

<b>Subject:</b>	<b>Brighton Marina to River Adur coastal study</b>		
<b>Date of Meeting:</b>	<b>1<sup>st</sup> July 2014</b>		
<b>Report of:</b>	<b>Executive Director of Environment, Housing and</b>		
<b>Contact Officer:</b>	<b>Name:</b>	<b>Martin Eade</b>	<b>Tel: 294568</b>
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<b>Ward(s) affected:</b>	<b>All</b>		

**FOR GENERAL RELEASE****1. PURPOSE OF REPORT AND POLICY CONTEXT**

- 1.1 The City Council is a coast protection authority taking its powers from the Coast Protection Act 1949 and the Flood and Water Management Act 2010. The Council funds work to maintain the City's coast defences and from time to time makes application to the Environment Agency for grant aid to undertake coastal studies and larger works of improvement and reconstruction.
- 1.2 This report presents the findings of a coastal study into how this section of our coast could be managed over the next 100 years.
- 1.3 If the study is approved by the Environment Agency (EA) then applications for grant aid can then be made by the Council to the EA to undertake capital works to implement the study's 100 year programme.

**2. RECOMMENDATIONS:**

- 2.1 That committee authorises the Executive Director to submit the coastal study report to the Environment Agency's large project review group (LPRG) for their formal approval.

**3. CONTEXT/ BACKGROUND INFORMATION**

- 3.1 This study is formally known as the Brighton Marina to River Adur flood and coastal erosion risk management strategy (the study). It is 100% grant aided by the EA and has been prepared with the help of consulting engineers Halcrow following the EA's published guidance. It has been prepared in partnership with Worthing and Adur councils as the area it covers goes beyond the City's western boundary. The Shoreham Port Authority and Western Esplanade Management Ltd (owners of the private beach near the Lagoon) have also been involved in its development. A hard copy of the study and its technical appendices is available in the members' rooms.
- 3.2 The City's coast defences have grown up in a piecemeal way over the last 200 or more years. Maintaining them is an ongoing activity. It is recommended by the EA that from time to time coast protection authorities review whether their

management regime is adequate and appropriate for the changes that can be envisaged over the next 100 years. These changes include *inter alia* the effects of climate change; the use of the coast for commerce and leisure; whether maintaining the defences on their current alignment is appropriate; whether the standard of defence should be improved or reduced or whether defence of sections of the coast should cease altogether.

- 3.3 This section of coast has a wide range of uses: industrial and commercial activities at Shoreham Port, residential, leisure and sporting activities at Brighton Marina, and leisure and sporting activities on the famous beaches in between. The coast defences whilst accommodating these uses must also of course provide an appropriate level of defence for the inland areas they defend. All these interests influence the study's work.
- 3.4 The study must also take due regard of any environmental designations that may be affected and also comply with the EA, Defra and the Treasury's financial rules if grant aid is to be secured to implement the study's recommended programme of works. In summary the recommendations of the study must be sustainable, technically sound, environmentally acceptable and economically viable if it is to be accepted by the EA's LPRG committee.

#### 4. THE STUDY'S RECOMMENDATIONS

- 4.1 Following the Environment Agency's guidance on the preparation of studies such as this we have predicted and considered as best as we can the influences and changes that the coast will be subject to over the next 100 years including the latest predictions of sea level rise. The study recommends improving the defences between the Marina and the river mouth and maintaining that standard over the next 100 years with a programme of works to be implemented at appropriate times. The recommendations are technically, environmentally and economically justified in the study's final report which due to its size is available in the members' room.
- 4.2 An initial programme of capital works recommended for the Brighton & Hove maintained section of the coast is listed in the table below. Work for the whole study area (Marina to River Adur) over the 100 years of the study is shown in pictorial form on aerial photographs at Appendix 1

Coast defence structure	Location	Work required
Seawall just west of the Marina	Black Rock	New beach access ramp
Dalton's groyne	First groyne east of Brighton Pier	Lengthen by 10m, raise height and enlarge shingle beach
New Steine groyne	Second groyne east of Brighton Pier	Lengthen by 10m, raise height and enlarge shingle beach
Hove groynes 10 to 16	Western end of Hove Lawns to the King Alfred	Lengthen by 15m, raise height and enlarge shingle beaches
Hove groynes 31 and 30 and the Lagoon outfall	Opposite the western end of Hove Lagoon	Lengthen by 10 to 15m, raise height and enlarge shingle beaches

These works would be carried out once grant aid had been approved by the EA and once the detailed design had been completed. Other works on the private beach at Western Esplanade and along the Port's frontage are also required.

- 4.3 With these works implemented the coast will have a standard of defence capable of withstanding a storm severity not expected to be exceeded more than once in 200 years, ie. a 1 in 200 year standard. However this is a statistical probability of storm severity rather than a literal one; for instance over the Christmas and New Year period we experienced several 1 in 100 year storms.
- 4.4 The shingle to enlarge these beaches once the work to the groynes has been completed would be sourced either from Shoreham Beach or from Kemp Town immediately west of the Marina. Kemp Town has been used as a source for shingle twice in recent years. The natural easterly drift of beach shingle means that beaches at Kemp Town continue to grow and beaches at the western end in the Port need continual replenishment.
- 4.5 Along with these capital grant aided works, the Council's revenue funded maintenance works would also need to continue on the remaining defences.

## **5. COMMUNITY ENGAGEMENT & CONSULTATION**

- 5.1 Since work on the study began in 2012 there have been several periods of consultation. These were to gather information and local knowledge as well as to canvass the views of statutory bodies such as Natural England.
- 5.2 The first period of engagement was in 2012 at the beginning of work on the study, this was mainly to gather information and local knowledge. The second period in 2013 was to canvass opinion on a short list of options for the coast. The final period of consultation was between 24<sup>th</sup> January and 21<sup>st</sup> April this year and presented a final short list with a preferred option highlighted. The consultation included week long public exhibitions at Brighton Library; Hove Town Hall; the King Alfred Leisure Centre and Adur Civic Centre. There was also a large email circulation, a press release and all the Council's social media followers were notified. In all probably in excess of 17,000 people were notified in addition to those that visited the exhibitions.
- 5.3 The list of all those who responded is given in Appendix N of the study report

## **6. CONCLUSION**

- 6.1 Following the Environment Agency's guidance on the preparation of studies such as this we have predicted and considered as best as we can the influences and changes that the coast will be subject to over the next 100 years including the latest predictions of sea level rise. The study recommends improving the defences between the Marina and the river mouth and maintaining that standard over the next 100 years with a programme of works at appropriate times. The recommendations are technically, environmentally and economically justified in the study's final report which due to its size is available in the members' room.

- 6.2 Having examined the environmental issues, natural influences and human factors that the coast is subject to the study has developed a 100 year programme of works and activities to maintain an appropriate standard of defence for this section of coast. The programme is technically achievable, environmentally sensitive and economically justifiable.
- 6.3 The initial period (the first 10 years) of works within the City will involve improvements to the defences at the following locations:
- Immediately east of Brighton Pier
  - Between the King Alfred Centre and the western end of Hove Lawns
  - From east of the Deep Sea Anglers' club house west into the Port up to the western City boundary

Together with continuing maintenance of other existing defences and the movement of shingle from just west of the Marina and Shoreham beach onto beaches mainly within Shoreham Port.

## **7. FINANCIAL & OTHER IMPLICATIONS:**

### Financial Implications:

- 7.1 The total cost of the initial programme of capital works for the Brighton and Hove City Council maintained section of the coast as detailed within the report is estimated to be in the region of £3.2m . It should be noted that this figure is a broad estimate at this stage. Funding for coast defence capital works is available from central government through Defra and the EA. The rules governing grant require that a contribution be made by the beneficiaries. In this case the Council's contribution would be in the form of an adequately funded revenue budget for the maintenance of all the defences, including those that are not listed in the programme of works as well as those that have been or will be improved. There is an existing recurring revenue budget of approximately £0.2m for continued maintenance of coast defences including existing groynes and seawalls.
- 7.2 Defences that are maintained by the Port Authority (within BHCC) and Western Esplanade Management Ltd that the study suggests should be improved are subject to the same requirements with capital improvements being grant aided and maintenance funded locally. As the coast defence authority the Council will make the grant aid application on their behalf.

*Finance Officer Consulted: Steven Bedford*

*Date: 17/06/14*

### Legal Implications:

- 7.3 Under the Coast Protection Act 1949 and the Flood and Water Management Act 2010 the Council is not obliged to carry out or be involved in coast defence, it is a permissive power but the Council has always taken a positive interest in it due in part to the importance of the beaches to the local economy..

*Lawyer Consulted: Elizabeth Culbert*

*Date: 16/06/14*

Equalities Implications:

- 7.4 There are no equalities implications

Sustainability Implications:

- 7.5 The proper management of our coastline is essential if the City is to be sustainable into the future.
- 7.6 The programme of works for the 100 year period of the study will maintain the standard of defence keeping pace with current climate change predictions.

## **Supporting Documentation**

### Crime & Disorder Implications:

- 1.1 There are no implications for crime and disorder

### Risk and Opportunity Management Implications:

- 1.2 Good coastal management reduces the risk of tidal flooding and the associated risks to life and property. Whilst tidal flooding can never be totally prevented the standard achieved with the implementation of the study's on-going programme of works will achieve and maintain a low risk making the seafront area attractive to commercial investment.

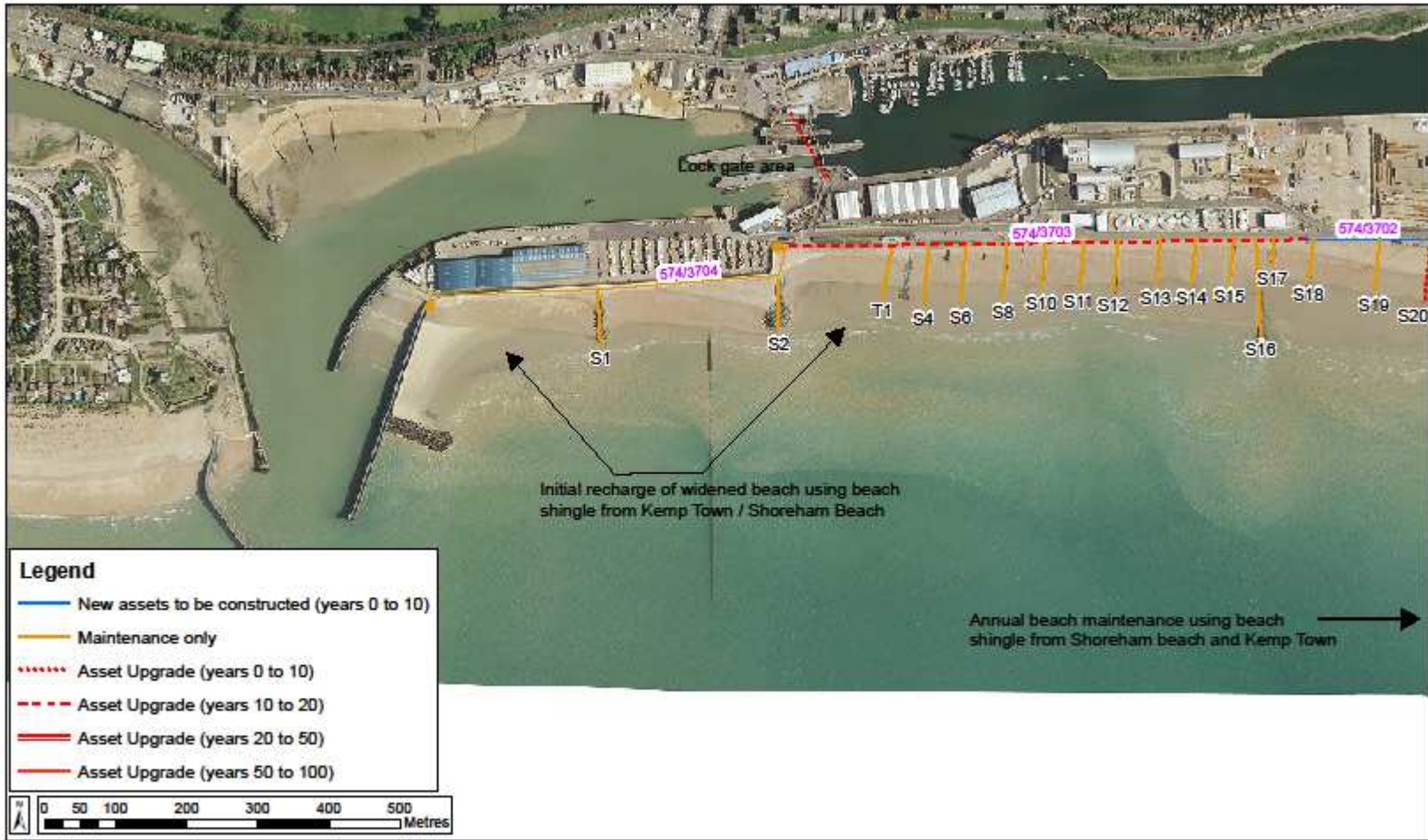
### Public Health Implications:

- 1.3 Good access to promenades, beaches and the sea encourages their use for exercise and sporting activities.

## **Appendices**

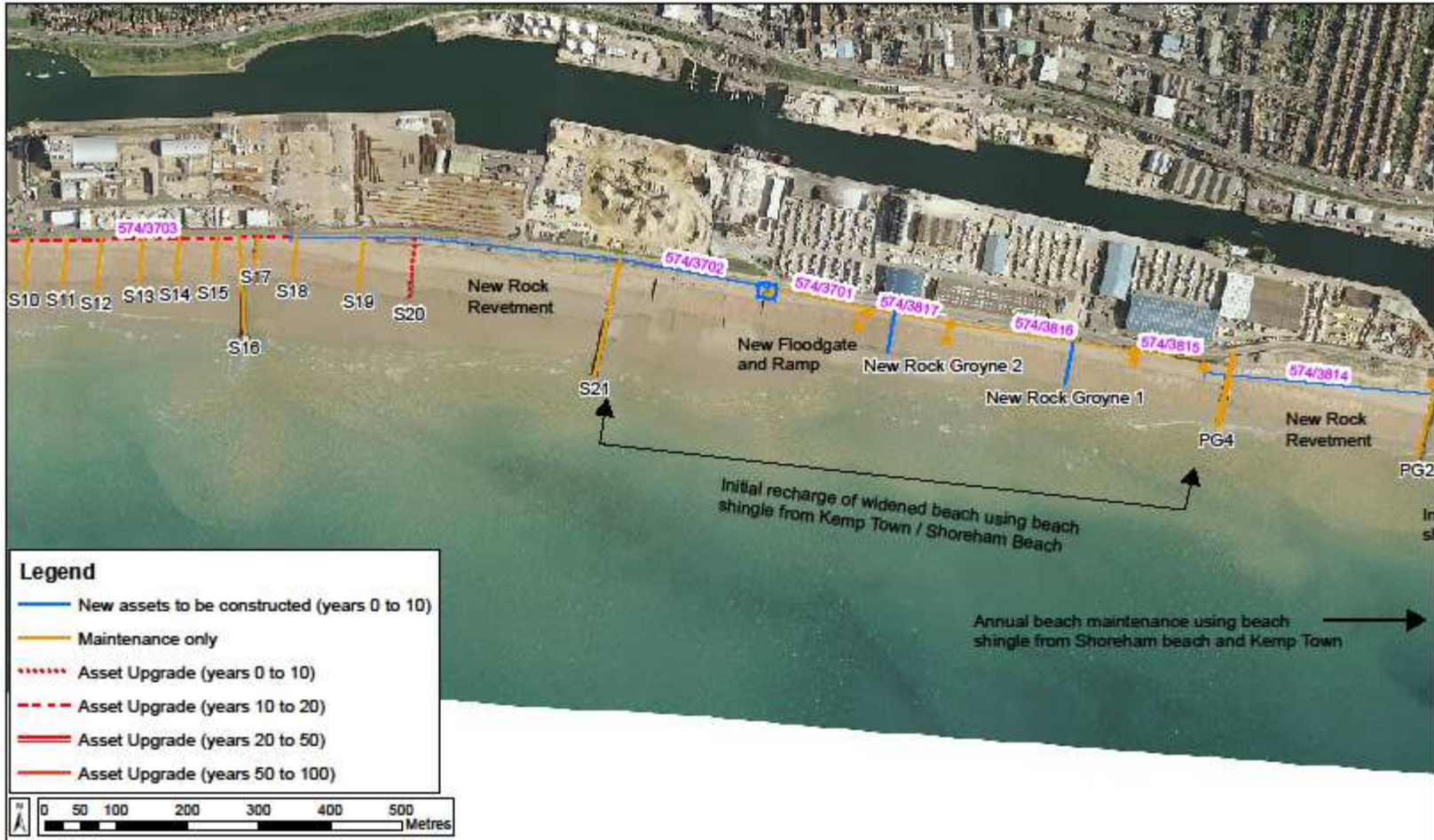
1. Aerial photographs showing works proposed for the whole study area (River Adur to Brighton Marina) for the 100 years of the study.

# Brighton to Adur Flood and Coastal Strategy



## Preferred Option – Improve Wall Raising (All Epochs)

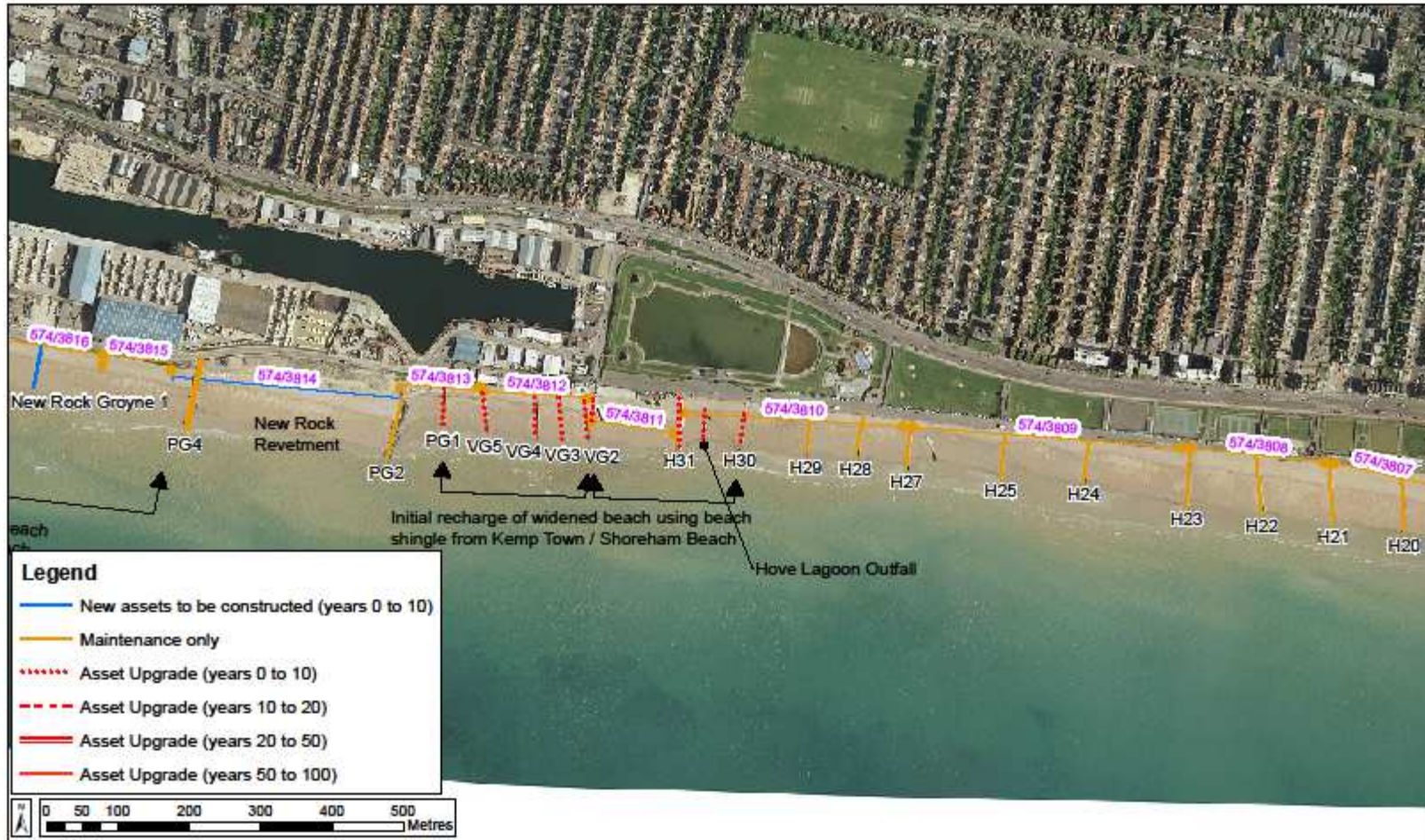
# Brighton to Adur Flood and Coastal Strategy



## Preferred Option – Improve Wall Raising (All Epochs)



## Brighton to Adur Flood and Coastal Strategy



## Preferred Option – Improve Wall Raising (All Epochs)

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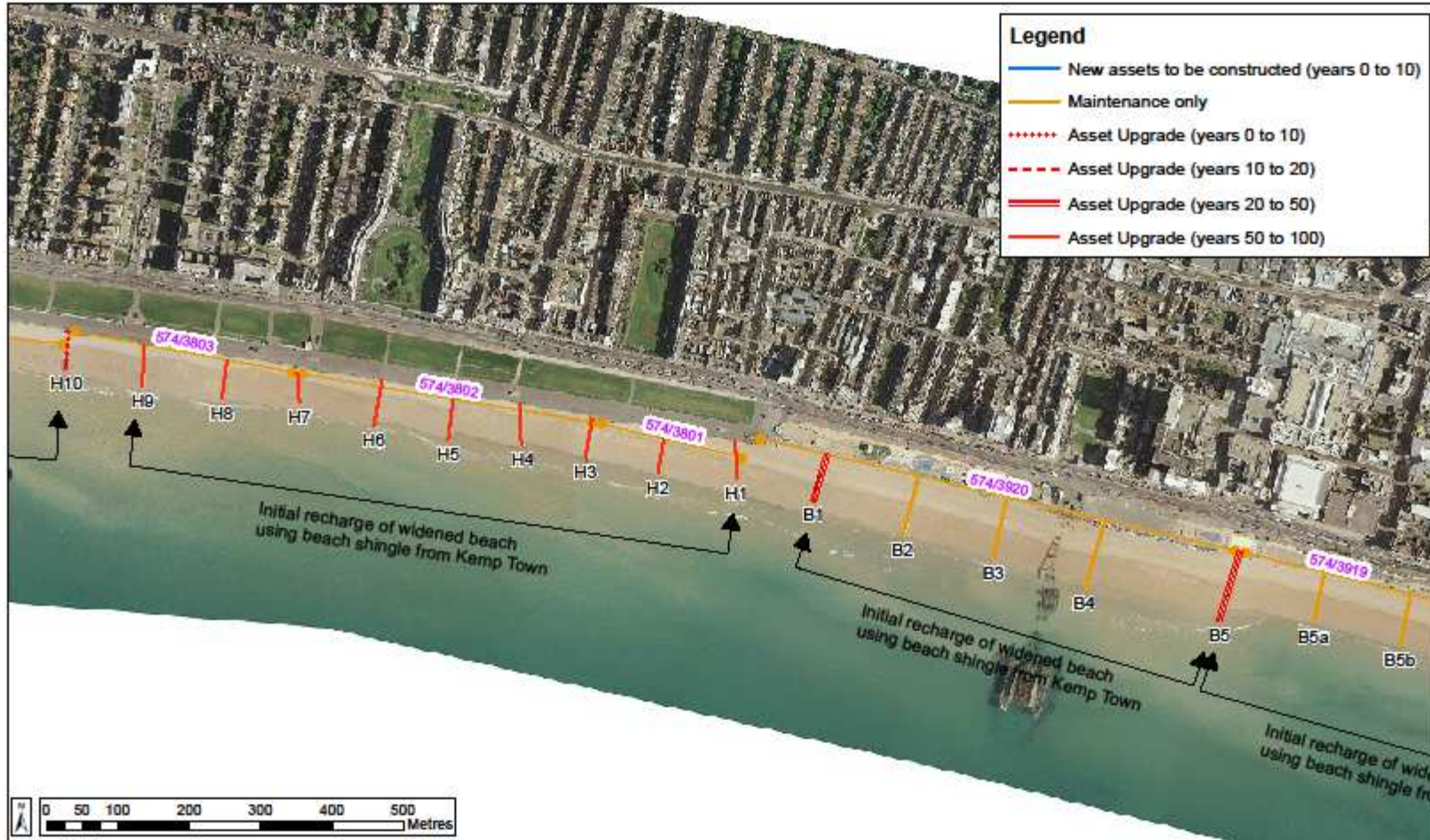
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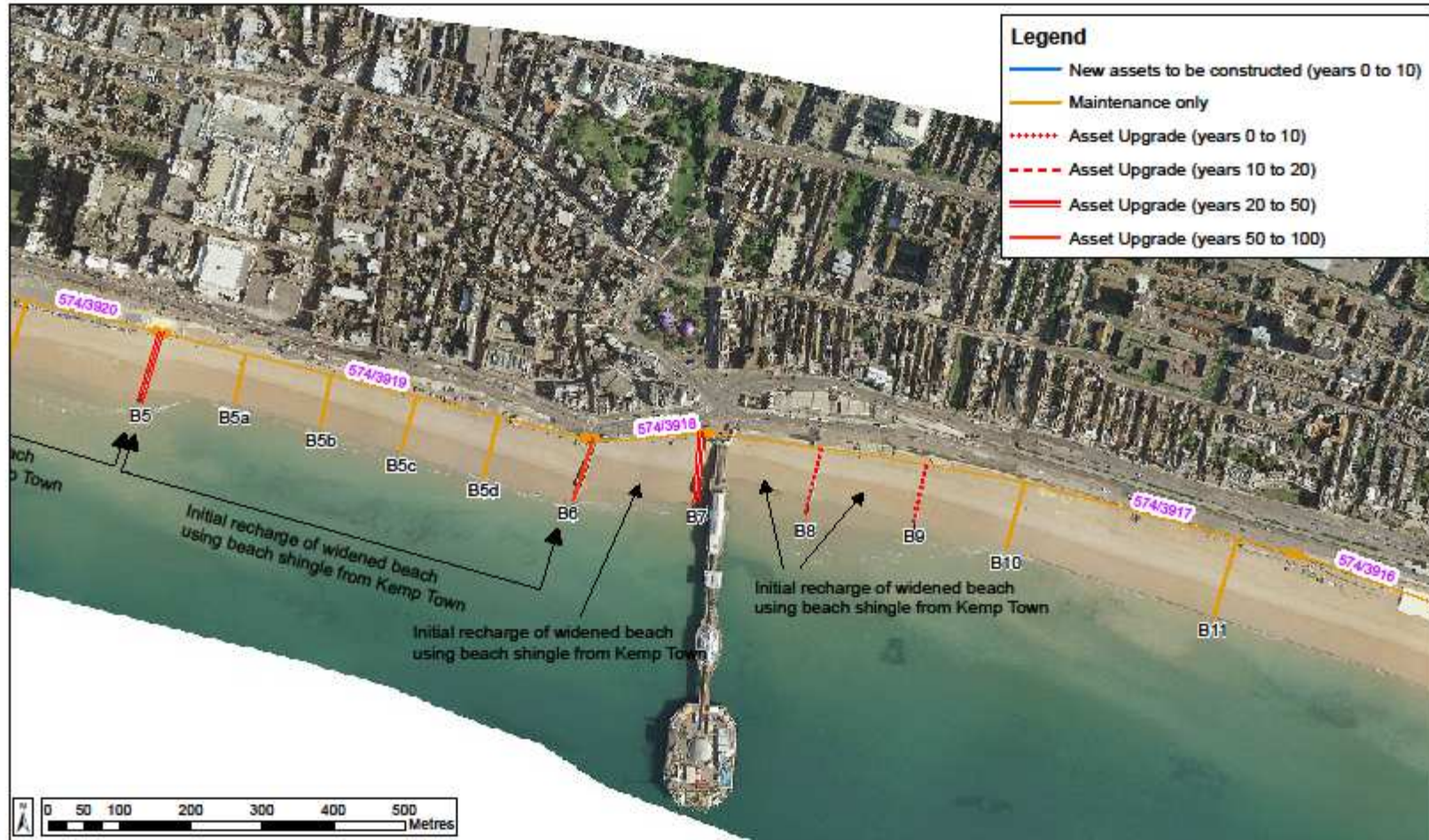
Sheet 4 of 7

# Brighton to Adur Flood and Coastal Strategy



## Preferred Option – Improve Wall Raising (All Epochs)

# Brighton to Adur Flood and Coastal Strategy



## Preferred Option – Improve Wall Raising (All Epochs)

## Brighton to Adur Flood and Coastal Strategy



## Preferred Option – Improve Wall Raising (All Epochs)

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