

Fort Dunree, Donegal

ACCESSIBILITY – PLANNING

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INTRODUCTION

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Project Introduction

The Fort Dunree Project aims to provide a creative, historically sensitive and imaginative tourism experience, from revitalized historic landscapes and structures, rich biodiversity and new distinctive insertions that will enhance the existing infrastructure and visitor experience. The focus of the project is to unlock Fort Dunree's potential, and help deliver a sustainable future for this historical and unique setting.

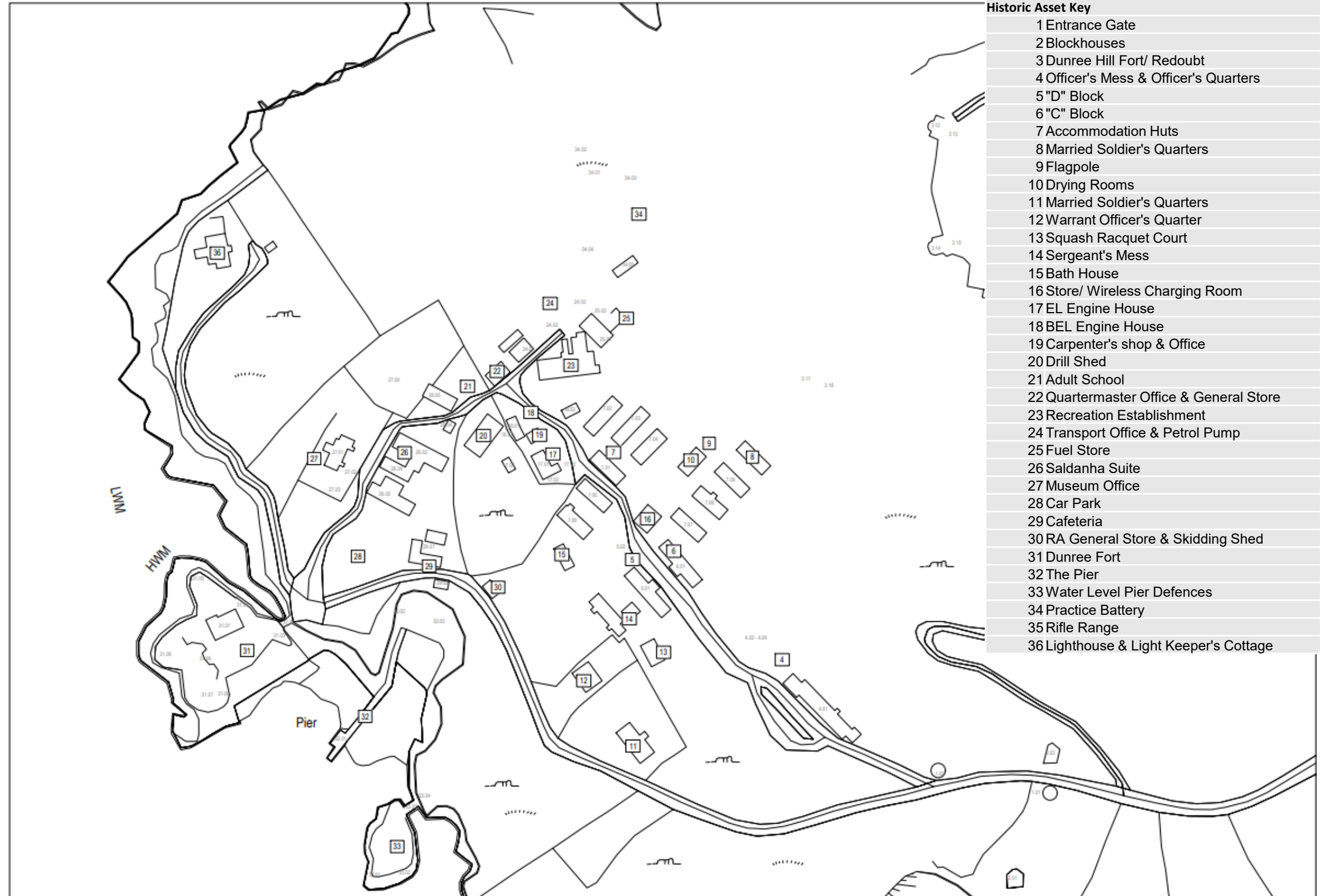
Report Scope

A key aspect to the visitor experience at Fort Dunree is the large trail network which provides users access around the site and to the various historical assets. This report intends to examine how accessible these existing trails are for users, utilising best practice categorisation techniques to identify areas of the site which are currently difficult to access, furthermore the report will explore opportunities for accessibility improvements. The use of topographical data and site surveys have been utilised to analyse each of the existing trails for this purpose.

At present, the access around the site is very limited for those with impaired mobility. The redevelopments aim to transform the site by reimagining the visitor experience, and better link the unique elements of Fort Dunree.

In summary this report aims to:

1. Outline the Project Definition of accessibility
2. Detail the site and historical assets, outlining current accessibility between them
3. Outline the Project accessibility aims
4. Discuss how these aims can be achieved



PLAN OF FORT DUNREE

KEY UNIQUE SELLING POINTS

KEY UNIQUE SELLING POINTS

Asset Introduction

The extract opposite outlines the location of the historical assets which make up the Unique Selling Point (USP) of Fort Dunree. As can be seen these assets are spread right across the site and are connected by a series of existing trails.

A consistent numbering convention has been used throughout the project to identify each of the historical assets. For more information on the condition of each asset please refer to the existing Condition and Proposals Masterplan.

The following sections of this report will explore how much of the site is deemed to be accessible to all and if there are any development opportunities to enhance this.



PLAN OF FORT DUNREE



DEFINING ACCESSIBILITY

DEFINING ACCESSIBILITY

Introduction

Before discussing how accessible the existing site is, it is first importance to define what accessibility is and how it can be quantified or measured. This section aims to briefly review best practice guidance on defining accessibility and explain how this has been used on the project.

The following design guides, standards and regulations have been utilised:

Reference Title

BS 8300-1:2018	Design of an Accessible and Inclusive Built Environment. Part 1: External Environment – Code of Practice.
	Access – Improving the Accessibility of Historic Buildings and Places 2011
	VSG – Managing Visitor Safety in the Countryside, Principles & Practice, 3 rd Edition
	Managing Visitor Safety in the Historic Built Environment: Principles & Practice,
	NDA: Code of Practice on Accessible Heritage Sites
	Sports Ireland Outdoors & National Trails Office – Classification and Grading for Recreational Trails, 1 st Edition
	Safety, Health and Welfare at Work Act 2005
The National Disability Authority	Code of Practice on Accessible Heritage Site

Sports Ireland Classification of Trails

Used throughout Ireland to communicate the difficulty of access along outdoor trails, the Sport Ireland Classification is well defined and well understood.

It has been decided that the rationale of the classification system outlined by Sport Ireland be utilised on the project and all existing and proposed trails have been reviewed against this.

Table 4.7 provides a simplistic outline of how different trail surfaces and gradients can be classified with a grading. This grading can be used to easily communicate to visitors the trail experience they should expect. In this way they can understand how difficult different routes are to access. This can be communicated as specific bullet points for ease of reading on site signage and information.

Additional information is provided within the guidance as to how each of gradings should be assigned to different trails. This has been used to analyse the existing and proposed trails as part of this project.

It should also be noted that although the guidance behind the ratings is specific and technical, the use of engineering judgement and interpretation is still required when determining the appropriate grading

In order to aid the communication of trail difficulty it is proposed that the different gradings be assigned colours as shown in the table.

Each of the proposed gradings is explored in further detail in this section so as to introduce the use of the grading system to those that may be unfamiliar to it.

Table 4.7: Walking Trail Grading Information for Users

Grading	Description
Multi-access	Flat smooth trails, suitable for all users including people with reduced mobility, wheelchair users, people with a vision impairment, using crutches, with a buggy, with small children, older people and so on. Normal outdoor footwear can be worn
Easy	Generally flat trails with a smooth surface and some gentle slopes or shallow steps. These trails are generally suitable for family groups including children and the elderly. Normal outdoor footwear can be worn.
Moderate	These trails may have some climbs and may have an uneven surface where the going is rough underfoot with some obstacles such as protruding roots, rocks etc. The routes are appropriate for people with a moderate level of fitness and some walking experience. Specific outdoor walking footwear and clothing is recommended.
Strenuous	These are physically demanding trails, which will typically have some sections with steep climbs for long periods and the going underfoot can be extremely rough including many obstacles. Suitable for users accustomed to walking on rough ground and with a high level of fitness. Specific outdoor walking footwear and clothing required.
Very Difficult	These routes are predominantly in remote upland areas. They will typically include steep slopes and very variable and rough underfoot conditions on sometimes indistinct trails. They may be unmarked so the use of a map and navigational skills will be required. Suitable only for the very fit and competent mountain walkers with a high level of experience. Specific outdoor walking footwear and clothing required.

TABLE 4.7 FROM SPORTS IRELAND OUTDOORS & NATIONAL TRAILS OFFICE – CLASSIFICATION AND GRADING FOR RECREATIONAL TRAILS

DEFINING ACCESSIBILITY

Multi-Access Trail – Class 1

Class 1 walking trails are defined as multi-access in this context and refer to trails which are accessible to all, including people with reduced mobility, wheelchair users, people with a vision impairment, using crutches, with a buggy, with small children, older people and so on.

CLASS 1 - WALKING TRAIL	
GENERAL DESCRIPTION	<ul style="list-style-type: none"> Specifically multi-access trails² which can accommodate users with reduced mobility. Will be serviced by a vehicle parking area. Can readily facilitate frequent two-way traffic. Will have minimal cross slopes and gradient Will have a firm surface. No steps, waterbars, stiles, barriers or trip hazards of any kind. Should have resting places with seating approximately every 100m. <p>Further detailed requirements for multi-access trails are provided Appendix 2.</p>
SITE SUITABILITY	Urban/ Urban Fringe or Core Recreation Areas (see table 2.1) but some trails providing access to reduced mobility users may also be appropriate in other areas.
TRAIL SURFACE	Sealed non-slip surfaces, non-slip timber boardwalk, tarmac or compacted surface with no loose stone or gravel greater than 5mm.
TRAIL WIDTH	Range: 1800mm to 3000mm
TRAIL GRADIENT	Range: Flat to 5% (Up to 8% allowed for ramps where required) Desirable: Flat

Plate 4.1: Typical Class 1 Walking Trails



DEFINING ACCESSIBILITY

Walking Trail – Class 2 – Easy

Class 2 is defined as a trail without continuous uphill climbs. The blue trail intends to be accessible for all however some, help from a carer may be necessary on parts of the path, and the trail may have surfaces that may require more strength from wheelchair users.

Table 4.2

CLASS 2 - WALKING TRAIL	
GENERAL DESCRIPTION	<ul style="list-style-type: none"> Essentially trails for casual use, by people of all ages. Serviced by a vehicle parking area if appropriate. Reasonably flat and wide enough to accommodate two-way traffic. Will have a relatively smooth surface with minimal loose material. No waterbars or climb over stiles should be used. Steps should be minimal and if used should be limited. May use bridges and boardwalks. Should have resting places with seating approximately every 500m. May have lighting where provided in an urban area
SITE SUITABILITY	Urban/ Urban Fringe or Core Recreation Areas or Rural landscapes/ forests (see table 2.1)
TRAIL SURFACE	Consistent sealed surfaces, non-slip timber boardwalk or compacted aggregate - 20mm to dust stone.
TRAIL WIDTH	Range: 1200mm to 3000mm
TRAIL GRADIENT	Range Flat to 8% Desirable: 5% average

Plate 4.2: Typical Class 2 Walking Trails



DEFINING ACCESSIBILITY

Walking Trail – Class 3 – Moderate

Class 3 for Fort Dunree is further defined as trails with 12% gradient, or steeper for no more than 10 minutes walking, which is the equivalent to roughly 800m, without a lay-by or stop off attraction.

Table 4.3

CLASS 3 - WALKING TRAIL	
GENERAL DESCRIPTION	<ul style="list-style-type: none"> • Typically relatively narrow undulating trails • Will have moderate gradients. • Surface may be variable including loose material and can be uneven in places. • May include steps, protruding roots and rocks, water bars, stiles and gates. • May include bridges, bog bridges and boardwalks.
SITE SUITABILITY	Core Recreation Areas or Rural landscapes/ forests (see table 2.1)
TRAIL SURFACE	Variable surfaces including some loose material not greater than 50mm in size
TRAIL WIDTH	Range: 600mm to 1200mm
TRAIL GRADIENT	Range: Flat to 12% Desirable: 5% average

Plate 4.3: Typical Class 3 Walking Trails



DEFINING ACCESSIBILITY

Walking Trail – Class 4 – Strenuous

Class 4 for Fort Dunree is defined as trails with average slopes of 10% gradient, and steeper climbs for up to 20 minutes walking, which is the equivalent of roughly 1500m, without a lay-by or stop off attraction.

Table 4.4

CLASS 4 - WALKING TRAIL	
GENERAL DESCRIPTION	<ul style="list-style-type: none">• Typically challenging, single file walking trails over mixed terrain.• Will have steep gradients.• Surface will be very variable and may include loose material, steps, protruding roots and rocks, water bars, stiles and gates.
SITE SUITABILITY	Rural landscapes/ forests or Upland and Remote (see table 2.1)
TRAIL SURFACE	Very variable and uneven surfaces including loose material up to 100mm in size; protruding roots and rocks.
TRAIL WIDTH	Range: 500mm to 1000mm
TRAIL GRADIENT	Range: Flat to 30% Desirable: 10% average

Plate 4.4: Typical Class 4 Walking Trails



CURRENT VISITOR EXPERIENCE

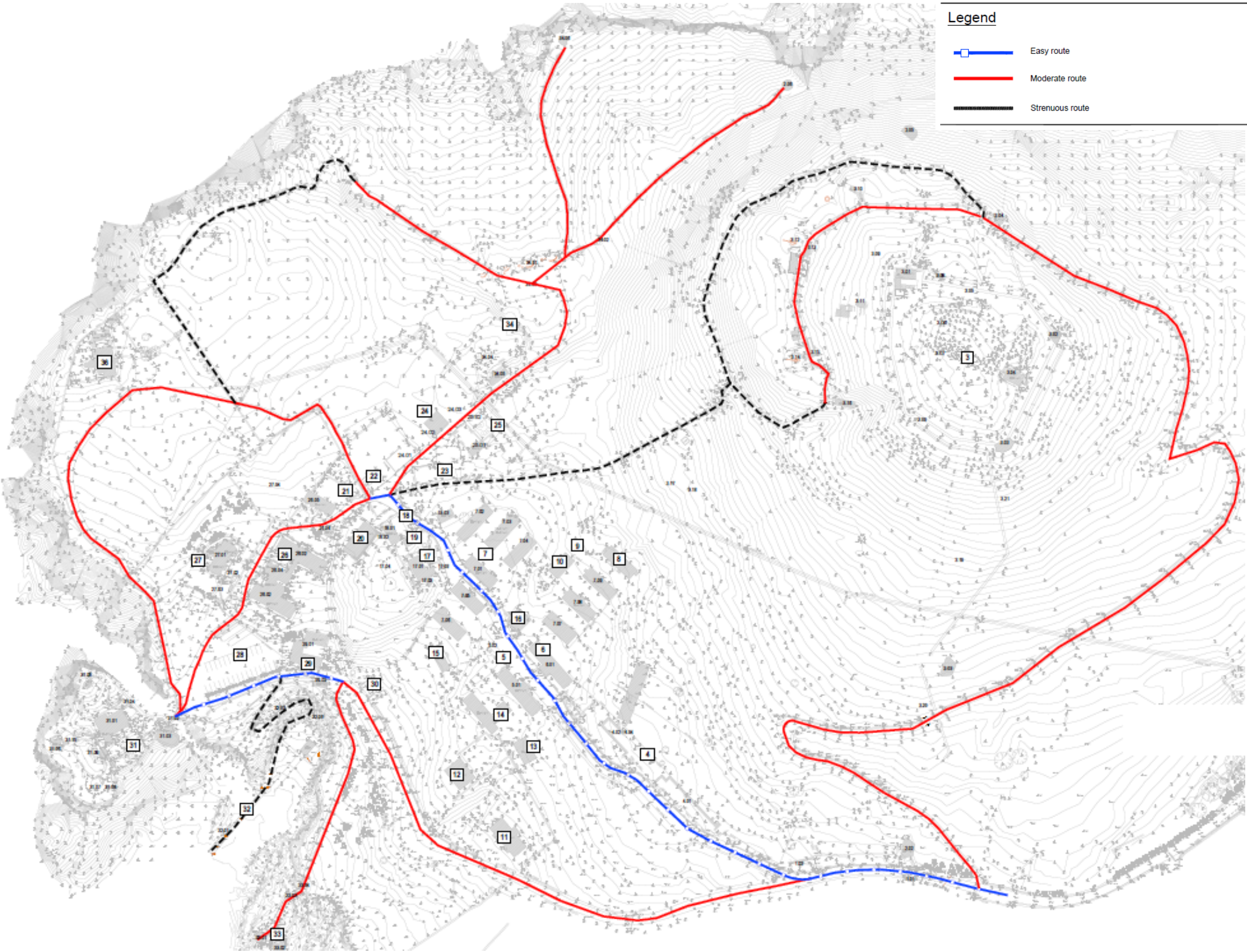
CURRENT VISITOR EXPERIENCE

Grading of Existing Trails

The drawing extract shown adjacent shows the classification of the trails at Fort Dunree, this is also provided within Appendix B.

As can be seen there is limited 'Easy' routes around the site, with many of the USP's which are situated on higher ground only accessible via 'Moderate' or 'Strenuous' routes.

Currently a visitor who only feels comfortable with easy routes would be constrained to staying within the lower fort and village area with no access to the high guns, and high fort area.



EXTRACT FROM 22130-DID-01-XX-DR-C-1001

PROPOSED VISITOR EXPERIENCE

PROPOSED VISITOR EXPERIENCE

EV Bus

It is proposed that in order to provide accessible connectivity between the lower and upper sections of Fort Dunree that a small EV bus be provided.

This bus would run on a hop on hop off basis stopping at key USP locations around the site.

The specification sheet adjacent provides information on such an option.

The EV bus is capable of traveling up or down inclines of up to 18% gradient. This is sufficient to accommodate the route chosen.

The EV bus can accommodate 1 wheelchair with the installation of an accessibility ramp that folds out from the main entrance of the bus. This is to be ordered and installed additionally from the cost of the bus.

In order to for the EV bus to be wheelchair accessible the number of seats on the bus is reduced to 11. Meaning the maximum number of passengers at a time would be 12 (including a wheelchair user)

It is not though to be possible to provide a segregated route for the proposed bus away from pedestrian visitors. As such it is assumed that these EV buses will be operating in a space shared with pedestrians and the typical speed should be limited to 5-10kmh.



BM 14 SEATER ELECTRIC BUS 72V

**** WHEELCHAIR ACCESSIBLE**

14 PASSENGER

Here is the answer for the professionals and organizations that are searching for an Electric vehicle with great power to move people around sites & visitor attractions with zero emission and incredible carrying capacity.

This Electric Bus is ideal for a general transport vehicle. A small profile makes it perfect for hotels, resorts & tourist attraction sites many of which can be quite congested settings. This Bus is super comfortable with power steering, seat belts for added safety and also a full panoramic glass cab for extra visibility.



Height	2040 mm	Curb Weight	1490 kg
Length	5065 mm	Max Speed	30 km/h
Width	1510 mm		
Ground Clearance	155 mm	Wheelbase	2755 mm
Battery range	120km	Tread	Front 1300 mm Rear 1330 mm
Braking Distance	<6m		
Turning Radius	6.0m		

The Buggyman Ltd, Greenhill's, Kill, Co. Kildare, Ireland
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PROPOSED EV BUS DATA

PROPOSED VISITOR EXPERIENCE

Mobility Scooters

According to research there are many successful precedents for accommodating the use of mobility scooters to travel around tourist attractions. These precedents include National Trust sites around the UK and Ireland, including Pentire Cornwall, and the Giants Causeway, County Antrim.

Requirements for Accommodating Mobile Scooters on Trails

It would be recommended to include for trail updates to accommodate a specification of a mobility scooter in terms of width, surface finish, turning circles and parking spots.

For further information please refer to Appendix C for further research specific to mobility scooters and their precedents.

Following this research it is envisaged all trails except for those marked Strenuous routes would be accessible via scooter.

It would be important that communication of the routes which are suitable for mobility scooters be well explained to visitors to ensure their safe use.

Risk	Opportunity	Elaboration
User discomfort or dissatisfaction		It is not known how users will like or dislike the mobility scooters around the site at Fort Dunree.
Supply and Demand risk		There is a risk that there may not be enough scooters to satisfy the demands of the users / visitors, or there may be too many that are not used on a continuous basis.
Management risk		There is a risk that the management of booking, signing policy documents and testing on site may become difficult to manage, leading to user dissatisfaction, or negative comments.
Cost risk		There is a significant cost associated with the implementation of the mobility scooters – refer to Appendix C. It is estimated that a single mobility scooter would cost €10,000 / £8,000.
	Increasing Accessibility Rating	The advantage to having the mobility scooter options to tour the site greatly increases diversity around the site users and provides access to not only the unique features at the lower fort, but also along numerous other trails around the site.

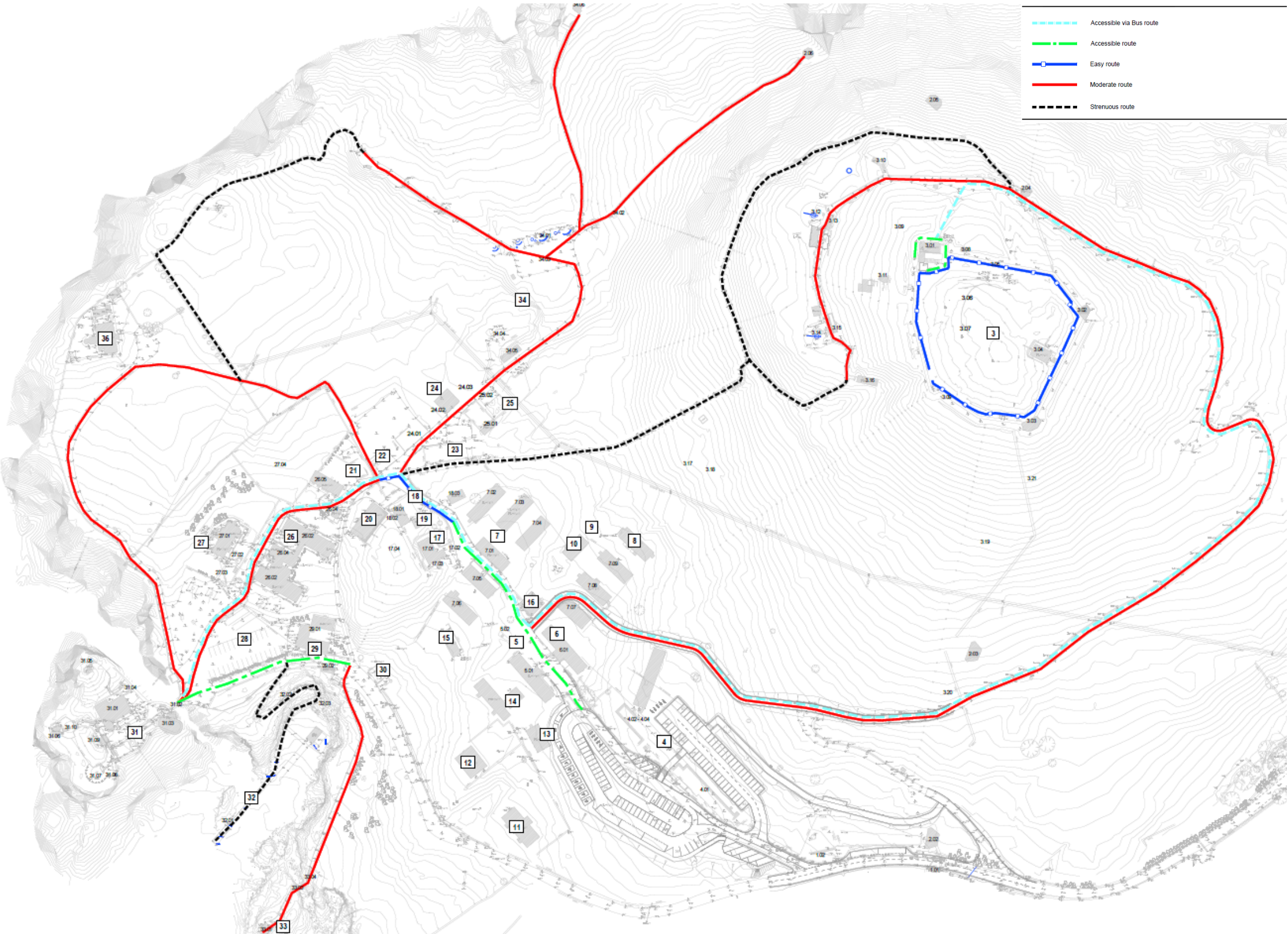
PROPOSED VISITOR EXPERIENCE

Proposed Trail Accessibility

The drawing extract shown adjacent shows the classification of the trails at Fort Dunree following the addition of trails at the Top Fort, and with consideration of the proposed EV Bus route. This is also provided within Appendix B.

As can be seen the new trails to be provided at the top fort are to be fully accessible. It is not possible to provide a 'easy' trail between the lower fort, village, and high fort. However, with the use of the proposed EV Bus all visitors are able to access the three main areas of the site.

When considering that mobility scooters would be able to access all routes except those marked 'Strenuous' it is clear that the majority of the site would be able to be reached through this means.



EXTRACT FROM 22130-DID-01-XX-DR-C-1002

APPENDIX – RESEARCH



BM 14 SEATER ELECTRIC BUS 72V

**** WHEELCHAIR ACCESSIBLE**

PURCHASE PRICE: €24,500 + vat

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Width	1510 mm	Wheelbase	2755 mm
Ground Clearance	155 mm	Tread	Front 1300 mm Rear 1330 mm
Battery range	120km		
Braking Distance	<6m		
Turning Radius	6.0m		

The Buggyman Ltd, Greenhill's, Kill, Co. Kildare, Ireland
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info@buggyman.net



Full Specification List

Controller	Toyota 80L440B-440A	Seat	Foam leather seats with adjustable back
Batteries	6v-200AH x 12 (72v)	Floor	Aluminum non-slip flooring
Motor	AC 72v/7.5Kw motor	Body	PP plastic injected front, seat cask and body cover Aluminum Cargo box
Charger	Off board 72v/25A	Rear Mirror	Foldable external mirrors
DC Converter	High Power 72v/12v-400Kw	Steering	Rack and pinion system
On Board Climate	Heating power 800w	Dashboard	Plastic molded dash, combined liquid crystal instrument, electric lock, steering wheel lock,
Chassis			
	Welded high yield strength tubular steel		
Windshield & Wiper	Car laminated glass, double speed wiper & washer	Lights & Signal	LED lights (dipped headlight, high light, turning light, backup light, position light, brake light) horn & reverse buzzer.
Roof	PP plastic injected	Brake System	Front disc, rear hub, Rear drum brake & hand parking brake.electric vacuum booster brake system
Front Suspension	McPherson independent suspension, cylinder hydraulic shock absorption	Rear Transaxle	Full body intergrated axle, gear ratio: 18:1, leaf spring for heavy loading.
Tyre Pattern:	Premium	Overall Weight	1490 kg
Height	2040 mm	Max Speed	30 kph
Length	5055 mm	Wheelbase	2755 mm
Width	1510 mm	Tread	Front 1300 mm Rear 1330 mm
Ground Clearance	155 mm		
Energy Consumption	8.5 KwH (Per 100km)		