Scottish Isles Fibre Optic Cable Project

Inner Hebrides Routes:

Historic Environment Baseline and Impact Appraisal

Technical Report

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Project No: 906

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Executive Summary

This document is a standalone historic environment baseline and impact appraisal technical document. This report identifies any sites of archaeological or historical importance within the marine cable corridors and at their associated landfalls within the Inner Hebrides geographical area of the proposed fibre optic telecommunications cable project.

The report appraises the potential impacts of the works on the historic environment and identifies mitigation and management strategies to address any identified issues and impacts concerning the archaeological and heritage resource. This document supports the Environmental Appraisal (MEA) submitted for the Marine Licence Application and planning permission.

Avoidance of known assets is the primary embedded mitigation, using exclusion zones where required, and supported by undertaking desk-based, walkover and marine geophysical surveys in order to identify any historic environment assets that might be impacted, and thus reduce or eliminate that risk. A Protocol for the accidental discovery of archaeological finds and remains (PAD) will be instated for the reporting of discoveries to the appropriate authorities for both the marine and the onshore works.

All identified known sites have been or will be avoided with the use of the measures described above.

Various specific mitigations, including archaeological watching briefs, usually due to the potential for submerged paleoenvironmental deposits in intertidal zones, or the potential for the discovery of sites in onshore machair and dune systems, are recommended at specific landfalls.

The mitigation and management strategies proposed will reduce or eliminate any significant impacts on historic environment assets at the landfalls or in the marine corridors. The implementation of these strategies result in there being no or negligible effects on most known historic environment assets, and a potential minor significance of effect on some known assets and on unknown historic assets that may be present.

Contents

1 Introduction

ORCA was commissioned by Intertek Energy and Water Consultancy Services (Intertek) on behalf of Global Marine Group (GMG) and BT to assess potential impacts on the onshore and marine historic environment by the proposed installation of four inter-island fibre optic cables and their associated landfalls within the Inner Hebrides geographical area. This document specifically addresses those four routes and their associated landfalls.

In general, the historic environment is considered to be the physical evidence for human activity, including objects, structures, landscapes and features, whether buried, above ground or underwater (*Our Place in Time*, Scottish Government 2014).

The marine historic environment is considered to encompass submerged landscapes where human beings and early hominids previously lived or hunted on terrain which was at that time dry land, or where they exploited fish and shellfish on the coast which is now submerged, submerged aircraft wrecks, and all evidence of human exploitation of maritime resources such as shipwrecks, shipyards, harbours, piers, fish traps, ballast piles and anchorages. Marine historic assets are defined in the Marine (Scotland) Act 2010, section 73, paragraph 5) as:

- a vessel, vehicle or aircraft (or a part of a vessel, vehicle or aircraft),
- the remains of a vessel, vehicle or aircraft (or a part of such remains),
- an object contained in, or formerly contained in, a vessel, vehicle or aircraft,
- a building or other structure (or a part of a building or structure),
- a cave or excavation, or
- a deposit or artefact (whether or not formerly part of a cargo of a ship) or any other thing which evidences, or groups of things which evidence, previous human activity.

This document is a standalone historic environment baseline and impact appraisal technical document. This report identifies any sites of archaeological or historical importance that might be affected by the landfalls and marine corridors and identifies strategies for mitigating and managing any identified issues and impacts concerning the archaeological and heritage resource. This document supports the Environmental Appraisal (MEA) submitted for the Marine Licence Application and planning permission.

This report includes:

- A review of relevant historic environment legislation and policy;
- A review of key data sources to identify known sites in the marine corridors and landfall areas, and the potential for unidentified sites and areas;
- A review of the marine survey data from each marine corridor;
- A review of the cultural heritage sites identified during walkover surveys of the landfall area;
- A tabular presentation of the results of the DBA and walkover surveys (Appendix 1);
- An impact appraisal and mitigation strategies; and
- A tabular presentation of the results of the impact appraisal (Appendix 2).

2 Context and Aims of the Report

This report identifies any potential historic environment issues or constraints; evaluates the suitability and acceptability of the landfall and comments upon the sensitivity of the planned route at the landfall in order to inform the MEA chapter. It aims to:

- Review existing databases on the historic environment in the marine cable corridors and landfall areas, including wrecks, onshore cultural heritage sites, submerged landscapes in the intertidal zone, and relative sea-level change;
- Identify known or likely sensitive historic environment assets in the marine cable corridors and landfall areas and the potential for unknown remains;
- Categorise sites in terms of importance (or sensitivity) and local, regional, national or international relative importance; and
- Recommend any further work and suggest any further assessment, mitigation or management strategies, identifying any potential issues, sensitivities or constraints.

The report uses the following terms for different aspects of the project:

Marine and intertidal cable corridor: 500m wide marine cable route corridor to MHWM;

Beach Man Hole (BMH) buffer study area: 500m radius area around the proposed BMH location (see Section 4.2 below);

Landfall corridor: 500m wide intertidal and onshore corridor at each landfall site and extending inland as appropriate to and beyond the BMH location; and

Walkover survey area: the area subjected to an archaeological walkover survey, the same as the Landfall corridor. Any additional areas walked are specifically mentioned in Section 4.4 below.

3 Legislative Framework and Policy Context

The Project is located within Scotland and Scottish and UK Territorial Waters. There are a number of international legally binding conventions, UK and Scottish legislation, policy frameworks and guidance to consider in relation to the historic environment, both marine and onshore, all of which include the requirement to address potential impacts on the historic environment. Relevant guidance and legislation relating to the historic environment and assessment of impacts on it are discussed below.

3.1 International legislation and policy

The following conventions promote the protection of underwater heritage, with provisions for appropriate recording and recovery if disturbance is unavoidable:

The *United Nations Convention of the Law of the Sea* (UNCLOS) was ratified by the UK in 1997. Article 303 stipulates that ‘states have a duty to protect objects of an archaeological and historical nature found at sea and shall co-operate for this purpose’;

The Annex to the UNESCO *Convention on the Protection of the Underwater Cultural Heritage 2001* has been signed up to by the UK Government. As such, the rules of the Annex will be considered in deciding any license applications. Rule 1 of the Annex stipulates that ‘The protection of underwater cultural heritage through in situ preservation shall be considered as

the first option. Accordingly, activities directed at underwater cultural heritage shall be authorised in a manner consistent with the protection of that heritage, and subject to that requirement may be authorised for the purpose of making a significant contribution to protection or knowledge or enhancement of underwater cultural heritage';

The *European Convention on the Protection of the Archaeological Heritage* (revised), known as the Valletta Convention, was ratified by the UK Government in 2000. This contains provisions for the protection of archaeological heritage both underwater and on land, preferably in situ, but with provisions for appropriate recording and recovery if disturbance is unavoidable; and

The *European Landscape Convention* (ratified by the UK government in 2006), promotes the protection, management and planning of landscapes, including the historical and cultural aspects of landscapes.

3.2 UK legislation and policy

Key UK legislation and policy includes:

The primary piece of UK legislation concerning archaeology is *The Ancient Monuments and Archaeological Areas Act 1979* (AMAAA), concerning sites that warrant statutory protection due to being of national importance and are Scheduled under the provisions of the Act. The Act is administered in Scotland by Historic Environment Scotland.

Such sites or areas may include any "monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it". A monument is defined within the Act as:

"any building, structure or work above or below the surface of the land, any cave or excavation; any site comprising the remains of any such building, structure or work or any cave or excavation; and any site comprising or comprising the remains of any vehicle, vessel or aircraft or other movable structure or part thereof" (Section 61 (7))", with the additional definition of "any thing, or group of things, that evidences previous human activity" derived from section 14 of the *Historic Environment (Amendment) (Scotland) Act 2011*;

The *Merchant Shipping Act 1995*; requires that all recovered wreck landed in the UK is reported to the Receiver of Wreck, whether recovered from within or outside UK waters and even if the finder is the owner;

Section 1 of *The Protection of Wrecks Act 1973*, which provides for wrecks to be designated because of historical, archaeological or artistic value, was repealed in Scotland on the 1st November 2013 and replaced by protection under the Marine (Scotland) Act 2010 (see 3.3 below);

The *Protection of Military Remains Act 1986* (PoMRA) has the principal concern to protect the sanctity of vessels and aircraft that are military maritime graves. Any aircraft lost while in military service is automatically protected under this Act;

The *Marine and Coastal Access Act 2009* devolves marine planning, licensing and conservation powers including 'the need to protect the environment' (section 69a), which in section 115(2) states is inclusive of 'any site Including any site comprising, or comprising the remains of, any vessel, aircraft or marine structure) which is of historic or archaeological

interest', in Scottish inshore (0-12nm) and offshore waters (12-200nm) to the Scottish Ministers; and

The *UK Marine Policy Statement* (2011) states heritage assets should be conserved through marine planning in a manner appropriate and proportionate to their significance. Many heritage assets with archaeological interest are not currently designated as scheduled monuments or protected wreck sites but are demonstrably of equivalent significance. The absence of designation for such assets does not necessarily indicate lower significance and the marine planning authority should consider them subject to the same policy principles as designated heritage assets (include those outlined) based on information and advice from the relevant regulator and advisors.

3.3 Scottish legislation and policy

Relevant Scottish legislation and policy includes:

The *Town and Country Planning (Scotland) Act* (1997) and amendments, *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997* and amendments, and *The Planning etc. (Scotland) Act 2006* are the primary legislation which govern both onshore development planning and development management in Scotland in relation to the historic environment. Planning authorities, prior to granting planning permission, consult with Historic Environment Scotland as a statutory consultee on any development proposals that may affect the site or setting of a Scheduled Monument, an A-Listed building, an Inventoried Garden or Designed Landscape, or an Inventoried Historic Battlefield. This means that the presence of such sites within the area of a proposed development and the protection of its setting are material considerations in the planning process.

The Town and Country Planning (General Permitted Development) (Scotland) Order 1992, and as amended, including by *The Town and Country Planning (General Permitted Development and Use Classes) (Scotland) Amendment Order 2020*, which came into force April 2021, allows for permitted development rights (PDR) on the grounds that other legal protections and good practice guidance should mitigate any potential negative impacts. PDR in areas designated for their cultural heritage (conservation areas; settings of listed buildings and scheduled monuments; historic gardens and designed landscapes) should be subject to prior notification / approval to assess potential impacts on archaeology and cultural heritage.

The *Historic Environment Policy Statement for Scotland* (HEPS) 2019 includes policies that decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance; that detrimental impacts on the historic environment should be avoided, but where these are identified and unavoidable, these should be minimised, and steps should be taken to demonstrate that alternatives have been explored and mitigation measures put in place;

Historic Environment Scotland Designation Policy and Selection Guidance 2019 stands alongside HEPS 2019 and outlines the principles and criteria that underpin the designation of historic sites and places;

Scottish Planning Policy (SPP), revised in 2020, states that authorities should protect archaeological sites and monuments (and a range of other historic assets) as an important, finite and non-renewable resource and preserve them in situ wherever possible. Where preservation in situ is not possible, authorities should ensure that developers undertake

appropriate excavation, recording, analysis, publication and archiving before and/or during development. If archaeological discoveries are made during any development, they should be reported to the authority to enable discussion on appropriate mitigation measures;

The Scottish Government's *Planning Advice Note (PAN 2/2011) Planning and Archaeology 2011* states that for all developments, the principles of preservation in situ, or mitigation where necessary equally apply to sites on land or underwater;

The *Marine (Scotland) Act 2010* requires licensing activities in the marine environment to consider potential impacts on the marine environment including features of archaeological or historic interest and in Section 73 defines marine historic assets (see section 1.0 above). Historic Environment Scotland is a statutory consultee on any development proposals that may affect the site or setting of an Historic Marine Protected Area.

The Scottish Government's *Scotland's National Marine Plan: A Single Framework for Managing Our Seas* (March 2015) covers both Scottish inshore waters (out to 12nm) and offshore waters (12 to 200nm). It also applies to the exercise of both reserved and devolved functions. It contains policies and advice concerning the marine historic environment, including:

- Policy GEN6 Historic environment: Development and use of the marine environment should protect and, where appropriate, enhance heritage assets in a manner proportionate to their significance;
- As well as the designated marine heritage assets there are likely to be a number of undesignated sites of demonstrably equivalent significance, which are yet to be fully recorded or await discovery;
- It is recommended that Historic Marine Planning Partnerships and licensing authorities should seek to identify significant historic environment resources at the earliest stages of planning or development process and preserve them in situ wherever feasible. Adverse impacts should be avoided, or, if not possible, minimised and mitigated. Where this is not possible licensing authorities should require developers to record and advance understanding of the significance of the heritage asset before it is lost, in a manner proportionate to that significance. (Chapter 4.20-25);
- The use of the marine environment … recognises the protection and management needs of marine cultural heritage according to its significance. (High Level Marine Objective 18).

3.4 Local planning policy

The proposed cable corridors and landfalls lie within the Argyll and Bute Council area, except for Route 2.13, which lies within The Highlands Council area.

The *Argyll and Bute Local Development Plan* (2015) Policy LDP3 states that the planning authority will assess applications for planning permission with the aim of protecting conserving and where possible enhancing the built, human and natural environment. *The Argyll and Bute Local Development Plan Supplementary Guidance* (2016) Policies SG LDP ENV 15 to 20 have a presumption in favour of retaining, protecting, conserving and enhancing the existing archaeological heritage and any future discoveries, including Listed Buildings, Conservation Areas, Scheduled Monuments, Gardens and Designed Landscapes, and undesignated sites of archaeological importance. Where the planning authority deems that the protection and

preservation of archaeological deposits in situ is not warranted for whatever reason, it shall satisfy itself that the developer has made appropriate and satisfactory provision for the excavation, recording, analysis and publication and, if appropriate preservation of, the remains.

The proposed Local Development Plan 2 (which is currently being prepared after consultation closed in 2020) Policies 15 to 21 are similar to those in the current LDP and its supplementary guidance.

The *Highland-wide Local Development Plan* (2012) Section 21 states that the primary vision of the strategy is to ensure that the future management of change to the historic environment in Highland is based on an understanding of its economic, social and cultural values and that all future decisions are based on informed consideration of the heritage assets to ensure that they are protected and conserved for existing and future generations. The companion *Highland Historic Environment Strategy Supplementary Planning Guidance* (2013) contains local planning policies and principles for the protection of historic environment assets whilst accommodating change and development where possible and appropriate, similar to SPP 2020.

4 Methodology

4.1 Codes of practice, professional guidance and standards documents

The following codes of practice, professional guidance and standards documents informed the work conducted for this report:

- The Chartered Institute for Archaeologists (CIfA) *Codes, Standards and Guidance* (various) https://www.archaeologists.net/codes/cifa;
- The *Historic Environment Policy Statement for Scotland* (HEPS) 2019, including the Annexes;
- *Historic Environment Scotland Designation Policy and Selection Guidance* 2019;
- Historic Environment Scotland's *Managing Change in the Historic Environment* guidance series;
- English Heritage. (2012). *Ships and Boats: Prehistory to Present. Designation Selection Guide*. Swindon: English Heritage; and
- Wessex Archaeology. (2011). *Assessing Boats and Ships 1860-1913, 1914-1938, 1914-1938. Archaeological Desk-Based Assessment* in 3 volumes. Salisbury: Wessex Archaeology;
- The Joint Nautical Archaeology Policy Committee and Crown Estate. (2006). *Maritime Cultural Heritage & Seabed Development: JNAPC Code of Practice for Seabed Development*. York: CBA; and
- Plets, R., Dix, J., & Bates, R. (2013). *Marine Geophysics Data Acquisition, Processing and Interpretation: Guidance Notes*. Swindon: English Heritage Publishing.

4.2 Study Area

The marine study area comprised the 500m wide cable corridors that were subject to marine geophysical survey. The desk-based marine study corridor was at least 1km wide in order to capture wrecks that have no precisely known location but could be in the 500m corridor.

The onshore study area comprised the onshore landfall corridor between MLWS and the BMH location as provided in shapefiles to ORCA by Intertek with a 500m radius onshore study buffer area round the BMH to capture any potential issues in the immediate vicinity that could affect the installation (see Figure HEA 2.16).

Originally, the onshore buffer study area was designed to be a simple 500m radius around each BMH location. However, during the Project, BMH locations were changed as part of the iterative design process. A decision was made to not revise the search areas and repeat searches after the fourth change of BMH location, except for any large changes of more than 100m.

4.3 Desk-Based Assessment

The DBA was conducted to identify possible heritage assets within the marine and BMH buffer study areas. It was completed in accordance with the relevant parts of the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for historic environment desk-based assessment* (updated 2020). Information on known heritage assets within the study areas was used to identify the potential for the presence of unknown sites that may be affected by the proposed development.

The University of the Highlands and Islands Archaeology Institute's Dr Scott Timpany provided the assessment of the potential for intertidal and submerged paleoenvironmental evidence, archaeological deposits and features.

The DBA by ORCA and SULA Diving reviewed the following key sources:

- The National Record of the Historic Environment via the Canmore and Pastmap online databases (https://canmore.org.uk/; https://pastmap.org.uk/ [accessed July/August 2021]);
- Argyll and Bute Sites and Monuments Record (SMR) maintained and hosted by the West of Scotland Archaeology Service (WoSAS) via their online search facility West of Scotland Archaeology Service Home Page (West of Scotland Archaeology Service Search Page (wosas.net) [accessed July/August 2021]);
- The Highland Council's online Highland Historic Environment Record at Home - Highland Historic Environment Record [accessed September/October 2021];
- Statutory lists, registers and designated areas, including List of Scheduled Monuments, Listed Buildings, Inventories of Gardens & Designed Landscapes and Historic Battlefields, Designated Wrecks, Historic Marine Protected Areas and local authority Conservation Areas;
- UK Hydrographic Office (UKHO) wreck register and relevant nautical charts;
- First edition 25 inch Ordnance Survey mapping (1880);
- Google Earth satellite imagery;
- Larn, R., & Larn, B., (1998);
- Whittaker, I.G., (1998); and
- Other readily available archaeological and historical reports, databases, websites and publications that were consulted for information about the study areas are cited in the report if used and listed in the reference section.

4.4 Walkover Survey

The walkover survey was executed in accordance with the relevant sections of the Chartered Institute for Archaeologists (CIfA) Standard and Guidance for Archaeological Field Evaluation (revised 2020). The landfall areas were surveyed between the 26th October and 10th November 2021, by archaeologists from Coracle Archaeology, led by Dr Michael Walsh. The walkover survey area was 500m wide at landfall and extended 100- 600m inland, shown as a green-shaded area on the figures for the route (see Section 8: Figures). The walkover survey area at landfall was assumed to include all associated infrastructure, such as new tracks, laydown areas and cable trenches.

The walkover survey was undertaken in a systematic manner, with transect width appropriate to the conditions (mostly hill land, rough pasture, dunes and sandy shore) in wet and windy weather. Any visible archaeological and heritage features or sites identified were assigned an individual ORCA site number in the same sequence as the sites identified by DBA. They were located by handheld GPS and briefly recorded on proforma sheets and digital photographs and evaluated. Sites identified during the DBA and on satellite imagery were also visited if within the walkover survey area and evaluated.

The sites and features from the DBA and walkover surveys are presented in Appendix 1, and a list of photographs taken during the walkover survey is reproduced in Appendix 3. Photographic images can be supplied on request.

4.5 Marine Geophysics Data

As well as the marine corridor DBAs, SULA Diving were also commissioned to evaluate the marine remote sensing survey data (Multi-Beam Echo Sounder (MBES), Side Scan Sonar (SSS), and Magnetometer (Mag)) obtained by survey company Fugro during 2021 on behalf of GMG and BT. All geophysical survey images reviewed are listed route by route in Appendix 4.

The marine geophysical survey corridors were 500m wide. The survey specifications exceeded those recommended for reconnaissance level surveys in Plets et al. (2013) and are outlined in Fugro's report for each Route:

- Fugro Report Ref 124376-R-020-(01) *Eigg - Mainland Results Report - 2.13*.pdf;
- Fugro Report Ref 124376-R-009-(01) *Mainland - Lismore Results Report - 2.14*.pdf;
- Fugro Report Ref 124376-R-019-(01) *Iona - Mull Results Report - 2.15*.pdf; and
- Fugro Report Ref 124376-R-017-(01) *Colonsay - Mull Results Report - 2.16*.pdf.

The marine archaeologist reviewed the contacts and anomalies identified by Fugro as anthropogenic or giving high magnetic responses, along with high quality images of the data to check anything that looked potentially anthropogenic.

4.6 Assessment of Importance

The historic environment assets that have been identified have been assigned a value so that their potential to act as a constraint in the marine cable corridors and at landfall can be evaluated. The level of an asset's importance reflects the level of potential constraint, modified by the application of standard mitigation measures. In line with good practice, a precautionary level of importance has been assigned until proven otherwise (e.g. it may prove that a wreck

considered to be of high importance has completely disintegrated). It should be noted that a site that has not been statutorily designated can still be of high importance. Table 1 summarises the criteria used to grade the importance of the cultural heritage assets identified in the DBA.

The determination of the heritage value of historic environment assets is based on statutory designation and/or professional judgement against the characteristics and criteria expressed in:

- The Historic Environment Policy Statement for Scotland (HEPS) 2019, including the Annexes;
- Historic Environment Scotland Designation Policy and Selection Guidance 2019;
- Historic Environment Scotland's Managing Change in the Historic Environment guidance series;
- English Heritage. (2012). Ships and Boats: Prehistory to Present. Designation Selection Guide. Swindon: English Heritage; and
- Wessex Archaeology. (2011). Assessing Boats and Ships 1860-1913, 1914-1938, 1914-1938. Archaeological Desk-Based Assessment in 3 volumes. Salisbury: Wessex Archaeology; and
- The Chartered Institute for Archaeologists (CIfA) Codes, Standards and Guidelines (http://www.archaeologists.net/codes/ifa).

Table 1: Importance Criteria

Importance of asset	Cultural heritage value
High (H)	• World Heritage Sites • Scheduled Monuments and sites proposed for scheduling • Category A Listed Buildings • Inventoried Gardens and Designed Landscapes • Interconnected groups of B-Listed buildings • Outstanding Conservation Areas • Historic Battlefields • Historic Marine Protected Areas and Designated Wrecks • Aircraft lost on military service • Undesignated wrecks, archaeological sites, areas and buildings of national and international importance (identified in the HER) due to preservation, association, rarity, intrinsic value, loss of life
Medium (M)	• Category B and Category C(S) Listed Buildings • Burial Grounds • Protected heritage landscapes • Conservation Areas • Undesignated archaeological sites, areas, buildings, wrecks and cargos of equivalent regional importance (identified in the HER), or of high local significance, due to preservation, association, rarity, intrinsic value, loss of life.
Low (L)	• Cultural heritage assets of poor preservation and/or poor survival of contextual associations • Cultural heritage assets of local value or interest for education or cultural appreciation • Undesignated archaeological sites, areas, buildings, wrecks and cargos of equivalent local importance (identified in the HER) due to limited intrinsic, contextual or associative characteristics, or that are still common. • Unlisted historic buildings and settlements with local characteristics.
Negligible (N)	• Sites of former archaeological features, lifted or salvaged wrecks • Unlisted buildings of very minor historic or architectural interest • Poorly preserved examples of particular types of features • Single findspots • Sites of little or no known heritage importance

4.7 Assessment of Impacts

The magnitude of any potential adverse effects on historic environment receptors caused by the Project are determined using the criteria outlined in Table 2 below. It should be noted that these categories are guideline criteria, since assessments of magnitude are also matters of professional judgement.

Table 2: Example criteria for the assessment of impacts on historic assets

Magnitude of Effect	Direct Impacts	Indirect Impacts
High	Works would result in the complete loss of the site, or the loss of an area, features or evidence fundamental to the historic character and integrity of the site, severance of which would result in the complete loss of physical integrity.	The removal of, or a fundamental and irreversible change to, the relationship between a heritage asset and its relevant setting. Major change that removes or prevents appreciation, understanding or experience of a heritage asset and its key characteristics, or permanent change to or removal of surroundings of a less sensitive asset. A noticeable change to a key relationship between a heritage asset and a highly sensitive, valued or historically relevant setting over a wide area or an intensive change to a less sensitive or valued asset or setting over a limited area.
Medium	Works would result in the loss of an important part of the site or some important features and evidence, but not areas or features fundamental to its historic character and integrity. Severance would affect the integrity of the site, but key physical relationships would not be lost.	Noticeable change to a non-key relationship between a heritage asset and its relevant setting. Relationship, asset, or context tolerant of moderate levels of change. Small changes to the relationship between a heritage asset and its setting over a wide area or noticeable change over a limited area.
Low	Works or the severance of the site would not affect the main features of the site. The historic integrity of the site would not be significantly affected.	Minor changes to the relationship between a heritage asset and its setting over a wide area or minor changes over a limited area. Relationship, asset, or setting considered tolerant of change.
Negligible	Works or the severance of the site would be confined to a relatively small, peripheral and/or unimportant part of the site. The integrity of the site, or the quality of the surviving evidence would not be affected.	Changes to that cannot be discerned or perceived in relation to the heritage asset or environment.
Unknown	Groundbreaking works over features that have not been fully interpreted would reduce the chance of interpretation in the future. In the event of significant features this would constitute impact of high magnitude; for sites of lesser significance it is less problematical. Nevertheless, it remains an issue where features have not been or could not be interpreted.	Changes to a setting, where it is uncertain how these contribute to our understanding, appreciation or experience of the site because the feature or asset itself could not or has not been understood or interpreted.
Positive	An enhancement to the baseline condition of the asset.	An enhancement to the baseline setting of the asset.

Indirect impacts have been scoped out of any further consideration in this report because the onshore cable and BMH will be undergrounded and the surface restored to its original appearance. Indirect impacts on marine heritage assets have also been scoped out of any further consideration in this report because the marine cable will be buried where possible, and where surface laid will be protected by concrete mattresses and rock bags, thus preventing abrasion from movement of the cable.

Magnitude of impact is combined with the historic importance or sensitivity of the receptor to produce an overall effect significance. As per the assessment of magnitude of impact, Table 3 is a guide and the final assessment of significance of effect will also require professional judgement. In this methodology, moderate and major effects are considered significant effects that may require control, management and mitigation (Table 4). However, it should be noted that impacts that lead to non-significant minor effects may still benefit from management or mitigation.

Table 3: Significance of effect matrix

Asset Importance or Sensitivity	Magnitude of Impact					
	High	**Medium**	**Low**	**Negligible**	**Uncertain**	**Positive**
High	Major	Major	Moderate	Minor	Uncertain/ Major	Positive
Medium	Major	Moderate	Minor	Minor	Uncertain/ Moderate	Positive
Low	Moderate	Minor	Minor	Negligible	Uncertain/ Minor	Positive
Negligible	Minor	Negligible	Negligible	Negligible	Uncertain/ Negligible	Positive
Uncertain	Uncertain/ Major	Uncertain/ Moderate	Uncertain/ Minor	Uncertain/ Negligible	Uncertain/ Negligible	Positive

Table 4: Definitions for Significance of effect

Consequence	Significance	
Positive	Positive – to be encouraged	Positive
Major	Highly significant and requires immediate action. May be intolerable risk or significance	Significant impact under EIA Regulations
Moderate	Significant – requires additional control measures and/or management	
Minor	Not significant – however may require some management to ensure remains within acceptable levels	Insignificant impact under EIA Regulations
Negligible	Not Significant	

5 Baseline

5.1 Statutory designations

No current marine historic environment statutory designations have been identified in any of the marine corridors.

There are statutory historic environment designations present in four of the onshore BMH 500m radius buffer study areas. These comprise two Scheduled Monuments (Bay of Laig, Eigg, Route 2.13; Scoor, Mull, Route 2.16), two Listed Buildings (Port Appin, Mainland, Route 2.14), one Conservation Area (Iona, Route 2.15) and one Inventoried Garden and Designed Landscape (Kiloran Bay, Colonsay Route 2.16).

5.2 Submerged Palaeo Landscapes

Relative sea-level (RSL) change for this area of Northwest Scotland has been much studied by Ian Shennan and colleagues (e.g. Shennan et al., 1993, 1995, 2000) providing a corpus of knowledge on RSL fluctuations through the Holocene.

Two RSL studies pertinent to the region encompassed by the cable routes are those at Arisaig (Shennan et al., 1993) and Kentra (Shennan et al., 1995) on the West Coast of Scotland. Arisaig being close to the mainland landfall area of cable route 2.13. RSL modelling at both locations shows an initial sharp fall in RSL from c.+30m OD at Arisaig around 15,000 BP to around 0m OD by 10,000 BP (Shennan et al., 1993), while at Kentra RSL falls steeply from c. +19m OD at 15,000 BP to approximately 2.5m OD by 10,000 BP (Shennan et al., 1995). Shennan et al. (2000) suggest RSL may even have fallen as low as -1m OD in the Kentra-Arisaig area around 9000 BP. Between 10,000-9000 BP to c. 6000 BP RSL is observed to rise at both locations reaching around +7-9m OD at Arisaig and Kentra. Following these rises RSL then falls steeply again at both locations to reach 0m OD at the present day (Shennan et al., 1993, 1995, 2000).

The potential for archaeological remains such as coastal middens in this region is highlighted by the Scotland's First Settlers Project some 25km north of the cable landfall region between the Isle of Skye and the West Coast of Scotland, which uncovered 164 previously unknown sites (Hardy and Wickham-Jones, 2002; Hardy et al., 2009). This potential is further emphasized by a number of Mesolithic sites found in coastal or near coastal locations across the Inner Hebrides, with sites recorded on Colonsay, Jura, Islay (Mithen et al., 2001), Mull (Mithen and Wicks, 2018) and Coll (Mithen, Wicks and Hill, nd).

Evidence for submerged landscapes is slight within this region but have been observed in locations such as on the Isle of Coll. Here Dawson et al. (2001) recorded two intertidal peats containing macro-remains of visibly preserved waterlogged wood, suggesting a former woodland cover for this island. The wood peats occurred at between +1.0m to +0.6m OD, with just one radiocarbon date taken for a basal peat layer at +0.6m OD, which produced a date of 7025-6705 cal BC (Beta-119267; 8000±80 BP), a period that corresponds with the lowest RSL levels recorded at Arisaig and Kentra. Wood fragments contained in the peat were identified as pine, while palynological evidence from the peat showed a valuable record of late glacial vegetational change from open tundra to the start of woodland development in the mid-Holocene with records of hazel, birch, oak, elm and pine all present (Dawson et al. 2001).

For the eight cable landfall areas there are no known intertidal peat deposits that have been recorded. However, studies such as that by Dawson et al (2001) show the possibility for cable landfalls to discover previously unrecorded intertidal peat deposits of high palaeoenvironmental value, while the rich coastal archaeological potential for this area is highlighted by the numerous coastal archaeological sites recorded in the region (e.g. Mithen et al. 2001; Hardy et al., 2009).

5.3 Aircraft

No aircraft are known to be located in any of the corridors.

A number of aircraft went missing without trace during wartime around the Inner Hebrides and off the west coast of Scotland and the chances of finding one within any of the corridors, although not likely, cannot be completely discounted. Review of the geophysical survey data has helped to reduce this risk to Negligible. Any aircraft lost on military service would automatically fall under the Protection of Military Remains Act 1986.

5.4 Route 2.13: Eigg-Mainland

5.4.1 Bay of Laig Landfall, Eigg

A total of fourteen sites were identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.13 Eigg; Appendix 1, Table A1.1). Of these, two sites (Sites E-M 16 and 17) were identified during the walkover survey.

The Prehistoric Period (c.9000 BC to c.AD 800)

There are four sites of prehistoric date within the BMH buffer study area. In the 1850s, the removal of stones from a Neolithic long cairn (**Site E-M 07**) at Sidhean Na Cailleich, exposed two stone-lined cists, possibly inserted in the Bronze Age. Close by is a second grass-covered cairn (**Site E-M 11**), oval in shape, measuring 20m by 13m, and standing on the crest of a ridge.

Approximately 275m to the west of the long cairn site is a small group of burial mounds (**Site E-M 02**), dated to the late Iron Age, and a scatter of approximately twenty square cairns. The cairns are heavily denuded and appear to have been subject to extensive stone robbing. The relationship between the mounds and the cairns has not been established, and these could also be related to a series of turf and shingle banks running perpendicular to the shoreline. The site is designated as a Scheduled Monument (SM 10994).

Between these two sites is a group of three mounds (**Site E-M 06**) at Cnoc Chroleaman. These measure between 8m and 19m in diameter, are grass-covered, and all are partially obscured by later field clearances.

To the east of Sidhean Na Cailleich, a large lump of flint was recovered from the edge of a ploughed field (**Site E-M 08**) during a survey in 2001 (conducted by RCAHMS, see Canmore entry http://canmore.org.uk/event/571149). This may be indicative of prehistoric stone working in the area.

The Medieval Period (c.AD 800 to c.1600)

Two boat stems, of probable Viking date, were recovered in the nineteenth century during works to drain the peat-moss (**Site E-M 09**). These were made from oak and are now held by the National Museum of Scotland.

The Post-medieval Period (c.1600 to c.1900)

At the west edge of the BMH buffer study area, a noust and a boat shed stand on the coastal edge next to a cleared area to form a slipway 30m in length (**Site E-M 01**). Though the buildings are most probably post-medieval in date, it is possible that the site and slipway have earlier antecedents at the site. Similarly, the range of shoreline buildings, including a noust, at Traigh Chlithe (**Site E-M 010**) on the northeast edge of the BMH buffer study area are post-medieval structures but the site itself is likely to have earlier usage.

The former township of Laig (**Site E-M 03**) comprises at least six buildings, trackways and the remains of a footbridge. The settlement and associated farmland are depicted on an 1806 map, and a number of the buildings are still shown on the First Edition 6-inch Ordnance Survey map (Inverness-shire - Isle of Skye LXXI.9 1879) though at least one appears to be unroofed.

Approximately 50m to the northeast is Laig Farm (**Site E-M 04**), a two-storey house dating from the late eighteenth century and built as an extension to an earlier, single-storey dwelling. The earlier structure is noted as being Eigg's oldest tackman's house and was remodelled by Angus Macdonald, grandson of the Gaelic poet Alasdair Mac Mhaighstir Alasdair. Further to the northeast is an enclosure (**Site E-M 05**), with twelve stack stands within. The First Edition 25-inch Ordnance Survey map (Inverness-shire - Isle of Skye LXXI.9 (Small Isles) 1878) shows three buildings associated with the enclosure.

A further enclosure (**Site E-M 02**) lies close to the burial mounds at Na Sidheanan. This measures 10m by 8m and it is possible that the stone used in its construction was robbed from the square cairns.

The First Edition 25-inch OS map also depicts a sand quarry (**Site E-M 12**) close to the northeast edge of the search area.

During the walkover survey a possible cistern was identified close to the beach, alongside the Abhainn a Cham Loin watercourse (**Site E-M 16**). A large piece of farm machinery (**Site E-M 17**), dating to the late nineteenth or early twentieth century was also seen abandoned in a field close to the Laig Beach Bothy.

Modern (after 1900)

No sites of archaeological interest from this period were noted.

5.4.2 Traigh Landfall, Arisaig

A total of three sites were identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.13 Mainland; Appendix 1, Table A1.2). Of these, one site (E-M 15) was identified during the walkover survey.

The Prehistoric Period (c.9000 BC to c.AD 800)

No sites from this period were identified.

The Medieval Period (c.AD 800 to c.1600)

No sites from this period were identified.

The Post-medieval Period (c.1600 to c.1900)

Traigh House (**Site E-M 13**) stands approximately 230m northeast of the BMH location. The house was built c.1784 as a replacement for the Laird of Morar's 'old mansion' at Glenancross. The building was used as a training centre for Special Operations Executive (SOE) and United States Office of Strategic Services operatives during the Second World War.

A boathouse (**Site E-M 14**), located close to the shoreline approximately 280m south of the BMH location, is shown on the First Edition 6-inch Ordnance Survey map (Inverness-shire (Mainland), Sheet CXX (with inset CV) 1876) and it is still extant, with a slipway.

An ornamental fence or gate post (**Site E-M 15**) was identified during the walkover survey. This appeared to be cast-iron, and had been re-used as a strainer in a wire, boundary fence adjacent to the B8008 highway.

Modern (after 1900)

No sites of archaeological interest from this period were noted.

5.4.3 Eigg to Mainland Marine and Intertidal Corridor

Shipwrecks

There are no charted wrecks in the route corridor, but there are two wrecks with known positions 500-600m outwith the corridor (Section 8, Figure HEA 2.13 Eigg-Mainland; Appendix 1, Table A1.3). A further wreck (the MV *Rotche*) is listed as Position Approximate (PA), which could be along the route. All of these wrecks date to the 1970s or later and are of no archaeological interest. However, one of the crew was lost when the MFV *Rotche*, sank in 1977, which would of course be of importance to the family and community.

Review of the geophysical survey datasets from the corridor (SSS, MBES and Mag, see Appendix 4) has identified no shipwrecks or manmade objects, only possible trawler scarring on the seabed, rocks, boulders, natural linear features and geological magnetic features. Any contacts marked as 'debris' by the survey were examined and considered to be rocks. The review has therefore reduced the risk of any wrecks with unverified locations being present in the corridor to Negligible.

There are no reports of any mine lines laid along this route and Bi Monthly minesweeping reports show no mines found in this area., nor has review of the marine geophysical survey datasets from the corridor identified any.

Submerged deposits and features

There are no known intertidal peat deposits that have been recorded at either landfall. However, both landfalls are at locations with sheltered sandy beaches, dunes and machair, and therefore there is moderate potential for paleoenvironmental deposits to survive below the surface sediments of the beach and intertidal zone. Studies such as that by Dawson et al (2001) show the possibility for cable landfalls to discover previously unrecorded intertidal peat deposits of high palaeoenvironmental value.

Potential for undiscovered marine sites

As a maritime nation with a reliance on marine based trade and exchange, there have been countless shipwrecks around UK waters from all periods – many of which remain unreported. As such, there is a moderate to high probability for unknown, unrecorded vessels to have sunk in the marine study area. However, wrecks stranded at or close to shore were usually salvaged, and wooden wrecks are unlikely to survive in the open waters further out, thus reducing the risk to Low-Negligible. The geophysical survey data for the corridor has been reviewed, and nothing of interest noted. Thus, the potential risk of unidentified sites being present in the corridor is considered Negligible.

5.4.4 Route 2.13: Landfalls and Marine Baseline and Constraints Summary

There one Scheduled Monument (**Site E-M 02**) present in the onshore BMH 500m radius buffer study area at Laig, Eigg. The proposed BMH location is 170m away from this.

At Traigh, Arisaig, the nearest known site to the proposed BMH is 150m away (**Site E-M 15**).

Both landfalls are made through sandy beach and machair, within which there is a moderate risk that undiscovered sites are present, especially at Laig, Eigg, where four of the known sites are burials or burial monuments. The rich coastal archaeological potential for the region is highlighted by numerous archaeological sites (e.g. Mithen et al. 2001; Hardy et al., 2009).

There are no known submerged peats or woodland at either landfall, although there is moderate potential for such deposits to survive below the intertidal sands, beaches and machair at both landfalls.

No marine historic environment statutory designations have been identified in the marine corridor.

There are no known wrecks within the marine corridor, and none has been identified from the marine geophysical surveys.

There are no known submerged peats or woodland in the marine corridor.

5.5 Route 2.14: Mainland to Lismore, Argyll and Bute

5.5.1 Druim Creagach Landfall, Lismore

Only one site was identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.14 Mainland-Lismore; Appendix 1, Table A1.4). No sites were identified during the walkover survey. The walkover survey was constrained by a number of factors; the most notable of which is a sheer cliff up to c. 25m high, with the coast road and proposed BMH location at its base, on a raised beach some 50-100m wide.

The Prehistoric Period (c.9000 BC to c.AD 800)

Close to the northwest edge of the search area stand the denuded remains of a stone-walled enclosure (**Site L-M 01**) on the summit of a low knoll. The enclosure measures 8.2m by 6.4m with a possible entrance in the northeast wall, and is considered to have originally been a dun. These forts are thought to have been introduced in the Early Iron Age, but their use may have continued into the historical period.

The Medieval Period (c.AD 800 to c.1600)

No sites from this period were identified.

The Post-medieval Period (c.1600 to c.1900)

No sites from this period were identified.

Modern (after 1900)

No sites of archaeological interest from this period were noted.

5.5.2 Port Appin Landfall, Mainland Argyll and Bute

A total of nine sites were identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.14 Mainland-Lismore; Appendix 1, Table A1.5). Of these, one site (Site L-M 04) was identified during the walkover survey. This survey was also constrained by high ground with sheer rock faces over which no access could be found. The area was however encircled by the survey team and the far side of the survey area was inspected.

The Prehistoric Period (c.9000 BC to c.AD 800)

No sites from this period were identified.

The Medieval Period (c.AD 800 to c.1600)

A pair of fish traps have been identified in the intertidal zone of Airds Bay using aerial photography. Only the fish trap on the northwest shore (**Site L-M 02**) lies within the BMH buffer study area and comprises a fragmentary arc of stone walling in the shallow water butting against the shore. These structures are generally medieval in date, but a prehistoric date is also possible.

The Post-medieval Period (c.1600 to c.1900)

Much of the original extent of Port Appin village (**Site L-M 06**) lies within the BMH buffer study area. The First Edition 25-inch Ordnance Survey map (Argyllshire and Buteshire LVII.13 1892) depicts eight buildings with one identified as the school and one as a smithy. The other buildings include Rock Cottage (**Site L-M 09**), an eighteenth-century house with four bays and a bridge at the rear which leads to the second storey. This Category C Listed Building (LB 12361) has been modernised and converted into two dwellings. To the southwest is a row of former ferrykeepers' cottages (**Site L-M 07**) which also date to the eighteenth century. These lie approximately 100m northeast of the stone jetty (**Site L-M 08**) formerly used for the Lismore ferry. This is shown on the First Edition OS map, along with the pier (**Site L-M 03**) which is now used as the Lismore ferry terminal.

At the landward end of the pier stands another ferrykeeper's cottage (**Site L-M 04**) dating from the mid-nineteenth century. This is a Category B Listed Building (LB 12421) which originally comprised two separate parts, linked by a roof, with each part having a semi-circular end towards the sea.

The Modern Period (after 1900)

The wrecked, timber hull of a small, modern craft (**Site L-M 04**) was identified by the walkover survey on the beach, close to the ferrykeeper's cottage (**Site L-M 10**).

Features of Uncertain Date

A landing place (**Site L-M 05**) is recorded approximately 300m southwest of the BMH location. No further details are given in the Canmore entry, and it was not within the walkover survey area.

5.5.3 Mainland to Lismore Marine and Intertidal Corridor

Shipwrecks

There are no charted wrecks in the route corridor, but there are three wrecks of low importance with unknown locations (Section 8, Figure HEA 2.14 Mainland-Lismore; Appendix 1, Table A1.6) that could be in the corridor.

Review of the geophysical survey datasets from the corridor (SSS, MBES and Mag, see Appendix 4) has identified no shipwrecks or manmade objects of potential archaeological value. Two power cables, one to the north and one to the south of the proposed route were clearly seen, as were several linear features at eastern end of route, possibly discarded fishing gear or disused power/communication cables. The Mag data also showed two further lines of magnetic anomalies appear that are most likely buried disused cables as shown on the UKHO's *Admiralty Chart 2388: Loch Etive and Approaches* (2015).

Other contacts and anomalies were identified as rocks, boulders, natural linear features and geological magnetic features. Any contacts marked as 'debris' by the survey were examined and considered to be rocks. The review has therefore reduced the risk of any wrecks with unverified locations being present in the corridor to Negligible.

There are no reports of any mine lines laid along this route and Bi Monthly minesweeping reports show no mines found in this area., nor has review of the marine geophysical survey datasets from the corridor identified any.

Submerged deposits and features

The Lismore landfall is at a stony raised beach, and therefore there is moderate potential for paleoenvironmental deposits to survive below the surface sediments of the beach and intertidal zone. The coastline at the Port Appin landfall is not conducive to such preservation, and it is considered there is negligible potential for such remains here.

Potential for undiscovered marine sites

There are no known intertidal peat deposits that have been recorded at either landfall. However, there is moderate potential for paleoenvironmental deposits to survive below the raised beach deposits at Lismore. Studies such as that by Dawson et al (2001) show the possibility for cable landfalls to discover previously unrecorded intertidal peat deposits of high palaeoenvironmental value.

5.5.4 Route 2.14: Landfalls and Marine Baseline and Constraints Summary

There is one Scheduled Monument (**Site L-M 01**) in the BMH buffer study area, but outwith the landfall corridor and BMH location on Lismore. There are two Listed buildings in the BMH buffer study area at Port Appin (**Site L-M 04** and **L-M 09**), the former is 105m away and the latter outwith the landfall corridor and BMH location.

Site **L-M 04** is the closest known site to the proposed BMH location at Port Appin. At Lismore, the nearest known site to the proposed BMH is **Site L-M 01**, some 450m to the north-west.

The potential for discovery of unknown sites onshore at both BMH locations is Negligible.

There are no known submerged peats or woodland at either landfall, although there is moderate potential for such deposits to survive below the raised beach deposits at the Lismore landfall. The potential for such survival is considered Negligible at the Port Appin landfall.

No marine historic environment statutory designations have been identified in the marine corridor.

There are no known wrecks within the marine corridor, and none has been identified from the marine geophysical surveys.

There are no known submerged peats or woodland in the marine corridor.

5.6 Route 2.15: Mull to Iona, Argyll and Bute

5.6.1 Fidden Landfall, Mull

A total of three sites were identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.15 Iona-Mull; Appendix 1, Table A1.7). No sites were identified during the walkover survey.

The Prehistoric Period (c.9000 BC to c.AD 800)

At Cnoc Na Budhaig, 80m from the proposed BMH location at Cnoc Na Budhaig is a collapsed long cist (**Site M-I 02**) with a partial capstone recorded as being still in place. No human remains have been recovered from, or observed within, the cist but the site appears to be unexcavated and the interior is filled with earth and sand.

Close to the shoreline at Slugan Dubh are two further long cists (**Site M-I 01**), both of which have been disturbed. As with that at Cnoc Na Budhaig, no human remains have been identified within the cists but the potential remains for burials to be present at the sites.

The Medieval Period (c.AD 800 to c.1600)

At Cnoc Na Budhaig, approximately 50m southeast of the long cist, are two possible grave stones (**Site M-I 03**), which have been identified within the turf, and these may indicate the presence of a burial ground at this location. The site is marked as a burial ground on the 25-inch Ordnance Survey map (Argyll and Bute Sheet CXVI 1900). Nothing was identified at the site during the current programme of walkover survey. At Slugan Dubh and stretching northwards around Port Mhor are the extensive remains of **rig cultivation**. There are two stone-built fish traps in the bay at Slugan Dubh (**Site M-I 01**). These features are considered likely to be of medieval date and to be associated with the abbey and monastic settlement on Iona. It is possible, therefore, that the putative burial site at Cnoc Na Budhaig is also related with monastic activity in the area.

5.6.2 Sligneach Landfall, Iona

A total of seventeen sites were identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.15 Iona-Mull; Appendix 1, Table A1.8). Of these, seven sites (Sites M-I 12-18) were identified during the walkover survey.

The Iona Conservation Area (**Site M-I 04**), designated because of its special architectural and historic interest, extends approximately 160m into the northeast quarter of the BMH buffer study area. The Conservation Area encompasses both Baile Mòr, the main settlement on the island, and the lost village of Threld (**Site M-I 09**) as well as the areas of three Scheduled Monuments: St Mary's Abbey and monastic settlement (SM12968); St Mary's Abbey nunnery (SM90350); and Maclean's Cross (SM90173). None of the designated scheduled areas extend into the BMH buffer study area.

The Medieval Period (c.AD 800 to c.1600)

The settlement of Threld (**Site M-I 09**), which had completely disappeared by 1878, is shown on the First Edition 25-inch Ordnance Survey map (Argyllshire and Buteshire CIV.16 (Kilfinichen & Kilviceuen) 1880). The village is recorded in 1772 by Pennant as comprising fifty houses, mostly 'mean' but with some better dwellings possibly indicating "a more prosperous period in the medieval times" (Pennant 1998: 237). The name of the settlement is regarded as being Norse indicating a probable Medieval antecedent to the village described in the eighteenth century.

The burial ground of Cladh Nan Druineach (**Site M-I 10**) is shown on the Second Edition 25-inch Ordnance Survey map (Argyllshire CIV.16 1899), matching the location of a burial ground enclosed by a stone dyke shown on Douglas's Map of Iona surveyed in 1769, and probably dates to the medieval period. By the end of the eighteenth century the enclosure had been removed and the burial ground subsumed by the surrounding arable land. A small assemblage of human remains were recovered from the site in 1788, and also during an archaeological evaluation in 2001 (Archaeology Notes | Canmore).

The Post-medieval Period (c.1600 to c.1900)

There a number of crofts and dwellings associated with the south edge of Baile Mòr. Approximately 30m to the northwest of the BMH location stands a rectangular building with associated enclosures (**Site M-I 06**) which appear to be the surviving elements of a farmstead depicted on the First Edition 25-inch Ordnance Survey map (Argyllshire and Buteshire CIV.16 (Kilfinichen & Kilviceuen) 1880) as comprising four roofed structures. These now stand within the corner angle of the track that leads to Baile Mòr. A number of archaeological watching briefs have been undertaken in this area, summarised in Canmore, but these have not identified any archaeological features. The First Edition OS map also shows a number of crofts (**Site M-I 07**) 200m to the northeast of Sandback. A number of dwellings now stand along the north edge of the track and it is unclear if these are surviving croft buildings or newly-built structures. A five-sided enclosure was identified during the walkover survey (**Site M-I 17**) comprising walls constructed of concreted material linking rock outcrops to define an area with two entrances. This wall construction style was also seen in a north-south wall (**Site M-I 16**) running along the edge of an extensive area of outcropping to the west of Traigh Mhor. Where portions of this wall were absent, its line was continued by a series of iron posts (**Site M-I 15**) which may have been strainers for a wire fence. Also identified close to the enclosure and the wall, was an abandoned cistern (**Site M-I 18**), with the sub-rectangular accessway constructed of stone and red brick.

Close to the northeast edge of the search area, and within the Iona Conservation Area, stands the former Free Church building (**Site M-I 11**). This is shown on the First Edition OS map and appears to be currently in use as a dwelling. Also shown on the OS map are two roofed

buildings, an unroofed structure and an enclosure (**Site M-I 08**). This would appear to be a farmstead. The site is now occupied by two properties, Shore Cottage and Caol Ithe, but these do not match the footprint of the buildings shown on the First Edition OS map and would appear to be modern structures.

Features of Uncertain Date

Approximately 350m south of the BMH location is a small cairn (**Site M-I 05**) measuring 1.5m by 1.0m and standing 0.7m high. This stands on an intertidal island and is composed of rounded stone. The date of this feature has not been determined, and it was not located during the walkover survey.

The walkover survey also identified two areas of dumped material on the rocky beach below Traigh Mhor. These comprised a threshing machine (**Site M-I 12**), probably of nineteenth-century date, and a trailer (**Site M-I 13**), as well as a dump of concrete fragments including flues and fluted columns (**Site M-I 14**)

5.6.3 Iona to Mull Marine and Intertidal Corridor

Shipwrecks

There are no charted wrecks in the route corridor, but there are four wrecks of low importance with unknown locations (Section 8, Figure HEA 2.15 Iona-Mull; Appendix 1, Table A1.9) that could be in the corridor.

Review of the geophysical survey datasets from the corridor (SSS, MBES and Mag, see Appendix 4) has identified no shipwrecks or manmade objects of potential archaeological value. All contacts and anomalies were identified as rocks, boulders, natural linear features and geological magnetic features. Any contacts marked as ‘debris’ by the survey were examined and considered to be rocks. The review has therefore reduced the risk of any wrecks with unverified locations being present in the corridor to Negligible.

There are no reports of any mine lines laid along this route and Bi Monthly minesweeping reports show no mines found in this area., nor has review of the marine geophysical survey datasets from the corridor identified any.

Submerged deposits and features

The Mull landfall is through sheltered sand deposits, and therefore there is moderate potential for paleoenvironmental deposits to survive below the surface sediments of the beach and intertidal zone.

The beach and intertidal zone at the Iona landfall (thin beach sands over exposed bedrock) is not conducive to such preservation, and it is considered there is Negligible potential for such remains here.

Potential for undiscovered marine sites

There are no known intertidal peat deposits that have been recorded at either landfall. However, there is moderate potential for paleoenvironmental deposits to survive below the beach deposits and in the intertidal zone at Fidden, Mull. Studies such as that by Dawson et al (2001) show the possibility for cable landfalls to discover previously unrecorded intertidal peat deposits of high palaeoenvironmental value.

5.6.4 Route 2.14: Landfalls and Marine Baseline and Constraints Summary

There is one statutory designation within the BMH 500m radius buffer zones, that of the southern end of the Iona Conservation Area. This lies 300m north of the proposed BMH location.

Site **M-I 06** is the closest known site (50m away) to the proposed BMH location on Iona, and comprises an occupied house on the site of an older croft. At Fidden, Mull, the proposed BMH location lies within a large area of rig cultivation. The closest known site is that of a collapsed long cist burial (**Site M-I 02**), 80m to the south-west.

It is not known if there are more undiscovered burials in the vicinity buried in the machair here, and so the potential for discovery is considered Moderate. The potential for discovery of unknown sites onshore at Iona BMH location is Negligible.

There are no known submerged peats or woodland at either landfall, although there is moderate potential for such deposits to survive below the beach deposits at the Fidden, Mull, landfall. The potential for such survival is considered Negligible at the Iona landfall.

No marine historic environment statutory designations have been identified in the marine corridor.

There are no known wrecks within the marine corridor, and none has been identified from the marine geophysical surveys.

There are no known submerged peats or woodland in the marine corridor.

5.7 Route 2.16: Colonsay to Mull, Argyll and Bute

5.7.1 Kiloran Bay Landfall, Colonsay

A total of nineteen sites were identified in the BMH 500m radius buffer study area ((Section 8, Figure HEA 2.16 Colonsay; Appendix 1, Table A1.10). No new sites were identified during the walkover survey, and most of the sites described below, including the burial sites, are not visible at the surface.

The Prehistoric Period (c.9000 BC to c.AD 800)

There is a reference in the late 17th century by Martin Martin to the discovery of two stone-built cists (**Site C-M 01**) each containing human remains (Martin 1999: 152-3) located in Kilouran sands, but the precise location is unknown. A further cist (**Site C-M 03**) was exposed eroding out of the dunes approximately 450m west of the BMH location and excavated in 2019 (Wilson 2020). The remains of three adults and a possible juvenile were recovered, and a second possible cist was left in-situ as it was not under direct threat from erosion at the time.

A struck flint flake (**Site C-M 05**) and a retouched flint flake (**Site C-M 07**) have also been recovered close to the southwest edge of the search area. The struck flint flake was recovered from the east bank of Kiloran Burn in a layer of wind-blown sand directly overlying an organic layer radiocarbon dated to 6210 +/- 60 years BP (Jardine 1983).

The Medieval Period (c.AD 800 to 1614)

In 1882-3 a Viking boat-burial (**Site C-M 04**) was excavated in the sand dune approximately 150m northwest of the BMH location. The boat had been inverted over a stone setting measuring 15-feet by 10-feet to enclose a male burial with grave goods and a horse. The

burial has been dated to the ninth or tenth century AD and the recovered material was presented to the Royal Scottish Museum.

A tenth-century, Hiberno-Norse broken copper-alloy decorated strap-end (**Site C-M 06**) was recovered in 1999 by a metal detectorist. This is now held by Argyll and Bute Museums. Other finds of medieval date were also recovered by metal detectorists in the 1990s, slightly to the northeast of this site. These were a copper-alloy dot-decorated pin from a penannular brooch (**Site C-M 08**) and a stick pin of frustrum-headed type (**Site C-M 09**), also made of copper-alloy. Both of these are now held by museums in Glasgow. Other Norse burials and artefacts have been discovered in dunes at various locations around Colonsay (Graham-Campbell & Batey 1998: 90-1).

The sand dunes of Kiloran Bay are also recorded as the location where, c.1430 AD, a galley of unknown size belonging to the defeated Clan Maclean (**Site C-M 02**) was pulled ashore and left to disintegrate (Grieve 1923: 259). Nothing is visible here, and no evidence would be expected after so long.

The Post-medieval Period (1614 to 1900)

The designed landscape of Colonsay House (**Site C-M 10**) extends into the southwest quarter of the search area. This is an Inventoried Garden and Designed Landscape (GDL00106) comprising an extensive woodland garden and an informal designed landscape set within the difficult physical environment of Colonsay. Work on the landscape commenced in the early eighteenth century with most of the gardens being developed in the late nineteenth and early twentieth centuries. The part of the GDL that is in the edge of the BMH study area is open grazed fields, forming part of the backdrop to the woodland garden that starts over 600m to the southwest.

There are a number of features shown on the First Edition 25-inch Ordnance Survey map (Argyllshire and Buteshire CXLVI.13 (Colonsay & Oronsay) 1880) which are not included in the NHRE. These are a well (**Site C-M 11**), a sheepfold (**Site C-M 12**), a roofed structure (**Site C-M 13**) and three sand pits or quarries (**Site C-M 14**, **Site C-M 15**, **Site C-M 16**).

A possible wall (**Site C-M 25**) was identified during a coastal assessment survey in 2006 (Dawson 2007: 236). This ran parallel to the bay shoreline and was constructed of beach cobbles and angular slabs. The function of this wall was not clear and it is also possible that this is a dump of material within an erosion scar to prevent sand blow. It was not noted during the walkover survey.

The Modern Period (after 1900)

Three enclosures (**Site C-M 17**, **Site C-M 18**, **Site C-M 19**) have been identified on modern aerial imagery. On the basis of historical mapping sources, these would appear to be of recent origin and do not appear to have any earlier antecedents.

Potential for undiscovered sites

On the evidence of discoveries of burials and artefacts in the dunes at Kiloran Bay, there is **moderate-high** potential for discovering sites (including burials), artefacts or deposits covered by the sand dunes. There is also a **moderate** potential for paleoenvironmental deposits such as peat layers encapsulated in the dunes and below the sands of the intertidal zone.

5.7.2 Scoor Landfall, Mull

A total of five sites were identified in the BMH 500m radius buffer study area (Section 8, Figure HEA 2.16 Scoor; Appendix 1, Table A1.11). Of these, one site (C-M 24) was identified during the walkover survey.

The Prehistoric Period (c.9000 BC to c.AD 800)

Approximately 300m southwest of the BMH lies Dun a' Gheird (**Site C-M 20**), a fortified building of Iron Age date situated on a low boss at the south end of a steep-sided rocky spur. The building is sub-rectangular in plan, 11m by 9m, defined by a stone wall up to 4.3m thick, and is classified as a galleried dun. The site is designated as a Scheduled Monument (SM2429) and the extent of the scheduling includes a surrounding area within which related material is likely to survive, measuring approximately 77m by 44m.

The Medieval Period (c.AD 800 to c.1600)

The former Kilvickeon parish church with burial ground (**Site C-M 22**) lies to the north just outwith the buffer study area. This was one of the original seven parish churches of Mull and was in use until 1804 when, due to its dilapidated state, it was replaced by a new church erected at Bunessan. During the walkover survey, the boundary wall of the burial ground was seen to be intact and in good repair with many of the gravestones *in-situ*. Small sections of ruinous stone walls were interpreted as the remains of the church itself.

The Post-medieval Period (c.1600 to c.1900)

A sheepfold (**Site C-M 21**) is shown on the First Edition 6-inch Ordnance Survey map (Argyllshire, Sheet CXVIII 1881), close to the BMH location, though this does not appear to still be extant and not noted in the walkover. The walls of the large enclosures (**Site C-M 24**) shown on this map between the former parish church and a modern enclosure, were seen to be largely extant and in good repair during the walkover survey.

The Modern Period (after 1900)

An unroofed structure or enclosure (**Site C-M 23**) is visible on modern aerial imagery, and is also depicted on late twentieth-century Ordnance Survey mapping. This was identified during the walkover survey and was seen to be an enclosure defined by linear piles of unworked stone.

5.7.3 Colonsay to Mull Marine and Intertidal Corridor

Shipwrecks

There are no known maritime sites in Kiloran Bay There are vessels recorded as lost off or wrecked on Colonsay, but with no further detail as to where (Section 8, Figure HEA 2.16 Colonsay-Mull; Appendix 1, Table A1.12). There are no charted wrecks in the route corridor, but six nineteenth-century losses of low or unknown importance with unknown locations (Appendix 1, Table A1.12) have been identified that could be in the corridor.

Review of the geophysical survey datasets from the corridor (SSS, MBES and Mag, see Appendix 4) has identified no shipwrecks or manmade objects of potential archaeological value. All contacts and anomalies were identified as rocks, boulders, natural linear features and geological magnetic features. Any contacts marked as ‘debris’ by the survey were

examined and considered to be rocks. The review has therefore reduced the risk of any wrecks with unverified locations being present in the corridor to Negligible.

There are no reports of any mine lines laid along this route and Bi Monthly minesweeping reports show no mines found in this area., nor has review of the marine geophysical survey datasets from the corridor identified any.

Submerged deposits and features

There are no known intertidal peat deposits that have been recorded at Scoor, Mull, or at Kiloran Bay (although a prehistoric peat layer was noted in the east bank of Kiloran Burn, Site C-M 05 above). Studies such as that by Dawson et al (2001) show the possibility for cable landfalls to discover previously unrecorded intertidal peat deposits of high palaeoenvironmental value.

Potential for undiscovered sites

As a maritime nation with a reliance on marine based trade and exchange, there have been countless shipwrecks around UK waters from all periods – many of which remain unreported. As such, there is a moderate to high probability for unknown, unrecorded vessels to have sunk in the marine study area, as well as those losses which have been recorded but not found, listed in Appendix 1. However, wrecks stranded at or close to shore were usually salvaged, (or in the tale of the MacLean birlinn, Site C-M02, left to rot away) and wooden wrecks are unlikely to survive in the open waters further out, thus reducing the risk to Negligible.

5.7.4 Route 2.16: Landfalls and Marine Baseline and Constraints Summary

No statutory historic environment designations are present in the onshore BMH buffer study area at Kiloran Bay apart from the grazed field at the northeastern edge of the parkland of the Inventoried GDL of Colonsay House (**Site C-M 10**). There is one Scheduled Monument, that of an Iron Age galleried dun (**Site C-M 20**) in the onshore BMH buffer study at Scoor, Mull. The Scheduled Kilvickeon old parish church and graveyard (Site C-M 22, Section 8, Figure HEA 2.16 Scoor) lies 100m to the north of BMH buffer study area.

At Kiloran Bay Colonsay, evidence indicates that there is a moderate-high potential for artefacts and burials of medium-high importance to be found in the dunes, although the likelihood of remains from the reputed galley (**Site C-M 02**) is negligible.

At Kiloran Bay, Colonsay, the red line boundary for planning application does not physically impact any known sites, including the GDL. The cable route from the BMH to the road is close to (30m from) **C-M 05**, the location of a struck flint and buried prehistoric peat noted in the side of the burn, but is being run along the south side of an established trackway. The other sites that the red line boundary runs close to are all of negligible importance, such as sandpits. All other known sites onshore, even if of Low importance, can be avoided.

At Scoor, Mull, the potential for discovery of unknown sites onshore in the windblown sands and machair above the shore is Moderate, highlighted by the numerous coastal archaeological sites recorded in the region (e.g. Mithen et al. 2001; Hardy et al., 2009).

There are no known submerged peats or woodland at either landfall, although there is moderate potential for such deposits to survive below the sands in the intertidal zone and beaches at both locations.

No marine historic environment statutory designations have been identified in the route corridor.

6 Assessment of Impacts and Effects

6.1 Impact

The following potential impacts on historic environment assets at landfall have been identified:

- During construction and installation of the proposed cables, direct impacts to known and unknown cultural material and potentially anthropogenic geophysical anomalies on the seabed could be caused by vessel activities, seabed preparation and boulder clearance, resulting in the removal of marine cultural heritage or removal of material that forms the context of a site. Rock or mattress placement for cable protection could also impact by compressing any cultural material on which it is placed.
- During construction and installation of the proposed cables, direct impacts to known and unknown cultural material on the seabed could be caused by vessel activities, trenching and jetting. The target cable burial depth is up to 1m below the seabed offshore, and 2m between the BMH to Low Water Mark (LWM).
- At landfall, preparatory clearance works on the surface, and the creation of temporary construction compounds, equipment laydown areas and access routes could impact historic environment assets;
- At landfall, the trenching for laying of underground cables and the excavation of the BMH, as well as the surface activities described above could also penetrate the surface and impact archaeological sites and unknown assets buried in or below coastal deposits, especially dunes, beach sands and machair; and
- Where landfall is through a sloping sandy beach or a storm beach, there is a moderate risk of impacting paleoenvironmental and archaeological deposits below the surface cover. If such deposits, especially peats, are present below the surface, then they are likely to contain important information concerning the past environment of the Inner Hebrides, changing sea levels and human interaction with the environment.

A review of the pressures to be included in the Appraisal has excluded the following impacts from further consideration in relation to the historic environment:

- The project design means that on completion of the cable burial to the BMH location, the ground profile will be restored, and all machinery and equipment removed from site. Thus any change to setting will be very short term and, in line with standard guidance (HES 2016), is considered to have negligible effect on the setting of any asset. This potential impact is therefore scoped out.
- Significant potential impacts on the historic environment were only predicted during the construction and installation phase. None were predicted for the subsequent operations, maintenance and decommissioning phases, because no new ground or seabed will be broken.
- Changes in bathymetry: given that each cable will be trenched and backfilled along the majority of their lengths coupled with the small footprint of each cable where trenching is not possible, i.e. where rock bags are utilised, the effect of the proposed cables on changes to bathymetry is negligible;
- Physical change to another seabed type: given that intrusion into the seabed, or disturbance on the surface of the seabed are the likely causes of any physical damage

to historic environment assets, changes to another seabed type were not considered relevant; and

- Local water flow changes: given that each cable will be trenched and backfilled along the majority of their lengths, coupled with the use of rock bags/mattresses on small sections where trenching is not possible, water flow changes or cable movement creating scouring effects on the seabed thus impacting assets on the seabed will be negligible, especially because rockbags/mattresses are designed to eliminate scouring effects.

6.2 Mitigation and Management

Mitigation and management measures were developed by assessing the impacts likely from the development that could be significant by the criteria outlined in Section 4.6 above, or ensuring impacts were kept non-significant (see Appendix 2 for tabular assessment). Embedded mitigations are outlined below, followed by route-specific mitigations, presented in table summaries.

6.2.1 Embedded Mitigations

The **desk-based survey, the walkover surveys and the marine geophysical surveys** were embedded in the Project design, in order to identify any historic environment assets that might be impacted, and thus reduce or eliminate that risk.

Avoidance of known assets is the primary mitigation, embedded in the Project design. All identified known sites have been avoided, or will be avoided with the implementation of mitigations, unless like sand pits, there is no need to avoid them.

In order to manage the risk of the **accidental discovery** of any significant archaeological remains during marine and onshore preparation and construction works, the site contractor will be informed of the locations of all known cultural heritage assets to avoid. A Written Scheme of Investigation (WSI) will be produced and a **Protocol** for the accidental discovery of archaeological finds and remains (PAD) will be instated for the reporting of discoveries to the appropriate authorities. The WSI and PAD will include reference to the requirement for production an archaeological finds management plan for proper recording and analysis of any unexpected finds, and to the requirement for site inductions and toolbox talks, so that personnel are made aware of the potential for unknown remains, and the procedures for reporting them.

6.2.2 Route 2.13: Specific Mitigations

Sites & Potential	Location	Mitigation
Known Sites	Bay of Laig, Eigg and Traigh, Arisaig	Embedded Mitigation of **Avoidance** of known sites. All identified sites are a minimum of 100m from the proposed BMH location, or completely outwith the landfall corridor and BMH location.
Moderate potential for significant unknown archaeological sites onshore	Bay of Laig, Eigg and Traigh, Arisaig	It is recommended that an **archaeological watching brief** is conducted onshore during the excavation of the cable trench to and including the BMH location, dues to the moderate risk for undiscovered sites including burials in the machair. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation. Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and The Highland Council's Historic Environment Team to develop an appropriate strategy, which may include diverting the route around the site.
Moderate potential for deposits below beach & in intertidal zone	Bay of Laig, Eigg and Traigh, Arisaig	It is recommended that an **archaeological watching brief** is conducted during the excavation of the cable trench in the intertidal zone and at the beach, in order to manage the risk of impacting submerged palaeoenvironmental deposits below the beach. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation. Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and The Highland Council's Historic Environment Team to develop an appropriate strategy, which may include diverting the route around the site.
Marine sites	Route 2.13 marine cable corridor	**Marine PAD** Embedded Mitigation of **Avoidance** of known sites. All identified sites are a minimum of 500m outwith the route corridor

6.2.3 Route 2.14: Specific Mitigations

Sites & Potential	Location	Mitigation
Known Sites	Lismore and Port Appin, Mainland	Embedded Mitigation of **Avoidance** of known sites. All identified sites are a minimum of 100m from the proposed BMH location, or completely outwith the landfall corridor and BMH location.
Low/Negligible potential for significant unknown archaeological sites onshore	Lismore and Port Appin, Mainland	Potential for discovery of unknown sites is considered low-negligible, therefore **embedded mitigations only.**
Moderate potential for deposits below beach & in intertidal zone	Lismore	It is recommended that an **archaeological watching brief** is conducted during the excavation of the cable trench in the intertidal zone and at landfall below the raised beach, in order to manage the risk of impacting palaeoenvironmental deposits below the beach. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation. Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and the Argyll and Bute Council Planning Archaeologist (this role is provided by the West of Scotland Archaeological Service) to develop an appropriate strategy, which may include diverting the route around the site.
Low/Negligible potential for deposits below beach & in intertidal zone	Port Appin, Mainland	Potential for discovery of unknown sites is considered negligible, therefore **embedded mitigations only**
Marine sites	Route 2.14 marine cable corridor	**Marine PAD**

6.2.4 Route 2.15: Specific Mitigations

Sites & Potential	Location	Mitigation
Known Sites	Fidden, Mull and Iona	Embedded Mitigation of **Avoidance** of known sites. All identified sites are a minimum of 50m from the proposed BMH location, or completely outwith the landfall corridor and BMH location. In order to prevent accidental impacts on known burials at Fidden (**Sites M-1 02 and 03**), site contractors will be informed of these locations, and an **exclusion zone** of 20m put around them.
Moderate potential for significant unknown archaeological sites onshore	Fidden, Mull	It is recommended that an **archaeological watching brief** is conducted during the excavation of the cable trench from the intertidal zone to the BMH, in order to manage the risk of impacting archaeological sites buried in the machair. The discovery of burials in the machair 80m away (**Sites M-1 02** and **03**), shows there is moderate potential for such an impact. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation. Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and the Argyll and Bute Council Planning Archaeologist (this role is provided by the West of Scotland Archaeological Service) to develop an appropriate strategy, which may include diverting the route around the site.
Negligible potential for significant unknown archaeological sites onshore	Iona	Potential for discovery of unknown sites is considered negligible, therefore **embedded mitigations only**
Deposits below beach & in intertidal zone Moderate potential for such deposits	Fidden, Mull	It is recommended that an **archaeological watching brief** is conducted during the excavation of the cable trench in the intertidal zone and at the beach, in order to manage the risk of impacting submerged palaeoenvironmental deposits below the beach. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation. Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and the Argyll and Bute Council Planning Archaeologist (this role is provided by the West of Scotland Archaeological Service) to develop an appropriate strategy, which may include diverting the route around the site.

Sites & Potential	Location	Mitigation
Deposits below beach & in intertidal zone Negligible potential for such deposits	Iona	Potential for discovery of submerged paleoenvironmental deposits in the intertidal zone is considered negligible, therefore **embedded mitigations only**
Marine sites	Route 2.15 marine cable corridor	**Marine PAD**

6.2.5 Route 2.16: Specific Mitigations

Sites & Potential	Location	Mitigation
Known Sites	Kiloran Bay Colonsay	Embedded Mitigation of **Avoidance** of known sites. In order to prevent accidental impacts on **Sites C-M 04** and **C-M 05**, site contractors will be informed of these locations, which are 80m and 30m away from the proposed operations corridor, rather than imposing exclusion zones because the sites are too indistinct to be able to do this.
Known Sites	Scoor, Mull	Embedded Mitigation of **Avoidance** of known sites. All identified sites are a minimum of 85m from the proposed BMH location, or completely outwith the landfall corridor and BMH location.
Moderate-High potential for significant unknown archaeological sites onshore	Kiloran Bay, Colonsay and Scoor, Mull	It is recommended that an **archaeological watching brief** is conducted during the excavation of the cable trench from the intertidal zone to the BMH, in order to manage the risk of impacting archaeological sites buried in the windblown sands and machair. The discovery of burials in the dunes at Kiloran Bay shows there is moderate-high potential for such an impact. There is a moderate potential for unknown sites at Scoor. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation.

Sites & Potential	Location	Mitigation
		Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and the Argyll and Bute Council Planning Archaeologist (this role is provided by the West of Scotland Archaeological Service) to develop an appropriate strategy, which may include diverting the route around the site.
Moderate potential for deposits below intertidal sands at landfall	Kiloran Bay, Colonsay and Scoor, Mull	It is recommended that an **archaeological watching brief** is conducted during the excavation of the cable trench in the intertidal zone and at the beach, in order to manage the risk of impacting submerged palaeoenvironmental deposits below the beach. This work will allow for opportunity for appropriate recording and excavation of any unknown sub-surface archaeological features. If necessary, works may be called to a temporary halt where appropriate to retrieve any archaeological and environmental data, artefacts, and any other appropriate remains including carbonised deposits suitable for radiocarbon dating and environmental analysis. Procurement of radiocarbon dates would only be carried out if any appropriate material was retrieved, with specialist analysis of any appropriate material and reporting on the work forming part of this mitigation. Should the watching brief identify significant archaeological remains, discussions will be held between the developer, contractor and the Argyll and Bute Council Planning Archaeologist (this role is provided by the West of Scotland Archaeological Service) to develop an appropriate strategy, which may include diverting the route around the site.
Marine sites	Route 2.16 marine cable corridor	**Marine PAD**

6.3 Effect

The mitigation and management strategies outlined in Section 6.2 above will reduce or eliminate any significant impacts on historic environment assets at landfall in the Inner Hebrides geographical area (see Appendix 2 for tabular appraisal). The implementation of these strategies result in there being no or negligible effects on known historic environment assets, and a potential minor significance of effect on any unknown assets or deposits buried in the dunes, machair, or in the intertidal zones and beach deposits at landfall, as summarised in Table 5.

Table 5: Summary of Effects

Receptor	Importance	Potential Impact	Mitigation / Management	Significance of Effect
Known marine historic environment assets	Low-High	Seabed preparation, trenching, placement of cable protection	DBA and marine geophysical survey datasets review conducted. Avoidance (all outwith marine route corridor). Marine PAD	None
Unknown marine assets	Low-High	Seabed preparation, trenching, placement of cable protection	DBA and marine geophysical survey datasets review conducted. Marine PAD	None / Negligible / Minor
Known onshore historic environment assets	Low – High	Abrasion/disturbance/ penetration of intertidal and onshore ground	DBA and walkover survey conducted. Avoidance. Construction and ancillary works will avoid known assets, with exclusion zones imposed around assets if appropriate. Project contractors will be informed of sensitive locations of any sites nearby. Archaeological watching brief close to some known sites. On completion of the cable burial the beach and onshore profile will be restored.	None / Negligible / Minor
Unknown intertidal and onshore assets	Low – High	Abrasion/disturbance/ penetration of intertidal and onshore ground	Walkover survey conducted to identify any unknown assets visible on the surface. Archaeological watching brief where known sites indicate moderate or high potential. Archaeologically monitor intertidal landfall and cable trenches so that any sediments with paleoenvironmental potential are noted, sampled, analysed and reported. Implementation of WSI and PAD On completion of the cable burial the beach and onshore profile will be restored.	Minor
Unknown cultural material	Low – High	Abrasion/disturbance/ penetration of seabed, intertidal and onshore ground	Implementation of onshore and marine PADs	Minor

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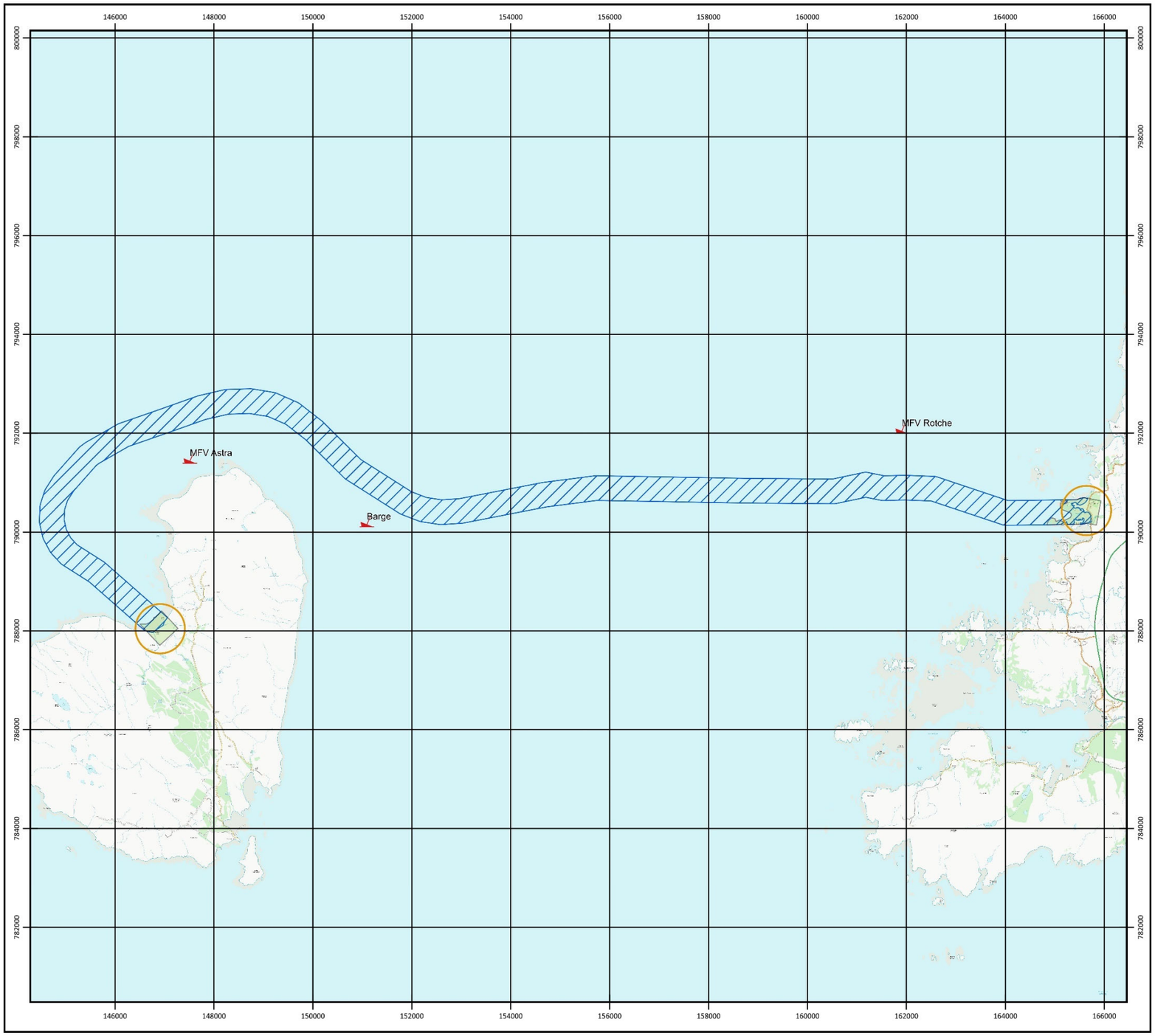
8 Figures



SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.13 Eigg-Mainland

Drawing No: 906 Route 2_13	**A**

N
W E
S

Legend

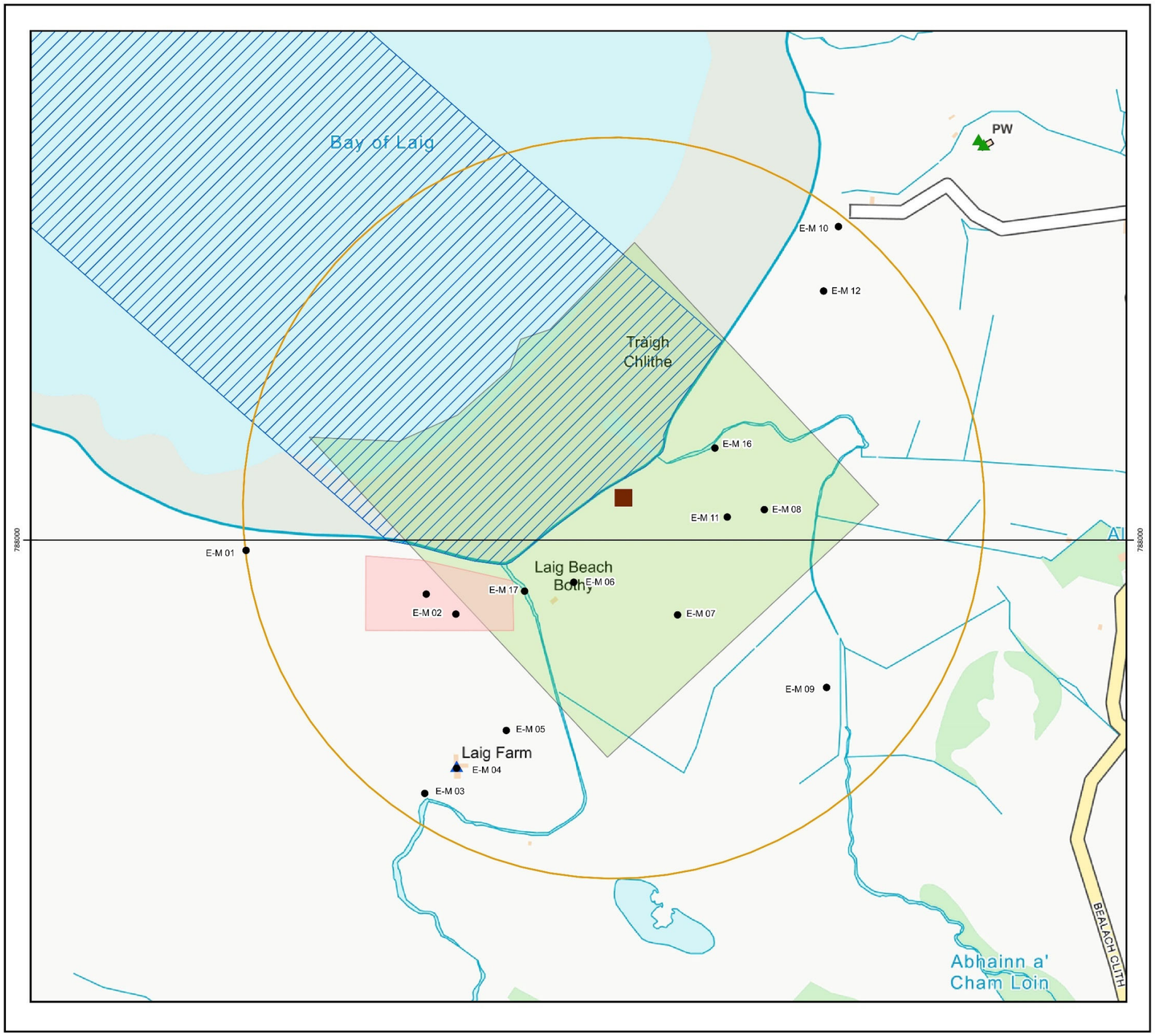
- Verified Wreck Location
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Marine Application Corridors 20210719 v4

NOTE: Not to be used for Navigation

Date	25/November/2021
Coordinate System	OSGB 1936 / British National Grid
Projection	Transverse Mercator
Datum	OSGB 1936
Data Source	OS, HES, ORCA, Intertek
File Reference	C:\Users\OR01CB\University of the Highlands and Islands\OC ORCA - 906 GIS\Base Maps\906 Base Map.qgz
Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

BT Global Marine intertek

0 1 2 3 4 5 km



SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.13 Eigg-Mainland

Drawing No: 906 Route 2_13 Eigg	A

Legend

- ORCA Sites
- B Category Listed Building
- C Category Listed Building
- Scheduled Monuments
- BMH Update 20211012
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Application Corridors 20210719 v4

NOTE: Not to be used for Navigation

Date	18/November/2021
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Projection	Transverse Mercator
Datum	OSGB 1936
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Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

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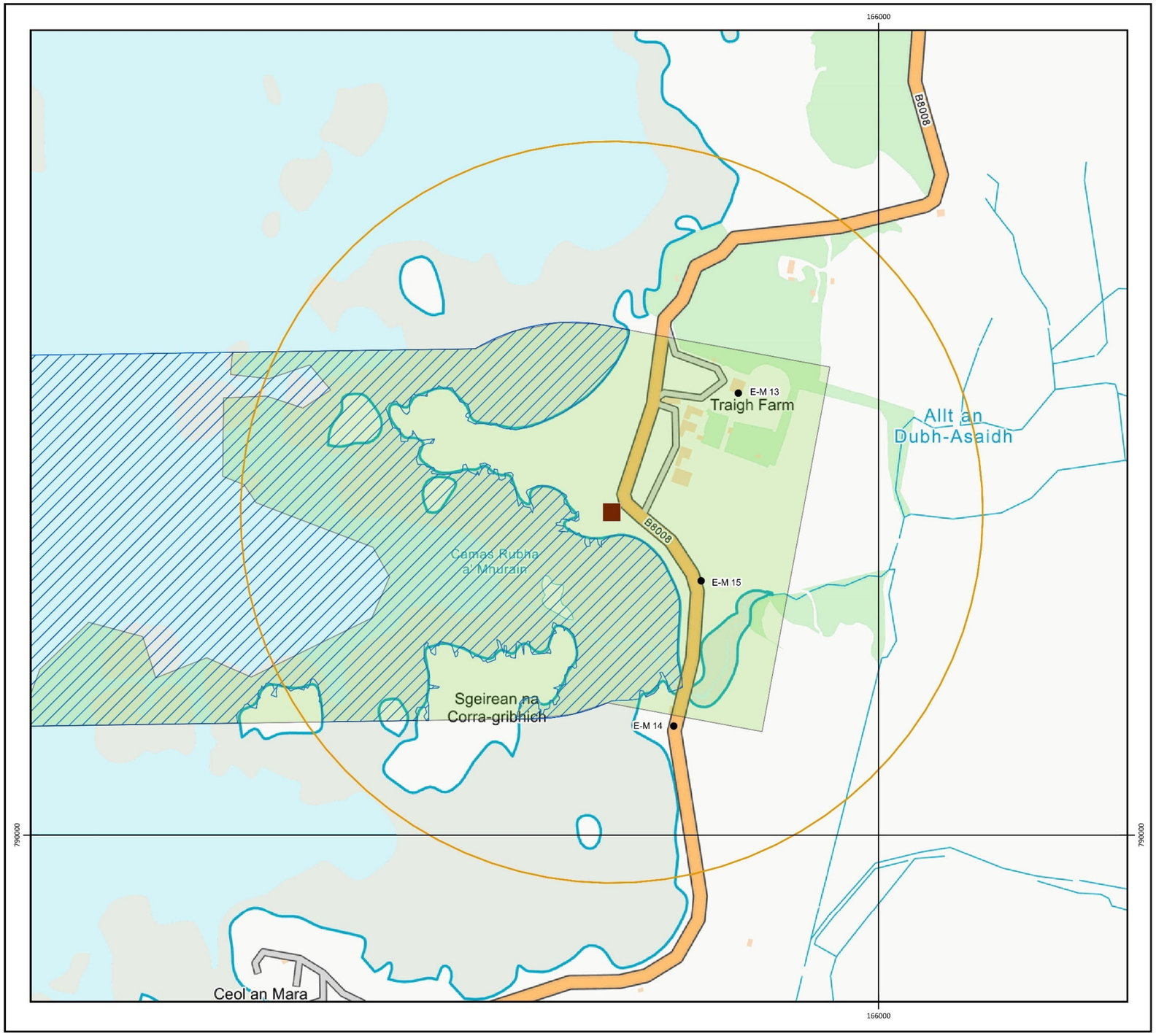

SCOTTISH ISLES
FIBRE OPTIC CABLE PROJECT

HEA 2.13 Eigg-Mainland

Drawing No: 906 Route 2_13 Mainland	A

N
W E
S

Legend

- ORCA Sites
- BMH Update v5 20210811
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Marine Application Corridors 20210719 v4

NOTE: Not to be used for Navigation

Date	18/November/2021
Coordinate System	OSGB 1936 / British National Grid
Projection	Transverse Mercator
Datum	OSGB 1936
Data Source	OS, HES, ORCA, Intertek
File Reference	C:\Users\OR01CB\University of the Highlands and Islands\OC ORCA - 906 GIS\Base Maps\906 Base Map.qgz
Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

BT Global Marine intertek

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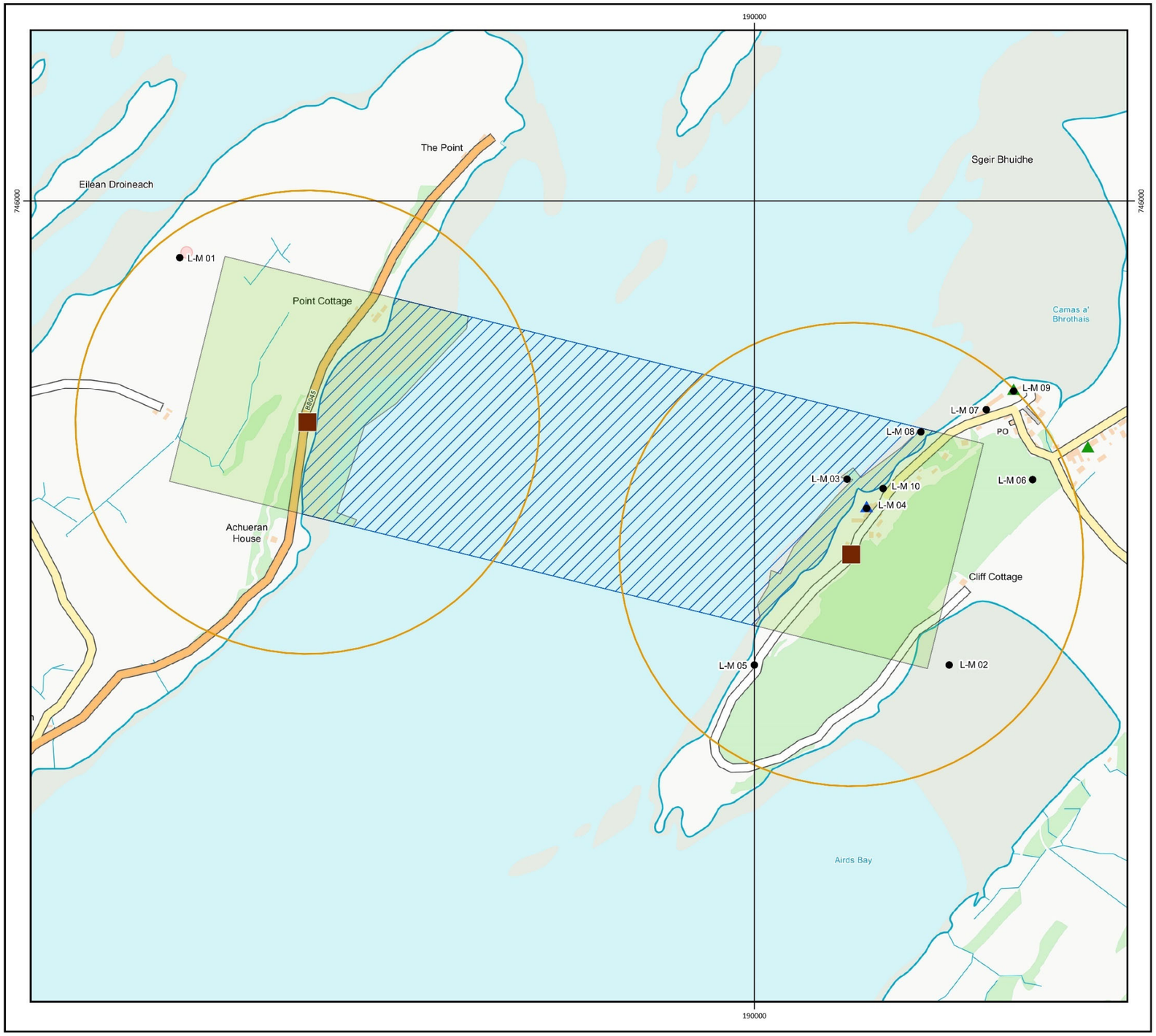

SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.14 Mainland-Lismore

Drawing No: 906 Route 2_14	**A**

Legend

- ORCA Sites
- B Category Listed Building
- C Category Listed Building
- Scheduled Monuments
- BMH Update v5 20210811
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
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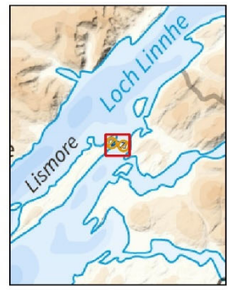

NOTE: Not to be used for Navigation

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Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

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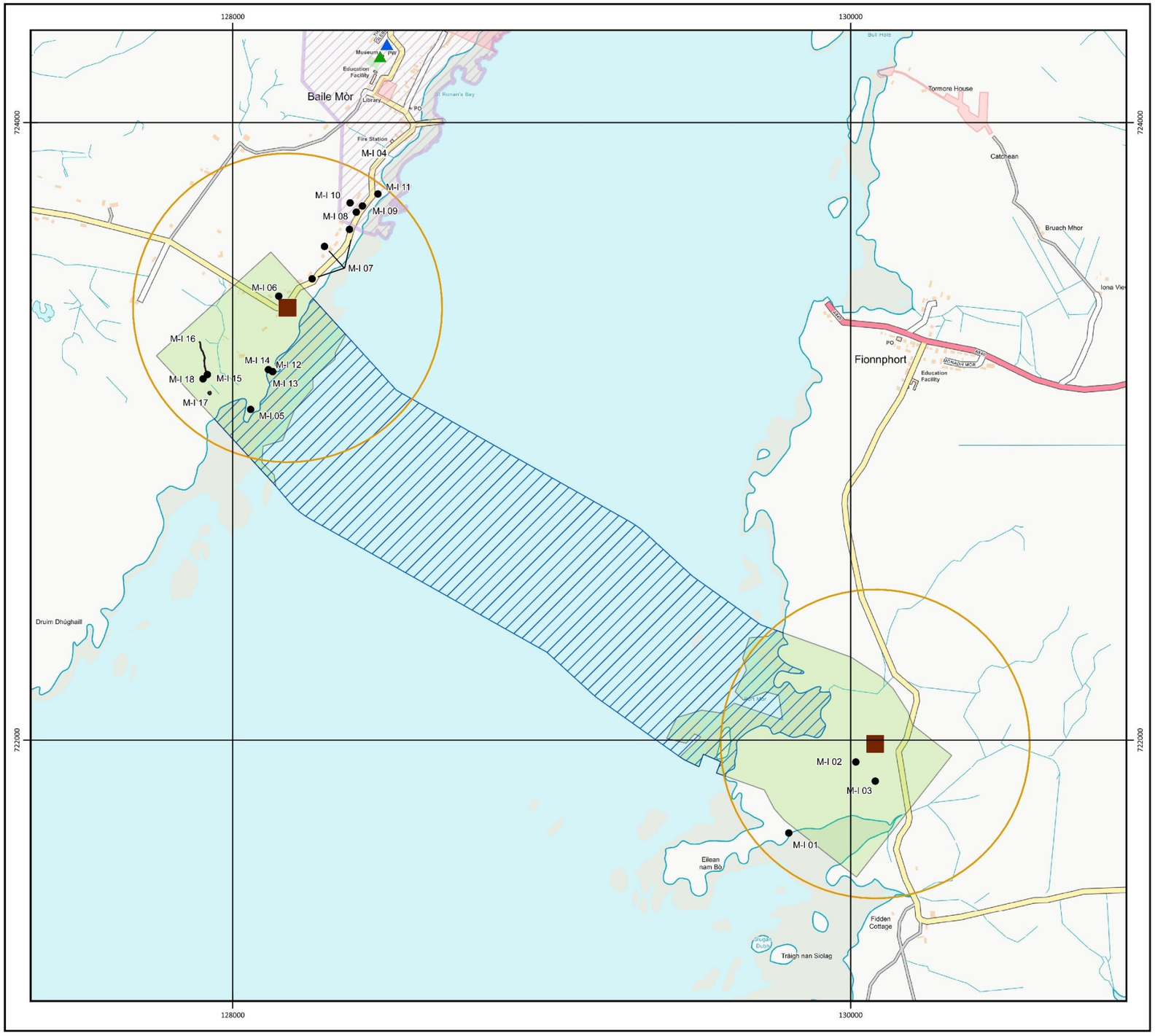

SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.15 Iona-Mull

Drawing No: 906 Route 2_15 Iona-Mull	**A**

Legend

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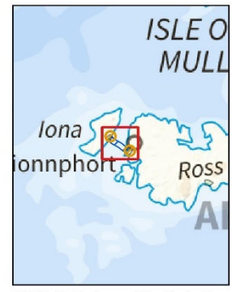
- ORCA Linear Sites
- B Category Listed Building
- C Category Listed Building
- Conservation Areas
- Scheduled Monuments
- BMH Update v5 20210811
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Marine Application Corridors 20210719 v4



NOTE: Not to be used for Navigation

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Datum	OSGB 1936
Data Source	OS, HES, ORCA, Intertek
File Reference	C:\Users\OR01CB\University of the Highlands and Islands\OC ORCA - 906 GIS\Base Maps\906 Base Map.qgz
Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

0 100 200 300 400 500 m

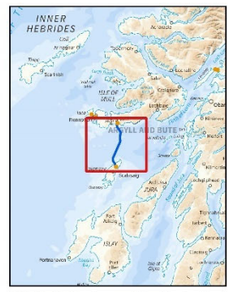
SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.16 Colonsay-Mull

Drawing No: 906 Route 2_16 Colonsay-Mull	A

Legend

- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Marine Application Corridors 20210719 v4



NOTE: Not to be used for Navigation

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Projection	Transverse Mercator
Datum	OSGB 1936
Data Source	OS, HES, ORCA, Intertek
File Reference	C:\Users\OR01CB\University of the Highlands and Islands\OC ORCA - 906 GIS\Base Maps\906 Base Map.qgz
Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

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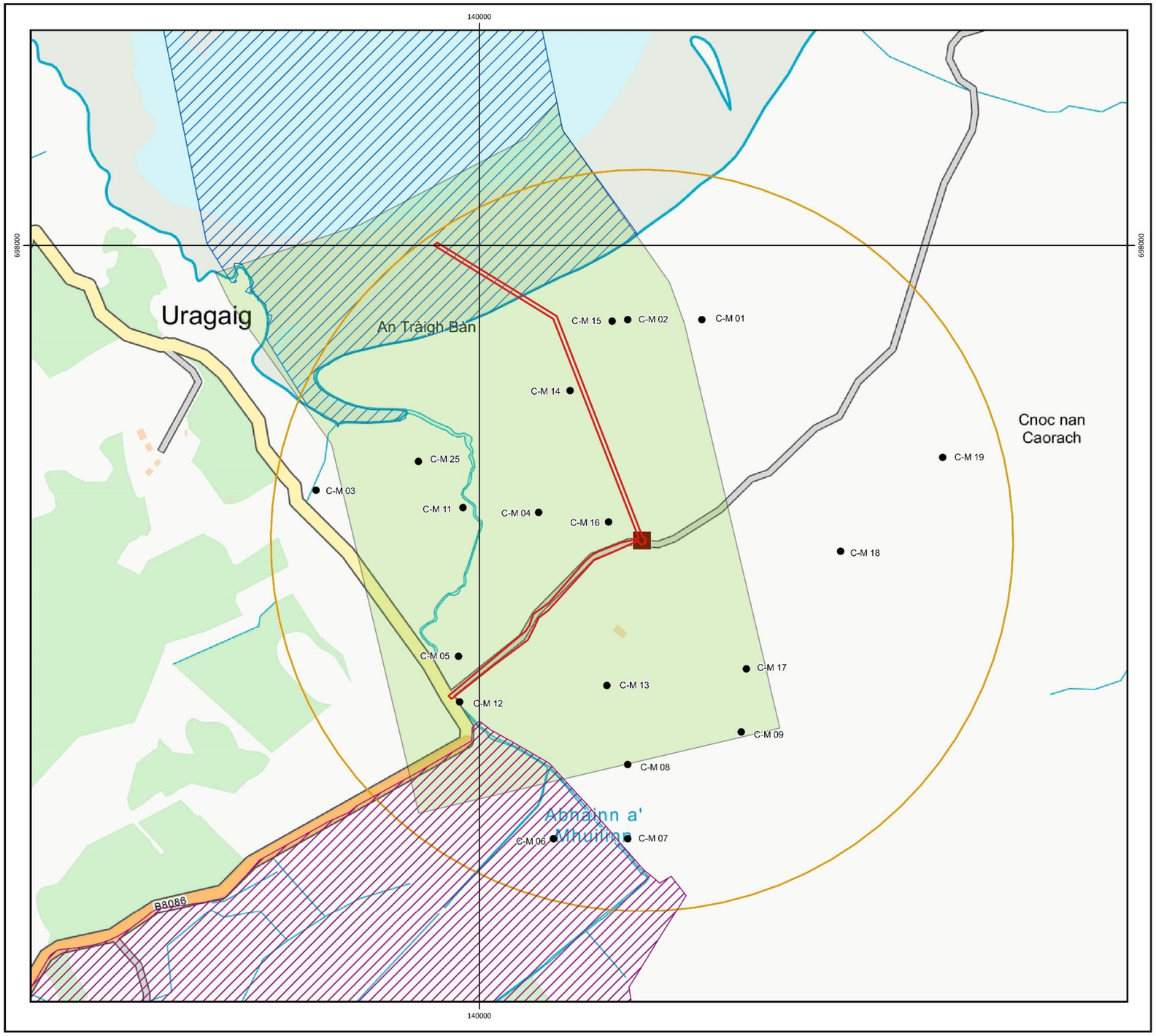

SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.16 Colonsay-Mull

Drawing No: 906 Route 2_16 Colonsay	**A**

Legend

- ORCA Sites
- 1905 Gardens and Designed Landscapes
- Onshore Planning Boundaries_v3
- BMH Update v5 20210811
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Marine Application Corridors 20210719 v4

NOTE: Not to be used for Navigation

Date	25/November/2021
Coordinate System	OSGB 1936 / British National Grid
Projection	Transverse Mercator
Datum	OSGB 1936
Data Source	OS, HES, ORCA, Intertek
File Reference	C:\Users\OR01CB\University of the Highlands and Islands\OC ORCA - 906 GIS\Base Maps\906 Base Map.qgz
Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

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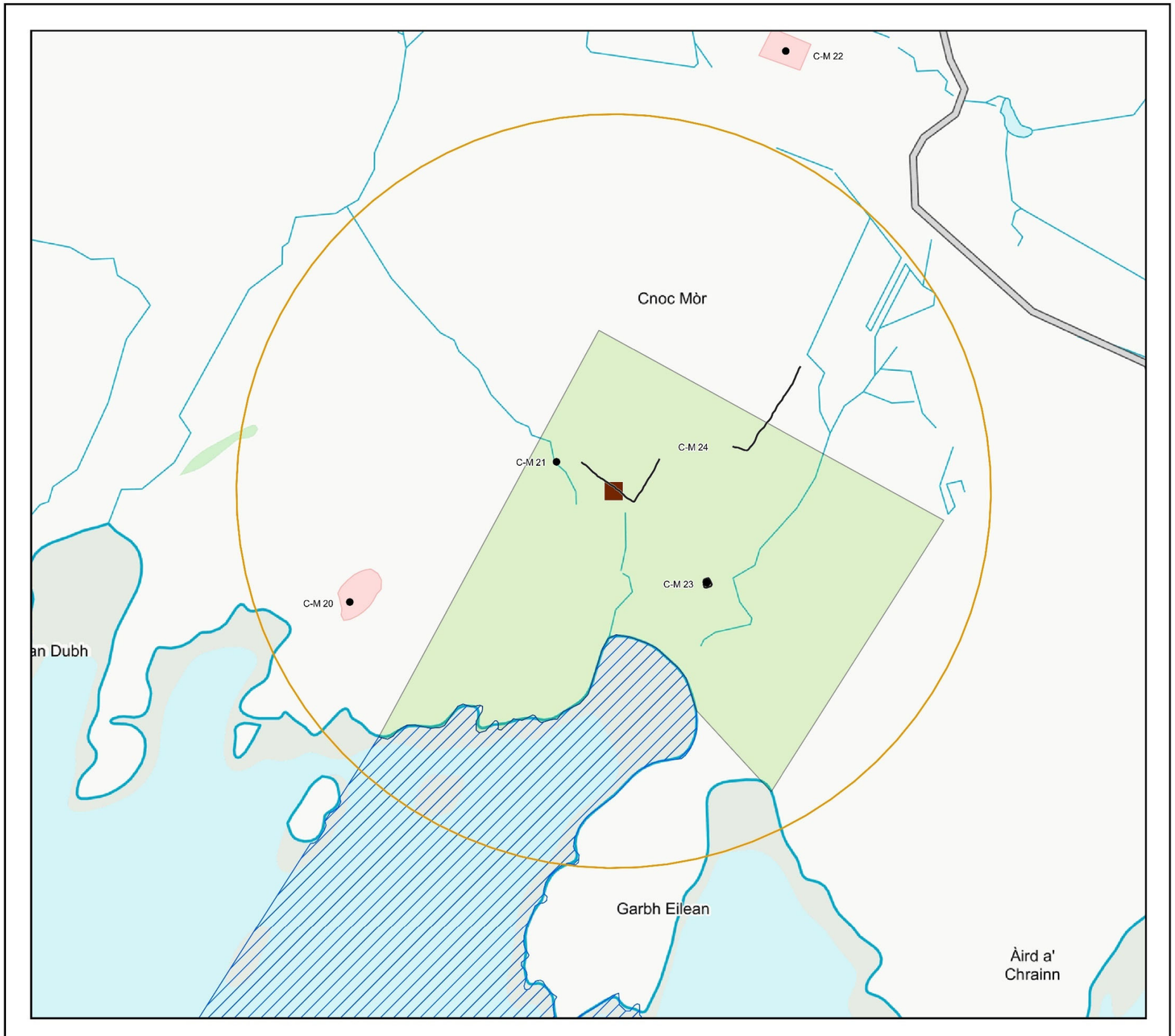

SCOTTISH ISLES FIBRE OPTIC CABLE PROJECT

HEA 2.16 Colonsay-Mull

Drawing No: 906 Route 2_16 Scoor	A

N W E S

Legend

- ORCA Sites
- ORCA Linear Sites
- Scheduled Monuments
- BMH Update v5 20210811
- BMH 500m Radius Buffer Study Area 20210811
- Landfall Corridor & Walkover Survey Area
- R100 Marine Application Corridors 20210719 v4

NOTE: Not to be used for Navigation

Date	18/November/2021
Coordinate System	OSGB 1936 / British National Grid
Projection	Transverse Mercator
Datum	OSGB 1936
Data Source	OS, HES, ORCA, Intertek
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Created By	C.Begg
Reviewed By	P. Sharman
Approved By	

BT Global Marine intertek

0 50 100 150 200 250 m

9 Appendices

9.1 Gazetteer of Sites

Appendix 1: Route 2.13 Gazetteers

Table A1.1: Gazetteer of sites identified within the BMH 500m radius buffer study area, Bay of Laig, Eigg, Route 2.13 (**See Figure HEA 2.13 Eigg**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
E-M 01	Laig	Boathouse, Noust, Slipway	146417	787986	352637					Dry-stone built structures on the shore. The cleared slipway extends for approx. 30m.	Post-medieval	Low	
E-M 02	Na Sidheanan	Burial Mounds, Enclosure	146660 146700	787927 787900	22145	MHG5699 MHG33338 MHG37691	SM 10994			A group of small burial mounds of late Iron Age date, and a group of almost 20 possible square cairns, though heavily denuded and robbed. May be related to a series of low banks at right angles to the shore. Stone-walled enclosure, 10m by 8m, post-medieval and may be the cause of the stone robbing..	Iron Age, Post-medieval	High	Scheduled Monument
E-M 03	Laig	Township	146658	787658	352656					Former township of Laig represented by the remains of 6 buildings, a trackway and a footbridge.	Post-medieval	Low	
E-M 04	Laig Farmhouse	Farmhouse, Garden Wall	146701	787692	106205	MHG16747		LB 14115		Late 18th-early 19th century, 2-storey 3-bay house, with single storey irregular 4-bay wing, forming L-plan.	Eighteenth century	Medium	Category B Listed
E-M 05	Laig	Farmhouse, Stack Stands	146768	787743	295401					Farmstead with an additional building in an adjoining enclosure which also contains 12 stack stands.	Post-medieval	Low	
E-M 06	Cnoc Chroleaman	Mounds	146859	787943	352672					3 mounds, up to 19m in diameter, in grassland. All partially covered by later field clearance.	Prehistoric	Medium	Medium if prehistoric and/ or burial mounds, low otherwise.
E-M 07	Sidhean Na Cailleich	Cairn, Stone Axe head	146999	787899	22153	MHG5457				2 cists exposed during clearing of a long cairn. Stone and bone artefacts discarded though a polished stone axe head held by the NMS (NMS BN 46) may be one of these.	Neolithic, Bronze Age	Medium	Both the HER and Canmore entries clearly describe the same features, but the NGRs given do not match. The entries have been split between this one and E-M 11 on the basis of how the NGR locations appear on aerial photos (Bing maps)
E-M 08	Laig	Flint	147116	788041	352686					Large lump of flint found on the edge of a ploughed field.	Prehistoric	Negligible	Simple findspot
E-M 09	Druim An Lochain	Boat Stems	147200	787801	22163	MHG5448				2 boat stems, probably Viking, recovered in the 19th century. Now in the NMS.	Norse	Low	Finds themselves important. Location probably damaged, thus low. Eval/WB required if to be disturbed
E-M 10	Traigh Chlithe	Noust, Shed	147216	788423	352634					A stone-built noust with the remains of a timber-built building close by.	Post-medieval	Low	
E-M 11	Sidhean Na Cailleich	Cairn, Stone Axe head	147066	788031	22153	MHG5457				An oval cairn, 20m by 13m, on the crest of a ridge.	Neolithic, Bronze Age	Medium	Both the HER and Canmore entries clearly describe the same features, but the NGRs given do not match. The entries have been split between this one and E-M 07 on the basis of how the NGR locations appear on aerial photos (Bing maps). It is possible that the axe head was recovered closer to this site rather than E-M 07.

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
E-M 12		Sand Quarry	147196	788336								Negligible	Sand pit shown on the First Edition 25-inch Ordnance Survey map (Inverness-shire - Isle of Skye LXXI.9 (Small Isles) 1878)
E-M 16		Water cistern	147049	788124						Access way visible as sub-rectangular feature in ground surface	Post-medieval	Negligible	
E-M 17		Farm machinery	146793	787931						Abandoned in field. Pre-mechanisation example?	Post-medieval	Low	

Table A2.2: Gazetteer of sites identified within the BMH 500m radius buffer study area, Traigh, Arisaig, Highland, Route 2.13 (**See Figure HEA 2.13 Mainland**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
E-M 13	Traigh House		165811	790596	108157	MHG22455				Traigh House, built c.1784 to replace the 'old mansion' of the lairds of Morar at Glenancross. Used for training SOE and OSS during World War II.	Eighteenth century	Medium	
E-M 14	-	Boathouse	165724	790147		MHG22455				A boathouse is shown on the First Edition 6-inch Ordnance Survey map (Inverness-shire (Mainland), Sheet CXX (with inset CV) 1876)	Post-medieval	Low	Still exists, stone-built
E-M 15	-	Gate post	165761	790343						Ornamental gate post, possibly cast iron, re-used	Post-medieval	Low	Example of Victorian agricultural practice

Table A3.3: Gazetteer of marine sites identified within the marine corridor of Route 2.13 (**See Figure 2.13 Eigg-Mainland**).

Name	UKHO Wreck Number	Canmore ID	Description	Circumstance of loss	Date Lost	Lat (WGS84)	Long (WGS84)	Source	Importance	Reason
MFV Rotche	2729	119358	Trawler. Wood. 40 tons. One crewman lost.	Collision and sank 4 miles SW x W from Mallaig	08/07/1977	56 57,52N (PA)	05 55,066W (PA)	1,2,3,4,5,6	Low	Common vessel and cargo of low interest. Crew member lost, so would be of interest to family and place they came from
Barge	60197	103023	Barge with deck cargo of stone and two dumper trucks. Length 35m	Foundered while under tow.	10/11/2001	56 56,162N	06 05,598W	3,4,5,6	Negligible	Common vessel and cargo of low interest.
MFV Astra	58102	323764	Motor trawler. Steel. 47 ton. 22m x 5.9m x 2.4m. Four crew rescued.	Took in water then foundered.	23/01/2000	56 56,737N	06 09,193W	3,4, 5,6	Negligible	Common vessel and cargo of low interest.

1 = Whittaker (1998); 2 = Larn & Larn (1998); 3 = Britishnewspaperarchive.com; 4 = CANMORE; 5 = UKHO; 6 = wrecksite.eu

Appendix 1: Route 2.14 Gazetteers

Table A4.4: Gazetteer of sites identified within the BMH 500m radius buffer study area, Druim Creagach, Lismore, Route 2.14 (**See Figure HEA 2.14 Mainland-Lismore**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
L-M 01	Park	Dun, Enclosure	188761	745878	23079	1268	SM 4199			A denuded stone-walled enclosure which may have been a dun.	Iron Age	High	

Table A5.5: Gazetteer of sites identified within the onshore 500m radius buffer study area, Port Appin, Argyll and Bute, Route 2.14 (**See Figure HEA 2.14 Mainland-Lismore**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
L-M 02	Airds Bay	Fish Trap	190420	744999	286889	55599				A fragmentary arc of stone in the shallows of Airds Bay.	Prehistoric/ Medieval	Medium	Rare survival
L-M 03	Port Appin	Jetty	190200	745400	159163	1461				Jetty for ferry to Lismore.	Post-medieval	Low	Still in use.
L-M 04	Old Ferry House	Ferrykeeper Cottage	190242	745337	156783			LB 12421		Mid-19th century traditional building. Two parts formerly linked by a roof with a semi-circular end towards the sea.	Nineteenth century	Medium	Category B. Now converted to a restaurant
L-M 05	Port Appin	Landing Place	190000	744999	23296					~	Uncertain	Uncertain	
L-M 06	Port Appin	Village	190600	745399	156781					~	Medieval/ Post-medieval	Medium	
L-M 07	Port Appin	Ferrykeeper Cottages	190500	745550	199630	50375				~	Eighteenth century	Low	
L-M 08	Port Appin	Jetty	190359	745502	159162					Former Lismore ferry jetty. Shown on 1st Ed. OS map	Post-medieval	Low	Photos taken and recorded
L-M 09	Rock Cottage	House	190559	745590	23290	1455		LB 12361		Traditional 2 storied, 4 bay house. Bridge at rear to 2nd storey. Modernised and converted into 2 dwellings	Eighteenth century	Medium	Category C
L-M 10		Wrecked hull	190278	745380						Wrecked timber hull of a small, modern craft	Modern	Negligible	

Table A6.6: Gazetteer of marine sites identified within the marine corridor of Route 2.14 (**See Figure HEA 2.14 Mainland-Lismore**).

Name	UKHO Wreck Number	Canmore ID	Description	Circumstance of loss	Date Lost	Lat (WGS84)	Long (WGS84)	Source	Importance	Reason
Mary		212913	Smack of Oban. Wood. 15 tons. Cargo of stones.	Foundered near Port Appin.	08/02/1889			1,2,3	Low	Common vessel and cargo of low interest.
Blossom		255270	Smack, of Glasgow. Wood. 22 tons. Cargo of Lime.	Vessel took fire while anchored, and was destroyed near Appin.	18/05/1873			1,3,4	Low	Common vessel and cargo of low interest.
Success		246623	Sloop of Inverness. Cargo of slate.	Wrecked on the coast of Appin.	27/04/1847			1,3	Low	Common vessel and cargo of low interest.

1 = Whittaker (1998); 2 = Larn & Larn (1998); 3 = CANMORE; 4 = Britishnewspaperarchive.com

Appendix 1: Route 2.15 Gazetteers

Table A7.7: Gazetteer of sites identified within the BMH 500m radius buffer study area, Fidden, Mull, Route 2.15 (**See Figure HEA 2.15 Iona-Mull**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
M-I 01	Slugan Dubh – Port Mhor	Cultivation Remains, Fish Trap, Long Cist	129800	721699	212075	22780 46514				Drystone-built tidal fish trap with extensive area of rig cultivation in close proximity, that extends northwards to Port Mhor. Possibly related to the abbey. At least two disturbed long cists are present to the NW.	Prehistoric/ Medieval	Medium	
M-I 02	Cnoc Na Budhaig	Cists	130017	721929		22779				A collapsed long cist with side stones and a fragment of the capstone still in place.	Prehistoric	Medium	No obvious remains found to mark the location
M-I 03	Cnoc Na Budhaig	Burial Ground	130080	721867		22778				A putative burial ground with two possible grave stones within the turf.	Medieval	Medium	No obvious remains found to mark the location

Table A8.8: Gazetteer of sites identified within the onshore 500m radius buffer study area, Sligneach, Iona, Route 2.15 (**See Figure HEA 2.15 Iona-Mull**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
M-I 04	Iona Conservation Area	Conservation Area								Extends from W & S edges of the St Mary's Abbey Scheduled Monument area (SM12968)		Medium	Designated by Argyll & Bute Council
M-I 05	Glas Eilean	Cairn	128058	723071	138121	43389				A cairn of rounded stones, approx. 1.5m by 1.0m	Uncertain	Uncertain	Not identified. Modern pile of stones at location
M-I 06	Sandbank	Farmstead	128149	723438	138118	43391				To the SW of Sandbank is a rectangular structure, 6.0m by 3.0m, with a number of associated enclosures and walls.	Post-medieval	Low	The description appears to relate to Torran rather than Sandbank. Torran appears to be on the 1st Ed. OS. Location occupied by a modern house
M-I 07	Sligneach	Crofts	128297 128257 128378	723599 723494 723654	152524					A series of crofts are shown on the 1st Edition OS map, but these appear to be unrelated to the current buildings.	Post-medieval	Low	
M-I 08	Caol Ithe	Farmstead	128400	723710	148480	43616				Two buildings and an enclosure are shown on the 1st Edition OS map. It is unclear how these relate to the current buildings.	Post-medieval	Medium	Within Iona Conservation Area
M-I 09	Threld	Village	128420	723730	21626	220				Village of about 50 houses, all removed by 1878. Name believed to be Norse.	Medieval	Medium	Within Iona Conservation Area
M-I 10	Cladh Nan Druineach	Burial Ground	128380	723740	21620	214				A burial ground shown on an estate map of 1769. Exact location now uncertain.	Medieval	Medium	Within Iona Conservation Area
M-I 11	Free Church	Church	128470	723769	152418					Former church, now appears to be a domestic dwelling.	Post-medieval	Medium	Within Iona Conservation Area
M-I 12		Farm machinery	128129	723194						Abandoned farm machinery that looks like a threshing machine. Possibly late Victorian. Wheel hub includes maker's mark ' Stanford & xxxxx[S]tone & Coy Ltd	Post-medieval	Low	
M-I 13		Farm machinery	128129	723194						Abandoned farm machinery that looks like a trailer. Possibly late Victorian owing to association with above	Post-medieval	Low	

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
M-I 14		Industrial detritus	128115	723200						Concrete flues, fluted (possibly the impression of corrugated iron) concrete columns, other concrete structures etc	Post-medieval	Negligible	
M-I 15		Boundary post	127918	723184						Decorative iron post similar to ones found on higher ground marking boundary	Post-medieval	Low	Example of Victorian agricultural practice
M-I 16		Boundary wall	127918 127893	723184 723289						Boundary wall surviving to c 80cm high - aligns with decorative fence posts	Post-medieval	Low	
M-I 17		Enclosure	127927 127923 127921 127926 127928	723127 723128 723123 723120 723128						Five sided enclosure built with concrete walls utilising in-situ exposed rock with two entrances	Post-medieval/ Modern	Negligible	
M-I 18		Water cistern	127904	723170						Rectangular water cistern c. 3m x 2m x 1m high	Post-medieval	Negligible	

Table A9.9: Gazetteer of marine sites identified within the marine corridor of Route 2.15 (**See Figure HEA 2.15 Iona-Mull**).

Name	UKHO Wreck Number	Canmore ID	Description	Circumstance of loss	Date Lost	Lat (WGS84)	Long (WGS84)	Source	Importance	Reason
Troubadour		118552	Brigantine of Belfast. Wood. 133 tons. Cargo of coal. Six crew saved.	''Wrecked on east side of Iona''.	30/12/1879			1,3,4,5	Low	Common vessel and cargo of low interest. The Troubadour (118552) in newspaper reports is recorded as being wrecked on the NW side of Iona and not in the channel. Aberdeen Press and Journal - Tuesday 06 January 1880
Iona		294416	Craft.	Lost in a hurricane, possibly near Iona.	00/09/1961			1,3	Low?	Assumed vessel is fairly modern. No record if people lost in sources below. If not, then Negligible.
M.V Fingal		294417	Motor Vessel of Glasgow. Wood.	Lost in a hurricane, possibly near Iona.	00/09/1961			1,3	Low	Common vessel and cargo of low interest. No record if people lost in sources below. If not, then Negligible.
Soay		294418	Motor Launch of Glasgow. Wood.	Vessel foundered during the winter of 1955/6. Near Iona	1955/56			1,3	Low	Common vessel.. No record if people lost in sources below. If not, then Negligible.

1 = Whittaker (1998); 2 = Larn & Larn (1998); 3 = CANMORE; 4 = Britishnewspaperarchive.com; 5 = Moir and Crawford, (1994)

Appendix 1: Route 2.16 Gazetteers

Table A10.10: Gazetteer of sites identified within the BMH 500m radius buffer study area, Kiloran Bay, Colonsay, Route 2.16 (**See Figure HEA 2.16 Colonsay**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	SMR ID	SAM No.	LB No.	GDL No.	Description	Period	Importance	Comments
C-M 01	Kiloran Bay, Colonsay	Cists	140300	697900	38174	2767	-	-	-	The discovery of two cists, each built of five stones and containing human remains, in the sands of Killouran Bay is mentioned by Martin Martin in the late 17th century (Macleod 1934). Imprecise location.	Prehistoric	Medium	
C-M 02	McLean's Birling	Maritime craft	140200	697900	98836	19464	-	-	-	Where a galley of defeated McLeans was pulled up on to the sand dunes about 1430, and was left to disintegrate.	Medieval	Low	Nothing is visible at this location
C-M 03		Cist	139780	697670	365187		-	-	-	A possible cist burial containing the remains of three adult and one juvenile was excavated in 2019. A possible second cist was identified on site and left in situ.	Prehistoric	Medium/ High	
C-M 04		Inhumation, ship burial	140080	697640	38173	2766	-	-	-	A 9th-10th century Viking boat-burial comprising a boat inverted over an irregularly rectangular stone setting, which enclosed a male burial accompanied by grave goods and a horse covered by a mound of sand was excavated in 1882.	Norse	Medium/ High	Nothing is visible at this location
C-M 05	Abhainn a' Mhuilinn	Lithic (Find Spot)	139972	697446	37834	2431	-	-	-	Struck flake of flint found on surface of collapsed sand face, above a layer of prehistoric peat	Mesolithic/ Neolithic	Negligible (Peat Medium)	Findspot, although evidence for peat layer is of medium importance
C-M 06		Decorated Strap-end (Find Spot)	140100	697200	157421	44717	-	-	-	A Hiberno-Norse broken copper-alloy decorated strap-end of 10th-century date	Norse	Negligible	Poorly located findspot
C-M 07		Lithic (Find Spot)	140200	697200	38207	2800	-	-	-	Retouched flake	Prehistoric	Negligible	Poorly located findspot
C-M 08		Pin (Find Spot)	140200	697300	176526	22535 46008	-	-	-	A fragment of a copper-alloy dot-decorated pin from a pennanular brooch	Medieval	Low	HER has two identical entries for this item with different identifiers. This one is poorly located Findspot. Possibly indicative of graves in dunes
C-M 09		Pin (Find Spot)	140353	697344	108980	20115	-	-	-	Worn copper-alloy stick pin	Medieval	Low	Findspot. Possibly indicative of graves in dunes
C-M 10	Colonsay House	Garden and Designed Landscape	139702	696760	161472	45501	-	-	GDL00106	An extensive woodland garden and medium-sized informal designed landscape, started in the early 18th century, set within rugged Hebridean countryside, and containing an outstanding collection of trees and shrubs.	Eighteenth century	High	Area of GDL within walkover area comprised simple open grazed fields at the edge of the parkland.
C-M 11		Well	139978	697647			-	-	-	A well is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	Visible as a small discrete depression measuring c. 1.1 x 0.8m by 0.4m deep but no formal structure.
C-M 12		Sheepfold	139973	697385			-	-	-	A sheepfold is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	No remains found to mark the location
C-M 13		Structure	140172	697407			-	-	-	A roofed structure is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	No remains found to mark the location
C-M 14		Sand pit	140122	697804			-	-	-	A sand pit is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	No remains found to mark the location

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	SMR ID	SAM No.	LB No.	GDL No.	Description	Period	Importance	Comments
C-M 15		Sand pit	140179	697898			-	-	-	A sand pit is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	No remains found to mark the location
C-M 16		Sand pit	140174	697627			-	-	-	A sand pit is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	No remains found to mark the location. A modern pit was photographed to illustrate continuity of use
C-M 17		Enclosure	140360	697429			-	-	-	An enclosure is visible on Google Earth	Post-medieval/ Modern	Negligible	Possibly a natural geological feature
C-M 18		Enclosure	140487	697588						An enclosure is visible on Google Earth	Post-medieval/ Modern	Negligible	
C-M 19		Enclosure	140625	697714			-	-	-	An enclosure is visible on Google Earth	Post-medieval/ Modern	Negligible	
C-M 25		Wall	139937 139918	697705 697708						A possible wall formed by beach cobbles and angular slabs within the dune system. Visible for c.10m running parallel to the bay.	Post-medieval/ Modern	Low	Identified by survey in 2006 (Dawson 2007). Not identified during the walkover survey.

Table A11.11: Gazetteer of sites identified within the onshore 500m radius buffer study area, Scoor, Mull, Route 2.16 (**See Figure HEA 2.16 Scoor**).

ORCA Site No.	Name	Type	Easting	Northing	Canmore ID	HER No.	SAM No.	LB No.	GDL No.	Description	Period	Importance	Walkover Comments
C-M 20	Dun a' Gheird	Galleried Dun	140620	718890			SM2429			The well-preserved remains of a galleried dun occupying a low boss on the S end of a steep-sided rocky spur. The dun is roughly sub-rectangular in plan and measures 11m from NNE to SSW by about 9m transversely within a stone wall.	Iron Age	High	
C-M 21		Sheepfold	140894	719076						A sheep fold is marked on the Ordnance Survey First Edition (1881)	Post-medieval	Negligible	Not noted in walkover
C-M 22		Church, burial ground	141198	719621	21972	448				Old Parish Church, Kilvickeon. One of the seven medieval parish-churches of Mull. Existing fabric appears to be 13th century. Earliest records date from the early 15th century. In use until 1804 when a new church at Bunessan was erected. However, the church is recorded as being in poor condition prior to this in the late 18th century.	Medieval	Medium	
C-M 23		Structure	141093	718916						An unroofed structure is shown on 1976 OS map and visible on Google Earth	Modern	Negligible	Seen to be a small enclosure, defined by linear heaps of unworked stone.
C-M 24		Wall	140928 140997 141031	719075 719023 719079						Drystone walls shown on 1st Edition OS map.	Post-medieval	Low	Largely extant and in good repair

Table A12.12: Gazetteer of marine sites identified within the marine corridor of Route 2.16 (**See Figure HEA 2.16 Colonsay-Mull**).

Name	UKHO Wreck Number	Canmore ID	Description	Circumstance of loss	Date Lost	Lat (WGS84)	Long (WGS84)	Source	Importance	Reason
Laurel:		275396	Ballina to Liverpool,	Stranded on Colonsay; fell over and wrecked	31/12/1842			1,2	Unknown	Type and cargo unknown
Frans		264290	Brig of Arendal. From Dublin in ballast.	Wrecked on Colonsay	16/12/1873			1,2	Low	Common vessel and cargo of low interest
Liberty		272551	Liverpool to Newcastle	Abandoned and cast ashore at Colonsay	03/04/1833			1,2	Unknown	Type and cargo unknown
George Ponsonby		275540	Brig of Llanely.95 tons. Arklow to Newcastle Cargo of Sulphur Ore.	'Off The Island Of Colonsey ';	24/07/1844			1,2,3	Low	Common vessel and cargo of low interest
Daniel O'Donnell		327590	Schooner of Arklow. Cargo of paving stones.	Wrecked on Colonsay	17/01/1872			2	Low	Common vessel and cargo of low interest

1 = Whittaker (1998); 2 = CANMORE 3 = Britishnewspaperarchive.com

9.2 Impact Appraisal

Appendix 2: Route 2.13 Appraisal

Table A2.1: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Bay of Laig, Eigg, Route 2.13.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
E-M 01	Boathouse, Noust, Slipway	Dry-stone built structures on the shore. The cleared slipway extends for approx. 30m.	Medieval/ Post-medieval	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 02	Burial Mounds, Enclosure	A group of small burial mounds of late Iron Age date, and a group of almost 20 possible square cairns, though heavily denuded and robbed. May be related to a series of low banks at right angles to the shore. Stone-walled enclosure, 10m by 8m, post-medieval and may be the cause of the stone robbing..	Iron Age, Post-medieval	High	None (170m from BMH location)	Avoidance	None
E-M 03	Township	Former township of Laig represented by the remains of 6 buildings, a trackway and a footbridge.	Post-medieval	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 04	Farmhouse, Garden Wall	Late 18th-early 19th century, 2-storey 3-bay house, with single storey irregular 4-bay wing, forming L-plan.	Eighteenth century	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 05	Farmhouse, Stack Stands	Farmstead with an additional building in an adjoining enclosure which also contains 12 stack stands.	Post-medieval	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 06	Mounds	3 mounds, up to 19m in diameter, in grassland. All partially covered by later field clearance.	Prehistoric	Medium	None (105m from BMH location)	Avoidance	None
E-M 07	Cairn, Stone Axe head	2 cists exposed during clearing of a long cairn. Stone and bone artefacts discarded though a polished stone axe head held by the NMS (NMS BN 46) may be one of these.	Neolithic, Bronze Age	Medium	None (150m from BMH location)	Avoidance	None
E-M 08	Flint	Large lump of flint found on the edge of a ploughed field.	Prehistoric	Negligible	None (200m from BMH location)	Avoidance	None
E-M 09	Boat Stems	2 boat stems, probably Viking, recovered in the 19th century. Now in the NMS.	Norse	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 10	Noust, Shed	A stone-built noust with the remains of a timber-built building close by.	Post-medieval	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 11	Cairn, Stone Axe head	An oval cairn, 20m by 13m, on the crest of a ridge.	Neolithic, Bronze Age	Medium	None (150m from BMH location)	Avoidance	None
E-M 12	Sand Quarry			Negligible	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 16	Water cistern	Access way visible as sub-rectangular feature in ground surface	Post-medieval	Negligible	None (150m from BMH location)	Avoidance	None
E-M 17	Farm machinery	Abandoned in field. Pre-mechanisation example?	Post-medieval	Low	None (160m from BMH location)	Avoidance	None

Table A2.2: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Traigh, Highland, Route 2.13.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
E-M 13		Traigh House, built c.1784 to replace the 'old mansion' of the lairds of Morar at Glenancross. Used for training SOE and OSS during World War II.	Eighteenth century	Medium	None (235m from BMH location)	Avoidance	None
E-M 14	Boathouse	A boathouse is shown on the First Edition 6-inch Ordnance Survey map (Inverness-shire (Mainland), Sheet CXX (with inset CV) 1876)	Post-medieval	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
E-M 15	Gate post	Ornamental gate post, possibly cast iron, re-used	Post-medieval	Low	None (150m from BMH location)	Avoidance	None

Table A 2.3: Impact appraisal of marine sites identified within the marine corridor of Route 2.13.

Name	Description	Circumstance of loss	Date Lost	Importance	Magnitude of Impact	Mitigation	Significance of Effect
MFV Rotche	Trawler. Wood. 40 tons. One crewman lost.	Collision and sank 4 miles SW x W from Mallaig	08/07/1977	Low	None – c. 1km outwith corridor	Avoidance. Instatement of marine PAD	None
Barge	Barge with deck cargo of stone and two dumper trucks. Length 35m	Foundered while under tow.	10/11/2001	Negligible	None – c.500m outwith corridor	Avoidance. Instatement of marine PAD	None
MFV Astra	Motor trawler. Steel. 47 ton. 22m x 5.9m x 2.4m. Four crew rescued.	Took in water then foundered.	23/01/2000	Negligible	None – c.600m outwith corridor	Avoidance. Instatement of marine PAD	None

Appendix 2: Route 2.14 Appraisal

Table A2.4: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Druim Creagach, Lismore, Route 2.14.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
L-M 01	Dun, Enclosure	A denuded stone-walled enclosure which may have been a dun.	Iron Age	High	None (outwith landfall corridor and BMH location)	Avoidance	None

Table A2.5: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Port Appin, Argyll and Bute, Route 2.14.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
L-M 02	Fish Trap	A fragmentary arc of stone in the shallows of Airds Bay.	Prehistoric/Medieval	Medium	None (320m from BMH location on other side of headland)	Avoidance	None
L-M 03	Jetty	Jetty for ferry to Lismore.	Post-medieval	Low	None (145m from BMH location)	Avoidance	None
L-M 04	Ferrykeepers Cottage	Mid-19th century traditional building. Two parts formerly linked by a roof with a semi-circular end towards the sea.	Nineteenth century	Medium	None (105m from BMH location)	Avoidance	None
L-M 05	Landing Place	Nothing further known.	Uncertain	Uncertain	None (outwith landfall corridor and BMH location)	Avoidance	None
L-M 06	Village	Port Appin	Medieval/Post-medieval	Medium	None (buildings of historic settlement 320-420m from BMH location)	Avoidance	None
L-M 07	Ferrykeepers Cottages	Still inhabited.	Eighteenth century	Low	None (outwith landfall corridor and BMH location)	Avoidance	None
L-M 08	Jetty	Former Lismore ferry jetty. Shown on 1st Ed. OS map	Post-medieval	Low	None (305m from BMH location)	Avoidance	None
L-M 09	House	Traditional 2 storied, 4 bay house. Bridge at rear to 2nd storey. Modernised and converted into 2 dwellings	Eighteenth century	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
L-M 10	Wrecked hull	Wrecked timber hull of a small, modern craft	Modern	Negligible	None (160m from BMH location)	Avoidance	None

Table A2.6: Impact appraisal of marine sites identified within the marine corridor of Route 2.14.

Name	Description	Circumstance of loss	Date Lost	Importance	Magnitude of Impact	Mitigation	Significance of Effect
Mary	Smack of Oban. Wood. 15 tons. Cargo of stones.	Foundered near Port Appin.	08/02/1889	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Blossom	Smack, of Glasgow. Wood. 22 tons. Cargo of Lime.	Vessel took fire while anchored, and was destroyed near Appin.	18/05/1873	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Success	Sloop of Inverness. Cargo of slate.	Wrecked on the coast of Appin.	27/04/1847	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible

Appendix 2: Route 2.15 Appraisal

Table A2.7: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Fidden, Mull, Route 2.15.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
M-I 01	Cultivation Remains, Fish Trap, Long Cist	Drystone-built tidal fish trap with extensive area of rig cultivation in close proximity. Possibly related to the abbey. At least two disturbed long cists are present to the NW.	Prehistoric/Medieval	Medium	Low-medium	Avoidance of fish trap Watching Brief Brief in case of more burials, and dating evidence for the rig cultivation	Minor-Negligible
M-I 02	Cists	A collapsed long cist with side stones and a fragment of the capstone still in place.	Prehistoric	Medium	Low? (80m from BMH location, but uncertain if there are more burials to be discovered)	Avoidance of specific site; Watching Brief in case of more burials	Minor-Negligible
M-I 03	Burial Ground	A putative burial ground with two possible grave stones within the turf.	Medieval	Medium	Low? (115m from BMH location, but uncertain how far graveyard extends)	Avoidance of specific site; Watching Brief in case of more burials	Minor-Negligible

Table A2.8: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Sligneach, Iona, Route 2.15.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
M-I 04	Conservation Area	Extends from W & S edges of the St Mary's Abbey Scheduled Monument area (SM12968)		Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
M-I 05	Cairn	A cairn of rounded stones, approx. 1.5m by 1.0m	Uncertain	Uncertain	None (345m from BMH location)	Avoidance	None
M-I 06	Farmstead	To the SW of Sandbank is a rectangular structure, 6.0m by 3.0m, with a number of associated enclosures and walls. Occupied.	Post-medieval	Low	None (50m from BMH location)	Avoidance (is occupied)	None
M-I 07	Crofts	A series of crofts are shown on the 1st Edition OS map, but these appear to be unrelated to the current buildings.	Post-medieval	Low	None (outwith landfall corridor and 100m from BMH location)	Avoidance	None
M-I 08	Farmstead	Two buildings and an enclosure are shown on the 1st Edition OS map. It is unclear how these relate to the current buildings.	Post-medieval	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
M-I 09	Village	Village of about 50 houses, all removed by 1878. Name believed to be Norse.	Medieval	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
M-I 10	Burial Ground	A burial ground shown on an estate map of 1769. Exact location now uncertain.	Medieval	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
M-I 11	Church	Former church, now appears to be a domestic dwelling.	Post-medieval	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
M-I 12	Farm machinery	Abandoned farm machinery that looks like a threshing machine. Possibly late Victorian. Wheel hub includes maker's mark ' Stanford & xxxxx[S]tone & Coy Ltd	Post-medieval	Low	None (210m from BMH location)	Avoidance	None
M-I 13	Farm machinery	Abandoned farm machinery that looks like a trailer. Possibly late Victorian owing to association with above	Post-medieval	Low	None (210m from BMH location	Avoidance	None
M-I 14	Industrial detritus	Concrete flues, fluted (possibly the impression of corrugated iron) concrete columns, other concrete structures etc	Post-medieval/ Modern	Negligible	None (210m from BMH location	Avoidance	None

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
M-I 15	Boundary post	Decorative iron post similar to ones found on higher ground marking boundary	Post-medieval	Low	None (335m from BMH location)	Avoidance	None
M-I 16	Boundary wall	Boundary wall surviving to c 80cm high - aligns with decorative fence posts	Post-medieval	Low	None (305m from BMH location)	Avoidance	None
M-I 17	Enclosure	Five sided enclosure built with concrete walls utilising in-situ exposed rock with two entrances	Post-medieval	Negligible	None (365m from BMH location)	Avoidance	None
M-I 18	Water cistern	Rectangular water cistern c. 3m x 2m x 1m high	Post-medieval	Negligible	None (350m from BMH location)	Avoidance	None

Table A2.9: Impact appraisal of marine sites identified within the marine corridor of Route 2.15.

Name	Description	Circumstance of loss	Date Lost	Importance	Magnitude of Impact	Mitigation	Significance of Effect
Troubadour	Brigantine of Belfast. Wood. 133 tons. Cargo of coal. Six crew saved.	''Wrecked on east side of Iona''.	30/12/1879	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Iona	Craft.	Lost in a hurricane, possibly near Iona.	00/09/1961	Low?	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
M.V Fingal	Motor Vessel of Glasgow. Wood.	Lost in a hurricane, possibly near Iona.	00/09/1961	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Soay	Motor Launch of Glasgow. Wood.	Vessel foundered during the winter of 1955/6. Near Iona	1955/56	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible

Appendix 2: Route 2.16 Appraisal

Table A2.10: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Kiloran Bay, Colonsay, Route 2.16.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
C-M 01	Cists	The discovery of two cists, each built of five stones and containing human remains, in the sands of Killouran Bay is mentioned by Martin Martin in the late 17th century (Macleod 1934). Imprecise location.	Prehistoric	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 02	Maritime craft	Where a galley of defeated McLeans was pulled up on to the sand dunes about 1430, and was left to disintegrate.	Medieval	Low	Negligible (survival of any remains highly unlikely)	Avoidance PAD	Negligible
C-M 03	Cist	A possible cist burial containing the remains of three adult and one juvenile was excavated in 2019. A possible second cist was identified on site and left in situ.	Prehistoric	Medium/ High	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 04	Inhumation, ship burial	A 9th-10th century Viking boat-burial comprising a boat inverted over an irregularly rectangular stone setting, which enclosed a male burial accompanied by grave goods and a horse covered by a mound of sand was excavated in 1882.	Norse	Medium/ High	None. Outwith red line boundary.	Avoidance of noted location; Watching brief	Minor
C-M 05	Lithic (Find Spot)	Struck flake of flint found on surface of collapsed sand face, above a layer of prehistoric peat	Mesolithic/ Neolithic	Negligible (Peat Medium)	Low	Avoidance of noted location; Watching brief	Minor
C-M 06	Decorated Strap-end (Find Spot)	A Hiberno-Norse broken copper-alloy decorated strap-end of 10th-century date	Norse	Negligible	Negligible	PAD	Negligible
C-M 07	Lithic (Find Spot)	Retouched flake	Prehistoric	Negligible	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 08	Pin (Find Spot)	A fragment of a copper-alloy dot-decorated pin from a pennanular brooch	Medieval	Low	Negligible	PAD	Negligible
C-M 09	Pin (Find Spot)	Worn copper-alloy stick pin	Medieval	Low	Negligible	PAD	Negligible
C-M 10	Garden and Designed Landscape	An extensive woodland garden and medium-sized informal designed landscape, started in the early 18th century, set within rugged Hebridean countryside, and containing an outstanding collection of trees and shrubs.	Eighteenth century	High	None. Outwith red line boundary and ground to be reinstated after installation	Reinstatement of ground	Negligible
C-M 11	Well	A well is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	None. Outwith red line boundary.	None required	Negligible
C-M 12	Sheepfold	A sheepfold is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	Negligible	None required	Negligible
C-M 13	Structure	A roofed structure is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	None. Outwith red line boundary.	None required	Negligible
C-M 14	Sand pit	A sand pit is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	Negligible	None required	Negligible
C-M 15	Sand pit	A sand pit is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	Negligible	None required	Negligible
C-M 16	Sand pit	A sand pit is marked on the Ordnance Survey First Edition (1880)	Post-medieval	Negligible	Negligible	None required	Negligible

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
C-M 17	Enclosure	An enclosure is visible on Google Earth	Post-medieval/ Modern	Negligible	None. Outwith red line boundary.	Avoidance	None
C-M 18	Enclosure	An enclosure is visible on Google Earth	Post-medieval/ Modern	Negligible	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 19	Enclosure	An enclosure is visible on Google Earth	Post-medieval/ Modern	Negligible	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 25	Wall	A possible wall formed by beach cobbles and angular slabs within the dune system. Visible for c.10m running parallel to the bay.	Post-medieval/ Modern	Low	None. Outwith red line boundary.	Avoidance	None

Table A2.11: Impact appraisal of sites identified within the BMH 500m radius buffer study area, Scoor, Mull, Route 2.16.

ORCA Site No.	Type	Description	Period	Importance	Magnitude of Impact	Mitigation	Significance of Effect
C-M 20	Galleried Dun	The well-preserved remains of a galleried dun occupying a low boss on the S end of a steep-sided rocky spur. The dun is roughly sub-rectangular in plan and measures 11m from NNE to SSW by about 9m transversely within a stone wall.	Iron Age	High	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 21	Sheepfold	A sheep fold is marked on the Ordnance Survey First Edition (1881)	Post-medieval	Negligible	None (85m from BMH location)	Avoidance	None
C-M 22	Church, burial ground	Old Parish Church, Kilvickeon. One of the seven medieval parish-churches of Mull. Existing fabric appears to be 13th century. Earliest records date from the early 15th century. In use until 1804 when a new church at Bunessan was erected. However, the church is recorded as being in poor condition prior to this in the late 18th century.	Medieval	Medium	None (outwith landfall corridor and BMH location)	Avoidance	None
C-M 23	Structure	An unroofed structure is visible on Google Earth, and first depicted on 1976 OS mapping. Identified as an enclosure.	Modern	Negligible	None (165m from BMH location)	Avoidance	None
C-M 24	Wall	Drystone walls shown on 1st Edition OS map.	Post-medieval	Low	None (170m from BMH location)	Avoidance	None

Table A2.12: Impact appraisal of marine sites identified within the marine corridor of Route 2.16.

Name	Description	Circumstance of loss	Date Lost	Importance	Magnitude of Impact	Mitigation	Significance of Effect
Laurel	Ballina to Liverpool,	Stranded on Colonsay; fell over and wrecked	31/12/1842	Unknown	Uncertain	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Frans	Brig of Arendal. From Dublin in ballast.	Wrecked on Colonsay	16/12/1873	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Liberty	Liverpool to Newcastle	Abandoned and cast ashore at Colonsay	03/04/1833	Unknown	Uncertain	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
George Ponsonby	Brig of Llanely.95 tons. Arklow to Newcastle Cargo of Sulphur Ore.	'Off The Island Of Colonsey ';	24/07/1844	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible
Daniel O'Donnell	Schooner of Arklow. Cargo of paving stones.	Wrecked on Colonsay	17/01/1872	Low	Low	Review of marine geophysical data for the route has not identified contacts or anomalies that indicate presence in the corridor; Instatement of marine PAD	Negligible

9.3 Appendix 3: Walkover survey photographic register

(Photographic images can be supplied on request.)

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
1	1	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	N
1	2	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	N
1	3	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	N
1	4	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	N
1	5	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 11	Possible remains of well	N
1	6	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M	General view of survey area	S
1	7	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 10	General view of designed landscape (GDL00106) within survey area	SW
1	8	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 10	General view of designed landscape (GDL00106) within survey area	SW
1	9	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	W
1	10	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	NNW
1	11	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 12	Sheepfold	ESE
1	12	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 12	Sheepfold	ESE
1	13	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 4	Location of ship burial	NE
1	14	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 16	Modern sandpit at location	N
1	15	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 2	Site location	SSE
1	16	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of Kiloran Bay	W
1	17	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of survey area	S
1	18	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	~	General view of survey area	W
1	19	2.16 Colonsay-Mull	Kiloran Bay, Colonsay	C-M 17	Enclosure	E
2	1	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Survey area from Port Appin	W
2	2	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Survey area	N

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
2	3	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Survey area	E
2	4	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Survey area	SW
2	5	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Sheer rock face	NW
2	6	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Survey area	WSW
2	7	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Survey area	WSW
2	8	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Existing cable	NNE
2	9	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Existing cable	NE
2	10	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Existing cable	NW
2	11	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Existing cable	SE
2	12	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Existing cable marker	W
2	13	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Ceramic building material on beach	W
2	14	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Ramp to higher ground from Port Appin	W
2	15	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	E
2	16	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	S
2	17	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	S
2	18	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	SW
2	19	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High peak	SW

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
2	20	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	W
2	21	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	NE
2	22	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground	NW
2	23	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Fence preventing further survey	S
2	24	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Extent of fence	W
2	25	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	High ground beyond fence	S
2	26	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Wooded sides of high ground	S
2	27	2.14 Lismore-Mainland	Druim Creagach, Lismore	~	Wooded sides of high ground	SW
3	1	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Port Appin from Lismore	E
3	2	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 3	Beach and modern jetty from high ground	SW
3	3	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Survey area	N
3	4	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 8	Former jetty	NW
3	5	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 8	Former jetty	NW
3	6	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Existing outfall pipe	W
3	7	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Existing outfall pipe	NW
3	8	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 3	Modern jetty	W
3	9	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Existing cable	SE

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
3	10	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Wrecked hull	SE
3	11	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 4	Ferry keeper's cottage	E
3	12	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 3	Modern jetty	NE
3	13	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Survey area	SW
3	14	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Survey area	SE
3	15	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Ceramic building material on beach	SE
3	16	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Manhole	E
3	17	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Manhole	SW
3	18	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Manhole	N
3	19	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Modern structure (hot tub)	SE
3	20	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Sheer cliff above beach	SE
3	21	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Sheer cliff face	E
3	22	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Sheer cliff face	NE
3	23	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Sheer cliff face	NNE
3	24	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Survey area	SW
3	25	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Walled garden in southeast corner of survey area	N
3	26	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	~	Walled garden in southeast corner of survey area	SW

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
3	27	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 4	Ferry keeper's cottage [Historic Image]	~
3	28	2.14 Lismore-Mainland	Port Appin, Argyll and Bute	L-M 8	Former jetty [Historic Image c.1908]	~
4	1	2.15 Mull-Iona	Sligneach, Iona	~	Beach	SW
4	2	2.15 Mull-Iona	Sligneach, Iona	~	Survey area	ESE
4	3	2.15 Mull-Iona	Sligneach, Iona	~	Survey area	NE
4	4	2.15 Mull-Iona	Sligneach, Iona	~	Survey area	NNE
4	5	2.15 Mull-Iona	Sligneach, Iona	~	Survey area	NW
4	6	2.15 Mull-Iona	Sligneach, Iona	~	Inlet	NW
4	7	2.15 Mull-Iona	Sligneach, Iona	~	Inlet	SE
4	8	2.15 Mull-Iona	Sligneach, Iona	M-I 12	Thresher	SE
4	9	2.15 Mull-Iona	Sligneach, Iona	M-I 12	Thresher	SW
4	10	2.15 Mull-Iona	Sligneach, Iona	M-I 12	Detail on thresher hub	SE
4	11	2.15 Mull-Iona	Sligneach, Iona	M-I 13	Trailer behind thresher	SW
4	12	2.15 Mull-Iona	Sligneach, Iona	M-I 13 M-I 14	Trailer plus detritus	S
4	13	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Flue adjacent thresher	S
4	14	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Remains of two flues	NE
4	15	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Concrete detritus adjacent flues	NW
4	16	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Pipes encased in concrete	NW
4	17	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Fluted concrete column	NW
4	18	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Industrial detritus, flues, and thresher	SE
4	19	2.15 Mull-Iona	Sligneach, Iona	M-1 14	Fluted concrete	SE
4	20	2.15 Mull-Iona	Sligneach, Iona	~	Granite with iron fixing	SE
4	21	2.15 Mull-Iona	Sligneach, Iona	~	Ceramic building material on beach	SW
4	22	2.15 Mull-Iona	Sligneach, Iona	~	Brickwork with pebbledash render	NE

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
4	23	2.15 Mull-Iona	Sligneach, Iona	M-I 15	Decorative fence post	NW
4	24	2.15 Mull-Iona	Sligneach, Iona	~	Discarded cast iron rainwater pipe	E
4	25	2.15 Mull-Iona	Sligneach, Iona	~	Outfall pipe	E
4	26	2.15 Mull-Iona	Sligneach, Iona	~	Cleared stones adjacent to cairn (M-I 5)	SW
4	27	2.15 Mull-Iona	Sligneach, Iona	~	Concentrated ceramic building material on inlet beach	W
4	28	2.15 Mull-Iona	Sligneach, Iona	M-I 16	Concreted wall	SW
4	29	2.15 Mull-Iona	Sligneach, Iona	M-I 16	Concreted wall	NE
4	30	2.15 Mull-Iona	Sligneach, Iona	M-I 16	Boundary markers aligned with wall	NW
4	31	2.15 Mull-Iona	Sligneach, Iona	M-I 17	Enclosure	NE
4	32	2.15 Mull-Iona	Sligneach, Iona	M-I 17	Enclosure	SW
4	33	2.15 Mull-Iona	Sligneach, Iona	M-I 17	Enclosure	SE
4	34	2.15 Mull-Iona	Sligneach, Iona	M-I 17	Enclosure wall	NW
4	35	2.15 Mull-Iona	Sligneach, Iona	M-I 17	Enclosure wall detail	SW
4	36	2.15 Mull-Iona	Sligneach, Iona	M-I 18	Cistern	NW
4	37	2.15 Mull-Iona	Sligneach, Iona	M-I 18	Inside cistern	NW
5	1	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area	W
5	2	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area	SW
5	3	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area	NW
5	4	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area	NE
5	5	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area (West end)	NW
5	6	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area	E
5	7	2.13 Eigg-Mainland	Bay of Laig, Eigg	~	Survey area	N
5	8	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 6	Mound	SE
5	9	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 6	Mound	NE
5	10	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 6	Mound	W
5	11	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 4	Farm buildings	NE

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
5	12	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 4	Farm buildings	E
5	13	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 16	Cistern	NW
5	14	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 11	Cairn	NE
5	15	2.13 Eigg-Mainland	Bay of Laig, Eigg	E-M 17	Redundant farm machinery	N
6	1	2.15 Mull-Iona	Fidden, Mull	~	Structure on headland outwith survey area	N
6	2	2.15 Mull-Iona	Fidden, Mull	~	Survey area	N
6	3	2.15 Mull-Iona	Fidden, Mull	~	Survey area	NE
6	4	2.15 Mull-Iona	Fidden, Mull	~	Survey area	E
6	5	2.15 Mull-Iona	Fidden, Mull	~	Survey area	SE
6	6	2.15 Mull-Iona	Fidden, Mull	~	Survey area	S
6	7	2.15 Mull-Iona	Fidden, Mull	~	Survey area	S
6	8	2.15 Mull-Iona	Fidden, Mull	~	Survey area	W
6	9	2.15 Mull-Iona	Fidden, Mull	~	Survey area	W
6	10	2.15 Mull-Iona	Fidden, Mull	~	Survey area	NW
6	11	2.15 Mull-Iona	Fidden, Mull	~	Boundary or retaining wall	ENE
6	12	2.15 Mull-Iona	Fidden, Mull	~	Peat-capped rock	N
6	13	2.15 Mull-Iona	Fidden, Mull	M-I 2	Stones close to Cnoc Na Budhaig burial ground	SE
6	14	2.15 Mull-Iona	Fidden, Mull	M-I 3	Stones close to Cnoc Na Budhaig cists	NW
7	1	2.16 Colonsay-Mull	Scoor, Mull	~	Survey area	N
7	2	2.16 Colonsay-Mull	Scoor, Mull	~	Survey area	NW
7	3	2.16 Colonsay-Mull	Scoor, Mull	~	Survey area	W
7	4	2.16 Colonsay-Mull	Scoor, Mull	~	Survey area	SE
7	5	2.16 Colonsay-Mull	Scoor, Mull	~	Drystone wall	SSW
7	6	2.16 Colonsay-Mull	Scoor, Mull	~	Drystone wall	WNW
7	7	2.16 Colonsay-Mull	Scoor, Mull	~	Enclosures	NE
7	8	2.16 Colonsay-Mull	Scoor, Mull	~	Enclosure	E

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
7	9	2.16 Colonsay-Mull	Scoor, Mull	~	Enclosure	WNW
7	10	2.16 Colonsay-Mull	Scoor, Mull	C-M 22	Structure	SSE
7	11	2.16 Colonsay-Mull	Scoor, Mull	C-M 22	Structure	NE
7	12	2.16 Colonsay-Mull	Scoor, Mull	C-M 22	Structure	NW
7	13	2.16 Colonsay-Mull	Scoor, Mull	C-M 22	Structure	SSW
7	14	2.16 Colonsay-Mull	Scoor, Mull	C-M 22	Structure	SW
7	15	2.16 Colonsay-Mull	Scoor, Mull	~	Beach area	S
7	16	2.16 Colonsay-Mull	Scoor, Mull	~	Beach area	SE
7	17	2.16 Colonsay-Mull	Scoor, Mull	~	Ruinous church and graveyard north of survey area	N
7	18	2.16 Colonsay-Mull	Scoor, Mull	~	Ruinous structure northeast of survey area	NE
8	1	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	N
8	2	2.13 Eigg-Mainland	Traigh, Arisaig	~	Golf course	NNE
8	3	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	E
8	4	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	E
8	5	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	N
8	6	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	SE
8	7	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	SE
8	8	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	N
8	9	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	NE
8	10	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	SW
8	11	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	W
8	12	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	NE
8	13	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	NE
8	14	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	SE
8	15	2.13 Eigg-Mainland	Traigh, Arisaig	~	Survey area	SSE
8	16	2.13 Eigg-Mainland	Traigh, Arisaig	E-M 13	Traigh House	E

Batch	Frame	Route	Landfall Location	Site	Description	Direction of Shot
8	17	2.13 Eigg-Mainland	Traigh, Arisaig	~	Farm buildings	N
8	18	2.13 Eigg-Mainland	Traigh, Arisaig	~	Ornamental fence post	N
8	19	2.13 Eigg-Mainland	Traigh, Arisaig	~	Existing cables	W
8	20	2.13 Eigg-Mainland	Traigh, Arisaig	~	Inaccessible headland	W

9.4 Appendix 4: Marine geophysical survey image files

Appendix 4.1: Route 2.13 Survey Data Reviewed

Table A4.1: Route 2.13 MBES Image Files.

Route 2.13 MBES Images
2636_213_MBES_LAT_0pt25m_2_8_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_7_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_6_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_5_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_4_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_3_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_2_Issue1.tif
2636_213_MBES_LAT_0pt25m_2_1_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_9_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_8_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_5_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_4_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_3_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_2_Issue1.tif
2636_213_MBES_LAT_0pt25m_1_1_Issue1.tif
2636_213_MBES_LAT_1m_issue1.tif
2636_213_MBES_LAT_0pt25m_2_9_Issue1.tif

Table A4.1: Route 2.13 SSS Images

Route 2.13 SSS Images
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_C_09.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_C_07.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_C_08.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_C_02.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_C_01.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_21.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_20.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_17.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_18.tif
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2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_16.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_11.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_12.tif

Route 2.13 SSS Images
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_13.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_14.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_08.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_03.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_06.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_07.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_02.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_B_01.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_A_07.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_A_02.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_A_04.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_A_05.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_A_06.tif
2636_213_GEO_VK&FV_SSS_HF_0pt1m_issue1_A_03.tif

Table A4.3: Route 2.13 Mag Images

Route 2.13 Mag Images
AGG_2636_213_GEO_FV_MAG_TFAS_B_0p3m_issue1.tif
AGG_2636_213_GEO_FV_MAG_RES_B_0p3m_issue1.tif
2636_213_GEO_FV_MAG_TFAS_A_0p3m_issue1.tif
2636_213_GEO_FV_MAG_RES_A_0p3m_issue1.tif
2636_213_GEO_VK_MAG_TFAS_B_0p3m_issue1.tif
2636_213_GEO_VK_MAG_TFAS_A_0p3m_issue1.tif
2636_213_GEO_VK_MAG_RES_A_0p3m_issue1.tif
2636_213_GEO_VK_MAG_RES_B_0p3m_issue1.tif

Appendix 4.2: Route 2.14 Survey Data Reviewed

TableA4.2: Route 2.14 MBES Images

Route 2.14 MBES Images
2636_214_MBES_LAT_0pt25m_issue1.tif

Table A4.3: Route 2.14 SSS Images

Route 2.14 SSS Images
2636_214_GEO_FTV_SSS_HF_0pt1m_issue1.tif

Table A4.4: Route 2.14 Mag Images

Route 2.14 Mag Images
2636_214_GEO_FTV_MAG_TFAS_0p3m_issue1.tif
2636_214_GEO_FTV_MAG_RES_0p3m_issue1.tif

Appendix 4.3: Route 2.15 Survey Data Reviewed

Table A4.5: Route 2.15 MBES Images

Route 2.15 MBES Images
2636_215_MBES_LAT_0pt25m_Issue1.tif

Table 4.6: Route 2.15 SSS Images

Route 2.15 SSS Images
2636_215_GEO_FTV_SSS_HF_0pt1m_issue1.tif

Table A4.7: Route 2.15 Mag Images

Route 2.15 Mag Images
2636_215_GEO_FTV_MAG_TFAS_0p3m_issue1.tif
2636_215_GEO_FTV_MAG_RES_0p3m_issue1.tif

Appendix 4.4: Route 2.16 Survey Data Reviewed

Table A4.8: Route 2.16 MBES Images

Route 2.16 MBES Images
2636_216_MBES_LAT_0pt25m_9_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_9_1_Issue1.tif
2636_216_MBES_LAT_0pt25m_8_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_8_1_Issue1.tif
2636_216_MBES_LAT_0pt25m_7_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_6_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_5_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_4_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_4_1_Issue1.tif
2636_216_MBES_LAT_0pt25m_3_1_Issue1.tif
2636_216_MBES_LAT_0pt25m_2_1_Issue1.tif
2636_216_MBES_LAT_0pt25m_1_2_Issue1.tif
2636_216_MBES_LAT_0pt25m_1_1_Issue1.tif
2636_216_MBES_LAT_1m_issue1.tif

Table A4.9: Route 2.16 SSS Images

Route 2.16 SSS Images
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_T1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_U2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_T2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_U3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_T3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_S1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_S2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_R1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_Q1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_Q2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_P2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_P1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_O2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_O1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_N2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_M2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_M3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_L2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_L3.tif

Route 2.16 SSS Images
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_K3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_J3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_J4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_I3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_I4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_H3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_H4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_G3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_G4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_F3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_F4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_E4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_E3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_D2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_D3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_D4.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_C2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_C3.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_A2.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_C1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_A1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_B1.tif
2636_216_GEO_FTV&FV_SSS_HF_0pt1m_issue1_B2.tif

Table A4.10: Route 2.16 Mag Images

Route 2.16 Mag Images
2636_216_GEO_FTV_MAG_TFAS_B_0p3m_issue1.tif
2636_216_GEO_FTV_MAG_RES_B_0p3m_issue1.tif
2636_216_GEO_FV_MAG_TFAS_B_0p3m_issue1.tif
2636_216_GEO_FV_MAG_RES_B_0p3m_issue1.tif
2636_216_GEO_FTV&FV_MAG_TFAS_A_0p3m_issue1.tif
2636_216_GEO_FTV&FV_MAG_RES_A_0p3m_issue1.tif