

Red John Pumped Storage Hydro Scheme

Volume 5, Appendix 15.1:
Framework Construction Traffic
Management Plan

ILI (Highlands PSH) Ltd.

November 2018

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
Ben Muirhead	Jon Hassel	Catherine Anderson	Catherine Anderson
Graduate Consultant	Principal Consultant	Associate Director	Associate Director

Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>
1	November 2018	Submission	CA	Catherine Anderson	Associate Director

Distribution List

<u># Hard Copies</u>	<u>PDF Required</u>	<u>Association / Company Name</u>

Table of Contents

Appendix 15.1 Framework Construction Traffic Management Plan	1
15.1 Introduction	1
15.2 Construction Phase Traffic Management.....	1
15.3 Summary.....	8

Tables

Table 15.4: AIL Notification Requirements	5
Table 15.5: Contingency Plan	7

Figures

Figure 15.1.1: Construction Traffic Route to Site	1
---	---

© 2018 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Appendix 15.1 Framework Construction Traffic Management Plan

15.1 Introduction

Purpose

- 15.1.1 A Framework Construction Traffic Management Plan (CTMP) has been developed to provide details of the proposed traffic management measures that are to be implemented during the construction of the Development. These measures seek to mitigate any impacts related to construction traffic.
- 15.1.2 The purpose of this document is to supplement the traffic impact assessment provided in Chapter 15: Traffic & Transport (Volume 2).

CTMP Development

- 15.1.3 Due to the scale of the Development and its associated traffic, it is anticipated that the creation of a finalised CTMP will be a condition of consent. Further consultation will be carried out and greater detail will be added to the CTMP once the parties involved in the construction of the Development are known and the construction programme is finalised.
- 15.1.4 The opportunity to develop, amend and enhance the finalised CTMP in response to comments received in regard to this framework document and through the planning and consultation process should be recognised.
- 15.1.5 The CTMP will take into account feedback from local residents and community councils, and be developed in consultation with the Highland Council, Transport Scotland and Police Scotland in order to establish the appropriate methods in which the impact of traffic related to the Development can be minimised.
- 15.1.6 Feedback from local residents and other relevant stakeholders will be obtained through public consultation events organised by the Applicant or through other forms of communication (i.e. email, letter, telephone) and will be used to influence the implementation of mitigation measures to reduce the impact of the Development on local residents.
- 15.1.7 The Applicant is aware that local communities have experienced several years of negative impacts related to other developments and aims to ensure that this framework CTMP provides a suitable base from which a full CTMP can be developed from to ensure the appropriate mitigation and enforcement measures are instated.

15.2 Construction Phase Traffic Management

Introduction

- 15.2.1 The Construction Contractor appointed must agree temporary traffic management measures which will be adopted and monitored thoroughly to ensure compliance. This should be undertaken in consultation with THC, Transport Scotland, Police Scotland and local

community groups as appropriate in addition to the Project Liaison Group which will be formed.

- 15.2.2 All contractors associated with these works will be required to abide by the CTMP as a condition of contract. The Applicant will employ a Project Manager to monitor the compliance of contractors. Contact details for the Project Manager will be made available to THC and local community stakeholders.

Routing of Traffic

- 15.2.3 As mentioned in Chapter 15: Traffic and Transport and as requested by the Highland Council, all construction traffic excluding ALL deliveries – when necessary - will avoid using the B862 through the village of Dores to minimise the Development's impact on the sensitive area. As it is likely that site workers will use accommodation throughout the Inverness area and that local contractors are expected to be used throughout construction. Private vehicles associated with these workers may use the B862 through Dores to access the Development Site. However, measures such as car sharing or the operation of minibuses will be investigated and used where possible to reduce the amount of additional vehicles on the local road network.
- 15.2.4 Construction traffic should use the route stated in Section 15.2 which is as follows:
- Join B851 from A9(T) junction;
 - Continue on the B851 for approximately 22 km until the junction with the B862;
 - Join the B862 and travel north for 9 km until the junction with the C1064; then
 - Join the C1064 and travel north east for 1.8 km until the site access.
- 15.2.5 Figure 15.1.1: Construction Traffic Route to Site (available at the end of this appendix) illustrates the proposed construction traffic route.
- 15.2.6 Routeing of the Temporary Access Track to minimise loss of Ancient Woodland (although restricted by the steepness of the slopes down to Loch Ness and the engineering constraints this poses).
- 15.2.7 The only permanent access road to be retained during the operational phase of the Development uses an existing track, thereby removing the requirement for further habitat loss and/or disturbance.

Timing of Deliveries

- 15.2.8 To minimise the impact on the communities in the area surrounding the Development and along the construction traffic route, namely Inverarnie, Farr and Croachy, it is anticipated that:
- HGV deliveries will avoid passing Farr Primary School at the start and end of the school day (i.e. 08:30-09:00 and 15:00-15:30) where it is reasonably practicable. Where not, drivers will abide by the temporary 20 mph speed limit reduction zone that applies in the vicinity of the school.
 - The Development will likely operate a six day working week, with deliveries typically being restricted to 0700 - 1900 on weekdays and 0700 - 1200 on Saturdays. It is possible that deliveries may be undertaken (e.g. ALL transportation) outside these hours to minimise disruption to the wider road network; however all deviations will be agreed with THC and / or Police Scotland beforehand.

- 15.2.9 The Construction Contractor and the Applicant will specify and confirm that all deliveries to the Development Site are completed in line with the timing restrictions which are stated. As part of mitigation measures for local residents, it is anticipated that delivery times will be a condition of consent and so this section of the finalised CTMP will be updated accordingly post-consent.
- 15.2.10 Specific details will be subject to agreement between the Construction Contractor and THC and will be documented in the final version of the CTMP.

Speed Limits

- 15.2.11 Due to the narrow road widths, limited visibility and primarily single track nature of the surrounding road network, abiding by legal speed limits is crucial in ensuring safety for local residents, road users and site workers.
- 15.2.12 The importance of abiding by legal and recommended speed limits will form an important part of the induction training and safety talks for all staff and contractors working on-site. Areas of importance such as the aforementioned Farr Primary School and other residential areas will be emphasised.
- 15.2.13 Drivers of HGVs related to deliveries for the Development Site will be advised to drive at no more than 30 mph while travelling through the settlements of Inverarnie, Farr, Croachy and Torness and past junctions / bends with limited visibility such as at Farr Community Hall and The Artist's Cottage Estate B&B. By following advisory speed limits such as this, the risk associated with construction traffic being involved in road traffic collisions will be reduced.
- 15.2.14 Note: this advisory speed limit will not apply to general (non-site related) traffic and will not be signed or formalised with a Traffic Regulation Order (TRO).
- 15.2.15 The use of TROs should be investigated to temporarily reduce vehicle speeds on the public road network near site access points and public road crossings to 30 mph to improve the safety of road users and to mitigate the impact on species of conservation concern that are present in the area.

Road Signs

- 15.2.16 During the enabling works and construction phases, signage will be installed to warn road users of the new alignment of the C1064, the location of any site access points and the likely presence of large or slow-moving construction vehicles. Road signs will also be present for a period after the realignment of the C1064 to notify of the new road layout.
- 15.2.17 Note:
- Signage will be agreed with THC prior to installation and will be installed prior to construction activities related to the Development taking place.
 - The Construction Contractor shall also install general information signage to inform road users and local residents of the nature and location of any forthcoming works.

AIL Deliveries

- 15.2.18 The delivery of AIL construction plant vehicles are anticipated to be delivered to the Development Site by road; either via the B862 the A9(T) and B851. Deliveries of AILs with a width between 4.4 m and 5.0 m are anticipated to be delivered via the B862 through the village of Dores to Compound 2 at the Tailpond Inlet / Outlet Structure with AILs less than 4.4 m in width being delivered to the main site entrance via the B851 through Inverarnie.

- 15.2.19 It is anticipated that AIL components such as generators and transformers in addition to the TBM sections are to be delivered by barge via the Caledonian Canal from Inverness. This would remove the need for substantial and expensive remedial works to be carried out on the proposed route to the Development Site to enable access and would lessen the forecasted traffic impact of the Development. It is anticipated that these AILs would be delivered to a suitable sea port in the Inverness area by marine vessel and stored at the port or other suitable location adjacent to the port until required on-site. It would be the Construction Contractor's responsibility to identify a suitable storage location and obtain any necessary authorisations.
- 15.2.20 During the delivery of AILs by road, drivers responsible for the transportation will be fully briefed on the route, where and when to make the pre-defined stops, and be aware of all contingency measures in place in the event of an incident occurring. All drivers will be appropriately qualified and all vehicles and lead traffic management staff will be in contact through the use of two-way radios.
- 15.2.21 Assumptions:
- The haulage contractor will be a specialist within the field of moving abnormal loads;
 - The vehicles and trailers used by the haulier will employ hydraulic trailer technology which will control the axle load on highway structures; and
 - The drivers of AIL transporters will be experienced at performing movements of this nature and cognisant of the vehicle's operating capabilities and limitations.
- 15.2.22 The finalised CTMP will provide detailed information regarding the delivery arrangements and procedures of AILs that are required to be delivered to the Development.

General Site Deliveries and Worker Traffic

- 15.2.23 General deliveries to the Development Site (e.g. by courier) will not be restricted to a set access route and will not require any special arrangements. General site deliveries are not anticipated to amount to a significant of vehicle trips over the course of the construction phase and their contribution to any traffic impact is likely to be negligible.
- 15.2.24 The Construction Contractor will be required to implement induction procedures and regular updates for all drivers to establish and promote an overall culture of safety and awareness of other road users.
- 15.2.25 To mitigate the impact of site worker traffic on the local road network, the Construction Contractor will be responsible for making the necessary arrangements to provide shared transport services from accommodation areas to the Development Site or to promote the use of car-sharing. Further details regarding the management of site worker traffic should be included in the finalised CTMP.
- 15.2.26 The Construction Contractor must also arrange for wheel washing facilities to be installed. Regular checks will be made near site access points for mud and other deleterious material that could be spread by site traffic. Any such material must be promptly removed.

Enforcement

- 15.2.27 All contractors will be required to adhere to the CTMP. Compliance will be monitored by the resident engineer on behalf of the Applicant via spot checks to ensure that vehicles follow the measures set out in the CTMP.

15.2.28 The Applicant will stipulate that all contractors disseminate these rules to their subcontractors.

Permits and Notifications

15.2.29 The Construction Contractor will ensure that all permits and notifications, including Temporary Traffic Regulation Orders (TTRs), are in place prior to any abnormal load movements, and are applied for in good time. Greater detail will be provided in the finalised CTMP following discussion with the relevant parties.

AIL Deliveries

15.2.30 Notifications for abnormal loads are required where loads or vehicles exceed maximum vehicle weight, axle weight or dimensions in the Construction and Use (C&U) Regulations. The roads authorities will be given appropriate written notice of abnormal load deliveries and weekly updates will be provided as the delivery timetable is finalised with the supplier during the delivery period. At least four weeks prior to construction, details of the maximum weights and axle loadings of the abnormal loads will be submitted in writing to the roads authorities.

15.2.31 Table 15.1: AIL Notification Requirements sets out the Scottish Government’s requirements for the notification of Police, roads and bridge authorities regarding the delivery of abnormal loads. Notification requirements will be formalised once any required AILS have been identified and the haulage contractor have been selected. Given the scale of the Development, it is anticipated that the likely AILs will include a TBM, turbines, generators and transformers; some of which may fall under the ‘Special Order’ category.

Table 15.1: AIL Notification Requirements

Order	Dimensions	Required Notice	Comments
	> 6.1 m (20’0”) overall width	2 clear days’ notice to Police	Secretary of State “VR1” authorisation is required for the movement of loads with an overall width in excess of 5.0 m (16’5”), but not exceeding 6.1 m (20’00”)
Special Types	> 30 m (98’5”) rigid length	2 clear days’ notice to Police	
General Order	> 80,000 kg (80 t) gross weight	2 clear days’ notice with indemnity to Highway & Bridge Authorities	
	> 80,000 kg (80 t) but not exceeding 150,000 kg (150 t) gross weight	5 clear days’ notice with indemnity to Highway and Bridge authorities and 2 clear days’ notice to Police	
	> 6.1 m (20’0”) overall width	5 clear days’ notice to Police	Secretary of State “Special Order” authorisation is required for the movement of loads with laden
Special Order	> 30 m (98’5”) rigid length	5 clear days’ notice to Police	

Order	Dimensions	Required Notice	Comments
	> 150,000 kg (150 t) gross weight and/or 16,500 kg (16.5 t) per axle	5 clear days' notice with indemnity to Highway and Bridge authorities and 5 clear days' notice to police	dimensions as indicated

- 15.2.32 The Police will be notified of abnormal load movements at least one week prior to delivery, in relation to the provision of a Police escort. Details of vehicle dimensions, delivery route and project contacts will be provided.
- 15.2.33 It is assumed that Police Scotland will notify the other emergency services as necessary. The Construction Contractor will work with Police Scotland and other emergency services to ensure that essential deliveries associated with the Development do not cause any significant detriment to emergency service response locally.
- 15.2.34 Road opening permits will be required for sections of the route where infrastructure works are scheduled to take place. The appointed Construction Contractor will liaise with Highland Council as soon as is reasonable.
- 15.2.35 Specific requirements for Temporary Traffic Regulation Orders (TTROs) for any preliminary works diversions, trial run, abnormal load delivery etc. will be identified, agreed with roads authorities and obtained in advance.

Local Communities

- 15.2.36 The Applicant and the Construction Contractor will communicate with local community representatives, landowners and statutory consultees as required prior to and throughout the construction period. This will include circulation of information about ongoing activities and in particular those which could have potential to cause disruption; such as AIL deliveries. A telephone number will be made available during operational hours and persons with appropriate authority to respond to calls and resolve any problems that occur would be made available.
- 15.2.37 As mentioned previously, the input of local residents and community groups will be vital in ensuring that the impacts associated with construction traffic are sufficiently mitigated. The Applicant and Construction Contractor will ensure that consultations are organised to obtain feedback and input from local residents as to how the CTMP can be developed.
- 15.2.38 Further details regarding community liaison can be found in the Construction Environmental Management Plan (CEMP) in Appendix 3.1.

Contingency Plan

- 15.2.39 Consideration must also be given to the potential for a situation to occur which involves a significant delay caused by the slow-moving delivery vehicle or an obstruction caused by a vehicle breakdown. Should such a situation occur, it is crucial that contingency measures are in place to respond to any issues and minimise any disruption that is caused.
- 15.2.40 Table 15.2: Contingency Plan lists potential hazards that could occur during the delivery of an AIL by road, their likely effects and potential control measures.
- 15.2.41 It should be noted that Table 15.2: Contingency Plan is intended to provide an initial identification of possible hazards for further analysis and discussion in the finalised CTMP and does not represent a detailed assessment of all likely risks.

Table 15.2: Contingency Plan

Hazard	Effect of Hazard	Contingency Requirements
Breakdown of AIL delivery vehicle	A breakdown of the AIL delivery vehicle is likely to result in the blockage of one lane on the single carriageway sections of the delivery route and the full blockage of the road in single lane sections of the delivery route. Significant disruption to the local road network could occur.	Traffic management and warnings will be installed near the broken down vehicle under guidance from Police Scotland. A service vehicle will be present as part of the delivery convoy to carry out immediate diagnosis and repairs to the affected vehicle.
Delay to emergency service vehicles	Increased response time for emergency service vehicles	Contingency routes will be agreed with emergency services prior to delivery. There will also be a police escort that can minimise any delays through traffic management.

Route Condition Surveys

15.2.42 A road condition survey will be undertaken prior to the commencement of construction works to assess the baseline conditions of the road network that will be used by construction traffic. Following the completion of on-site construction, a second road condition survey will be undertaken to identify any deterioration in infrastructure condition that has occurred during the construction period.

15.2.43 The Applicant will fund the completion of pre-construction and post-construction surveys. It is envisaged that road condition surveys will be carried out jointly with THC, and subsequent survey outputs will be agreed by the Applicant (or their agents) and THC. Any damage which has occurred that is agreed as reasonably attributable to the Development construction activities will then be repaired, with repairs implemented and / or funded by the Applicant or their agents.

Route Condition Survey Methodology

15.2.44 Please see below for the possible methodology for road condition surveys:

1. The B851, B852, B862 and C1064 sections within the Study Area will be driven and recorded on high quality digital video. The driver and / or passenger will be an experienced transport infrastructure professional. Note: A health and safety risk assessment will be undertaken prior to commencement of drive through.
2. Still photographs and GPS co-ordinates / chainage will be recorded at locations where infrastructure is showing signs of 'wear and tear' or where infrastructure damage might reasonably be expected to occur.
3. Non-destructive testing will be carried out to enable an assessment of carriageway strength.
4. Accompanying site notes may be recorded via microphone with the digital video or typed in MS Word format.
5. The video will be stored and filed safely with site notes and photographs in the form of a survey report.

Temporary Site Entrance Relocation

- 15.2.45 Species of conservation concern have been found to be present at Loch na Curra adjacent to the C1064. As this road provides access to the main site entrance, the increase in traffic associated with the construction of the Development may result in disturbance to the protected wildlife at Loch na Curra as a result of the increase in noise and vibration. Should it be found that the level of disruption is unacceptable, then the site access point will be relocated from the C1064 to 'Public Road Crossing 2' on the B862 for the duration that the protected species are anticipated to be present at Loch na Curra.
- 15.2.46 It is anticipated that remedial action will be required to maintain road user safety on the B862 due to the increase in traffic. The trimming and / or removal of roadside vegetation and trees at the hairpin bend south east of Kindrummond Farm Cottage would be necessary as existing visibility on the narrow bend is poor.
- 15.2.47 Roadside vegetation trimming and / or removal would be required at the site access point as there would be a significant increase in construction traffic using the junction. Temporary traffic signals are anticipated to be in operation at this location throughout the duration of the Development's construction; however visibility improvements will maintain road user safety in the event of traffic signal failure.
- 15.2.48 It would be necessary to widen the existing passing places on the B862 between 'Public Road Crossing 2' and the B862 / C1064 junction as many are only suitable for small vehicles to pass each other safely.
- 15.2.49 To maintain the safety of road users and to further mitigate the impact on species of conservation concern that are present in the area, the use of Temporary Traffic Regulation Orders should be investigated to temporarily reduce vehicle speeds on the public road network near site access points and public road crossings to 30 mph.

15.3 Summary

- 15.3.1 This framework CTMP has set out proposed traffic management and contingency planning measures to reduce the impact that the construction of the Development has on the local road network. This includes proposals that seek to enhance road safety, minimise vehicle movements and limit the adverse effects caused by construction traffic.
- 15.3.2 It is anticipated that a finalised CTMP would be a requirement of any awarded planning consent and, as such, further consultation will be required post-consent and further detail added once the Construction Contractor, suppliers and other contractors are selected. The finalised CTMP will be made in agreement with THC, the Applicant and the Construction Contractor.

Figures

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

- KEY
- Development Site boundary
 - Excluded from Development Site boundary
 - Construction traffic route
 - Trunk road
 - B Class (Secondary road)
 - C Class (Tertiary road)
 - Unclassified road

TITLE
FIGURE 15.1.1
CONSTRUCTION TRAFFIC ROUTE

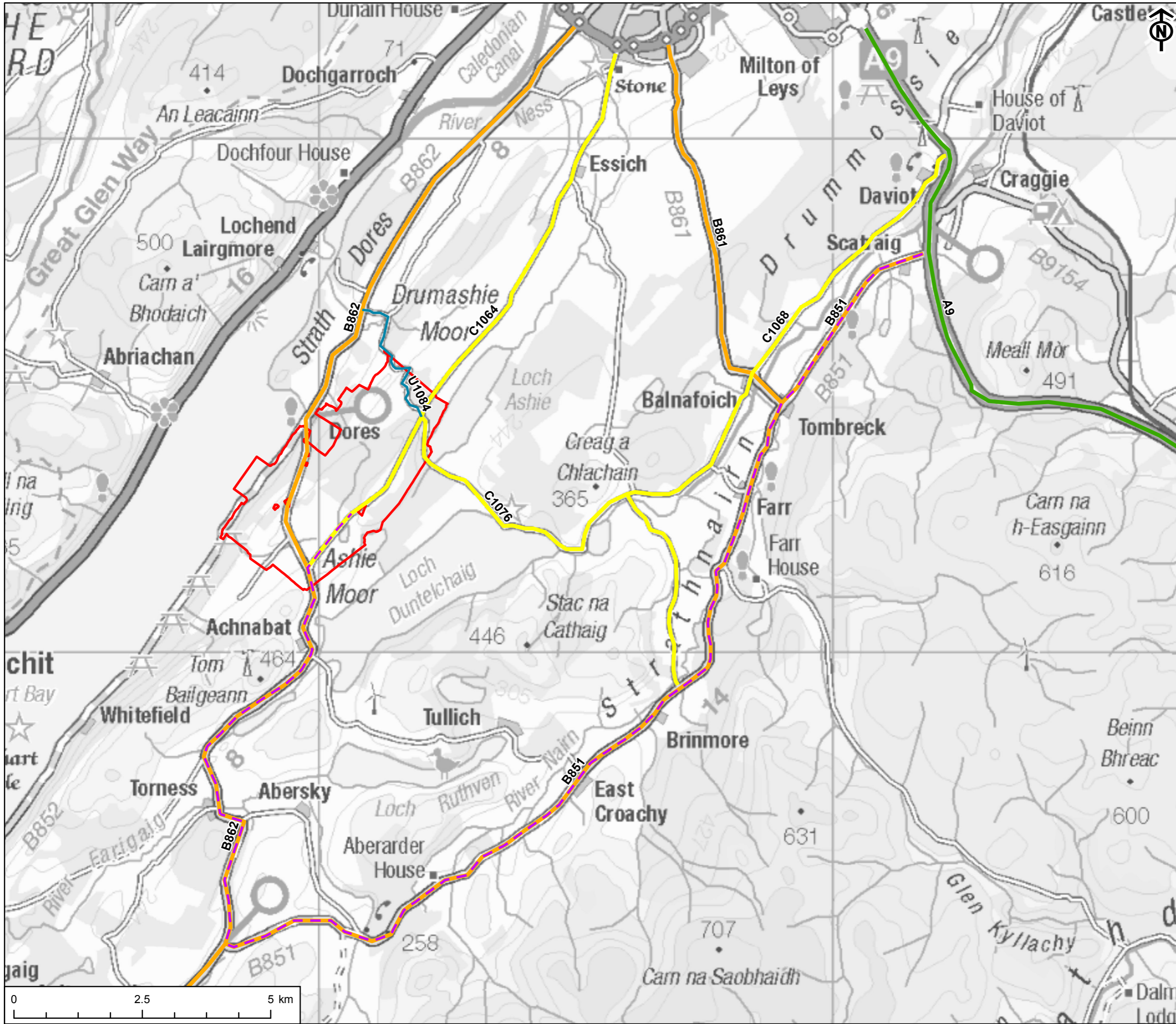
REFERENCE
RJ_181031_EIA_A15.1.1_v2

SHEET NUMBER
1 of 1

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CA

Scale @ A3 1:70,000



This drawing has been produced for the use of AECOM's client. It may not be used, modified or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies upon this drawing without AECOM's express written consent. All dimensions are indicative and in metres unless otherwise noted. Do not scale this document.

