equal and should pay the same), the percentage below 5m in the affected parishes is used to extrapolate across the Borough as a whole. The percentage of RV below 5m is:

## ***Annex 1: Step-by-Step Explanation of Calculations***

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- RV below 5m in the parishes ÷ total RV across all of parishes
- £2.1 million ÷ £6.7 million = 31%.

With total RV in the Borough estimated at £76.6 million, this gives an estimated £23.9 million RV below 5m (from £76.6 million x 31%), with £53.7 million above 5m (£76.6 million - £23.9 million).

The number of businesses above the 5m contour is based on extrapolation of the percentage located below 5m in the parishes (i.e. 285 ÷ 1,017, or 28%). The number of businesses below 5m in the Borough is, therefore, estimated as:

- total number of businesses) multiplied by percentage of businesses below 5m;
- 4,747 x 28%; giving
- 1,330 below 5m in the Borough as a whole; this leaves
- 3,417 above 5m (4,747 – 1,330).

Table A1.2 summarises the number of businesses and Rateable Values estimated for use in the calculation of contributions by business.

<b>Group</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham, Dersingham, Ingoldisthorpe</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham</b>	<b>In BCKLWN</b>	<b>In Borough, below 5m</b>	<b>In Borough, above 5m</b>
Businesses (number)	1,017	918	4,747	1,330	3,417
Businesses (by Rateable Value)	£6.7 million	£5.8 million	£76.6 million	£23.9 million	£53.7 million

### **A1.2.4 Number of Utilities**

The number of utilities is also based on the Valuation Agency Office database, as this dataset gives the number of electricity, water and other utilities. The total number of these utilities is shown as 49 in the 2010 Rateable Value database. This is used as the number of utilities in the Borough.

The number of utilities in the parishes is estimated by multiplying the total by the percentage of all businesses that are located in the parishes, i.e. 1,017 ÷ 4,747, or 21%. This gives 10 utilities in the parishes of Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe (49 x 21%). This simplification of assuming that the number of utilities is linked to the number of businesses may under- or over-estimate the number of utilities. However, no better data were available. If just the businesses in Heacham, Hunstanton and Snettisham are used, the number of utilities reduces to 9 (from 918 ÷ 4747 = 19%, multiplied by 49 utilities in the Borough giving 9 in the three parishes).

The number of utilities below 5m in the Borough as a whole was estimated based on the proportion of businesses that are below 5m (i.e. 1,330 ÷ 4,747, or 28%). This gives 14 utilities (49 x 28%) that are below 5m. The remaining 35 are assumed to be above 5m.

Table A1.3 summarises the number of utilities estimated for use in the calculation of contributions.

<b>Group</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham, Dersingham, Ingoldisthorpe</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham</b>	<b>In BCKLWN</b>	<b>In Borough, below 5m</b>	<b>In Borough, above 5m</b>
Utilities (number)	10	9	49	14	35

### **A1.2.5 Number of Transport Organisations**

The number of transport organisations is kept simple by assuming that the organisation responsible for maintaining and repairing the A149 is the one organisation that would be expected to contribute. The A149 is within the parishes and the flood risk zone, so there is one transport organisation included in the parish-wide, borough-wide and below 5m calculations. Rather than use length of roads to determine contributions, it is assumed that the Highway Authority (Norfolk County Council) would be the one contributor for transport.

### **A1.2.6 Number of Landowners**

The number of landowners affected is difficult to estimate as the number of individual owners of land is not known. Instead, the calculations are based on area of farmland affected. The total area of farmland in the Borough is taken from the June 2007 Agricultural and Horticultural Survey for England<sup>33</sup> (farm census data). The 2007 data have been used (rather than more recent data) as they provide information on area of farmland by Borough/District Council. Later datasets only give data for Norfolk as a whole, which are difficult to use here.

The 2007 farm census data show 115,006 ha of farmed land in the Borough of King’s Lynn and West Norfolk. The area of farmland in the parishes of Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe has been estimated by subtracting the areas of urban land (as given in NCC, 2005<sup>34</sup>). The area of non-urban land in the five parishes is estimated at 6,549 ha (and for Heacham, Hunstanton and Snettisham is 4,692 ha).

<sup>33</sup> <http://www.defra.gov.uk/evidence/statistics/foodfarm/landuselivestock/junesurvey/results.htm>

<sup>34</sup> NCC (2005): **2001 Census key statistics for urban areas, based on the boundaries of urban land**, Issue 2/05, August 2005, available from: <http://www.norfolk.gov.uk/view/ncc040560>

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The area below 5m is based on a quick assessment of the total parish area that is estimated to be below 5m (based on the Ordnance Survey map of the flood risk area and the parish maps). Using this approach it is estimated that:

- Heacham: 33% of the total area is below 5m;
- Hunstanton: 10% of the total area is below 5m;
- Snettisham: 33% of the total area is below 5m;
- Dersingham: 20% of the total area is below 5m; and
- Ingoldisthorpe: 25% of the total area is below 5m.

This gives a total of 1,853 ha below 5m, or 28% of the total area. If it is also assumed that 28% of the Borough as a whole is below 5m, the area of farmland below 5m would be 32,547 ha (115,006 x 28%), with 82,459 ha above 5m.

The number of farms is estimated by calculating the area of a ‘typical’ farm. This is the total area of farmed land divided by the number of farms (513, as given in the 2007 farm census data). The area of a typical farm is estimated at 224ha (115,006 ha ÷ 513 farms). The number of farms in the five affected parishes is estimated at 29 (from the area of farmland, 6,549 ha, divided by 224ha). This reduces to 21 if just Heacham, Hunstanton and Snettisham are included.

The number of farms below 5m is estimated by dividing the total area of land below 5m by the average farm size (32,547 ha by 224 ha), giving 145 farms below 5m (and, consequently, 368 farms above 5m).

Table A1.4 summarises the number of farms and area of farmland used in the calculation of contributions.

<b>Table A1.4: Number of Landowners</b>					
<b>Group</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham, Dersingham, Ingoldisthorpe</b>	<b>In Parishes of Heacham, Hunstanton, Snettisham</b>	<b>In BCKLWN</b>	<b>In Borough, below 5m</b>	<b>In Borough, above 5m</b>
Landowners (number of farms)	29	21	513	145	368
Landowners (area of farmed land, ha)	6,549	4,962	115,006	32,547	82,459



## A1.3 The Costs that have to be Recouped through Contributions

### A1.3.1 Methods

The division of contributions across the beneficiary groups could be based on a number of different methods:

- method A: the income currently paid to the Borough Council (through Council Tax or Business Tax);
- method B: amount paid into national taxation (as a generic indicator across all tax); or
- method C: the potential benefit they receive from continued management of the coast (this is difficult to estimate unless it is assumed to be based on area/property values, which will then be reflected in the amount of Council or Business Tax that is currently paid).

Other approaches, such as contributions based on the length of frontage, were also considered but have been excluded as a result of discussions at the workshops (for reasons of fairness).

#### *The Distribution of Costs under Method A*

Table A1.5 shows the amount of Council Tax and Business Rates that are payable to the Borough Council of King's Lynn and West Norfolk. The percentage payable by each beneficiary is calculated by dividing the tax paid annually by that beneficiary by the total tax paid to/through the Borough Council. Business Rates payable by utilities and transport are based on data from the Valuation Office Agency by type of hereditament in King's Lynn and West Norfolk<sup>35</sup>.

<b>Beneficiary Group</b>	<b>Tax Paid Annually</b>	<b>Percent of Total</b>
Residents <sup>1</sup>	£5,649,760	14%
Business Rates: not utilities or transport <sup>2</sup>	£30,222,793	76%
Business Rates: utilities (electricity/water) <sup>2</sup>	£1,154,634	3%
Business Rates: transport <sup>2</sup>	£22,669	0.06%
Landowners (through IDB) <sup>3</sup>	£2,645,050	7%
Notes: <sup>1</sup> Residents based on Council Tax income to the Borough <sup>2</sup> Businesses based on Business Rates (Rateable Value x 41p) income to Treasury (via the Borough) <sup>3</sup> Landowners based on total IDB levies raised 2010/2011 Source: Borough Council of King's Lynn and West Norfolk (2010): <b>The Financial Plan 2009/2013, as submitted to the Cabinet, 9 February 2010.</b>		

<sup>35</sup> Source: [http://www.voa.gov.uk/business\\_rates/drafliststats/pdc/ba%5Cba2635.html](http://www.voa.gov.uk/business_rates/drafliststats/pdc/ba%5Cba2635.html) (data for 2005).

***The Distribution of Costs under Method B***

Method B requires an assessment to be made of the total taxes that are paid by residents (individuals) versus taxes that are paid by businesses. It is also necessary to separate out the proportion of national taxation that is paid by landowners, utilities and for transport. The approach used to calculate the percentage of tax paid by each beneficiary is as follows.

Total tax income in 2008/09 was £507.8 billion (HM Treasury, 2009<sup>36</sup>). This is broken down into different types of tax, as shown in Table A1.6. The different types of tax can be divided into those that are predominantly paid by individuals and those that are mainly paid by businesses. Taxes paid by individuals or businesses can then be divided again into those taxes that are associated with the individual (e.g. income tax) and those taxes that are related to property (i.e. houses).

<b>Table A1.6: Breakdown of Total Tax Receipts</b>			
<b>Tax</b>	<b>Outturn 2008-09 (£ billions)</b>	<b>Tax Mainly Paid by</b>	<b>Tax Associated with</b>
Income tax (gross of tax credits)	153.5	Individuals	Individual
Income tax credits	-5.6	Individuals	Individual
NI contributions	96.9	Individuals	Individual
Value added tax	78.4	Individuals	Individual
Corporation tax	43.7	Businesses	Businesses
Corporation tax credits	-0.6	Individuals	Individual
Petroleum revenue tax	2.6	Businesses	Businesses
Fuel duties	24.6	Individuals	Individual
Capital gains tax	7.8	Individuals	Individual
Inheritance tax	2.8	Individuals	Individual
Stamp duties	8	Individuals	Property (Individual)
Tobacco duties	8.2	Individuals	Individual
Alcohol duties	8.5	Individuals	Individual
Betting and gaming duties	1.5	Individuals	Individual
Air passenger duty	1.9	Individuals	Individual
Insurance premium tax	2.3	Individuals	Individual
Landfill tax	1	Businesses	Businesses
Climate change levy	0.7	Businesses	Businesses
Aggregates levy	0.3	Businesses	Businesses
Custom duties and levies	2.7	Individuals	Individual
<b>Total HMRC</b>	<b>439.2</b>		
Vehicle excise duties	5.6	Individuals	Individual
Business rates	22.9	Businesses	Property (Businesses)

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<sup>36</sup> HM Treasury (2009): **2009 Pre-Budget Report: The Economy and Public Finances**, Supplementary Material, December 2009, available from: [http://www.hm-treasury.gov.uk/d/pbr09\\_chartstables.pdf](http://www.hm-treasury.gov.uk/d/pbr09_chartstables.pdf)

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Tax	Outturn 2008-09 (£ billions)	Tax Mainly Paid by	Tax Associated with
Council tax	24.4	Individuals	Property (Individual)
Other taxes and royalties	15.7	Individuals	Individual
<b>Net taxes and NICs</b>	<b>507.8</b>		

**Source:**  
 Table 2.9 from HM Treasury (2009): **2009 Pre-Budget Report: The Economy and Public Finances**, Supplementary Material, December 2009, available from:  
[http://www.hm-treasury.gov.uk/d/pbr09\\_chartables.pdf](http://www.hm-treasury.gov.uk/d/pbr09_chartables.pdf)

The proportion of tax being paid (mainly) by individuals and businesses can then be estimated, as shown in Table A1.7.

Mainly paid by Individuals			Mainly paid by Businesses		
Associated with individual	Tax receipts		Tax	Tax receipts	
	Total	%		Total	%
Income tax (net of tax credits)	147.9	29.1%	Corporation tax (net of credits)	43.1	8.5%
NI contributions	96.9	19.1%	Business rates	22.9	4.5%
Value added tax	78.4	15.4%	Petroleum revenue tax	2.6	0.5%
Fuel duties	24.6	4.8%	Landfill tax	1	0.2%
Capital gains tax	7.8	1.5%	Climate change levy	0.7	0.1%
Inheritance tax	2.8	0.6%	Aggregates levy	0.3	0.1%
Tobacco duties	8.2	1.6%	<b>Total</b>	<b>70.6</b>	<b>13.9%</b>
Alcohol duties	8.5	1.7%			
Betting and gaming duties	1.5	0.3%			
Air passenger duty	1.9	0.4%			
Insurance premium tax	2.3	0.5%			
Custom duties and levies	2.7	0.5%			
Vehicle excise duties	5.6	1.1%			
Other taxes and royalties	15.7	3.1%			
<b>Total</b>	<b>405</b>	<b>79.7%</b>			
<b>Associated with property</b>					
Stamp duties	8	1.6%			
Council tax	24.4	4.8%			
<b>Total</b>	<b>32.4</b>	<b>6.4%</b>			

Table A1.8 identifies the percentage of tax payable by residents (individuals) and businesses, sub-divided into utilities (energy and water supply), transport and landowners (agriculture) based on the percentage of Corporation Tax paid by these groups.

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<b>Table A1.8: Summary of Tax Paid by the Different Beneficiaries</b>	
<b>Group</b>	<b>% Paid</b>
Residents	86%
Businesses	12%
Utilities (electricity, water, sewerage) <sup>1</sup>	1.5%
Transport <sup>2</sup>	0.2%
Landowners <sup>3</sup>	0.04%
Notes:	
<sup>1</sup> Based on total corporation tax multiplied by the percentage of all corporation tax that is payable by utilities (14.8%), divided by total tax payable, plus the climate change levy (0.1%)	
<sup>2</sup> Based on total corporation tax multiplied by the percentage of all corporation tax that is payable by transport (2.1%), divided by total tax payable	
<sup>3</sup> Based on total corporation tax multiplied by the percentage of all corporation tax that is payable by landowners (0.5%), divided by total tax payable	

### *The Distribution of Costs under Method C*

Method C uses the information collected on property taxes (i.e. stamp duties, Council Tax and Business Rates). Table A1.9 shows the results of this calculation on the percentages that would be paid by beneficiary.

<b>Table A1.9: Summary of Tax Paid by the Different Beneficiaries, by Property Tax</b>		
<b>Group</b>	<b>Total Taxes</b>	<b>% Paid<sup>1</sup></b>
Residents	£24.4 million	52%
Businesses	£21.6million <sup>2</sup>	46%
Utilities (electricity, water, sewerage)	£1.3 million <sup>3</sup>	3%
Transport	£0.002 million	0.005%
Landowners	-	-
<b>Overall total of property taxes</b>	<b>£47.3 million</b>	<b>100%</b>
Notes:		
<sup>1</sup> Calculated by dividing the total taxes paid by each beneficiary group by the overall total of property taxes		
<sup>2</sup> This is calculated from £22.9 million (total Business Rates) by the proportion of Business Rates paid by all businesses other than utilities and transport (96%) (using data for King's Lynn and West Norfolk as national data were not available)		
<sup>3</sup> Calculated based on total Business Rates of £22.9 million multiplied by the percentage of Business Rates paid by utilities (6%)		
<sup>4</sup> Calculated based on total Business Rates of £22.9 million multiplied by the percentage of Business Rates paid by transport (0.01%)		

### **A1.3.2 The Amount that Needs to be Recouped**

The costs to be recouped are based on the costs included in the Wash Shoreline Management Plan 2 (SMP2). The costs given in the SMP2 are in Present Value (PV) terms (they have been discounted over 50 years). To enable contributions to be estimated, it is necessary to convert these PV costs into cash costs. This is done by

taking the PV costs given in the Wash SMP2 for the next 50 years (£19.62 million) and dividing it by the sum of the discount factors (24.495) (£19.62 million ÷ 24.495). This gives annual contributions required of around £800,000 per year.

Where it is assumed that the contributions would be collected from everyone in the Borough, it may be necessary to also allow those people and businesses to benefit from maintained flood defences. This would extend the frontage over which the money is to be spent so additional costs would be incurred. The costs from the SMP2 are used to estimate the costs across PDZ3 and PDZ4 (to the north) and to part of PDZ1 (to the south) to include the entire frontage within the BCKLWN area.

The additional PV costs for PDZ3 and PDZ4 are £9.4 million over 50 years, this is £19 million in cash costs, or £380,000 per year for 50 years (£9.4 million ÷ 24.495).

The costs for PDZ1 are more difficult to estimate since PDZ1 extends beyond the BCKLWN area. An assumption has been made that around 30% of the frontage of PDZ1 is in the BCKLWN area so the expenditure on this frontage would be 30% of the total costs for PDZ1. This simplification assumes that costs are the same across each metre of frontage, which may not be the case. However, using the assumption gives PV costs for PDZ1 of £7 million and annual costs of £290,000 per year for 50 years (from £7 million ÷ 24.495). The additional costs are:

- annual costs for the whole BCKLWN frontage:
  - PDZ1 (part): £290,000 per year;
  - PDZ2 (main focus of this study): £800,000 per year;
  - PDZ3 and PDZ4: £380,000 per year; giving
  - Total contributions for the whole BCKLWN frontage: £1.47 million per year.

In calculating the costs for PDZ1, the worst-case (erosional) costs are used. If the best-case (accretional) scenario were used the costs decrease by around £12,000 per year.

### **A1.3.3 Amount Payable by Beneficiary Group per Year**

The total amount payable by each beneficiary group is estimated by multiplying the percentage to be paid by each beneficiary group (from Tables A1.5, A1.8 and A1.9) by the total costs that need to be recouped. The results are shown in Table A1.10.

<b>Table A1.10: Total Amount Payable per Year by Beneficiary Group</b>			
<b>Beneficiary</b>	<b>A. By Income Paid to Borough Council</b>	<b>B. By National Taxation (All Tax)</b>	<b>C. By National Taxation (Council Tax/Business Rates)</b>
<i>To Cover Costs for PDZ2 (Wolferton Creek to South Hunstanton)</i>			
Residents	£114,003	£691,331	£413,371
Businesses	£609,848	£96,465	£365,845
Utilities	£23,299	£11,254	£21,726
Transport	£457	£1,608	£39

<b>Table A1.10: Total Amount Payable per Year by Beneficiary Group</b>			
<b>Beneficiary</b>	<b>A. By Income Paid to Borough Council</b>	<b>B. By National Taxation (All Tax)</b>	<b>C. By National Taxation (Council Tax/Business Rates)</b>
Landowners	£53,373	£322	-
<b>To Cover Costs for PDZs 1(part), 2, 3 and 4 (whole BCKLWN frontage)</b>			
Residents	£209,225	£1,268,768	£758,639
Businesses	£1,119,224	£177,037	£671,417
Utilities	£42,759	£20,654	£39,872
Transport	£839	£2,951	£71
Landowners	£97,953	£590	-

## **A1.4 The Amount Payable by Beneficiary Group**

### **A1.4.1 Approach 1: Flat Rate Paid by Parishes**

The annual contribution payable per beneficiary under Approach 1 is estimated by dividing the amount payable per year by beneficiary group (from Table A1.10) across all the beneficiaries in:

- 1a: the parishes of Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe; or
- 1b: the parishes of Heacham, Hunstanton and Snettisham.

Table A1.11 gives the results for each beneficiary group. For example, the annual cost per resident living in a Band D property in Heacham under Method A to pay for the maintenance of defences from Wolferton Creek to South Hunstanton would be:

- Approach 1a:
  - total amount payable by residents: £114,003 (from Table A1.10);
  - number of residences in the parishes: 10,952 (from Table A1.1); giving
  - contribution per residence:  $£114,003 \div 10,952 = £10.41$ .
- Approach 1b:
  - total amount payable by residents: £114,003 (from Table A1.10);
  - number of residences in the parishes: 8,195 (from Table A1.1); giving
  - contribution per residence:  $£114,003 \div 8,195 = £13.91$ .

<b>Table A1.11: Calculation of Individual Contributions (Approach 1)</b>						
<b>Contribution</b>	<b>Method A (Table A1.1) By Income Paid to Borough Council</b>		<b>Method B (Table A1.4) By National Taxation (All Tax)</b>		<b>Method C (Table A1.5) By National Taxation (Council Tax/Business Rates)</b>	
	<b>Approach 1a<sup>1</sup></b>	<b>Approach 1b<sup>1</sup></b>	<b>Approach 1a<sup>1</sup></b>	<b>Approach 1b<sup>1</sup></b>	<b>Approach 1a<sup>1</sup></b>	<b>Approach 1b<sup>1</sup></b>
<i>Total Payable by Individual (Total Amount Payable by Beneficiary Group, from Table A1.10, divided by the total number of beneficiaries, from Tables A1.1 to A1.4)</i>						
Residents: per Band D property	£10.41	£13.91	£63.00	£8.28	£37.71	£50.44
Businesses: per £ of Rateable Value	£0.09	£0.11	£0.01	£0.02	£0.05	£0.06
Utilities: per installation	£2,219	£2,459	£1,072	£1,188	£2,070	£2,293
Transport: per organisation responsible	£457	£457	£1,608	£1,608	£39	£39
Landowners: per ha of farmed land	£8.15	£11.38	£0.05	£0.07	-	-
Notes: <sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe						

The contributions estimated in Table A1.11 need to be presented in units that are more understandable to the various beneficiary groups. For example, residents need to understand what their contribution might be when their property is allocated to a different Council Tax Band than Band D. Similarly, businesses need to be given their contribution in terms of Business Rates (rather than Rateable Value).

### ***Potential Cost to Residents in Other Council Tax Bands***

The estimated contribution by residents in Table A1.11 is based on a Band D property, thus factors are needed to allow contributions from those living in other bands to be estimated. To keep the calculations simple, the total payable to the Borough Council across Bands is used (rather than the actual costs for the parishes being considered). Table A1.12 presents the levels of Council Tax for 2010/2011 and includes the percent increase and decrease that would be applied to the contribution for the various bands. For example, the contribution for a household under Approach 1a, Method A would be:

- Band A property:
  - Band D contribution: £10.40 per year;
  - Band A decrease compared with Band D: 66.67% (rounded in Table A1.12 to 67%); giving
  - Band A contribution: £10.40 x 66.67% = £6.93 per year.
- Band G property:
  - Band D contribution: £10.40 per year;
  - Band G increase compared with Band D: 166.67% (rounded in Table A1.12 to 167%); giving
  - Band A contribution: £10.40 x 166.67% = £17.33 per year.

**Annex 1: Step-by-Step Explanation of Calculations**

Council Tax Band	2010/2011 Charge (BCKLWN share)	% Increase/ Decrease Compared with Band D	Contribution (as calculated based on Band D)					
			Method A		Method B		Method C	
			1a <sup>1</sup>	1b <sup>1</sup>	1a <sup>1</sup>	1b <sup>1</sup>	1a <sup>1</sup>	1b <sup>1</sup>
A	£74.65	67%	£6.93	£9.27	£42.00	£56.19	£25.14	£33.63
B	£87.09	78%	£8.09	£10.82	£49.00	£65.55	£29.33	£39.23
C	£99.53	89%	£9.24	£12.37	£56.00	£74.91	£33.52	£44.84
D	£111.97	100%	£10.40	£13.91	£63	£84	£38	£50
E	£136.85	122%	£12.71	£17.00	£77.00	£103.00	£46.09	£61.65
F	£161.73	144%	£15.02	£20.09	£91.00	£121.73	£54.47	£72.86
G	£186.62	167%	£17.33	£23.19	£105.01	£140.46	£62.85	£84.07
H	£223.94	200%	£20.80	£27.82	£126.01	£168.55	£75.42	£100.88

Notes:  
Source: based on Borough Council of King's Lynn and West Norfolk (2010): **The Financial Plan 2009/2013, as submitted to the Cabinet, 9 February 2010.**  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe

**Potential Cost to Businesses based on Percentage of Business Rates**

For businesses, the contributions calculated in Table A1.11 are per £1 of Rateable Value. This can also be expressed as a levy of a specific percentage on the Rateable Value, as shown in Table A1.13. The total contribution payable would therefore be the Rateable Value multiplied by the percentage shown in Table A1.13. The percentages shown in Table A1.13 are converted from a pence per £ value to a percentage, i.e. a contribution of £0.09 per £1 of Rateable Value is equivalent to a 9% increase in Rateable Value.

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>
Businesses: % of Rateable Value	9%	11%	1%	2%	5%	6%

Notes:  
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe

The percentages shown in Table A1.13 need to be converted to a percentage on top of Business Rates to be more meaningful to businesses. The BCKLWN Financial Plan 2009/2013 shows that the multipliers for Business Rates will be<sup>37</sup>:

<sup>37</sup> Provisional for 2010/2011 subject to approval by Parliament.



- 41.4p for non-domestic rates; and
- 40.7p for non-domestic rate multiplier (small businesses).

This means that the contribution on top of Business Rates will be a higher percentage than on Rateable Value, to ensure that the funds needed to manage the defences are collected. The percentage increases needed on top of Business Rates to enable businesses to contribute the amount of money required (from Table A1.10) are shown in Table A1.14. The percentages are calculated as follows (for Approach 1a, Method A):

- Medium/large businesses:
  - % increase in Rateable Value needed: 9%;
  - Business Rate multiplier: 41.4p; giving
  - Business Rates contribution:  $9\% \div 0.414 = 22\%$ .
- Small businesses:
  - % increase in Rateable Value needed: 9%;
  - Business Rate multiplier: 40.7p; giving
  - Business Rates contribution:  $9\% \div 0.407 = 22\%$ .

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>	Approach 1a <sup>1</sup>	Approach 1b <sup>1</sup>
Medium/large businesses	22%	25%	3.5%	4.0%	13%	15%
Small businesses <sup>2</sup>	22%	25%	3.4%	4.0%	13%	15%
Notes:						
<sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe						
<sup>2</sup> Assumes small businesses pay a slightly lower contribution based on the difference in Business Rates multiplier						

### **Potential Costs to Landowners**

The landowner contributions calculated in Table A1.11 are per hectare of farmed land. To calculate total cost across a farm, it is necessary to multiply the estimated contribution per hectare by the total number of hectares.

As an illustration, the Defra 2007 June Agricultural and Horticultural Survey for England states that there were 115,006 ha of farmed land in the Borough of King’s Lynn and West Norfolk and a total of 513 farms. It can be assumed, therefore, that a ‘typical’ farm would include 224 ha of farmed land ( $115,006 \div 513$ ). The contributions payable by this ‘typical’ farm are shown in Table A1.15, calculated by multiplying the contribution per hectare of farmed land by the 224 ha for a ‘typical’ farm. For example, under Approach 1a, Method A, the contribution is calculated as:

## ***Annex 1: Step-by-Step Explanation of Calculations***

- contribution per hectare of farmed land: £8.15;
- number of hectares: 224 ha; giving
- total contribution for a ‘typical’ farm: £8.15 x 224 ha = £1,826 per year.

<b>Contribution</b>	<b>Method A By Income Paid to Borough Council</b>		<b>Method B By National Taxation (All Tax)</b>		<b>Method C By National Taxation (Council Tax/Business Rates)</b>	
	<b>Approach 1a<sup>1</sup></b>	<b>Approach 1b<sup>1</sup></b>	<b>Approach 1a<sup>1</sup></b>	<b>Approach 1b<sup>1</sup></b>	<b>Approach 1a<sup>1</sup></b>	<b>Approach 1b<sup>1</sup></b>
Landowners: per ha for a typical farm with 224 ha of farmed land	£1,825.55	£2,548.07	£11.00	£15.35	-	-
Notes: <sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe						

### **A1.4.2 Approach 2: Borough-wide Charge with a Surcharge for those Buildings/Dwellings below the 5m Contour**

#### ***Contribution Payable***

Approach 2 considers the application of a surcharge for beneficiaries below the 5m contour. It is useful, therefore, to consider what proportion of total beneficiaries is represented by those below 5m. These proportions are:

- residents (by number dwellings): 1.1%;
- businesses (by Rateable Value): 31%;
- utilities (by number installations): 28%;
- transport (by organisations responsible): 100%; and
- landowners (by area of farmed land): 28%.

Given the relatively low proportions of each beneficiary below the 5m contour (especially residents), it is unlikely that they could be expected to pay a significant proportion of the total costs. It may be preferable to consider how much more those below 5m should pay than those above 5m. In the following calculations, it is assumed that the surcharge should be assigned so that those below 5m pay twice as much as those above 5m. The surcharge charged varies across each beneficiary (to maintain the charge for those below 5m at (approximately) twice that of those above 5m). The proportions of the total contributions paid by those below 5m are (to the nearest whole percentage):

- residents (by number dwellings): 2.2% (of total residential contribution paid by 1.1% of total residents);
- businesses (by Rateable Value): 48% (of total business contribution paid by 31% of businesses);
- utilities (by number of installations): 44% (of total contribution from utilities paid by 28% of utilities);

- transport (by organisations responsible): 100%; and
- landowners (by area of farmed land): 44% (of total contribution from landowners paid by 28% of farmers).

The percentages give above were calculated by increasing the proportion paid by beneficiaries below 5m until the contribution was twice that of beneficiaries above 5m.

Table A1.16 presents the total payable by beneficiary for those below and above the 5m contour based on costs for managing the coast from Wolferton Creek to South Hunstanton. The contributions are calculated as follows for residents under Method A:

- residents below 5m:
  - total amount payable by residents: £114,003 per year (from Table A1.10);
  - total amount payable by those below 5m: £114,003 x 2.22% (from bullets, above) = £2,531 per year;
  - number of Band D properties below 5m in the Borough: 566 (from Table A1.1); giving
  - contribution per household: £2,531 ÷ 566 = £4.47 per household per year.

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Below 5m	Above 5m	Below 5m	Above 5m	Below 5m	Above 5m
Residents: per Band D property	£4.47	£2.23	£27.08	£13.54	£16.21	£8.10
Businesses: per £ of Rateable Value	£0.012	£0.006	£0.002	£0.001	£0.007	£0.004
Utilities: per installation	£742.97	£371.34	£384.14	£191.99	£692.18	£346.27
Transport: per organisation responsible	£457.42	-	£1,606.14	-	£39	-
Landowners: per ha of farmed land	£0.72	£0.36	£0.004	£0.002	-	-

***Potential Cost to Residents in Other Council Tax Bands***

The contributions calculated above are based on a Band D property, thus factors are needed to allow contributions from those living in other bands to be estimated. To simplify the calculations, the total payable to the Borough Council across Bands is used (rather than the actual costs for the parishes being considered). Table A1.17 presents the levels of Council Tax for 2010/2011 and includes the percentage increase and decrease that would be applied to the contribution for the various bands. The

## *Annex 1: Step-by-Step Explanation of Calculations*

calculations used to estimate the contributions for the different Bands are the same as described in Section A1.4.1.

<b>Table A1.17: Calculating the Contribution Across Council Tax Bands (Approach 2)</b>								
<b>Council Tax Band</b>	<b>2010/2011 Charge</b>	<b>% Increase/ Decrease Compared with Band D</b>	<b>Contribution (as calculated based on Band D)</b>					
			<b>Method A</b>		<b>Method B</b>		<b>Method C</b>	
			<b>Below 5m</b>	<b>Above 5m</b>	<b>Below 5m</b>	<b>Above 5m</b>	<b>Below 5m</b>	<b>Above 5m</b>
A	£74.65	67%	£2.98	£1.49	£18.05	£9.02	£10.80	£5.40
B	£87.09	78%	£3.48	£1.74	£21.06	£10.53	£12.60	£6.30
C	£99.53	89%	£3.97	£1.99	£24.07	£12.03	£14.41	£7.20
D	£111.97	100%	£4.47	£2.23	£27.08	£13.54	£16.21	£8.10
E	£136.85	122%	£5.46	£2.73	£33.09	£16.54	£19.81	£9.90
F	£161.73	144%	£6.46	£3.23	£39.11	£19.55	£23.41	£11.70
G	£186.62	167%	£7.45	£3.72	£45.13	£22.56	£27.01	£13.50
H	£223.94	200%	£8.94	£4.47	£54.15	£27.07	£32.41	£16.20

Notes:  
Source: based on Borough Council of King's Lynn and West Norfolk (2010): **The Financial Plan 2009/2013, as submitted to the Cabinet, 9 February 2010.**

### *Potential Cost to Businesses based on Percentage of Business Rates*

The contributions calculated above are per £1 of Rateable Value. This can also be expressed as a percentage increase on Rateable Value, as shown in Table A1.18.

<b>Table A1.18: The Contribution Payable by Business (Rateable Value, Approach 2)</b>						
<b>Contribution</b>	<b>Method A By Income Paid to Borough Council</b>		<b>Method B By National Taxation (All Tax)</b>		<b>Method C By National Taxation (Council Tax/Business Rates)</b>	
	<b>Below 5m</b>	<b>Above 5m</b>	<b>Below 5m</b>	<b>Above 5m</b>	<b>Below 5m</b>	<b>Above 5m</b>
Businesses: per £ of Rateable Value	1%	0.6%	0.2%	0.1%	1%	0.4%

When converted to a contribution on Business Rates using the Business Rate multipliers of 41.4p for medium/large businesses and 40.7p for small businesses, the percentages increase as shown in Table A1.19.

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Below 5m	Above 5m	Below 5m	Above 5m	Below 5m	Above 5m
Medium/large businesses	2.9%	1.5%	0.5%	0.2%	1.8%	0.9%
Small businesses <sup>1</sup>	2.9%	1.4%	0.5%	0.2%	1.7%	0.9%
Notes: 1 Assumes small businesses pay a slightly lower contribution based on the difference in domestic rates multiplier						

***Potential Costs to Landowners***

The contributions calculated in Table A1.16 are per hectare of farmed land. To calculate total costs across a farm, it is necessary to multiply the estimated contribution per hectare by the total number of hectares. Assuming a ‘typical’ farm is 224 ha, allows illustrative contributions to be estimated, as shown in Table A1.20.

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Below 5m	Above 5m	Below 5m	Above 5m	Below 5m	Above 5m
Landowners: per ha for a typical farm with 224 ha of farmed land	£162.12	£81.00	£0.43	£0.21	-	-

**A1.4.3 Approach 3: Flat Raid Paid Across Whole Borough**

***Contribution Payable***

Approach 3 involves a flat rate payable across the whole Borough. Table A1.21 presents the results of calculating the annual contribution payable per beneficiary (total costs divided by numbers of beneficiaries). The table includes two sets of figures:

- 3a: based on costs for managing the coast from Wolferton Creek to South Hunstanton only (approx. £800,000 per year); and
- 3b: based on the costs of managing the whole frontage within the Borough (approx. £1.5 million per year).

As with Approaches 1 and 2, further manipulation of these figures is needed to ensure it can be easily understood by the beneficiary groups as a simple levy on top of Council Tax or Business Rates.

**Annex 1: Step-by-Step Explanation of Calculations**

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	Approach 3a <sup>1</sup>	Approach 3b <sup>1</sup>	Approach 3a <sup>1</sup>	Approach 3b <sup>1</sup>	Approach 3a <sup>1</sup>	Approach 3b <sup>1</sup>
Residents: per Band D property	£2.26	£4.15	£13.70	£25	£8.19	£15
Businesses: per £ of Rateable Value	£0.008	£0.01	£0.001	£0.002	£0.005	£0.01
Utilities: per installation	£475	£873	£230	£422	£443	£814
Transport: per organisation responsible	£457	£839	£1,608	£2,951	£39	£71
Landowners: per ha of farmed land	£0.46	£0.85	£0.003	£0.01	-	-
Notes: <sup>1</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage						

**Potential Costs to Residents in Other Council Tax Bands**

The contribution estimated in Table A1.21 is based on a Band D property, thus some adjustments are needed to allow contributions from those living in other bands to be estimated. As with Approaches 1 and 2, the total payable to the Borough Council across Bands is used (rather than the actual costs for the parishes being considered). Table A1.22 presents the proposed levels of Council Tax for 2010/2011 and includes the percentage increase and decrease that would be applied to the contribution for the various bands.

Council Tax Band	2010/2011 Charge	% Increase/ Decrease Compared with Band D	Contribution (as calculated based on Band D)					
			Method A		Method B		Method C	
			3a <sup>1</sup>	3b <sup>1</sup>	3a <sup>1</sup>	3b <sup>1</sup>	3a <sup>1</sup>	3b <sup>1</sup>
A	£74.65	67%	£1.51	£2.76	£9.13	£16.76	£5.46	£10.02
B	£87.09	78%	£1.76	£3.23	£10.66	£19.56	£6.37	£11.69
C	£99.53	89%	£2.01	£3.69	£12.18	£22.35	£7.28	£13.36
D	£111.97	100%	£2.26	£4.15	£14	£25	£8	£15
E	£136.85	122%	£2.76	£5.07	£16.75	£30.73	£10.01	£18.38
F	£161.73	144%	£3.26	£5.99	£19.79	£36.32	£11.83	£21.72
G	£186.62	167%	£3.77	£6.91	£22.84	£41.91	£13.65	£25.06
H	£223.94	200%	£4.52	£8.29	£27.40	£50.29	£16.38	£30.07
Notes: Source: based on Borough Council of King's Lynn and West Norfolk (2010): <b>The Financial Plan 2009/2013, as submitted to the Cabinet, 9 February 2010.</b> <sup>1</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage								

**Potential Costs to Businesses based on Percentage of Business Rates**

The contributions calculated in Table A1.21 above are per £1 of Rateable Value. This can be easily converted to percentage increase in RV (where £0.01 increase per £1 of RV is equivalent to a 1% increase), as shown in Table A1.23.

<b>Table A1.23: The Contribution Payable by Business (Rateable Value, Approach 3)</b>						
<b>Contribution</b>	<b>Method A By Income Paid to Borough Council</b>		<b>Method B By National Taxation (All Tax)</b>		<b>Method C By National Taxation (Council Tax/Business Rates)</b>	
	<b>3a<sup>1</sup></b>	<b>3b<sup>1</sup></b>	<b>3a<sup>1</sup></b>	<b>3b<sup>1</sup></b>	<b>3a<sup>1</sup></b>	<b>3b<sup>1</sup></b>
Businesses: per £ of Rateable Value	1%	1%	0.1%	0.2%	0.5%	1%
Notes: <sup>1</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage						

The increase in RV is converted to a contribution on Business Rates using the multipliers of 41.4p for medium/large businesses and 40.7p for small businesses. This allows percentage increases in Business Rates to be estimated, as shown in Table A1.24.

<b>Table A1.24: The Contribution Payable by Business (Business Rates, Approach 3)</b>						
<b>Contribution</b>	<b>Method A By Income Paid to Borough Council</b>		<b>Method B By National Taxation (All Tax)</b>		<b>Method C By National Taxation (Council Tax/Business Rates)</b>	
	<b>3a<sup>1</sup></b>	<b>3b<sup>1</sup></b>	<b>3a<sup>1</sup></b>	<b>3b<sup>1</sup></b>	<b>3a<sup>1</sup></b>	<b>3b<sup>1</sup></b>
Medium/large businesses	1.9%	3.5%	0.3%	0.6%	1.2%	2.1%
Small businesses <sup>2</sup>	1.9%	3.5%	0.3%	0.5%	1.1%	2.1%
Notes: <sup>1</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage <sup>2</sup> Assumes small businesses pay a slightly lower contribution based on the difference in Business Rates multiplier						

**Potential Costs to Landowners**

The contributions calculated in Table A1.21 are per hectare of farmed land. To calculate total cost across a farm, it is necessary to multiply the estimated contribution per hectare by the total number of hectares. Illustrative contributions can be estimated using a ‘typical’ farm (assumed to be 224 ha), as shown in Table A1.25.

Contribution	Method A By Income Paid to Borough Council		Method B By National Taxation (All Tax)		Method C By National Taxation (Council Tax/Business Rates)	
	3a <sup>1</sup>	3b <sup>1</sup>	3a <sup>1</sup>	3b <sup>1</sup>	3a <sup>1</sup>	3b <sup>1</sup>
Landowners: for a typical farm with 224 ha of farmed land	£104	£190	£0.63	£1.15	-	-
Notes: <sup>1</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe						

## **A1.5 Sensitivity Analysis**

### **A1.5.1 Uncertainty over the Costs Required to Manage the Coast**

The costs of managing the coast have been calculated using estimates made in the Shoreline Management Plan 2. Although these are based on the best information available, they are calculated at a high level, without taking full account of specific details of the actual work that may be required along the frontage. There is, therefore, some uncertainty as to the actual costs and, hence, the contributions that may be chargeable. To assess this uncertainty, two sensitivity tests have been performed:

- assuming that the SMP2 over-estimates the costs and the detailed estimates of costs are lower. The sensitivity analysis assumes the costs are around 50% lower than given in the SMP2 at an estimated £400,000 per year (Wolferton Creek to South Hunstanton frontage) or £750,000 (whole Borough frontage); and
- assuming that the SMP2 under-estimates the costs and the detailed estimates of costs are higher. The sensitivity analysis assumes that costs are twice those estimated in the SMP2 at £1.5 million per year (Wolferton Creek to South Hunstanton frontage) or £3.0 million (whole Borough frontage).

### **A1.5.2 Impacts on Contributions Payable for Residents**

The impacts of the change in contributions payable vary according to the approach and method used to calculate how much is to be paid by residents. Table A1.26 summarises the change for a Band D property from the main estimates (where the annual costs are £800,000 for the Wolferton Creek to South Hunstanton frontage or £1,470,000 for the whole Borough frontage).



<b>Table A1.26: Impacts of Contributions by Residents if Costs of Managing the Coast Change</b>										
Approach	Sub-Approach	Method								
		A			B			C		
		Total Costs of Managing Coast <sup>1</sup>								
		£400k	£800k	£1.5m	£400k	£800k	£1.5m	£400k	£800k	£1.5m
1	1a <sup>2</sup>	£5	£10	£19	£31	£63	£120	£19	£38	£71
	1b <sup>2</sup>	£7	£14	£26	£42	£84	£160	£25	£50	£94
2	2a <sup>3</sup>	£2.20	£4.50	£8.40	£14	£27	£51	£8	£16	£30
	2b <sup>3</sup>	£1.10	£2.20	£4.20	£7	£14	£25	£4	£8	£15
3	3a <sup>4</sup>	£1.10	£2.30	£4.20	£7	£14	£26	£4	£8	£15
	3b <sup>4</sup>	£2.10	£4.20	£8.50	£13	£25	£51	£8	£15	£31

Notes:  
<sup>1</sup> Costs given are for managing the Wolferton Creek to South Hunstanton frontage, for Approach 3b the costs reflect the cost across the whole Borough frontage, i.e. £750k, £1.5m and £3.0m  
<sup>2</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>3</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m  
<sup>4</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

Table A1.26 shows that the change in contributions reflects the change in costs quite closely, with the minimum contribution decreasing from £2.20 per year (Approach 2b (those above 5m) under Method A) to £1.10 per year. The maximum contribution of £84 per year (Approach 1b under Method B) increases to £160 per year. This more than doubles the current BCKLWN Council Tax for a Band D property and may not be appropriate as a charge through a parish precept (for example).

### A1.5.3 Impacts on Contributions Payable by Businesses

Table A1.27 presents the results for small businesses as a percentage increase in Business Rates. Contributions payable by medium/large businesses are slightly higher (due to the difference in Business Rates multiplier of 41.4p for medium/large businesses and 40.7p for small businesses).

## Annex 1: Step-by-Step Explanation of Calculations

Approach	Sub-Approach	Method								
		A			B			C		
		Total Costs of Managing Coast <sup>1</sup>								
		£400k	£800k	£1.5m	£400k	£800k	£1.5m	£400k	£800k	£1.5m
1	1a <sup>2</sup>	11%	22%	40%	1.7%	3.4%	6.4%	6.5%	13%	24%
	1b <sup>2</sup>	13%	25%	47%	2.0%	4.0%	7.4%	7.5%	15%	28%
2	2a <sup>3</sup>	1.4%	2.8%	5.4%	0.2%	0.4%	0.9%	0.9%	1.7%	3.2%
	2b <sup>3</sup>	0.7%	1.4%	2.7%	0.1%	0.2%	0.4%	0.4%	0.9%	1.6%
3	3a <sup>4</sup>	0.9%	1.9%	3.5%	0.1%	0.3%	0.6%	0.6%	1.1%	2.1%
	3b <sup>4</sup>	1.8%	3.5%	7.1%	0.3%	0.5%	1.1%	1.1%	2.1%	4.2%

Notes:

<sup>1</sup> Costs given are for managing the Wolferton Creek to South Hunstanton frontage, for Approach 3b the costs reflect the cost across the whole Borough frontage, i.e. £750k, £1.5m and £3.0m

<sup>2</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe

<sup>3</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m

<sup>4</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

Table A1.27 shows that the change in Business Rates is directly related to the change in overall costs. The minimum annual contribution under the £800,000 costs of 0.2% (Approach 2b (those above 5m) under Method B) decreases to 0.1% when the costs decrease from (approximately) £800,000 per year to £400,000 per year. Similarly, the maximum contribution of 25% (Approach 1b under Method A) for the £800,000 per year costs increases to 47% if the costs were £1.5 million. This contribution (based on only businesses in Heacham, Snettisham and Hunstanton paying) is significantly greater than the cost across all businesses in the Borough when costs along the whole Borough frontage need to be covered by the contributions, assuming defence costs of £1.47 million<sup>38</sup> (where the maximum is 7.1%).

### A1.5.4 Impacts on Contributions Payable by Utilities

As with contributions payable by residents and businesses, there is a direct relationship between a decrease (or increase) in the costs of managing the coast. Table A1.28 shows that the contributions payable by utilities could decrease from a minimum of £190 per installation per year (Approach 2b, above 5m under Method B) to £96 per installation per year. Alternatively, under Approach 1b under Method A, the contribution per utility could increase from £2,500 to £4,600 per year.

<sup>38</sup> It is important to note that there are also large uncertainties over the costs of managing the coast across the whole Borough. There may be considerable capital costs required to protect eroding coast that could significantly increase the amount that has to be collected through contributions.

<b>Table A1.28: Impacts of Contributions by Utilities if Costs of Managing the Coast Change</b>										
<b>Approach</b>	<b>Sub-Approach</b>	<b>Method</b>								
		<b>A</b>			<b>B</b>			<b>C</b>		
		<b>Total Costs of Managing Coast<sup>1</sup></b>								
		<b>£400k</b>	<b>£800k</b>	<b>£1.5m</b>	<b>£400k</b>	<b>£800k</b>	<b>£1.5m</b>	<b>£400k</b>	<b>£800k</b>	<b>£1.5m</b>
1	1a <sup>2</sup>	£1,100	£2,200	£4,200	£570	£1,100	£2,100	£1,000	£2,100	£3,900
	1b <sup>2</sup>	£1,200	£2,500	£4,600	£640	£1,200	£2,400	£1,100	£2,300	£4,300
2	2a <sup>3</sup>	£370	£740	£1,400	£190	£380	£720	£350	£690	£1,300
	2b <sup>3</sup>	£190	£370	£700	£96	£190	£360	£170	£350	£650
3	3a <sup>4</sup>	£240	£480	£890	£120	£230	£460	£220	£440	£830
	3b <sup>4</sup>	£450	£870	£1,800	£230	£420	£920	£420	£810	£1,700

Notes:

<sup>1</sup> Costs given are for managing the Wolferton Creek to South Hunstanton frontage, for Approach 3b the costs reflect the cost across the whole Borough frontage, i.e. £750k, £1.5m and £3.0m

<sup>2</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe

<sup>3</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m

<sup>4</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

### A1.5.5 Impacts on Contributions Payable by Transport

Contributions payable by the organisation responsible for maintaining/repairing the A149 varied from £250 per year (Approach 1a, Method C) to £3,000 per year (Approach 3b, Method B) with costs of managing the coast at £800,000 per year, as shown in Table A1.29. The effect of a change in costs is reflected directly in the annual contribution payable. If costs of managing the coast decrease to £400,000 per year, the minimum contribution decreases to £120 per year. If the costs of managing the coast increase to £1.5 million per year, the maximum contribution increases to £6,000 per year.

## Annex 1: Step-by-Step Explanation of Calculations

Approach	Sub-Approach	Method								
		A			B			C		
		Total Costs of Managing Coast <sup>1</sup>								
		£400k	£800k	£1.5m	£400k	£800k	£1.5m	£400k	£800k	£1.5m
1	1a <sup>2</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
	1b <sup>2</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
2	2a <sup>3</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
	2b <sup>3</sup>	£0	£0	£0	£0	£0	£0	£0	£0	£0
3	3a <sup>4</sup>	£230	£460	£860	£800	£1,600	£3,000	£20	£40	£70
	3b <sup>4</sup>	£430	£840	£1,700	£1,500	£3,000	£6,000	£40	£70	£150

Notes:

<sup>1</sup> Costs given are for managing the Wolferton Creek to South Hunstanton frontage, for Approach 3b the costs reflect the cost across the whole Borough frontage, i.e. £750k, £1.5m and £3.0m

<sup>2</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe

<sup>3</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m

<sup>4</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

### A1.5.6 Impacts on Contributions Payable by Landowners

Contributions from landowners are based on hectares of farmed land. Table A1.30 shows that the minimum contributions decrease from £0.002 per ha per year (for the £800,000 per year costs) under Approach 2b (Method B) to £0.001 per ha per year when the costs estimate reduces to £400,000. The maximum contribution increases to £21 per ha of farmed land per year (from £11) under Approach 1b, Method A. Such costs would be considerable over a whole farm and may affect the viability of the farm.

Approach	Sub-Approach	Method								
		A			B			C		
		Total Costs of Managing Coast <sup>1</sup>								
		£400k	£800k	£1.5m	£400k	£800k	£1.5m	£400k	£800k	£1.5m
1	1a <sup>2</sup>	£4.10	£8.20	£15	£0.02	£0.05	£0.09	-	-	-
	1b <sup>2</sup>	£5.70	£11	£21	£0.03	£0.07	£0.13	-	-	-
2	2a <sup>3</sup>	£0.36	£0.72	£1.40	£0.002	£0.004	£0.008	-	-	-
	2b <sup>3</sup>	£0.18	£0.36	£0.70	£0.001	£0.002	£0.004	-	-	-
3	3a <sup>4</sup>	£0.23	£0.46	£0.90	£0.001	£0.003	£0.005	-	-	-
	3b <sup>4</sup>	£0.43	£0.85	£1.70	£0.003	£0.01	£0.01	-	-	-

Notes:  
<sup>1</sup> Costs given are for managing the Wolferton Creek to South Hunstanton frontage, for Approach 3b the costs reflect the cost across the whole Borough frontage, i.e. £750k, £1.5m and £3.0m  
<sup>2</sup> Approach 1a includes Heacham, Hunstanton, Snettisham, Dersingham and Ingoldisthorpe parishes. Approach 1b excludes Dersingham and Ingoldisthorpe  
<sup>3</sup> Approach 2a is the amount payable by properties below 5m, Approach 2b is the amount payable by properties above 5m  
<sup>4</sup> Approach 3a covers just costs of managing the coast at Wolferton Creek to South Hunstanton, 3b includes the costs of managing the coast along the whole Borough frontage

## A1.6 How do the Contributions Change with a Different Level of Surcharge?

This sensitivity analysis only applies to Approach 2 (borough-wide charge with a surcharge for those buildings/dwellings below the 5m contour). The current surcharge is set so that beneficiaries below 5m pay (approximately) twice as much as beneficiaries above 5m. Two sensitivity analyses are undertaken:

- beneficiaries below 5m pay 10% of the total costs, with the proportions of the total contributions paid by each beneficiary group being:
  - residents (by number dwellings): 10% (increased from 2.2% under the 2x surcharge);
  - businesses (by Rateable Value): 10% (*decreased* from 48% under the 2x surcharge);
  - utilities (by number installations): 10% (*decreased* from 44% under the 2x surcharge);
  - transport (by organisations responsible): 100%; and
  - landowners (by area of farmed land): 10% (*decreased* from 44% under the two times surcharge).

Basing a surcharge on 10% of total contributions results in those above 5m paying a *higher* contribution than those below 5m for businesses, utilities and landowners. This is because the percentage of these beneficiary groups that lies below 5m is greater than 10%. An approach based on a preset proportion of the total contributions is, therefore, unlikely to be appropriate as it does not result in greater contributions

being delivered. This means a more complex formula for assessing contributions is required, such as deciding how much more those below 5m should pay over those above 5m. The main assessment considered this surcharge should be two times, the sensitivity analysis assesses the impact of a surcharge that is five times greater.

- beneficiaries below 5m pay five times as much as beneficiaries above 5m<sup>39</sup>, with the proportions of the total contributions paid by each beneficiary group being:
  - residents (by number dwellings): 5.4% (increased from 2.2% under the 2x surcharge and where there are 1.1% of residences below 5m);
  - businesses (by Rateable Value): 69% (increased from 48% under the 2x surcharge and where there are 31% of businesses below 5m);
  - utilities (by number installations): 66% (increased from 44% under the 2x surcharge and where there are 28% of utilities below 5m);
  - transport (by organisations responsible): 100%; and
  - landowners (by area of farmed land): 66% (increased from 44% under the two times surcharge and where there is 28% of farmed land below 5m).

This sensitivity analysis results in residents paying much more per household than under the two times (or even five times) surcharge. All other beneficiary groups below 5m pay less than those above 5m, showing that a flat percentage charge does not work as a method for applying a surcharge to those that are more at risk.

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<sup>39</sup> This does not apply to transport as there is only one organisation responsible which is allocated to the below 5m group as the road is at risk from flooding.

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**Annex 2:**  
**Stakeholder Workshop Report**  
**(Hunstanton 19 November)**

**Annex 3:**  
**Stakeholder Workshop Report**  
**(Snettisham 3 December)**



**Annex 4:**  
**Stakeholder Workshop Report**  
**(Hunstanton 16 December)**

**Annex 5:**

**Drop-in Session Report**

**(Heacham 2 December)**

**Annex 6:**  
**Analysis of Questionnaire Responses**