

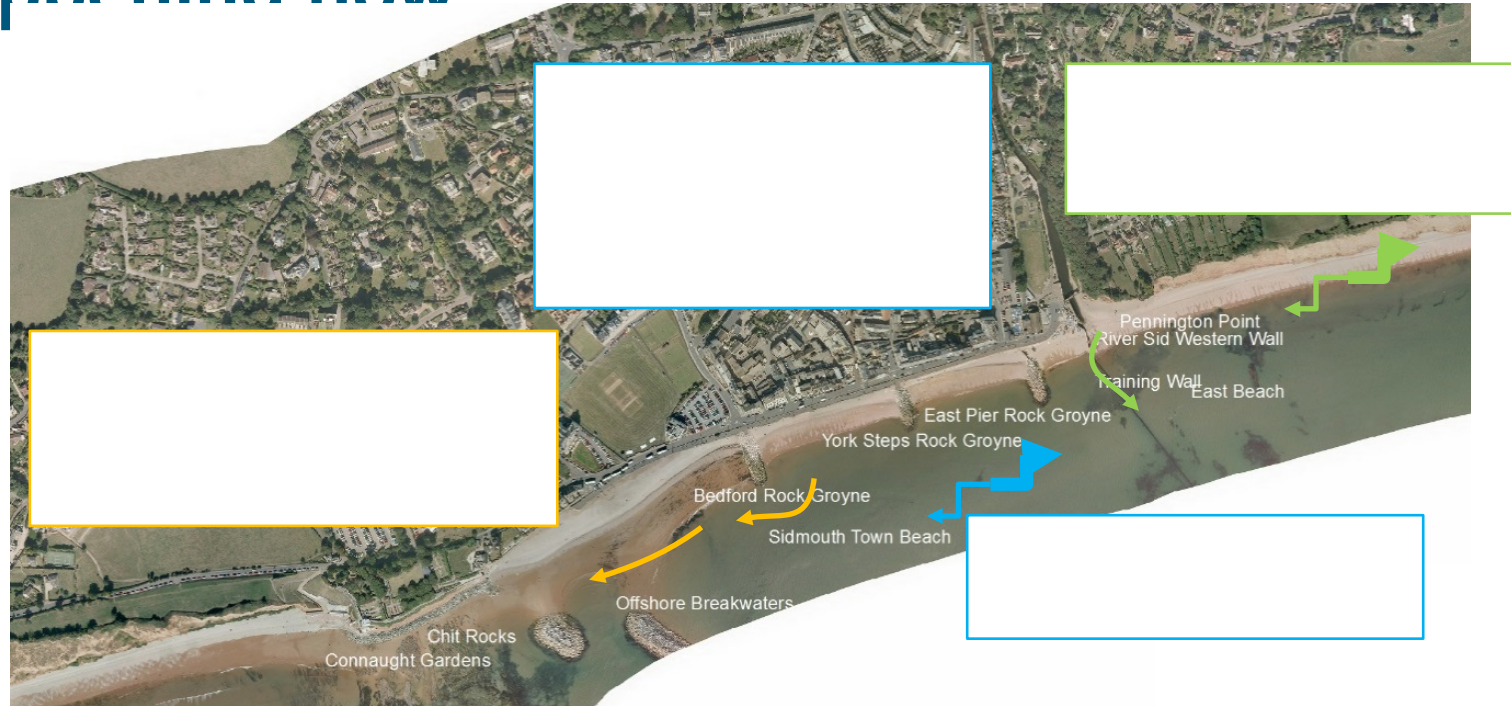
Sidmouth Beach Management Scheme Steering Group Meeting

Royal HaskoningDHV

09 August 2018

Project related

Coastal Processes Overview – what is happening now



Beach Management Plan - Objectives

Manage the risk of coastal flooding and erosion along the Sidmouth frontage.

Scheme must not adversely impact the integrity of the environmental features.

The BMP identifies measures to develop and implement a sustainable solution.

The OBC is the next stage of the BMP and is required to develop the BMP outcomes.

Preferred option within the BMP

One or two new rock groynes along East Beach over a distance of 200m.

Modify length of River Sid training wall and East Pier Rock Groyne (if required).

Repairs to River Sid training wall

Beach recharge and recycling along Sidmouth Town and East Beach frontages.

Principles of Beach Management

The approved beach management approach at Sidmouth East Beach consists of the retention of a design beach by groynes.

The key to successful beach management involves retaining a design beach for as long as possible. At Sidmouth this is balanced against the need to allow the cliff to continue to erode.

The required design beach (size and level) is identified through modelling and the role of the groyne structures is to hold the beach in place.

The closer spaced groynes are, the more control you have over the beach.

The longer groynes are, the more control you have over the beach.

Short and widely spaced groynes have less control over the beach, less certainty over operation, and are likely to have increased beach management costs for the future.

Beaches are mobile and will be expected to move within bays, and reshape, during storm events.

A beach needs to have a minimum crest level and crest width otherwise it will be very susceptible to losses (which could be permanent) under mild storm events.

Concept Options

Option 1: 1no. 80m rock groyne



Concept Options

Option 2: 2no. 80m rock groyne



Concept Options

Option 3: 1no. 120m rock groyne



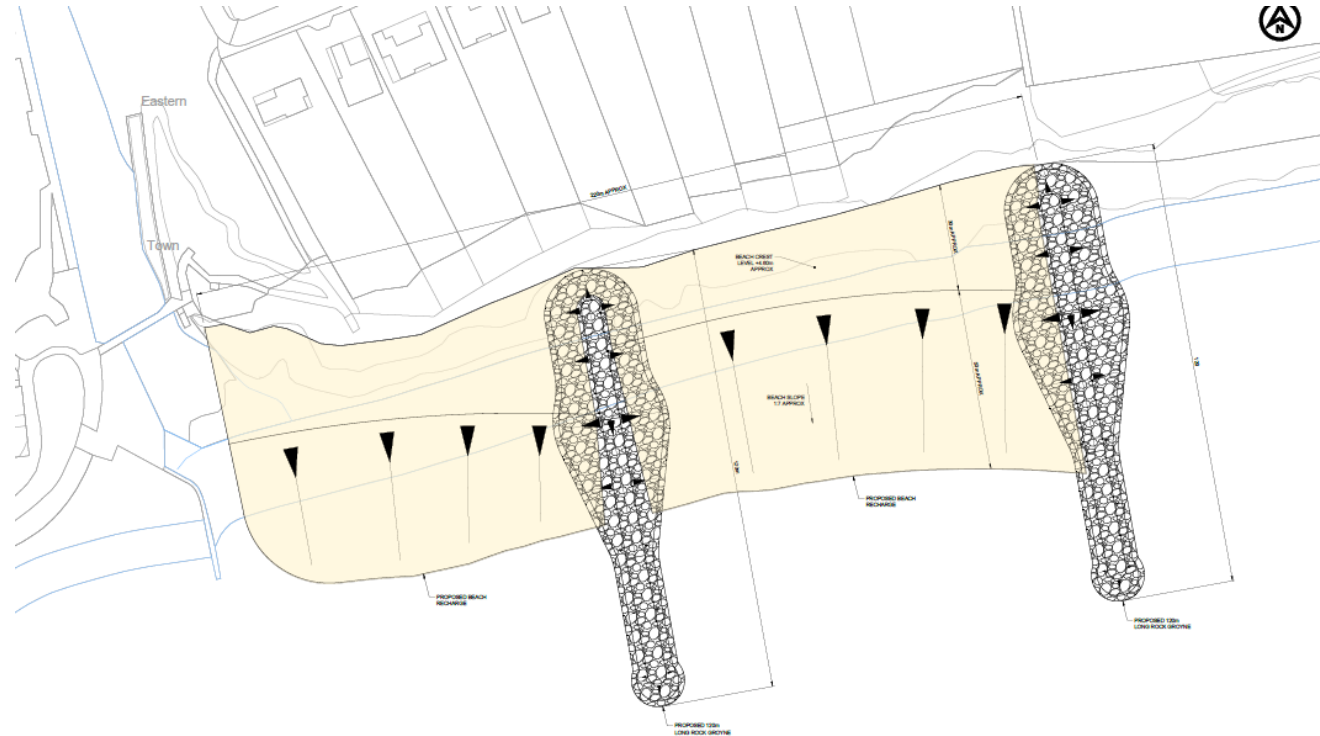
Concept Options

Option 4: 1no. 80m rock groyne and 1no. 120m rock groyne



Concept Options

Option 5: 2no. 120m rock groyne



Appraisal Summary – Main Criteria

Criteria / Option		1no. Short groyne	2no. Short groyne	1no. Long groyne	1no. Short and 1no. Long groyne	2no. Long groynes
Maintenance (frequency and cost of recycling and recharge)		Very High	High	Medium	Low	Very Low
Environmental Impacts		Low	Medium	Medium	High	High
Cost	PV Initial Construction Cost	£7.5M	£7.9M	£9.0M	£9.5M	£10.3M
	FDGIA Contribution	£3.1M	£3.6M	£5.1M	£5.3M	£5.5M
	EDDC Contribution	£4.4M	£4.3M	£3.9M	£4.1M	£4.8M
	PV Future Maintenance Cost	£11.7M	£9.7M	£5.0M	£4.7M	£4.6M
	PV Total Cost	High	High	Low	Low	Medium
	PF Score	44%	49%	62%	62%	58%
Benefit Cost Ratio		PV Benefit: £137.9M PV Cost: £19.2M Benefit Cost Ratio: 7.15	PV Benefit: £137.9M PV Cost: £17.6M Benefit Cost Ratio: 7.81	PV Benefit: £137.9M PV Cost: £14.1M Benefit Cost Ratio: 9.75	PV Benefit: £137.9M PV Cost: £14.2M Benefit Cost Ratio: 9.66	PV Benefit: £137.9M PV Cost: £15.0M Benefit Cost Ratio: 9.18



Environmental



09 August 2018

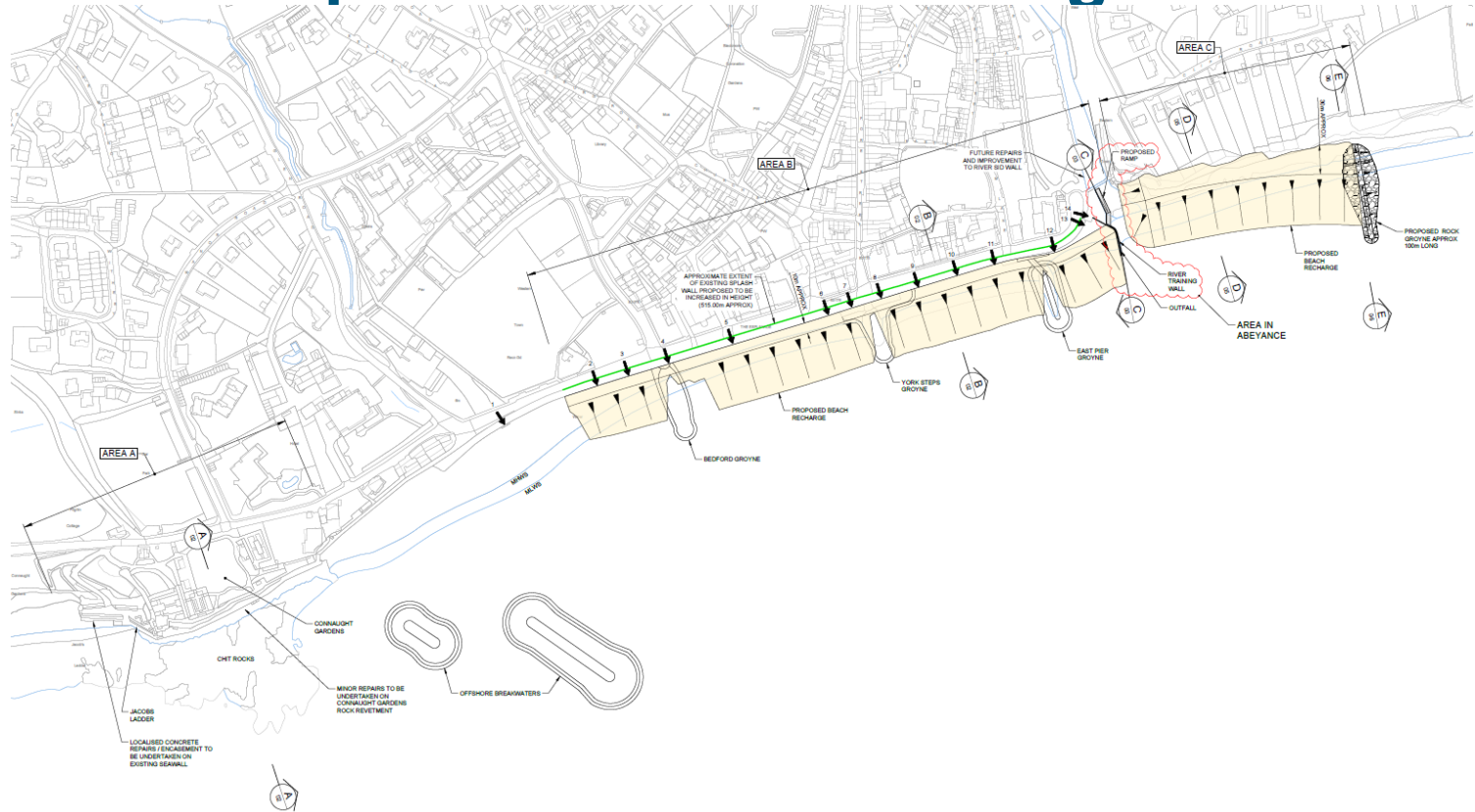
Preferred Option – Outline Design

Rationalisation of beach profiles and rock groyne design

Visualisations of splash wall and east beach

These will be refined further in the subsequent detailed design

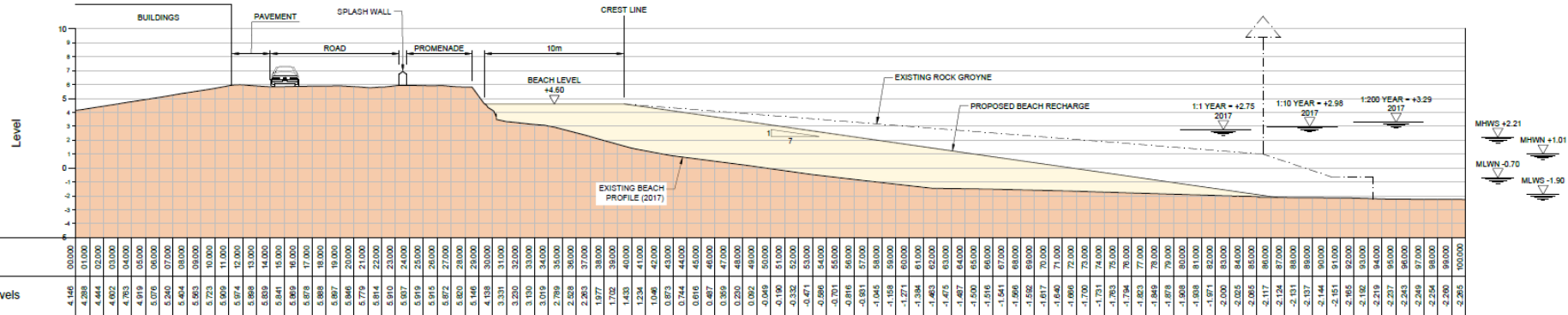
Preferred Option – General Arrangement



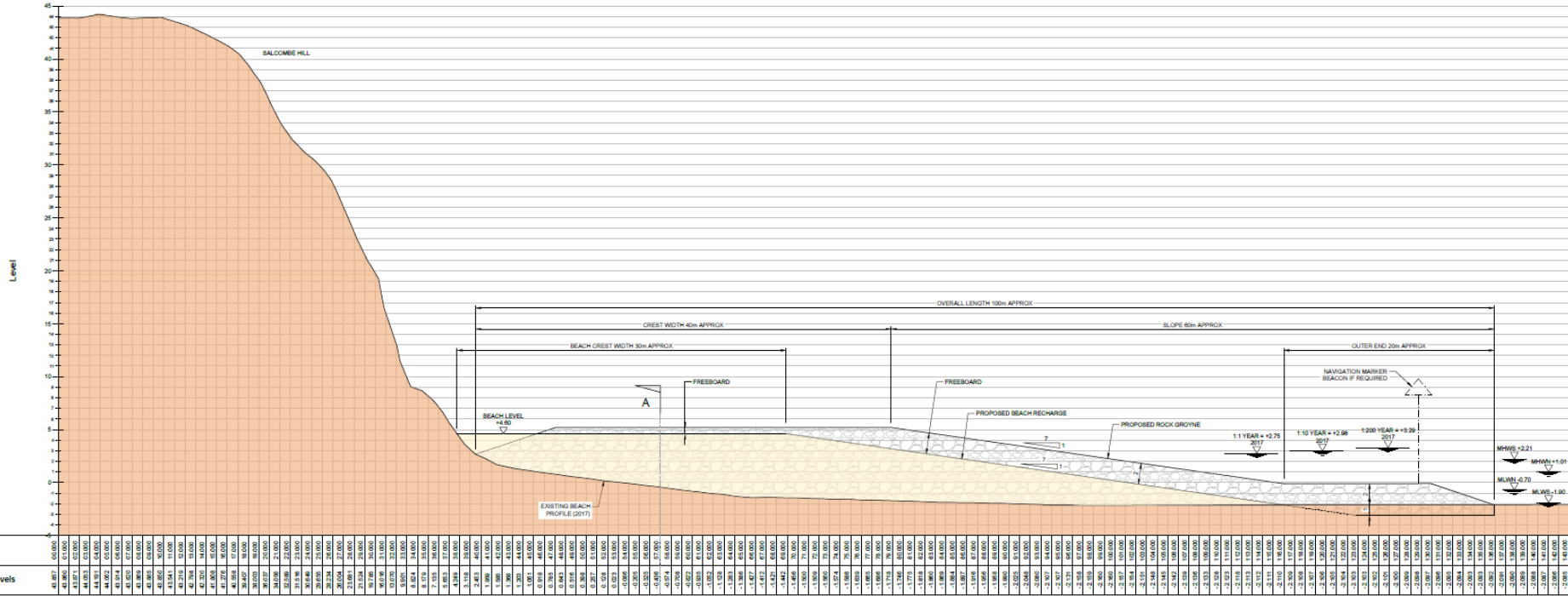
Preferred Option – East Beach – Plan



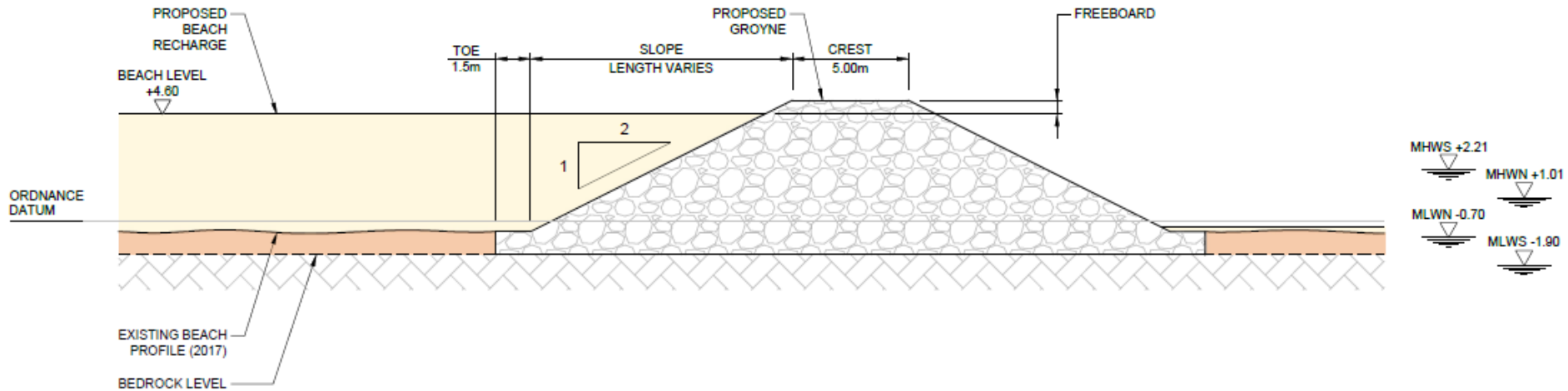
Preferred Option – Sidmouth Town Beach – Long Section



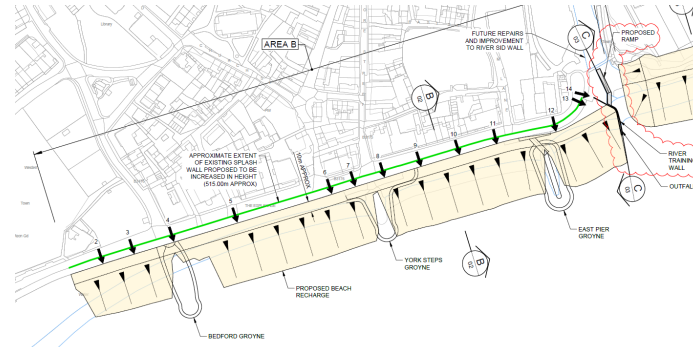
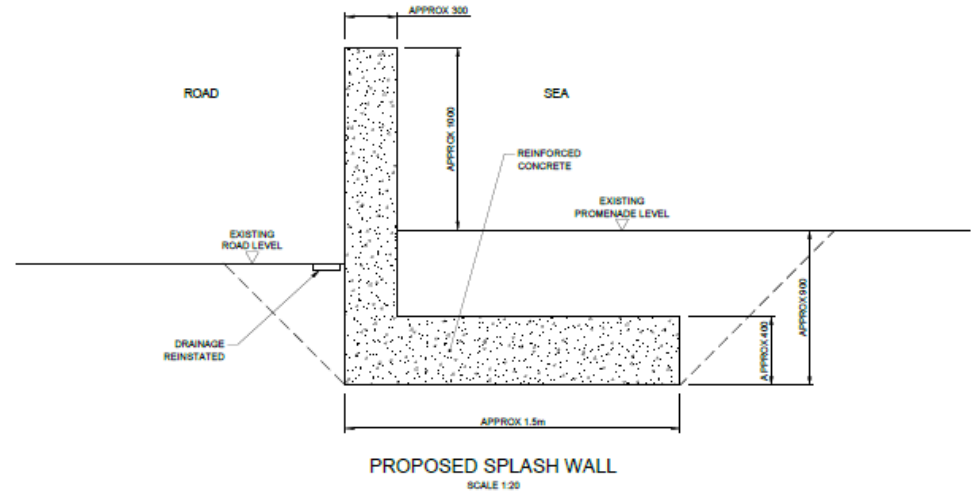
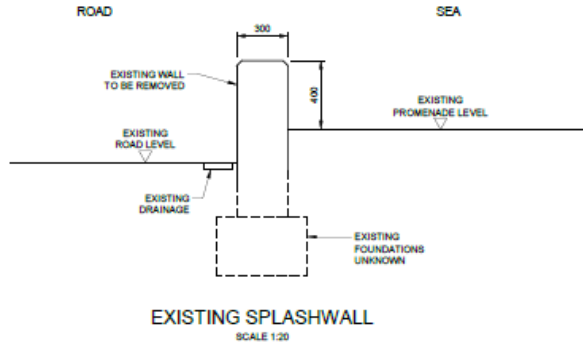
Preferred Option – East Beach – Long Section



Preferred Option – East Beach – Cross Section



Preferred Option – Sidmouth Town Splash Wall



Financial summary

Present Value Design and Construction Costs: £8.9M

Present Value Post Construction Costs (maintenance): £4.7M

Present Value Total Scheme Cost: £13.6M

EA Partnership Funding Score: 59%

Flood Defence Grant in Aid: £5.2M

EDDC Contributions Required: £3.7M

Preferred Option – Sidmouth Town



Before

After



Preferred Option – East Beach



Before

After



Preferred Option – East Beach



Before

After



Preferred Option – Sidmouth Town



Before

After



Next Steps

2018

Undertake detailed review of financial risk within scheme costs

Review financial requirements with the Environment Agency

Secure Partnership Funding

2019

Formal submission of Outline Business Case

Detailed design

Preparation and submission of Planning Application and other
licences and consent applications

Partnership Funding

- Likely partnership funding of around £3M required
- Agreed £0.95M - £1.2M
 - EDDC £600k
 - DCC £250 - £500k
 - Sidmouth Town Council £100k
- Potential contributions estimated £0.25M - £1.25M
 - South West Water
 - Local Levy
 - s106 sports
 - s106 tourism
 - EDDC Housing
 - Cliff Road Residents
 - Keith Owen Fund
- Current gap £0.55M and 1.8M