LUDGVAN PARISH COUNCIL

This is to notify you that an Extraordinary Meeting of Ludgvan Parish Council will be held on Wednesday 23rd August, 2017 in the Oasis Childcare Centre, Lower Quarter, Ludgvan commencing immediately following the Roads Committee meeting.

S. P. Hudson

S P Hudson
Parish Clerk
18/08/2017

AGENDA:

Page No.

Public Participation Period (if required)

1. Apologies for absence

2. Minutes of the Parish Council Meeting on Wednesday 9th August 2017 2-5

3. Declarations of interest in Items on the Agenda

4. Dispensations

5. Councillor Reports

(a) Cornwall Councillor Simon Elliott
(b) Chairman's report
(c) Other Councillors

6. Cornwall Council – Planning Applications - For decision

(a) PA17/07147 - 1 The Buildings Station Road Long Rock TR20 9TT - Construction of Extension and Associated Works including a balcony - Mrs E Paul

(b) PA17/06866 - 3 Sea View Cottages Road From Eastern Green To Roundabout East Of Godolphin Villa Long Rock TR20 8JG - Application for change of use of existing holiday let to full residential. - Mr & Mrs Budd

7. Clerk's Report

(a) Long Rock Toilets
(b) Marazion Dune Management Plan - Phase 3 6-27

8. Recommendations from the Roads Committee

9. Items for Information 28

LUDGVAN PARISH COUNCIL

Chairman:
Councillor Richard Sargeant
Clerk to the Council:
Steve Hudson

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MINUTES OF THE MONTHLY MEETING OF THE PARISH COUNCIL HELD ON WEDNESDAY, 9th AUGUST 2017, IN THE LUDGVAN OASIS CHILD CARE CENTRE, LOWER QUARTER, LUDGVAN.

PRESENT: Councillors; R Mann (Vice-Chair); A Branchett; D Badcock; N Honess; M Hollow; D Osmand; L Trudgeon.

IN ATTENDANCE: Steve Hudson (Clerk); Simon Elliott (Cornwall Councillor)

Public Participation Period
Two objectors to the planning application numbered 6(a) on the agenda addressed the Council raising concerns that the proposal amounted to a new dwelling in the open countryside, that it was out of keeping with the local area and there were overlooking issues.

LPC 637 **Apologies for absence**
Apologies were received from Councillors C Cartwright; J Hewett; S Miucci; R Sargeant (Chair); M Squire

LPC 638 **Minutes of the Parish Council Meeting on Wednesday 5th July 2017**
Having been previously circulated the minutes were **approved as a true and correct record of the meetings and duly signed by the Chairman.**

LPC 639 **Declarations of interest in Items on the Agenda**
Councillor Branchett declared a disclosable pecuniary interest in agenda item 7(a) and left the room during the discussion.

LPC 640 **Dispensations**
None.

LPC 641 **Councillor Reports**

(a) ***Cornwall Councillor Simon Elliott***

i. Flooding is a real problem on a number of roads within the electoral division and it is hoped that improvements can be made using a share of additional monies provided to Cornwall Council by the government.

ii. He attended Penzance Town Council on Monday 7th August and spoke in support a proposal to support the provision of a bypass between St Erth and Newtown roundabouts. Adding that the proposed safety measures and speed restrictions would further exacerbate the congestion problems already being experienced.

iii. He had met with Cornwall Councillor Dwelly and they had agreed that the

proposed employment space at the eastern end of Long Rock was not needed.

iv. He suggested that the change of use proposal in planning application 6(d) on the agenda might increase traffic on Rospeath Industrial Estate.

v. He had had confirmation that the Tregarthen Barn planning application would be decided by Committee.

(b) ***Other Councillors:***

(i) Councillor Branchett stated that at a local event he had canvassed opinion on a new community facility and whilst many older residents were keen on the retention of the existing facility there was considerable support for the conversion of the old chapel.

(ii) Councillor Honess raised two issues:

i. the inadequate response to large quantities of Ragwort on the roadsides by both Highways England and Cornwall Council and

ii. the continued poor state of the Closed Churchyard at St Pauls, on this issue Councillor Elliott undertook to try and arrange a meeting to discuss the issue.

LPC 642 **<u>Cornwall Council – Planning Applications - For decision;</u>**

The Council's resolutions are shown in **BOLD** below:

(a) PA17/06372 - Tyringham Arms Nance Trink TR26 3EZ - Conversion of old public house/restaurant (originally built as a school) to 5 residential units. The school house and flat are already in residential use. - Mr And Mrs R Price **- No objection subject to the concerns of the Environment Agency and Historic Environment Team being addressed**

(b) PA17/06567 - Park Noweth Vellanoweth Ludgvan Penzance - Erection of conservatory to the SE elevation of the property - Mr And Mrs Clive Jones **- No objection**

(c) PA17/06448 - Land W Of Wyevale Garden Centre Nut Lane Lelant Cornwall - Closure of two sub-standard and dangerous accesses and formation of new field access - C. P. Richards and Son Ltd **- Objection - the council has concerns over safety.**

(d) PA17/05641 - Unit E Rospeath Industrial Estate Crowlas Penzance - Proposed change of use from B2 to a Muay Thai and boxing gym (D2) - Ms Mitchell Payak Karach **- No objection**

(e) PA17/06865 - 3 Sea View Cottages Long Rock Penzance Cornwall - Proposed Second Floor Dormer Window & Balcony -Mr & Mrs Budd **- No objection**

LPC 643 **<u>Clerks Report</u>**

(a) <u>Long Rock Allotments Plot 11</u>

The Council considered a proposal from an existing tenant to transfer his tenancy to half of Plot 11 which is currently vacant, thus increasing the number of plots available at the site and thus reducing the waiting list.

A further complication is that access to the plot may be needed by the owners of the Chapel to effect repairs to the wall.

It was **RESOLVED that:**

the suggested course of action be approved the timing to be subject to a satisfactory arrangement in respect of the wall repairs being agreed.

(b) <u>A30 safety measures update</u>

The Clerk reported that due to a major restructuring at Highways England resulting in a change of personnel in respect of responsibility for the project no update had been received. He would continue to pursue a response.

He had also been unable to arrange a date when Derek Thomas MP could attend a Roads Committee meeting, it was therefore agreed that a Committee meeting should be arranged for Wednesday 23rd August at 7pm in the Oasis Centre.

(c) <u>Neighbourhood Plan</u>

Having considered the Clerks report it was **RESOLVED that:**

(i) **the Clerk has further discussions with Paul Weston with a view to engaging his**

services and further refining the project plan;

(ii) further discussions are held with Andrew Golay to establish how he might also assist the process if required;

(iii) efforts are continued to procure support around community consultation and project management;

(iv) further efforts are made to recruit potential Steering Group Members;

(v) 5 councillors are elected onto the NDP Committee at the next Council meeting;

(vi) 7 non-councillors are co-opted onto the NDP Committee at the next Council meeting;

(vii) authority is delegated to the acting Chair to authorise a grant application should this be required prior to the next meeting.

(d) Emergency Action - felled tree at Church Hill

Council noted the action taken by the Clerk under Financial Regulation 4.5 in relation to a felled tree at Church Hill allotments and that the cost of removal had been £70.

(e) Long Rock Toilets

Having considered and debated the Clerks report it was **RESOLVED that:**

(i) Cornwall Council are reminded of the importance of the toilet facility which both serves a busy beach and the South West Coast Path and asks them to expedite the works necessary to open them for (what remains of) this summer and

(ii) the longer term future of the toilets is only considered once detailed information is available but that the arrangements previously in place are the Council's preferred option.

(f) Data Protection - Legislative Changes

Having considered and debated the Clerks report it was **RESOLVED that:**

(i) Council notes the changed requirements;

(ii) authorises the Clerk to undertake any necessary research and training required;

(iii) that he liaises with other Council's locally in respect of their intentions regarding the appointment of a Data Protection Officer and

(iv) reports back on progress at regular intervals.

LPC 644 Finance Report

It was **RESOLVED that:**

(a) the Payment Schedule totalling £2,489.62 (appended) be approved for payment and be duly signed by the Chairman;

(b) receipts totalling £981.57 be noted;

(c) the bank reconciliations be noted;

(d) the budget monitoring report be noted.

LPC 645 Correspondence

(a) Cornwall Community Land Trust - Meeting Local Housing Need

It was **RESOLVED that:**

a representative of the Cornwall Community Land Trust be invited to address the Council.

(b) CALC - Local government Boundary Review

It was **RESOLVED that:**

the Chair and Vice-Chair be appointed to read the paperwork and attend briefing meetings in due course.

(c) Cornwall Council - Response to complaint.

It was **RESOLVED that:**

the Council expresses its disappointment at the initial response to what it considers to be an important issue.

Agenda Item 8(a)
Payments for approval

Date	Reference		Payee Name		Total	VAT
25/07/2017		37	Safe Custody	DD04	7.50	
09/08/2017		38	Simon Rhodes	3075	25.00	
09/08/2017		39	Rialtas Business Solutions Ltd	3076	490.80	81.80
09/08/2017		40	mh-p internet ltd	3077	127.18	21.20
09/08/2017		41	Viking Direct	3078	87.30	14.55
09/08/2017		43	Steve Hudson	3079	1,165.50	
09/08/2017		44	HM Revenue & Customs	3080	139.39	
15/08/2017		42	South West Water	DD05	11.55	
09/08/2017		45	Henry Rich	3081	335.40	
09/08/2017		46	Chris Fry	3082	100.00	
			Total Payments:		**2,489.62**	**117.55**

Nominal Ledger Analysis			
Code	Cost Centre	Amount	Transaction Detail
4180	100	7.50	Deed store
4120	130	25.00	Allotment Path Strimming
4350	100	116.00	Planning Software
4350	150	150.00	Cemetery Software
4350	160	30.00	Cemetery Software
4350	100	113.00	Accountancy software
4310	100	105.98	Domain renewal & hosting
4070	100	72.75	Stationery
4000	100	1,073.42	August Net Pay
4060	100	56.70	August Travel
4070	100	17.38	August Phone costs
4070	100	18.00	August Office Expenses
4000	100	74.78	August PAYE
4010	100	64.61	August NI
4130	150	11.55	St Pauls Water Charge
4460	140	30.00	Grass Cutting
4120	130	30.00	Plot 2 Church Hill
4200	140	160.40	Amentiy benches
4200	140	45.00	Whitecross phonebox
4200	140	70.00	Fallen tree Church Hill
4430	140	100.00	LMP Silver Paths
		2,372.07	

SIGNED: ..... 9th August 2017

CHAIRMAN

Cornwall Beach and Dune Management Plans

Prepared for

Cornwall Council

7 August 2017

CH2M HILL
Ash House
Falcon Road
Sowton
Exeter
Devon
EX2 7LB

Contents

SECTION 1

Introduction

1.1 Background

Many of the sand dunes and beaches around Cornwall's coast are currently experiencing net erosion and sediment loss due in part to lack of new sediment input to the shoreline system and rising sea levels. This is a pressing concern as these sand dunes and their associated sandy beaches are one of the most important resources in Cornwall due to:

1. Their role in providing protection against the risk of coastal flooding due to the dynamic nature of beach-dune interactions and their sheer size preventing the sea from impacting upon the hinterland behind the dune systems.
2. Their role in providing important biologically diverse habitats that cannot be easily recreated elsewhere if it were to be lost to coastal erosion or inappropriate development.
3. Their role in providing access to the sea for residents and visitors alike, which is vital to the holiday industry upon which a significant proportion of Cornwall's economy depends.

It is vital therefore that the sand dunes and beaches around Cornwall's coast, that represent some 15% of the total sand dune habitat in Britain, are managed in a holistic, sustainable way over the long-term that balances the needs of each of the three distinct functions of sand dunes and beaches that combined make up the beach-dune system.

The approach to managing the beaches and sand dunes in Cornwall (refer to Figure 1.1) was investigated in between 2006 and 2009 by Halcrow on behalf of the Cornwall and Isles of Scilly Coastal Group, and led to the production of the *Cornwall Sand Dune and Beach Management Strategy* (Halcrow, 2009). The main focus of the strategy is the management of flood and coastal erosion, although the habitat and tourism value of the dunes are also considered. This 2009 project delivered an Inventory of Beaches and Dunes; a Best Practice Management Guide and two pilot Beach and Dune Management Plans (BDMPs) for Harvey's Towans and Fistral Beach. It is this 2009 work that this current project is building upon to develop eight new BDMPs and review the two pilot BDMPs (see Section 1.2).

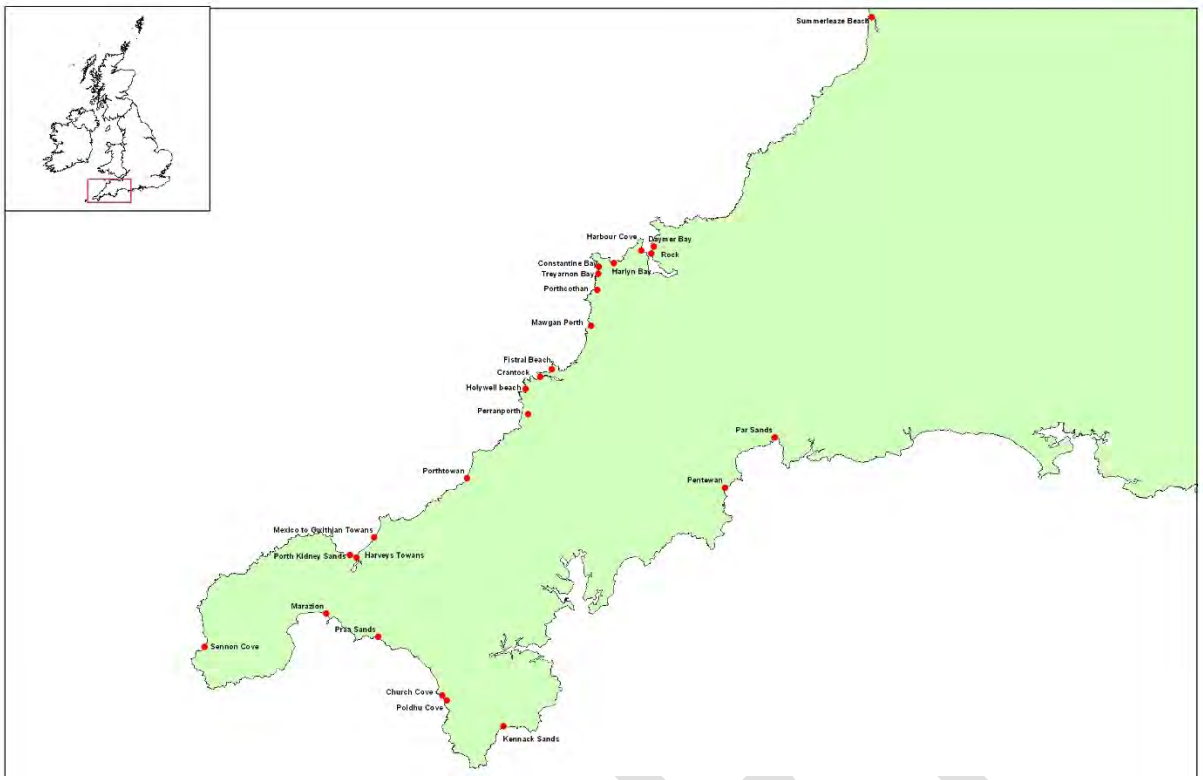

Figure 1.1 Map showing location of all dune locations in Cornwall assessed as part of the Cornwall Sand Dune and Beach Management Strategy (Halcrow, 2009).

1.2 Project aim, objectives and approach

The purpose of the project is to **develop eight new long-term strategic BDMPs for Constantine Bay, Marazion, Par Sands, Porthcothan, Porthtowan, Praa Sands, Summerleaze and Widemouth Bay; and review the need (or otherwise) to update the two pilot BDMPs produced in 2009 for Fistral Beach and Harvey's Towans** *[NB: following Stage 1 of this project – see below – it was confirmed that the two 2009 pilot BDMPs will be updated though this project]*. This will be achieved by:

1. Identifying the best management approach; in terms of monitoring and intervention (when trigger levels are reached) requirements for beach and dune systems at each individual site, based upon the best practice framework developed as part of the *Cornwall Sand Dune and Beach Management Strategy* produced by Halcrow in 2009.
2. Providing a long-term (50 year) approach to each site that is based upon an up-to-date understanding of the beach-dune system and coastal processes at each site, as well as predictions of future coastal evolution.

The locations of these ten sites is shown in Figure 1.2.

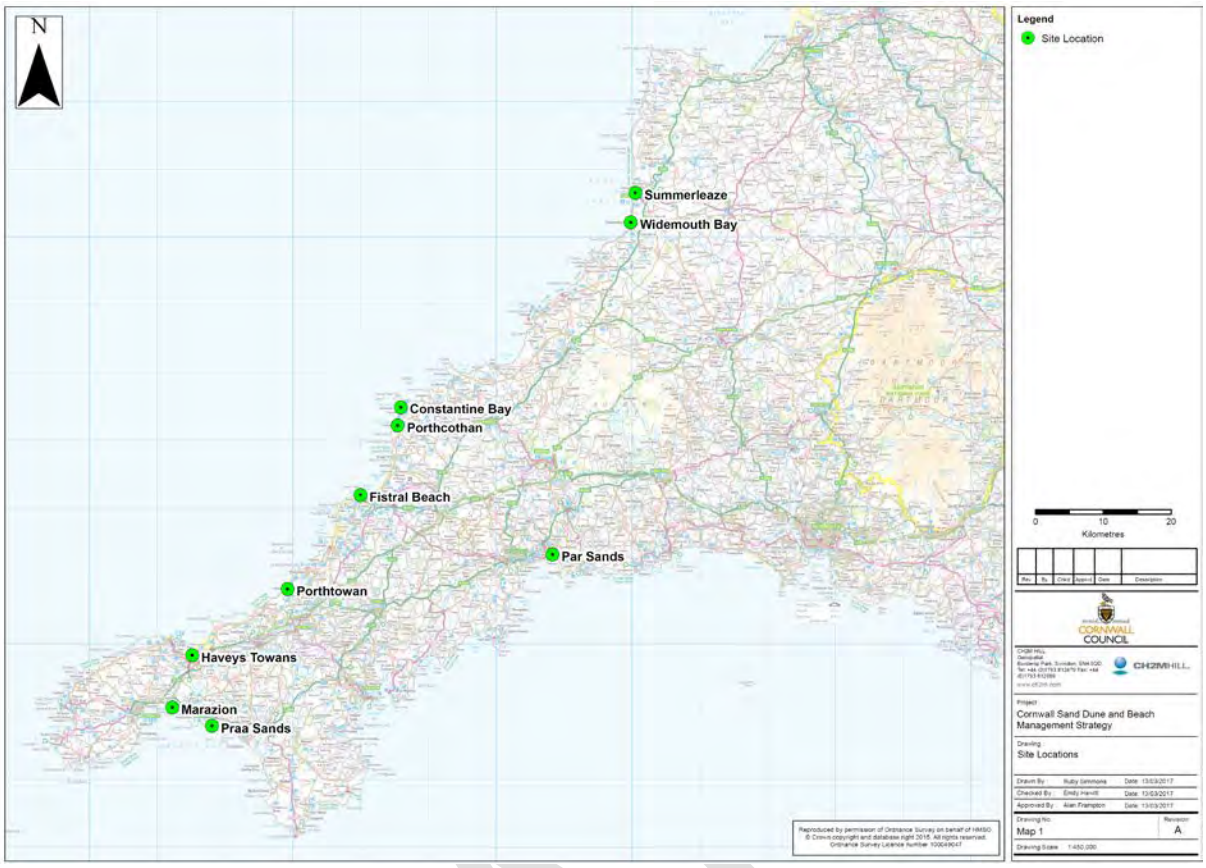

Figure 1.2 Map showing location of the ten BDMP locations.

Development of the BDMPs will involve four stages. Local community stakeholders and statutory stakeholders will be engaged to seek local knowledge and guide selection of preferred management options. These stages, and the times when engagement with local community representatives and other statutory consultees is planned, are shown in the flow diagram below (Figure 1.3). This report represents outputs from "Stage 3 – Develop Future Management Options" for Marazion only.

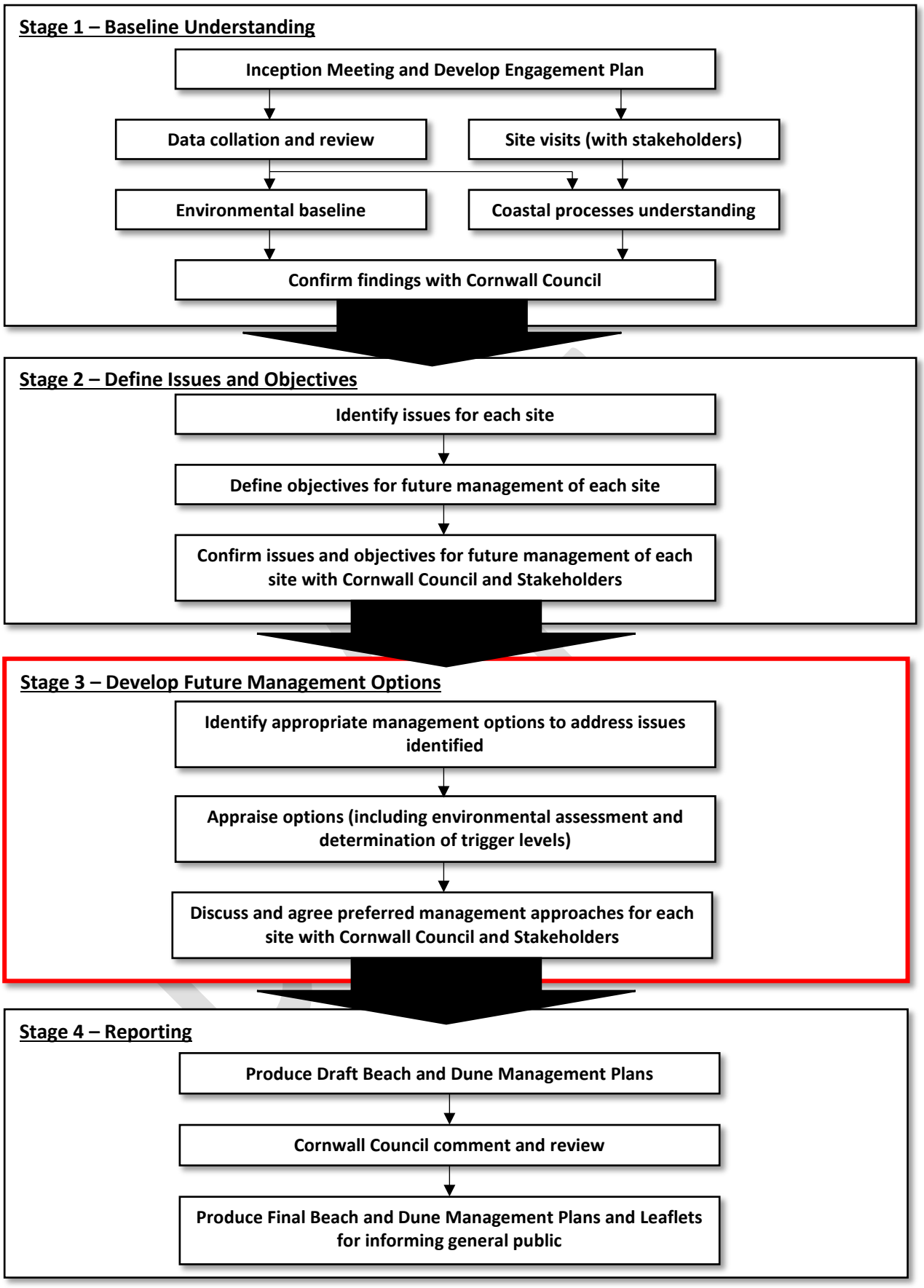

Figure 1.3 Overview of the staged approach to developing BDMPs for the ten locations around Cornwall; current stage highlighted by red box.

1.3 About this document

This report identifies and appraises potential management options to address the issues and objectives identified in Stage 2 (CH2M, 2017b) as being 'in scope' for each of the Marazion BDMP location that is the subject of this project. These issues were identified from the baseline understanding developed for each location as part of Stage 1 (CH2M, 2017a).

The potential management options to appraise have been identified using the Sand Dune Management Techniques Tool (Halcrow, 2009), updated with additional techniques identified as part of this current project. The updated tool and associated user guide will form part of the final project deliverables at the end of Stage 4 (refer to Table 1.3 above).

Each potential option is appraised technically, environmentally and economically in the following way:

- Technical Appraisal considers the likely performance of different options, giving consideration to the understanding of coastal processes determined in Stage 1 of the project for the BDMP location. This aspect also considers likely trigger points when either management intervention should occur or when a change in management approach will likely need to be implemented.
- Environmental Appraisal considers potential impacts of options upon features of environmental designation and amenity, drawing upon baseline information defined Stage 1 of the project for each of the BDMP location.
- Economic Appraisal is based (where appropriate) upon a broad assessment of costs of each option (low: £0-£5k per 100m run; medium: £5k-£50k per 100m run; high: £50k + per 100m run) as informed by 'costs' contained in the updated Sand Dune Management Techniques Tool referred to above. The level of maintenance required for each option (None: No maintenance required; low: Maintenance required within a 10 year period; medium: maintenance required every 1 to 10 years; high: maintenance required at least yearly) is also provided, as informed by 'maintenance' contained in the updated Sand Dune Management Techniques Tool. Where information is available, information on the economic case for the preferred adaptive strategy (Royal Haskoning, 2015) for the next 20-40 years is also presented.

The appraisal of options for the Marazion BDMP location is presented in the remainder of the document. The appraisal of all options is presented in tabular form, followed by a short summary discussion of what is considered the preferred approach to future management at Marazion, referring back to the project aims (refer to Section 1.2) and site specific objectives identified for each location in Stage 2 of this project (CH2M, 2017b).

The suggested preferred management approach for each BDMP location are to be confirmed in consultation with stakeholders and Cornwall Council as part of this Stage 3 of the BDMP process.

Following confirmation of the preferred options at the end of Stage 3, all of the information gathered and assessed in preceding stages will be drawn together to develop the Marazion BDMP (Stage 4).

SECTION 2

Marazion Issues and Objectives

Marazion is located on the south-west coast of Cornwall. The site is situated within the wider embayment of Mount's Bay which includes Penzance and Newlyn to the west and the Lizard Peninsula and Porthleven to the east (refer to Figure 2.1).

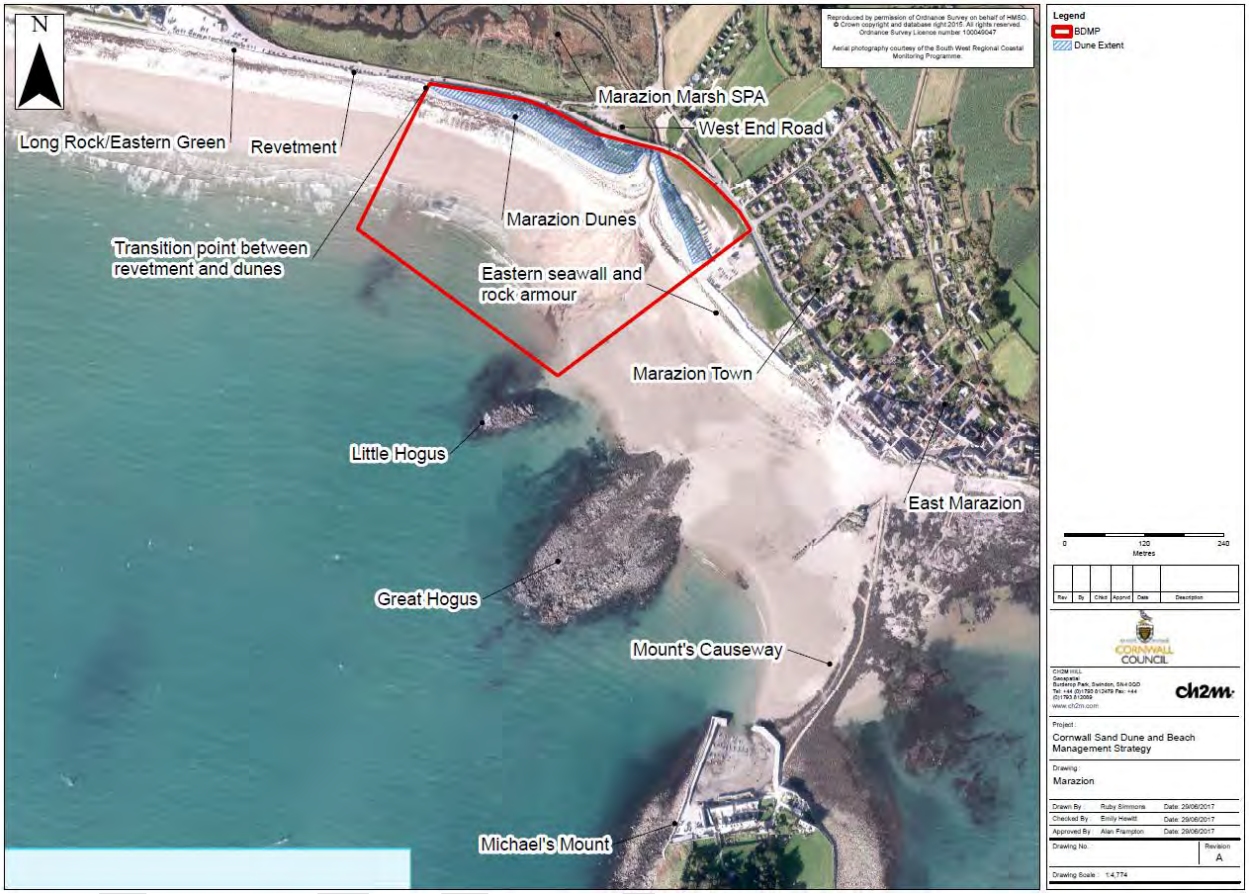

Figure 2.1 Map showing the Marazion BDMP location and extent (red outline).

2.1 Options Appraisal

The following Table 2.1 contains appraisal of a range of possible options for future beach and dune management for Marazion to address the issues and objectives identified for this location as part of Stage 2 of this project (refer to Section 1.3).

Table 2.1 Options Appraisal Table for Marazion

Issue Description	BDMP Objective for Issue	Current Management Practice related to issue	Sand Dune Management Category and Technique (identified from the Sand Dune Management Preliminary Decision Assistance Tool (Halcrow, 2009); UPDATED 2015)	Short (0-20 years), Medium (20-50 year) or Long Term (50-100 years) Action	Comments / Additional Categories / Techniques To Be Investigated	Technical Appraisal of Options	Environmental Appraisal of Options	Economic Appraisal of Options
1. The dunes at Marazion are eroding as a result of a combination of natural processes and human impacts. Large storm events (such as occurred in 2013/14) can cause significant loss of beach material which then impacts on the dune toe causing dune cliffing. This poses safety issues for those accessing the area (*refer also to issue 4 regarding provision of safe access*). The beach in front of the western and eastern sections of the dunes tends to erode during storms and then beach levels recover after this. In the longer term the beach areas in front of the dunes have been accreting. This could be due to new sediment and/or more likely as a result of drawdown of the dune toe. Without more profile data on the dunes it is hard to fully understand. For Longrock/Eastern Green and East Marazion either side of the dunes, there have been more variable longer term changes. Longrock has experienced net loss over the last 10 years whereas East Marazion has generally experienced accretion over the last 10 years (with the exception of but 1 profile having lost 5% volume over that time). Mount's Causeway to the east effectively acts like a terminal groyne trapping net easterly longshore drift. This area may be filling up slowly with sediment, albeit not uniformly across the frontage.	Work with natural processes to minimise risk in the future, through promotion of ongoing dune restoration using methods that encourage sediment entrapment and dune growth.	Occasional efforts to introduce dune stabilisation measures in the past including fencing.	STABILISATION • Planting (and to prevent access to planted/ thatched areas • Thatching (and to prevent access to planted/ thatched areas) • Mulching/ Matting/ Sand Binders • Control Fencing (see also ACCESS MANAGEMENT). MORPHOLOGICAL MODIFICATION • Dune Fencing • Planting (see STABILISATION) • Bulldozing/ Contouring.	Short term Short term		Dune stabilisation / restoration methods to encourage sediment entrapment would help address erosion issues. Stabilisation methods would not be appropriate everywhere, but could be applied in key areas such as access routes (particularly around the Car Park and connection/transition between the revetment and the western dunes) that are to be closed as part of access management measures (see Issue #6) and along the toe of the dunes on the seaward face. Stabilisation methods would need to allow the continued interaction between the dunes and beach, allowing natural processes to continue. Natural forms of stabilisation, such as planting, thatching, mulching, matting and sand binders would allow this. Thatching also limits public access, and makes use of natural materials. Access restrictions and information signage in these areas would help limit pressures on these areas and allow natural processes (see Issue #6). Stabilisation methods need an ongoing commitment for monitoring, management and maintenance. Local residents could help with this.	STABILISATION and MORPHOLOGICAL MODIFICATION Long term positive benefits to improvement of Marazion Marsh CWS designated sand dune habitat feature/BAP priority habitat. Assuming native plants are used and represent species on site. Possible impacts from fencing/planting works on other Marazion Marsh CWS designated features/BAP priority habitat/protected species, although can be mitigated by best practice methods being applied. Fencing can be destroyed by storm-wave action and so longevity of measures and so dune growth benefits is uncertain without commitment to regular maintenance. Fencing, when damaged, can be visually unattractive with possible impacts to setting of designated landscape features and setting, of archaeological/cultural heritage features. Best practise maintenance management can mitigate this. Possible impacts from stabilisation works on other designated features of Marazion Marsh CWS, vegetated shingle BAP priority habitat and rare/protected species, although can be mitigated by best practice methods being applied. HRA screening may be required to establish no likely significant effects on the nearby SPA and similar assessment for nearby MCZ features. This will need to be confirmed with Natural England.	**Planting** Cost: low/medium, (medium maintenance) **Thatching / Mulching etc** Cost: low, (high maintenance) **Control fencing** Cost: low, (medium/high maintenance) **Bulldozing/Contouring** Cost: medium, (medium/high maintenance)
2. Beach levels in front of the dunes and existing hard defences vary regularly over short periods of time. Monitoring as part of the South West Regional Coastal Monitoring Programme does not occur frequently enough to detect these rapid variations. Monitoring has also only been occurring consistently since 2007 so longer-term	Ensure existing coastal monitoring is continued, modified as necessary to provide greater	Monitoring by the South West Coastal Monitoring Programme since 2007.	MONITORING • Monitoring Schemes	Short term	Specify locations, landward extents of profiles and frequency of beach profiles required in the final BDMP. To include additional regular	Requires ongoing commitment from coastal monitoring programme (funded nationally) and the Council. Increased extent (beach and full width of dunes) and frequency of	MONITORING Will inform management decisions that can assist in the promotion of these features to ensure a positive long term	The regional coastal monitoring programme is funded nationally by Government. Funding for only the current 5 years (to 2021/22) has been committed. **Monitoring**

Issue Description	BDMP Objective for Issue	Current Management Practice related to issue	Sand Dune Management Category and Technique (identified from the Sand Dune Management Preliminary Decision Assistance Tool (Halcrow, 2009); UPDATED 2015)	Short (0-20 years), Medium (20-50 year) or Long Term (50-100 years) Action	Comments / Additional Categories / Techniques To Be Investigated	Technical Appraisal of Options	Environmental Appraisal of Options	Economic Appraisal of Options
trends are not necessarily apparent in the available data. Continuation of monitoring is needed. The extent/coverage of monitoring and the frequency with which it occurs could both be increased to ensure it provides sufficient information covering both the beach and sand dunes to inform future management decisions. In particular, more profiles need to be undertaken through the dunes and in front of the hard defences to gain a better understanding of change.	coverage and frequency of survey to provide greater levels of data to inform future management decisions.				profiles over the dunes west of Red River. Regular LIDAR flights/drone imagery would also support analysis of the wider area changes. Potential to get locals involved to take regular pictures/videos before/during/after storms from defined points to help understand small scale changes in the beach and dunes. Monitoring of volume of sand blown over onto road and frequency of removal/recycling of material back onto beach.	surveys (including post storm) will help understand dune and beach behaviour, interaction between/impacts of adjacent hard defences and beach/dunes, monitor the performance of beach and dune management methods and inform future management decisions to address erosion issues. Involving local volunteers (through establishing a local dune group) in monitoring also supports education and awareness.	impact on designated sites and BAP priority habitats.	Cost: medium, (high maintenance)
3. The eastern seawall and rock armour fronting Marazion itself requires regular, ongoing maintenance, including occasional significant repairs following large storms. Given the age of the revetment, it would be expected to reach the end of its serviceable life within the next 25-30 years and so need replacing (if funding available).	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4. The revetment which runs along from the western dunes to The Long Rock also requires regular ongoing maintenance, including occasional repairs following storms. The main issue however is the connection/transition between the revetment and the dunes - visitors have accessed the beach and caused a blowout of dune material. This potentially causes a weak spot/potential breach risk in the line of flood defence along this section. There is already outflanking of the hard-defence by erosion of the adjacent dune evident.	Minimise dune erosion caused by human access. Work with natural processes to minimise risk in the future, through promotion of ongoing dune restoration using methods that encourage sediment entrapment and dune growth.	Unknown	STABILISATION • Planting (and to prevent access to planted/ thatched areas • Thatching (and to prevent access to planted/ thatched areas) • Mulching/ Matting/ Sand Binders • Control Fencing (see also ACCESS MANAGEMENT) MORPHOLOGICAL MODIFICATION • Dune Fencing • Planting (see STABILISATION) • Bulldozing/ Contouring. SEDIMENT MODIFICATION • Sand Recycling and Reprofiling • Beach nourishment. ACCESS MANAGEMENT • Zoning • Boardwalks	Short term Short term Short term Short term		The western end of the dunes where it transitions to the hard-defences towards Long Rock will likely need additional armouring or dune building to reduce the risk of outflanking of the hard defences and adverse impacts on the road. The erosion risk assessment data for the dunes suggests this risk could arise within 20 years in this area where the dunes are narrowest (unless measures are taken to improve the situation). However, this area is vulnerable and under extreme events breaching of the dunes at this section is a possibility. If it were to erode, this would also impact on the sustainability of an extended path along the landward edge of the dunes (see also Issue #9). The path (and road) is regularly covered in sand and the wall holding up the dunes behind is experiencing slumping as the dune attempts to roll back. The preference here is for dune stabilisation measures in combination with beach recycling to move sediment into this area	STABILISATION and MORPHOLOGICAL MODIFICATION Long term positive benefits to improvement of Marazion Marsh CWS designated sand dune habitat feature/BAP priority habitat. Assuming native plants are used and represent species on site. Possible impacts from fencing/planting works on other Marazion Marsh designated features/BAP priority habitat/protected species, although can be mitigated by best practice methods being applied. Fencing can be destroyed by storm-wave action. Fencing, when damaged, can be visually unattractive with possible impacts to setting of designated landscape features and setting, of archaeological/cultural heritage features. Best practise maintenance management can mitigate this. Possible impacts from stabilisation works on Marazion Marsh CWS designated features,	**Beach recycling / reprofiling** Cost: medium, (medium maintenance) **Beach nourishment** Cost: high, (medium maintenance) **Planting** Cost: low/medium, (medium maintenance) **Thatching / Mulching etc** Cost: low, (high maintenance) **Control fencing** Cost: low, (medium/high maintenance) **Zoning** Cost: medium, (high maintenance) **Boardwalks** Cost: medium, (medium maintenance)

Issue Description	BDMP Objective for Issue	Current Management Practice related to issue	Sand Dune Management Category and Technique (identified from the Sand Dune Management Preliminary Decision Assistance Tool (Halcrow, 2009); UPDATED 2015)	Short (0-20 years), Medium (20-50 year) or Long Term (50-100 years) Action	Comments / Additional Categories / Techniques To Be Investigated	Technical Appraisal of Options	Environmental Appraisal of Options	Economic Appraisal of Options
			• Control Fencing • Use of information boards. • Steps from the back of the revetment over onto the beach			of the frontage such that dune fencing and planting can be established, thus promoting dune growth. However, there appears to be limited sediment in the system for this and so the sustainability of this will likely require commitment to regular intervention in this area. Due to the lack of sediment in the system, beach nourishment may need to be considered at a point in the future. This is something to be considered as part of longer-term options to be developed in the coming years as part of the Mounts Bay Strategy but at the present time is not considered economically viable to implement just for Marazion Dunes. If these measures do not achieve the desired sustainable outcome, consideration will need to be given to extension of the existing hard defences into the dunes. This is something that should be considered as part of the Mounts Bay Strategy that is to be developed in the coming years. Access management measures would also support efforts to reduce erosion pressures in this western area of the dunes (see Issue #6).	vegetated shingle BAP priority habitat and rare/protected species, although can be mitigated by best practice methods being applied. HRA screening may be required to establish no likely significant effects on the nearby SPA and similar assessment for nearby MCZ features. This will need to be confirmed with Natural England. SEDIMENT MODIFICATION Beach recycling/profiling and/or nourishment has the potential to smother designated features/protected species/BAP habitat. The presence of plant on the beach may cause disturbance to breeding seabirds and other bird species (designated features). HRA screening may be required to establish no likely significant effects on the nearby SPA and similar assessment for nearby MCZ features. This will need to be confirmed with Natural England. ACCESS MANAGEMENT Positive impact to Marazion Marsh CWS designated sand dune feature and BAP priority habitat from access management. Advantages: natural processes can continue; eroded areas are better able to recover; zoning limits trampling and erosion to zoned pathways and boardwalks encourage use of designated paths. Disadvantages: Existing access routes may need to be redirected or closed; relocation of access routes needs to be considered carefully as not to impact on other designated features present; may impact upon natural dune processes.	
5. Road behind dunes often becomes covered by sand and could hinder access for all visitors/provide a health and safety risk for road users. Regular clearing ideally required.	Ensure safe access to Marazion for all visitors and that sediment	Road is cleared periodically but it's unknown where the sediment is deposited.	ACCESS MANAGEMENT • Control Fencing. SEDIMENT MODIFICATION	Short term Short term		Measures to reduce sand blown onto roads and car parks, such as fencing could be used, combined with redistribution of accumulated material along these	ACCESS MANAGEMENT Positive impact to Marazion Marsh CWS designated sand dune	**Control fencing** Cost: low, (medium/high maintenance) **Beach recycling / reprofiling**

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	removed from the road is retained in the beach-dune system.		• Sand Recycling and Reprofiling.			fences (i.e. recycling), to ensure sediment is kept within the dune system as much as possible rather than entering the road system. This could be integrated with other access management measures (see Issue #6). If sediment in the system becomes overly diminished then beach nourishment may need to be considered at a point in the future. This is something to be considered as part of longer-term options to be developed in the coming years as part of the Mounts Bay Strategy but at the present time is not considered economically viable to implement just for Marazion Dunes. To do so may also lead to further encroachment of sand on the road which will require consideration. In the coming 20 years to achieve the "do minimum" strategic FCERM approach defined for this area, and subject to sediment testing and regulatory approval (in order to retain sediment in the system) sand cleared from the road should be recycled to the dune system seawards of the road. This will support dune stabilisation measures. An alternative may be to recycle sediment to the proposed artificial dune to be created within the SPA landwards of the road (see Issue #8).	feature/BAP priority habitat from access management. Advantages: natural processes can continue, with fencing supporting retention of sediment in the system; eroded areas are better able to recover; zoning limits trampling and erosion to zoned pathways encourage use of designated paths. Disadvantages: Existing access routes may need to be redirected or closed; relocation of access routes needs to be considered carefully as not to impact on other designated features present; may impact upon natural dune processes. SEDIMENT MODIFICATION Beach recycling/profiling has the potential to smother designated features/BAP priority vegetated shingle habitat and protected/rare species if not placed sensitively, but does retain sediment in the system. The presence of plant on the beach may cause disturbance to breeding seabirds and other bird species (designated features). Habitats Regulations Assessment screening may be required to establish no likely significant effects on the nearby SPA and similar assessment for nearby MCZ features. This will need to be confirmed with Natural England.	Cost: medium, (medium maintenance)
6. Access by visitors through the dunes using non-defined access routes (from all directions, but particularly from the car park on the eastern part of the dunes) to gain access to the beach causes trampling of dune vegetation and erosion of the dunes.	Minimise dune erosion caused by human access.	Some previous fencing but no longer present.	ACCESS MANAGEMENT • Zoning • Boardwalks • Control Fencing • Use of information boards. PUBLIC AWARENESS • Signs and Display Boards, Guided Walks, Public Talks, Interpretative Leaflets, Wardens and Visitor Centres.	Short term Short term		Restricted routes, designated pathways (boardwalks or steps), fenced off areas, clear information signage and zoning for activities in the dunes are all technically feasible. Would restrict access to areas currently experiencing trampling and help re-stabilisation and allow natural process to continue. This could be integrated with proposals to extend the existing path to Marazion (see Issue #9). Such measures would, however, require ongoing commitment to	ACCESS MANAGEMENT Positive impact to Marazion Marsh CWS designated sand dune feature/BAP priority habitat from access management. Advantages: natural processes can continue; eroded areas are better able to recover; zoning limits trampling and erosion to zoned pathways and boardwalks encourage use of designated paths. Disadvantages: Existing access routes may need to be redirected or closed; relocation of access	**Zoning** Cost: medium, (high maintenance) **Boardwalks** Cost: medium, (medium maintenance) **Control fencing** Cost: low, (medium/high maintenance) **Signage/boards** Cost: low, (high maintenance)

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						maintain fences, signage, management of activities etc., which could become damaged as a result of storms and/or vandalism. Local volunteers could help with the monitoring of these measures and reporting any maintenance required.	routes needs to be considered carefully as not to impact on other designated features and BAP priority vegetated shingle present; may impact upon natural dune processes. PUBLIC AWARENESS Environmental education provided by a public awareness campaign may help to promote conservation of the dunes which would promote recovery however, some dune erosion will continue due to access. Results in a positive impact to Marazion Marsh CWS designated sand dune feature/BAP priority habitat allowing natural processes and recovery. Positive impact on setting of landscape, archaeological and cultural features. If ignored however, dune erosion and littering will continue.	
7. Litter of the beach and within the dunes is an issue, particularly in the summer months when there is a large increase in the number of visitors to the area. Manual beach cleaning and the number of bins provided at the site is unable to cope with the volumes of litter.	Reduce impact of human activity causing pollution of the natural environment.	Manual beach cleaning occurs. Litter bins provided. Currently no local beach/dune management community group that may be able to lead on this.	ACCESS MANAGEMENT • Zoning • Boardwalks • Control Fencing • Use of information boards. PUBLIC AWARENESS • Signs and Display Boards, Guided Walks, Public Talks, Interpretative Leaflets, Wardens and Visitor Centres. MANUAL MAINTENANCE • Beach cleaning • Ranger/warden • Friends of the dunes group.	Short term Short term Short term		Designated pathways (boardwalks and steps), fenced off areas and zoning for activities in the dunes, such as picnic areas, to encourage activity in designated areas and help manage littering would be technically feasible, and should be designed to have minimal impact on natural processes. This could be integrated with proposals to extend the existing path to Marazion (see Issue #9). Signage to educate and increased waste provision (bins) at key access points to the dunes to start addressing the issue in the short term. Beach / dune rangers would reinforce the message during the summer months; or a local “friends of the dunes group” could be established to undertake a similar role and organise volunteer beach cleans etc. Such a group may also be able to support other dune management activities such as fencing or ecological surveys etc. Addressing this issue will, however, require ongoing commitment to maintain fences,	ACCESS MANAGEMENT Positive impact to Marazion Marsh CWS designated sand dune feature/BAP priority habitat from access management. Advantages: natural processes can continue; eroded areas are better able to recover; zoning limits trampling and erosion to zoned pathways and boardwalks encourage use of designated paths that can be more readily managed. Disadvantages: Existing access routes may need to be redirected or closed; relocation of access routes needs to be considered carefully as not to impact on other designated features and BAP priority vegetated shingle present; may impact upon natural dune processes. PUBLIC AWARENESS Environmental education provided by a public awareness campaign may help to promote conservation of the dunes which would promote recovery however, some dune erosion will	**Zoning** Cost: medium, (high maintenance) **Boardwalks** Cost: medium, (medium maintenance) **Control fencing** Cost: low, (medium/high maintenance) **Signage/boards** Cost: low, (high maintenance) **Beach cleaning** Cost: low, (high maintenance) **Rangers** Cost: Medium (high maintenance) **Friends of the Dunes Group** Cost: low (high maintenance)

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						signage, management of activities etc. and so funding to support this will be vital (see Issue #10).	continue due to access. Results in a positive impact to Marazion Marsh CWS designated sand dune feature/BAP priority habitat allowing natural processes and recovery. Positive impact on setting of landscape, archaeological and cultural features. If ignored however, dune erosion and littering will continue. MANUAL MAINTENANCE Positive long term impacts to Marazion Marsh CWS designated sand dune feature/BAP priority habitat, and also to landscape/cultural heritage features. Best practise methods are required to prevent possible trampling impacts during beach cleaning operations within zoned areas.	
8. The backshore area includes the Marazion Marsh SPA designated site and road which provides key access from Marazion to Penzance. There is potential for future dune erosion or landwards migration to impact the site.	Reduce the risk of future coastal erosion to the SPA site through coastal adaptation measures.	Marazion Marsh is managed by RSPB. However, there are proposals to undertake a desilting operation of the Longrock Pool within the boundary of Marazion Marsh Special Protection Area (SPA). Funding has been agreed in principle for this work and is due to commence on site during 2017, subject to further investigations and permitting (including Habitats Regulations Assessment). One aspect of the planned works is the formation of a "dune" adjacent to the road and within the RSPB reserve, using the sediment removed during the	ADAPT BACKSHORE MANAGEMENT/USES • Adapt Backshore Management/ Uses.	Short term		The erosion risk assessment suggests that under the No Active Intervention Scenario, there is a risk of erosion of the dunes impacting the SPA within 50-100 years. The erosion risk assessment data for the dunes suggests a route along the landward side of the dunes could be at risk of erosion within 20 years, especially at the western end where it is narrowest. This risk could materialise sooner if a breach occurred during an extreme event which is most likely at this weak transition point to the hard defences. Saltwater intrusion and build up of wind blown sand is likely to already be influencing the margins of the site. Measures to reduce the risk of this occurring set out in this BDMP are in line with the strategic adaptation measures to achieve "do minimum" over the next 20 years or so whilst longer-term solutions are investigated and defined in the coming years	Dune creation within the SPA/SSSI/RSPB reserve boundary landward of the road, using the arising of the desilting operations will provide for some extension of dune habitat in the area, which would help to offset potential losses to coastal erosion in the current dunes system situated seawards of the road. Positive long term impacts to Marazion Marsh CWS designated sand dune feature/BAP priority habitat. As part of permitting the proposed desilting operations and to establish no likely significant effects a Habitats Regulations Assessment will need to be completed. An MCZ assessment may also be required. This will need to be conformed with Natural England.	

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		desilting. This will be positioned to follow the alignment of the dune on the seaward side. As such, the solution could help mimic the natural long-term process of dune roll-back into the marsh without impacting the road.				as part of the Mounts Bay Strategy.		
9. There are plans being developed to extend the existing traffic free walking and cycling provision between Long Rock and Marazion already adopted as part of a national scheme. One option for this route is for it to run along the landward edge of the dune system, although such an option would require considerable path construction to enable cyclists and people with mobility impairment to access and navigate the dune.	Minimise dune erosion caused by human access. Ensure sustainability of cycleway route.	N/A.	ACCESS MANAGEMENT • Zoning • Boardwalks • Control Fencing • Use of information boards. PUBLIC AWARENESS • Signs and Display Boards, Guided Walks, Public Talks, Interpretative Leaflets, Wardens and Visitor Centres.	Short term Short term		It is acknowledged that work is ongoing to develop an extension to the existing traffic free walking and cycling provision between Long Rock and Marazion, and that taking the route along the landward edge of the dune is only one of several options under consideration, and appraisal of environmental implications is a key part of that process. The following highlights key technical considerations in relation to the dune route option only: • The western end of the dunes where it transitions to the hard-defences towards Long Rock will likely need additional armouring or dune building to protect any new path in this area for any length of time, else it runs the risk of being undermined/ eroded/ breached during storm events, as the dunes here are very narrow (See also Issue #4). • The erosion risk assessment data for the dunes suggests a route along the landward side of the dunes could be at risk of erosion within 20 years, especially at the western end where it is narrowest. However, there is a risk of breaching of the dunes during an extreme storm event even sooner. • Construction of the path in the dunes, depending on how it is built, will impinge	It is acknowledged that work is ongoing to develop an extension to the existing traffic free walking and cycling provision between Long Rock and Marazion, and that taking the route along the landward edge of the dune is only one of several options under consideration, and appraisal of environmental implications is a key part of that process. The following highlights key environmental considerations in relation to the dune route option only: • Path construction in the dunes would reduce the amount of dune area available to achieve ecological improvement of the dune system as a feature of the Marazion Marsh CWS and a BAP priority habitat (if confirmed to be present). • Path construction in the dunes would likely involve removal of non-native species, but may also impact other Marazion Marsh CWS designated features although this can be mitigated by best practise methods being applied. • If constructed as a boardwalk, and undertaken in combination with other access management measures, this option could improve access for those with mobility impairment to enjoy and learn about the dune habitat without	

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						natural behaviour of the dunes and hinder development of vegetation. However, it may also yield sand material to support dune stabilisation efforts on the seaward face or western/eastern ends of the dunes (See also Issue #1). Further development of these plans needs to consider the impact on the overall integrity of the dunes as more detail is provided from the designers.	adversely impacting the dunes (refer also to Issues #6 and #7). • The presence of plant on the beach may cause disturbance to breeding seabirds and other bird species (designated features). • Habitats Regulations Assessment screening may be required to establish no likely significant effects on the nearby SPA and similar assessment for nearby MCZ features. This will need to be confirmed with Natural England.	
10. There is limited funding currently available to undertake beach and dune management activities.	Identify potential funding streams to enable economically sustainable beach and dune management to occur.	Very minimal current spend on dune management related to previous installation of some fences. No active management undertaken since 2014. A Coastal Community Team for Marazion has recently (January 2017) been confirmed by the Department of Communities and Local Government. This will provide a mechanism for accessing funding opportunities for community development activities in the future (e.g. DCLG's Coastal Communities Fund). It should be noted that St Aubyn Estates has offered to contribute to the future management costs of the dunes.	FUNDING • Seek funding from Environment Agency • Seek funding from Local Authority • Seek funding from sole private source • Seek match funding (government+ private).	Short term		The SMP Policy is HTL over the next 100 years. Assessment of how best to deliver this policy has been made in the Mounts Bay strategic assessment. This concluded that for the next 20-40 years, implementation will involve "do minimum" including dune management for the dunes at Marazion subject of this BDMP. However, it didn't outline any specifics about how this should be done. In determining this "do minimum" approach, about two-thirds of the funding required for the frontage within which the Marazion dunes are situated is required from non-FCERM-GiA (i.e. requires partnership funding contributions) to deliver FCERM related dune and beach management activities. Funding for activities beyond FCERM will need to be derived from other non-FDGiA sources (i.e. private/non-FDGiA sources). A funding partnership could be established for this purpose. One funding partner is likely to be the St Aubyn Estates who have advised, in the course of developing this BDMP, that they are willing to consider contributing towards the future management costs of the dunes.	An increase in funding could be beneficial if allocated towards the positive long term impact on protection of designated site features, BAP priority habitat and setting of archaeological and cultural heritage features.	Most recent economic appraisal was undertaken as part of the Mounts Bay strategic assessment. Of relevance to the Marazion is "Frontage 2 (Marazion West to Penzance)" for which the following economics were derived: Total FCERM Present Value damages over 100 years: £115.95m Total Present Value Benefits of "Do Minimum" (over 40 years): £44.76m Total Present Value Costs of "Do Minimum" (over 40 years): £9.32m. BCR: 6.43 Potential FCRM GiA for "Do Minimum" (over 40 years): £3.69m Potential funding contributions required for "Do Minimum" (over 40 years): £6.43m.

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						Other funding partners may be available to support implementation and this will need to be investigated in more detail as part of the more detailed strategy planned to be developed within the next 2-3 years for the whole of Mounts Bay.		
11. The Shoreline Management Plan policy is for Hold the Line over 100 years. *'A hold the line approach is required within this area to provide a transition area between Marazion town frontage and Marazion Marsh which maintains the defensive line. In order to adhere to legislation and maintain the integrity of this internationally important freshwater wetland site, a hold the line policy is preferred through all three epochs. A more detailed strategy is required to consider the options for this area in more detail at the earliest opportunity."* The short term strategy for management of the area is limited – in the Mounts Bay strategic assessment of adaptive frontages it was recommended that 'Do minimum' was adopted for the next 20 years. The assessment recommended shoring up the rock armour towards Long Rock (this is currently at planning permission stage and is utilising funding from the 2014 storm recovery funding). Longer-term context for management of coastal flood and erosion risk as set-out in the assessment, which is currently leaning towards a "sandscaping" as one of a number of possible solutions to be implemented in about 20 years or so time (subject to further investigations as part of a full strategy in the coming years).	Ensure future management of the area is in line with SMP policy and Strategy.	No active management undertaken since Strategy was published (2016). Some works carried out since 2014 using storm recovery funding but focussed more on the hard engineered structures in the area.	STABILISATION • Planting (and to prevent access to planted/ thatched areas • Thatching (and to prevent access to planted/ thatched areas) • Mulching/ Matting/ Sand Binders • Control Fencing (see also ACCESS MANAGEMENT). MORPHOLOGICAL MODIFICATION • Dune Fencing • Planting (see STABILISATION) • Bulldozing/ Contouring. ACCESS MANAGEMENT • Zoning • Boardwalks • Control Fencing • Use of information boards. SEDIMENT MODIFICATION • Sand Recycling and Reprofiling • Beach nourishment. MONITORING • Monitoring Schemes PUBLIC AWARENESS • Signs and Display Boards, Guided Walks, Public Talks, Interpretative Leaflets, Wardens and Visitor Centres.	Short term Short term Short term Short term Short term Short term		The management techniques described and appraised in the items above are aligned to delivery of the SMP policy of HTL and strategic "do minimum" approach to deliver HTL policy over the next 20 years or so, whilst longer-term options are developed and appraised in greater detail, including supporting environmental assessments, as part of the more detailed strategy planned to be developed within the next 2-3 years for the whole of Mounts Bay. As such, no additional technical appraisal is provided here.	Environmental implications of delivering SMP policy in short term are assessed against items above. This will deliver the current "do minimum" strategy approach in the near future, whilst longer-term options are developed and appraised in greater detail, including supporting environmental assessments, as part of the more detailed strategy planned to be developed within the next 2-3 years for the whole of Mounts Bay. As such, no additional environmental appraisal is provided here.	Most recent economic appraisal was undertaken as part of the Mounts Bay strategic assessment. Of relevance to the Marazion is "Frontage 2 (Marazion West to Penzance)" for which the following economics were derived: Total FCERM Present Value damages over 100 years: £115.95m Total Present Value Benefits of "Do Minimum" (over 40 years): £44.76m Total Present Value Costs of "Do Minimum" (over 40 years): £9.32m. BCR: 6.43 Potential FCRM GiA for "Do Minimum" (over 40 years): £3.69m Potential funding contributions required for "Do Minimum" (over 40 years): £6.43m
12. There are potential UK Biodiversity Action Plan Priority Habitats (coastal sand dunes, dune grassland, vegetated shingle), in the BDMP area. Non-native invasive species are also	Confirm presence and condition of UK BAP priority habitats, look to		MONITORING • Ecological condition - mapping coverage and	Short term	.	Maintains existing ecological health of the dunes which is important in working with natural processes to provide coastal flood	MONITORING Will inform management decision that can assist in the promotion	**Monitoring** Cost: medium, (high maintenance)

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present. No ecological survey map of the area has been completed to verify their exact range and position.	improve condition and manage appropriately any invasive species that are present.		condition of designated/ecologically important sites. • Mapping coverage of non-native invasive and non-invasive species. ECOLOGICAL MODIFICATION Maintain existing condition through for example: • Regular cutback of vegetation. • Maintaining defences that control water levels. • Allowing coastal processes to continue on maritime cliff/slope. Improve existing condition through for example: • Removal of non-native invasive species within the dune vegetation. • Planting with additional vegetation, such as marram grass	Short term		and erosion risk management with the aid of sand dunes. Removal of some vegetation may make 'uncontrolled' access more problematic (i.e. non-native vegetation hinders access in places) and so needs to be undertaken in combination with access management measures.	of these features to ensure a positive long term impact on designated sites and BAP priority habitat if survey confirms presence. ECOLOGICAL MODIFICATION Positive long term impact to improvement of Marazion Marshes CWS designated sand dune features/BAP priority habitat Possible impact from removal of non-native species and planting on designated ecological features although can be mitigated by best practice methods being applied.	**Vegetation cut-back / removal** Cost: medium (high maintenance) **Planting** Cost: low/medium, (medium maintenance)
13. Future beach and dune management needs to consider the environmental impacts on a variety of designated features, including: o Mounts Bay Marine Conservation Zone o Marazion Marsh County Wildlife Site o Cornwall AONB o Marazion Marsh SPA/SSSI/RSPB reserve o Cornwall and West Devon Mining Landscape (UNESCO) World Heritage Site o St Michael's Mount geological SSSI. o Historic environment features, including scheduled and non-scheduled monuments.	Ensure the identified environmental features are considered in management decisions for future coastal flood and erosion risk management.		No techniques contained in dune management preliminary decision assistance tool for this aspect. Appraisal of environmental impacts on difference features have different requirements depending upon the nature of the designation, and environmental appraisal should always be undertaken when considering management options.		Consider the impact of potential future management measures on designated features in this options assessment.	N/A	Environmental appraisal of options is provided above. Consideration is required for: - Marazion Marsh CWS designated features - Marazion Marsh SPA/SSSI/RSPB Reserve designated features. A Habitats Regulation Assessment may be required to confirm no likely significant effect to SPA features from management measures. This will be confirmed with Natural England. - Mounts Bay MCZ. An MCZ assessment maybe required to confirm no likely significant effect to features from management measures. This will need to be confirmed with Natural England. - BAP priority habitats (coastal sand dunes and vegetation shingle) and rare/protected species. - Cornwall AONB.	**N/A**

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							- Cornwall and West Devon Mining Landscape (UNESCO) World Heritage Site. - Scheduled monument and listed buildings. - SW Coastal Path.	

2.2 Options Summary

Marazion is located on the south-west coast of Cornwall. The site is situated within the wider embayment of Mount's Bay which includes Penzance and Newlyn to the west and the Lizard Peninsula and Porthleven to the east. The whole of Mount's Bay coastline is formed of Devonian rocks including mudstones, volcanic lava and tuffs with rocky outcrops, typical for this part of the UK coastline along Devon and Cornwall. Marazion is bounded by The Long Rock in the west and St Michael's Mount in the east. Between the two outcrops, is a wide, shallow plan shape bay with sandy beach backed by the sand dunes that are the focus of this options appraisal.

The dunes and beach are owned by St Aubyn Estates to the Mean High Water (MHW) mark; below this land is owned by the Duchy of Cornwall. Management of the dunes has been attempted in the past by Cornwall Council and Natural England using dune fencing – though this appears to have been more for access management rather than dune stabilisation. There are limited records about such previous management activities and it does not appear to have occurred consistently.

The key issue for dune management at Marazion presently is how to manage the risk of dune erosion in the immediate future (next 20-40 years) whilst longer term options are appraised and implemented. This is in the context of limited sediment being available in the coastal system to support dune development, pressures from unrestricted visitor access within the dunes, and challenges around funding any intervention works. If the dunes were to erode then the road immediately behind the dunes would be at significant risk of erosion, which in turn would lead to saline inundation of the Special Protection Area (SPA) and RSPB nature reserve at Marazion Marsh beyond it. A key area of concern is at the western end of the dunes where they transition to hard defences. Here there is already outflanking of the hard defences evident as a result of dune erosion. Without intervention, there is a significant risk that a large storm event (or sequence of large storm events) could breach the dune/defence line in this area, and certainly within the next 20 years.

The Shoreline Management Plan policy, adopted in 2011, is to hold the line over the next century. The 2015 "*Mounts Bay Strategic Assessment of Adaptive Frontages*" study appraised options for how to implement this policy and determined that for Marazion Dunes, this is to be achieved by taking a "Do Minimum" approach for the next 20-40 years whilst a longer-term approach is further investigated. This longer-term approach will be developed in the next few years through the Mounts Bay Strategy and is expected to consider a variety of options including large-scale beach recharge of the wider Mounts Bay area – something which if it were to occur, would increase sediment in the coastal system that would likely benefit the dunes at Marazion.

It is within the "Do Minimum" policy context that options for dune management at Marazion in the immediate future to address the key issues described above, have been considered. The recommended approach for dune management is to use planting and fencing to encourage sediment entrapment within the dunes, aiding stabilisation and restoration of the system. Such measures should be focussed on key areas of erosion concern such as the seaward toe of the dunes, the area of foreshore in front of the car park and the western transition to hard defences – the latter being a particularly weak point in terms of erosion and so breach risk. These stabilisation measures will be an ongoing activity and require periodic work to replace/repair fencing etc. following storm events. These measures should also be undertaken in combination with access control fencing to maximise their chance of success and prevent the measures being compromised. In terms of planting within the dune, use of native species should be promoted, though removal of non-native dune species will likely be required to provide greatest opportunity for successful plant establishment.

These measures should be supported by a number of other related actions, including: (a) installation of signage to deter access and educate visitors as to the reasons whey access if being restricted; (b) regular monitoring of physical processes by the South West Regional Coastal Monitoring Programme, including more regular monitoring of additional profile surveys across the extent of the dunes and beach than presently occurs; and (c) regular ecological monitoring of dune species.

The availability of funding to deliver this management regime is a key challenge. Funding for monitoring by the South West Regional Coastal Monitoring Programme is only presently confirmed until 2021/22, and every effort should be made to support a funding bid to extend this programme beyond this date. In order to implement the physical dune management measures themselves, some funding is likely to be available from Flood and Coastal Erosion Risk Management Grant-in-Aid (FCERM-GiA) but a significant proportion of funding will need to come from other third-party sources. The 2015 "*Mounts Bay Strategic Assessment of Adaptive Frontages"* study determined that FCERM-GiA could amount to about £3.69m over 40 years, leaving a requirement for £6.43m to be derived from other sources; one such possible source is the St Aubyn Estates, who have advised that they are willing to consider contributing towards the future management costs of the dunes. This funding issue will be a key consideration for the Mounts Bay Strategy to investigate in the coming years. However, in the immediate future, the establishment of a local volunteer group (e.g. "Friends of Marazion Dunes") could support delivery for dune management activities at a relatively low cost and should be considered as a contribution to the overall funding requirements. Such a group could assist in dune management measures described above, as well as undertaking monitoring activities and organising beach clean-ups etc.

In addition to managing the dunes as a flood and coastal erosion defence asset in the immediate future, there are also plans to extend the existing traffic free walking and cycling provision between Long Rock and Marazion. One option being considered is for it to run along the landward edge of the dune system. In this regards, there are some possible benefits from such a route option, such as (a) removing non-native species from within the dunes, and (b) deriving sand from the rear of the dune to use in restoring areas of greatest erosion in other parts of the dune.

However, the technical concerns identified with this route options include impacts of construction within the dunes on the natural behaviour of the dunes, and the ability for dune vegetation to develop. There is also uncertainty about the longevity and sustainability of the dunes, even with dune stabilisation measures described above, given the limited sediment in the wider coastal system. Should a large storm event (or sequence of storm events) occur, then the dunes could experience a period of erosion that could reverse gains from stabilisation measures (at least for a short-period until recovery can occur). This in turn could risk the new path being undermined, eroded or breached during such events, particularly where the dunes are already very narrow such as at the western end of the dunes where it transitions to the hard-defences towards Long Rock. There will likely be a need additional armouring or dune building to protect any new path in this area else it runs the risk of being undermined/ eroded/ breached during storm events.

SECTION 3

References

- CH2M HILL (2017a). *Stage 1 Report: Marazion*. Report produced as part of the Cornwall Beach & Dune Management Plans project for Cornwall Council, May 2017.
- CH2M HILL (2017b). *Stage 2 Report: Marazion*. Report produced as part of the Cornwall Beach & Dune Management Plans project for Cornwall Council, June 2017.
- Halcrow (2009). *Cornwall Sand Dune and Beach Management Strategy*. Report produced by Halcrow Group Limited for the Cornwall and Isles of Scilly Coastal Advisory Group, September 2009.
- Royal Haskoning (2015). *Mounts Bay Strategic Assessment of Adaptive Frontages.* Cornwall Council, October 2015.
- Royal Haskoning (2011). *Cornwall and Isles of Scilly Shoreline Management Plan Review (SMP2): Final Report*. Report produced by Royal Haskoning for the Cornwall and Isles of Scilly Coastal Advisory Group, February 2011.

LUDGVAN PARISH COUNCIL MEETING
23rd AUGUST 2017
ITEMS FOR INFORMATION

Cornwall Council – Planning Decisions etc. Advised to Council - For information

(a) PA17/05377 - Rospavean Rospeath Lane Crowlas Penzance - Detached annexed accommodation for a family member. - Ms L Raymond **- Approved**

(b) PA17/05417 - Land ESE Of The Old Inn Lower Quarter Ludgvan Cornwall - Proposed Dwelling (Redesign of Planning Approval PA15/00243) - Mr & Mrs G Spurgeon **- Approved**

(c) PA17/05928 - Boswase Cottage Nancledra Hill Nancledra Penzance - Replacement larger rear entrance porch - Mr N Rutter **- Approved**

(d) PA17/05565 - Praise Cottage 4 Higher Eglos Cottages Eglos Road Ludgvan - Detached self-contained family annexed accommodation ancillary to main house. - Miss I Bailey - **Refused**

Cornwall Council - Planning Enforcement, Appeals etc.

(a) EN16/00930 - Former Railway Sidings Station Road Long Rock Cornwall - Alleged earth moving and rock crushing activities without a licence - **Case Closed the crushing activities at the site have stopped. The possible breach of planning control has ceased.**

(b) EN17/00987 - Verge Along Penzance Road Adjacent To Euromaster Penzance Road Cornwall - Unauthorised display of an advertisement on tree promoting West Cornwall Removals - **Course of Action Agreed**

(c) EN17/01593 - Field Adj To Jubilee Hall Ludgvan Penzance Cornwall TR20 8ES - Alleged breach of condition 6 and 7 (Visibility of access points) of planning approval W1/09-0176 - hedges at entrance of football field is not being maintained to approved height - **Pending Consideration**

Other items for information

None