Montrose Bay Coastal Erosion Project

EIA Screening Report

Angus Council

April 2024

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Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
Draft	04/04/2024	Draft for internal approval	FA	Felicity Arthur	Associate Director
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1. Introduction

1.1 Overview

AECOM has been commissioned to advise and assist Angus Council (the applicant) with the design and development of a dune restoration and beach nourishment project to address ongoing coastal erosion along the frontage north of Montrose Golf Links in Montrose Bay (the 'proposed development'). As part of this instruction, AECOM has prepared this Environmental Impact Assessment (EIA) Screening assessment on behalf of the applicant.

In summary the proposed development will consist of the following works:

i. Construction of a permanent vehicular beach access to facilitate the dune restoration and beach nourishment;

ii. Two-phase dune restoration and beach nourishment activities;

iii. Construction of two rock groynes leading from the dunes towards the waterline; and

iv. Additional sand material deposited along the toe of the dunes as part of the long-term strategy to manage the dune erosion.

Section 3 provides more detail on the above elements of the proposed development.

1.2 EIA Screening

The proposed development is considered to be an 'infrastructure project' under Paragraph 10(m) of Schedule 2 of both the Town and Country Planning (EIA) (Scotland) Regulations 2017, and the Marine Works (EIA) (Scotland) Regulations 2017 (jointly referred to as the EIA regulations).

'*Coastal work to combat erosion and maritime works capable of altering the coast through the construction, for example, of dykes, moles, jetties and other sea defence works, excluding the maintenance and reconstruction of such works*'

An EIA Screening Opinion is therefore requested under the above reference EIA regulations from Angus Council and from the Marine Directorate – Licensing Operations Team (MD-LOT) for the proposed development.

1.3 Report Structure

This report provides a brief description of the nature and purpose of the proposed development and its' possible effects on the environment. This is based on the Screening Criteria within Schedule 3 of EIA regulations, as well as the Scottish Government's Screening Checklist[1]. The report is structure as follows:

- **Proposed Development** Background – Proposed Development Background: provides detail of the existing management strategy at Montrose Bay and explains the need for the proposed development.
- **Section 3** – Project Description: describes each of the proposed development elements in detail, where works will be implemented relative to Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS), and the site and surrounding context.
- **Section 4** – Summary and Recommendations: provides a summary of the Screening assessment and indicates that the proposed development is not anticipated to result in any adverse significant effects.
- **Screening Checklist** – Screening Checklist: details, as per Screening Criteria within Schedule 3 of EIA regulations, as well as the Scottish Government's Screening Checklist, potential impacts as a result of the proposed development, and appropriate mitigation.

[1] Scottish Government, 2019. Environmental Impact Assessment: screening checklist. [Online] Available at: https://www.gov.scot/publications/environmental-impact-assessment-screening-checklist/

2. Proposed Development Background

2.1 Shoreline Management Plan (2016)

The dunes along Montrose Bay in Angus are subject to ongoing erosion and this is addressed in the Angus Council Shoreline Management Plan (SMP). The strategy had previously outlined a managed retreat approach, whilst preventing inundation from the sea and rejuvenating the dunes and the beach. This strategy has been developed along with advice from the Dynamic Coast Project[2] who are in support of this approach.

The most recent report, which outlined this approach, was the "Angus Shoreline Management Plan SMP2" (Angus Council, 2016). The following excerpt from the SMP2 outlines the preferred plan for the Montrose Management Unit:

"The long term plan for the frontage north of Montrose Golf Links is to allow natural processes to continue unhindered, where the naturally evolving dune and beach system will continue to provide the natural coastal defence, protecting inland areas from coastal water intrusion. A naturally eroding and accreting dynamic dune system helps absorb the impact of storms and acts as a resilient barrier to the destructive forces of wind and waves.

In line with the original Shoreline Management Plan (Angus Council, 2004), along the Montrose Golf Links frontage the plan is to manage erosion of the dunes through a managed realignment policy to maintain the integrity of the dunes as a natural defence while maintaining protection to the majority of the golf course into the long term."

[2] The Dynamic Coast Project" aims to provide the strategic evidence base on the extent of coastal erosion in Scotland by: improving the evidence on coastal change, improving the awareness of coastal change, and supporting decision-makers to ensure Scotland's coast and assets can adapt to our future climate".

2.2 Project Need

Since the publication of the Angus SMP2 in 2016, an accelerated rate of erosion has been noted at the proposed development site, leading to an observed significant retreat of the dune frontage, considered in some locations to be in the region of 3 m per year. It is understood that at certain locations along this stretch of coast the erosion has been anecdotally observed as up to 10 m in the last year alone. In addition to this, low-lying areas of the dunes have become noticeable within the dune system, in particular the location noted in **Figure 2-1** which presents a potential future flood corridor.

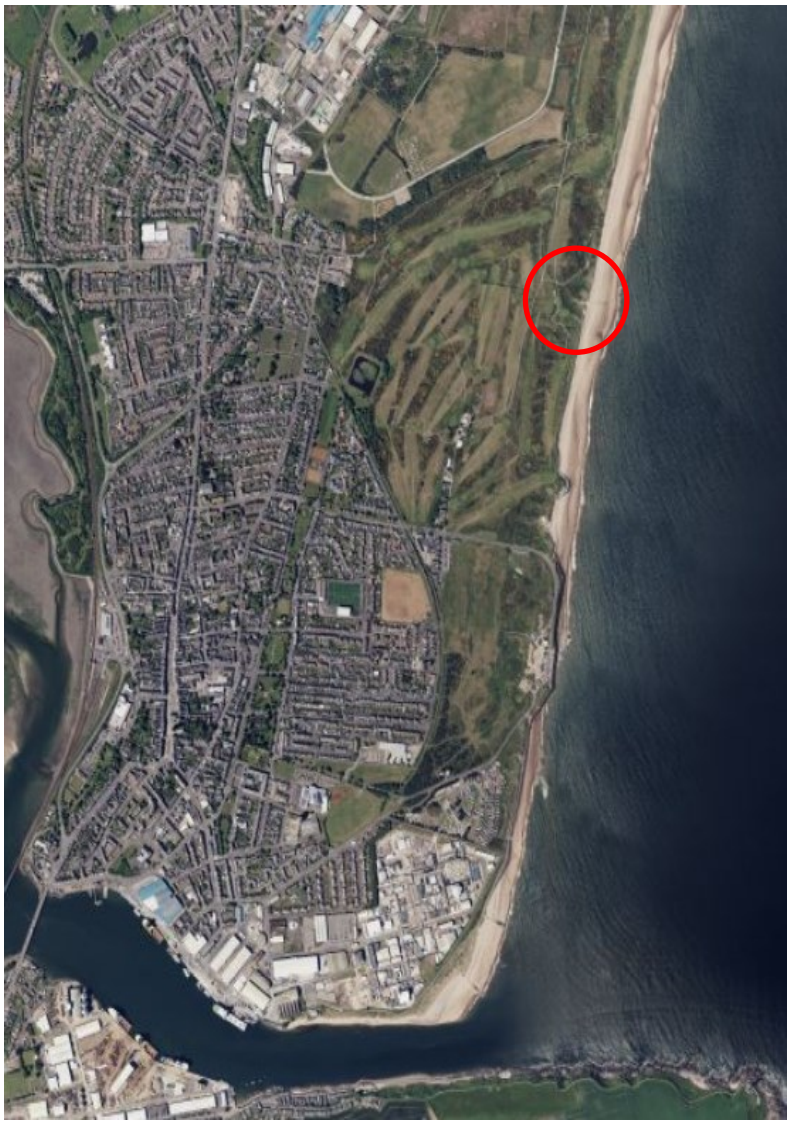


Figure 2-1 Location of the low point within the dunes (© 2023 Microsoft Corporation Earth star Geographics SIO)

Plate 1 is a photograph of the low point in the dunes looking west (inland) from the foreshore towards the golf course. Beyond this specific area, the front of the dunes is generally observed to be a steep drop from the golf course to the foreshore, as demonstrated in **Plate 2**.

Plate 1 Photograph of low point in dunes (as identified in Figure 2-1) looking towards the golf course.

Plate 2 Montrose dune frontage (April 2023)

It is understood that the recently developed potential flood corridor identified in **Figure 2-1** and **Plate 1** has been established through ongoing erosion to the sand dunes in Montrose Bay, likely caused by the increased energy and frequency of storm events that the dunes have been exposed to. In addition, there appears to be a potential

net loss of dune material to the Montrose Bay system (likely from material being washed out of the system at high tide and during storm events), indicating the dunes are unable to replenish over time from coastal processes. Consequently, further coastal erosion in this area could allow for marine flooding of large low-lying land behind the dunes. In time, further loss of dune frontage could lead to an increased risk to properties within Montrose during future storm events.

This is highlighted in the Dynamic Coast's "Adaptation and Resilience Options for Montrose Bay" (CREW, 2021) Report, which stated that large sections of the dunes could be breached by the ocean within the next 30 / 40 years under a 'do nothing' scenario. The report discusses the issues and possible management options at Montrose Bay and as set out within the Angus Council Shoreline Management Plans. The report highlights erosion problems and how these could be dealt with.

A recent example of an event which has accelerated erosion at this location was Storm Babet in October 2023. The storm event partially breached the low-lying area of the dunes and has highlighted this restoration as high importance. The sea breached the low point within the dune, leaving debris visible within the low-lying area behind the dunes, shown in **Plate 3**.

Plate 3 Low lying area of the dunes following Storm Babet (images from Dynamic Coast Storm Babet Briefing)

Angus Council has proposed works that will top up the low-lying area of the dunes with sand and provide a sacrificial frontage to the exposed face of the dunes. The aim of these works is to provide a sustainable solution to protect against further erosion and reduce the risk of a flood corridor being created at this location.

3. Project Description

As detailed in **Section 1.1**, the proposed development comprises four main elements, these include the following and are presented in more detail below:

- Vehicular access to the beach;
- Dune restoration and beach nourishment;
- Construction of groynes; and
- Long term strategy.

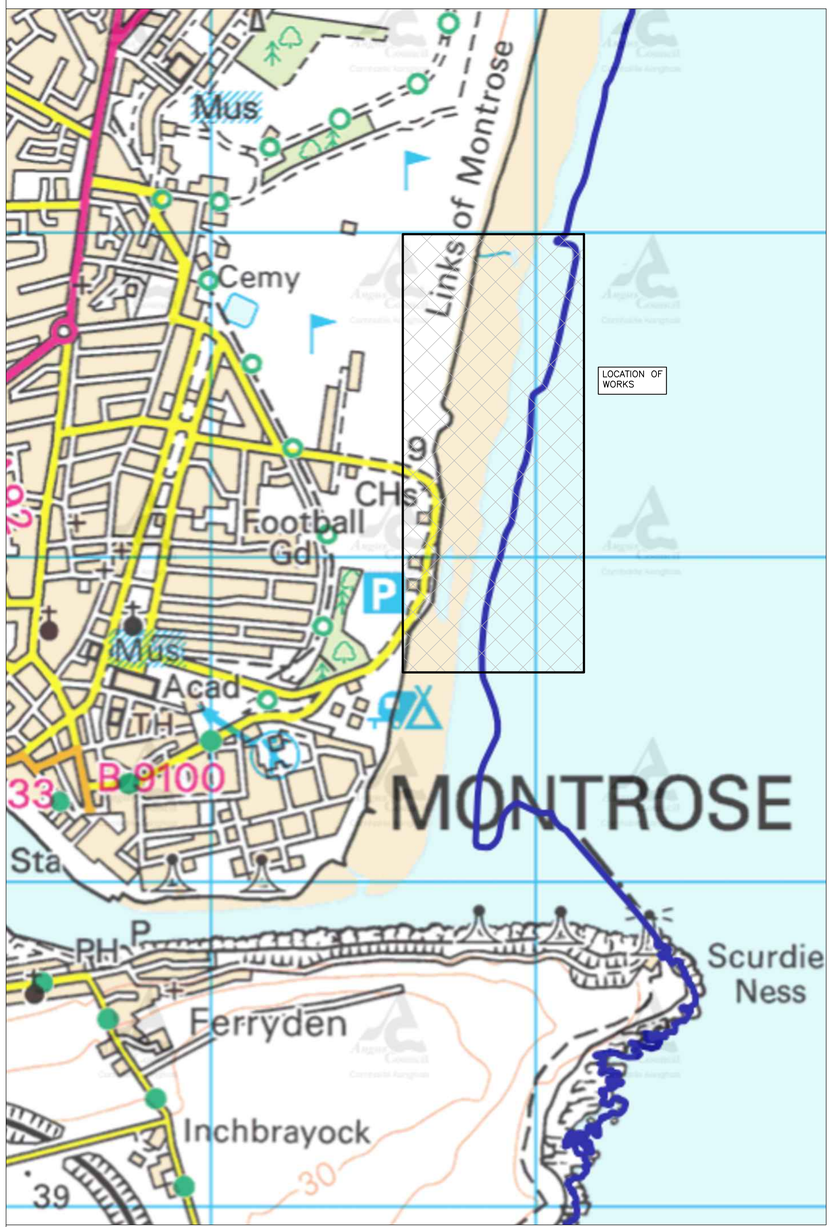
For the purposes of this EIA Screening Request, **Section 3.5** and **Section 3.6** outline the parts of the proposed development that will be carried out below MHWS and below MLWS.

It is also important to note that several different potential sources for the sand material to be deposited are currently under consideration. For the purposes of this Screening assessment, it has been assumed that any source materials used will have been recovered from the marine environment and transported by sea to the proposed development site under existing / separately approved marine dredging licence(s). It has also been assumed that full physico-chemical and biological characterisation of the material to be deposited will be made available by the supplier and compatibility with the receiving location will already have been confirmed. It should be noted that the sand material acquisition does not form part of the project description for which an EIA Screening Request is being sought and therefore no further details are provided on this.

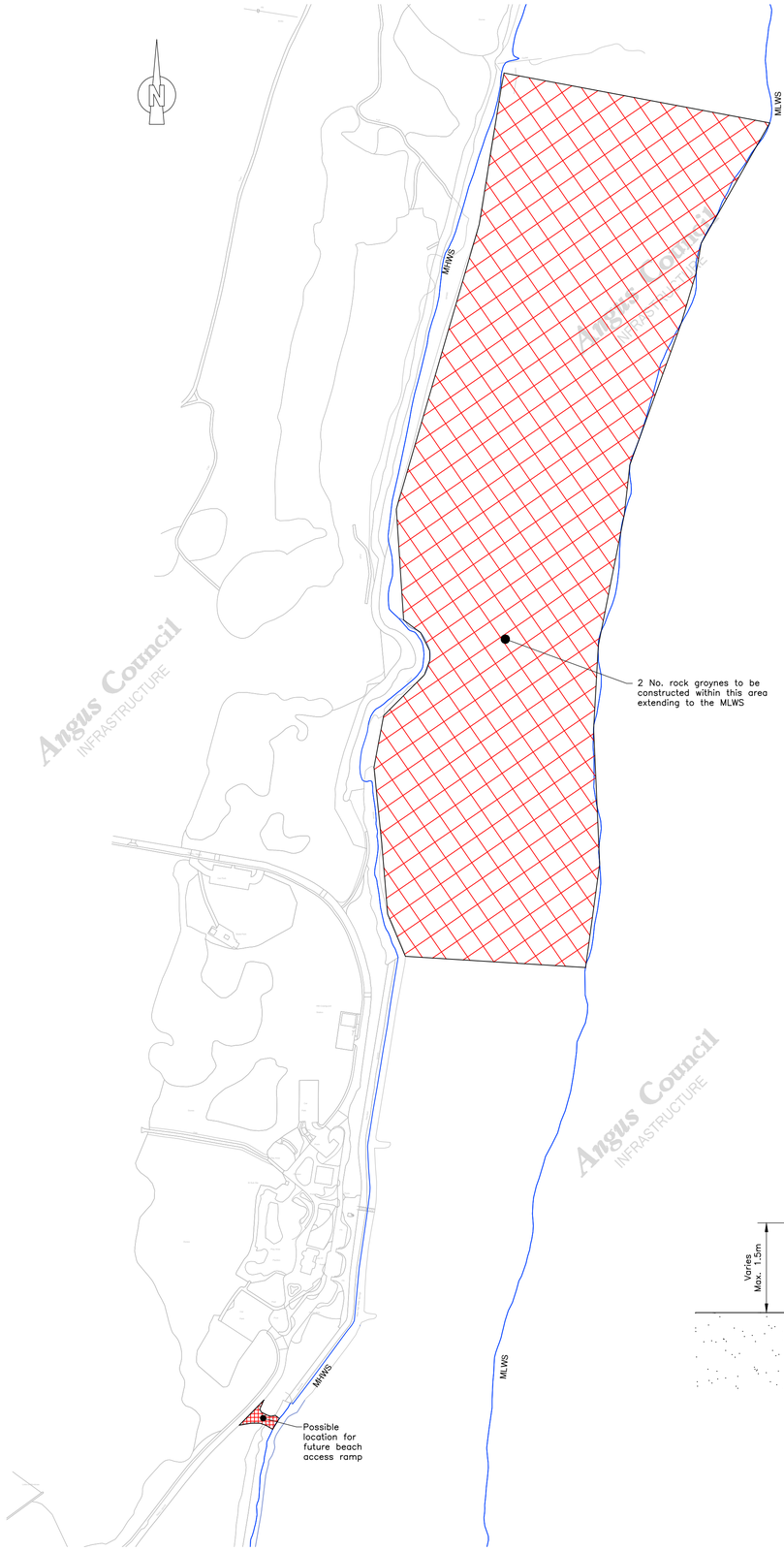
3.1 Vehicular Access to Beach

Construction of a permanent vehicular access giving access to the foreshore from Traill Drive will be required to facilitate the dune restoration and beach nourishment, subsequent top-ups of sand along the dunes and construction and maintenance of the groynes.

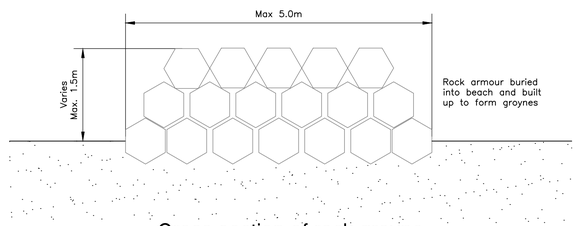
Design options for the access have not been developed but it is intended that the permanent vehicular beach access ramp which can accommodate access to the foreshore by heavy goods vehicles (HGVs) and plant will be created at this location (Grid Reference NO72620 57788) and as shown in Figure 3-1. No permanent access track will be constructed on the beach as vehicles will track along the beach once they exit the access ramp to reach the site of the dune restoration and beach nourishment.



Location Plan



Works location plan



Cross section of rock groyne

NOTES
1. All dimensions are in millimetres unless noted otherwise.
2. Only drawings with "Construction" status may be used for construction purposes.
3. Do not scale off drawings.

Rev	Revision Details	Date	Checked
I1	Cross section of groyne width increased	26.03.24	ED

Project Title
Montrose Coastal erosion

Drawing Title
Proposed Rock Groynes

Issue	: Information		
Project No.	:		
Drawing No.	: 006		
Drawing Size	: A1	Rev	: I1
Drawn By	: D Lucas	Date	: 23.02.24
Checked By	: E Doyle	Date	: 23.02.24
Approved By	: E Doyle	Date	: 23.02.24

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File Path: C:\Users\LucasD\OneDrive - Angus Council\03001033 Montrose Coastal Erosion\02. Design\02.04 Drawings & Specifications\Drawings\Drawing1.dwg

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3.2 Dune Restoration and Beach Nourishment

The phased dune restoration and beach renourishment activities will be focussed on the low-lying area in the dunes adjacent to MHWS, with the beach renourishment activities spanning into the intertidal zone (see **Figure 2-1**). This will feature a two-phase approach. Phase 1 includes the placement of a sacrificial sand material frontage to help the dune restoration to establish itself within the overall dunes prior to being subjected to erosion. Phase 1 also includes partial dune restoration as featured in **Figure 2-1.** Phase 2 includes the subsequent full dune restoration also as featured in **Figure 2-1.**

The two-phase approach shown in **Figure 3-2** will require a large amount of sand to be imported to the site – initially around 50,000m^3 for phase 1 (partial dune restoration) and an estimated further 80,000m^3 of material for phase 2 (full dune restoration)[3]. It should be noted that sand will also be placed along the dune frontage extending beyond the area shown in **Figure 3-2** as part of the longer term management strategy as described in **Section 3.4**.

For the purposes of this Screening assessment, it has been assumed that any sand material used will have been recovered from the marine environment and transported by sea to the proposed development site under existing / separately approved marine dredging licence(s). It has also been assumed that full physico-chemical and biological characterisation of the sand material to be deposited will be made available by the supplier and compatibility with the receiving location will already have been confirmed. As a result, the extraction of the sand material itself is not considered further in this Screening.

The sand material will be transported to the proposed development site by barge or dredger where it will be unloaded using a pumping system. It is assumed that the pumping of material could be a 24/7 operation to make use of the best weather window and tidal states. It is assumed that no anchoring of vessels will take place for the works and that any pumping system used will involve floating pipes that do not drag on the seabed. Supervision on the beach during the material deposition will be required to ensure material is deposited in a suitable area.

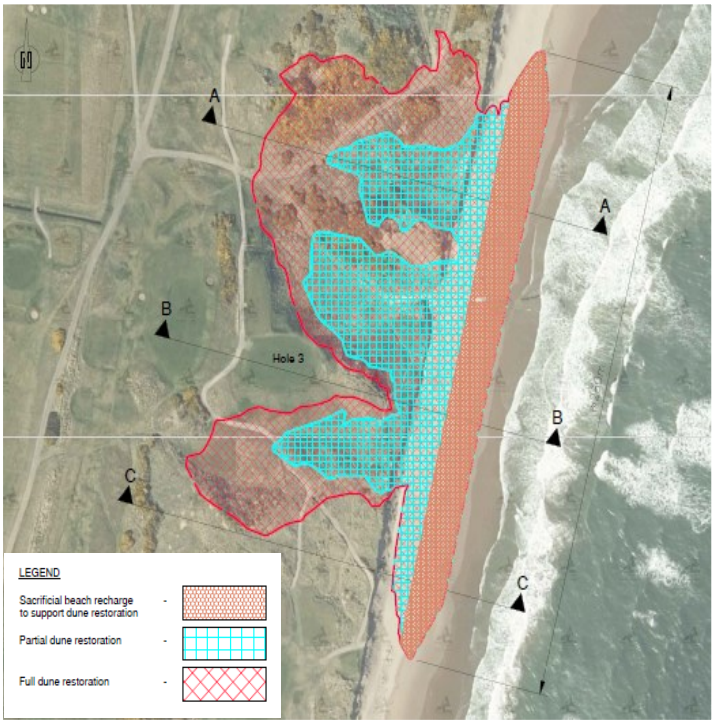


Figure 3-2 Proposed restoration works (Angus Council, n.d.)

All deposited material will be pumped ashore from a barge / vessel positioned in the subtidal marine area adjacent to the site (see **Section 3.5** below for further information) onto the foreshore and will then be moved into place by plant, as required. Depending on the size of the vessel, this could be pumped from as far away as 2 km from the site.

[3] Further topographic survey will be undertaken to ensure that these figures provided by Angus Council are accurate prior to the scheme implementation as the dune topography may have changed along the coastline. However, for the purposes of this Screening these volumes have been relied upon.

3.3 Construction of Groynes

Up to two rock groynes will be constructed perpendicular to the shoreline, extending from the foot of the dunes to approximately MLWS (see **Figure 3-1**). These will seek to limit the movement and loss of sand material from the beach following the dune restoration and beach nourishment.

The two groynes will be constructed from the existing rock armour material which was originally installed as dune toe protection along Montrose Beach around the headland area, but due to erosion of the dunes, is no longer performing its purpose. It should be noted that detailed design of the groynes has not yet been completed. It is anticipated that a sufficient volume of suitable materials can be provided from the existing rock armour on site. The groynes are expected to be located across areas both above MLWS and below MHWS. The indicative dimensions for the groynes are 5 m wide and 1.5 m high.

3.4 Long Term Dune Management and Beach Nourishment Strategy

A long-term (10 year) strategy for dune management and beach nourishment will be required to give the best opportunity for success of this proposed development. This long term dune management and beach nourishment strategy for Montrose Bay is likely to involve depositing top ups (approximately one top up event per year over the 10 year period) of sand material at the low-lying area of dunes described in **Section 3.2**.

Over 10 years, a maximum of 500,000 m^3 of sand material will be deposited above MHWS with up to 200,000 m^3 deposited in any one year. In addition, over a 10-year period, a maximum of 300,000 m^3 of sand material will be deposited below MHWS, with up to 75,000 m^3 deposited within any one year. These quantities include the volume of sand required to carry out the initial dune restoration and beach nourishment outlined in **Section 3.2**.

Deposition of sand material in other areas along the toe of the dunes within the wider area indicated in **Figure 3-3** will help stabilise the wider extent of the dune network and address any areas of weakness that emerge along the dune system. However, location, volume and timing / frequency of such deposits will be dependent on rates of erosion observed following completion of the replenishment works. The extent of sand deposition in the wider area will target the dunes that are eroding most rapidly (see **Figure 3-3**), without extending into the St Cyrus and Kinnaber Links Site of Special Scientific Interest (SSSI) to the north of Montrose Bay (see **Figure 4-1**). The SSSI area has been excluded from the proposed dune restoration and beach nourishment area as the dunes are understood to be more stable in this area and are already protected from disturbance by its SSSI designation. The longer-term strategy for replenishing the dunes should be assumed to require deposition of sand material above and below MHWS.

As with the dune restoration and beach nourishment, the sand material for the long term management will be pumped ashore from a barge / vessel and will then be positioned into place by plant as required.

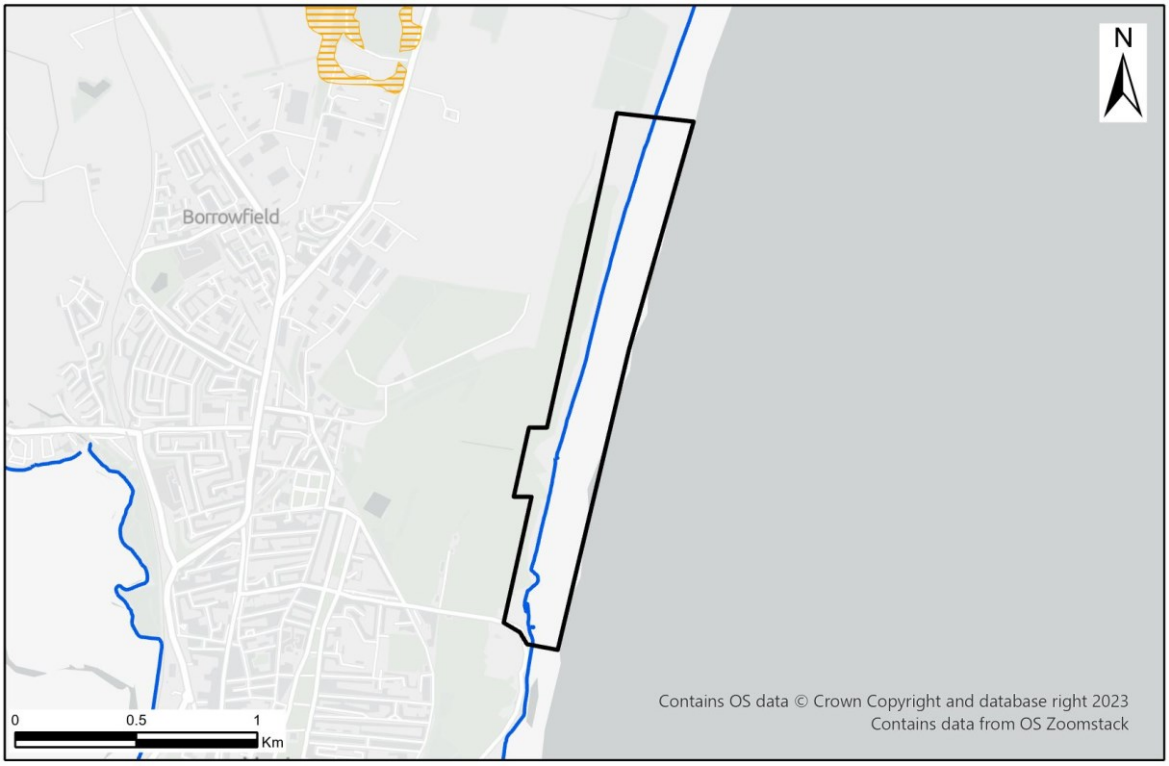


Figure 3-3 Proposed dune restoration and beach nourishment works area (MHWS is depicted by the blue line in the centre of the works area)

3.5 Works below MHWS (intertidal)

All works that are to be carried out below MHWS require a Marine Licence as part of the scheme development. Based on information supplied to AECOM by Angus Council, and GIS information showing MHWS, the project elements that will have some work carried out below MHWS are the dune restoration and particularly the initial beach nourishment, the long-term dune management and beach nourishment, and the construction of the groynes. MHWS in relation to the proposed dune restoration and beach nourishment area can be seen in **Figure 3-3,** where MHWS is shown in blue.

As the situation at the site is constantly changing it is anticipated that a new topographic survey will be carried out and the Project drawings updated accordingly, to finalise the estimates of material volumes, prior to submission of a Marine Licence application. However, the overall estimate of material to be deposited below MHWS (to inform this Screening assessment) is up to 5,000 m^3 during Phases 1 and 2 of the proposed works.

All deposited material will be pumped ashore from a barge / vessel positioned in the subtidal marine area adjacent to the site (see **Section 3.5** below for further information) onto the foreshore and will then be moved into place by plant, as required. Depending on the size of the vessel, this could be pumped from as far away as 2 km from the site.

3.6 Works below MLWS (subtidal)

The rock armour groynes are proposed to extend to around the MLWS so there will be some small volume of these works that extend below MLWS.

The delivery of sand material to shore will involve the use of vessels in the marine environment, along with the presence of vehicles for spreading the sand on the beach (below MHWS).

4. Site and Surrounding Context

This section provides a high-level site characterisation and context. Further information on baseline parameters where relevant to this Screening assessment is provided throughout Appendix A as approrpirate.

4.1.1 Site and Location Description

Montrose is a town located on the Angus Coast in the east of Scotland. The dunes that are proposed for restoration are located on the eastern shoreline of the Montrose Golf Links, within Montrose Bay. Montrose Bay extends north from Scurdie Ness to St Cyrus and is divided by the River South Esk at Montrose Port and the River North Esk by Kinnaber. Montrose town is located adjacent and to the west of the golf course.

The low lying area of the dunes within the site is used by the local community as an informal access point to the beach via the golf course. An alternative access point to the site is via the existing boardwalk at the southern extent of the proposed development (see **Figure 3-1**). The dunes themselves are situated directly above MHWS, with some of the site being located below MHWS (see **Figure 3-3**).

The Angus Shoreline Management Plan SMP2 (Angus Council, 2016) describes the Montrose Golf Links coastal frontage as: '*mainly undefended; apart from the rock strong points which were constructed to provide short term protection to the tees at most risk of erosion. Dune erosion is particularly severe along this frontage and these rock strong points are now at the end of their design life and have become increasingly ineffective.*'

Angus Council Planning Portal was accessed in March 2024 to confirm any existing planning proposals in proximity to the proposed development. The following planning proposal is located in proximity to the proposed development:

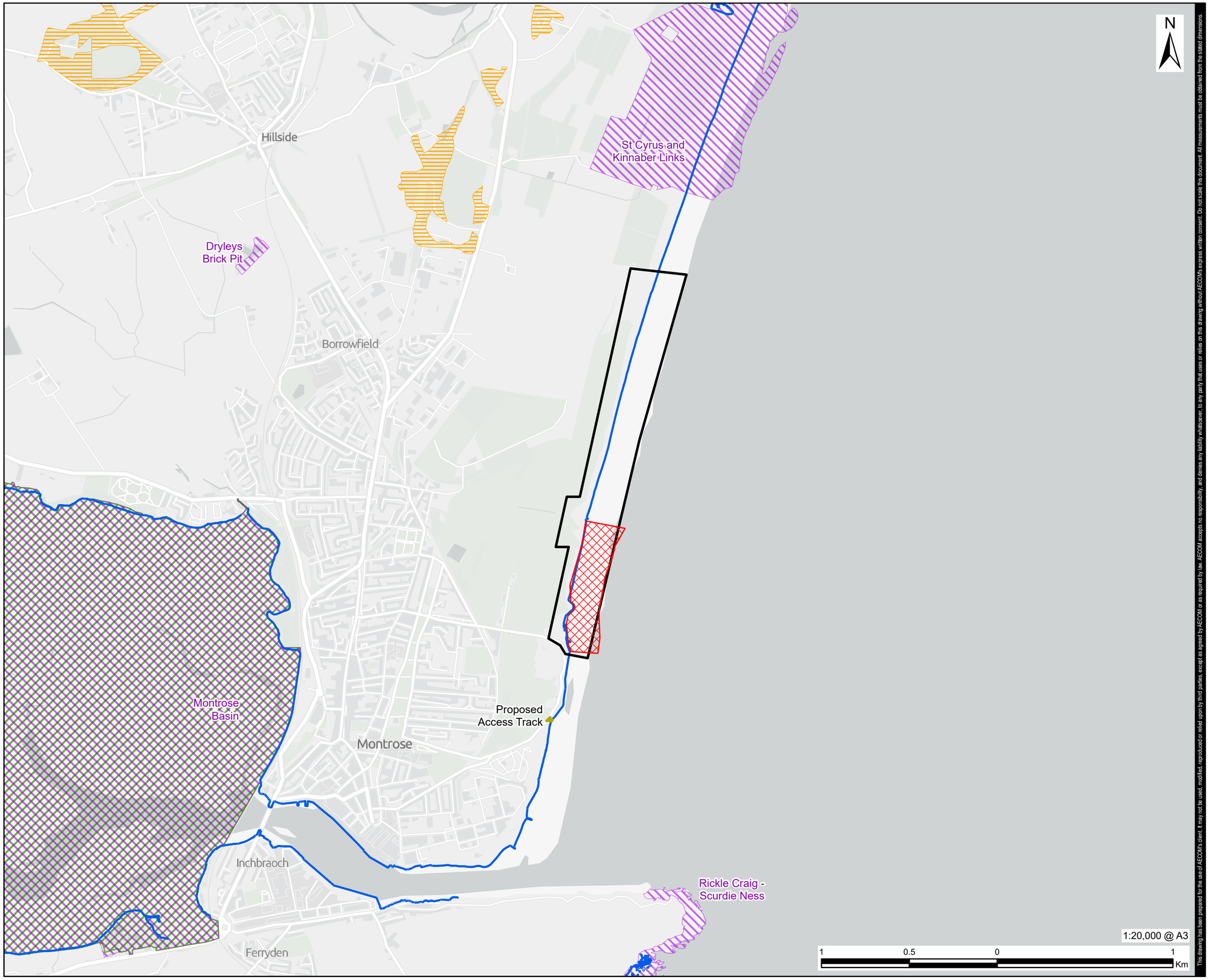
- 23/00859/FULL - Alterations to pharmaceutical manufacturing facility, erection of new external solvent store and new fume stacks with associated steel structure (approximately 800 m south of the proposed development).

With the exception of the above, the planning proposals within the area are largely residential, with the nearest being approximately 500 m from the proposed development.

4.1.2 Natural Heritage

There are no natural heritage designations within the site. The closest designation is St Cyrus and Kinnaber Links SSSI which is approximately 450 m north of the proposed development at its nearest point. Rickle Craig – Scurdie Ness SSSI is also approximately 1.1 km south of the proposed development. An area of ancient woodland (long established – of plantation origin) is located approximately 850 m from the proposed development. **Figure 4-1** below shows the natural heritage designations within proximity of the proposed development.

Revision: 0 Drawn: CB Checked: AR Approved: ## Date: 2024-03-26



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PROJECT

Montrose Coastal Erosion

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LEGEND

Name

- Proposed dune restoration and beach nourishment works area
- Proposed access track
- Proposed location of two rock groynes
- MHWS
- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Ancient Woodland

NOTES

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ISSUE PURPOSE

DRAFT

PROJECT NUMBER

60704877

FIGURE TITLE

Environmental Constraints Map

FIGURE NUMBER

Figure 4-1

A terrestrial ecology desk study was conducted in May 2023 by AECOM, which included summarised results of species records obtained from a data request to North East Scotland Biological Records Centre (NESBReC). In addition, other sources were also consulted including NatureScot SiteLink, NBN Atlas Scotland, NatureScot Natural Spaces, Scotland's Environment, and Amphibian and Reptile Groups UK / Amphibian and Reptile Conservation Record Pool.

There are records of red squirrel *Sciurus vulgaris* associated with the coniferous woodlands near the areas of ancient woodland located approximately 850 m from the proposed development. There are no trees within the proposed development site. The proposed development site is not likely to be important for notable bird species on habitat and disturbance grounds, and there is limited suitability for protected species to occur within the proposed development site. The desk study found habitats listed on Annex I of the Habitats Directive adjacent to the proposed development site:

- Annex I H2110 – Embryonic shifting dunes (runs parallel to the proposed development site);
- Annex I H2120 – Shifting dunes (runs parallel to the proposed development site);
- Annex I H2150 – Decalcified fixed dunes (along the coastline running parallel to the proposed development site);
- Humid dune stands (runs parallel to the proposed development site along the coastline); and
- Unvegetated mobile shingle beaches above the drift line (runs parallel to the proposed development site along the coastline).

There are no marine protected or designated areas within the footprint of the proposed development. The nearest sites designated for marine features are:

- Montrose Basin Special Protection Area (SPA) (approximately 1.5 km west);
- Outer Firth of Forth and St Andrews Bay Complex SPA (approximately 17 km south);
- Firth of Forth Banks Complex Marine Protected Area (MPA) (approximately 22 km east); and
- Fowlsheugh SPA (approximately 23 km north).

There are no designated haul out sites for seals within the Montrose area. In general Montrose does not appear to be an important area for seals (with records showing one instance of a seal hauling out in the area between 2016 -2019)[4], however, individuals could theoretically transit into the site from other nearby sites of importance.

4.1.3 Hydrology

The proposed development site is located directly adjacent to Montrose Bay and includes parts of the intertidal area of the Couts Rock to Scurdie Ness transitional and coastal waterbody (ID 200084). The Scurdie Ness to Deils Head transitional and coastal waterbody (ID 2000078) is situated near to the site across the opening to Montrose Basin. The Montrose Basin transitional and coastal waterbody (ID 200079) and the River South Esk river and lake waterbody (ID 5799) are located approximately 1.5 km west / southwest of the proposed development. The River North Esk river and lake waterbody (ID 5700) is located approximately 1.8 km north of the proposed development. The proposed development is located within a Drinking Water Protection Area (Groundwater) (Montrose bedrock and localised sand and gravel aquifers (ID 150267)).

4.1.4 Cultural Heritage

There are no Listed Buildings, Conservation Areas, or Scheduled Monuments within the proposed development or within the immediate vicinity. There are approximately nine Sites and Monuments Records (SMR) Entries within the proposed development site. However, many of these records are described as having an 'unverified location' or have otherwise not remained in situ. Additionally, no Historic Marine Protected Areas and no historic wrecks are located in the vicinity of the proposed development site.

4.1.5 Landscape

The proposed development is located within Landscape Character Type 388 – Beaches, dunes and links – Tayside, characterised by; gently curving bays backed inland by immediate small scale intimate undulations of sand dunes

[4] Morris, C.D., Duck, C.D.,and Thompson, D. 2021. Aerial surveys of seals in Scotland during the harbour seal moult, 2016-2019. NatureScot Research Report 1256.

which merge into land uses including golf courses and coastal farmland, ever-changing dynamic landscape of shifting sands, erosion and deposition and tidal fluctuation, low open and exposed character, which has strong qualities of seclusion and remoteness.

South East Aberdeenshire Coast Special Landscape Area is located approximately 1.7 km north of the proposed development. Potential visual receptors include users of Montrose Beach, Montrose Golf Links and amenities in proximity to the proposed vehicular access track. The nearest residential properties are located in Montrose, along Whinfield Road, approximately 340 m from the proposed development.

4.1.6 Land Use

Montrose Beach and dunes are valued for their landscape and visual qualities and are frequently used for tourism and recreation. Members of the public can access the areas of beach below MHWS at low tide. Public amenities are located approximately 250 m southwest of the site, in proximity to the proposed vehicular access track, including cafes, playpark, and a car park. The site of dune restoration and beach nourishment is adjacent to the Montrose Golf Links.

4.1.7 Marine Users

Montrose sailing club is located within Montrose Bay approximately 2.3 km west of the proposed development, meaning that it is possible for recreational sailors to be present in the marine environment adjacent to the proposed development.

Montrose Port (the entrance to which is located approximately 1 km south of the proposed development) is one of the world's largest chain and anchor ports that experiences frequent vessel movements for vessels involved with supplying and servicing offshore windfarms and oil rigs in the North Sea, general cargo shipping and cruise ships[5].

It is also understood that the surrounding area likely experiences a high intensity of fishing based off information available on the Montrose Port Authority's website that suggests there are a high number of trawler movements into and from the Port.

[5] Montrose Port Authority, 2024. [Online] Available at: https://montroseport.co.uk/ [Accessed 19 March 2024]

5. Summary and Recommendations

The proposed development seeks to develop and deliver a long-term (10 year) sustainable solution to enhance and protect the existing dune system at Montrose Bay particularly at the existing identified low point in the dunes from further coastal erosion. In addition, the proposed development aims to manage the rate and impact of this coastal erosion to maintain the integrity of the dunes as a natural defence to reduce the flood risk to Montrose Golf Links and properties in Montrose during future storm events.

The proposed development requires to be screened for EIA under the Town and Country Planning (EIA) (Scotland) Regulations 2017 and the Marine Works (EIA) (Scotland) Regulations 2017. This Screening Request is therefore to provide both Angus Council and MD-LOT with necessary information in order to determine whether or not there are likely to be significant environmental effects both above MLWS and below MHWS as a result of the proposed development, which would result in the requirement of an EIA to support subsequent consent applications.

The Screening Criteria within Schedule 3 of both the Town and Country Planning (EIA) (Scotland) Regulations 2017 and the Marine Works (EIA) (Scotland) Regulations 2017, as well as the Scottish Government's Screening Checklist (as provided in Appendix A) were used to provide a systematic assessment of the potential impacts of the proposed development.

Overall, the proposed development is **not** considered likely to result in significant adverse effects on either the terrestrial, or marine environments and therefore it is currently anticipated that an EIA will **not** be required to support any subsequent consent applications.

Systematic evaluation of the known parameters of the proposed development alongside the known environmental characteristics of the site and surrounding has been completed to inform this recommendation following screening checklist and requirements as set out within the EIA regulations. This is documented in full in attached **Screening Checklist.**

In addition, this Screening recommendation has been reached taking account of several embedded mitigation and best practice commitments that have been made. These include:

- The proposed development will ensure that an appropriate level of physico-chemical and biological characterisation of the material to be deposited will be made available by the supplier and compatibility with the receiving location will be confirmed, prior to any deposit made. All relevant marine licencing conditions separately applied to the activity of dredging materials will have been complied with prior to acceptance of any sediment for deposit at the proposed development site.
- A waste management licence or exemption will be secured from SEPA as required for the material deposition at the proposed development site.
- An appropriate Construction Environmental Management Plan (CEMP) (terrestrial and marine) will be developed and implemented for all activities, if required.
- Best practice vessel management procedures, in compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL) and other relevant requirements for marine operations will be developed and implemented for all activities undertaken below MHWS.
- Notice to Mariners will be issued as appropriate to ensure safety of navigation and deconfliction of activities with other sea users at all times.

Appendix A Screening Checklist

Table A-1 EIA Screening Checklist: Characteristics of the terrestrial components (above MHWS) of the proposed development

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(a) Size and design of the development			
Will the proposed development be out of scale with the existing environment?	No	The proposed development seeks to restore low lying areas of the dunes and nourish the existing beach and dune system and as such, will not be out of scale with the existing environment. To carry out the dune restoration and beach nourishment works a permanent vehicular beach access will be constructed. This will allow plant to access Montrose Beach on a temporary basis to move sand material into the required areas. Rock groynes will be constructed primarily from existing material from rock armour currently in situ at the beach at Montrose Bay, though some additional material may be required.	No – this is not likely to result in a significant effect. The works are in keeping with the existing environment and it is assumed that the construction of the rock groynes will primarily use material currently present at Montrose Beach,.
(b) Cumulation with other existing and / or approved development			
Will the proposed development lead to further consequential development or works?	Yes	Routine top up of sand material will likely be required in the long term (10 year period) to ensure the success of the proposed development. Maintenance of the permanent vehicular beach access and groynes may be required in the future.	No – as maintenance works are likely to be minor in comparison to the construction phase activities. The placement of sand material as part of the long term strategy and maintenance of the groynes are not likely to result in a significant effects.
Are there potential cumulative impacts with other existing development, approved developments or developments the subject of valid applications?	No	Cumulative impacts with existing developments are considered unlikely. There are known planning proposals in the area however these are largely residential applications and cumulative impacts (e.g., increased traffic if construction timelines were to overlap) are considered unlikely.	No – the proposed development is not likely to result in significant adverse cumulative impacts. Any potential impacts would be temporary and minor.
Should the application for the proposed development be regarded as an integral part of a more substantial project? If so, can related developments which are subject to separate applications proceed independently?	No	The proposed development is a standalone project in line with the SMP2.	N/A

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(c) Use of natural resources, in particular land, soil, water and biodiversity			
Will the proposed development use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or are in short supply?	Yes	The initial dune restoration and beach nourishment will require approximately 50,000 m^3 and 80,000 m^3 of sand material, respectively. The long term dune management and beach nourishment will deposit up to 500,000 m^3 above MHWS and 300,000 m^3 below MHWS over a ten year period. Rock for the creation of groynes is primarily being taken from the existing site (though some additional material may be required). No materials required for the proposed development are anticipated to be in short supply.	No – sand material for the dune restoration and beach nourishment are considered to be widely available. Only sand material that can be demonstrated to be of appropriate physico-chemical and biological characteristics will be used for beach nourishment. It is assumed for the purposes of this screening that sand material will available under an existing marine licence for a separate dredging activity.
(d) Production of waste			
Will the construction, operation or decommissioning of the proposed development produce wastes?	Yes	The dredged sand material to be placed at the dune restoration and beach nourishment site, will be considered waste by SEPA. For the construction of the permanent vehicular beach access and groynes, waste streams typical with this type of development may be produced (e.g., aggregate waste). The groynes will primarily utilise the existing rock armour that is currently situated on the beach in Montrose Bay, although some additional material may be required. Minor personal waste from construction personnel may also be produced.	No – the proposed development involves re-using material that would be considered waste and any waste generated by the proposed development is considered to be minor in nature. A waste management licence or exemption will be sought as required above MHWS. With appropriate waste management, the scale of waste production in not expected to result in a significant effect.
(e) Pollution and nuisances			
Will the construction, operation or decommissioning phases of the proposed development release pollutants or any hazardous, toxic or noxious substances to the air?	Yes	During the construction phase of the proposed development the transport of vehicles and plant machinery may result in some pollution. Fugitive dust from the construction of the permanent vehicular beach access may be released into the air.	No – considering the scale of the proposed development, and that these impacts will be localised and restricted to the construction phase only, this is not likely to result in a significant effect. Appropriate control measures will be identified in a Construction Environmental Management Plan (CEMP).
Will the construction, operation or decommissioning of the proposed development lead to risk of contamination of land or water from releases of pollutants?	Yes	There is potential for the release of pollutants from plant machinery (e.g., oil leaks), however, mitigation measures will be put in place to reduce the risk of any contamination.	No – this is not likely to result in a significant effect due to mitigation and good construction practice. Appropriate control measures will be identified in a CEMP.
Will the construction, operation or decommissioning phases of the proposed development cause noise, vibration or the release of light?	Yes	Noise and vibration will primarily take place during the construction phases of the proposed development (dune restoration and beach nourishment, construction of the vehicular access and groynes, long term management strategy), which will be periodic and short-lived. However, it is possible that activities to pump dredged material from the vessels to the beach could be a 24/7 operation (as this activity will be dependent on tidal state), meaning that lighting	No – these effects will be temporary and periodic in nature and are unlikely to result in a significant effect. Appropriate control measures will be identified in a CEMP.

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		could be used in hours of darkness, along with noise being generated. In the operation phase the situation will be the same, but occurring less frequently as and when additional recharge is required. It should be noted that any light and noise generating activity will be limited to the period of dune restoration and beach nourishment only, meaning that these impacts would be temporary. The nearest noise receptors are users of Montrose Beach, Montrose Golf Links and the public amenities in proximity to the proposed location for the vehicular access track. Residential properties exist approximately 340 m from the proposed development.	
(f) Risk of major accidents and/or disasters which are relevant to the development concerned, including those caused by climate change, in accordance with scientific knowledge			
Will there be any risk of accidents during construction, operation or decommissioning of the proposed development which could affect the environment or human health?	Yes	There is potential for the release of pollutants from plant machinery (e.g., oil leaks) or accidents to occur. Works will be subject to risk assessments and best practice mitigation which will largely reduce the chances of these events happening and would greatly reduce the magnitude in the event that a spill or accident did occur.	No – due to mitigation and risk assessment it is considered that effects would be extremely small in nature and are unlikely to occur. Appropriate control measures will be identified in a CEMP.
(g) Risk to human health			
Will the construction, operation or decommissioning phases of the proposed development involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health?	No	None of the substances or materials required to facilitate the various phases of the proposed development are considered to be harmful to human health.	No – this is not likely to result in a significant effect.

Table A-2 EIA Screening Checklist: Characteristics of the terrestrial components (above MHWS) of the proposed development

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(a) Existing and approved land use			
Are there existing and / or approved land uses in the locality of the proposed development site which could be affected by the proposed development?	Yes	The proposed development area predominantly encompasses Montrose Beach which is publicly accessible. It also extends west to encompass part of Montrose Golf Links.	No – the proposed development aims to address ongoing coastal erosion of the dunes along the frontage north of Montrose Golf Links in Montrose Bay. Temporary disruption to the Montrose Golf Links and the beach may occur during the placement of sand for the purposes of health and safety.
(b) Relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground			
Are there any areas on or around the location of the proposed development and its underground which contain important, high quality or scarce resources which could be affected by the proposed development?	Yes	The proposed development is located on a Drinking Water Protection Area (Groundwater).	No – it is not anticipated that deep excavation or pollution pathways will be created as part of the proposed development.
(c) Absorption capacity of the natural environment			
Are there any areas on or around the application site that are protected under international or national legislation for their ecological, landscape, cultural heritage or other value which could be affected by the construction, operation or decommissioning of the proposed development?	No	There are no protected areas within the proposed development, with the exception of nine Sites and Monuments Records Entries. The following are within 5 km of the proposed development: Natural Heritage Designations: • ~450 m north: St Cyrus and Kinnaber Links SSSI [1468] • ~1.1k m southeast: Rickle Craig – Scurdie Ness SSSI [1351] • ~850 m west: area of ancient woodland (of plantation origin) • ~1.5 km west: Montrose Basin SPA [8548] • ~1.5 km west: Montrose Basin Ramsar site [UK13046] • ~1.5 km west: Montrose Basin SSSI [1184] • ~1.5 km west: Montrose Basin Local Nature Reserve • ~2 km north: St Cyrus National Nature Reserve (part of St Cyrus and Kinnaber Links SSSI) Scheduled Monuments: • ~1.7 km north: Little Kinnaber, palisaded enclosure (SM6102) • ~1.8 km north: Fisherhills, fort (SM6103)	No – many of the SMR entries are described as having an 'unverified location' or have otherwise not remained in situ. Any potential impacts will largely take place during the construction period and will therefore be temporary. Due to the distance from the proposed development of the remaining designations and the nature of the works, this is not likely to cause a significant effect.

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		• ~1.8 km north: Fishermills, barrow cemetery (SM6104) • ~2.4 km west: Dubton, unenclosed settlement (SM6133) • ~2.4 km west: Dryleys, souterrain (SM6134) • ~2.6 km west: Hillside, barrow and settlement (SM 6135) • ~2.8 km west: Newbigging, ring ditches (SM6101) • ~2.8 km west: Dubton, unenclosed settlement (SM6132) • ~3.1 km west: Newbigging, unenclosed settlement and palisaded enclosure (SM6099) • ~3.3 km west: Newbigging, enclosures, ring ditches (SM6100) • ~3.7 km west: Dun, Roman camp, prehistoric settlement and enclosure (SM4376) • ~4 km west: Pugeston, unenclosed settlement (SM6098) • ~4.3 km west: Gilrivie, unenclosed settlement (SM6095) • ~4.3 km west: Langleypark, enclosure and barrow (SM6097) • ~4.3 km southwest: Denhead Cottage, enclosure (SM6237) • ~5 km southwest: Maryton Law, cairn (SM2873) Conservation Areas: • ~390 m west: Montrose Conservation Area (CA541) • ~ 1.2k m south: Ferryden Conservation Area (CA531) Gardens and Designed Landscapes: • ~2.5 km southwest: Craig House (GCL00110) • ~3.9 km southwest: Dunninald (GDL00159) Listed Buildings: • There are numerous listed buildings in Montrose and the surrounding area. The nearest listed building to the proposed development is ~175m south of the dune restoration and beach nourishment works area.	

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		SMR Entries: • There are approximately nine records within the proposed development site and numerous within the surrounding area.	
Are there any other areas on or around the location which are important or sensitive for reasons of their ecology which could be affected by the proposed development? Particular attention should be paid to the following areas: • wetlands, riparian areas, river mouths; • coastal zones and the marine environment; • mountain and forest areas; • nature reserves and parks.	Yes	The proposed development is located within a coastal and marine environment. However, the purpose of the proposed development is dune restoration and beach nourishment which will allow natural processes to continue unhindered, while protecting inland areas from coastal water intrusion.	No – due to the nature of the works and purpose of the proposed development, this is unlikely to result in a significant effect.
Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora which could be affected by the proposed development?	Yes	Red squirrel *Sciurus vulgaris* are likely to occur in plantations in the general area, with records associated with the coniferous woodlands near the area of ancient woodland found within 1 km of the proposed development. Annex I Habitats are located adjacent to the proposed development.	No – as records of red squirrel are associated with woodland outside the proposed development, this is not likely to result in a significant effect. The dune restoration and beach nourishment work will not extend into the areas of Annex I Habitats located adjacent to the site. The aim of the long term management strategy is to place sand material along the toe of the dunes which will help to protect Annex I Habitats.
Are there any groundwater source protection zones or areas that contribute to the recharge of groundwater resources which could be affected by the proposed development?	Yes	The proposed development is with a Drinking Water Protected Area (Groundwater).	No – it is not considered to have a significant effect as it is unlikely that the proposed development will affect the existing groundwater recharge. It is anticipated that no deep excavation or pollution pathways will be created.
Are there any areas on or around the location of the proposed development where environmental quality standards are already exceeded which could be affected by the proposed development?	No	No such areas identified.	N/A
Are there any areas on or around the location which are densely populated which could be affected by the proposed development?	No	The proposed development is located at Montrose Beach, adjacent to the Montrose Golf Links. The golf course separates the proposed development from residential properties in Montrose.	No – due to the distance from residential properties and the buffer provided by the golf course, this is not likely to result in significant effect.
Is the proposed development in a location where it is likely to be visible to many people?	Yes	The Montrose Beach and Montrose Golf Links are well used. The area to be constructed as permanent vehicular beach access is also in relative proximity to residential properties and public amenities.	No – due to the nature of the proposed development, any potential impacts will largely take place during the construction period and will therefore be temporary. This is not likely to result in significant effect.
Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the proposed development?	Yes	The Montrose Beach and Montrose Golf Links are well used. The area identified for dune restoration is used as an informal access track from the track around the golf course to the beach. This area is a low lying area in the	No – as Montrose Beach will remain accessible via designated accesses this is not likely to result in a significant effect.

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		dunes, and connects to the existing golf course track. It is one of few access points to the beach, albeit informal. During construction and following the deposition of sand material in the low lying area of the dunes, the access to the beach from the golf course track will be inaccessible, resulting in long-term impacts. During installation of the groynes, pumping of sand material, and construction on the beach some areas of the beach may be temporarily closed to the public.	
Are there any areas of local landscape or scenic value on or around the location which could be affected by the proposed development?	No	There are no such areas which could be affected by the proposed development, however it is noted that the South East Aberdeenshire Coast Special Landscape Area is located ~1.7 km north.	No – due to the nature and size of the proposed development, this is not likely to result in a significant effect.
Are there any areas of features of historic, cultural or archaeological value on or around the location which could be affected by the proposed development?	No	Areas of value in proximity to the proposed development are detailed above in **Section (c)** of this table.	No – many of the SMR entries are described as having an 'unverified location' or have otherwise not remained in situ. Any potential impacts will largely take place during the construction period and will therefore be temporary. Due to the distance from the proposed development of the remaining designations and the nature of the works, this is not likely to cause a significant effect.
Is the proposed development location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions?	Yes	The dune restoration area and the wider Montrose Beach are susceptible to coastal erosion and the low lying area of the dunes is a flood pathway to Montrose Golf Links. However, the purpose of the proposed development is to restore the dunes and replenish the beach to alleviate erosion issues and reduce the risk of a flood corridor being created in this location.	No – once the proposed development has been completed, effects are likely to be positive as the area will be less susceptible to coastal erosion. As the changes are being implemented over a relatively limited spatial area it is not considered at this stage that effects would be significant.

Table A-3 Characteristics of the potential terrestrial impacts (above MHWS)

Characteristics of the Potential Impact	Briefly Describe
(a) Magnitude and special extent of the impact (for example geographical area and size of the population likely to be affected)	
Will the effect extend over a large geographical area, affecting many people and resulting in social changes, e.g. in demography, traditional lifestyles, employment?	No - although the benefits of the proposed development will likely extend to a wide number of individuals (residents of Montrose who will benefit from the removal of a potential flood corridor), the geographical extent of effects from the actual construction and operational activities will be limited to the area in which the dune restoration and beach nourishment activities are occurring. For the terrestrial elements of the proposed development (areas above MLWS), employment of subcontractors will be periodic and restricted to the construction phase and periodic times of activity in the operational phase. Effects from the terrestrial elements of the proposed development will therefore be long lasting but are unlikely to result in changes to social aspects of the area.
(b) Nature of impact	
Is the development located within or close to any other areas which are protected under international, EU, or national or	The nearest designated sites are: • St Cyrus and Kinnaber Links SSSI (approximately 400 m north);

Characteristics of the Potential Impact	Briefly Describe
local legislation for their ecological, landscape, cultural or other value, which would be significantly affected by the development?	• Rickle Craig – Scurdie Ness SSSI (approximately 450 m south); • Area of ancient woodland (approximately 850 m); • Nine SMR entries are within the proposed dune restoration and beach nourishment area; • Listed Buildings and Montrose Conservation Area are in proximity to the proposed dune restoration and beach nourishment area and vehicular access track; and • South East Aberdeenshire Coast SLA (approximately 1.7 km north). Examples of certain dune habitats listed on Annex I of the Habitats Directive are located adjacent to the proposed development, but not within the proposed development. Placement of materials within the proposed development is not anticipated to have a direct effect on these identified Annex I habitats. The proposed development is not likely to be important for notable bird species on habitat and disturbance grounds, and there is limited suitability for protected species to occur within the proposed development. There is unlikely to be direct potential impacts on these sites. The proposed development has negligible value for the mobile interests of nearby European sites. Any potential impact to designated sites will be managed through mitigation and best practice measures.
(c) Transboundary nature of the impact	
Will there be any potential for transboundary impact?	No – due to the minor scale and nature of the works, any terrestrial impacts are not considered great enough to result in effects occurring outside of the proposed development. Therefore, no transboundary impacts will occur.
(d) Intensity and complexity of the impact	
Is there a risk that environmental standards will be breached?	No – all environmental standards will be adhered to and it is assumed that any dredged sand material utilised for the dune restoration and beach nourishment elements of the proposed development will be suitable for disposal on land.
(e) Probability of the impact	
Is there a high or low probability of a potentially highly significant effect?	Low probability.
(f) Expected onset. duration, frequency and reversibility of the impact	
Will the effect be permanent, continuous or irreversible?	Impacts to the terrestrial environment from the dune restoration and beach nourishment works are expected to be temporary and limited to the construction phase of the proposed development. During, and following completion of the works, the informal access from Montrose Golf Links to Montrose Beach via the low point in the dunes will no longer be accessible. However, Montrose Beach will still be accessible via the proposed vehicular access and existing pedestrian access ramp.
(g) Culmination of the impact with the impact of other existing and/or approved development	
Will the Project have cumulative effects, due to its proximity to other existing or planned Projects with similar effects?	It is not anticipated for potential cumulative impacts to arise because of the proposed development. There are known planning proposals in the area though any cumulative impacts are considered unlikely.
(h) Possibility of effectively reducing the impact	
Will there be any significant adverse effects on any aspect of the environment during the construction and operational phases of the development, has the developer included	A CEMP will be implemented and through best practice construction measures implemented during construction, potential risks commonly associated with development, such as pollution, will be mitigated. If these measures are adhered to, it is not considered that no significant adverse effects will arise due to the temporary nature of all identified impacts.

Characteristics of the Potential Impact	Briefly Describe
mitigation measures to avoid, prevent, repair or reduce the potential impact?	

Table A-4: EIA Screening Checklist: Characteristics of the marine components (below MHWS) of the proposed development

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(a) Size and design of the development			
Will the proposed development be out of scale with the existing environment?	No	The works planned below Mean High Water Springs (MHWS) involves the introduction of dredged sand material to restore the dunes and nourish the beach with the intention of removing the potential flood pathway to Montrose town. The only new structures proposed below MHWS are the groynes, which aim to re-use existing rock armour present on the beach meaning that these structures will be in keeping with the existing environment. There will be temporary disruption to the marine environment through the presence of construction vessels and equipment to facilitate the works, but this disruption will be short-lived. As a result, the proposed development will not be out of scale with the existing environment.	No –changes from the existing baseline conditions comprise the additional sand material will be present following the works, and two new groynes will be added to the site. As outlined in the previous column, this will be in keeping with the scale of the existing environment.
(b) Cumulation with other existing and / or approved development			
Will the proposed development lead to further consequential development or works?	Yes	Routine top-up of sand material will likely be required periodically in the long term (approximately once every year over a 10 year period) to ensure the success of the proposed development (i.e. there will be periodic addition of sediment throughout the operation phase). Additionally, occasional maintenance of the groynes may be required, but this is considered to be an infrequent and minor activity.	No – the only change below MHWS will be the periodic increase of additional sand material to facilitate the ongoing restoration of this stretch of the coastline and the creation of two groynes which will have minimal maintenance requirements.
Are there potential cumulative impacts with other existing development, approved developments or developments the subject of valid applications?	No	It is not anticipated for potential cumulative impacts to arise as a result of the proposed development. Review of the North Sea Transition Authority (NSTA)'s offshore activity viewer[6] online tool does not show the presence of any nearshore or offshore infrastructure within approximately 40 km of the proposed development (such as pipelines, subsea cables, offshore wells, hydrocarbon fields, or petroleum licences). It is acknowledged that there is an approved licence for the ongoing maintenance dredging at the nearby Montrose Port. However, it is not considered that any cumulative effects would arise from impacts such as underwater noise, or the generation of sediment plumes due	No - effects for both projects are considered to be localised and limited temporally.

[6] NSTA, n.d. NSTA Open Data [Online] Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=f4b1ea5802944a55aa4a9df0184205a5 [Accessed 12 March 2024]

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		to the distance between the two projects. Any sediment plume from the proposed development is considered to be extremely minor in nature and limited to the remobilisation of sediment only from the beach nourishment site during high tide. Both projects are therefore considered to result in highly localised effects that are extremely short term (limited to durations of activity only).	
Should the application for the proposed development be regarded as an integral part of a more substantial project? If so, can related developments which are subject to separate applications proceed independently?	No	No, the proposed development is a standalone project in line with the SMP2. It is assumed that dredged material to be used for dune restoration and beach nourishment activities will be obtained from a dredging site that already has a marine licence in place for this activity. The dredging aspect is an entirely separate project and as it will already have relevant licences in place, it is not considered further in this screening.	N/A
(c) Use of natural resources, in particular land, soil, water and biodiversity			
Will the proposed development use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or are in short supply?	Yes	The phase of the works taking place below MHWS in the marine environment is the beach recharge and nourishment work will require approximately 50,000 m^3 and 80,000 m^3 of sand material to be pumped ashore. This sand material is not within short supply. Rock for the groynes will be taken from the existing site and re-used. No other materials required for the proposed development are anticipated to be in short supply.	No - materials for the dune restoration and beach nourishment are considered to be widely available.
(d) Production of waste			
Will the construction, operation or decommissioning of the proposed development produce wastes?	No	For the construction phase of the proposed development, dredged material (obtained under a marine licence granted separately) will be used as the substrate for dune restoration and beach nourishment. This dredged material itself is considered to be classified as waste by SEPA and it is understood that a marine licence may be required for the deposition and spreading out of the sand. However, it is assumed that for any material obtained, full physio-chemical and biological characterisation of the sand material will be made available by the supplier and compatibility with the receiving location will already have been confirmed. No other aspect of the proposed development is considered to generate waste other than the minor personal waste from construction staff on board marine vessels.	No – the proposed development involves re-using waste material and any waste generated specifically by the proposed development is considered to be minor in nature.
(e) Pollution and nuisances			
Will the construction, operation or decommissioning phases of the proposed	Yes	Pollutants are likely to be released into the air due to the use of marine vessels to facilitate the beach recharge and nourishment. Additionally, it is likely that plant and possibly vehicles will be	No – impacts will be temporary and localised.

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
development release pollutants or any hazardous, toxic or noxious substances to the air?		required on the beach to facilitate the construction of the two groynes. It is not anticipated that large numbers of vessels, vehicles, or plant will be used, and impacts will be extremely localised.	Appropriate control measures will be identified in a CEMP which will cover all proposed activities, both terrestrial and marine.
Will the construction, operation or decommissioning of the proposed development lead to risk of contamination of land or water from releases of pollutants?	Yes	There is potential for pollution spills to occur in the marine environment as a result of the use of marine vessels, vehicles, and plant to facilitate the proposed works. Additionally, spills occurring above MHWS could leach into the marine environment. However, it appropriate control measures for avoiding pollution incidents will be identified in a CEMP. This will reduce the likelihood of a spill occurring and to reduce the magnitude should one occur. Additionally, it is assumed that for any material obtained, full physio-chemical and biological characterisation of the sand material will be made available by the supplier and compatibility with the receiving location will already have been confirmed. In addition to best practice mitigation, it should be ensured that no materials or equipment (other than dredged material suitable for disposal at sea) are stored below MHWS to reduce the change of pollution in the marine environment. It is assumed that all vessels will follow the International Regulations for Preventing Collisions at Sea 1971 (COLREGS) and International Convention for the Safety of Life at Sea 1974 (SOLAS). It is also assumed that all vessels used for the proposed development will be in compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL) regulations.	No – any effects will be minimal and localised. Appropriate control measures will be identified in a CEMP which will cover all proposed activities, both terrestrial and marine.
Will the construction, operation or decommissioning phases of the proposed development cause noise, vibration or the release of light?	Yes	It is likely for some noise and vibration to be generated in the marine environment from the use of marine vessels. Noise and vibration will be limited to the periods of beach recharge and nourishment only, which will be periodic and short-lived. However, it is possible that activities to pump dredged material from the vessels to the beach could be a 24/7 operation (as this activity will be dependent on tidal state), meaning that lighting could be used in hours of darkness, along with noise being generated. In the operation phase the situation will be the same, but occurring less frequently as and when additional recharge is required. It should be noted that any light and noise generating activity will be limited to the period of dune restoration and beach nourishment, meaning that these impacts would be temporary.	No – the generation of noise and vibration will be temporary and periodic in nature.
(f) Risk of major accidents and / or disasters which are relevant to the development concerned, including those caused by climate change, in accordance with scientific knowledge			
Will there be any risk of accidents during construction, operation or decommissioning of the proposed development which could affect the environment or human health?	Yes	Vessels will be used in the marine environment, which poses a small risk of accidents (e.g. collision with other vessels, or coastline) and also a risk of pollution spills. Additionally, construction plant above MHWS could result in spills that could leach into the marine environment. Both works above and below MHWS will be subject to	No - due to mitigation and risk assessment it is considered that effects would be extremely small in nature and are unlikely to occur.

Characteristics of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		risk assessments and best practice mitigation which will largely reduce the chances of these events happening and would greatly reduce the magnitude in the event that a spill or accident did occur. Due to the possible fishing activity in the surrounding waters, and the likely high number of vessel movements to and from the nearby Montrose Port, it is recommended for Notice to Mariners (NtM) to be issued ahead of the works occurring to reduce the likelihood of a vessel collision with the vessels undertaking the dune restoration and beach nourishment.	
(g) Risk to human health			
Will the construction, operation or decommissioning phases of the proposed development involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health?	No	None of the substances or materials required to facilitate the various phases of the proposed development are considered to be harmful to human health. Any dredged material to be used for dune restoration and beach nourishment is assumed to have full physio-chemical and biological characterisation of the sand material made available by the supplier and compatibility with the receiving location will already have been confirmed.	No – all dredged material to be used in the marine environment is assumed to be safe for disposal at sea.

Table A-5 EIA Screening Checklist: Location of the marine components (below MHWS) of the proposed development

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(a) Existing and approved land use			
Are there existing and/ or approved land uses in the locality of the proposed development site which could be affected by the proposed development?	No	Review of the NSTA's Offshore Activity viewer[7] online tool does not show the presence of any nearshore or offshore infrastructure within approximately 40km of the proposed development (such as pipelines, subsea cables, offshore wells, hydrocarbon fields, or petroleum licences). It is acknowledged that there is an approved licence for the ongoing maintenance dredging at Montrose Port, but this is suitably far from the proposed development to avoid effects on this activity or the port in general from the proposed works. It is recommended that NtM is issued ahead of the works taking place to reduce the likelihood of any conflict occurring between vessels passing in and out of the port, and the vessels undertaking dune restoration and beach nourishment.	No – it is not expected for the proposed development to affect any other ongoing existing, or approved activities within the marine environment.

[7] NSTA, n.d. NSTA Open Data [Online] Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=f4b1ea5802944a55aa4a9df0184205a5 [Accessed 12 March 2024]

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(b) Relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground			
Are there any areas on or around the location of the proposed development and its underground which contain important, high quality or scarce resources which could be affected by the proposed development?	No	Review of the NSTA's Offshore Activity viewer[8] online tool does not show the presence of any offshore wells, hydrocarbon fields, or petroleum licences within 40 km of the proposed development.	N/A
(c) Absorption capacity of the natural environment			
Are there any areas on or around the application site that are protected under international or national legislation for their ecological, landscape, cultural heritage or other value which could be affected by the construction, operation or decommissioning of the proposed development?	No	There are no marine protected or designated areas within the footprint of the proposed development. The nearest sites designated for marine features are: • Montrose Basin Special Protection Area (SPA) (approx. 1.5 km west); • Outer Firth of Forth and St Andrews Bay Complex SPA (approx. 17 km south); • Firth of Forth Banks Complex Marine Protected Area (MPA) (approx. 22 km east); and • Fowlsheugh SPA (approx. 23 km north). These designated sites listed above are considered to be located too far from the proposed development for any connectivity to lead to significant effects. However best practice measures for working in the coastal environment (when considering the possible presence of coastal birds) will be adhered to. It should also be noted that there are no designated haul out sites for seals within the Montrose area. In general Montrose does not appear to be an over important area for seals (with records showing one instance of a seal hauling out in the area between 2016 -2019)[9], however, individuals could theoretically transit into the site from other nearby sites of importance.	No - due to the distance from the proposed development to these sites and considering the nature of the works, this is not likely to cause a significant effect.
Are there any other areas on or around the location which are important or sensitive for reasons of their ecology which could be affected by the proposed development? Particular attention should be paid to the following areas: (i) wetlands, riparian areas, river mouths; (ii) coastal zones and the marine environment; (iii) mountain and forest areas;	No	The proposed development involves undertaking works within the marine environment. However, the purpose of the proposed development is dune restoration and beach nourishment which will allow natural processes to continue unhindered, while protecting inland areas from coastal flooding. The only new structures proposed below MHWS are two groynes, which re-use existing rock armour present on the beach, however these are not being placed in areas considered to be sensitive for ecological reasons.	No – due to the nature of the proposed works and the distance from any important or sensitive marine sites no significant effects are anticipated.

[8] NSTA, n.d. NSTA Open Data [Online] Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=f4b1ea5802944a55aa4a9df0184205a5 [Accessed 12 March 2024]
[9] Morris, C.D., Duck, C.D.,and Thompson, D. 2021. Aerial surveys of seals in Scotland during the harbour seal moult, 2016-2019. NatureScot Research Report 1256.

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
(iv) nature reserves and parks.		Works in the construction and operation phases are temporary. No works are taking place directly within an area designated for marine features (the closest site designated for marine features is Montrose Basin SPA located approximately 1.5 km west of the proposed development).	
Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora which could be affected by the proposed development?	Yes	The nearest site designated for marine environmental features is the Montrose Basin SPA which is designated for a variety of marine bird species. However, this is situated approximately 1.5 km west of the site and it is not considered that disturbance to this site or its features will take place as a result of the works proposed in the marine environment.	No – due to the temporary nature of the works and mitigation measures that will be implemented to avoid adverse effects on bird species, no significant adverse effects are anticipated.
Are there any groundwater source protection zones or areas that contribute to the recharge of groundwater resources which could be affected by the proposed development?	No	There are no groundwater source protection zones or areas that contribute to the recharge of groundwater resources located within the area of marine works (below MHWS).	N/A
Are there any areas on or around the location of the proposed development where environmental quality standards are already exceeded which could be affected by the proposed development?	No	No such areas have been identified.	N/A
Are there any areas on or around the location which are densely populated which could be affected by the proposed development?	Yes	The proposed development involves undertaking works in the marine environment at Montrose Bay adjacent to the Montrose Golf Links. The golf course separates the proposed development from residential properties in Montrose. However, it is not considered that works being undertaken in the marine environment will result in adverse effects on these residential areas due to the distance between them. It is likely that as a result of the marine works this will benefit the residential properties and residents in Montrose as it will avoid the need to transport dredged sand material through the town, allowing it to arrive via marine vessels instead which is likely to result in less disruption. This will also facilitate the proposed development to happen more easily, for which the aim is to remove the potential flood pathway to Montrose town where the properties and residents are based.	No – due to the distance between the works occurring in the marine environment and the populated areas, no significant adverse effects are expected.
Is the proposed development in a location where it is likely to be visible to many people?	Yes	The proposed development involves undertaking works in the marine environment adjacent to the beach at Montrose Bay, which is also adjacent to the Montrose Golf Links. The use of marine vessels and vehicles on the beach to undertake the proposed works is likely to be easily visible by any beach users and golf course users. However, the vessels will be present temporarily only whilst the beach recharge and nourishment works take place.	No – due to the temporary nature and scale of the works this is not anticipated to result in a significant adverse effect.

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the proposed development?	Yes	Members of the public could utilise areas of the beach below MHWS for recreational purposes. For example, beach users at low tide can easily access the area. Additionally, Montrose sailing club is located within Montrose Bay approximately 2.3 km west of the proposed development, meaning that it is possible for recreational sailors to be present in the marine environment adjacent to the proposed development. As a result, during the works members of the public could be temporarily disturbed and excluded from these areas temporarily during hours of works activity.	No – any exclusion from publicly accessible areas will be temporary and limited to times of specific activities only. As a result, significant effects are not expected.
Are there any areas of local landscape or scenic value on or around the location which could be affected by the proposed development?	No	There are no such areas which could be affected by the proposed development; however it is noted that the South East Aberdeenshire Coast Special Landscape Area is located ~1.7 km north. Works in the marine environment that could result in effects occurring from such a distance are considered to be limited to the use of marine vessels (which can be visible from further away due to their size and exposed nature in the marine environment). However, these will be present temporarily only.	No - due to the nature and size of the proposed development, this is not likely to result in a significant effect.
Are there any areas of features of historic, cultural or archaeological value on or around the location which could be affected by the proposed development?	No	No Historic Marine Protected Areas and no historic wrecks are located in the vicinity of the proposed development. Additionally, the works in the marine environment as part of the proposed development do not involve any excavation or disturbance to the seabed (it is assumed that no anchoring of vessels will take place for the works and that any pumping system used will involve floating pipes that do not drag on the seabed) and therefore pose limited risk to any potential undiscovered marine archaeology that could be present.	No – due to the nature of the works and the distance from identified marine archaeological features it is not considered that any significant effects will occur.
Is the proposed development location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions?	Yes	The section of proposed development that is located below MHWS is within the marine environment and is susceptible to adverse weather conditions due to the exposed nature of this coastline. Additionally, this stretch of coastline is experiencing coastal erosion and flooding. The proposed development itself will not contribute directly to the worsening of these conditions, other than through the generation of greenhouse gases (GHG) (through equipment, vehicle and vessel use) which can contribute to climate change which is known to exacerbate extreme weather, flooding and erosion. However, any GHG emissions are considered to be minor due to the small scale of works. Working in an area prone to changes in weather conditions, flooding and erosion creates a risk of pollution events through damage to the site and also poses dangers to site workers (situated both on land and on marine vessels). These risks will be mitigated for through the downing of tools and evacuation of site (including removal of equipment, vehicles and vessels from the working area) during periods of forecasted extreme weather. Additionally, no	No – once the proposed development has been completed, effects are likely to be positive as the area will be less susceptible to coastal erosion. When adhering to outlined mitigation it is not considered at this stage that effects would be significant.

Location of the Proposed Development	Yes / No	Briefly Describe	Is this likely to result in a significant effect? Please explain
		materials or equipment other than dredged material suitable for disposal at sea should be stored below MHWS.	

Table A-6: EIA Screening Checklist: Characteristics of the potential marine impacts (below MHWS)

Characteristics of the Potential Impact	Briefly Describe
(a) Magnitude and special extent of the impact (for example geographical area and size of the population likely to be affected)	
Will the effect extend over a large geographical area, affecting many people and resulting in social changes, e.g. in demography, traditional lifestyles, employment?	No - although the benefits of the proposed development will likely extend to a wide number of individuals (residents of Montrose town who will benefit from the removal of the flood corridor), the geographical extent of effects from the actual construction and operational activities will be limited to the area in which the dune restoration and beach nourishment activities are occurring. For the marine elements of the proposed development (areas below MHWS), specialist marine contractors will likely be onboarded to transport and pump the dredged material from the dredge site to the proposed development, and also to spread the material on the beach using vehicles. However, employment of contractors will be periodic and restricted to the construction phase and periodic times of activity in the operational phase. Therefore, benefits from undertaking the marine elements of the proposed development will therefore be beneficial to residents of Montrose, but are unlikely to result in changes to social aspects of the area.
(b) Nature of impact	
Is the development located within or close to any other areas which are protected under international, EU, or national or local legislation for their ecological, landscape, cultural or other value, which would be significantly affected by the development?	There are no marine protected or designated areas within the footprint of the proposed development. The nearest sites designated for marine features are: • Montrose Basin Special Protection Area (SPA) (approx. 1.5 km west); • Outer Firth of Forth and St Andrews Bay Complex SPA (approx. 17 km south); • Firth of Forth Banks Complex Marine Protected Area (MPA) (approx. 22 km east); and • Fowlsheugh SPA (approx. 23 km north). These four designated sites listed above are considered to be located too far from the proposed development for any connectivity to lead to adverse effects. However, best practice measures for working in the coastal environment (when considering the possible presence of coastal birds) will be adhered to. It should also be noted that there are no designated haul out sites for seals within the Montrose area. In general Montrose does not appear to be an over important area for seals (with records showing one instance of a seal hauling out in the area between 2016 -2019)[4], however, individuals could theoretically transit into the site from other nearby sites of importance. Additionally, no adverse significant effects are expected to arise on landscape or cultural sites due to the distance between these.
(c) Transboundary nature of the impact	
Will there be any potential for transboundary impact?	No – due to the minor scale and nature of the works, any impacts are not considered great enough to result in effects occurring outside of Scottish waters. Therefore, no transboundary impacts will occur.
(d) Intensity and complexity of the impact	
Is there a risk that environmental standards will be breached?	No – all relevant environmental standards will be adhered to and it is assumed that any dredged material utilised for the beach recharge elements of the proposed development will have full physio-chemical and biological characterisation of the sand material made available by the supplier and compatibility with the receiving location will already have been confirmed

Characteristics of the Potential Impact	Briefly Describe
(e) Probability of the impact	
Is there a high or low probability of a potentially highly significant effect?	Low probability.
(f) Expected onset, duration, frequency and reversibility of the impact	
Will the effect be permanent, continuous or irreversible?	Impacts to the marine environment are considered to be temporary in nature and limited in spatial extent as long as the mitigation specified in this screening is adhered to. Impacts are also considered to be reversible as the marine environment will return to its pre-works state once dune restoration and beach nourishment activities cease.
(g) Culmination of the impact with the impact of other existing and/or approved development	
Will the Project have cumulative effects, due to its proximity to other existing or planned Projects with similar effects?	It is not anticipated for potential cumulative impacts to arise because of the proposed development. Review of the NSTA's offshore activity viewer[10] online tool does not show the presence of any nearshore or offshore infrastructure within approximately 40 km of the proposed development (such as pipelines, subsea cables, offshore wells, hydrocarbon fields, or petroleum licences). It is acknowledged that there is an approved licence for the ongoing maintenance dredging at the nearby Montrose Port. It is not considered that any cumulative effects with this dredging activity will arise from impacts such as underwater noise or suspended plumes. This is due to the distance between the two projects and the fact that individual effects will be highly localised to each project. For example, any increase in suspended sediment for the proposed development is considered to be negligible and limited to the remobilisation of pumped material at the beach during high tide only. Additionally this would be an extremely short term effect.
(h) Possibility of effectively reducing the impact	
Will there be any significant adverse effects on any aspect of the environment during the construction and operational phases of the development, has the developer included mitigation measures to avoid, prevent, repair or reduce the potential impact?	Mitigation measures are suggested in the marine elements of this screening. These include the following: • It is assumed that for any material obtained, full physio-chemical and biological characterisation of the sand material will be made available by the supplier and compatibility with the receiving location will already have been confirmed. • Ensure that no materials (other than the sand material for dune restoration and beach nourishment) or equipment are stored below MHWS; • In periods of adverse weather (deemed unsafe for construction in the marine environment), tools should be downed, and works should cease for as long as deemed necessary; • Ensure NtM is issued ahead of dune restoration and beach nourishment elements involving use of marine vessels; • All vessels used for the works will follow the COLREGS 1971 and SOLAS 1974; • All vessels will be in compliance with the MARPOL regulations; and • It is assumed that no anchoring of vessels will take place for the works and that any pumping system used for the sand material will involve floating tubes that do not drag on the seabed. In addition to these measures, best practice construction measures will be implemented during construction to mitigate potential risks commonly associated with development, such as pollution and potential disturbance to bird species. If these measures are adhered to, it is considered likely that no significant adverse effects are anticiapted due to the temporary nature of all identified impacts.

[10] NSTA, n.d. NSTA Open Data [Online] Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=f4b1ea5802944a55aa4a9df0184205a5 [Accessed 12 March 2024]