APPROPRIATE ASSESSMENT NATURA IMPACT STATEMENT

Proposed Inspection and Safety Sweep of the Island for Loose Rock Material, Skellig Michael, Co. Kerry

Prepared on behalf of the Office of Public Works
by
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1 Introduction and Project Rationale

1.1 Introduction

Envirico have been commissioned by Office of Public Works (OPW) to provide ecological consultancy services for the proposed 2023 seasonal inspection and safety sweep for loose rock material at Skellig Michael, Co. Kerry. The safety sweep is to be carried out on the first week back to work on Skellig Michael weather permitting, usually middle to late April, as part of Skellig Michael annual maintenance plan. Safety Sweep shall be carried out prior to the island opening to the members of the public and OPW Skellig Guides. The temporary works will consist of the clearance of debris and removal of loose materials from sections of slopes adjacent to where recent rockfalls have occurred, as well as an area north of the lower lighthouse which had a recent rockfall outside of an area frequented by tourists, but which posed an elevated risk to OPW personnel working on the island. The principal role of the ECoW is to minimise and eliminate where possible any interference with the breeding bird populations that are currently on the island.

In accordance with the EC Habitats Directive 92/43/EEC (hereafter 'The Habitats Directive') a Screening for Appropriate Assessment (AA) must be undertaken for all projects and/or plans to assess whether there is potential for Likely Significant Effects (LSEs) from the project or plan on European sites (Natura 2000 sites); comprising Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The proposed works site is located within the island of Skellig Michael, Co. Kerry, with the immediate surrounds typically made up of a landing pier, lighthouse road, associated sea wall, and coastal habitats. No surface water environments are within the project boundary. A location map is presented in Section 4.2 (Figure 8).

1.2 Project Rationale

Skellig Michael is an isolated rock precipice situated in the Atlantic subject to the highly erosive effects of wind, rain, and temperature fluctuation. Rockfalls are a characteristic feature of the island and may occur at any location at any time. On the 13th June 2022, a rock fall occurred on the lower lighthouse road adjacent to Cross Cove. Previous rock falls, of varying concern, have occurred on the Skelligs. These typically happen during the winter months, reflecting the extreme exposure of the site and its vulnerability to increased aggression during these months. There have been incidences during the working season most notably a substantial incident near the workmen's compound in July of 2020, a previous significant rock fall near the landing and some other more modest but nonetheless equally dangerous falls at other locations.

While rockfalls are a feature of the island and may occur at any time, recent rockfalls have highlighted the potential of larger loose materials especially rock becoming dislodged and falling onto areas where OPW personnel and tourists may be present below.

The OPW have a well-established protocol for optimising safety on the Island when the workmen return to the Island in May. Typically, this involves specialist personal sweeping the high ground over the landing and access road at all locations to remove any threatening rocks. These rocks are either removed to a safer location or are broken up and brought down in a controlled manner.

It is obviously a matter of significant concern that rock falls have occurred during the working season and especially so on the access route from the pier. While this is not the first time to have such an event, the repeating nature of the issue must not be ignored. Additional precautionary actions are therefore essential to further improve safety on the Island.

The OPW provided and extended a protective canopy in the area of the cove on the access road from the landing to mitigate debris falling on an ongoing basis at this location. A contract for three substantial canopies is also underway to mitigate the risk of falls at locations where substantial incidences have previously occurred.

Michael O'Sullivan of Creagh House Environmental Ltd. carried out an assessment of the rockfall that occurred in June 2022, on the June 17th, 2022, with OPW personnel present. A reconnaissance report (June 2022) on the geological context of a rockfall on the Lower Lighthouse Road on 13th June 2022 was prepared following the assessment, with the following findings forming the basis of the report.. High above the fall site (c. 50-100m) two distinct rock scree zones may be identified (see Image 1). An upper scree zone comprising "cleavage slabs" upwards of 5m x 5m (estimate) in size approximately aligned on the upper boundary of the exposed tuffs, and a lower zone also comprising "cleavage slabs" up to c. 2m x 2m (estimate) in size (see Image 1). The dominant superficial feature immediately above the fall site (<50m) is that of a number of cross cutting joint planes, striking 130°-140° and dipping 65°-80° to the east. At least four such joint plane zones are identifiable as vegetation filled gullies immediately adjacent to the lower lighthouse road to the east of the protective canopy at Cross Cove. The gullies at this location allow for rockfalls directly on to the lower lighthouse road. The location and nature of the recent fall is indicated on Figure 2.

Creagh House Environmental Ltd, carried out a further site visit to Skellig Michael from the 8th to the 11th July 2022, which formed the basis of the report on the 'Geological Context of Rockfall Potential on Skellig Michael'. The purpose of the visit was to examine the potential for rockfall on the 19th century Lighthouse Road and associated medieval North, South and East Steps. A further inspection in August 2022 allowed for the identification of most, moderate and least rockfall potential zones with the island divided into eastern section, central section and western section for the purpose of the maps (see Figures 3 to 5). The island The North and South Steps are considered as single sections, the

East Steps as two sections. The Upper Lighthouse Road is presented as six sections; whilst the Lower Lighthouse Road is presented as seven sections.

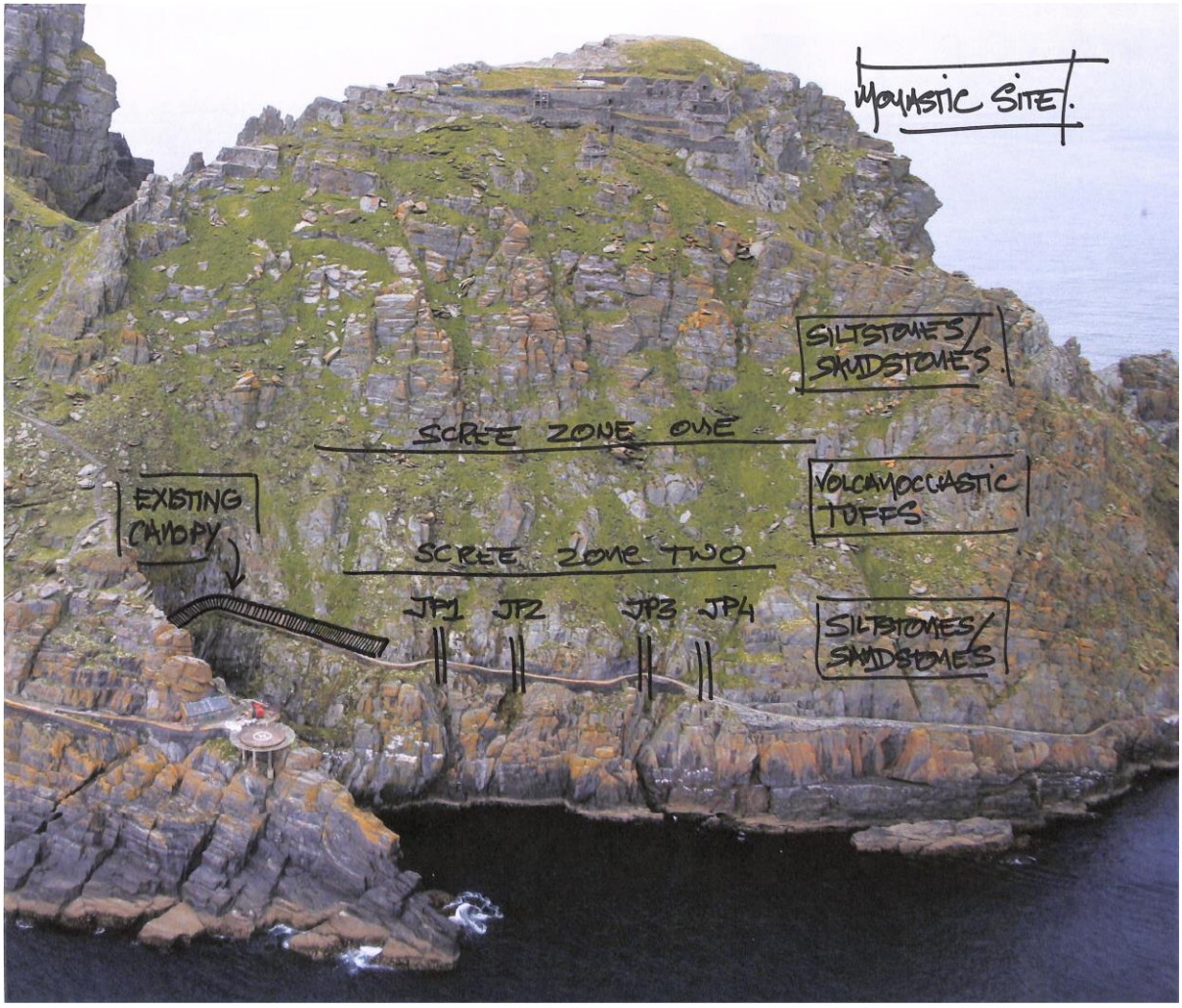

Image 1 Geological Context of Fall Site 2022

With regard to the potential for rockfall in the narrow and very specific area between the pier at Blindman's Cove and the rock canopy at Cross Cove, the reconnaissance inspection allowed for the identification of most, moderate and least rockfall potential zones (see Figure 1):

A. Most Potential: Joint plane exposed zone with associated scree slopes.

B. Moderate Potential: Narrow road zone adjacent to the landing at Blindman's Cove with cleavage rock faces above.

C. Least Potential: Nineteenth century rock blasted zone between Zones A and B.

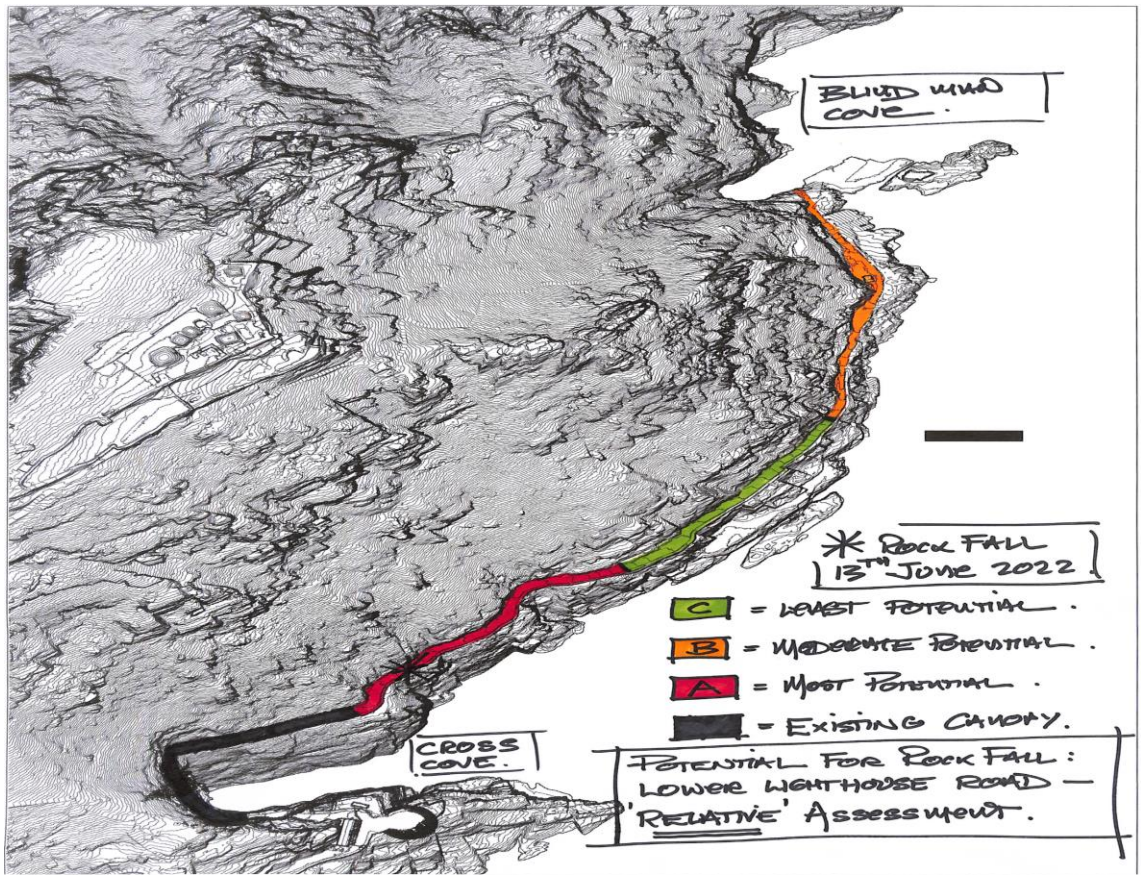

Figure 1 Potential Rockfall Locations 2022- Lower Lighthouse Road – "Relative" Assessment (O'Sullivan, M. 2022)

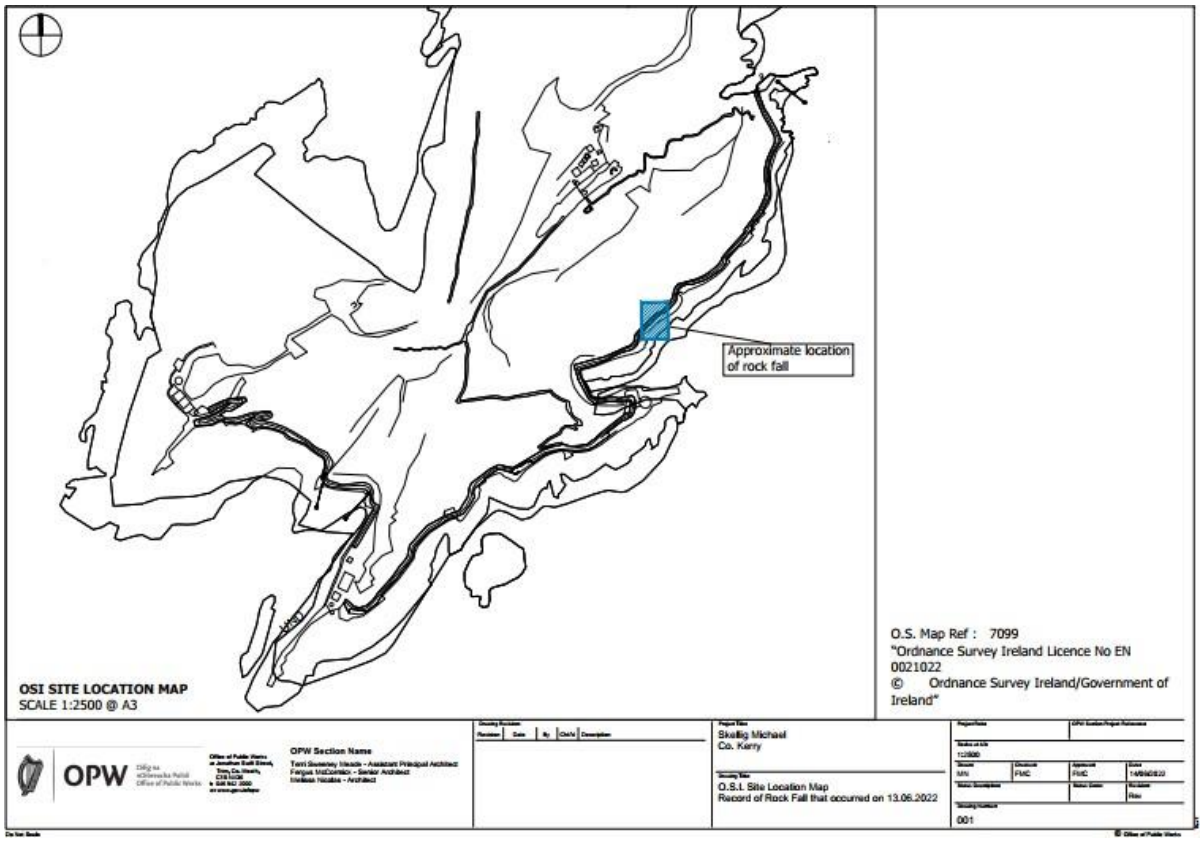

Figure 2: Location of last season's rockfall in June 2022

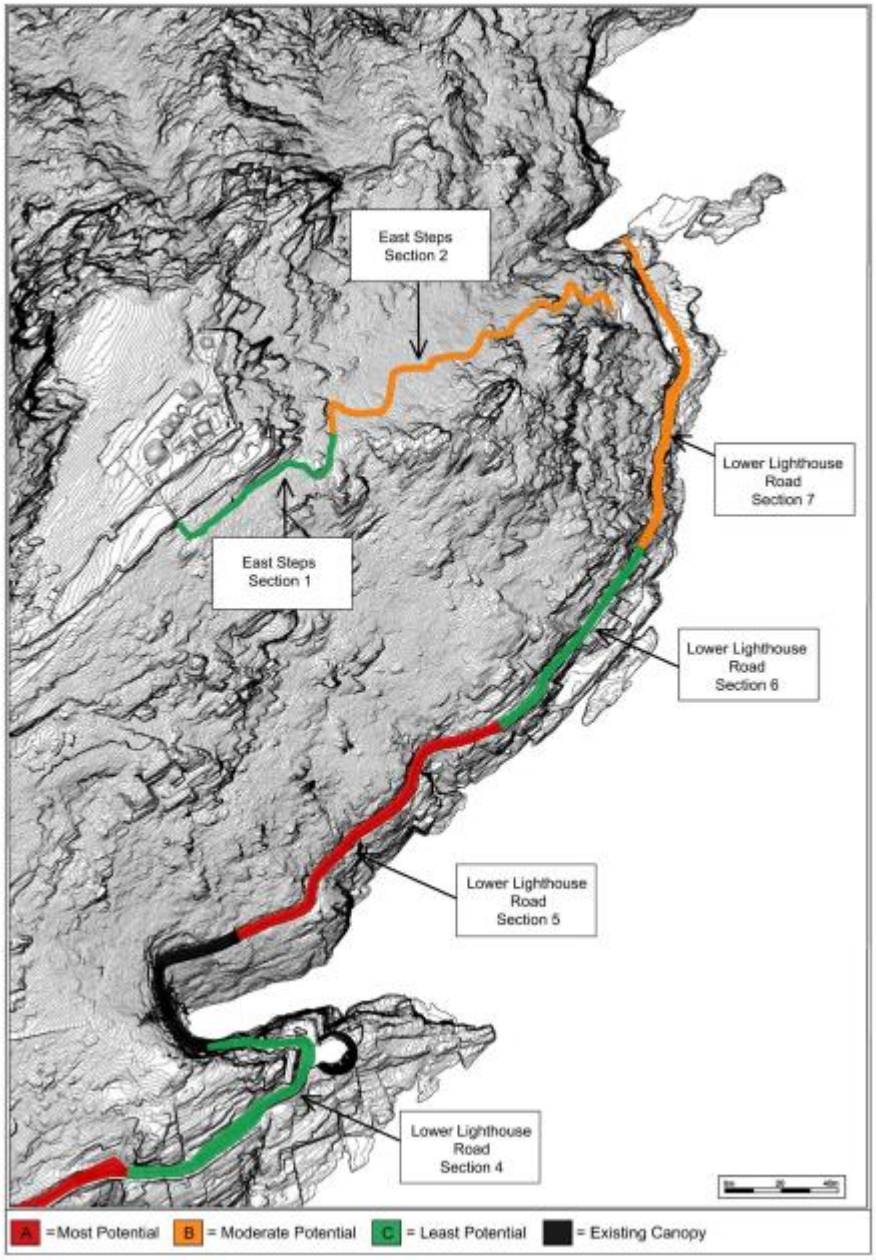

Figure 3: Eastern section of the island (Creagh Environmental Ltd, 2023)

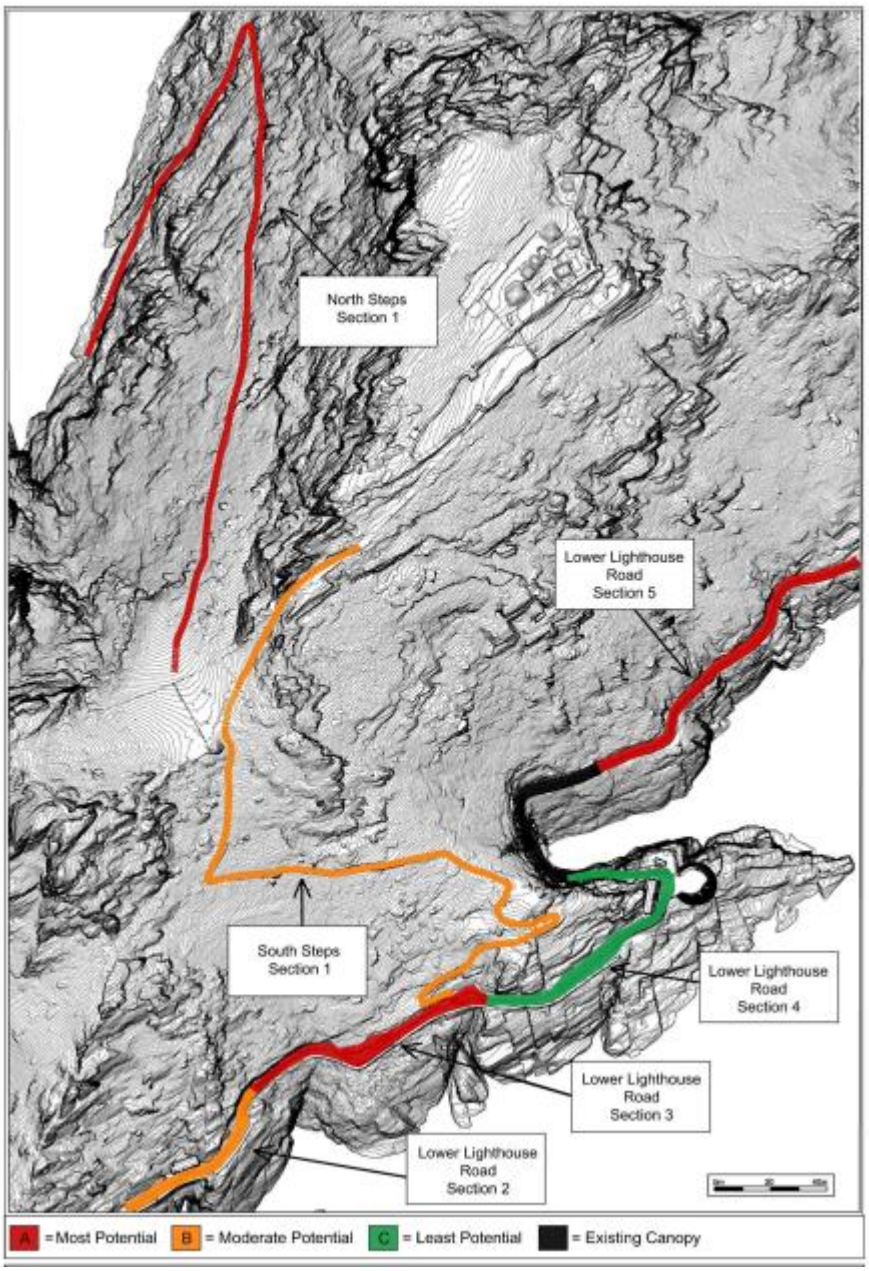

Figure 4: Central section of the island (Creagh Environmental Ltd, 2023)

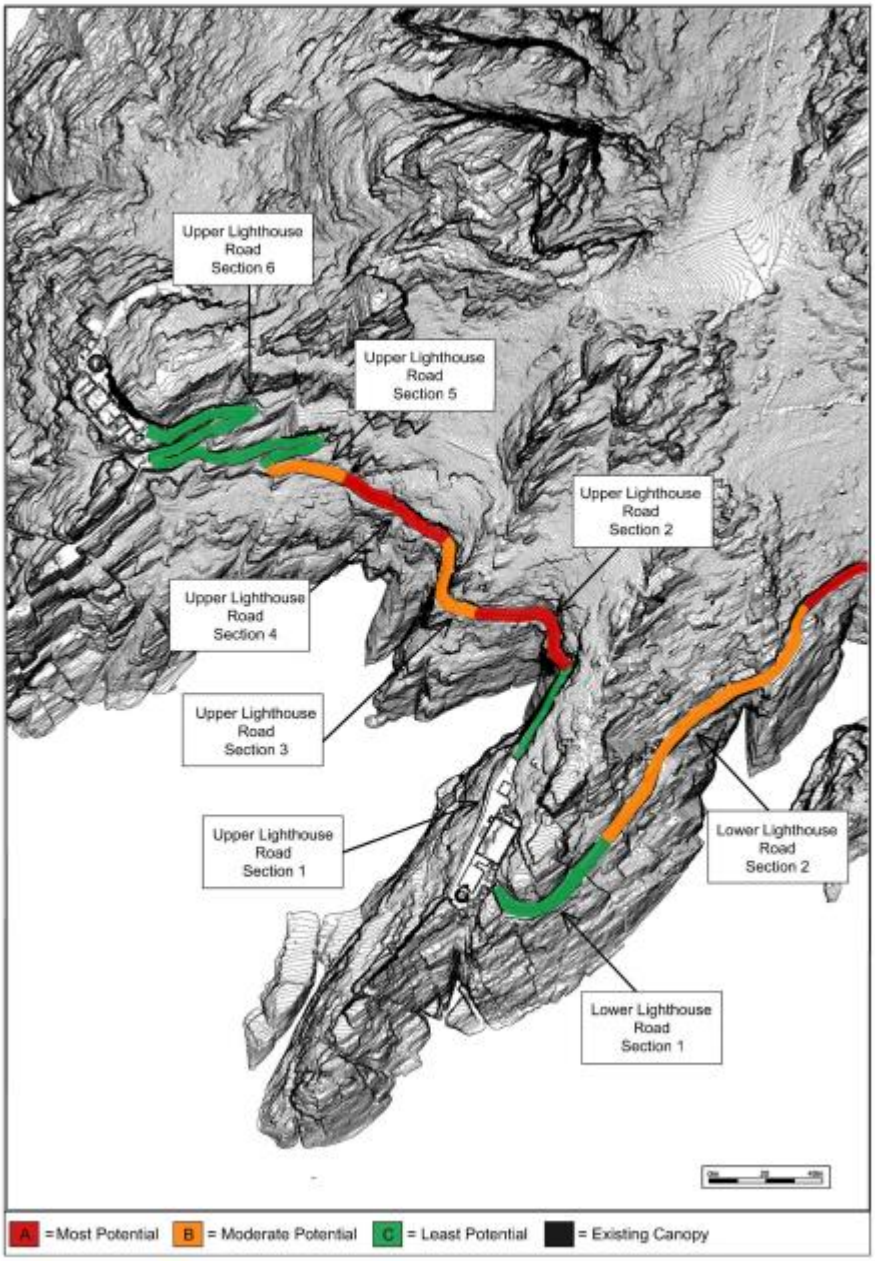

Figure 5: Western section of the island (Creagh Environmental Ltd, 2023)

Detailed assessments of the mechanisms underlining the rock falls must be carried out by specialists. This has been done – the geological assessment by Creagh House Environmental is of particular importance and has been completed. This latter report combined with the inputs of senior engineers and key OPW personnel inform the requirements for future mitigation.

An inspection and safety sweep must be carried out by OPW specialist safety personnel in the area of the cliffs above the access road and in the length between the end of the existing canopy and the pier. Any additional threatening rocks must be made safe or removed during this sweep.

The reality of working the on the Skellig's is that the rock fall issue is going to be an ongoing problem that can be mitigated but never be fully removed. This fact is obviously significant in health and safety terms with the requirement that the mitigation to deal with it must be as comprehensive as possible and should be put in place immediately as required.

1.3 Statement of Authority

This NIS Report has been prepared by Maurice O Connor, Environmental Consultant. Maurice holds BSc (Hons) degree in Wildlife Biology from Institute of Technology Tralee and an MSc in Ecological Assessment from National University of Ireland Cork (UCC). Maurice is an experienced ecological consultant with over 7 years' professional experience in Ireland, working independently and as an employee within consultancy. He has strong generalist ecological field skills in terrestrial and riparian environments and through his experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints to inform Ecological Impact Assessments (EcIA) and AA. Maurice has undertaken ecological assessments and surveys on a variety of project types (e.g. road schemes, waste, water, energy and housing) involving survey, mitigation and enhancement. During his time as an environmental consultant, Maurice has completed numerous AA assessments for both plans and projects.

2 The Appropriate Assessment Process

2.1 Legislative Context for Appropriate Assessment

Legislation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 437 of 2011) (as amended) transposes Article 6 of the Habitats Directive (92/43/EEC) into Irish law. The regulations require that where a public authority wishes to progress a project (which is not directly connected with or necessary to the management of the site as a European Site), a screening for Appropriate Assessment (AA) of the project must be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site. AA screening is required under Article 6(3) of European Union Council Directive 92/43/EEC (also known as the Habitats Directive), section 177U of the Planning and Development Act 2000 to 2018 and amendments (Amendment of Part XAB (appropriate assessment)).

In accordance with the requirements of the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC), Member States have identified a network of sites of conservation importance, hosting habitats and/or species identified in the Directives as needing to be either maintained at or returned to favourable conservation status. These sites are known as the Natura 2000 network and in Ireland, Natura 2000 sites comprise areas designated as Special Areas of Conservation (SACs), candidate Special Areas of Conservation (cSACs), Special Protection Areas (SPAs) and candidate Special Protection Areas (cSPAs).

These Directives require that where a project is likely to have a significant effect on a Natura 2000 Site, while not directly connected with or necessary to the nature conservation management of the site, it shall be subject to 'Appropriate Assessment' to identify any implications for the site in view of the site's conservation objectives. Specifically, Article 6(3) of the Habitats Directive states:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public".

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted."

This screening for Appropriate Assessment has been carried out in accordance with the following European Commission Guidance:

EC (2000 & 2018) 'Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC';

EC (2001) 'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC';

NPWS, DEHLG (2009 & 2010). 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities'

European Commission (2006). 'Nature and Biodiversity Cases: Ruling of the European Court of Justice'.

2.2 Stages in Screening and Appropriate Assessment

Screening for Appropriate Assessment (AA) is one of four distinct stages of the appropriate assessment process, as outlined in the European Commission Guidance document (2001). Within these stages the potential of significant impacts/effects upon a Natura 2000 site will be assessed and detailed. The four stages of an AA are summarised below. Article 6(3) of the Habitats Directive, which details this assessment process, is implemented into law in Ireland through the provisions of Sections 177U and 177V of the 'Planning and Development Act 2000 to 2018'.

All potential effects between activities associated with the proposed development and the ecological components of European sites must be considered. This includes potential effects on mobile species notably, birds, mammals, invertebrates, and migratory fish.

If the prospect of LSEs occurring cannot be excluded on the basis of objective information, the project is taken forward to the next stage of the process, Appropriate Assessment. At Screening, the burden of evidence is to show, on the basis of objective information, and beyond reasonable scientific doubt, that the project will have no LSEs on a European site. If the effect may be significant, or is not known, it would trigger the need for Appropriate Assessment. The entire process can be broken down into four stages (EC, 2001), as outlined below:

Stage 1 - Screening: Screening for an AA, in relation to the construction, management/operation and decommissioning of a specific proposed plan or project, shall be completed in order to assess whether

said development, either individually or in combination with others, is likely to have a significant effect upon Natura 2000 sites locally, regionally or nationally, in view of these site's conservation objectives.

Stage 2 - Appropriate Assessment: The competent authority detailing the AA shall, under Article 6(3) and Section 177V of the 'Planning and Development Act 2000 to 2018', make a decision as to whether or not the proposed development would affect or impact upon the integrity of a Natura 2000 site. Where there are adverse effects on site integrity identified, mitigation measures are proposed, as appropriate, to avoid adverse effects, and as such a Natura Impact Statement is then required. For projects, the AA process is documented within a Natura Impact Statement (NIS). This is provided to the competent authority by the applicant, to facilitate an informed assessment of the project.

Stage 3 - Assessment of Alternative Solutions: If following AA, including proposal of mitigation, adverse effects on site integrity remain, or uncertainty remains, an Assessment of Alternatives is required. This process examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.

Stage 4 - Assessment where no alternative solutions exist: Where alternative solutions, locations, etc. are absent, or if such solutions are likely to have increased levels of impact upon Natura 2000 sites, the competent authority must establish whether or not the plan or project can be considered as necessary for Imperative Reasons of overriding public interest (IROPI).

2.3 The Likely Significant Effect test

Screening is underpinned by an interpretation of Likely Significant Effect (LSE), as this interpretation provides the benchmark for a finding of likely effects. Any assessment of significance must satisfy the principles that underpin a satisfactory determination for LSE with regard to the accumulation of impacts and an understanding of the nature, probability and severity of potential impacts. The terms 'likely' and 'significance' have been defined variously by governments and through the courts. The following sections seek to provide clarification on the current interpretation of these key terms as determined by recent guidance and case law.

2.3.1 An interpretation of 'likely'

European case law has established that the benchmark requirement of 'likely' should not be regarded as a measure of probability in the context of an AA. Rather, a LSE finding is an acknowledgment that the risk of a significant effect occurring exists. This approach is consistent with the findings in the Waddenzee judgement, which found that "if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site" then a LSE finding is appropriate.

More recently, this position was upheld in the European Court of Justice (ECJ) in Case C-258/11 (Sweetman v An Bord Pleanála (Ireland), where the judgment interprets "likely" to mean "may"; "the

test is set at a lower level" and "there is no need to establish such an effect; it is merely necessary to determine that there may be such an effect". In cases where there is a determination that there is no significant effect, the Waddenzee judgment establishes that there must remain "no reasonable scientific doubt as to the absence of such effects."

2.3.2 An interpretation of 'significant'

It was clarified in the ECJ Case C-127/02 (the Waddenzee judgment) that the measure of significance should be made against the ecological objectives for which the site was designated: "where a plan or project is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site".

The proposed works are not directly connected with or necessary to the management of any European site therefore Screening for AA is required. This involves the following:

- Proposed development description
- European site(s) identification, qualifying interests and conservation objectives
- Ecology baseline conditions within and in close proximity to proposed development
- Assessment of likely effects
- Screening conclusion.

3 Screening Methodology

3.1 Desktop review

An ecological desk review was undertaken on the 18st April 2023 in order to assess the potential impacts of the proposed project, as detailed in Section 4.1 of this document. The purpose of this review is to collate available data and information relating to the site and relevant Natura 2000 sites. Within this review, sources, publications, and datasets that were consulted included.

- Aerial photography and 1:50000 mapping
- National Parks and Wildlife Service (NPWS)
- Details and qualifying interests of European sites

3.1.1 Zone of Influence (ZoI)

DHLGH Guidance states that screening for Appropriate Assessment should be carried out for any European site within the likely Zone of Influence of a plan or project. For projects, the guidance recommends that the Zone of Influence must be evaluated on a case-by-case basis regarding the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects. Projects have the potential to impact on European sites beyond the confines of the individual sites themselves.

The Zone of Influence of a project is the area in which qualifying interests are present which are sensitive to the ecological impacts that may be caused by the activities associated with the project. The zone of influence will therefore vary relative to the scale of the impact and relative to the ecology of the sensitive receptor.

The potential Zone of Influence is defined as:

- Areas directly within the land take for the proposed works
- Areas which will be temporarily affected
- Areas likely to be impacted by hydrological disruption
- Areas where there is a risk of pollution and disturbance (e.g. noise)

To establish the zone of influence, nationally available data on protected habitats and species was mapped using GIS. This data was interrogated for any physical, hydrological, or ecological connectivity to the activities associated with the proposed crash deck installation works.

The desk-based assessment of available records of protected species and habitats included the following sources:

- Conservation Status Assessment Reports [1] (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive

- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, Species Action Plans, and Conservation Management Plans
- Existing relevant mapping and databases e.g. waterbody status, species and habitat distribution etc. (sourced from the Environmental Protection Agency - http://gis.epa.ie/, the National Biodiversity Data Centre - http://maps.biodiversityireland.ie and the National Parks and Wildlife Services - http://www.npws.ie/mapsanddata/)

3.1.2 European Sites within Zone of Influence

The Skelligs SPA (004007) is the only Natura 2000 site within the Zone of Influence, this being the area within which there is potential for impacts from the project works. Further Natura 2000 sites within a 15km radius are detailed in Table 1 below. These sites have been assessed for ecological connectivity with the project. Owing to scale of the proposed works, the remote island nature of the site and lack of connectivity there is no potential for likely significant effect.

Table 1 Natura 2000 sites within 15km

Natura 2000 Site	Site Code	Distance from Works (Km)
Valencia Harbour/Portmagee Channel SAC	002262	14
Puffin Island SPA	004003	11
Skelligs SPA	004007	0
Iveragh Peninsula SPA	004154	13

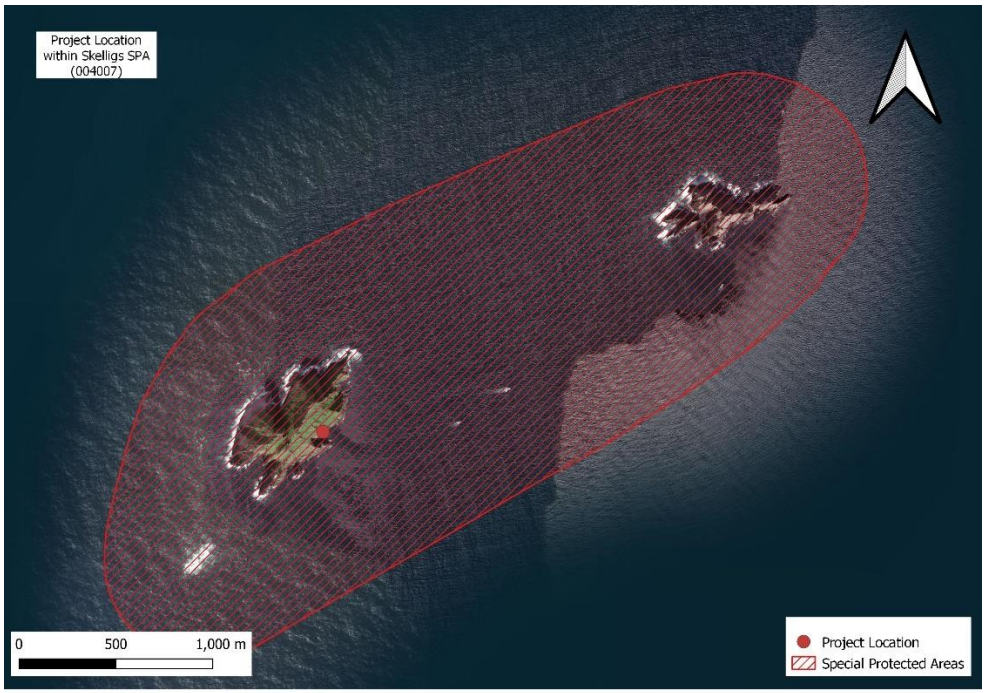

Figure 6 Location of Proposed Works

Qualifying features of the Skelligs SPA (004007) are presented in Table 2 below.

Table 2 Skelligs SPA (004007) Special Conservation Interests (SCIs)

Special Conservation Interests of Skelligs SPA	Species Code
Fulmar (*Fulmarus glacialis)*	[A009]
Manx Shearwater (*Puffinus puffinus*)	[A013]
Storm Petrel (*Hydrobates pelagicus)*	[A014]
Gannet (*Morus bassanus)*	[A016]
Kittiwake (*Rissa tridactyla)*	[A188]
Guillemot (*Uria aalge)*	[A199]
Puffin *(Fratercula arctica)*	[A204]

The site comprises Great Skellig and Little Skellig islands. These highly exposed and isolated islands, which are separated by a distance of 3 km, are located in the Atlantic some 14 km and 11 km (respectively) off the County Kerry mainland. The geology of the islands is of Old Red Sandstone, with a little slate and veins of white quartzite. Both islands are precipitous rocky sea stacks, Great Skellig rising to 218 m and Little Skellig to 134 m. Great Skellig supports a sparse maritime flora on shallow soils. Common plant species include Thrift (*Armeria maritima*), Sea Campion (*Silene maritima*) and Rock Sea-spurrey (*Spergularia rupicola*), with patches of Red Fescue (*Festuca rubra*), Dock (*Rumex sp*.) and Sea Mayweed (*Matricaria maritima*) occurring frequently. Its lichen flora is notable for the number of rarities that occur, including several species not recorded elsewhere in Ireland. Little Skellig is largely unvegetated, due both to the low soil cover and to the effect that the nesting birds have on the vegetation. However, Sea Mayweed occurs on ledges that are too small for Gannets, and Tree Mallow (*Lavatera arborea*), a local species in Ireland, has been recorded. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Fulmar, Manx Shearwater, Storm Petrel, Gannet, Kittiwake, Guillemot and Puffin. It is also of special conservation interest for holding an assemblage of over 20,000 breeding seabirds. The Skelligs comprise one of the most important seabird colonies in the country for populations and species diversity. Great Skellig has an internationally important population of Storm Petrel (9,994 pairs in 2002), with birds nesting both in the stonework associated with the monastic settlement and in natural crevices amongst the scree and rock. Little Skellig is best known for its long established and internationally important Gannet colony, with 29,683 pairs in the last full census in 2004. This is by far the largest colony in Ireland and one of the largest in the world. Great Skellig also has one of the largest Puffin colonies in the country, with 6,000 pairs estimated in 2002. Other seabird species which occur on the islands in nationally important numbers are as follows: Fulmar (830 pairs), Manx Shearwater (902 pairs), Kittiwake (1,035 pairs) and Guillemot (1,652 pairs) – all data from 2002. Razorbill (283

pairs - five year mean between 1998 and 2002) occur but below the threshold of national importance. Great Skellig is a traditional site for Chough, though the relatively small size of the island supports only one nesting pair. Peregrine has also nested in some years. The breeding seabirds on the Skelligs have been fairly well documented over the years, with references to the Gannets dating back to the 1700s. Owing to the high importance of the islands for birds, each has been designated a Statutory Nature Reserve. In addition, the non-governmental organisation, Bird Watch Ireland, holds a long-term lease on Little Skellig. This site is one of the top five seabird sites in the country and is of international importance on account of both the assemblage of over 10,000 pairs of breeding seabirds and the individual populations of Storm Petrel and Gannet. The site also holds nationally important populations of a further five species of breeding seabird. Also of note is the regular presence of three species, Storm Petrel, Chough and Peregrine, which are listed on Annex I of the E.U. Birds Directive.

4 Screening for Appropriate Assessment

4.1 Description of Project

The proposed works will consist of a sweep of the island for loose rock material following inspection at Skellig Michael, Co. Kerry. A description of the works is presented in Table 3.

Table 3 Description of Proposed Works

Description	Task
Size, scale, area, land-take	The footprint of the works will comprise the following: • When carrying out the sweep of the island for inspection of loose rocks, commence from top of the face to the bottom. Access the area by walking to top and work down. • Rope Access Technicians shall be briefed by the OPW Rope Access Technician and ECoW. OPW Rope Access Technician shall brief them in how to walk across the face of the slopes/ edge of the rock face so as not to disturb to wildlife, advise how to inspect loose rock safely and what to look. The ECoW to advise the operatives of the different types of birds present, their nesting areas, what to look out for when walking on slopes and inspecting rocks and type of bird to keep away from for their own safety. • Once in position, rig the ropes at top following the steps and procedures outlined above • Operatives must be wearing a full body harness and attached to the ropes at all times. • Where possible, if safe to do so, the rock shall be secured and anchored mechanically or by jamming/wedging using another rock. Loose rock shall be secured and left at a level surface. • Where in the event that it is deemed too unsafe or dangerous, the rock shall pushed/slid down to a level area and jammed and left. • Upon finding loose or dangerous rocks, the OPW Rope Access Technician shall carry out a dynamic assessment of the area and access the situation. OPW Rope Access Technician and the ECoW shall discuss the safest way to remove the rock where required to ensure minimal disturbance is caused by the removal process. • Where there is no sufficient flat surface area, the rock shall be slid down the whole to the bottom • When sweeping the island, ensure that the area below is cordoned off to prevent unauthorised access. • Where rocks are to be lowered to the bottom, the Lighthouse Road shall be protected by using rubber mats and or sheets of ply. • Work area shall be cordoned off when working a loft and where rocks are been slid down with signage erected to warn operatives of the works been carried out. Signage to also be erected at the pier to ensure that any personnel accessing the island is aware of the works and the location • Works shall not be allowed to take part during the hours of public access. • While working aloft, no lone policy is to be implemented. • Operative below must be able to maintain radio contact and shall act as an observer/spotter to ensure no unauthorised access to the work area. • In the event that personnel enter the area below, work must cease.

	All works will take place within the boundary of the Skelligs SPA (004007).
Details of physical changes that will take place during the various stages of implementing the proposal	• New anchor points maybe required. • Drilling for rock anchors and rock bolts. • Removal of loose material/ rocks
Description of resource requirements for the construction/operation and decommissioning of the proposal (water resources, construction material, human presence etc)	**Construction Materials/Equipment** PPE: All Operatives will wear as standard: - Safety Hard Hats EN 397 and working at height helmets with side impact protection (EN12492). High Visibility Garments. Steel toe capped Safety Footwear with ankle Protection Safety Glasses/Eye Protection, Dust Masks. Hearing Protection & Gloves – where required or as prescribed in risk assessments. Life Jacket, Ring Buoy - where required when working near water as prescribed in risk assessments. **Key Plant & Tools:** • Harness • hand tools • electrical drills • ropes • chemical anchorage • span sets anchors and raw bolts **Fall Protection:** • Fall Arrest/Work Restraint, Full Body Safety Harness and lanyard - industrial harness designed to EN813 and EN361 • Work Positioning harness e.g. Petzl Navaho Bod Croll • Petzl vertex best helmet • Petzl ID (EN12841) Petzl ASAP (EN353-2) • Petzl hand Ascender • Petzl Croll • Petzl Absorbica Lanyards • Fall arrest shock absorber (EN355) • Webbing anchorage slings (EN795) and • Locking connectors (EN362) **General Rope Access Equipment:** • 10.5mm low stretch rope (EN1891) • 50m / 100m Static Ropes • Karabiners • Lyon Sewn Slings • Lyon Wire Strops
Description of timescale for the various activities that will take place as a result of implementation (including likely start and finish date)	Pending approval, it is anticipated that the proposed works will take 4 to 5 days to complete and will be carried out in late April/ early May 2023. All works willbe dependent on weather/boat crossing conditions.
	Construction phase wastes will include:

Description of wastes arising and other residues (including quantities) and their disposal	• Domestic waste arising from workers which shall be taken off the island on a daily basis for the duration of the works and disposed of ata suitably licensed facility. • Workers shall utilise existing OPW staff toilet facilities currentlyavailable on the island. • Wastes e.g. packaging, concrete washout to be transported via caterpillar transporter to pier for removal from island and disposed ofat a suitably licensed facility. • Removed stone filling/spoil and other waste rock material generatedduring the construction phase will be stored on the island for re-use during general maintenance and repair works to the lighthouse roadand seawall. No operational phase wastes are envisaged.
Identification of wastes arising and other residues (including quantities) thatmay be of particular concern in the context of the Natura 2000 network	• Fuel/oil residue generator (minor quantity)
Description of any additional services requiredto implement the project orplan, their location and means of construction	Existing services and living accommodation are available on the island for workers for the duration of the works. *Water shall be brought to the site for mixing concrete. Electricity shall be provided by means of a diesel powered generator.*

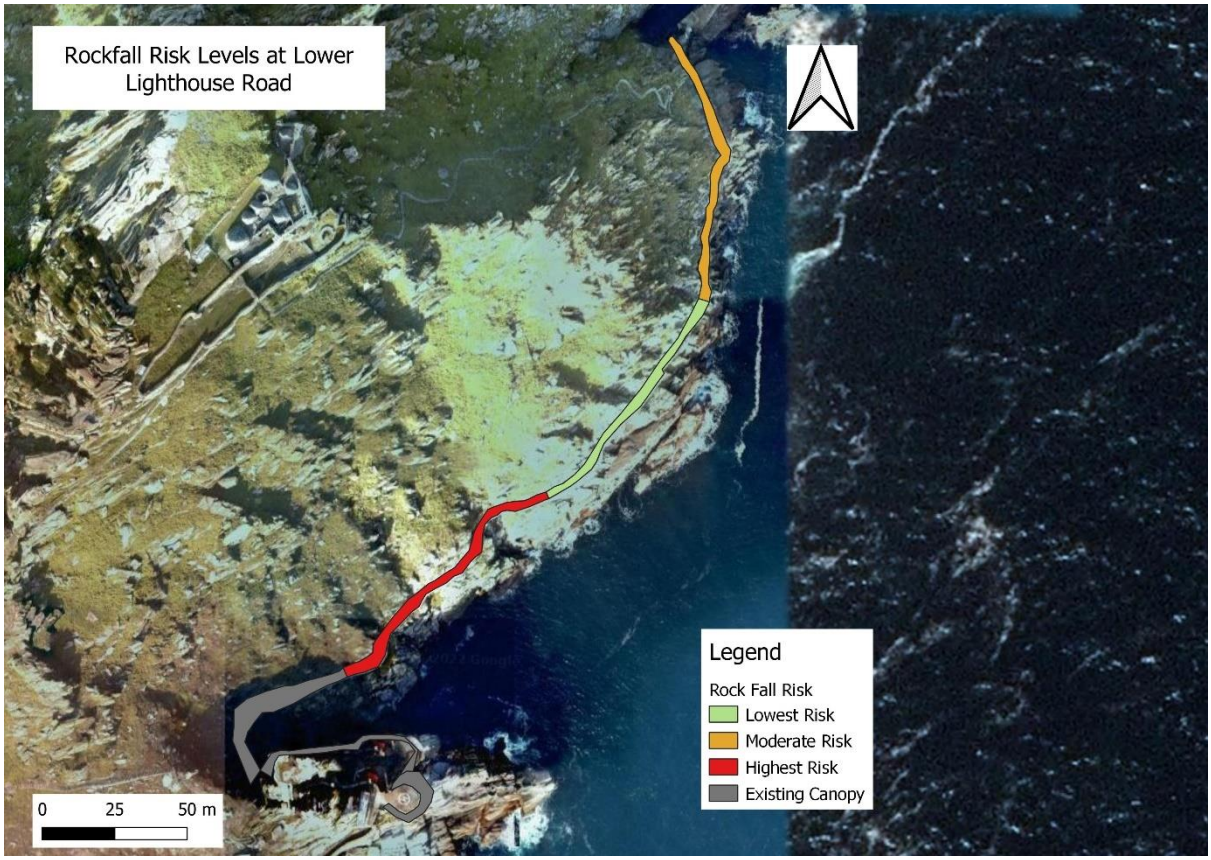

Figure 7 Red Area shows highest risk area where new crash deck is to be installed

4.2 Description of project location

Skellig Michael is an island off southwest Ireland in the Atlantic Ocean. It lies approximately 12km off the Iveragh Peninsula in Co. Kerry. The island forms part of the Skelligs SPA and is a World Heritage site, being home to an Early Christian settlement with well-preserved access steps, a monastery, a remote hermitage and other monastic structures. The island's isolation has helped to preserve and protect these monastic remains (DHLGH & OPW, 2020)

Figure 8 Project Location

4.3 Baseline Characterisation

4.3.1 Overview of Baseline Data

The site of the proposed works is located on access routes above the lighthouse road , Skellig Michael, Co. Kerry - within the Skelligs SPA (004007). This island is a World Heritage Site and Statutory Nature Reserve which is subject to regular tourist footfall as well as maintenance works teams throughout the summer season. Data which informs this report was gathered in summers of 2021 and 2022 from mid-May to October.

4.3.2 Habitats

Rocky Sea Cliffs CS1

Rocky cliffs of varying heights surround the island. The bases of these cliffs tend to be smoother where erosion is evident and exposed bed shows signs of past collapses. The upper sections comprise of more ledges and crevices. Vegetation has built up in several areas and is usually dominated by Sea Campion or Thrift, in less exposed areas the vegetation varies and grasses such as Red Fescue and Yorkshire Fog are found. These cliffs provide nesting habitat for several bird species listed on the Skelligs SPA (004007) conservation objectives: Fulmar (*Fulmaris glacialis*), Kittiwake (*Rissa tridactyla*), Guillemot (*Uria aalge*) and Puffin (*Fratercula arctica*).

Stonewalls and Other Stonework BL1

Old stone walls and stairways of an ancient monastic settlement are found across the site and these provide nesting habitat for several bird species listed on the Skelligs SPA (004007) conservation objectives. The primary protected species associated with this type of habitat which is listed on the conservation objectives of the site is the Storm Petrel (*Hydrobates pelagicus*).

Buildings and artificial surfaces BL3

Buildings on the island consist of workers huts and associated storage buildings, a helipad, lighthouses and associated outbuildings, and a public composting toilet. These structures provide an important habitat for lichens and bryophytes on the island.

Sea Walls Piers and Jetties CC1

This habitat comprises of the landing pier which is located at Blind Man's Cove.

Open Marine Water MW1

Open marine water completely surrounds the island and is important for a variety of marine species.

Sea Inlets and Bays MW2

There are several naturally occurring inlets and bays located around the island including the landing at the North Steps, Seals Cove and Blind Man's Cove.

4.3.3 Mammals

An assessment of the likely presence of protected and notable mammal and aquatic species, listed on Annexes II, IV and V of the Habitats Directive and under the Wildlife Act 1976-2012 was undertaken. Records of terrestrial mammals were searched for through The National Biodiversity Data Centre (NBDC) and the most recent records taken from ecological survey work carried out on the island from May to October 2021 and are listed in Table 4 below.

Table 4 Mammals recorded on/from the site

Species (Common name)	Species (*Scientific name*)	Date recorded	Designation
Common Pipistrelle	*Pipistrellus pipistrellus*	31-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Soprano Pipistrelle	*Pipistrellus pygmaeus*	04-Sept-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Nathusius' Pipistrelle	*Pipistrellus nathusii*	03-Sept-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Leisler's Bat	*Nyctalus leisleri*	04-Sept-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Grey Seal	*Halichoerus grypus*	23-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
Bottlenose Dolphin	*Tursiops truncatus*	23-Jun-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Common Dolphin	*Delphinus delphis*	23-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Risso's Dolphin	*Grampus griseus*	23-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Harbour Porpoise	*Phocoena phocoena*	23-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts || Threatened Species: OSPAR Convention
Fin Whale	*Balaenoptera physalus*	04-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Humpback Whale	*Megaptera novaeangliae*	20-Jul-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Minke Whale	*Balenoptera acutorostrata*	10-Aug-2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
European Rabbit	*Oryctolagus cuniculus*	11-Oct-2021	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
House Mouse	*Mus musculus*	11-Oct-2021	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species

4.3.4 Avifauna

Skellig Michael is the larger of two islands in The Skelligs SPA. During the course of Ecological survey work carried out from May to October in the years 2021 and 2022 by Envirico ecologist Brian Power, the following avifauna were recorded on or from the island. Special conservation interests (SCIs) of the Skelligs SPA are highlighted in bold.

Table 5 Birds recorded on/from the site

Species (Common name)	Species (*Scientific name*)	First Date Recorded	Confirmed Breeding
Fulmar	***Fulmarus glacialis***	18-May-21	Y
Manx Shearwater	***Puffinus puffinus***	18-May-21	Y
Storm Petrel	***Hydrobates pelagicus***	18-May-21	Y
Gannet	***Morus bassana***	18-May-21	Y
Kittiwake	***Rissa tridactyla***	18-May-21	Y
Puffin	***Fratercula arctica***	18-May-21	Y
Guillemot	***Uria aalge***	18-May-21	Y
Shag	*Phalacrocorax aristotelis*	18-May-21	Y
Peregrine	*Falco peregrinus*	18-May-21	Y
Herring Gull	*Larus argentatus*	18-May-21	Y
Great Black-backed Gull	*Larus marinus*	18-May-21	Y
Lesser Black-backed Gull	*Larus fuscus*	18-May-21	Y
Razorbill	*Alca torda*	18-May-21	Y
Rock Pipit	*Anthus petrosus*	18-May-21	Y
Wheatear	*Oenanthe oenanthe*	21-May-21	Y
Chough	*Pyrrhocorax pyrrhocorax*	18-May-21	Y
Hooded Crow	*Corvus cornix*	01-Jun-21	Y
Raven	*Corvus corvax*	18-May-21	Y
Cory's Shearwater	*Calonectris borealis*	02-Jun-21	N
Oystercatcher	*Haematopus ostralegus*	22-May-21	N
Pomarine Skua	*Stercorarius pomarinus*	19-May-21	N
Feral Pigeon	*Columba livia domestica*	01-Jun-21	N
Barn Swallow	*Hirundo rustica*	28-May-21	N
House Martin	*Delichon urbicum*	01-Jun-21	N
Meadow Pipit	*Anthus pratensis*	19-May-21	N
Pied Wagtail	*Motacilla alba yarrellii*	18-May-21	N
Willow Warbler	*Phylloscopus trochilus*	28-May-21	N
Chiffchaff	*Phylloscopus collybita*	30-May-21	N
Sooty Shearwater	*Ardenna grisea*	20-Jun-21	N
Collared Dove	*Streptopelia decaocto*	22-Jun-21	N
Rose Coloured Starling	*Pastor roseus*	24-Jun-21	N
Cormorant	*Phalacrocorax carbo*	08-Jul-21	N

Swift	*Apus apus*	17-Jul-21	N
Starling	*Sturnus vulgaris*	18-Jul-21	N
Balearic Shearwater	*Puffinus mauretanicus*	19-Jul-21	N
Leach's Petrel	*Hydrobates leucorhous*	19-Jul-21	N
Great Shearwater	*Ardenna gravis*	05-Aug-21	N
Turnstone	*Arenaria interpres*	06-Aug-21	N
Purple Sandpiper	*Calidris maritima*	06-Aug-21	N
Great Skua	*Stercorarius skua*	10-Aug-21	N
Curlew	*Numenius arquata*	10-Aug-21	N
Long-tailed Skua	*Stercorarius longicaudus*	10-Aug-21	N
Arctic tern	*Sterna paradisaea*	18-Aug-21	N
Artic Skua	*Stercorarius parasiticus*	15-Sep-21	N
Pied Flycatcher	*Ficedula hypoleuca*	30-Aug-21	N
Sedge Warbler	*Acrocephalus schoenobaenus*	30-Aug-21	N
Robin	*Erithacus rubecula*	30-Aug-21	N
Spotted Flycatcher	*Musciapa striata*	30-Aug-21	N
Snow Bunting	*Plectrophenax nivalis*	11-Oct-21	N
Kestrel	*Falco tinnunculus*	14-Sep-21	N

4.3.5 Invasive Species

Two species listed on the Non-native species Risk Assessment for Ireland were observed on the island. House Mouse (*Mus musculus*) is listed on the High-Risk category (with a score of 20/25) and was recorded regularly over summer 2021. European Rabbit (*Oryctolagus cuniculus*) is listed on the Medium Risk Category (with a score of 16/25) was also recorded regularly on the island.

4.3.6 Aquatic Environment

There were no freshwater aquatic features within the confines of, or adjacent to the site. The marine water environment is characterised by Figures 9 and 10 below. The Southwestern Atlantic Seaboard (HAs 21;22) is the coastal water body adjacent to the site and within the Skelligs SPA (004007). Water Framework Directive status of this coastal water body is as of yet unassigned. This water body is deemed Not at Risk by the EPA.

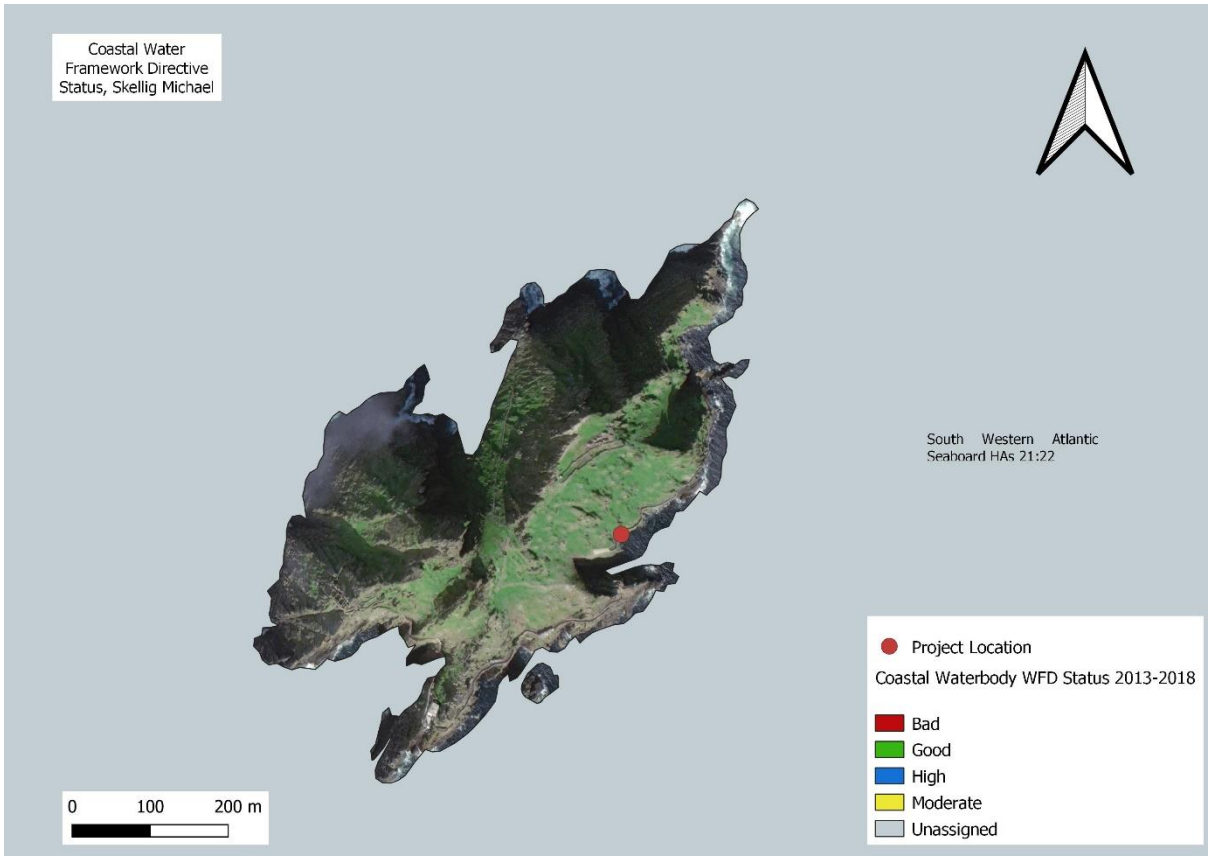

Figure 9 Coastal Water Framework Directive Status

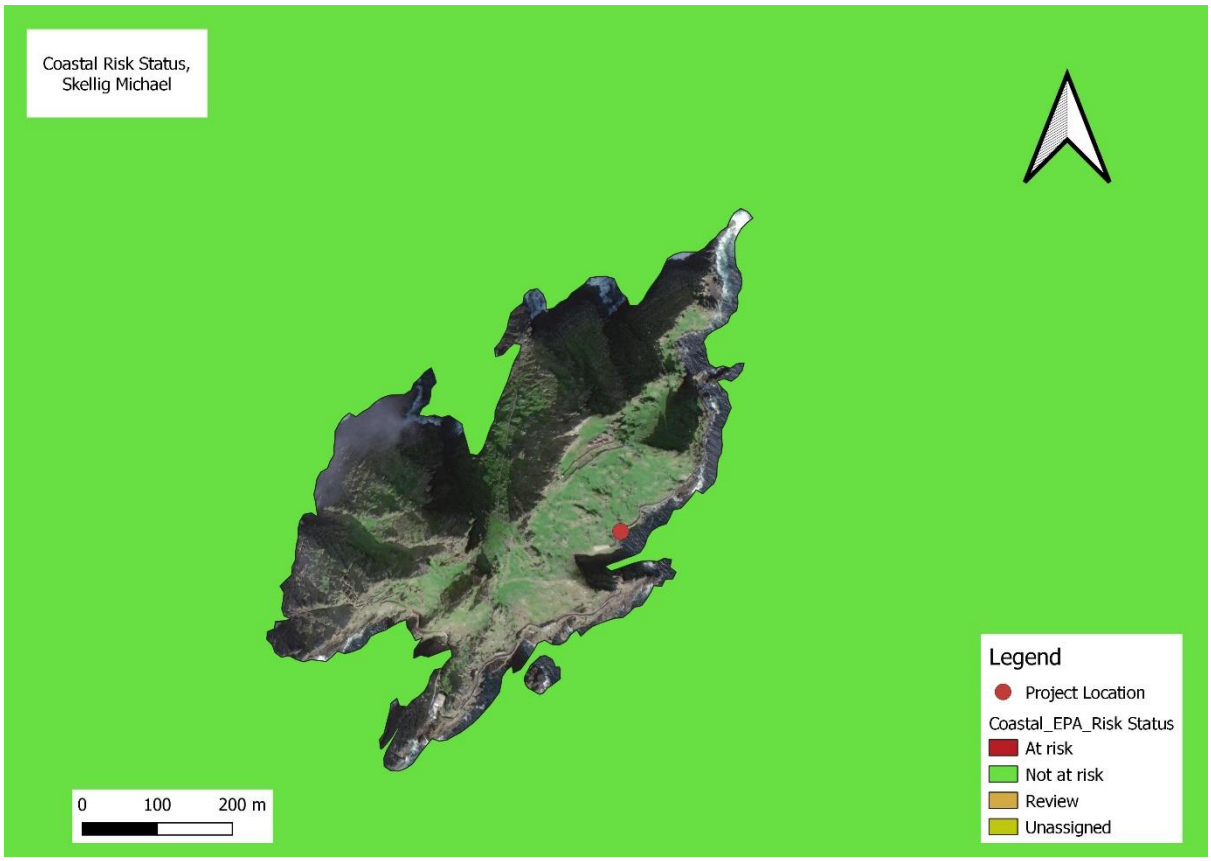

Figure 10 Risk Status of Coastal Waterbodies

4.4 Identification of European Sites

The site of the proposed works is within the boundary of the Skelligs SPA (004007), which is located approximately 12km from the mainland. There are three other Natura 2000 sites within a 15km radius. However, these are not considered to be within the Zone of Influence owing to the isolated nature of the site and a lack of connectivity.

4.5 Assessment of Potential Likely Significant Effects

Based on the project description as set out in Section 4.1 and the Zone of Influence of the project, using professional judgement and published guidance, potential effects can be identified. Table 6 focuses on the potential effects that could occur during the construction and operational phase of the proposed project.

Table 6 Potential LSEs

Description of LSE	Potential Pathway
Description of elements of the project likely to give rise to potential ecological impacts.	• Works will be conducted entirely within a Natura 2000 site (Skelligs SPA) in or adjacent to breeding colonies. • Works are scheduled to take place during the breeding season for some SCI species
Describe any likely direct, indirect or secondary ecological impacts of the project (either alone or in combination with other plans or projects) by virtue of: • ***Size and scale;*** • ***Land-take;*** • ***Distance from Natura 2000 Site or key features of the Site;*** • ***Resource requirements;*** • ***Emissions;*** • ***Excavation requirements;*** • ***Transportation requirements;*** • ***Duration of construction, operationetc.***	**Works Phase** • Potential disturbance/displacement of SCIs during the breeding season as a result of fugitive noise emissions/vibration and increased human activity for duration of works. • Direct collision, uncontrolled removal of loose materials poses a collision risk for species in and below the works area. • Habitat loss and alteration, Human footfall within the works area and uncontrolled removal of rock has potential to damage nesting habitat **No Operational Phase**

4.5.1 Potential In-combination Effects

AA Screening must identify all aspects of the project which would have Likely Significant Effects European site, either alone (as identified in Table 6) or in-combination with other aspects of the same project and/or with other plans or projects. Two types of in-combination effects should be considered. Intra-project effects are the combined effects of different types of impact within the proposed project, for example the combined effects of disturbance and changes to water quality. Inter-project impacts are combined impacts from different projects and those resulting from the proposal, for example, a similar operation in close proximity. Inter-project in-combination effects are considered to be those that may arise from the project in-combination with other plans and projects that are completed, as well as those proposed and consented but not yet built and operational. Plans or projects that are proposed (but not yet approved) should also be considered in this context (EC, 2002). A search for relevant plans and projects within the ZoI was undertaken for assessment of in-combination impacts, the source listed below were searched:

Kerry County Council

An Bord Pleanála

Owing to the isolated nature of the site and the absence of any other projects in the area there is no potential for in-combination effects.

4.6 Screening Conclusion

Following examination of the proposed project, including the nature and location of works, it has been concluded that there is potential for Likely Significant Effects to occur for:

Skelligs SPA 004007

The proposed works has the potential to impact on the SCIs of the Skelligs SPA. In the absence of mitigation, impacts could be significant. This Screening for AA has established that the proposed project has the potential to undermine the conservation objectives for the site, either alone, or in combination with other plans or projects. Therefore, an Appropriate Assessment (AA) of the proposed project is required. Further assessment of the potential impacts on the SPA will be required through the preparation of a NIS (Natura Impact Statement).

5 Information for Appropriate Assessment

5.1 General Ecology of the Area

The proposed works is located within the Skelligs SPA (004007). No Annex I species were recorded within the boundary of the proposed works area. Seven species of bird are listed as SCIs for the Skelligs SPA, six of which nest on Skellig Michael. A complete list of these species can be found in Table 2. Fulmar and Puffin nest on ledges in close proximity to the proposed works with Storm Petrel, Kittiwake and Guillemot nesting nearby. No Manx Shearwater nests are known from the immediate area.

Habitats and flora within the proposed development site were classified using the Heritage Council's Guide to Habitats in Ireland (Fossitt, 2000). Within each habitat, dominant and abundant plant species and indicator species were recorded. Habitats recorded within the proposed development site comprised the following;

- Rocky Sea Cliffs (CS1)
- Stone Walls and other stonework (BL1)
- Buildings and Artificial Surfaces (BL3)
- Sea walls, Piers and Jetties (CC1)
- Open Marine Water (MW1)
- Sea inlets and bays (MW2)

A search of the National Biodiversity Data Centre (NBDC) database identified no Annex IV (Habitats Directive) species. This search identified the presence of two invasive species on the Island, House mouse and European rabbit.

Four species of bat were recorded on the island between the 28th of August and 5th of September 2021 (see Table 5). No suitable roost habitat is located within the proposed project area.

5.2. European Sites Taken to Stage 2 AA (Skelligs SPA (004007))

The proposed works is within the Skelligs SPA (004007). The Skelligs SPA lies in the Atlantic Ocean and is comprised of Skellig Michael, Little Skellig and some of the surrounding marine area.

The geology of the island consists of primarily red conglomerate, sandstone and mudstone. The SCIs for the site are listed in Table 2 and discussed in detail in section 5.3.

5.3 Special Conservation Interests Potentially Impacted by the Proposed Development

5.3.1 Fulmar (*Fulmarus glacialis)*

Fulmars are a member of the tubenose family that nest on cliffs and ledges around Ireland and other coastal areas in the North Atlantic. The majority of Irish birds are found in the west of the country (Mitchell et al., 2004). Fulmars are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021). Work on Scottish colonies suggests that breeding begins in mid-May,

with chicks subsequently fledging in late August (Edwards et al., 2013). Work on Skellig Michael during the 2021 season suggests this pattern is similar on the island, though birds may be holding territory earlier in the season (B Power 2021, personal communication).

5.3.2 Puffin (*Fratercula arctica)*

Puffins are one of three species of Auk breeding on Skellig Michael and are found well distributed throughout the North Atlantic (Mitchell, et al., 2004). They are typically a burrow nesting species of seabird (Finney, et al., 2001). The breeding period typically begins in late April/May when a single egg is laid with at least some eggs hatched by mid-May (Taylor, et al., 2012). Estimates of the fledging period vary from 36 to 83 days (DEHLG, 2015; Taylor, et al., 2012; Finney, et al., 2001). Work on Skellig Michael during 2021 suggests this pattern is similar on the island (B Power 2021, personal communication). They are on the Red List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021).

5.3.3 Storm Petrel (*Hydrobates pelagicus*)

Storm petrel are a small pelagic species of seabird found throughout the North Atlantic (Mitchell, et al., 2004). In Ireland the breeding population is mainly associated with islands off the west coast. The breeding period typically commences in May/June (DEHLG, 2015), with the majority of eggs laid in late June (Ratcliffe, et al., 1998). Hatching typically occurs between mid-July and mid-Aug with average departure dates on Skokholm Island in Wales, ranging from 6th September – 20th October (Davies, 1957). However, the species has a highly variable phenology and birds may be present holding territory early in the season. They are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021).

5.3.4 Kittiwake (*Rissa tridactyla*)

Kittiwakes are a species of gull found throughout the Northern Hemisphere. They are often a colonial nesting species (Mitchell, et al., 2004). The breeding season typically begins within the first two weeks of May (Mitchell, et al., 2004; Taylor, et al., 2012), although sometimes as early as January or February (DEHLG, 2015). Fledging occurs between five and seven weeks (Vincenzi & Mangel, 2013). Work on the island during the 2021 season showed Kittiwakes following this pattern (B Power 2021, personal communication). Skellig Michael holds nationally important numbers of kittiwake. Data collected under the National Seabird Monitoring Programme over the period 2013 – 2018 estimated the breeding population of kittiwake on Skellig Michael to comprise 789 apparently occupied nests (Cummins et al., 2019) Kittiwakes are on the Red List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021).

5.3.5 Guillemot (*Uria aalge*)

Guillemots are a species of auk that nest on outer sea cliffs of the island. In Ireland their distribution is scattered around the coast with Dublin, Wexford and Clare holding large colonies (Mitchell, et al., 2004). Guillemots are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026. The breeding season usually commences in late March/April with young typically leave the nest sometime between mid-June and mid-July where they continue to develop at sea (Birkhead, et al., 2012; Taylor, et al., 2012).

5.3.6 Manx Shearwater (*Puffinus puffinus*)

Manx shearwaters are medium-sized pelagic seabirds found throughout the North Atlantic. Ireland holds high breeding numbers of the species with Britain and Ireland have the majority of the global breeding population (Mitchell, et al., 2004). Manx Shearwater are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026. Populations in Ireland have a localised breeding distribution (Gilbert, et al., 2021), with the majority of the population found on islands mainly off the coast of counties Kerry and Galway (Mitchell, et al., 2004).

5.4 Appraisal for Potential Impacts on Skelligs SPA (004007)

When Natura 2000 sites are selected for Stage 2 assessments, then all the qualifying features of conservation interest must be included in that stage of the assessment. However, when assessing impact, qualifying features are only considered relevant where a credible or tangible source- pathway-receptor link exists between the proposed development and a protected species or habitat type. In order for an impact to occur there must be a risk initiated by having a 'source' (e.g. nearby watercourse), a 'receptor' (e.g. a protected species associated aquatic or riparian habitats), and an impact pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to the site designated for the protection of the aforementioned species).

Identifying a risk that could, in theory, cause an impact does not automatically mean that the risk event will occur, or that it will cause or create an adverse impact. However, identification of the risk does mean that there is a latent possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature of the risk, the extent of the exposure to the risk and the characteristics of the receptor. Therefore, bearing in mind the scope, scale, nature and the timing of the project, its location relative to the spatial distribution of the species listed above on the island and within the SPA boundary and the degree of connectedness that exists between the project and potential receptors, it is considered that not all SCIs are within the zone of potential impact of the proposal.

An evaluation based on these factors to determine which of the SCIs for the SPA are the plausible ecological receptors for potential impacts of the unmitigated proposal has been conducted and is

summarised hereunder in Table 7. This was done through a scientific examination of ecological evidence and data listed above in Section 3 or referenced in the text. This evaluation has determined that certain species should not be selected for further assessment as they are not considered plausible ecological receptors. Supporting rationale as to why each qualifying feature is or is not included for further assessment is provided in the table. Following this, an assessment is made of the potentially significant effects arising from the proposal

Table 7 Selection of qualifying features of the Skelligs SPA for impact assessment

Qualifying Feature	Potential for Significant Impacts	Rationale
Fulmar	**Yes**	– Fulmar utilise many of the habitats within the footprint of the works for nesting and, they nest on surrounding cliff-faces and rock ledges. – Works will not overlap with the fulmar breeding season though birds may be present holding territory. – There is potential for direct/indirect disturbance/displacement of and risk of collision to Fulmar during the works.
Manx shearwater	**Yes**	– Suitable nesting habitat for Manx shearwater may occurwithin the footprint of the works and may occur in suitable areas on surrounding pockets of soil in the greater area. – Works will potentially overlap with the Manx shearwater breeding season. – There is potential for direct/indirect disturbance/displacement of and direct collision with Manx shearwater during the works.
Kittiwake	**Yes**	– While kittiwake do not utilise any of the habitats within the footprint of the works for nesting, they do nest on surroundingcliff-faces and rock ledges below. – Works will potentially overlap with the kittiwake breeding season. – Based on precautionary principle, there is potential for direct/indirect disturbance/displacement of and direct collisions to kittiwake during the works.
Guillemot	**Yes**	– Guillemot do not utilise any of the habitats within the footprint of the works for nesting; however, they do nest on some surrounding cliff-faces and rock ledges below. A guillemot sub-colony is located in Seal Cove and colonies are found on cliff edges below the lighthouse road at and around Cross Cove. – Based on precautionary principle, there is potential for direct/indirect disturbance/displacement of and direct collision with guillemot during the works.

Storm petrel	**Yes**	– Storm petrels utilise suitable stone walls and other man-made structures throughout the island for nesting. They also nest in suitable crevices under rocks in open ground areas. – Works will take place outside of the core storm petrel breeding season however birds are known to return to nest sites pre breeding and may be holding territory in the area. – There is potential for storm petrels to occur in proximity to the proposed works (either within the seawall below or in othersuitable surrounding areas. – There is potential for direct/indirect disturbance/displacement impacts to and direct collisions with storm petrel during the works.
Puffin	**Yes**	– Suitable nesting habitat for puffin occurs within the footprint of the works. – As the works overlap with the puffin breeding season on the island, there is potential for direct/indirect disturbance/ displacement of puffin during the works phase. – There is also potential for risk of collision during the works
Gannet	**No**	– Gannet do not breed on Skellig Michael, and do not typically occur on the island at all. The gannet breeding colony within the SPA is confined to Little Skellig, located at a remove of 3 km from Skellig Michael. – No potentially significant effects on gannet are envisaged as a – result of the project.

6 Assessment of Potentially Significant Effects to Natura 2000 Sites

There follows an evaluation of the potential ecological impacts identified above which may arise as a result of the proposed works on the qualifying features that have been selected for impact assessment in **Section 5** above and determines whether the proposal is likely to have adverse effects on the Conservation Objectives of the Skelligs SPA. Note that there is no operational phase to the proposed works.

6.1 Likely adverse effects

The likelihood of adverse effects to the Skelligs SPA from the proposed works has been determined based on a number of indicators including potential for:

- Habitat loss or alteration
- Disturbance and/or displacement of species
- Direct collisions from dislodged material

The likelihood of significant cumulative/in-combination effects is assessed in **Section 6.3** below.

6.1.1 Habitat Loss and Alteration

Puffins utilise the habitats within the footprint of the works for nesting and are known to nest on the slopes above the OPW accommodation huts and in suitable areas across the island. Nest types vary from Burrows to chambers under rocks. Removal of large rock material may potentially impact available nesting habitats, entry into sensitive areas will have potential to collapse burrow chambers and dislodged material may have potential to impact burrows if not brought down in a controlled manner. Similarly Storm petrels and Manx Shearwater habitats often overlap with Puffin and use areas of open ground where suitable burrows or chambers may be present. While works area outside of the core breeding season for these species, they may still be present holding territory and, impacts on their breeding habitat have the potential to occur.

6.1.2 Disturbance and/or displacement of species

The Puffin breeding season is likely to have commenced during the period of the proposed works and will be present with the works area. Adult birds may be present within suitable nest sites and loafing in the area.

Power tools may be used if new anchor points are required, noise generation will have potential to disturb loafing birds

There will be increased human activity, albeit a maximum of 3 workers in the work areas for the duration of the works. These workers will be descending on ropes through potential breeding/loafing areas and have the potential to disturb birds..

Dislodged material, if removed in an uncontrolled manner may have the potential to increase noise levels causing birds to evacuate the area.

6.1.3 Direct Collisions

There is a potential risk of direct collisions with birds nesting or holding territory in the works area and on the slopes below. This risk is in the form of direct impacts with birds by falling dislodged material or via ropes going down cliffs. Puffins and Fulmars utilise areas with the works areas for loafing and nesting. While the proposed works is outside the core breeding season for Fulmar, they are known to hold territory throughout early parts of the season.

There is potential for dislodged rocks to directly impact birds nesting in chambers under soft vegetation, this may have potential impacts on nesting Puffins and Max shearwaters/Storm petrel holding territory within suitable nesting chambers.

While Guillemot do not utilise habitat within the works area they are present in colonies and sub colonies on the cliffs below. Dislodged material brought down in an uncontrolled manner may directly impact birds on cliffs.

6.2 Assessment of Effects on the Conservation Objectives of the Skelligs SPA

In Section 5 above, an evaluation was undertaken to determine which of the SCIs for the Skelligs SPA potentially lie within the zone of influence of the project and required further assessment in the NIS. This was done through a scientific examination of ecological evidence and data listed above in Section 3 or referenced. In this case, all SCIs apart from gannet, were selected for further assessment (see Section 5 for more information).

The effects of the project on the SCIs as a result of the proposal have been assessed against the measures designed to achieve the Conservation Objectives of the site. In the absence of site-specific Conservation Objectives for the SPA, the Conservation Objectives of other sites for which the same SCIs are designated have been used.

In the case of fulmar, kittiwake, guillemot and puffin, the specific species Attributes and Targets contained within the Saltee Islands SPA (004002) Conservation Objectives (NPWS, 2011) have been used. There are no specific Conservation Objectives available for either Manx shearwater or storm petrel for any designated SPA. Therefore, the Attributes and Targets for puffin, also a ground-nesting

seabird species, outlined within the Saltee Islands SPA Conservation Objectives, have been used. The outcome of the assessment has been presented in the following sections.

6.2.1 Fulmar [A009]

The conservation objective for fulmar within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to fulmar which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 8 below which also includes an assessment of the effects of the project against these measures.

Table 8 Assessment of effects on conservation objectives of fulmar

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Breeding population abundance: Apparently Occupied Sites (AOSs)	No significant decline	Yes, there is potential for risk of collision with adult birds that may be loafing or holding territory in the area	**Yes See section 7**
Productivity rate	No significant decline	No significant decline in productivity rate of fulmar within the SPA is predicted as a result of the proposal.	**No**
Distribution: breeding colonies	No significant decline	No significant decline in the distribution of fulmar breeding colonies within the SPA is predicted as a result of the proposal.	**No**
Prey biomass available	No significant decline	No significant decline in the prey biomass available to fulmar within the SPA is predicted as a result of the proposal.	No
Barriers to connectivity	No significant increase	There will be no increase in barriers to connectivity for fulmar within the SPA as a	**No**

		result of the proposal.	
Disturbance at the breeding site	No significant increase	A significant increase in disturbance of fulmar at breeding sites is not envisaged during either the proposed works as it is outside the core breeding season	No
Disturbance at marine areas immediately adjacent to the colony	No significant increase	There will be no increase in disturbance at marine areas adjacent to the fulmar colony as a result of the proposal.	**No**

6.2.2 Manx Shearwater [A013]

The conservation objective for Manx shearwater within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to puffin for the Saltees SPA (NPWS, 2011), which are used here as a proxy for Manx shearwater, are presented in Table 9 below which also includes an assessment of the effects of the project against these measures.

Table 9 Assessment of effects on conservation objectives of Manx shearwater

Attribute/Measure	Target	Assessment of Potentially Significant Effects	MitigationRequired
Breeding population abundance: Apparently Occupied Sites (AOS)	No significant decline	Yes, there is potential for risk of collision with adult birds that may be holding territory in the area	**Yes** **See section 7**
Productivity rate	No significant decline	No significant decline in productivity rate of Manx shearwater within the SPA is predicted as a result of the proposal.	**No**
Distribution: breeding colonies	No significant decline	Yes, there is potential for risk of collision with adult birds that may be holding territory in the area and potential for damage to nesting habitat	**Yes** **See section 7**

Prey biomass available	No significant decline	No significant decline in the prey biomass available to Manx shearwater within the SPA is predicted as a result of the proposal.	**No**
Barriers to connectivity	No significant increase	There will be no increase in barriers to connectivity for Manx shearwater within the SPA as a result of the proposal.	**No**
Disturbance at the breeding site	No significant increase	A significant increase in disturbance of Manx shearwater at breeding sites is notenvisaged during either the works phase of the project as it is outside of the core breeding season. Mitigation measures are proposed to reduce any potential disturbance impacts toManx shearwater that may have returned early to breeding sites	**Yes** **See Section 7**
Disturbance at marine areas immediately adjacent to the colony	No significant increase	There will be no increase in disturbance at marine areas adjacent to the Manx shearwater colony as a result of the proposal.	**No**
Occurrence of mammalian predators	Absent or under control	The proposal will involve transport of equipment to the island. On a precautionary basis, some general mitigation measures in relation to preventing the spread of mammalian predators onto the island are proposed.	**Yes** **See Section 7**

6.2.3 European Storm Petrel [A014]

The conservation objective for storm petrel within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with

regard to puffin for the Saltees SPA (NPWS, 2011), which are used here as a proxy for storm petrel, are presented in Table 10 below which also includes an assessment of the effects of the project against these measures.

Table 10 Assessment of effects on conservation objectives of storm petrel

Attribute/Measure	Target	Assessment of Potentially Significant Effects	MitigationRequired
Breeding population abundance: Apparently Occupied Sites (AOS)	No significant decline	Yes, there is potential for risk of collision with adult birds that may be holding territory in the area	**Yes** **See section 7**
Productivity rate	No significant decline	No significant decline in productivity rate of storm petrel within the SPA is predicted as a result of the proposal.	**No**
Distribution: breeding colonies	No significant decline	Yes, there is potential for risk of collision with adult birds that may be holding territory in the area and potential for damage to nesting habitat	**Yes** **See section 7**
Prey biomass available	No significant decline	No significant decline in the prey biomass available to storm petrel within the SPA is predicted as a result of the proposal.	No
Barriers to connectivity	No significant increase	There will be no increase in barriers to connectivity for storm petrel within the SPAas a result of the proposal.	**No**
Disturbance at the breeding site	No significant increase	Significant disturbance impacts to storm petrel at breeding sites are not envisaged as a result of the proposed works. As it falls outside the core nesting season. Some	**Yes** **See Section 7**

		general protective measures are recommended to minimise any potential disturbance to birds that may have returned early to nesting sites	
Disturbance at marine areas immediately adjacent to the colony	No significant increase	There will be no increase in disturbance at marine areas adjacent to the storm petrel colony as a result of the proposal.	**No**
Occurrence of mammalian predators	Absent or under control	The proposal will involve transport of equipment to the island. On a precautionary basis, some general mitigation measures in relation to preventing the spread of mammalian predators onto the island are proposed.	**Yes** **See Section 7**

6.2.4 Kittiwake [A188]

The conservation objective for kittiwake within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to kittiwake which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 11 below which also includes an assessment of the effects of the project against these measures.

Table 11 Assessment of effects on conservation objectives of kittiwake

Attribute/Measure	Target	Assessment of Potentially Significant Effects	MitigationRequired
Breeding population abundance: Apparently Occupied Sites (AOS)	No significant decline	Yes, there is potential for risk of collision with adult birds that may be loafing or holding territory in the area	**Yes** **See section 7**
Productivity rate	No significant decline	No significant decline in productivity rate of kittiwake within the SPA is predicted	**No**

		as a result of the proposal.	
Distribution: breeding colonies	No significant decline	No significant decline in the distribution of kittiwake breeding colonies within the SPA is predicted as a result of the proposal.	**No**
Prey biomass available	No significant decline	No significant decline in the prey biomass available to kittiwake within the SPA is predicted as a result of the proposal. However, on a precautionary basis, some general mitigation measures in relation to protection of water quality during construction and operation are recommended.	**No**
Barriers to connectivity	No significant increase	There will be no increase in barriers to connectivity for kittiwake within the SPA as a result of the proposal.	**No**
Disturbance at the breeding site	No significant increase	The proposed works may overlap with the start of the Kittiwake breeding season. Although Kittiwakes do not nest in the core works area they nest on rock ledges and cliffs below. Some general protective measures are recommended to minimise any potential disturbance impacts as a result of the proposed works	**Yes** **See Section 7**

6.2.5 Guillemot

The conservation objective for guillemot within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to guillemot which are defined in relation to the achievement of the Conservation Objectives for the

Saltee Islands SPA (NPWS, 2011) are presented in Table 12 below which also includes an assessment of the effects of the project against these measures.

Table 12 Assessment of effects on conservation objectives of guillemot

Attribute/Measure	Target	Assessment of Potentially Significant Effects	MitigationRequired
Breeding population abundance: Apparently Occupied Sites (AOS)	No significant decline	Yes, there is potential for risk of collision with adult birds that may be loafing or holding territory in the area	**Yes** **See section 7**
Productivity rate	No significant decline	No significant decline in productivity rate of guillemot within the SPA is predicted as a result of the proposal.	**No**
Distribution: breeding colonies	No significant decline	No significant decline in the distribution of guillemot breeding colonies within the SPA is predicted as a result of the proposal.	**No**
Prey biomass available	No significant decline	No significant decline in the prey biomass available to guillemot within the SPA is predicted as a result of the proposal.	**No**
Barriers to connectivity	No significant increase	There will be no increase in barriers to connectivity for guillemot within the SPA as a result of the proposal	**No**
Disturbance at the breeding site	No significant increase	Significant disturbance impacts to guillemot at breeding sites may occur through falling material or uncontrolled removal of loose rock.	**Yes** **See Section 7**
Disturbance at marine areas immediately adjacent to the colony	No significant increase	There will be no increase in disturbance at marine areas adjacent to the guillemotcolony as a	**No**

		result of the proposal.	

6.2.6 Atlantic Puffin [A204]

The conservation objective for puffin within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to puffin which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 12 below which also includes an assessment of the effects of the project against these measures.

Table 13 Assessment of effects on conservation objectives of puffin

Attribute/Measure	Target	Assessment of Potentially Significant Effects	MitigationRequired
Breeding population abundance: Apparently Occupied Burrows (AOB)	No significant decline	Yes, there is potential for risk of collision with adult birds that may be nesting, loafing or holding territory in the area from falling material or rocks removal if not brought down in an uncontrolled manner.	**Yes** **See Section 7**
Productivity rate	No significant decline	No significant decline in productivity rate of puffin within the SPA is predicted as a result of the proposal.	**No**
Distribution: breeding colonies	No significant decline	Yes, there is potential for risk of collision with adult birds that may be holding territory in the area and potential for damage to nesting habitat	**Yes** **See Section 7**
Prey biomass available	No significant decline	No significant decline in the prey biomass available to Puffin within the SPA ispredicted as a result of the proposal.	**No**
Barriers to connectivity	No significant increase	There will be no increase in barriers to connectivity for Puffin within the SPA as a result of the proposal.	**No**

Disturbance at the breeding site	No significant increase	As part of the proposed works there will be increased footfall within the nesting habitat of Puffins, there will be potential for disturbance from rocks if brought down in an unsafe manner.	**Yes** **See Section 7**
Disturbance at marineareas immediately adjacent to the colony	No significant increase	There will be no increase in disturbance at marine areas adjacent to the puffin colony as a result of the proposal.	**No**
Occurrence of mammalian predators	Absent or under control	The proposal will involve transport of equipment to the island. On a precautionary basis, some general mitigation measures in relation to preventing the spread of mammalian predators onto the island are proposed.	**Yes** **See Section 7**

6.3 In Combination Effects

As well as singular effects, the potential for in-combination or cumulative affects also need to be considered. A cumulative impact arises from incremental changes caused by another past, present or reasonably foreseeable future actions together with the proposed developments. The EC (2001) guidelines on the provision of Article 6 of the Habitats' Directive state that the phrase 'in combination with other plans or projects' in Article 3(3) of the Habitats Directive refers to the cumulative impacts due to plans or projects 'that are currently under consideration together with the effects of any existing or proposed projects or plans.' Relevant plans and projects have been identified above.

The Kerry County Development plan identifies Skellig Michael as a UNESCO World Heritage site and highlights the need for protection of such sites.

A number of on-going projects were in place during the 2022 season including the establishment of a new workers toilet and the establishment of permanent fall shelters on the lower lighthouse road.

The OPW is also running a longer-term conservation project on the old Lighthouse Road. Phase 1 and Phase 2 of this project are now complete. Phase 3 of the project was due to commence in 2019 and Ministerial consent was granted for Phase 4 of this project by the DHLGH. Work for these phases has and will centre on varying degrees of remedial work on the sea wall.

The OPW is also seeking permission for a restoration of a section of wall damaged by a boulder fall during the 2021/22 winter season.

It is not envisaged that the site of the proposed works will have any in combination effects with these ongoing works or future works.

6.3.1 Tourism

The average yearly visitor numbers to the island in the period 2009-2018 was 13,228 (Sceilg Mhichíl World Heritage Site Management Plan 2020–30). The typical tourist season runs from May until the end of September. The proposed works are to be carried out prior to the tourist season and therefore it is not envisaged that there will be an impact from a combination of tourism and the proposed works.

6.3.2 Plans

With regards to the potential for significant cumulative or in-combination impacts due to interaction with the proposed works and the Kerry County Development Plan (CDP) 2015 – 2021, it is considered that in general, County Development Plans, including the Kerry CDP 2015 – 2021, have a range of environmental and natural heritage policy safeguards in place. These safeguards, which protect the natural environment, will also apply to the proposal described in this report. No significant cumulative impacts are predicted with the Kerry CDP 2015 – 2021.

Bearing the above factors in mind, significant cumulative impacts arising due to interaction between the proposal and on-going remedial and conservation works to the Upper Lighthouse Road and seawall which could adversely affect the integrity of the Skelligs SPA and its Conservation Objectives are not predicted.

7 Mitigation of Risks

Three key factors were identified that have potential to impact the aspects of conservation objectives of the SPA from the course of the proposed works. These include disturbance and/or displacement of species, habitat loss and alteration and direct collisions. The role of an ecological clerk of works and measures to mitigate the likely adverse effects documented against the SCIs of the site are detailed in section 7.1

7.1 Ecological Clerk of Works

A qualified Ecological Clerk of Works will be appointed to oversee the proposed works.

- The OPW and DHLGH will meet with the ECoW at the commencement of the works to discuss and agree all details of the proposed works.
- The ECoW will conduct a pre-works survey of the general area surrounding the proposed works site to establish the presence of SCIs in the area and will submit a report to OPW on completion of the works which will be forwarded to the DHLGH and NPWS for comment.
- The ECoW will monitor the sweep from safe distance using binoculars and advise the operatives carrying out the safety by maintaining contact with them at all times using two-way radios to ensure minimum disturbance to wildlife.
- OPW will detail out to the ECoW, well in advance of any planned sweep, the precise intensity, location and timing of the particular sweep.
- The role of the ECoW not only involves the monitoring of these sweeps but the final go ahead to execute such sweeps rests with the ECoW.
- If significant amounts of birds are present (e.g. Puffin loafing at or near their breeding burrows) then the sweep will be paused until birds have entered their burrows or left to go to sea, which will help avoid significant direct disturbance.
- The ECoW will not give the go ahead to any sweep if there is a likelihood of significant damage to the breeding habitat of the listed seabirds of the SPA (e.g. caving in of Puffin and Manx Shearwater burrows) caused the presence or actions of the sweep operatives.
- The ECoW will not give the go ahead to any sweep if the removal or rolling off of any debris is likely to cause significant disturbance to the breeding seabirds (or damage to their habitats). This not only includes those breeding birds that are in the sweep field, but also includes those cliff nesting and other breeding seabirds downhill of the sweep location."

7.2 Measures to Avoid Accidental Introduction of Mammalian Predators to the Island

To prevent the accidental introduction of potential mammalian predators to the island, all equipment and materials brought to the island for the proposed works are to be securely stored on the mainland. Equipment, materials and the vessels themselves are to be checked for any signs of rodent or other infestation prior to arriving to the island. Table 13 sets out the measures below.

Table 14 Biosecurity Measures

Implementation time	Prevention measure
Prior to departure from mainland/another island	▪ All equipment and cargo should be visually inspected for the presence of or any signs of rodent stowaways, these include but not limited to gnawing, droppings, nest material. ▪ Where possible - empty, check and repack items into storage containers. This is especially important when items are stored for extended periods. ▪ Where possible - any food items should be stored in clean, sealed rodent-proof containers. ▪ Inform all passengers of the associated risks of incursion
In transit	▪ If an invasive species e.g., rodent is found onboard do not continue the journey. Return to the point of origin and ensure the vessel is free of invasive species before subsequent departures. ▪ Do not throw the individual(s) overboard. ▪ Report the incident to inform further biosecurity planning/measures. ▪ Ensure a bait station is on-board ▪ Ensure information on biosecurity is available to all people on the vessel
On site	▪ Be vigilant ▪ Maintain permanent monitoring and bait stations on the landing sites of each island. ▪ Maintain securely stored incursion response pack on each island. ▪ Ensure the quays/piers/landing sites are as clean as possible ▪ Dispose of waste correctly and preferably remove it from the island as soon as possible ▪ Report any signs of invasive species to the relevant person(s) and document any evidence to inform further biosecurity planning/measures ▪ Do not deliberately release any non-native species on the islands

Returning to mainland	▪ Do not leave food or waste near the quay/pier/marina or storage areas. ▪ Maintain bait stations at the quay or equipment storage area

7.3 Residual Impacts

Provided that the recommended mitigation measures set out in Section 7 are implemented in full, it is not expected that significant residual impacts will result from the proposed works.

8 Conclusion

A study to inform an Appropriate Assessment has been undertaken to assess the nature of potential environmental effects that may result from works associated with an inspection and health and safety sweep for loose rock material on Skellig Michael Co. Kerry. These works aim to improve safety of the island for OPW work crews and visitors. Following the identification of Likely Significant Effects at AA Screening, consideration was given as to whether those impacts could result in adverse effects on the integrity of the Skelligs SPA (004007).

AA Screening showed potential pathways for Likely Significant Effects with respect to the SCIs of the SPA. Pathways that could not be discounted at AA Screening related to noise pollution effects, prolonged exposure to people, and potential for collisions to impact the SCIs.

This report examined the potential for changes in the baseline conditions as a result of the proposed development in more detail against the conservation objectives for Skelligs SPA, using the best available baseline information, and in view of the mitigation measures proposed to mitigate the potential for adverse effects.

In conclusion, based on the best available scientific information and professional judgement, it is considered that there will be no adverse effects on the integrity of Skelligs SPA due to the timing, size and scale of the proposed works. On the application of the mitigation, only very weak source-receptor pathways exist that could undermine the structure or ecological functioning of the site or the conservation objectives that define the favourable status of the SCI features. No supporting habitats, such as those used for breeding or commuting, or food sources would be functionally reduced.

On the basis of these weak pathways and on review of other plans and projects that could contribute to effects, significant adverse in-combination effects with other plans and projects are also not considered likely to occur. Therefore, no reasonable scientific doubt remains as to the absence of effects on the integrity of Skelligs SPA.

Table 15 Integrity of the Site in Relation to Residual Impacts

Conservation objectives: does the plan or project have the potential to:	Y/N
Cause delays in progress towards achieving the conservations objectives of the site?	N
Interrupt progress towards achieving the conservation objectives for the site?	N
Disrupt those factors that help to maintain the favourable conditions of the site?	N
Interfere with the balance, distribution and density of key species that are the indicators of the Favourable condition of the site?	N
Other objectives: does the plan or project have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	N
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	N
Interfere with the predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	N
Reduce the area of key habitats?	N
Reduce the population of key species?	N
Change the balance between key species?	N
Reduce the diversity of the site?	N
Result in disturbances that could affect population size or density or the balance between key Species?	N
Result in fragmentation?	N
Result in loss or reduction of key features (e.g. open wall habitat, burrow nesting habitat, etc.)?	N

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