

**TCP/11/16(443)**  
**Planning Application – 16/00823/FLL – Installation of a**  
**hydro-electric scheme and associated works at**  
**Drumchastle Hydro Scheme, Dunalastair**

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**TCP/11/16(443)**

**Planning Application – 16/00823/FLL – Installation of a  
hydro-electric scheme and associated works at  
Drumchastle Hydro Scheme, Dunalastair**

**PAPERS SUBMITTED  
BY THE  
APPLICANT**





# NOTICE OF REVIEW

UNDER SECTION 43A(8) OF THE TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997 (AS AMENDED) IN  
RESPECT OF DECISIONS ON LOCAL DEVELOPMENTS

THE TOWN AND COUNTRY PLANNING (SCHEMES OF DELEGATION AND LOCAL REVIEW PROCEDURE)  
(SCOTLAND) REGULATIONS 2013

THE TOWN AND COUNTRY PLANNING (APPEALS) (SCOTLAND) REGULATIONS 2008

**IMPORTANT: Please read and follow the guidance notes provided when completing this form.**  
**Failure to supply all the relevant information could invalidate your notice of review.**

Use BLOCK CAPITALS if completing in manuscript

## Applicant(s)

Name **ALL MOR HYDRO LTD**

Address **LOCHGARRY HOUSE  
DUNALASTAIR ESTATE  
KINLOCH RANNOCH**

Postcode **PH16 5PD**

Contact Telephone 1

Contact Telephone 2

Fax No

E-mail\*

## Agent (if any)

Name **MOR HYDRO LTD**

Address **ORMISTON HALL  
ORMISTON  
EAST LOTHIAN**

Postcode **EH35 5NS**

Contact Telephone 1 **07831 288901**

Contact Telephone 2

Fax No

E-mail\* **ADRIAN@MORHYDRO.COM**

Mark this box to confirm all contact should be  
through this representative: ☒

\* Do you agree to correspondence regarding your review being sent by e-mail?

Yes ☒ No ☐

Planning authority

**PERTH AND KINROSS**

Planning authority's application reference number

**16/00823/FUL**

Site address

**DRUMCHASTLE FARM, KINLOCH RANNOCH**

Description of proposed  
development

**MICRO HYDRO ELECTRIC SCHEME**

Date of application **14/06/2016**

Date of decision (if any) **26/07/2016**

**Note.** This notice must be served on the planning authority within three months of the date of the decision  
notice or from the date of expiry of the period allowed for determining the application.

**Nature of application**

1. Application for planning permission (including householder application) ☒
2. Application for planning permission in principle ☐
3. Further application (including development that has not yet commenced and where a time limit has been imposed; renewal of planning permission; and/or modification, variation or removal of a planning condition) ☐
4. Application for approval of matters specified in conditions ☐

**Reasons for seeking review**

1. Refusal of application by appointed officer ☒
2. Failure by appointed officer to determine the application within the period allowed for determination of the application ☐
3. Conditions imposed on consent by appointed officer ☐

**Review procedure**

The Local Review Body will decide on the procedure to be used to determine your review and may at any time during the review process require that further information or representations be made to enable them to determine the review. Further information may be required by one or a combination of procedures, such as: written submissions; the holding of one or more hearing sessions and/or inspecting the land which is the subject of the review case.

Please indicate what procedure (or combination of procedures) you think is most appropriate for the handling of your review. You may tick more than one box if you wish the review to be conducted by a combination of procedures.

1. Further written submissions ☐
2. One or more hearing sessions ☒
3. Site inspection ☒
4. Assessment of review documents only, with no further procedure ☐

If you have marked box 1 or 2, please explain here which of the matters (as set out in your statement below) you believe ought to be subject of that procedure, and why you consider further submissions or a hearing are necessary:

**Site inspection**

In the event that the Local Review Body decides to inspect the review site, in your opinion:

1. Can the site be viewed entirely from public land? Yes ☐ No ☒
2. Is it possible for the site to be accessed safely, and without barriers to entry? Yes ☒ No ☐

If there are reasons why you think the Local Review Body would be unable to undertake an unaccompanied site inspection, please explain here:



**Statement**

You must state, in full, why you are seeking a review on your application. Your statement must set out all matters you consider require to be taken into account in determining your review. Note: you may not have a further opportunity to add to your statement of review at a later date. It is therefore essential that you submit with your notice of review, all necessary information and evidence that you rely on and wish the Local Review Body to consider as part of your review.

If the Local Review Body issues a notice requesting further information from any other person or body, you will have a period of 14 days in which to comment on any additional matter which has been raised by that person or body.

State here the reasons for your notice of review and all matters you wish to raise. If necessary, this can be continued or provided in full in a separate document. You may also submit additional documentation with this form.

PLEASE SEE DOCUMENTS ATTACHED:

1. SEPA acceptance of the scheme
2. SNH Objection to the scheme.
3. SNH Sketch map of the scheme layout.
4. Applicants map of the scheme layout.
5. Planning refusal document.
6. Notice of Review
7. letter from the applicants agent (Mor Hydro Ltd)

Have you raised any matters which were not before the appointed officer at the time the determination on your application was made?

Yes ☐ No ☒

If yes, you should explain in the box below, why you are raising new material, why it was not raised with the appointed officer before your application was determined and why you consider it should now be considered in your review.

**List of documents and evidence**

Please provide a list of all supporting documents, materials and evidence which you wish to submit with your notice of review and intend to rely on in support of your review.

AS ABOVE.

Note. The planning authority will make a copy of the notice of review, the review documents and any notice of the procedure of the review available for inspection at an office of the planning authority until such time as the review is determined. It may also be available on the planning authority website.

**Checklist**

Please mark the appropriate boxes to confirm you have provided all supporting documents and evidence relevant to your review:


- ☒ Full completion of all parts of this form
- ☒ Statement of your reasons for requiring a review
- ☒ All documents, materials and evidence which you intend to rely on (e.g. plans and drawings or other documents) which are now the subject of this review.

Note. Where the review relates to a further application e.g. renewal of planning permission or modification, variation or removal of a planning condition or where it relates to an application for approval of matters specified in conditions, it is advisable to provide the application reference number, approved plans and decision notice from that earlier consent.

**Declaration**

I the applicant/agent [delete as appropriate] hereby serve notice on the planning authority to review the application as set out on this form and in the supporting documents.

Signed



Date

17/10/16

13<sup>th</sup> October 2016

The Secretary  
Local Review Body  
Perth and Kinross Council  
Committee Services  
Council Building  
2 High Street  
Perth  
PH1 5PH

Dear Sirs,

**Drumchastle Hydro Planning Application 16/00823/FLL**

Allt Mor Hydro LLP (the applicant) applied for planning consent which was registered by Perth and Kinross Council on 14<sup>th</sup> June 2016.

The applicant considers that the planning officer acted hastily in refusing this application and that the only remaining objection raised, that of Scottish Natural Heritage in relation to a specific protected plant species, could have been adequately dealt with through suitable planning conditions subsequent to approval. Such conditions are normally applied to hydro-electric development and would have provided sufficient additional information and environmental protection for the proposed project to be developed.

Specifically;

1. The Scottish Environmental Protection Agency (SEPA), who had already issued a Controlled Activities Regulations Licence, lifted their initial objection to the scheme on the basis that the applicant agreed to carry out a Peat survey prior to works commencing.

SEPA issued an initial objection, raising the issue of the potential presence of Peat deposits on the site, subsequent to the date of application. This objection was copied to the planning officer and the applicant. The applicant replied to SEPA and the planning department with an agreement to carry out a Peat survey post consent on the same day as the objection was received. SEPA subsequently issued a revised advice lifting the objection.

The planning officer was aware of the additional information provided by the applicant but issued the refusal document prior to receiving the updated advice from SEPA.

**The applicant considers that the planning officer did not allow sufficient time for SEPA to reply and/or did not take into consideration the lifting of SEPA's initial objection.**

2. The planning officer made a site visit on 23<sup>rd</sup> June 2016. Whilst there is no requirement to do so, the planning officer did not inform the applicant of this site visit date and consequently did not access the full extent of the site and viewed the proposal only from public roads.

**As a result of this the applicant considers that the planning officer could not have understood the scale, location and visual impact specifically of the intakes proposed. In**

**addition the planning officer could not have understood the agricultural nature of the land within the planning boundary.**

3. Scottish Natural Heritage (SNH) objected to the proposal on the grounds that there was insufficient information on the protection of *Kobresia simpliciuscula* plants which are a nationally rare and a red data book species. SNH recommended that a survey is carried out of the proposed penstock route to locate this species and that (if found) a 20m exclusion zone should be established.

SNH visited the site during July 2016 (actual date is not known by the applicant). Whilst not required to do so SNH did not contact the applicant prior to the site visit and as a consequence the applicant believes that SNH viewed the site only from the public roads and therefore could not assess the agricultural nature of the site.

SNH provided a map of the areas believed to contain *Kobresia simpliciuscula* plants. Superimposed on this is the route of the penstock. However SNH have incorrectly scaled the penstock route such that (on SNH map) the penstock appears to span a greater area of the site than the actual proposed route.

**The applicant considers that this requirement could have been complied with through the inclusion of a planning condition requiring such a survey. Specifically, because this survey would necessarily need to be carried out at the correct time of the year a condition subsequent to planning consent would be more appropriate. The applicant also thinks that the incorrect location of the intakes on the SNH generated plan led to a false impression of the scale of the development and specifically the impact on the potential *Kobresia simpliciuscula* habitats.**

SNH also required that further details of the condition, use and restoration of tracks during construction should be provided.

**The applicant accepts this as a normal condition of planning consent.**

SNH have indicated that with suitable construction method statements and construction environment management planning there is not likely to be an impact on the Tay River SAC. The planning refusal document lists impact on the Tay River SAC as one of the main reasons for refusal.

**The application considers that the planning officer was incorrect in their assessment of the impact on the Tay river SAC given that the requirement to provide and have approved construction and environment management plans is a normal inclusion as a condition in planning approval.**

**As a result of all of the above, and in the absence of any other objections to the scheme, the applicant requests that the Local Review Body undertake a consideration of this planning application refusal on the basis that all of the issues raised could, justifiably, be discharged prior to construction as part of normal and standard planning conditions.**

Yours faithfully



Adrian Loening  
on Behalf of Allt Mor Hydro LLP

Attachments;

1. SEPA acceptance of the scheme.
2. SNH objection to the scheme.
3. SNH sketch map of the scheme layout.
4. Applicants map of the scheme layout.
5. Planning refusal document.

cc. Dunalastair Estate  
Perth and Kinross Council Planning Dept.  
Gavia Environmental Ltd.





# PERTH AND KINROSS COUNCIL

Allt Mor Hydro LLP  
c/o Mor Hydro Ltd  
Adrian Loening  
House With Arches  
Ormiston Hall  
Ormiston  
East Lothian  
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Pullar House  
35 Kinnoull Street  
PERTH  
PH1 5GD

Date 26.07.2016

## TOWN AND COUNTRY PLANNING (SCOTLAND) ACT

Application Number: **16/00823/FLL**

I am directed by the Planning Authority under the Town and Country Planning (Scotland) Acts currently in force, to refuse your application registered on 14th June 2016 for permission for **Installation of a hydro-electric scheme and associated works Drumchastle Hydro Scheme Dunalastair** for the reasons undernoted.

Development Quality Manager

### Reasons for Refusal

1. The Council has screened the development in accordance with the provisions of the Environmental Impact Assessment (Scotland) Regulations 2011 and has determined that the proposal is likely to have significant effects on the environment. An Environmental Statement has been submitted but there is a lack of information on how the development could impact on landscape and in particular the National Scenic Area, The River Tay SAC, European Protected Species, other species protected under the Wildlife and Countryside Act 1981, the impact on existing watercourses and water quality and the woodland resource. In the absence of the required Environmental Information the Council cannot assess the extent of the development impacts, the magnitude and complexity of those impacts; the probability of those impacts and the duration, frequency and reversibility of the impacts and cannot be satisfied that the proposals will not harm receptors.

## Justification

There is a lack of information to enable full assessment of the application. This provides sufficient weight to warrant refusal of the application.

## Informatives

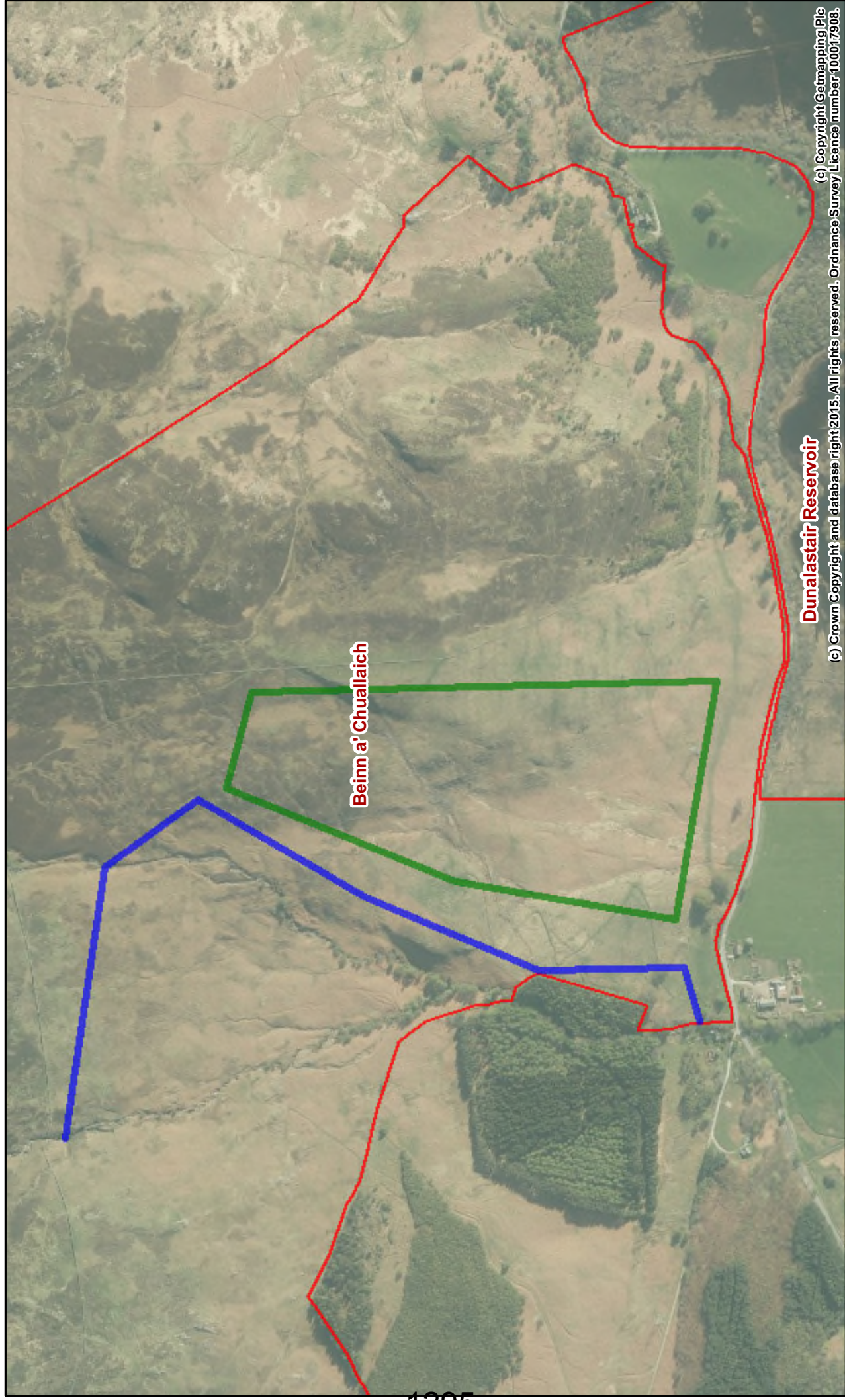
- 1 In the determination of this application the lack of environmental information has meant the application could not be fully assessed against the applicable planning policies. Accordingly the lack of any other reasons for refusal is without prejudice to any decision of the Council on receipt of a further formal application for this site.

**The plans relating to this decision are listed below and are displayed on Perth and Kinross Council's website at [www.pkc.gov.uk](http://www.pkc.gov.uk) "Online Planning Applications" page**

### Plan Reference

16/00823/1	16/00823/10
16/00823/2	16/00823/11
16/00823/3	16/00823/12
16/00823/4	16/00823/13
16/00823/5	16/00823/14
16/00823/6	16/00823/15
16/00823/7	16/00823/16
16/00823/8	16/00823/17
16/00823/9	

# Beinn A' Chuallaich - July 2015



1295

**Dunalastair Reservoir**

**Beinn a' Chuallaich**

Notes: "Casework site visit - Drumchastle hydro scheme to locate populations of RDB Kobresia simpliciuscula (simple bog sedge)."

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0 0.02 0.05 0.11 0.165 0.22 N  
 Map produced using geo.View 3.0  
 Printed: Aug 05, 2015 12:07:20, Scale: 1:6425



Perth and Kinross Council  
Pullar House,  
35 Kinnoull Street,  
Perth  
PH1 5GD

13 July 2016

Your ref: 16/00823/FLL  
Our ref: CNS/DC/P&K

Dear Sir/Madam

**Installation of a hydro-electric scheme and associated works  
Drumchastle Hydro Scheme, Dunalastair  
Town and Country Planning (Scotland) Act 1997**

Thank you for your email of 22 June 2016 consulting us on the above development proposal.

**Summary**

There are natural heritage interests of national importance on the site, which could be affected by the proposal. Further information, detailed below, is required to determine whether the proposal will adversely affect the natural features for which Beinn a' Chuallaich Site of Special Scientific Interest (SSSI) has been designated. In addition, there is insufficient information to determine whether the proposal will have an adverse effect on the integrity of the Loch Rannoch and Glen Lyon National Scenic Area (NSA) or the qualities for which it has been designated.

We also advise that a condition is required in order to satisfactorily reduce the risk to the River Tay SAC.

We therefore object to the proposal until the further information detailed below is obtained from the applicant and considered by the Planning Authority. We will comment further once the additional information is available

If the planning authority intends to grant planning permission against this advice without the requested information, you must notify Scottish Ministers.

Scottish Natural Heritage, Inverdee House, Baxter Street, Torry, Aberdeen, AB11 9QA  
Tel: 01224 266500 Fax: 01224 895958 [www.snh.gov.uk](http://www.snh.gov.uk)

Dualchas Nàdair na h-Alba, Taigh Inbhir Dhè, Sràid Baxter, Torraidh, Obar Dheathain, AB11 9QA  
Fòn: 01224 266500 Facs: 01224 895958 [www.snh.gov.uk/gaelic](http://www.snh.gov.uk/gaelic)



## Beinn a' Chuallaich SSSI

Beinn a' Chuallaich SSSI is designated for its montane habitats and its assemblage of vascular plants.

The ecology statement supporting the ES notes that no red data book, rare or vulnerable plant species were found during the survey. However, the route of the penstock appears to extend close to, possibly into, an area that we know is important for *Kobresia simpliciuscula* (false sedge). The attached map shows the approximate core area for this species within the SSSI, outlined in green. This is a nationally rare and a red data book species, and has limited distribution in the UK. It is important that the penstock is not routed through areas with this species, which is generally found in rocky flushes. Damage to this component of the SSSI may result in the site being considered in unfavourable condition.

We therefore advise that any flushes that will be crossed by the proposed route of the penstock and/or tracks should be specifically surveyed for this species. This should be done at the correct time of year and by someone familiar with the plant. No work, including vehicle movements, should take place within 20 m of any *Kobresia simpliciuscula* plants. Depending on the results of any further survey work, it may therefore be necessary to reroute the penstock and/or access tracks.

Assuming that a route for the penstock can be identified, **planning conditions are required to ensure:**

1. a 20 m exclusion zone is demarcated on the ground around any areas with *Kobresia simpliciuscula*;
2. good management of turf during the construction process. This will minimise impacts on other interests of the SSSI. This condition should ensure that vegetated turf removed for the installation of the penstock should be used in the restoration of the route. In addition, the condition should specify that:
  - turf is removed in as large pieces as possible;
  - it is stored on a suitable material, such as a geotextile membrane, vegetation side up, for the minimum time possible;
  - it is not allowed to dry out; and
  - it is replaced on the disturbed area as soon as possible.
3. the extent of the working area is marked out on the ground. This is to minimise the risk of disturbance to the SSSI.
4. excavated top- and sub-soil (which we note will be stored separately and restored in the correct order) is stored on a suitable material, such as a geotextile membrane, in order to protect the existing ground conditions.

It would be appropriate for the above to be addressed in the construction environmental management plan/construction method statement which the ES notes will be produced.

### **Loch Rannoch and Glen Lyon NSA**

The proposal is located within the Loch Rannoch and Glen Lyon NSA. It is located in a highly visible location on the exposed slopes. The steepness and visual exposure make the site very sensitive with high visibility and possible technical constraints such as the need for embankments around tracks or difficulty in re-establishing vegetation. The submitted information does not include sufficient detail to allow us to assess the impacts of the proposal. The penstock corridor and access track in particular, but also intakes, any borrow pits or creation of laydown areas could have potentially permanent adverse impacts on the landscape and views within the NSA, and the special quality of “*a combination of natural and cultural beauty*”.

We consider that it is likely that significant effects can be avoided or mitigated, but that this is likely to require specialist methods and a high standard of detailed design and workmanship during construction and restoration. It is therefore important that the necessary information is provided by the applicant to confirm this.

In order to advise on this application, we would require the following information:

1. Details about the condition of existing tracks (including width and surface) and proposed upgrades such as widening, grading and resurfacing, the type of vehicles that would use the tracks and mitigation/ restoration measures;
2. Details of proposed temporary tracks, including width, grading, drainage and surfacing, and proposed mitigation/restoration methods, including re-profiling of the ground and restoration of vegetation;
3. A site specific CMS outlining construction methods and mitigation, and restoration techniques;
4. Detail about the size, location and restoration of laydown areas and any other elements that may have been omitted;
5. We also seek confirmation that the pipeline trench corridor width is 750 mm, not 750 m as stated on page 20 of the ES.

In addition guidance is available on hydroelectric schemes on our website<sup>1</sup>, in particular our most recent publication on “Hydroelectric schemes and the natural heritage” (SNH, February 2015)<sup>2</sup>.

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<sup>1</sup> <http://www.snh.gov.uk/planning-and-development/renewable-energy/hydro/>

<sup>2</sup> <http://www.snh.gov.uk/docs/A1521095.pdf>

## **River Tay SAC**

The proposed hydro scheme is located upstream of the River Tay SAC, designated for its brook, river and sea lamprey, salmon, otter and clear water lochs with aquatic vegetation. The site's status means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the "Habitats Regulations") apply. Consequently, Perth and Kinross Council is required to consider the effect of the proposal on the SAC before it can be consented (commonly known as Habitats Regulations Appraisal). The SNH website has a summary of the legislative requirements (<http://www.snh.gov.uk/docs/A423286.pdf>).

We note that the ES sets out that a construction method statement and a construction environment management plan will be developed. Provided these adequately set out the site specific measures necessary to minimise the risk of pollution during construction, in our view this proposal is unlikely to have a significant effect on any of the interests of SAC. The preparation and adherence to these documents must be attached to any planning permission.

Birds

We note and agree with the recommendation that consultation with the Tayside Raptor Study Group takes place and that a breeding bird survey is carried out.

Please let my colleague Isla Martin ([isla.martin@snh.gov.uk](mailto:isla.martin@snh.gov.uk)) know if you require any further information or advice from SNH in relation to this proposal.

Yours faithfully

**Gavin Clark**  
Operations Manager  
Tayside and Grampian



John Russell  
Perth and Kinross Council  
Pullar House  
35 Kinnoull Street  
Perth  
PH1 5GD

If telephoning ask for:  
Diarmuid O'Connor

28 July 2016

By email only to: [DevelopmentManagement@pkc.gov.uk](mailto:DevelopmentManagement@pkc.gov.uk)

Dear Sir

**Planning application: 16/00823/FLL**  
**Installation of a hydro-electric scheme and associated works**  
**Drumchastle Hydro Scheme, Dunalastair**

We received additional information from the agent (10 July 2016) directly to address the issues raised in our previous response of the 07 July 2016 (Our Ref: PCS/147527). We can find no record of this information being received by you on the online planning portal and therefore this will not have formed part of the planning application material. We would expect that the applicant should forward this information to you. Within the planning portal I have also observed that the application was refused on the 27 July 2016 by delegated powers. Notwithstanding the refusal of the application we had begun a process of reviewing the further information in respect of our regulatory interests and therefore an assessment of this information and the impact this would have had on our position is outlined below.

We previously objected to the proposal on the grounds of lack of information in respect of a number of aspects. The applicant provided further information to address these issues and as a result we were in a position to **remove our objection** subject to the conditional requirements outlined in section 3 below being attached to any grant of consent.

We would also have expected that the **planning conditions** as requested in our previous response to be attached to any grant of permission along with the requested condition as outlined in section 3 below.

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, which may take account of factors not considered at the planning stage.

**Advice for the planning authority**

**1. The Water Environment (Controlled Activities)(Scotland) Regulations 2011 (CAR)**

Continued....

- 1.1 As previously outlined a variation to the existing CAR licence will be required if the applicant proposes to maintain the outfall location as identified in the planning application material (this differs to that granted within the existing CAR licence).
- 1.2 The applicant outlined that subsequent to a successful grant of planning permission they would apply for a variation of the CAR licence. We would highlight to the applicant that if they proceed in this manner at their own commercial risk. As currently proposed the scheme is not implementable until a CAR variation is successfully applied for, SEPA will access any application for variation as per our regulatory duties.

## **2. Water Crossings**

- 2.1 We would highlight that the tributary of the Drumchastle Burn is shown on the 1:50,000 scale Ordnance Survey map and therefore the pipeline crossing will require authorisation. The level of the authorisation will depend on how the works are carried out. SEPA would encourage that the work is carried out at the GBR or registration level, if possible. The change in outfall location will also require a variation to the CAR licence.
- 2.2 The applicant has outlined that they will apply to SEPA for an engineering licence if this is required. We would again iterate that the applicant proceeds in this manner at their own commercial risk.

## **3. Peat**

- 3.1 In relation to the potential impacts on Peat the applicant outlined that they consider that minimal peat exists on site however they are content to carry out a more detailed peat survey including the development of a peat management plan following the grant of permission and presumably prior to any works on site.
- 3.2 Taking a proportionate and site specific view of the proposal, we are of the opinion that the request from the applicant is reasonable and we would ask that the requirement to submit the ground investigation studies as part of the CEMP is included as part of the already requested condition. At that stage it will have to be justified by the applicant to our satisfaction that adequate peat assessment has been undertaken. If peat is shown to be present on site then we will expect this issue to be addressed in a site specific peat management plan as part of the CEMP in order to avoid any objection or regulatory enforcement.
- 3.3 In summary we are willing to remove our objection subject to the peat survey requirement being undertaken to our satisfaction as part of the CEMP as offered by the applicant. If this requirement is not included as a condition then please consider this as another reason of objection.

## **4. Ecology**

- 4.1 As previously outlined SNH should be consulted on the proposal with regard to the potential impact on the SSSI. If this is carried out then we are content with the further information in relation to the potential impact on the GWDTEs on site. We will expect that the CEMP will include detailed mitigation measures required for the areas of GWDTE that will be affected and we would recommend that a EcoW to oversee the construction phase.

Continued....

## **Detailed advice for the applicant**

### **5. Construction Environmental Management Plan (CEMP)**

- 5.1 Please note that we have requested that a planning condition is attached to any consent requiring a detailed CEMP be submitted at least two months prior to the proposed commencement of development. The CEMP should incorporate detailed pollution prevention and mitigation measures for all construction elements potentially capable of giving rise to pollution during all phases of construction, reinstatement after construction and final site decommissioning.
- 5.2 Please also note that we will expect that a PMP to be submitted as part of the CEMP. Quantities of excavated peat against subsequent quantities that will be capable for appropriate re-use should be specified. Any peat which can not be appropriately re-used or managed on site must be identified and quantified and a methodology should be submitted regarding how this surplus will be managed. Disposal of surplus peat is classed as waste disposal and will require to be authorised under either the Waste Management Licensing (Scotland) Regulations 2011 or the Pollution Prevention and Control (Scotland) Regulations 2000.
- 5.3 The placement of surplus peat to borrow pits or bunds is not encouraged as experience has shown that peat used as cover can suffer from significant drying and oxidation. In addition, peat redeposited at depth can lose structure and create a hazard when the stability of the material deteriorates.
- 5.4 We would direct the applicant to the Scottish Renewables publication 'Guidance on the assessment of peat volumes, re-use of excavated peat and the minimisation of waste' for further information on our requirements. The document is available here at <http://www.scottishrenewables.com/publications/guidance-assessment-peat-volumes-reuse-excavated>

## **Regulatory advice for the applicant**

### **6. Regulatory requirements**

- 6.1 Details of regulatory requirements and good practice advice for the applicant can be found on the [Regulations section](#) of our website. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the regulatory team in your local SEPA office at:

SEPA Perth, Strathearn House, Lamberkine Drive, Broxden Business Park, Perth, PH1 1RX. Tel: 01738627989.

If you have any queries relating to this letter, please contact me by telephone on 0131-2737361 or e-mail at [planning.se@sepa.org.uk](mailto:planning.se@sepa.org.uk)

Yours faithfully

Diarmuid O'Connor  
Senior Planning Officer  
Planning Service

ECopy to: Adrian Loening, Mor Hydro Ltd, [adrian@morhydro.com](mailto:adrian@morhydro.com)

*Disclaimer*

*This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at this time. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning or similar application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application or similar application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. For planning applications, if you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found on our [website planning pages](#).*



# Perth and Kinross Local Review Body

Council Building  
2 High Street  
Perth  
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2 December 2016

With reference to the Meeting of the **Local Review Body** to be held in the **Hay Room, Dewar's Centre, Glover Street, Perth** on **Tuesday 6 December 2016** at **10.30am**, I now attach an additional reference document for **Item 4(iii) - TCP/11/16(443)** on the agenda.

If you have any queries please contact Committee Services on (01738) 475000.

**GILLIAN A TAYLOR**  
Clerk to the Local Review Body

***Those attending the meeting are requested to ensure that all mobile phones and other communication devices are switched off.***

## **Members**

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Councillor I Campbell  
Councillor D Cuthbert  
Councillor J Giacomazzi (Reserve)

## **Advisers**

Clerk  
Legal Adviser  
Planning Adviser

## **Applicant**



**MOR HYDRO LTD**

**ECOLOGY CHAPTER**

**FOR**

**ENVIRONMENTAL STATEMENT**

**DRUMCHASTLE HYDRO SCHEME, DRUMCHASTLE, PERTHSHIRE**



## DRUMCHASTLE HYDRO

### ECOLOGY CHAPTER FOR ENVIRONMENTAL STATEMENT

### PROJECT 1552

#### QUALITY MANAGEMENT

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Current Status:	Issued to client team			
Issue Date:	27/04/16	Revision number:	1	
		Revision notes:		

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## **1. ECOLOGICAL IMPACT ASSESSMENT**

### **1.1 Term of Commission**

Gavia Environmental Ltd (GEL) was commissioned by Mor Hydro Ltd (MHL) to undertake a series of ecological surveys to inform establish an ecological baseline and complete a subsequent Ecological Impact Assessment (EcIA) on receptors with potential to be impacted as a result of the proposed 77kW Drumchastle Hydro Scheme on two unnamed watercourses which flow down the lower slopes of Beinn a' Chuallaich, Drumchastle, Highland Perthshire. This purpose of this EcIA is to support a subsequent Environmental Statement (ES) for the proposed development. This EcIA is in support of a planning application to Perth and Kinross Council in relation to the aforementioned scheme.

- This EcIA brings together the findings of the following Ecological surveys undertaken in 2015, these include: GEL Ecological Walkover, Phase 1 Habitats, National Vegetation Classification (NVC) and European Protected Species (EPS) surveys. 1517 Drumchastle Hydro\_GEL Ecological Walkover Jan 2015.

### **1.2 Aims and Objectives**

The aim of this document is to provide a robust assessment of the impacts associated with the proposed hydro development on ecological receptors. The main objectives are detailed below:

- to establish a robust ecological baseline assessment for ecological receptors within and immediately adjacent (250m) to the proposed development boundary;
- identify and evaluate the nature conservation and biodiversity interest of ecological receptors in the context of the site and wider environs;
- identify the significance/magnitude of any potential impacts on the ecological receptors at construction, and operation phases; and
- identify any mitigation measures necessary to address any significant impacts on the ecological receptors and evaluate the residual impacts associated with these.

### **1.3 Screening**

A screening report was prepared by Perth and Kinross Council following a screening request by Mór Hydro Ltd, this Screening Report detailed that the scheme had potential to have a significant effect on the environment and that an Environmental Statement will be required. It should be noted that no scoping of surveys has been undertaken to date and this chapter has been based only on those surveys commissioned to date; this document is therefore presented as a working draft, to be updated as further surveys become available.

The following ecological survey work was undertaken in consultation with Mor Hydro:

- Phase 1 habitat survey and ecological 'scoping' walkover;
- National Vegetation Classification (NVC) Habitat Survey to identify any NVC habitats and any potential Groundwater Dependant Terrestrial Ecosystems (GWDTEs). This did not include survey for bryophytes and lichens; and
- Protected mammal species survey. This was focused on mammal species listed in Annex IV of the Habitats Directive (European (EU) Protected Species, EPS), Schedule 5 of the WCA and/or the UK/Scottish/Local Biodiversity Action Plans or priority lists.

No detailed survey work for peat depth, breeding birds, migratory fish or freshwater pearl mussels has been carried out but may be required to be scoped in following discussions with SNH/SEPA and PKC; these surveys can be undertaken March/April/May 2016 to allow submission of the ES in 2016; subsequent bird data may need to follow as Supplementary Environmental Information.

### **1.4 Ecological Impact Assessment (EcIA)**

The EcIA involves the study and assessment of the habitat within the site and environs of the hydro scheme infrastructure and construction works.

The EcIA has taken into account the relevant legislation, policy and guidance including EU and UK environmental legislation, UK nature conservation policy and local biodiversity guidance. All aspects of this assessment have followed the guidance set out in Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2006).

The EcIA has been structured as follows:

- Baseline study – desk top study and field work;
- Evaluation – appraisal of the ecological value of the site;
- Identification of potential impacts – recognition of potential impacts associated with the proposed hydro scheme;
- Assessment – assessment of significance of the potential impacts;
- Mitigation – detailed mitigation strategies in relation to potential impacts; and
- Residual effects – the residual significance of potential impacts after mitigation.

## 1.5 Study Area Location

The proposed hydro scheme comprises ~1.3km of penstock, two intakes, outfall and a powerhouse. The proposed development is located on two unnamed watercourses (referred to as east and west burns) which flow down the lower slopes of Beinn a' Chuallaich to Dunalastair Reservoir which lies east of the village of Kinloch Rannoch in Highland Perthshire. The survey area included the proposed site works plus a buffer of 250m to include for any potential GWDTEs or EPS licence requirements. The indicative locations of the proposed hydro scheme infrastructure are those shown on the drawing 'Drumchastle Hydro, Drawing 2, Edition B, 02.06.15' (via email 25<sup>th</sup> September 2015) with the power house updated to the farm stead as detailed via email on 18/04/16:

- Powerhouse and construction compound (750m<sup>2</sup>) NGR: NN 68290, 58673;
- Main Intake (east burn) - NGR: NN 68478, 59539;
- Diversion Intake (west burn) - NGR: NN 68133, 59590;
- 1.3 km of Penstock (280mm and 315mm diameter HDPE);
- 440m of access track upgrade;
- 245m of additional access track; and
- Outfall NGR: NN 68295, 58764.

The extent of the survey including the location of the proposed infrastructure can be seen on Figure 1 'NVC Survey Results'.

## 1.6 Survey Personnel

Table 1 lists the survey personnel and their qualifications.

*Table 1: Survey Personnel*

Ecologist	Qualifications/Role
Ruth McGuire	Ecologist, Botanist, BSBI vice county recorder, ACIEEM, Reporting
Vince Fertacz	Ecologist, Fish Habitats and Ornithology
Mark Mulqueeney	Reporting and GIS

## 2. LEGISLATION AND BIODIVERSITY STRATEGY

### 2.1 EU/UK Protected Species

The protected species and habitat surveys have regard to the following legislation:

- The Conservation (Natural Habitats &c.) Regulations 1994 and the supporting Circular 6/1995 on the implementation of these Regulations amended by the Scottish Executive in 2000.
- The Wildlife and Countryside Act (WCA) 1981; as amended by the Nature Conservation (Scotland) Act 2004. Among these measures is a requirement to establish a list of species considered by the Scottish Government to be "of principal importance for the conservation of biological diversity in Scotland". This list is set out in the Scottish Biodiversity Strategy (Scottish Executive, 2004).
- The Protection of Badgers Act (1992) provides full legal protection to badgers *Meles meles*. In Scotland, this legislation was amended by the Nature Conservation (Scotland) Act 2004 and more recently by the Wildlife and Natural Environment (Scotland) Act 2011. It is an offence to recklessly take, injure or kill a badger (or knowingly cause or permit such an offence), or destroy or cause disturbance to their setts. SNH interprets the legislation in such a way that any sett within an active badger territory is afforded legal protection, whether it shows signs of recent use or not. In addition, badgers are afforded protection from cruel ill treatment. All the definition of 'ill treatment' has not been clearly defined; this is likely to include preventing badgers access to their setts as well as causing the loss of significant foraging resources within a badger territory. Licenses may be obtained for the disturbance or destruction of setts. SNH must be consulted prior to any works which could cause disturbance to badgers.
- All species of wild bird (with the exceptions of certain provisions outlined in Part 1 of the Wildlife and Countryside Act (1981), as amended) and their nests are protected under the Wildlife and Countryside Act (1981), as amended (WCA 1981). This makes it illegal to:
  - Deliberately or recklessly kill, injure or take any wild bird;
  - Deliberately or recklessly take, damage or destroy the nest of any wild bird while that nest is in use or being built; and
  - Deliberately or recklessly take or destroy an egg of any wild bird.

There are also further penalties for birds listed on Schedule 1 of the Act. If live nests are found:

- All work must cease immediately and SNH contacted for advice
- Otter *Lutra lutra* and bat *Chiroptera* are European Protected Species (EPS) protected under Annex II and IV of EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive). The Habitats Directive is transposed in Scottish law by the Conservation (Natural Habitats &c.) Regulations 1994. Otters are listed on Schedule 2 of the Conservation Regulations 1994. The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2007 enhanced this protection. Current Legislation means that otter and bats and their shelters are fully protected in Scotland. It is illegal to:
  - Deliberately or recklessly kill, injure or take (capture);
  - Deliberately or recklessly disturb or harass;
  - Damage, destroy or obstruct access to a breeding site or resting place of an EPS (i.e. an otter or bat shelter).

Thus, shelters of these species are legally protected whether or not they are present.

- Slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* and adder *Vipera berus* receive partial legal protection under part of sub-section 9(1) and all of sub-section 9(5) and it is illegal to kill or injure these species. Native Amphibian species (common frog *Rana*



*temporaria*, common toad *Bufo bufo*, palmate and smooth newts *Lissotriton helveticus* and *L. vulgaris*) are subject to protection with regard to collecting and sale under the Act. The Bern Convention (1979) (Convention on the Conservation of European Wildlife and Natural Habitats) prohibits use of all indiscriminate means of capture and killing of reptiles and amphibians.

## 2.2 EU/UK Protected Sites

The EC Directive lists a number of habitats under Annex 1 which are important for maintaining biodiversity. It is this legislation which is used to create protected sites such as:

- Special Areas of Conservation (SAC); and
- Sites of Special Scientific Interest (SSSI).

SACs aim to protect rare, endangered or vulnerable habitats (including their flora) such as natural/semi-natural woodland, heaths, mires and peat habitats such as blanket bog. SSSIs are areas of land have been notified and designated because they contain habitats which are similarly special interest. The legislation requires these sites to be protected from damage and therefore kept in a favourable conservation status.

## 2.3 Protected Habitats

The NVC survey has assessed the conservation importance of habitats identified based on both UK and EU legislative lists and frameworks, in order to guide any further assessment requirements. Habitats included fall under the following legislation:

- Annex 1 Biotope types listed under the European Commission (EC) Habitats Directive and the Habitats Regulations 1994 (as amended);
- Biodiversity Action Plan Habitats indicated at UK, Scottish or Local level as being of conservation concern; and
- Habitats indicated as potential Groundwater Dependent Terrestrial Ecosystems GWDTEs by Scottish Environmental Protection Agency (SEPA) guidelines (in line with the Water Framework Directive (WFD) (Directive 2000/60/EC)).

## 2.4 Invasive Non-Native Species

In April 2012 the Wildlife and Natural Environments (Scotland) Act 2011 (WANE) has further amended the 1981 Act. This is in particular relation to the prevention of release and control of non-native species of animal and plant. The WANE Act amended and expanded Section 14 of the Wildlife and Countryside Act 1981. The 1981 Act now contains sections on the release or planting of all non-native species and the keeping, sale and notification of invasive species, in addition to provisions on Species Control Agreements and Species Control Orders. Non-native is re-defined to include native species out with their natural range and the natural range is further defined as the location in which an animal or plant is indigenous. The 'wild' is also more clearly defined and there is a list of exempted land (Section 5, list 2 of Code of Practice). The WANE Act also put in place the means to introduce a new code of practice with regard to non-native species. The code of practice should be referred to when dealing with any non-native animal or plants. The code outlines the law relating to native and non-native species and explains the main provisions set out in the 1981 Act.

<http://www.scotland.gov.uk/Publications/2012/08/7367/1>

## 2.5 Biodiversity

In addition to statutory protection of species and habitats (as well as non-statutory designations of habitats), there are other mechanisms for non-statutory protection which can influence planning policy. These include priority habitats and species under the 'UK Post-2010 Biodiversity Framework', and Local Biodiversity Action Plans (BAPs) as well as inclusion on the Scottish Biodiversity List. The Biodiversity Action Plan (BAP) is the UK's initiative to maintain and enhance biodiversity in response to the Convention on Biological Diversity signed in 1992.

<http://www.biodiversityscotland.gov.uk/advice-and-resources/scottish-biodiversity-list/>

### 3. SURVEY METHODOLOGY

#### 3.1 Desk Study

Desk studies were undertaken for ecological records within 2km of the proposed development boundary, records were restricted to those of most relevance to the development i.e. only records within the last ten years were included in this assessment:

- To identify and provide up-to-date ecological information on statutory and non-statutory designated sites relevant to the study area; and
- To gather current information (post 2000) on European and UK Protected Species (including mammal and plant species, up to 2km radius) for the scheme.

The following sources were interrogated:

- SNH's site link (<http://www.snh.org.uk/SNHi>);
- A search of publicly available information on protected species records for the 10 km squares in which the proposed scheme lies (NN65); and
- UK, Scottish and Tayside Biodiversity plans/list.

#### 3.2 NVC Habitats

The NVC Survey was partly informed by the Phase 1 habitats identified by the GEL survey report '1517 Drumchastle Hydro GEL Ecological Walkover Jan 2015' as being likely to support EU Annex 1 habitats and/or GWDTEs. Those habitats are:

- Calcareous grassland;
- Dry heath (basic); and
- Mire including basic flushes and springs.

The NVC survey was undertaken in accordance with the standard methodology published by the Joint Nature Conservation Committee (JNCC); National Vegetation Classification Users Handbook (2006). Reference was also made to British plant communities' Volumes 2 and 3, Mires and Heaths (Rodwell *et al.* (1991)) and Grasslands and Montane Communities (Rodwell *et al.* (1992)). Reference was also made to An Illustrated Guide to British Upland Vegetation (Averis *et al.* (2004)).

The survey looked at suitable habitat within 250m either side of the indicative layout for the scheme infrastructure (including the intakes, penstock and powerhouse).

A minimalist/modified approach to data collection for use with the NVC key was undertaken and the survey methodology had the following steps:

- a) Identification of area to be sampled, '*the homogenous stand*', by a quick walk over of the area;
- b) Lay out of a 2 x 2m ground flora plot at each sampling point;
- c) Record species presence and Domin scale (a quantitative measure of the abundance) cover for each species in the ground flora plot;
- d) Record species presence and cover over the plot and in the immediate surroundings, i.e. within 10-15m all around each plot;
- e) Record a minimum of three plots, evenly distributed in each '*homogenous stand*' unless the stand is small; and then
- f) Repeat steps a-e for each '*homogenous stand*' identified.

Quadrat locations were noted as grid referenced target notes (with the aid of a handheld GPS).

### 3.2.1 Phase 1 Codes

Where NVC codes were not relevant (e.g. non EU Annex 1, non-groundwater dependant, disturbed ground or arable) the appropriate Phase 1 Habitat code may be used. Vegetation was classified according to the JNCC guidelines using the letter and alpha numeric codes. Each vegetation type identified has been discussed in the order in which they appear in the JNCC Phase 1 Handbook, 2010.

### 3.3 Potential GWDTE Habitats

Following the NVC survey, the results were compared against a list of potentially groundwater dependent NVC communities are provided in the SEPA document LUPS-GU4 (2014). Each of the NVC communities identified has been assigned a groundwater dependency rating as detailed in Table 2 below.

*Table 2: Potential GWDTE Dependency Ratings*

GWDTE rating	Description
High	Strong dependency upon groundwater discharge from bedrock or superficial aquifers at majority of sites.
Moderate	Likely to be some dependency on groundwater discharge at most sites – either direct from likely recognised aquifers or indirectly as recharge from minor aquifers in superficial deposits. Water from other sources (surface runoff, overbank flooding etc.) may also be important.
Low	Groundwater discharge usually irrelevant. Site fed by other water sources. This may also include components of ombrogenous systems with intrinsic groundwater system fed by rain.

### 3.4 Protected Mammal Species

The focus for the protected mammal's survey was informed by the results of the desk study and GEL Ecological 'Scoping' Walkover and report '1517 Drumchastle Hydro GEL Ecological Walkover Jan 2015'. The key species were considered to be otter and bat.

The surveys were based on the methodologies for otter (Chanin 2003 and Kruuk *et al.*, 1987) and bat (Hundt 2012).

The indicative locations of the intakes, powerhouse and routes of the penstock were surveyed plus an additional buffer zone of 250m depending upon habitat features and access restrictions. Open areas of ground were crossed in a zigzag fashion paying particular attention to prominent features and habitat boundaries.

The following field signs were searched for:

- Faeces;
- Footprints;
- Hair, especially at restricted passageways through undergrowth or fences;
- Scratch posts;
- Tracks or slides;
- Shelters, dens, setts, holts or burrows; and
- Feeding signs (gnawed cones, fish remains, etc.).

Registrations of mammal signs were noted as grid referenced target notes (with the aid of a handheld GPS) on the NVC habitat map.



### 3.4.1 Tree Assessment for bats (Ground Level)

Areas of woodland around the (indicative) locations for the intake and along the penstock route were broadly assessed in accordance with current best practice guidance from the BCT guidelines (Hundt, 2012). The woodlands and any larger trees within these areas were viewed from the ground to provide an initial assessment using the Bat Conservation Trust (BCT) tree categories scale. This gives trees a bat roost potential score (i.e. 1\* to 3) based on the presence of/number of suitable features (e.g. rot holes or crevices) with 1\* having multiple features and 3 having no suitable features (see Table 3 below). Larger trees which were considered to be suitable to have features were inspected from the ground where safe to do so with the aid of binoculars. Areas of woodland and any individual trees have been assigned a score. Any individual trees assessed were noted as grid referenced target notes (with the aid of a handheld GPS) and recorded on relevant site maps.

*Table 3: BCT Tree Categories*

Tree category	Description
Known/confirmed roost	Roosting bats found through inspections or detailed work or up to date records of tree roost exists.
Category 1*	Trees with multiple highly suitable features capable of supporting larger bat roosts.
Category 1	Trees with definite bat roosting potential but supporting fewer suitable features than 1* or with potential for use by individual bats.
Category 2	Trees which, from the ground, show no obvious bat roost potential. However, given the species, size and age of the tree and elevated survey effort may find cracks or crevices which may indicate potential to support bats.
Category 3	Trees with no potential to support roosting bats.

## 3.5 Limitations

### 3.5.1 NVC

There were no limitations to the NVC Survey.

### 3.5.2 Ground Water Dependent Terrestrial Ecosystems

Groundwater dependent Terrestrial Ecosystem (GWDTE) habitats are frequently very small and diffuse habitats typically found within a mosaic of another habitat and are frequently difficult to fully map in their entirety. For the purpose of this survey they are shown as target notes and where possible indicated as a percentage of a mosaic habitat within which they form part of a community. No GWDTE assessment has been carried out and therefore the GWDTE habitats are referred to as 'potentially' groundwater dependent. There are recommendations made for further survey and assessment detailed in Section 6.

### 3.5.3 Bryophytes

No survey for bryophyte species (mosses, lichens and liverworts) has been undertaken. The decision was based on the SNH Commissioned Report 'Bryological assessment for hydroelectric schemes in the West highlands' – 2nd edition. This document provides a means of assessing Bryological importance and/or potential of watercourses. The unnamed watercourses concerned are classified as of low concern and surveys for bryophytes have therefore been scoped out of this report

### 3.5.4 Otter

The otter survey was undertaken with one week of heavy rain which is likely to have washed away spraint and other signs such as footprints.

## 4. RESULTS

### 4.1 Desk Study

#### 4.1.1 Protected Species

A search of publicly available data in August 2015 indicated historical records (up to 2006) within the 10km grid squares (NN65) for the following European (EPS) and UK Protected Species:

##### European Protected Species

- Otter *Lutra lutra*;
- Wildcat *Felis silvestris*;
- Soprano pipistrelle bat *Pipistrellus pygmaeus*;
- Brown long-eared bat *Plecotus auritus*;
- Golden eagle *Aquila chrysaetos*;
- Peregrine *Falco peregrinus*.

##### UK Protected Species

- Badger *Meles meles*;
- Red squirrel *Sciurus vulgaris*;
- Black grouse *Tetrao tetrix*;
- Slow worm *Anguis fragilis*;
- Atlantic salmon *Salmo salar*;
- Brook lamprey *Lampetra planeri*;
- Adder *Vipera berus*; and
- Common lizard *Zootoca vivipara*.
- European eel *Anguilla anguilla*

#### 4.1.2 Tayside Biodiversity

The site falls within the Tayside Biodiversity Action Plan. The relevant species and habitats action plans currently in place are listed in Table 4 below.

Table 4: Tayside Biodiversity Species and Habitat Action Plans

Tayside Biodiversity Action Plan	
<b>Species Action Plans</b>	
<ul style="list-style-type: none"> <li>• Otter</li> <li>• Black grouse</li> <li>• Curlew</li> <li>• Linnet</li> <li>• Oystercatcher</li> <li>• Pied wagtail</li> <li>• Swallow</li> <li>• Snipe</li> <li>• Song thrush</li> <li>• Atlantic salmon</li> </ul>	
<b>Habitat Action Plans with Key mammal, bird and plant species</b>	
<ul style="list-style-type: none"> <li>• Rivers and Burns (otter, water vole).</li> <li>• Upland Heath (mountain hare, wild cat, juniper, heath cudweed, marsh clubmoss and Issleri's clubmoss).</li> <li>• Wet Grassland (otter, water vole).</li> <li>• Brackish water-crowfoot, pillwort, ragged robin, selfheal, yellow rattle, greater birds-foot trefoil, globe flower, jointed rush and northern marsh orchid).</li> </ul>	

#### 4.1.3 Statutory and Non-Statutory Designated Sites

The boundaries of the statutory sites in relation to the scheme can be seen on Figures 3 and 4.

##### River Tay Special Area of Conservation (SAC)

River Tay SAC is an European Natura 2000 site which is designated for the following EU/UK protected species and habitats:

##### Designated Species

- Atlantic salmon *Salmo salar*;
- Brook lamprey *Lampetra planeri*;
- River lamprey *Lampetra fluviatilis*;
- Sea lamprey *Petromyzon marinus*; and
- Otter.

##### Designated Habitats

- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.

The River Tay SAC is also important for freshwater pearl mussel *Margaritifera margaritifera*.

##### Beinn a' Chuallaich SSSI

The proposed scheme is wholly within the south-facing slopes of Beinn a' Chuallaich SSSI above and to the east of Kinloch Rannoch. The site is particularly noteworthy for outcrops of sugar limestone which, together with calcareous flushes and cliffs consisting of schist they support a number of rare plant species. The site is important for its range of calcareous habitats which are of floristic importance and include base-rich flush mires, grasslands, heath and rock outcrops. In addition, a number of upland bird species have been recorded at the site, including peregrine falcon, golden plover and ring ouzel.

##### Dunalastair Reservoir SSSI

Along its southern boundary the site meets the northern boundary of Dunalastair Reservoir SSSI which is notified for its open water transition fen, fen meadow and breeding bird assemblage.

##### Non-Statutory Sites

There were no non-statutory designated sites (e.g. Local Nature Reserves (LNR)) identified within 2km of the study area.

#### 4.2 NVC Habitats

The NVC Habitat survey was carried out on 3<sup>rd</sup> June 2015 to identify any ecologically sensitive habitats. The NVC and other habitats can be seen on Figure 1 'NVC Habitats and Target Notes' which is provided separately as a PDF. Habitat target notes (quadrats), plant list and plates can be seen in Appendices 1, 2 and 4 respectively and Figure 1.

Nomenclature in this section follows Stace (2010), for vascular plants and British Bryological Society (BBS 2010), for mosses.

There are five main habitats which form a mosaic within the study area and they are CG10 calcareous grassland, H10 dry heath (basic) and M15 wet heath with localised M10 basic flushes on seepage lines/runnels. The grassland habitat within the study area were considered to be degraded due to grazing pressures. There is indicated by the lack of species richness within the grassland extensive cover of bracken (U20) across the site.

**CG10 calcareous grassland – *Festuca ovina* – *Agrostis capillaris* – *Thymus praecox* grassland.**

The lower parts of the site (south of the deer fence) are dominated by a mosaic of grassland and bracken with the grassland having a character in line with basic/calcareous grasslands. On the upper parts of the site there are also pockets of this grassland throughout the dry heath to the east and across the site to the west. The dominant grass in this habitat was *Festuca ovina* with *Agrostis capillaris*, and *Anthoxanthum odoratum*. Other species noted include *Potentilla erecta*, *Plantago lanceolata*, *Alchemilla glabra*, *Luzula campestris*, *Juncus squarrosus*, *Viola riviniana* and mosses such as *Pleurozium schreberi*. (See Target notes 1-5 and Plate 2). It was noted that the lower parts of the site in particular were heavily grazed and as a result flowering heads of the common calcareous herb species *Thymus praecox* were an occasional rather than common find. The bracken cover within the CG10/U20 mosaics ranges from 25% to 100%.

**H10 dry heath (basic) – *Calluna vulgaris* – *Erica cinerea* heath**

This habitat is found extensively to the east of the site (north of the deer fence) and on the drier hummocks across the upper parts of the study area between the east and west burns. The dominant species recorded include *Calluna vulgaris* and *Erica cinerea* with *Potentilla erecta*, *Festuca ovina*, *Nardus stricta*, *Cladonia* sp, *Juncus squarrosus* and occasionally *Thymus praecox* and *Linum catharticum*. There were also mosses such as *Polytrichum commune*, *Racomitrium lanuginosum*, and *Pleurozium schreberi*. (See Target notes 6-10 and Plate 5). It was noted that there were extensive patches of bracken within the heath and grassland mosaic.

**M10 mire – *Carex dioica* – *Pinguicula vulgaris* mire – basic flush**

There were small flushes recorded as M10 on the upper parts of the site between the two burns (See Target notes 12-13 and 15-16 and Plate 3). These narrow flushes occur in runnels running down the slope where the soils are peaty and very thin. These flushes are shown as < 1% of a mosaic which includes M15 mire, H10 heath, CG10 grassland and U20 bracken.

The species recorded indicate some base enrichment although they probably belong to M10a which is the least base rich of all of the M10 sub-communities. The species recorded include *Pinguicula vulgaris*, *Erica tetralix*, *Narthecium ossifragum*, *Carex dioica*, *Carex demissa*, *Trichophorum cespitosum*, *Drosera rotundifolia*, and *Carex pulicaris*. Other species recorded included *Carex echinata*, *Eleocharis quinqueflora* with mosses such as *Scorpidium scorpioides*.

**M15 mire - *Scirpus cespitosus* – *Erica tetralix* wet heath**

There are distinct areas of M15 mire habitat making up part of the mosaic on the uppermost parts of the site between the east and west burns. They can be seen snaking around the drier hummocks which are dominated by grassland, dry heath and bracken. The habitat is dominated by *Erica tetralix*, *Myrica gale* and *Molinia caerulea*. Other species recorded included *Narthecium ossifragum* and *Carex echinata*. Typical of this community is the species of *Sphagnum*; *S. capillifolium*. (See Target notes 11, 14 and 17 and Plate 4).

**U20 bracken – *Pteridium aquilinum* – *Galium saxatile* community**

Bracken is a dominant habitat across the lower to mid-sections of the study area. The extent of the bracken ranges from 25% to 100% cover across the site (See Plate 2 and 5).

#### **4.2.1 Vulnerable and Rare Plant Species**

No red data book, vulnerable or rare plant species were recorded within the study site.

#### **4.2.2 Phase 1 Habitats**

There were ten Phase 1 Habitats (JNCC, 2010) noted with two miscellaneous features i.e. dry stone wall and deer fence.

- Semi-natural broadleaved woodland;
- Coniferous plantation woodland;
- Mixed Plantation Woodland;
- Scattered trees;
- Improved grassland;
- Semi-improved calcareous grassland;

- Dry dwarf shrub heath (basic);
- Basic flush mire;
- Continuous bracken; and
- Arable.

### 4.3 Potential GWDTEs

A single potential GWDTE's rated as '**High**' (strong dependency on groundwater discharge) was identified within the study area:

- M10 (*Carex dioica* – *Pinguicula vulgaris* mire- base rich flush)

A single potential GWDTE rated as '**Moderate**' (likely to have some dependency on groundwater discharge) was identified within the study area:

- M15 (*Scirpus cespitosus* – *Erica tetralix* wet heath)

Some types of calcareous grassland have been classed by SEPA as potential high dependency GWDTE with the exception of when they occur on limestone as in this case.

The other NVC habitats and Phase 1 habitats recorded on site have no groundwater dependency.

### 4.4 Protected Mammal Species

The protected mammal species survey was carried out on the 3<sup>rd</sup> June 2015. Target notes and plates can be seen in Appendices 3 and 4 respectively, also see Figure 2.

#### Otter

No recent spraint (<6 months old), resting places/holts/couches were identified within the study area. It is likely that territorial otter from the adjacent SAC will travel and forage through this site however no conclusive evidence was noted to confirm this. Breeding on site by otter is considered unlikely as the site lacks the type of features such as boulders, rock cavities or woodland which otter would typically use for shelter and breeding (See Target note 18).

#### Bat

There was no woodland or any semi/mature trees on the upper sections of either the east or west burns. At the (indicative) location of the lowest section of the penstock and powerhouse/outfall there are a small number of very mature trees which were assessed as BCT Category 1 which indicates suitability for roosting bats (See Target notes 19-24 and Plate 6).

### 4.5 Birds

No breeding bird surveys were carried out; however during the ecological walkover, NVC and mammal surveys some species were noted via ad hoc observation. Refer to Target notes 19-21, 25-28, 31-33 and Plates 7 and 8 in Appendices 3 and 4 respectively, also see Figure 2. The bird species observed included:

- A single osprey (*Pandion haliaetus*) was observed flying over Dunalastair Reservoir;
- A pair of raven (*Corvus corax*) were observed flying above the upper parts of the site;
- A single red grouse (*Lagopus lagopus* ssp. *Scotica*) was flushed from the vegetation;
- An active meadow pipit (*Anthus pratensis*) nest was observed on the ground underneath the heather; and
- An active willow warbler (*Phylloscopus trochilus*) nest was observed on the ground under ruderal vegetation.

Other bird species recorded include:

- Blackbird *Turdus merula*
- Carrion Crow *Corvus corone*
- Chaffinch *Fringilla coelebs*



- Cuckoo *Cuculus canorus*
- Greylag Goose *Anser anser*
- Grey Wagtail *Motacilla cinerea*
- Jay *Garrulus glandarius*
- Robin *Erithacus rubecula*
- Siskin *pinus spinus*
- Skylark *Alauda arvensis*
- Song Thrush *Turdus philomelos*
- Swallow *Hirundo rustica*
- Wheatear *Oenanthe oenanthe*
- Wren *Troglodytes troglodytes*

As there is evidence that birds are breeding on the site (active nests) and there is an ornithological element to the SSSI (golden plover, ring ouzel and peregrine) further recommendations are made for breeding bird surveys in 2016.

#### **4.6 Reptiles and Amphibians**

The survey recorded a single juvenile frog and a single common lizard (See Target notes 29 and 30 in Appendices 3, also see Figure 2).

#### **4.7 Fish**

In the context of fish, the primary reason for the designation of the River Tay catchment, as a SAC, is based on the importance of the river and its tributaries for Atlantic salmon *Salmo salar*.

Secondary qualifying interests of the River Tay SAC include the species brook lamprey *Lampetra planeri*, river lamprey *Lampetra fluviatilis*, and sea lamprey *Petromyzon marinus*.

No formal evaluation of fish habitat or species has been commissioned as part of this work (see Section 1.3). The site itself lies outwith the River Tay Special Area of Conservation (SAC) which lies 560m downstream via a modified canalised channel before joining with the River Tay.

## 5. ECOLOGICAL EVALUATION AND ASSESSMENT

### 5.1 Evaluation and Assessment - Methodology

The evaluation of the ecological features has been carried out using the most recent best practice guidance from the Institute of Ecology and Environmental Management (CIEEM, 2006) and modified matrices from the Transport Analysis Guidelines (TAG 2004). The ecological features and resources have been identified from the baseline studies, and their level of ecological sensitivity assessed.

Each ecological feature's conservation status was taken into account in assigning a level of sensitivity. Table 5 shows the approach taken with examples of how these could be applied.

*Table 5: Approach to Evaluating Ecological Feature Sensitivity*

Sensitivity	Conservation Status	Examples
Very High	International scale (European) and limited potential for substitution	Internationally designated sites (SPAs SACs RAMSAR etc.)
		Qualifying feature of an internationally designated site
		A regularly occurring substantial population of an internationally important species (listed on Annex IV of the Habitats Directive)
		Presence of Annex 1 habitat (e.g. blanket bog)
		Groundwater Dependant Terrestrial Ecosystems (GWDTE), which are potentially highly dependent, within 0-250m from construction activities
High	National scale (UK), or regional scale (Scotland) with limited potential for substitution	A nationally designated site e.g. Site of Special Scientific Interest (SSSI), or a site proposed for, or considered worthy of such designation
		Regionally designated sites with limited potential for substitution
		A viable area of a habitat type listed in Annex 1 of the EU Habitats Directive or of smaller areas of such habitat which are essential to maintain the viability of a larger whole
		UK or Scottish BAP priority species and habitat or regionally important population of a species/habitat of principal Importance for the conservation of biological diversity
		Significant populations of a European Protected Species (EPS) or significant extent of Priority habitats
		All populations of a Schedule 8 plant species of the 1981 Wildlife and Countryside Act
		Regionally significant number of a Schedule 1 or 5 species of the 1981 Wildlife and Countryside Act
Medium	Local or regional scale (Scotland), and limited potential for substitution	Locally designated sites
		Locally important number of a Schedule 1 and 5 species
		Groundwater Dependant Terrestrial Ecosystems (GWDTE), which are potentially of moderate dependency, within 0-250m from construction activities
		Areas of internationally or nationally important habitats which are degraded but are considered readily restored
		A regularly occurring, locally significant population of a species listed as being nationally scarce
Low	Local scale (e.g. Perthshire)	A local breeding population of a European Protected Species
		Species of national or local importance, but which are only present very infrequently or in very low numbers within the subject area
		Areas of internationally or nationally important habitats which are degraded and have little or no potential for restoration
		A local population of a species or broad habitat type that is listed in a Local BAP because of the rarity in the locality
		Other species and habitats which are, in the opinion of the assessor, of note and for which mitigation measures may be required



Sensitivity	Conservation Status	Examples
Negligible	Local scale (Kinloch Rannoch)	Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest and common and widespread species

### 5.1.1 Characterisation and Magnitude Effects

Effects can be permanent or temporary; direct or indirect; adverse or beneficial, and can be cumulative. Effects can vary according to scales of size, extent, duration, timing and frequency of impacts. These factors are brought together to assess the magnitude of the effect on the 'conservation status' of the particular valued ecological feature, and on the 'integrity' of the habitats that support them:

- Integrity is the coherence of the ecological structure and functions of a site or habitat that enables it to sustain its plant and animal communities and populations.
- Conservation status is the ability of a habitat, a plant or animal community or population to maintain its distribution and/or its extent/size.

Conservation status is therefore largely determined by the extent to which integrity is maintained. It follows that habitats may or may not be valued ecological receptors in their own right. Wherever possible, the magnitude of the effect is quantified. Professional judgment is then used to assign the effects on the receptors to one of four classes of magnitude, defined in Table 6 below.

*Table 6: Defining the Magnitude of Effect on Valued Ecological Features*

Magnitude	Definition
High	A permanent or long-term effect on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group. If adverse, this is likely to threaten its sustainability, if beneficial; this is likely to enhance its conservation status.
Medium	A permanent or long-term effect on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group. If adverse, this is unlikely to threaten its sustainability, if beneficial; this is likely to enhance its conservation status.
Low	A short-term but reversible effect on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group that is within the range of variation normally experienced between years.
Negligible	A short-term but reversible effect on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group that is within the normal range of annual variation.

### 5.1.2 Significance of Effects

The significance of an effect results from the value of the ecological feature and the magnitude of effect on it. Table 7 below illustrates a matrix, which is used in this assessment as guidance for impact assessment. Where effects are considered major, further more detailed assessment should be carried out as per EIA Regulations.

*Table 7: Significance of Effects Based on Sensitivity versus Magnitude*

Sensitivity (Table 5)	Magnitude and Impact			
	High	Medium	Low	Negligible
Very High	Major	Major	Minor	Negligible
High	Major	Major	Minor	Negligible
Medium	Major	Major	Minor	Negligible
Low	Minor	Minor	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

## 5.2 Evaluation and Assessment – Study Area

The following features likely to be affected by the development have been evaluated. Table 8 details the sensitivity and the relevant criteria of each feature as described in Table 5 'Approach to Evaluating Ecological Feature Sensitivity'.

*Table 8: Ecological Sensitivity of Features – Study Area*

Feature	Sensitivity	Conservation Status
Flush - basic (M10)	Very High	EU Annex 1, potentially high dependency (GWDTE), UK BAP and Tayside BAP habitat. A habitat which is a designated feature of a SSSI.
River Tay SAC	Very High	EU Natura 2000 site.
Mire (M15)	High	EU Annex 1, UK BAP and Tayside BAP habitat. Potentially moderate dependency (GWDTE).
Dry Heath - basic (H10)	High	EU Annex 1, UK BAP and Tayside BAP habitat. A habitat which is a designated feature of a SSSI.
Beinn a' Chuallaich SSSI	High	UK Statutory designated site.
Dunalastair Reservoir SSSI	High	UK Statutory designated site.
Trees suitable for roosting bats. BCT Category 1.	High	European Protected Species and Scottish Biodiversity List Priority Species.
Otter (non-breeding)	Medium	European Protected Species and Scottish Biodiversity List Priority Species. No evidence of strong presence within the site although habitat exists to support this species.
Common amphibian and reptile species	Low	Species such as common lizard and common frog known to be present. Also likely to be present in low number would be adder and slow worm. Mitigation will be required to prevent harm during the construction phase.
Common breeding bird species	Low	Breeding within the site. Mitigation will be required to prevent damage or disturbance during the breeding bird season.
Calcareous grassland (CG10)	Negligible	Low species diversity and heavily modified (grazed).
Improved/arable grassland	Negligible	Low species diversity and heavily modified (grazed).
Fish	High	Potential for the Atlantic salmon and lamprey to be present downstream of the proposed powerhouse location.

## 5.3 Potential Development Impacts

The construction of the hydro scheme will be a one off event that will take approximately 6-12 months to complete and is therefore considered to be of short-term (up to 12 months). On this basis features with sensitivity below medium (low/negligible) are not further assessed within this report. The magnitude of impact as a result of a short-term reversible event on a feature of low/negligible sensitivity can only ever be considered to be of minor or negligible (See Tables 6, 7 and 8). General mitigation measures will be in place to protect features of low sensitivity such as common breeding bird species.

### 5.3.1 Sources of Impact

The sources of impact relate to construction and operation. Once constructed the infrastructure will be in place for the long term and decommissioning is not assessed here as it will take place well into the future, at which time updated survey and assessment would be required. Refer to Figure 1 for location of infrastructure in relation to habitats.

The construction works will relate to the following activities:

Potential impacts associated with the proposed hydro scheme as a result of the activities indicated include:

- Temporary habitat loss (all infrastructure & penstock route);
- Direct habitat loss (Intake, powerhouse and retained access track);
- Loss of hydrological connectivity to mires and flushes (penstock route and access track);

- Killing and injuring (Plant and machinery);
- Physical and noise disturbance (additional vehicle and pedestrian access); and
- Pollution (working in proximity to water courses).

Each of the features (sensitivity of medium – very high) shown in Table 8 above has been further considered with reference to the construction and operation elements and activities of the hydro scheme and the potential impacts identified. Table 9 summarises the potential impacts.

**Table 9: Summary of Potential Impacts**

Feature	Potential Impact	Activity
Flush - basic (M10)	Temporary habitat loss and pollution.	Excavation of sections of penstock north of deer fence and between the east and west burns.
River Tay SAC	Damage from pollution. Damage to prey of otter/migratory fish as a result of pollution.	Intake/outfall construction works and any works in riparian corridor.
Mire (M15)	Temporary habitat loss and pollution.	Excavation of sections of penstock north of deer fence and between the east and west burns.
Dry Heath - basic (H10)	Temporary habitat loss and pollution.	Excavation of sections of penstock north of deer fence and between the east and west burns.
Beinn a' Chuallaich SSSI	Pollution and/or temporary habitat loss.	Excavation of penstock, upgrade of existing and additional access track. Construction of powerhouse and compound.
Dunalastair Reservoir SSSI	Damage from pollution.	Intake/outfall construction works and works in riparian corridor.
Trees suitable for roosting bats. BCT Category 1.	Damage/permanent loss and /or temporary disturbance.	Tree removal/limbing to allow powerhouse/ lower penstock construction. Use of lighting within works compound.
Otter (non-breeding)	Temporary disturbance, killing, injuring and damage to foraging as a result of pollution.	Vehicle movements around dusk/dawn. Intake/outfall construction works and works in riparian corridor.
Fish	Temporary disturbance, killing, injuring and damage to habitat and water quality as a result of pollution.	Intake/outfall construction works, depleted reach, and works in riparian corridor.

## 5.4 Preliminary Ecological Impact Assessment

The construction of the hydro scheme will be a one off event that will take up to 12 months to complete. The amount of disturbed ground during construction is estimated to be 10,772 m<sup>2</sup> (1.07ha). The assessment has considered that effects such as temporary disturbance, habitat loss and pollution are the key potential impacts to features of medium to very high sensitivity.

### 5.4.1 Habitat Loss

There is currently insufficient information to fully determine the percentage of temporary or permanent loss of any habitat. Therefore the assessments below have not been able to fully determine the percentage of habitat permanently lost into account and the values shown in Table 10 below are preliminary. Where effects are considered major, further more detailed assessment should be carried out as per EIA Regulations. This may allow significance of impacts to be reduced to minor with mitigation.



## H10 Heath

This is an EU Annex 1 habitat. The disturbance to this habitat will be of short duration. There is a 350m stretch of new track required through this habitat. However, it is not clear how much of this will be a permanent loss. Given the amount of dry heath across the whole site a 350m stretch will probably not be significant although this cannot be quantified. Assuming a not significant effect as a result of habitat loss; with an appropriate habitat management plan detailing how turves will be handled/stored/reinstated it is less likely to result in a magnitude of impact higher than low. The significance of the impact would then be minor and therefore not a significant impact. This should be properly quantified to confirm this would be the outcome.

## GWDTE Habitats (M10 Flushes and M15 Mire)

These habitats are all EU Annex 1 habitats and potentially highly or moderately groundwater dependant (respectively). Without a GWDTE assessment the magnitude of impact has to be considered on a worst case basis. As there is the potential for the hydrological setting being altered the magnitude of impact would be high and therefore the significance of the impact would be major for both M10 and M15 habitats.

## Ben Beinn a' Chuallaich SSSI

The proposed scheme is largely within the boundary of the Ben Beinn a' Chuallaich SSSI, the extent of which is 449.24 ha; the only exception to this is a short section of pen stock between crossing the road to the power house. The land affected i.e. disturbed ground during construction within the SSSI will be ~1.07ha which represents 0.24% of the entire SSSI. There will be some habitat loss as a result of the construction of each element of the scheme infrastructure although not all of the habitats affected are considered to be qualifying features of the SSSI i.e. heavily grazed semi-improved calcareous grassland, bracken and improved/arable land. The habitats affected by the scheme which could be considered to be qualifying features would include:

- H10 dry heath (basic) – *Calluna vulgaris* – *Erica cinerea* heath; and
- M10 mire – *Carex dioica* – *Pinguicula vulgaris* mire – basic flush.

The section of penstock which travels through these habitats (north of the deer fence) stretches for ~600m with the most significant section for sensitive habitats (H10, M10 and M15) being that which travels between the east and west burns. This area has been calculated as 3,571m<sup>2</sup> (0.36 ha) and this would represent 0.08% of the SSSI extent. If, as a worst case, this were considered to be a permanent loss it is such a small percentage of the entire site that loss of integrity or conservation status of the SSSI would be unlikely. The impact could then be considered to be of low magnitude and therefore the significance of the impact classified as minor.

## River Tay SAC

There will be no direct habitat loss temporary or otherwise to the SAC and therefore no impacts on the qualifying interests within the River Tay SAC; indirect impacts may occur on a small section of modified habitat which directly joins the River Tay SAC. and that of the power house and the burn upstream.

## Dunalastair Reservoir SSSI

There will be no direct habitat loss temporary or otherwise to the SSSI and therefore no impacts are predicated on this designated site; and this is not discussed further in this report

Table 10: Significance of Impact - Habitat Loss

Sensitivity (Table 5)	Magnitude and Impact			
	High	Medium	Low	Negligible
Flush - basic (M10)	Major	Major	Minor	Negligible
Mire (M15)	Major	Major	Minor	Negligible
Dry Heath - basic (H10)	Major	Major	Minor	Negligible
Beinn a' Chuallaich SSSI	Major	Major	Minor	Negligible

## 5.4.2 Pollution

Pollution from silt ingress, construction dust, accidental spillage of concrete, oil, fuels and litter are potential sources of pollution that may affect water and ground quality. With regard to the hydro scheme reduced water and ground quality (land contamination) is likely to impact upon the following features:

- Heath, mire and flush communities (Annex 1/potentially GWDTE habitats);
- River Tay SAC (Atlantic salmon, brook, river and sea lamprey and otter);
- Ben Beinn a' Chuallaich SSSI (Annex 1/potentially GWDTE habitats); and
- Dunalastair Reservoir SSSI (aquatic plants, bird assemblage and connectivity with the SAC).

With appropriate pollution prevention plans in place there should be no loss of integrity or conservation status to any of the habitats or sites described above. The extent of any incident is likely to be localised given the low volume of materials likely to be involved in any incident and therefore the magnitude of the impact is considered to be low. With good management the frequency of an event should be restricted to a 'one off' event and with appropriate mitigation measures in place any event should be of short term duration and entirely reversible. Therefore the significance of the impact is assessed as minor. This is not a significant impact.

*Table 11: Significance of Impact - Pollution*

Sensitivity (Table 5)	Magnitude and Impact			
	High	Medium	Low	Negligible
Heath, mire and flush - (H10, M15 and M10)	Major	Major	Minor	Negligible
River Tay SAC	Major	Major	Minor	Negligible
Beinn a' Chuallaich SSSI	Major	Major	Minor	Negligible
Dunalastair Reservoir SSSI	Major	Major	Minor	Negligible

#### 5.4.3 Bats

Currently there is no evidence that the trees identified as suitable for roosting bats are being used by bats. There are currently no plans to remove or carry out any works on any of these trees. General mitigation measures will be put in place to ensure that, without any further investigation, any bats present will not be affected by the construction or operation of the scheme. No impacts are currently predicted.

#### 5.4.4 Otter

Otters are noted as present in the local area but are unlikely to be significantly impacted by the development. The main potential impacts on otters would be during the construction period and would include loss of life through road kill or being trapped in construction works, physical or noise disturbance and pollution effects. All of these can be managed through standard practice mitigation measures and this makes any impact unlikely; no impacts are therefore predicted.

#### 5.4.5 Fish & Freshwater Pearl Mussel

No formal assessment can be made in relation to fish due to the lack of data relating to these species. We would recommend that further evaluation of these receptors are undertaken to allow sufficient information to be made available to allow an impact assessment to be made for this scheme. In the absence of such information, we would have to take the precautionary view that the impacts would be significant although in the absence of information we would not be able to address whether this impact was mitigatable. This is reflected in Table 12.

### 5.5 Residual Impacts - Preliminary

Following further survey and assessment there should be no residual adverse significant impacts associated with the hydro scheme. Table 12 below shows the results of the assessment.

**Table 12: Residual Impacts following Mitigation**

Feature	Potential Impact	Significance of Impact	
		Before further assessment and mitigation	After mitigation
Flush - basic (M10)	Temporary habitat loss and pollution.	Major	Low
River Tay SAC	Damage from pollution. Damage to prey of otter/migratory fish as a result of pollution.	Low	Negligible
Mire (M15)	Temporary habitat loss and pollution.	Major	Low
Dry Heath - basic (H10)	Temporary habitat loss and pollution.	Low	Negligible
Beinn a' Chuallaich SSSI	Pollution and/or temporary habitat loss.	Low	Negligible
Dunalastair Reservoir SSSI	Damage from pollution.	Low	Negligible
Bats	Damage/permanent loss and /or temporary disturbance.	Low	Negligible
Otter (non-breeding)	Temporary disturbance, killing, injuring and damage to foraging as a result of pollution.	Low	Negligible
Fish	Temporary disturbance, killing, injuring and damage to habitat as a result of pollution.	High	High

## **6. RECOMMENDATIONS**

### **6.1 Consultation**

It is recommended that further consultation is carried out with SEPA, SNH and PKC to ensure that gaps in survey data are filled within this report before being formally submitted; particularly in relation to the absence of fish habitat, fish data, and data relating to freshwater pearl mussel.

### **6.2 Aquatic Ecology**

It is recommended that further survey and assessment for fish and fish habitat is carried out in order to assess the impact of the scheme on fish and freshwater pearl mussel. In the absence of this information, we cannot provide an accurate assessment of the impacts of the scheme due to insufficient information. In the absence of such information the impact can only be concluded, using the precautionary principle, to be high and significant and non-mitigatable. It is strongly recommended that further work is undertaken to assess the impact of this scheme on aquatic ecology resource, if a full assessment is to be made.

### **6.3 Mire and Flush (Potential GWDTE)**

It is recommended that further survey and assessment for GWDTEs is carried out; and micro-siting taken to avoid any flushes or mire where practical to do so. This would be done to avoid SEPA raising an objection on lack of information.

### **6.4 Otter**

It is recommended that a pre-construction otter survey is carried out in advance of works and mitigation measures implemented prior to the commencement of construction works. This would be to gather up to date data on use of the site by otter.

### **6.5 Breeding Birds**

It is recommended that consultation with the Tay Raptor Study Group and a breeding bird survey is carried out in 2016. This would be to prevent a condition that no work takes place between March and August (inclusive).



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## APPENDIX 1: NVC TARGET NOTES

Table 13: NVC and other Habitat Target Notes

QUADRAT NO.	NGR (NN)		NVC CODE	DETAILS
	EASTING	NORTHING		
1	268414	758832	CG10	The dominant grasses are <i>Festuca ovina</i> with <i>Agrostis capillaris</i> , and <i>Anthoxanthum odoratum</i> . Which are key dominants in calcareous grassland (CG10). Other key associates include <i>Potentilla erecta</i> , <i>Plantago lanceolata</i> , <i>Alchemilla glabra</i> , <i>Luzula campestris</i> , <i>Juncus squarrosus</i> , <i>Viola riviniana</i> and mosses such as <i>Pleurozium schreberi</i> . The sward is green, open and short with fewer herb species than would be expected due to overgrazing. <i>Thymus praecox</i> is a rare rather than common find especially below the deer fence.
2	268445	759097	CG10	
3	268541	759531	CG10	
4	268418	759611	CG10	
5	268183	759600	CG10	
6	268201	759515	H10	Found on the drier hummocks with the dominant species recorded including <i>Calluna vulgaris</i> and <i>Erica cinerea</i> with <i>Potentilla erecta</i> , <i>Festuca ovina</i> , <i>Nardus stricta</i> , <i>Cladonia</i> sp, <i>Juncus squarrosus</i> and occasionally <i>Thymus praecox</i> and <i>Linum catharticum</i> . There were also mosses such as <i>Polytrichum commune</i> , <i>Racomitrium lanuginosum</i> , and <i>Pleurozium schreberi</i> . The common thyme indicates that this dry heath has some basic enrichment.
7	268568	759277	H10	
8	268343	759572	H10	
9	268496	759550	H10	
10	268419	759518	H10	
11	268462	759392	M15	A distinct areas of M15 mire on the uppermost parts of the site between the east and west burns. These appear around the drier hummocks of grassland, dry heath and bracken. The habitat is dominated by <i>Erica tetralix</i> and extensive patches of <i>Myrica gale</i> . Other species recorded included <i>Molinia caerulea</i> , <i>Narthecium ossifragum</i> and <i>Carex echinata</i> . Also recorded were typical Sphagnum species including <i>S. capillifolium</i> .
12	268336	759442	M10	Flushes recorded as M10 on the upper parts of the site occurring in runnels running down the slope. They have formed within a mosaic with the H10 heath, CG10 grassland and U20 bracken.  The species recorded indicate some base enrichment. The species recorded include <i>Pinguicula vulgaris</i> , <i>Erica tetralix</i> , <i>Narthecium ossifragum</i> , <i>Carex dioica</i> , <i>Carex demissa</i> , <i>Trichophorum cespitosum</i> , <i>Drosera rotundifolia</i> , and <i>Carex pulicaris</i> . Other species recorded included <i>Carex echinata</i> , <i>Eleocharis quinqueflora</i> with mosses such as <i>Scorpidium scorpioides</i> .
13	268210	759399	M10	
14	268357	759413	M15	A distinct areas of M15 mire on the uppermost parts of the site between the east and west burns. These appear around the drier hummocks of grassland, dry heath and bracken. The habitat is dominated by <i>Erica tetralix</i> and extensive patches of <i>Myrica gale</i> . Other species recorded included <i>Molinia caerulea</i> , <i>Narthecium ossifragum</i> and <i>Carex echinata</i> . Also recorded were typical Sphagnum species including <i>S. capillifolium</i> .
15	268416	759597	M10	Flushes recorded as M10 on the upper parts of the site occurring in runnels running down the slope. They have formed within a mosaic with the H10 heath, CG10 grassland and U20 bracken.
16	268382	759395	M10	

QUADRAT NO.	NGR (NN)		NVC CODE	DETAILS
	EASTING	NORTHING		
				The species recorded indicate some base enrichment. The species recorded include <i>Pinguicula vulgaris</i> , <i>Erica tetralix</i> , <i>Narthecium ossifragum</i> , <i>Carex dioica</i> , <i>Carex demissa</i> , <i>Trichophorum cespitosum</i> , <i>Drosera rotundifolia</i> , and <i>Carex pulicaris</i> . Other species recorded included <i>Carex echinata</i> , <i>Eleocharis quinqueflora</i> with mosses such as <i>Scorpidium scorpioides</i> .
17	268354	759436	M15	A distinct areas of M15 mire on the uppermost parts of the site between the east and west burns. These appear around the drier hummocks of grassland, dry heath and bracken. The habitat is dominated by <i>Erica tetralix</i> and extensive patches of <i>Myrica gale</i> . Other species recorded included <i>Molinia caerulea</i> , <i>Narthecium ossifragum</i> and <i>Carex echinata</i> . Also recorded were typical Sphagnum species including <i>S. capillifolium</i> .

## APPENDIX 2: PLANT LIST

Table 14: Recorded Plant Species

SCIENTIFIC NAME	COMMON NAME
<i>Agrostis capillaris</i>	Common Bent
<i>Alchemilla vulgaris</i>	Lady's mantle
<i>Anemone nemorosa</i>	Wood anemone
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass
<i>Bellis perennis</i>	Common daisy
<i>Betula pendula</i>	Silver birch
<i>Blechnum spicant</i>	Hard-fern
<i>Calluna vulgaris</i>	Heather
<i>Cardamine pratensis</i>	Cuckoo flower
<i>Carex demissa</i>	Common Yellow-sedge
<i>Carex dioica</i>	Dioecious Sedge
<i>Carex echinata</i>	Star Sedge
<i>Carex nigra</i>	Common Sedge
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Chamerion angustifolium</i>	Rose bay willowherb
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cynosurus cristatus</i>	Crested Dog's-tail
<i>Dactylis glomerata</i>	Cock's-foot
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid
<i>Deschampsia cespitosa</i>	Tufted Hair-grass
<i>Drosera rotundifolia</i>	Round-leaved Sundew
<i>Eleocharis quinqueflora</i>	Few-flowered Spike-rush
<i>Erica cinerea</i>	Bell Heather
<i>Erica tetralix</i>	Cross-leaved Heath
<i>Euphrasia agg</i>	Eyebright
<i>Fagus sylvatica</i>	Beech
<i>Festuca ovina</i>	Sheep's fescue
<i>Festuca rubra</i>	Red Fescue
<i>Festuca vivipara</i>	Viviparous fescue
<i>Fraxinus excelsior</i>	Ash
<i>Galium aparine</i>	Cleavers
<i>Galium saxatile</i>	Heath Bedstraw
<i>Hedera helix</i>	Ivy
<i>Helianthemum nummularium</i>	Rock Rose
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Holcus mollis</i>	Creeping soft-grass
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus articulatus</i>	Jointed Rush
<i>Juncus bulbosus</i>	Bulbous Rush
<i>Juncus effusus</i>	Soft-rush
<i>Juncus squarrosus</i>	Heath Rush
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil
<i>Luzula campestris</i>	Field Wood-rush
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Myrica gale</i>	Bog myrtle
<i>Nardus stricta</i>	Mat-grass
<i>Narthecium ossifragum</i>	Bog Asphodel
<i>Pedicularis sylvatica</i>	Common lousewort
<i>Picea sitchensis</i>	Sitka spruce
<i>Pinguicula vulgaris</i>	Common Butterwort
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Pleurozium schreberi</i>	Red-stemmed Feather-moss
<i>Poa annua</i>	Annual Meadow-grass
<i>Polygala serpyllifolia</i>	Heath Milkwort
<i>Polytrichum commune</i>	Common haircap-moss

SCIENTIFIC NAME	COMMON NAME
<i>Potentilla erecta</i>	Tormentil
<i>Prunella vulgaris</i>	Selfheal
<i>Prunus avium</i>	Gean
<i>Pteridium aquilinum</i>	Bracken
<i>Racomitrium lanuginosum</i>	Woolly Fringe-moss
<i>Ranunculus bulbosus</i>	Bulbous buttercup
<i>Ranunculus flammula</i>	Lesser spearwort
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rumex obtusifolius</i>	Broad-leaved dock
<i>Scorpidium scorpioides</i>	Hooked Scorpion moss
<i>Sorbus aucuparia</i>	Rowan
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss
<i>Sphagnum palustre</i>	Blunt-leaved Bog-moss
<i>Stellaria media</i>	Common chickweed
<i>Succisa pratensis</i>	Devil's-bit scabious
<i>Thymus praecox</i>	Common thyme
<i>Trichophorum cespitosum</i>	Deergrass
<i>Trifolium pratense</i>	Red clover
<i>Urtica dioica</i>	Common nettle
<i>Vaccinium myrtillus</i>	Bilberry
<i>Veronica beccabunga</i>	Brooklime
<i>Veronica chamaedrys</i>	Germander speedwell
<i>Veronica officinalis</i>	Heath speedwell
<i>Veronica serpyllifolia</i>	Thyme leaved speedwell
<i>Viola riviniana</i>	Common Dog-violet



## APPENDIX 3: FAUNAL SPECIES TARGET NOTES

Table 15: Protected Mammal Species Target Notes

Target Note	Grid Ref (NN)	Species/Feature	Notes
18	268288 758732	Otter	The faint remains of old (>6 months) otter spraint on boulders underneath the road bridge (east bank).
19	268355 758824	Bat/bird	A large oak which has numerous features that would be suitable for roosting bats (BCT1) and also nesting birds.
20	268329 758833	Bat/bird	A large oak which has numerous features that would be suitable for roosting bats (BCT1) and also nesting birds.
21	268285 758744	Bat/bird	A group of 6 mature and semi-mature trees (5 sycamore and 1 oak). 4 of these trees are considered to be BCT1 with numerous features which would be suitable for roosting bats and nesting birds.
22	268317 758845	Bat	Large very mature oak which would be suitable for roosting bats. If this tree is to be affected it should be climbed and fully inspected.
23	268352 758828	Bat	Large very mature oak which would be suitable for roosting bats. If this tree is to be affected it should be climbed and fully inspected.
24	268285 758745	Bat	Small number of semi-mature oak and sycamore at the location of the powerhouse. These trees would be suitable for roosting bats. If affected these trees should be climbed and fully inspected.
25	268387 759317	Meadow pipit	Active meadow pipit nest with 4 eggs. In crevice under heather.
26	268443 758284	Osprey	A single osprey observed flying low around the Dunalastair Reservoir.
27	268289 758730	Grey wagtail	A nest being used by two recently fledged chicks as a roost on a ledge under the road bridge.
28	268290 758651	Willow warbler	Active willow warbler nest on the ground under moss and other vegetation.
29	268462 759392	Common frog	A froglet observed in shallow open water within a flush.
30	268292 759533	Common lizard	A single common lizard observed among last year's bracken thatch.
31	268552 759501	Raven	A pair of raven observed.
32	268279 759541	Red grouse	A single red grouse flushed from the vegetation.
33	268314 759631	Reptiles and breeding birds	A dry stone wall which is mainly in good condition. Could provide shelter/hibernation for reptiles and also nesting opportunities for birds.

## APPENDIX 4: PLATES

*Plate 1: Waterfall and cascades above the road bridge creating a significant barrier to migratory fish*



*Plate 2: Drier hummocks of species poor calcareous grassland with extensive bracken patches*





*Plate 3: M10 basic flush on the upper section of the site (between the two burns)*



*Plate 4: View of the habitat mosaic on upper slopes with dark patches of M15 (bog myrtle), dry grassland and bracken.*



*Plate 5: In the vicinity of the east intake area. Mosaic of heath (H10), calcareous grassland and bracken*



*Plate 6: Mature trees with potential for roosting bats in the vicinity of Powerhouse Option A*





*Plate 7: Meadow pipit nest found in amongst the heather on the upper parts of the site*



*Plate 8: Grey wagtail nest underneath the road bridge over the burn*



*Plate 9: The burn as it flows towards Dunalastair Reservoir has been canalised. The substrate is mainly cobble and small boulder*





**TCP/11/16(443)**

**Planning Application – 16/00823/FLL – Installation of a hydro-electric scheme and associated works at Drumchastle Hydro Scheme, Dunalastair**

**PLANNING DECISION NOTICE** *(included in applicant's submission, see page 1293-1294)*

**REPORT OF HANDLING**

**REFERENCE DOCUMENT** *(part included in applicant's submission, see page 1296)*





# REPORT OF HANDLING

## DELEGATED REPORT

Ref No	16/00823/FLL	
Ward No	N4- Highland	
Due Determination Date	13.08.2016	
Case Officer	John Russell	
Report Issued by		Date
Countersigned by		Date

**PROPOSAL:** Installation of a hydro-electric scheme and associated works

**LOCATION:** Drumchastle Hydro Scheme Dunalastair

### SUMMARY:

This report recommends **refusal** of the application as there is lack of Environmental Information to support the application to enable assessment against policies of the adopted Development which warrants refusal of the application.

**DATE OF SITE VISIT:** 23 June 2016

### SITE PHOTOGRAPHS





## **BACKGROUND AND DESCRIPTION OF PROPOSAL**

This application is for the formation of a run-of-river micro-hydro scheme on the slopes of Beinn an Chuallaich to the east of the village of Kinloch Rannoch in Perthshire. The scheme will generate renewable energy from the river flow and deliver this to the local distribution network. The scheme is expected to generate 360 MWh annually and deliver the majority of this power to the grid.

The following elements compromise the development:-

### Intake structures

The hydro scheme consists of two intakes, the 'main intake' and a 'diversion intake'. The intakes, a low concrete weir spanning the burn would abstract water while preventing other objects such as sediment or fish getting into the pipeline. The intake would be constructed using reinforced concrete and tie into the banks.

### Pipeline (penstock)

There are two types of penstock a) The pressure penstock, between the power house and main intake, consists of 280mm or 315mm (external diameter) high density polyethylene pipe which is continuously welded and fully buried. Lower sections of the penstock may be constructed from ductile iron pipe sections. b) The gravity penstock, between the main intake and diversion intake, consists of 300mm 'twin wall' pipe which is not pressure

rated and coupled with push-fit fittings and optional sealing rings. This runs to a point 10m upstream of the main intake where it discharges into that tributary.

### Powerhouse

The turbine house is located on the eastern bank of the watercourse. It would contain the turbine, generator, and control gear required to generate electricity from the moving water. The proposed building will have a concrete foundation to support the turbine. A grey insulated panel is proposed as the external finish. Drumchastle Farm (including a dwelling) is directly to the East of the powerhouse while Drumchastle Cottage is to the North West on the opposite of the burn.

### Tail race

The tailrace is set into the eastern bank in close proximity to the powerhouse where the abstracted water is returned to the watercourse.

### Grid Connection

The applicant has confirmed that they are applying for a Grid Connection Agreement from Scottish and Southern Energy PLC. No grid connection point is specified.

### Access Routes

Access to the site for construction traffic will be along the public road that runs along the south shore side of Loch Rannoch.

There are no details on where construction compounds will be located and from my site inspection it would appear that existing tracks would require to be upgraded to accommodate construction traffic to facilitate construction at intakes. This forms an integral part of the application and requires to be assessed as part of the application.

## **ENVIRONMENTAL IMPACT ASSESSMENT (EIA)**

EEC Directive (No 2003/35/EC) requires the Competent Authority (and in this case Perth and Kinross Council) giving a planning consent for particular project to make the decision in the knowledge of any likely significant effects on the environment. The Directive therefore sets out a procedure that must be followed for certain types of project before they can be given 'development consent'.

This procedure, known as Environmental Impact Assessment (EIA), is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects, and the scope for reducing any adverse

effects, are properly understood by the public and the relevant competent authority before it makes its decision.

A screening exercise in accordance with the EIA (Scotland) Regulations 2011 (as amended) was undertaken by the Planning Authority and in this case an Environmental Statement was required due to the projects size, nature and its relationship with 'sensitive areas'.

Usually the scope of the Environmental Statement is defined by the competent authority and statutory consultees by the applicant agent requesting a Scoping Opinion. However this has not been sought in this instance.

## **SITE HISTORY**

15/00517/SCRN Formation of a hydro scheme and associated works 1 April 2015

## **PRE-APPLICATION CONSULTATION**

Pre application Reference: Screening Opinion confirmed the requirement for an Environmental Statement. No scoping process undertaken.

## **NATIONAL POLICY AND GUIDANCE**

The Scottish Government expresses its planning policies through The National Planning Framework, the Scottish Planning Policy (SPP), Planning Advice Notes (PAN), Creating Places, Designing Streets, National Roads Development Guide and a series of Circulars.

## **DEVELOPMENT PLAN**

The Development Plan for the area comprises the TAYplan Strategic Development Plan 2012-2032 and the Perth and Kinross Local Development Plan 2014.

### **TAYplan Strategic Development Plan 2012 – 2032 - Approved June 2012**

The vision set out in the TAYplan states that:

*“By 2032 the TAYplan region will be sustainable, more attractive, competitive and vibrant without creating an unacceptable burden on our planet. The quality of life will make it a place of first choice, where more people choose to live, work and visit and where businesses choose to invest and create jobs.”*

Under the Strategic Development Plan, the following principal policies apply:

**Policy 2:** Shaping Better Quality Places seeks to ensure that climate change resilience is built into the natural and built environment, integrate new development with existing community infrastructure, ensure the integration of

transport and land uses, ensure that waste management solutions are incorporated into development and ensure that high resource efficiency and low/zero carbon energy generation technologies are incorporated with development to reduce carbon emissions and energy consumption.

**Policy 3:** Managing TAYplan's Assets seeks to identify and safeguard at least 5 years supply of employment land within principle settlements to support the growth of the economy and a diverse range of industrial requirements.

**Policy 6:** Energy and Waste/Resource Management Infrastructure of TAYplan relates to delivering a low/zero carbon future for the city region to contribute to meeting Scottish Government energy targets and indicates that, in determining proposals for energy development, consideration should be given to the effect on off-site properties, the sensitivity of landscapes and cumulative impacts.

## **Perth and Kinross Local Development Plan 2014 – Adopted February 2014**

The Local Development Plan is the most recent statement of Council policy and is augmented by Supplementary Guidance.

The principal policies are, in summary:

### **Policy ER1A - Renewable and Low Carbon Energy Generation**

Proposals for the utilisation, distribution and development of renewable and low carbon sources of energy will be supported where they are in accordance with the 8 criteria set out. Proposals made for such schemes by a community may be supported, provided it has been demonstrated that there will not be significant environmental effects and the only community significantly affected by the proposal is the community proposing and developing it.

### **Policy TA1B - Transport Standards and Accessibility Requirements**

Development proposals that involve significant travel generation should be well served by all modes of transport (in particular walking, cycling and public transport), provide safe access and appropriate car parking. Supplementary Guidance will set out when a travel plan and transport assessment is required.

### **Policy HE1B - Scheduled Monuments and Non Designated A**

Areas or sites of known archaeological interest and their settings will be protected and there will be a strong presumption in favour of preservation in situ. If not possible provision will be required for survey, excavation, recording and analysis.

### **Policy NE1A - International Nature Conservation Sites**

Development which could have a significant effect on a site designated or proposed as a Special Area of Conservation, Special Protection Area or Ramsar site will only be permitted where an Appropriate Assessment shows that the integrity of the site will not be adversely affected, there are no alternative solutions and there are imperative reasons of overriding public



interest.

#### Policy NE1B - National Designations

Development which would affect a National Park, National Scenic Area, Site of Special Scientific Interest or National Nature Reserve will only be permitted where the integrity of the area or the qualities for which it has been designated are not adversely affected or any adverse impacts are clearly outweighed by benefits of national importance.

#### Policy NE2A - Forestry, Woodland and Trees

Support will be given to proposals which meet the six criteria in particular where forests, woodland and trees are protected, where woodland areas are expanded and where new areas of woodland are delivered, securing establishment in advance of major development where practicable.

#### Policy NE2B - Forestry, Woodland and Trees

Where there are existing trees on a development site, any application should be accompanied by a tree survey. There is a presumption in favour of protecting woodland resources. In exceptional circumstances where the loss of individual trees or woodland cover is unavoidable, mitigation measures will be required.

#### Policy NE3 - Biodiversity

All wildlife and wildlife habitats, whether formally designated or not should be protected and enhanced in accordance with the criteria set out. Planning permission will not be granted for development likely to have an adverse effect on protected species.

#### Policy ER6 - Managing Future Landscape Change to Conserve and Enhance the Diversity and Quality of the Areas Landscapes

Development proposals will be supported where they do not conflict with the aim of maintaining and enhancing the landscape qualities of Perth and Kinross and they meet the tests set out in the 7 criteria.

#### Policy EP2 - New Development and Flooding

There is a general presumption against proposals for built development or land raising on a functional flood plain and in areas where there is a significant probability of flooding from any source, or where the proposal would increase the probability of flooding elsewhere. Built development should avoid areas at significant risk from landslip, coastal erosion and storm surges. Development should comply with the criteria set out in the policy.

#### Policy EP8 - Noise Pollution

There is a presumption against the siting of proposals which will generate high levels of noise in the locality of noise sensitive uses, and the location of noise sensitive uses near to sources of noise generation.

#### Policy EP15 - Development within the River Tay Catchment Area

Nature conservation in the River Tay Catchment Area will be protected and enhanced. To ensure that there are no adverse effects on the River Tay SAC

listed criteria will be applied to development proposals in Acharn, Balnaguard, Camserney, Croftinloan/Donavoured/East Haugh/Ballyoukan, Fortingall, Grandtully/Strathtay/Little Ballinluig, Logierait, Tummel Bridge, Concraigie and Kinloch, Bankfoot and Kirkmichael.

## **OTHER POLICIES**

### **Scottish Natural Heritage's Guidance on Hydroelectric Schemes and the Natural Heritage**

Provides guidance on the natural heritage impacts associated with hydro developments. It focuses on design issues and ways to mitigate environmental effects.

### **Scottish Environment Protection Agency Guidance for developers of run-of-river hydropower schemes**

Provides guidance on the acceptability of proposed hydro developments with regards to the water environment.

### **Forestry Commission's Control of Woodland Removal**

Sets out the Commission's stance to the removal of Woodland in Scotland.

## **CONSULTATION RESPONSES**

Transport Planning – No objection.

Local Flood Prevention Authority - During the construction of the development that all surface water is controlled, treated and discharged under the principles of SUDS.

Scottish Environment Protection Agency – Object to this planning application on the grounds of lack of information in respect of peat management, ecology and regarding the consentability of the proposal under SEPAs regulatory regime.

Scottish Natural Heritage – Object to the application. There are natural heritage interests of national importance on the site, which could be affected by the proposal. Further information, detailed below, is required to determine whether the proposal will adversely affect the natural features for which Beinn a' Chuallaich Site of Special Scientific Interest (SSSI) has been designated. In addition, there is insufficient information to determine whether the proposal will have an adverse effect on the integrity of the Loch Rannoch and Glen Lyon National Scenic Area (NSA) or the qualities for which it has been designated.

Environmental Health – No objection.

David Williamson Bio Diversity Officer:- The proposed development site is wholly within the Beinn a' Chuallaich Site of Special Scientific Interest. Paragraph 4.4 of the Ecological chapter of the Environmental statement provides the results of surveys undertaken for protected mammals on June 3<sup>rd</sup> 2015. Paragraph 4.5 of the Ecological chapter of the Environmental statement states that no breeding bird survey has been carried out, and continues with:

*“Paragraph 4.4 of the Ecological chapter of the Environmental statement provides the results of surveys undertaken for protected mammals on June 3<sup>rd</sup> 2015.”*

As a result, birds have not been included in the Ecological Impact Assessment of the proposals. The presence or absence of protected species, and the extent to which they could be affected by the proposed development, should be established before determination of a planning application in accordance with part 204 of the Scottish Planning Policy. I would recommend full ecological surveys, including breeding bird surveys, be undertaken prior to determination. Until breeding bird surveys have been provided it is not possible to fully assess the application.

Rannoch and Tummel Community Council – No response within consultation period.

R S P B - Does not object to the proposal but has some concerns that the Council and developer should address before the application is permitted. This proposal is within the Beinn a' Chuallaich SSSI, designated for montane habitat (favourable maintained) and the vascular plant assemblage (unfavourable recovering). We note from the separate Ecology Chapter for the Environmental Statement that there could be permanent loss of qualifying feature habitats from within the SSSI.

Although RSPB Scotland does not hold any bird records for the site, we have been informed by the Tayside Raptor Study Group that Schedule 1 raptors, peregrine falcons, nest within 1km of the site. There is also potential for this development to have an impact on nationally and internationally important ground nesting bird species such as black grouse, merlin, hen harrier and various wader species due to the habitats on site.

## REPRESENTATIONS

No letters of representation have been received.

## ADDITIONAL STATEMENTS RECEIVED:

Environment Statement	Required
Screening Opinion	Undertaken
Environmental Impact Assessment	Required
Appropriate Assessment	Required

Design Statement or Design and Access Statement	Not Required
Report on Impact or Potential Impact eg Flood Risk Assessment	Required

## APPRAISAL

The proposal comprises a Schedule 2 Development in terms of the Environmental Impact Assessment (Scotland) Regulations 2011, Schedule 2 (h) Installations for hydroelectric energy production. Accordingly the development was screened and it was determined that the proposed development is likely to have significant effects on the environment by virtue of factors such as size, nature and location.

It is the applicant's responsibility to prepare the Environmental Statement. It must contain the information specified in Part II, and such of the relevant information in Part I of Schedule 4 to the Regulations. Reproduced below:-

### **PART I**

1. *Description of the development, including in particular -*
  - (a) *a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;*
  - (b) *a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;*
  - (c) *an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the development.*
2. *An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.*
3. *A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.*
4. *A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:*
  - (a) *the existence of the development;*
  - (b) *the use of natural resources;*
  - (c) *the emission of pollutants, the creation of nuisances and the elimination of waste, and the description by the applicant of the forecasting methods used to assess the effects on the environment.*

5. *A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.*
6. *A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.*
7. *An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.*

## **PART II**

1. *A description of the development comprising information on the site, design and size of the development.*
2. *A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects.*
3. *The data required to identify and assess the main effects which the development is likely to have on the environment.*
4. *An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.*
5. *A non-technical summary of the information provided under paragraphs 1 to 4 of this Part.*

The Competent Authority is responsible for evaluating the Environmental Statement to ensure it addresses all of the relevant environmental issues and that the information is presented accurately, clearly and systematically. The authority has to ensure that it has in its possession all relevant environmental information about the likely significant environmental effects of the project before it makes its decision whether to grant permission.

In this case there is insufficient information to assess the environmental impacts the development may have. Accordingly I cannot confirm the acceptability of the proposal in relation:- to landscape and in particular the National Scenic Area, The River Tay SAC, European Protected Species, other species protected under the Wildlife and Countryside Act 1981, the impact on existing watercourses and water quality and the woodland resource. The lack of information is also reinforced by the responses from key consultees under the 'consultation responses' heading.

Sections 25 and 37 (2) of the Town and Country Planning (Scotland) Act 1997 require that planning decisions be made in accordance with the development plan unless material considerations indicate otherwise. The Development Plan for the area comprises the approved TAYplan 2012 and the adopted Perth and Kinross Local Development Plan 2014. The determining issues in this case are whether; the proposal complies with development plan policy; or if there are any other material considerations which justify a departure from policy.

In this case there is a lack of information to assess the application against the development plans which is required by Sections 25 and 37(2) of the Town and Country Planning (Scotland) Act 1997.

## **Conclusion**

In conclusion, the application must be determined in accordance with the adopted Development Plans unless material considerations indicate otherwise. In this respect, there is lack of Environmental Information to support the application to enable assessment against policies which warrants refusal of the application.

## **APPLICATION PROCESSING TIME**

The recommendation for this application has been made within the statutory determination period.

## **LEGAL AGREEMENTS**

None required.

## **DIRECTION BY SCOTTISH MINISTERS**

None applicable to this proposal.

## **RECOMMENDATION**

**Refuse the application on lack of information.**

### **Reasons for Recommendation**

- 1 The Council has screened the development in accordance with the provisions of the Environmental Impact Assessment (Scotland) Regulations 2011 and has determined that the proposal is likely to have significant effects on the environment. An Environmental Statement has been submitted but there is a lack of information on how the development could impact on landscape and in particular the National Scenic Area, The River Tay SAC, European Protected Species, other species protected under the Wildlife and Countryside Act 1981, the impact on existing watercourses and water quality and the woodland resource. In the absence of the required Environmental Information the Council cannot assess the extent of the development impacts, the magnitude and complexity of those impacts; the probability of those impacts and the duration, frequency and reversibility of the impacts and cannot be satisfied that the proposals will not harm receptors.

### **Justification:**



- 1 There is a lack of information to enable full assessment of the application. This provides sufficient weight to warrant refusal of the application.

### **Informatives**

- 1 In the determination of this application the lack of environmental information has meant the application could not be fully assessed against the applicable planning policies. Accordingly the lack of any other reasons for refusal is without prejudice to any decision of the Council on receipt of a further formal application for this site.

### **Procedural Notes**

Not Applicable.

### **PLANS AND DOCUMENTS RELATING TO THIS DECISION**

16/00823/1

16/00823/2

16/00823/3

16/00823/4

16/00823/5

16/00823/6

16/00823/7

16/00823/8

16/00823/9

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16/00823/17

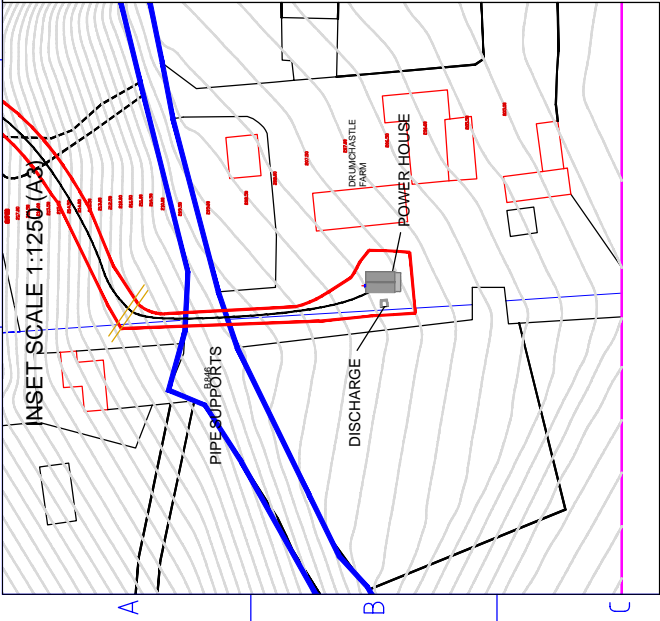
**Date of Report 26.07.2016**



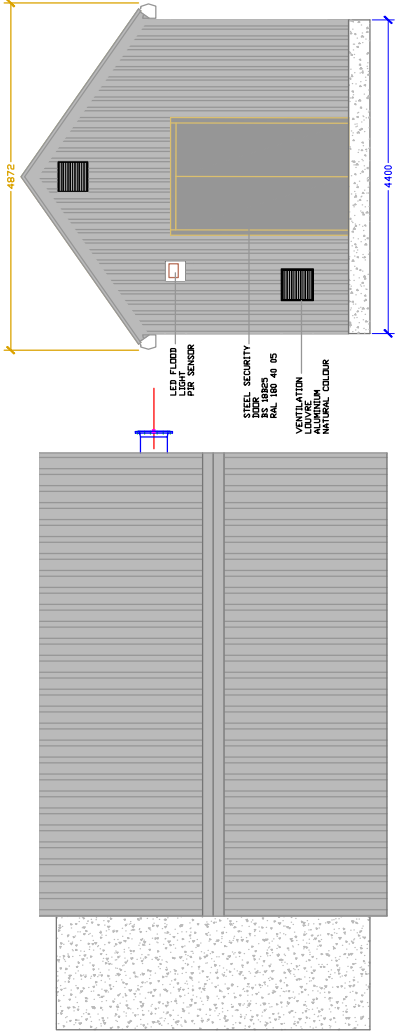








RevNo	Revision note	Date	Signature	Checked
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B	Inset of planning boundary added	04.06.16	AL	
B	Discharge elevation added			

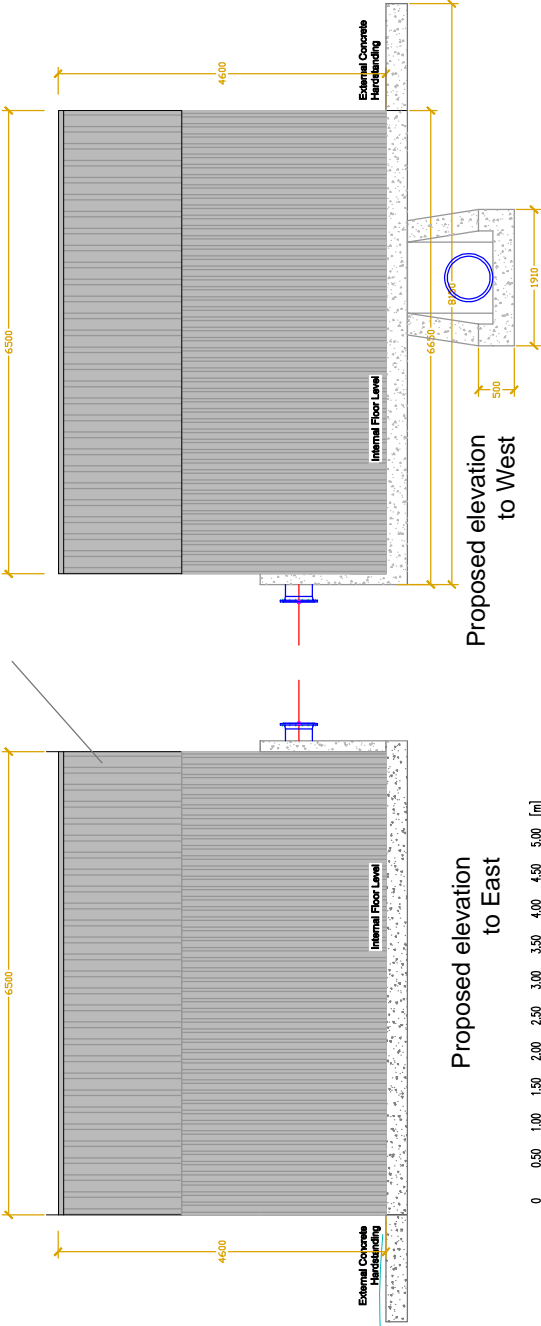


Proposed plan

Proposed elevation to South

Proposed elevation to North

KINGSPAN KS1000-RW Insulated Roof Panels  
Colour: BS 18B25 / RAL 180 40 USL Merlin Grey



Proposed elevation to East



Proposed elevation to West

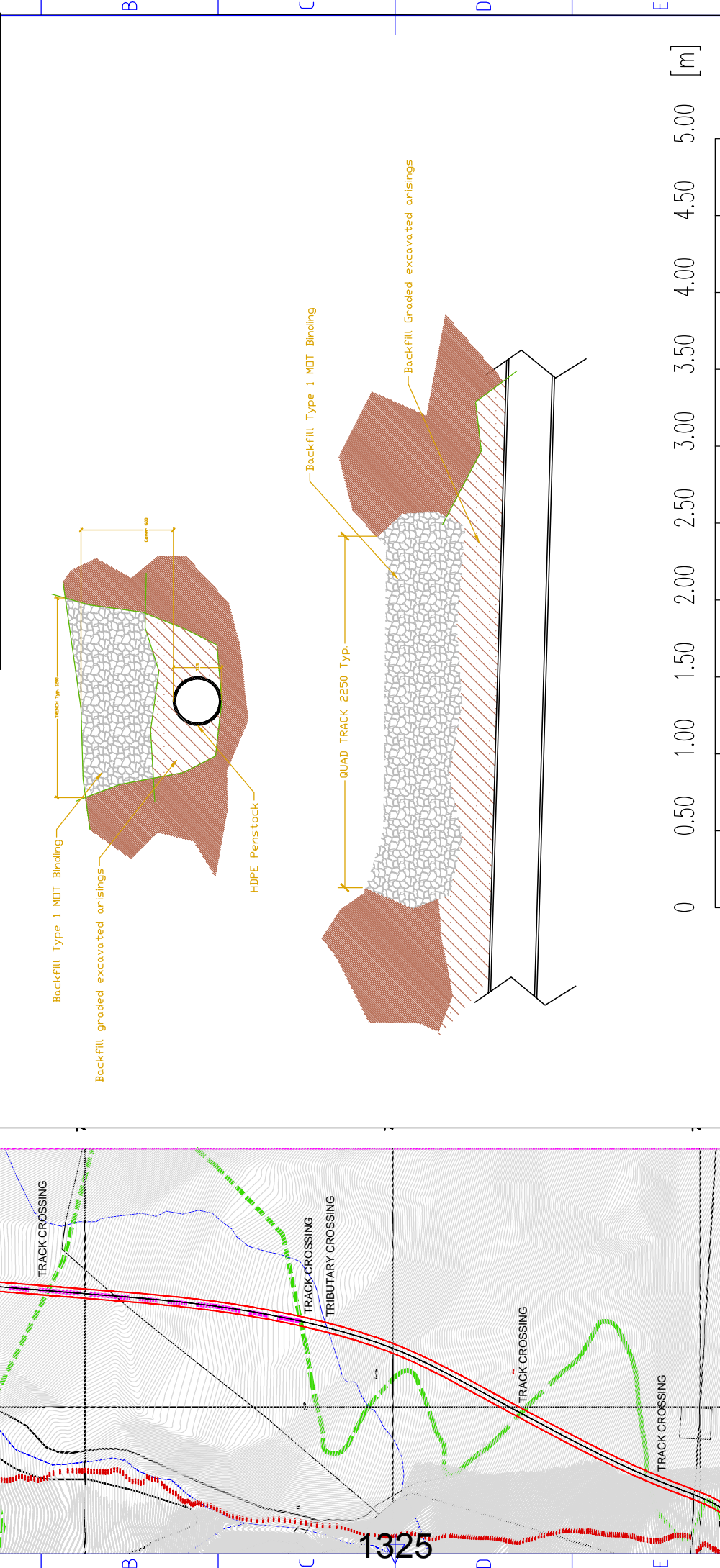
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		4	Drumchastle Hydro
			Edition B
			Sheet 4/8

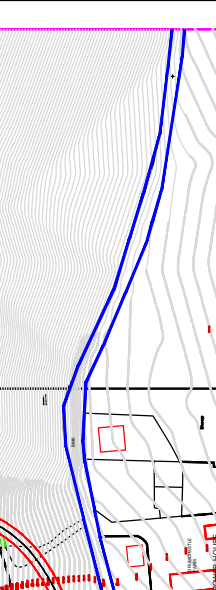
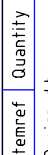
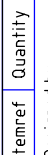






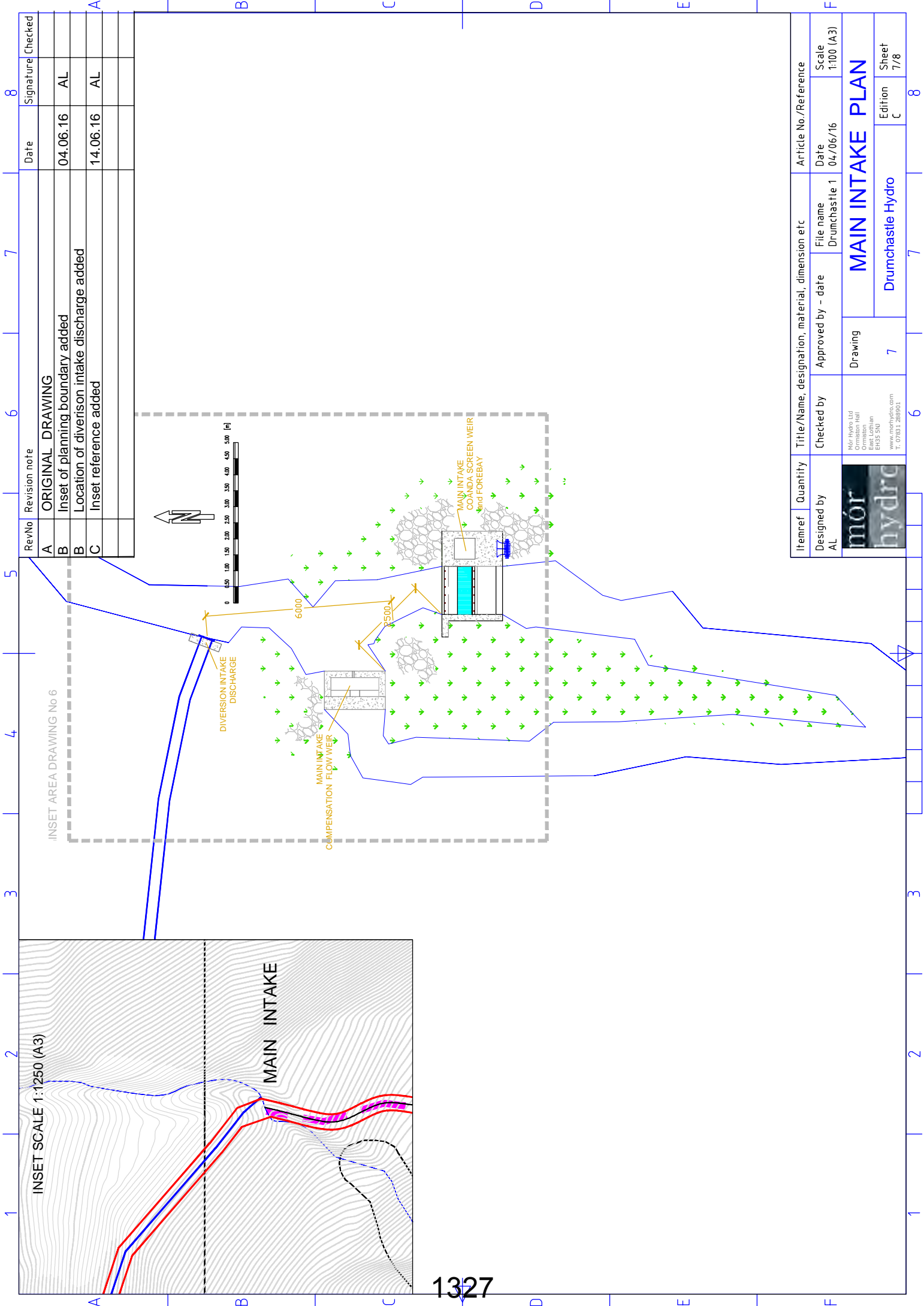
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A		ORIGINAL DRAWING													



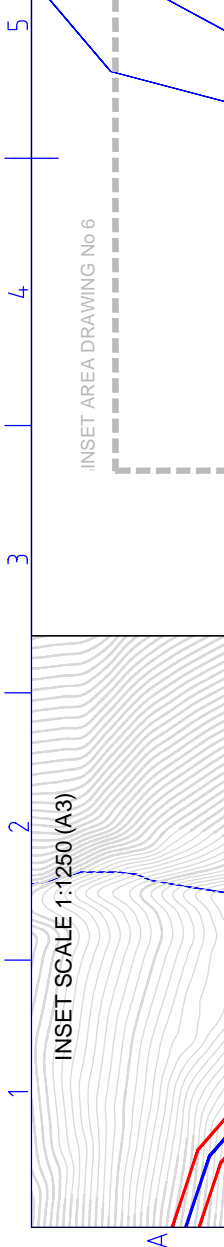
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				Drawing		TRACK CROSSINGS												
				10		Drumchastle Hydro		Edition		Sheet								
								A		4/8								







RevNo	Revision note	Date	Signature	Checked
A	ORIGINAL DRAWING			
B	Inset of planning boundary added	04.06.16	AL	
B	Location of diversion intake discharge added			
C	Inset reference added	14.06.16	AL	

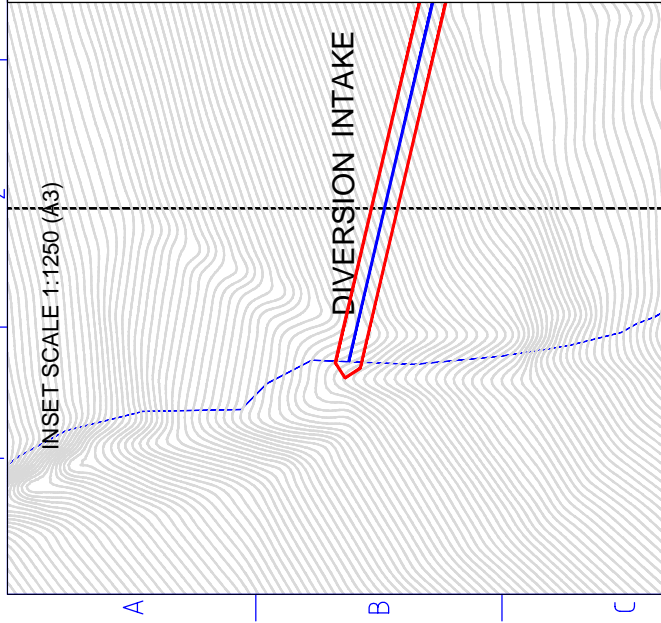


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		7		Drumchastle Hydro		Sheet 7/8

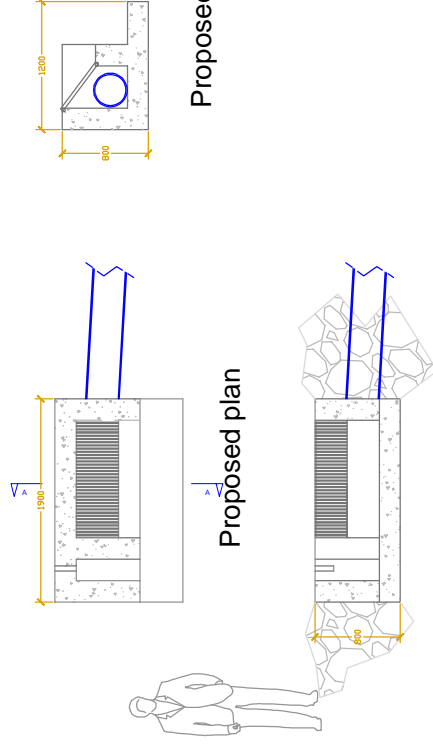
mór hydro		Mór Hydro Ltd Ormission Hall Ormission EH25 5NU www.morhydro.com T: 07853 280003	
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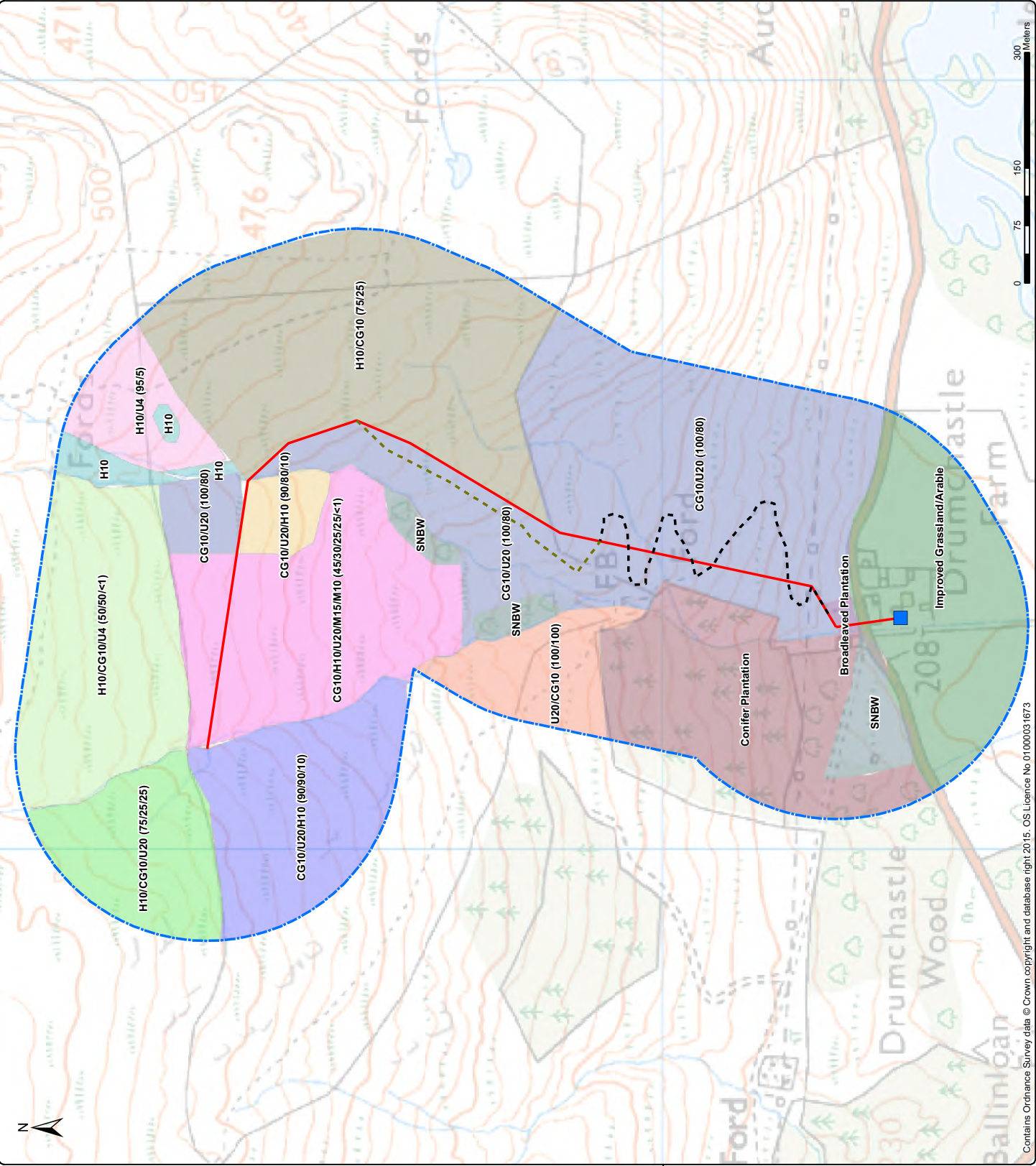


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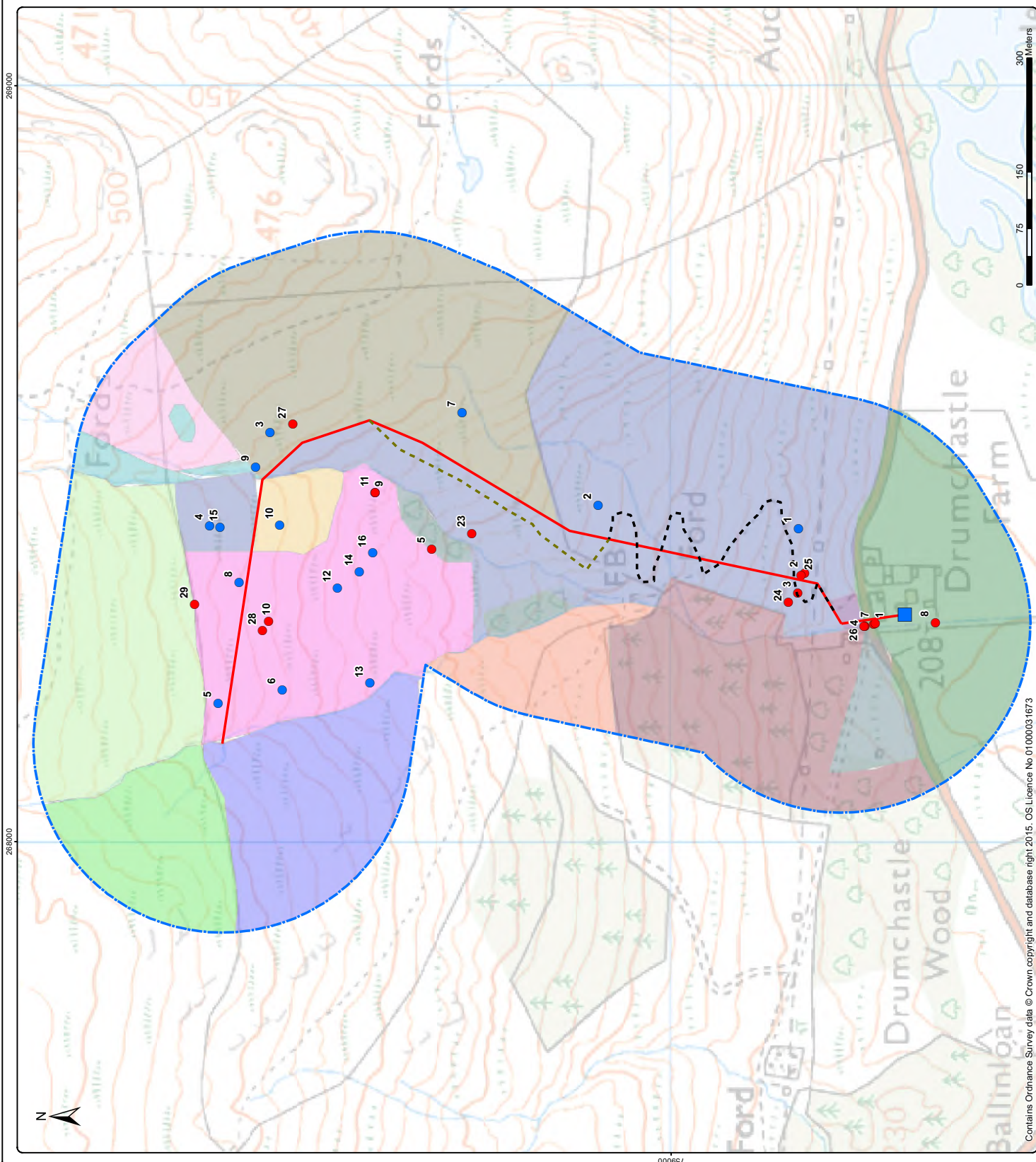























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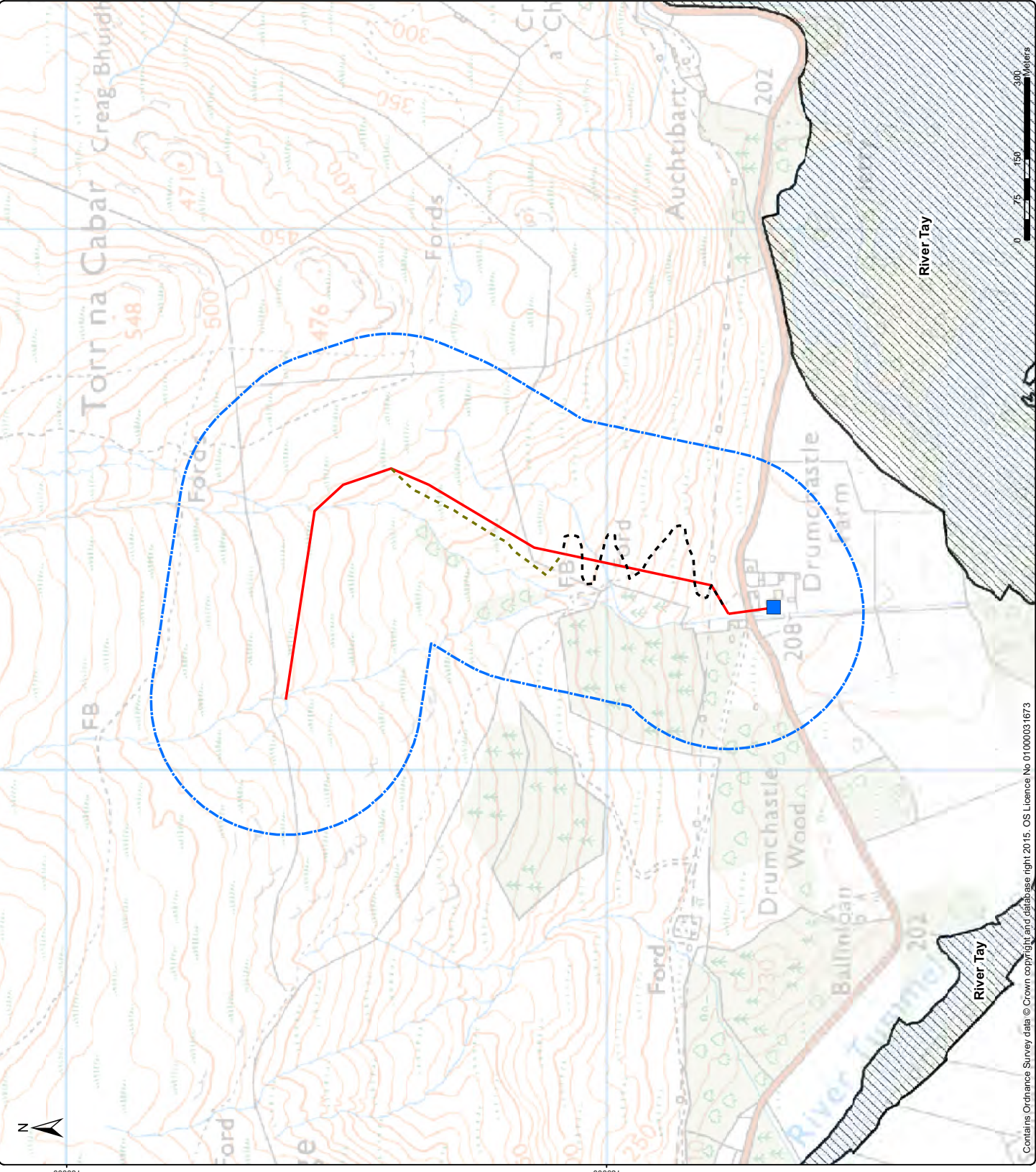
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	Penstock 250m Buffer
	Power House Location
	Proposed Quad Track (Existing)
	Proposed Quad Track (New)
	NVC Target Notes
	Fauna Target Notes
<b>NVC Survey Results (Percentage Cover)</b>	
	Broadleaved Plantation
	CG10/H10/U20/M15/M10 (45/30/25/25/<1)
	CG10/U20 (100/80)
	CG10/U20/H10 (90/80/10)
	CG10/U20/H10 (90/90/10)
	Conifer Plantation
	H10
	H10/CG10 (75/25)
	H10/CG10/U20 (75/25/25)
	H10/CG10/U4 (50/50/<1)
	H10/U4 (95/5)
	Improved Grassland/Arable
	SNBW
	U20/CG10 (100/100)

<b>Project:</b>	
<b>Drumchapel Hydro-Electric Scheme</b>	
<b>Client:</b>	
<b>Mor Hydro</b>	
<b>Title:</b>	
<b>Figure 2</b>	
<b>NVC Survey &amp; Target Notes</b>	
Status:	Revision:
Final	1
Drawn by:	Reviewed by:
AS	MH
Page Size:	Date:
A3	09/12/2016



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**Key**

- Penstock
- - - Penstock 250m Buffer
- Power House Location
- - - Proposed Quad Track (Existing)
- - - Proposed Quad Track (New)

Project:

**Drumchapel Hydro-Electric Scheme**

Client:

**Mor Hydro**

Title:

**Figure 4  
SAC Designations**

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Final	1	A3
Drawn by:	Reviewed by:	Date:
AS	MH	09/12/2016

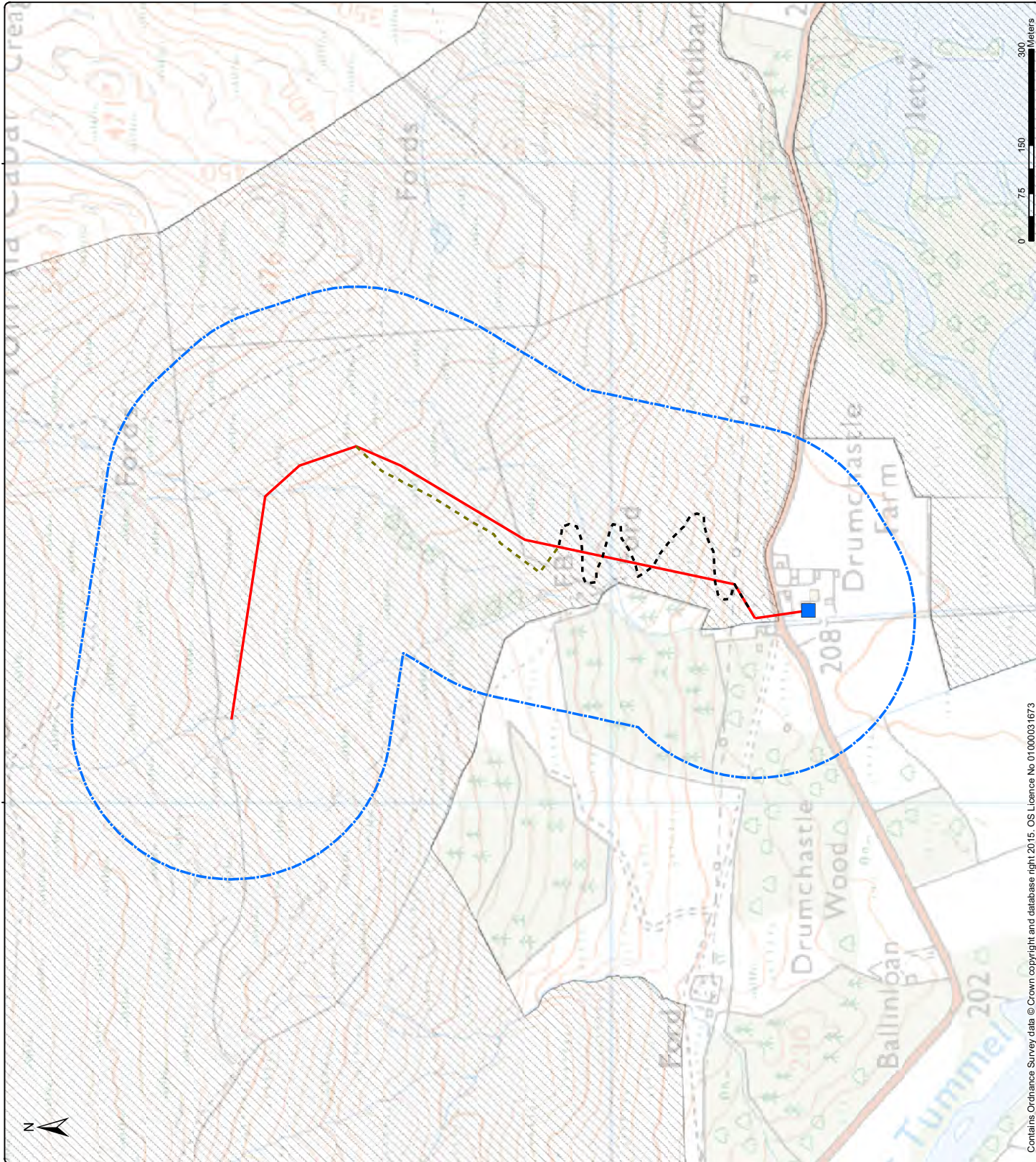


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### Key

- Penstock
- - - Penstock 250m Buffer
- Power House Location
- - - Proposed Quad Track (Existing)
- - - Proposed Quad Track (New)
- SSSI Designations

Project:

**Drumchastle Hydro-Electric Scheme**

Client:

**Mor Hydro**

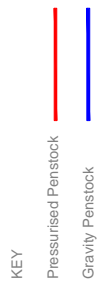
Title:

**Figure 3  
SSSI Designations**

Status	Revision	Page Size
Final	1	A3
Drawn by:	Reviewed by:	Date:
AS	MH	09/12/2016



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# DRUMCHASTLE HYDRO

Kinloch Rannoch

CAR/L/1134802

## ENVIRONMENTAL STATEMENT

Date: 20/06/16  
Status: FINAL  
Revision: D  
Prepared by: Adrian Loening

## DOCUMENT CONTROL

Revision	Date	Change Summary	By
A	06/04/16	Original Document	AL
B	18/04/16	General Updates	AL
C	09/05/16	CDM regulation update. Various typos corrected.	RLT / AL
D	20/06/16	Re-structured and expanded in line with EIA Handbook requirements	RLT / AL

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PROJECT MANAGER	<p>Mr Adrian Loening</p> <p>Mor Hydro Ltd</p> <p>Ormiston Hall</p> <p>Ormiston</p> <p>East Lothian</p> <p>EH35 5NJ</p> <p>Telephone: 07831 288901</p> <p>EMERGENCY PHONE ONLY: 01875 340832</p> <p><a href="mailto:adrian@morhydro.com">adrian@morhydro.com</a></p>	Project Manager.
ECOLOGICAL CONSULTANT	<p>Gavia Environmental Ltd</p> <p>Hydrology and Ecology Consultants</p> <p>Inveralmond Business Centre</p> <p>Auld Bond Road</p> <p>Perth</p> <p>PH1 3FX</p> <p>Office 01738 646741</p>	Site Investigations

SEPA	<p>SCOTTISH ENVIRONMENTAL PROTECTION AGENCY (SEPA)</p> <p>Strathearn House, Perth PH1 1RX 01738 627989</p> <p>SEPA's Pollution Hotline - 0800 80 70 60 (24 hour service)</p> <p>SEPA's Floodline service - 0845 988 1188 (24 hour service)</p>	Impoundment, Abstraction and Discharge Licencing
PERTH and KINROSS COUNCIL	<p>Edward Jordan</p> <p>Perth and Kinross Council The Environment Service Pullar House 35 Kinnoull Street Perth PH1 5GD Office 01738 475341 [REDACTED]</p>	Compliance Reporting

## 1. Description of the proposal

### 1.1. Introduction

The Drumchastle hydro scheme is a run-of-river micro-hydro scheme on the slopes of Beinn an Chuallaich to the east of the village of Kinloch Rannoch in Perthshire. The scheme will be developed by Allt Mor Hydro LLP which is a joint venture between Mór Hydro Ltd and Dunalastair Renewables LLP. The scheme benefits from a CAR licence (CAR/L/1134802) issued by the Scottish Environmental Protection Agency and is in the process of applying for planning consent from Perth & Kinross Council and a Grid Connection Agreement from Scottish and Southern Energy PLC.

The scheme will generate renewable energy from the river flow and deliver this to the local distribution network. This energy is considered to be 100% renewable and qualifies for revenue support under the Feed in Tariff (FiT) legislation. The scheme will also provide energy directly to Drumchastle Farm and at least two other cottages thereby reducing their reliance on fossil fuels.

The hydro scheme is expected to generate 360 MWh annually and deliver the majority of this power to the grid<sup>1</sup>. That energy is the equivalent of approximately 110 homes in the UK<sup>2</sup> and results in the saving of approximately 214 tonnes of carbon dioxide emissions<sup>3</sup> annually. Importantly being a run-of-river scheme energy is typically produced during periods of cold and wet weather when domestic energy demand is at its highest.

Hydro turbines and generators have been providing power in Scotland since the late 19<sup>th</sup> century and have proved to be a very reliable and low impact source of energy. The Drumchastle hydro project will utilise modern, high quality, equipment to continue this tradition with a view to ensuring the scheme has an operating life in excess of 50 years with the original equipment and in excess of 100 years with suitable refurbishment. In principle there is no reason that hydro schemes of this type cannot provide a permanent source of energy.

This Environmental Statement (ES) has been prepared as a supporting document to the planning application. Due to the location of the scheme within a Site of Special Scientific Interest (SSSI) it has been determined that the scheme represents an 'EIA Development' under the Town and Country Planning (Scotland) (Environmental Impact Assessment) Regulations 2011. This ES which represents the findings of the Environmental Impact Assessment has been developed by Mór Hydro Ltd and Gavia Environmental Ltd.

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<sup>1</sup> Some power is used locally for control systems etc.

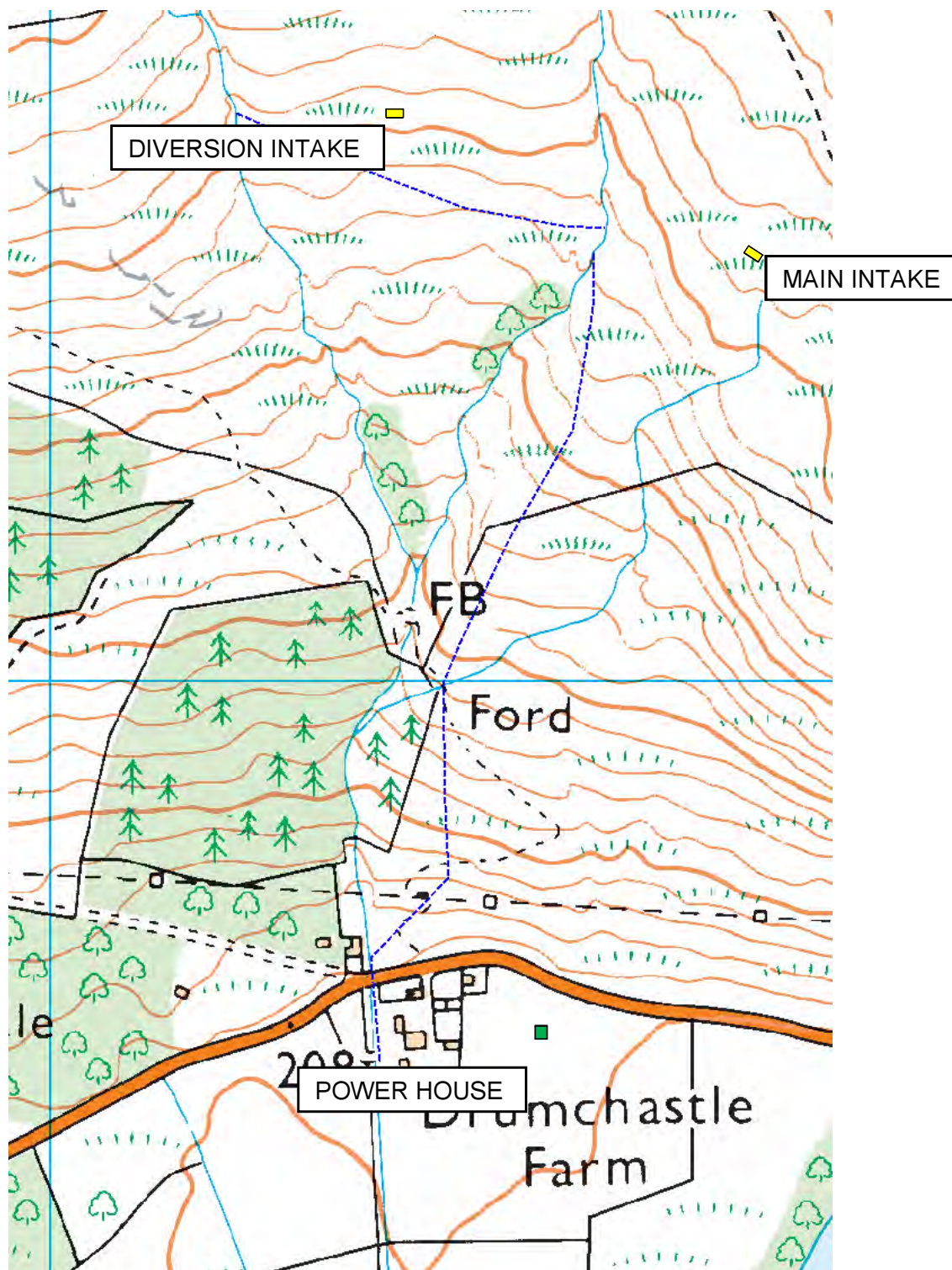
<sup>2</sup> Based on 3.3MWh per household as published by Ofgem in 2011

<sup>3</sup> Based on 0.594Kg/KWh grid carbon intensity published by DEFRA for the purpose of company reporting.



## 1.2. Location and catchment

The proposed project is located on the Drumchastle burn to the east Kinloch Rannoch, Perthshire. The Drumchastle burn is formed from the runoff delivered by a catchment of Beinn á Chuallaich to the north and Meall Breac to the West. The burn runs due South to join a man-made channel leading to the River Tummel at Dunalastair Water to the east.



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### 1.3. Intakes

The hydro scheme consists of two intakes, the 'main intake' and a 'diversion intake'. A 'twin wall' pipe will link the diversion intake with the main intake and an HDPE pressure pipe will connect the main intake to the power house. Drawings have been submitted as part of the planning application.

#### Main intake

The main intake consists of a stainless steel and concrete weir constructed across the east Drumchastle burn at NN 6848 5938 and 390m amsl. At this point the river is divided in two streams by a natural rock barrier which will form part of the intake.

The main intake is formed from two transverse weirs with a forebay tank to the east side of the Drumchastle burn and with a wing wall to the west side containing a compensation flow notch and overflow spillway. A 'Coanda' type screen is fitted to the weir walls and water passes through this into the chamber between the walls and from there into the forebay tank. The depth of the intake chamber and forebay tank has been selected to provide adequate capacity to allow for the removal of entrained air bubbles and a low flow velocity. The Coanda screen selected for this application is a ½ height version with 1mm screen gap consisting of a single D1500 unit.

#### Diversion intake

The diversion intake is formed from a single weir wall and will be located on the west Drumchastle burn below the existing ford at NN 6816 7595. The weir is fitted with a 20mm bar screen. The level of water entering the tank is controlled by an adjustable hydraulic structure and a compensation flow notch is fitted to the weir such that water cannot be abstracted below minimum flow. Water abstracted will flow from a chamber into the twin wall pipe for approximately 350 metres and into the east Drumchastle burn, 10 metres upstream of the main intake.

### 1.4. Power house

#### Location

The power house is located on a low lying area of ground between an existing farm building at Drumchastle Farm and the Drumchastle burn. The location is reasonably well screened by farm buildings to its east and a line of mature trees to its west. Drawings have been submitted as part of the planning application.

#### Turbine

Water is delivered by the penstock to a 'Pelton' type hydro turbine. Pelton turbines are one of the oldest designs of hydro turbines and have been in constant use in hydro-electric projects since their invention in 1870. The turbine drives a three phase generator directly through a coupled shaft (no gearbox) and this produces power at low voltage (415V). A control system monitors the amount of water available in the river and adjusts the flow to the hydro turbine to increase or reduce

power as required. In addition, the control system supervises the connection of the generator to the grid and monitors other mechanical and electrical requirements for safe operation of the turbine.

#### Discharge

The turbine discharges water into a sump underneath the power house building and water then flows through a screen and into the existing canalised burn adjacent to Drumchastle farm (see drawings).

#### Energy export

Energy produced by the generator is fed to a nearby pole mounted transformer on the local distribution network. Energy is also delivered via low voltage buried cables directly to Drumchastle Farm and two or more local cottages.

#### Control system

The hydro turbine and generator are operated entirely automatically by the control system which starts and stops the turbine based on water availability and performs all of the safety functions needed to ensure reliability and long life. The control system is connected to the internet allowing the operators to monitor and control the hydro turbine and provide rapid response to alarms.

### **1.5. Penstock**

#### Material and route

There are two types of penstock used:

- a) The pressure penstock, between the power house and main intake, consists of 280mm or 315mm (external diameter) high density polyethylene pipe which is continuously welded and fully buried. Lower sections of the penstock may be constructed from ductile iron pipe sections.
- b) The gravity penstock, between the main intake and diversion intake, consists of 300mm 'twin wall' pipe which is not pressure rated and coupled with push-fit fittings and optional sealing rings. This runs to a point 10m upstream of the main intake where it discharges into that tributary.

From the power house, the pressure penstock passes underneath the B846 at the existing bridge and then passes below ground level through an existing fenced compound containing several large trees. None of these trees will require to be felled.

The pressure penstock exits this compound area and runs up through a steep field adjacent to a Sitka spruce plantation. A very small tributary of the Drumchastle burn is crossed and this crossing may be either over ground using a small pipe bridge or excavated below its bed. The penstock meets the existing deer fence at about 340m amsl and then transverses open hillside for approximately 250m to the main intake.

The gravity penstock discharges water approximately 10m above the main intake. The penstock is routed from this point to the west through existing heathland to the diversion intake and is fully buried for its entire length.

The total penstock route is approximately 1,200 metres.

#### Excavation details

The penstock route will be excavated to sufficient depth for installation of the relevant section of the penstock. Vegetation and top soils will be stripped in sections not exceeding 250m length and stored to one side of the penstock route. Subsoil and broken rock excavated for the penstock installation will be stockpiled along one side of the penstock route.

Not more than 100m of open trench will be allowed at any one time.

The penstock trench is to be backfilled as soon as practical following pipe installation.

A graded layer of subsoil will be laid in the base of the trench followed by installation of the penstock. Graded material from the stockpile will be used to back fill the penstock trench. Areas which are identified as Ground Water Dependent Terrestrial Ecosystems (GWDTE) will be backfilled in accordance with the recommendations of the environmental consultants.

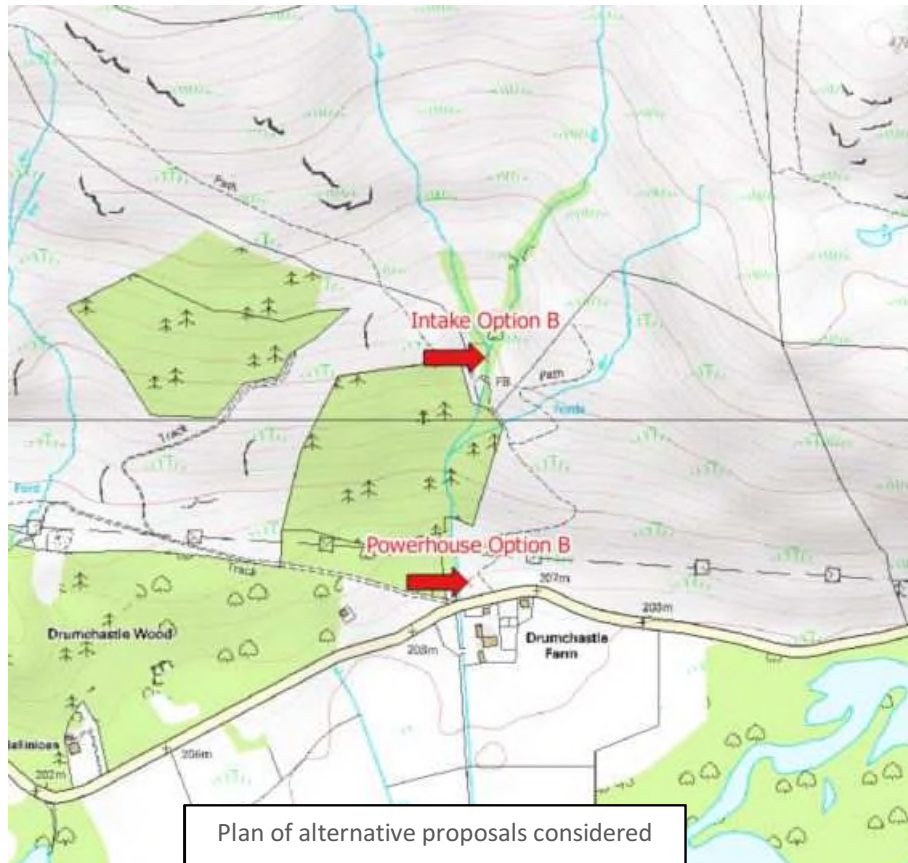
Stockpiled top soil will be graded over the penstock route and vegetation will be allowed to regenerate naturally.

#### **1.6. Permits**

The Drumchastle hydro scheme has a licence (CAR/L/1134802) issued by SEPA under the Controlled Activities Regulations for the abstraction and discharge of water for hydro power use.

## 2. Alternative proposals considered

Alternative proposals that involved different locations for the intake and for the power house. The penstock route would largely be determined by the locations of intake(s) and power house and there was no other logical route for the penstock other than through the hill pasture and heathland.



### 2.1. Intake Option B

Consideration was given to having one, instead of two intakes, situated below the confluence of the two tributaries of the Drumchastle burn (see plan above). This option would have the following advantages over the main proposal:

- One less intake to be constructed, saving environmental impact and cost of a second intake;
- Approximately 650 meters less penstock length to be buried, saving environmental impact and cost;
- No construction vehicles operating on the land above the location of Intake Option B.

However, this option was rejected for the following reasons:

- The location at this point in the watercourse is very deep, and so the logistics of diverting it for the construction period and the complexities of accessing and working in this area produced a significantly higher environmental risks and increased costs.

- Energy yield reduced to approximately 50% of upper location reducing both financial viability and carbon emission savings
- The likelihood of permanent damage to attractive riparian geological features and native riparian birch woodland habitat.
- Increased frequency of maintenance visits due to deciduous tree leaves blocking the intake screen.
- Native trees would require to be removed for construction.

## **2.2. Powerhouse Option B**

Consideration was given to locating the powerhouse to the north of the B846 road (see plan). This option avoids the need to run the penstock under the road bridge at the expense of a few meters of head.

This option was rejected for the following reasons:

- Creating a new access to the powerhouse compound to the north of the road was less preferable to taking access through the existing farm entrance for construction and ongoing maintenance.
- The visual impact was greater than situating the powerhouse building adjacent to the farm, the latter being a brownfield site.
- The nearest power connection is on the south side of the road and so power cables would need to be routed under the road bridge under Option B, which counter the advantage of not running the penstock under the bridge.
- There would be a small decrease in power output as a result of the powerhouse being situated on slightly higher ground.



### **3. Baseline environmental information**

#### **3.1. Environmental designations**

##### Rannoch and Glen Lyon National Scenic Area (NSA)

The whole scheme is situated within the very large area covered by this designation, which describes its key qualities as follows:

Epitome of the mountain grandeur of Highland Perthshire; a clear linkage of land use and landform; a combination of natural and cultural beauty; the great diversity of woodland; secluded side glens and ancient shielings; the wild summits; peacefulness and tranquillity; rich, varied cultural features; the long, narrow and sinuous Glen Lyon; the great expanse of Loch Rannoch; the long, symmetric mass of Schiehallion; the dominance of Ben Lawers.

The proposal has been designed to respect the natural and cultural qualities of the area and blend in as well as can be achieved.

##### Ben a Chuallaich Site of Special Scientific Interest (SSSI)

The intakes and most of the penstock of the scheme are situated within this designated area, which “is particularly noteworthy for outcrops of sugar limestone which, together with calcareous flushes and cliffs consisting of schist, support a number of rare higher plant species. The site is important for its range of calcareous habitats which are of floristic importance, including flush mires, grasslands, base-rich heath and rock outcrops” [SNH SSSI Citation].

The proposal involves construction within certain areas of the grassland and heath as well as two watercourses. The largest impact involves the burying of the penstock, although the ground surface will be reinstated following installation and the long-term impact is considered to be relatively low. This is covered in more detail in later sections.

##### River Tay Special Area of Conservation (SAC) and Dunalastair Reservoir Special Site of Scientific Interest (SSSI)

The scheme is not situated within either of these designations but it is worth noting that the outflow of water from the powerhouse back into the Drumchastle burn is approximately 200 metres upstream of the SSSI and 460m upstream of the SAC. The sensitivities of these designations in terms of the water environment, habitats and species have been taken into account in the ecological assessment and the design and mitigation measures employed within the proposal.

#### **3.2. Habitats and species baseline assessment**

A survey of protected species and vegetation was carried out by Gavia Environmental Ltd in 2014 and provided an ecological baseline assessment for the project. The report is attached to this Environmental Assessment and should be referred to for detailed findings.

### **3.3. Archaeology**

There are no known or listed features that will be affected by the proposal.

## **4. Environmental effects and mitigation measures**

This section provides detailed information on the environmental effects resulting from the construction and ongoing maintenance of the hydroelectric scheme, along with mitigation measures applied to reduce the impacts. This includes the potential effects that were identified within the Screening Opinion provided by Perth & Kinross Council dated 1 April 2015.

### **4.1. General mitigation measures relating to the management of the project**

The project has been designed and will be managed by Mor Hydro Ltd, which is experienced in developing hydroelectric schemes in Scotland. Effective design, planning and management play a key role in minimising adverse environmental effects resulting from potential lack of awareness by contractors and from accidents. This section sets out the measures that will be employed to mitigate against such risks.

#### Environmental Management Plan – PRINCIPLES

The construction of the hydro scheme will be undertaken in compliance with an approved Construction Method Statement and the Environmental Management Plan which are to be developed and approved following planning approval and in agreement with the terms of such approval.

The areas of environmental impact that are relevant to the proposed works include contamination of the river with concrete and/or silt, fuel or oil spillages and disposal of waste (both solid and liquid). Specific risks associated with these areas, together with mitigation procedures to minimise or eliminate these risks are outlined in the following sections.

Relevant pollution prevention guidelines will be followed, including:

- PPG 01 “General guide to the prevention of pollution”
- PPG 05 “Works in, near or liable to affect watercourses”
- PPG 06 “Working at construction and demolition sites”
- Water Environment (Controlled Activities) (Scotland) Regulations 2011
- Water Environment (Controlled Activities) (Scotland) Amendment Regulations 2013

#### Construction Method Statement (CMS) - PRINCIPLES

The appointed contractor is required agree the contents of this document and any requirements for CQA (Construction Quality Assurance) and compliance with the Construction (Design and Management) Regulations 2015 (CDM) (see below).

**In the event that the appointed contractor requires to modify any of the activities, processes, techniques or descriptions contained in this document they will be required to submit such modifications for approval by the LPA and SEPA prior to implementation.**

The principle of the CMS is to prevent contamination of water and terrestrial environments with materials generated from the construction process. A priority order will be implemented for techniques used to protect all environments:

- FIRST: Reduction in the amount of water in contact with materials generated by the works.
- SECOND: Filtration of contaminated water utilising purpose built disposable filters.
- THIRD: Settlement of contaminated water using sumps or lagoons
- FOURTH: Mechanical filtration systems
- FIFTH: Filtration by non-sensitive habitats

For each construction activity at least TWO options for environmental protection are given and each classified by the above preference.

The construction of the Drumchastle Hydro scheme will comply with SEPA's ***WAT-SG-29 Engineering in the Water Environment Good Practice Guide: Temporary Construction Methods***.

#### Construction Design and Management (CDM) Regulations

The construction is required to comply with Construction (Design and Management) Regulations 2015 which came into force in April 2015.

The following 'duty holder' responsibilities will be allocated under the CDM regulations;

Duty Holder	Identity	Responsibility
<b>Client</b>	Allt Mor Hydro LLP	Appoint the Principle Contractor Ensure compliance with the conditions of the CAR licence and Planning Consent Communicate design requirements to the Designer and CDM Coordinator. Notify the Health and Safety Executive Provide Health and Safety information to the CDM Coordinator and update the Health and Safety file
<b>CDM Coordinator</b>	Mr Adrian Loening, Mor Hydro Ltd	
<b>Principal Designer</b>	Mor Hydro Ltd	To advise the Client during the planning and design phase of the project and about the requirements of the CDM regulations Preparation of design drawings, specifications and project management. Provide information and update the health and safety file. Manage the project. Ensure communication between Client and Principal Contractor.
<b>Contractors</b>	TBC	Check that the HSE has been notified. Cooperate with the Principal Contractor in managing the program of works. Provide information as required by the Health and Safety plan. Notify the Principal Contractor of any difficulties.
<b>Individuals</b>	-	All individuals shall be aware of their own competence. Cooperate with the Client, Principal Designer and Contractors to ensure health and safety standards are maintained. Report all risks or incidents.

### Health and Safety

An F10 notification will be submitted to the Health and Safety Executive by the Client prior to the commencement of construction.

The Client or Health and Safety Coordinator or Principal Contractor shall issue an F2508 form to the HSE in the event of injury or dangerous occurrence.

F10 and F2508 forms shall be submitted online where possible. Paper copies of all submitted forms shall be maintained within the site records. Blank forms shall be retained on site in the event that online access is not available.

Prior to commencement of construction, due to the remote location of the site, local emergency services (Fire, Ambulance and Police) will be provided with a map and description of the access and terrain. Contact details for local emergency services including doctor's surgeries and hospitals will be displayed on site during construction.

### Risk of accidents

Working with machinery, general construction and materials handling present potential risks of accidents that might affect people or the environment. These have, and will continue to be considered through the design of the project and the procurement and construction phases.

The development falls within the Construction (Design and Management) Regulations and will be notifiable to the Health and Safety Executive. In compliance with these regulations, a hierarchy of roles will be identified which ensures safe working practices are designed into the project and are adhered to throughout. In the event of any rock blasting activity, this will minimise the risk of accidents occurring.

## **4.2. Scale and visual impact of the development**

The development will comprise two intakes, a buried penstock and a power house. During construction and the period immediately after reinstatement, the development will be very visible from across the glen. Once the backfilled penstock route has grown over, the visual impact will be low or nil. The power house is barely visible from here either during or after construction due to the presence of existing agricultural buildings and trees.

### Intakes

Both intakes are located within the channel of each burn. The design relies on the intakes being below, or level with the earthen bank on each side of the burn to channel the water effectively over the weirs. This design results in each intake being sited sensitively so that the visual impact is naturally minimised.

The following photographic illustrations provide an indicative view of the scale of each intake.





*View of diversion intake location with indicative siting and scale figure.*



*View of main intake location with indicative siting and scale figure*

During construction, the following visual impacts will be present at each intake:

- Small lay down area for storage of working materials and parking machinery.
- Excavated pipeline route and set aside topsoil layer.
- Access track suitable for excavator and all-terrain vehicle.
- Temporary water diversions to allow construction in dry conditions:-
  - At the Diversion intake, this will involve construction of a temporary channel on the west side of the burn, which will divert water above the weir site and return it into the watercourse just below it. This will be visible in the immediate vicinity and will be reinstated following completion of the weir.
  - At the Main intake, there is already a natural split in the watercourse and water will be temporarily diverted to the one where construction is not taking place. This will retain a natural appearance.
- The concrete weirs.
- Machinery working on site, including an excavator and an all-terrain vehicle.

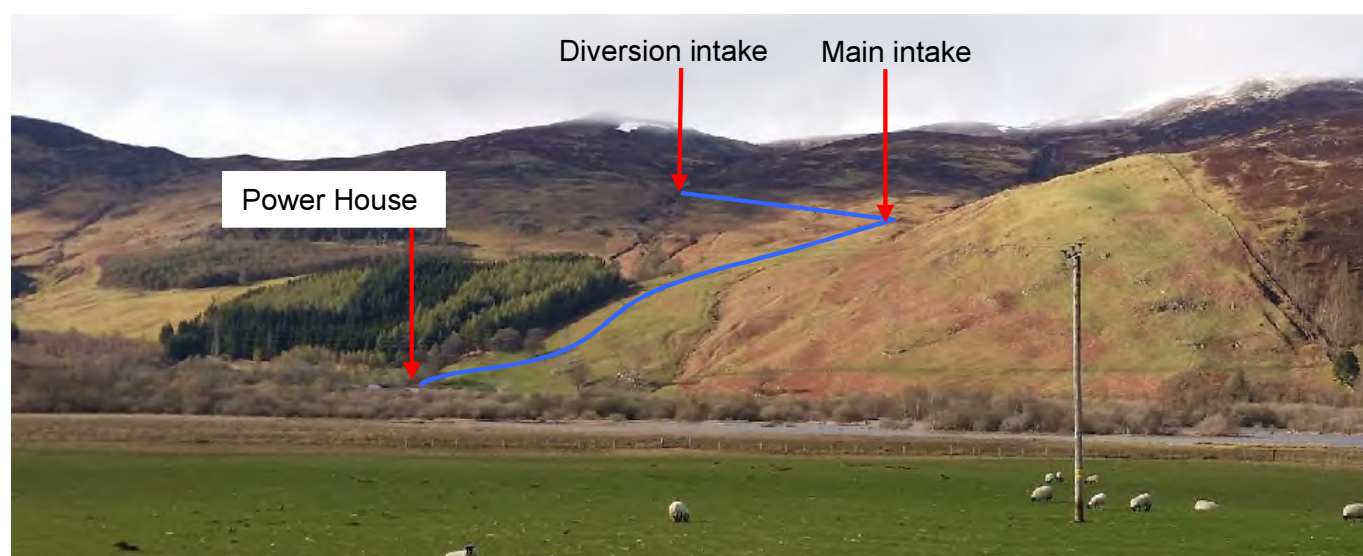
Once construction is complete, only the intake weirs along with water held immediately behind them will remain visible along with access tracks. Any non-natural debris and litter will be removed. Any topsoil removed will be replaced and vegetative cover will self-seed to cover evidence of construction work over the course of a few years.



### Penstock

There are two penstock routes:

- (1) from Diversion intake to just above the Main intake;
- (2) from Main intake to power house.



*Viewed from the south, buried penstock route in blue, intakes and power house location.*

The image above shows the approximate penstock route in blue as viewed from the south side of the glen. The underlying geology along this route will determine the precise path that is taken.

During construction, each penstock route will be excavated to an average depth of 900 mm. Topsoil will initially be removed and placed to the side of the route. The average width of the trench will be 750 m. It is expected that the timeframe from beginning excavations to backfilling and reinstatement will be around 6 weeks during which period the visual impact from the south will be significant.

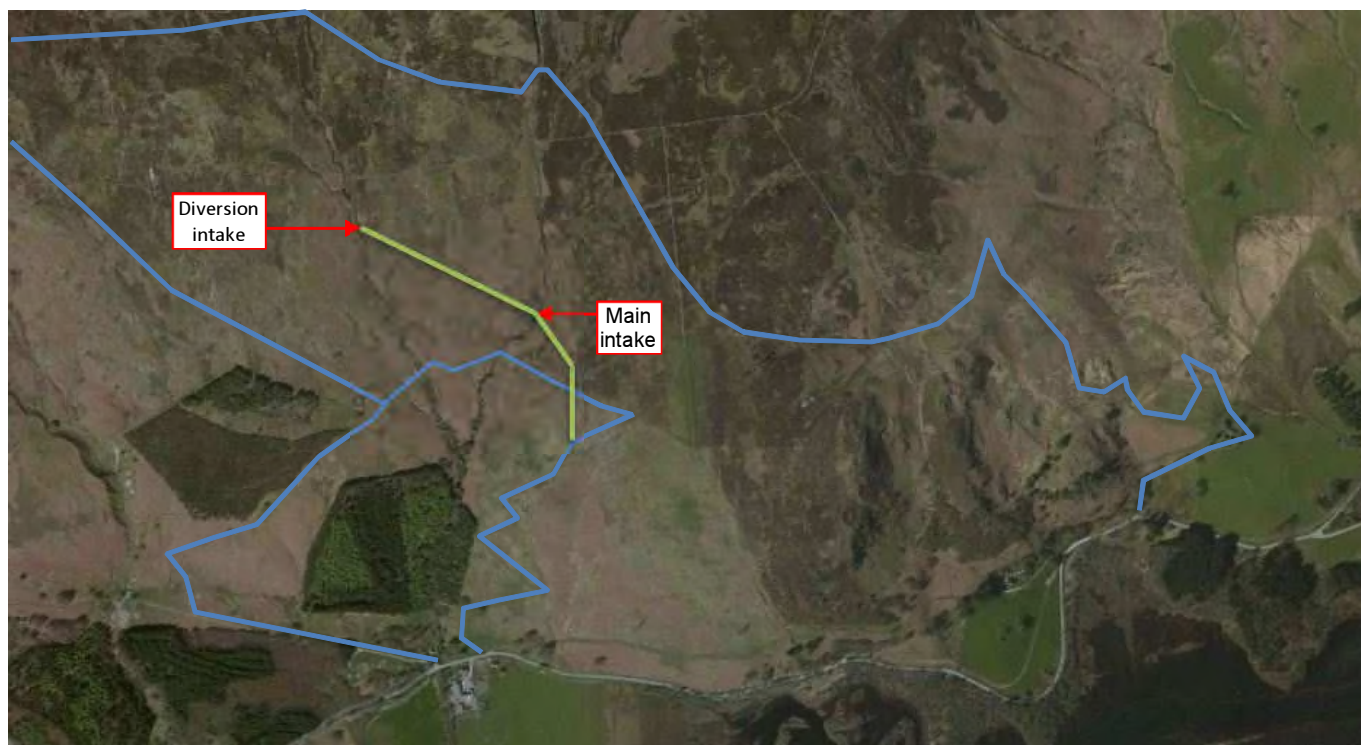
The penstock routes will only be excavated during periods of dry weather. Completion will be timed such that sufficient growing season remains to re-establish some vegetation over the penstock route.

Once reinstated, the penstock route will take a 2-5 years to fully blend back in to the surrounding landscape.

### Access track

There is a network of existing access tracks in the vicinity of the development area (Blue Lines). These are principally suitable only for ATVs at present. The routes higher up the hill are not used regularly and, while noticeable, they currently have a low visual impact as they are screened by vegetation and cannot be easily distinguished at a distance from animal tracks. It is proposed that existing tracks are used where possible to access the intakes for construction and subsequent maintenance.

Temporary access routes will be required during construction to access the main and diversion intakes. The vehicles using these routes will be tracked excavators and all-terrain vehicles and therefore the visual impact will be very low. No cutting will be required to form these routes because the gradient is low enough in this area not to require such activity.



*Aerial image showing (in blue) the locations of existing and historic access tracks and (in green) the proposed temporary access routes to be created in order to access the intakes*

Access to each of the two intakes will be required to carry out routine maintenance and this will be carried out using the existing quad bike tracks and on foot.

#### Power house

The power house will be located adjacent to existing farm buildings at Drumchastle Farm. The site, situated between a general purpose agricultural storage shed with profile tin roof and the Drumchastle Burn, has historically been used for storing agricultural implements and machinery and fencing equipment. From a visual perspective, it is a brownfield site contiguous with Drumchastle Farm.

During construction, the power house site will be cleared of machinery and debris and levelled. The concrete sump and outflow will be below ground level and these will form the foundations of the building above. A small working area will be established adjacent to the existing farm buildings.

The finished power house building design reflects an agricultural insulated shed, measuring approximately 4.4m wide, 6.5m long and 4.6m high. Colours have been selected to blend in with existing materials of Drumchastle farm. This design will complement the existing building group which is a mix of grey harling, tin and stone walls with tin, fibre cement sheeting and slate roofs; the sheep fank at Drumchastle is of timber construction and appearance.

#### **4.3. Cumulation with other developments**

Other hydroelectric schemes have been or are being developed in the local area. The Allt Mor scheme on the north side of Kinloch Rannoch was recently completed and a scheme on the south side of the glen at West Tempair is due to be constructed in 2016. The completed schemes, following a couple of years of vegetative growth, leave only their respective intake structures and power houses. These structures occupy a very small part of the wider surrounding landscape and so the cumulative visual impact will be very low. The screening opinion did not identify the expected cumulative impact to be significant.

#### **4.4. Use of natural resources**

The construction phase will have an impact on local natural resources. Top soil and subsoil will be removed and set aside for during stages of this phase of construction (only 100m metres of penstock route will be open at a time before being reinstated). Along the penstock route, this material will be replaced on top of the pipework. At the intakes, top- and sub-soil will be incorporated back into the ground as part of the post construction landscaping works. At the power house, the top- and sub-soil will be similarly incorporated into the surrounding ground as part of the post construction landscaping works.

The development will abstract water in compliance with CAR licence CAR/L/1134802. The design of the scheme and incorporation of compensation flow will ensure that a minimum flow will be directed down the watercourse. At higher flows, the catchment will produce significantly more water than can be abstracted by the scheme and so during these periods the flow will be similar to the current seasonal flows of the watercourse.

The development will have an impact on habitats and species. There will be disturbance of habitats during the construction phase but, due to the localised and temporary nature of this phase, the long term effects are expected to be very low with recolonization of species into reinstated areas over several years. Permanent changes in habitats occur under the footprint of the intakes and the powerhouse. Mitigation of impact on these will be incorporated in to the construction and environmental management plan.

The construction will have a minimal effect on agriculture, forestry and timber as no trees will be removed and the agricultural land is extensive hill pasture and moorland. No minerals of national, local or commercial interest are known to be present. Aggregate, including concrete will be imported for the foundations of the power house, the sump and the intakes. It is not expected that access tracks will be significantly improved, in line with keeping the visual impact of the scheme low, but small quantities of local gravel may be sourced from an existing borrow pit on adjacent land and used where



this will avoid adverse impact from machinery on soils. Fossil fuels will be used in the construction process but these will not be significant when compared with the carbon savings arising from the completed development.

#### **4.5. Production of waste**

Most of the spoil produced by the construction of the scheme will be incorporated back in to the ground as part of the landscaping of each site and in this respect, is not considered to be waste. Small amounts of waste will be generated at each site as a consequence of daily construction activity, including packaging and excess materials. A waste disposal policy will be in place with waste disposal carried out by licenced operators.

#### **4.6. Pollution and nuisances**

As stated above, there will be emissions from fossil fuels but these will be substantially offset by the operating scheme.

The development is within a SSSI and is upstream of a SAC and SSSI. It involves development near, over and in a watercourse. Strict policies will be in place to mitigate the likelihood of pollution into watercourses, ground water and habitats. Areas will be established for delivery and storage of materials, and for storing, inspecting and refuelling of machinery at least 25 metres away from watercourses and Ground Water Dependent Terrestrial Ecosystem (GWDTE) habitats through consultation with the project's ecological consultant.

Relatively small amounts of dust will be produced as part of the construction activity. The ecological survey has not identified any known receptors that are particularly sensitive to dust particles.

There are two residential dwellings within 43 m and 72 m of the power house. Noise emissions during construction will be mostly through the use of machinery and hand tools. Depending on the ground conditions, it is possible that blasting and/or piling may be required and the effect from these activities would be significant. These will occur during normal working hours, which will minimise disturbance to occupiers. Nearby occupiers will be kept informed of the construction programme – the closest house is occupied by an employee of the applicant who would be involved in the construction.

Noise emitted by the turbine within the power house will be mitigated by the design of the building, which will be insulated using Kingspan cladding materials. The ecological report identified a potential impact from noise in the event that otters used the location, however there was no evidence of otter presence or a holt. As a precaution, the site will be monitored for otter presence as recommended by and under the advice of the ecological consultants.

As reference we note the similar turbine used at the Allt Mor Hydro project in Kinloch Rannoch which is noted for its low noise emissions.

#### **4.7. Noise impact during construction**

Noise is a critical issue at the Drumchastle hydro site due to the nearest dwelling being around 60m away from the power house. In addition, noise from machinery and equipment needs to be minimised to reduce the effect on wildlife. The major source of noise during construction will be any rock breaking activities.

The majority of rock breaking activities are expected to be in the vicinity of the intakes and, due to the dimensions of the structures, are likely to be minimal.

Generators, pumps and other machinery should be switched off when not in use. Such machinery will not be required to run continuously, and will not operate outside the working hours other than in an emergency.

#### **4.8. Solid waste during construction**

Solid waste from the construction and accommodation will be collected in suitable containers (bins, skips). Waste will be segregated by type for recycling. A licensed waste disposal company will be used to collect regularly from the site. Alternatively the contractors may arrange to transport waste to recycling and/or final disposal themselves. In either case a valid waste transfer notice will be required and should be retained on site for inspection.

Burning of waste on site will **not** be permitted.

#### **4.9. Waste water disposal**

Existing sanitary facilities at Drumchastle farm will be utilised during construction. Additional maintenance of septic tanks may be required depending on the number of personnel on site at any one time.

#### **4.10. Potential physical changes (topography, land use, changes in waterbodies etc) from construction, operation or decommissioning of the development**

The land taken by the power house currently contains debris and old farm machinery which will need to be tidied and/or disposed of. As such, the land use change here is likely to improve the appearance of this area and thus have a very small positive impact on the National Scenic Area. During construction, existing facilities at Drumchastle Farm will be used and so it is not expected that temporary accommodation or site offices will be required.

The construction of the penstock will temporarily clear all vegetation along its length. The reinstatement will mitigate this impact and it is expected that all vegetation will regenerate following completion of the development. In light of the National Scenic Area and SSSI, this regeneration will be monitored every year following completion to ensure that the route of the penstock does not remain visible due to different ground conditions between where the penstock is buried and the

adjacent land. The applicant has control over the wider land to take any measures to ensure that the regeneration over the penstock blends in with the land around it.

The areas of watercourse where the two intakes will be constructed will be impacted as a result of the permanent concrete weirs. These are specifically designed with compensation notches to ensure that a minimum flow will always be available to the burn downstream. Also, the abstraction quantity is low enough that at higher flows, the majority of water will spill over the weirs and follow the watercourse as normal. There will be very small areas of peat land occupied by the intakes and penstock, as illustrated by the drawings and visualisations. The carbon released by this disturbance will be relatively insignificant compared to the carbon savings resulting from the operation of the scheme. During the construction of each intake, an area of ground will be used for storing materials and machinery when not in use. Topsoil will be set aside and used for reinstatement and so the land use impact in relation to these areas will be significant during construction and minimal to non-existent following reinstatement.

Tracks will be extended and used with more regularity as a result of this scheme. The route of these tracks have been chosen to minimise visual and habitat impacts. The construction of the development does not require any heavy vehicles to use the hill tracks and so any new tracks will be made sufficient for All Terrain Vehicles only. The use following completion will involve occasional maintenance visits, expected to be on average one visit every 2-4 weeks either on foot or by ATV to check and clear the Coanda screen.

All of the areas temporarily or permanently taken by the above uses will be chosen to avoid impact on sensitive habitats that are linked to the SSSI designation in consultation with the ecological consultants.

The issuing of a Controlled Activities Licence in relation to this scheme by SEPA demonstrates its acceptability as far as the impact on the water environment is concerned and the conditions of the licence will be strictly adhered to.

As the scheme, once built, is expected to have a life expectancy of at least 40 years, decommissioning has not been considered and this development is intended to provide a permanent renewable energy resource in the future.

An assessment has been carried out to establish the extent of alien and native species (see attached Ecological Assessment). An ecologist will be involved in the selection of set down areas and the micro-siting of the penstock route in order to avoid and/or mitigate any impact on native species. No non-native invasive species were identified in the subject area and it is unlikely that the development will import these. However, the construction team will be briefed on biosecurity measures.

#### **4.11. Protection of fish and other river species**

There is the potential for a hydroelectric scheme to cause damage to spawning fish or other species if they can access the penstock or turbine. The steepness of the Drumchastle burn just north of the B846 prevents upstream movement of spawning fish and removes any risk that they could enter the penstock. There remains the possibility of affecting non-

migratory fish in the tributaries or damaging fish spawn in the canalised section of the Drumchastle burn and the following mitigation measures will be employed.

The project will not work in the water environment from 1<sup>st</sup> November to 30<sup>th</sup> April in any year to avoid damaging fish spawn.

Fish and debris screens will be fitted at three locations:

The main intake is fitted with a 1mm Coanda screen. The diversion intake is fitted with a 10mm bar screen. These prevent the entry of fish to the pressurised penstock at all times; fish that cross over them are provided with a plunge pool downstream of the intake weirs from which there is a defined exit back into the river.

The power house discharge is fitted with a 20mm vertical parallel bar screen to prevent access into the sump by spawning fish, otters or other mammals.

Due to the use of compensation flow notches at the intake weirs, there will be a constant flow of water down the original watercourse and so water exiting the outflow from the power house will not be the only attractant to spawning salmonids. As the watercourse becomes inaccessible to salmonids approximately 60 metres beyond the outflow, the risk of an adverse impact on salmonids as a result of the attractant flow at this point in the watercourse is very low.

#### **4.12. Effect on existing land uses**

Farming and deer management activities may be disturbed during the construction period. These activities are operated by the applicant and so mitigation measures will be put in place to avoid conflict. Ongoing operations of the scheme will have synergy with the labour requirement and continued use of Drumchastle Farm.

While this area is popular for hill walking, no regularly used footpaths cross the proposed scheme and so the development and subsequent maintenance of the scheme is not expected to have any negative effect on the use of footpaths or local tourism. The applicant recently completed a nearby scheme at Kinloch Rannoch which was designed to showcase and stimulate interest in the history and development of hydroelectricity in this area and so this proposal forms a part of the wider picture of renewable energy developments contributing to this and other fragile, rural areas.

#### **4.13. Relative abundance, quality and regenerative capacity of natural resources in the area and absorption capacity of the natural environment**

The scale of this scheme is relatively small compared to other hydroelectric schemes and the wider land use and so its effect on the natural resources in the area is modest.

The key mitigation aims of the project's design are in relation to minimising the impact on vegetative habitats associated with the SSSI, minimising the impact on the water environment in relation to the River Tay SAC and Dunalastair Reservoir SSSI and minimising the visual impact of the development, particularly given the Loch Rannoch and Glen Lyon NSA designation.

Most of this mitigation will result from effective siting and reinstatement of temporary construction areas, and the specification and design of the intakes and outflow. Careful management of the construction phase by a competent site manager to ensure that the impact from excavations and safe handling of materials and machinery will mitigate against the risk of environmental damage from poor workmanship and contamination.

The applicant has developed a number of hydroelectric schemes and is thus experienced in appointing, briefing, overseeing, monitoring – and intervening where necessary – of contractors and construction teams for these projects.



## 5. Non-technical summary

The Drumchastle Hydroelectric Scheme is located 1.5 miles east of Kinloch Rannoch in Highland Perthshire.

The proposal involves:

- Two intakes to draw water from two tributaries of the Drumchastle burn on the slopes of Ben a Chuallaich.
- 1,200 metres of mostly buried pipeline to deliver water from the intakes to the power house at Drumchastle Farm, a total drop of around 180 metres.
- A power house comprising a turbine, control system, sump and outflow. Water will be returned to the Drumchastle Burn.
- 360 MWh per annum of electricity is expected to be delivered to farm buildings, two or more local houses and the national grid – sufficient to supply 110 homes and save 214 tonnes of carbon dioxide emissions.

The key potential environmental issues are:

- Changes in habitat at the intake locations, which are within the Ben a Chuallaich Site of Special Scientific Interest.
- Temporary loss of habitat at the intake locations and for the working width of the pipeline, which passes through moorland and hill pasture and may affect flush habitats associated with the above SSSI.
- Potential effect on otters (no evidence noted during surveys but vigilance advised) and migratory fish spawning where the power house will be constructed.
- Visual impact of the scheme which is within the Rannoch and Glen Lyon National Scenic Area: the penstock route will be very visible from across the glen during construction and for 2-5 years after it is reinstated, until vegetative species fully recolonise this ground.
- Noise, pollution and waste disposal issues relating to construction activity.

The key measures that will mitigate against environmental risks:

- Establishing baseline environmental information. An ecological report was commissioned and reported on the presence of habitats, species and the impact of the proposal on these.
- Ensuring effective project design, planning and management, including Environmental Management Plan, Construction Method Statement and adherence to Construction (Design and Management) Regulations and health and safety legislation in relation to overseeing staff and/or third party contractors.
- Careful design and siting of intakes, pre-construction survey, timing of construction works and effective reinstatement with stockpiled sub and top soil.
- Limiting excavation of pipeline route to 250 metres at a time.
- Timing of power house construction to take account of fish spawning times and ongoing vigilance for any evidence of otter activity.
- Screens fitted at intakes and power house outflow to prevent access to fish and other mammals.

## **6. Technical difficulties and limitations**

Due to the applicant's experience in developing hydroelectric schemes, including one in the local area, there have not been many technical difficulties in compiling the information required for this report. Outstanding limitations at the time of submission are described as follows.

Habitat surveys are limited by their timing and duration. Due to the changing and evolving habitats and movements of species, surveys will be slightly different from day to day and depending on the time of year and time of day. The purpose of the Environmental Management Plan, and the other measures put in place to ensure good and proper management of the project, is to mitigate against such limitations by ongoing monitoring and effective oversight of site staff and contractors. Contingencies will be built in to the project to allow for minor changes in timing and methods where possible.

The design of the proposal is limited by uncertainty regarding the underlying geology at the specific locations where the penstock route will run. Where difficulties are likely to be encountered in terms of environmental impact on localised habitats (for example, wet flushes) or severe cost increases (for example due to hard rock making penstock burial more difficult), minor route changes may need to be made following a pre-construction survey. For this reason, a precise route has not been established and any deviation within the surveyed corridor marked on the ecological report plan may be necessary.

-END-



**TCP/11/16(443)**  
**Planning Application – 16/00823/FLL – Installation of a**  
**hydro-electric scheme and associated works at**  
**Drumchastle Hydro Scheme, Dunalastair**

## **REPRESENTATIONS**





## Comments to the Development Quality Manager on a Planning Application

<b>Planning Application ref.</b>	16/00823/FLL	<b>Comments provided by</b>	David Williamson
<b>Service/Section</b>	Strategy and Policy	<b>Contact Details</b>	[REDACTED]
<b>Description of Proposal</b>	Installation of a hydro-electric scheme and associated works		
<b>Address of site</b>	Drumchastle Hydro Scheme, Dunalastair		
<b>Comments on the proposal</b>	<p>The proposed development site is wholly within the Beinn a' Chuallaich Site of Special Scientific Interest.</p> <p>Paragraph 4.4 of the Ecological chapter of the Environmental statement provides the results of surveys undertaken for protected mammals on June 3<sup>rd</sup> 2015.</p> <p>Paragraph 4.5 of the Ecological chapter of the Environmental statement states that no breeding bird survey has been carried out, and continues with :</p> <p><i>"Paragraph 4.4 of the Ecological chapter of the Environmental statement provides the results of surveys undertaken for protected mammals on June 3<sup>rd</sup> 2015."</i></p> <p>As a result, birds have not been included in the Ecological Impact Assessment of the proposals.</p> <p>The presence or absence of protected species, and the extent to which they could be affected by the proposed development, should be established before determination of a planning application in accordance with part 204 of the Scottish Planning Policy.</p> <p>I would recommend full ecological surveys, including breeding bird surveys, be undertaken prior to determination. Until breeding bird surveys have been provided it is not possible to fully assess the application.</p>		
<b>Recommended planning condition(s)</b>	<p>If you are minded to approve the application then I recommend the following conditions be included in any approval:</p> <ul style="list-style-type: none"> <li>No removal of vegetation, including trees and shrubs will take place between 1<sup>st</sup> March and 31 August inclusive unless a competent ecologist has undertaken a careful and detailed check of vegetation for active birds' nests immediately before</li> </ul>		

	<p>the vegetation is to be cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting birds on site. Any such written confirmation must be submitted to the planning authority prior to commencement of works.</p> <ul style="list-style-type: none"> <li>• No works which include the creation of trenches or culverts or the presence of pipes shall commence until measures to protect animals from being trapped in open excavations and/or pipe and culverts are submitted to and approved in writing by the local planning authority. The measures may include creation of sloping escape ramps which may be achieved by edge profiling of trenches/excavations or by using planks placed into them at the end of each working day and open pipework greater than 150 mm outside diameter being blanked off at the end of each working day.</li> <li>• Preconstruction surveys shall be undertaken where ground will be disturbed to ascertain the presence or absence of protected species and breeding birds and written confirmation that no protected species or birds will be harmed and/or that there are appropriate measures in place to protect said protected species and nesting bird interest on site. Any such written confirmation should be submitted to the local planning authority.</li> <li>• No development shall commence until the role and responsibilities and operations to be overseen by an Ecological Clerk of Works has been submitted to and approved in writing by the local planning authority. The appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved plans.</li> </ul>
<b>Recommended informative(s) for applicant</b>	<ul style="list-style-type: none"> <li>• The presence or absence of protected species, and the extent to which they could be affected by the proposed development, should be established before determination of a planning application in accordance with part 204 of the Scottish Planning Policy.</li> <li>• The applicant is reminded that, under the Wildlife and Countryside Act 1981, as amended, it is an offence to remove, damage or destroy the nest of any wild birds while that nest is in use or being built. Planning consent for a development does not provide a defence against prosecution under this act.</li> </ul>
<b>Date comments returned</b>	7 July 2016

By Email: [developmentmanagement@pkc.gov.uk](mailto:developmentmanagement@pkc.gov.uk)

7<sup>th</sup> July 2016

Dear John Russell,

**16/00823/FLL | Installation of a hydro-electric scheme and associated works | Drumchastle Hydro Scheme Dunalastair**

RSPB Scotland would like to provide comments on the above planning application.

We believe that climate change is the most serious long-term threat to wildlife in the UK and globally. Switching from fossil fuels to renewable energy sources is essential to reduce greenhouse gas emissions, which contribute significantly to climate change. However, RSPB Scotland considers renewable energy developments should be sited, designed and managed so as to avoid significant harm to birds and their habitats.

RSPB Scotland does not object to the proposal but has some concerns that the Council and developer should address before the application is permitted.

This proposal is within the Beinn a' Chuallaich SSSI, designated for montane habitat (favourable maintained) and the vascular plant assemblage (unfavourable recovering). We note from the separate Ecology Chapter for the Environmental Statement that there could be permanent loss of qualifying feature habitats from within the SSSI.

Although RSPB Scotland does not hold any bird records for the site, we have been informed by the Tayside Raptor Study Group that Schedule 1 raptors, peregrine falcons, nest within 1km of the site. There is also potential for this development to have an impact on nationally and internationally important ground nesting bird species such as black grouse, merlin, hen harrier and various wader species due to the habitats on site.

We agree with the recommendations in section 6 of the Ecology Chapter, which we reiterate below.

## Recommendations

To address the issues above, we consider that additional information should be requested from the applicant.

Tayside & Fife Office  
Ground Floor  
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1 Whitefriars Crescent  
Perth  
PH2 0PA

Tel: 01738 630 783

[www.rspb.org.uk/scotland](http://www.rspb.org.uk/scotland)



Patron: Her Majesty the Queen Chairman of Council: Professor Steve Ormerod, FIEEM Chief Executive: Dr Mike Clarke  
Chairperson: Prof. Colin Galbraith Director, RSPB Scotland, Stuart Housden OBE Regional Director: Martin Auld  
The RSPB is a registered charity in England and Wales 207076, in Scotland SCO37654

### Bird surveys

As stated above, the proposal lies in an area of upland that is likely to have habitat suitable for ground breeding raptors. As recommended in the Ecology Chapter, the Tayside Raptor Study Group should be contacted to determine whether they have any up to date information on breeding locations in this area. In the event that breeding raptors are found in close proximity to the proposal then no construction work should take place during the breeding season (March to August) to avoid any unnecessary disturbance to breeding birds and ensure that the requirements of the Wildlife and Countryside Act are met.

The Ecology Chapter confirms that no breeding bird survey has been carried out as part of the assessment and recommends that such a survey should be carried out. We agree with this recommendation, to inform the identification of any necessary mitigation measures to avoid disturbance or displacement.

### SSSI impacts

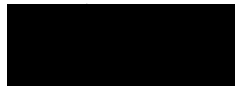
It is not clear from the Environmental Statement how impacts on the SSSI qualifying features will be mitigated. There is potential for permanent habitat loss through construction of the new quad track and burial of the penstock.

The Ecology Chapter states that there is currently insufficient information to fully determine the percentage of temporary or permanent loss of any habitat. RSPB Scotland agrees that more assessment should be carried out to ensure impacts are reduced to an acceptable level.

We also recommend that any permission granted should be subject to a condition requiring the submission and approval of a habitat management plan, detailing how any temporary or permanent habitat loss will be reinstated or replaced (e.g. dry heath, mire and flushes within the SSSI).

We hope you find these comments helpful. Should you wish to discuss any of the above please do not hesitate to contact me.

Yours sincerely,

A black rectangular box redacting the signature of Bea Ayling.

Bea Ayling  
Conservation Officer (maternity cover)  
[bea.ayling@rspb.org.uk](mailto:bea.ayling@rspb.org.uk)

Perth and Kinross Council  
Pullar House  
35 Kinnoull Street  
Perth  
PH1 5GD

If telephoning ask for:  
Diarmuid O'Connor

07 July 2016

By email only to: [DevelopmentManagement@pkc.gov.uk](mailto:DevelopmentManagement@pkc.gov.uk)

Dear Sir/Madam

**Planning application: 16/00823/FLL**  
**Installation of a hydro-electric scheme and associated works**  
**Drumchastle Hydro Scheme, Dunalastair**

Thank you for your consultation email which SEPA received on 22 June 2016.

We **object** to this planning application on the grounds of lack of information in respect of peat management, ecology and regarding the consentability of the proposal under SEPA's regulatory regime. We will review this objection if the issues detailed in Section 1, 2 and 3 below are adequately addressed.

We also ask that the planning **condition(s)** in Section 4 and 5 be attached to the consent. If will not be applied, then please consider this representation as an **objection**. Please also note the advice provided below.

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, which may take account of factors not considered at the planning application stage.

**Advice for the planning authority**

**1. The Water Environment (Controlled Activities)(Scotland) Regulations 2011 (CAR)**

- 1.1 All hydropower developments require authorisation under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) (as amended) for the abstractions, impounding works (weirs and dams) and any other engineering works associated with the scheme.

Continued....



Chairman  
Bob Downes

Chief Executive  
Terry A'Hearn

**Perth Strathearn House**

Broxden Business Park,  
Lamberkine Drive, Perth, PH1 1RX  
tel 01738 627989 fax 01738 630997

[www.sepa.org.uk](http://www.sepa.org.uk) • customer enquiries 03000 99 66 99

- 1.2 The applicant has already been granted a CAR licence (CAR/L/1134802) for the proposal on the 20 August 2015. However, it is noted that the outfall location in the submitted planning application to which this consultation relates differs to that of the CAR licence outfall location. Within the planning application the outfall location is located further downstream, below the road bridge. Within the Environment Statement it was stated that there would be approximately 60 meters of watercourse accessible to salmonids. It would therefore be preferable to maintain the outfall at the location within the granted CAR licence, upstream of the road bridge and above the limit of migratory fish. If the planning proposal outtake location is to be used and the depleted stretch increased, variation to the CAR licence would be required. The outfall tailrace should be designed so as not to attract upstream migrants. We therefore **object** to the proposal on the grounds of lack of information as currently applied for the proposal does not conform with the existing CAR licence and therefore not implementable if planning permission were granted. We therefore require the applicant to clarify how they propose to address this discrepancy.
- 1.3 In addition we would also highlight that it would appear that the NGR of the diversion intake in the Environmental Statement, Page8, appears to be incorrect and **confirmation** of its location is required.

## **2. Water Crossings**

- 2.1 Any watercourse crossings will require authorisation from us under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). Where a watercourses crossing cannot be avoided, bridging solutions or bottomless / arched culverts which do not affect the bed and banks of the watercourse should be used.
- 2.2 As outlined a CAR licence (CAR/L/1134802) has been granted for the proposal however the pipeline crossing was not part of this authorisation. We require further details of how the pipeline to going to cross the tributary of the Drumchastle Burn in order to determine the level of authorisation that this activity will need as well as to inform the local authority is potentially consentable under the referenced regulatory regime. We therefore **object** on the grounds of lack of information.
- 2.3 Further guidance on the design and implementation of crossings can be found in our [Construction of River Crossings Good Practice Guide](#). Other best practice guidance is also available within the water [engineering](#) section of our website.

## **3. Peat**

- 3.1 There are important waste management implications of measures to deal with surplus peat as set out within our Regulatory Position Statement – Developments on Peat. We consider disposal of significant depth of peat as being landfilled waste, and this may not be consentable under our regulatory regimes. It is therefore essential that the scope for minimising the extraction of peat is explored and alternative options identified that minimise risk in terms of carbon release, human health and environmental impact. An overall approach of minimisation of peatland disruption should be adopted.
- 3.2 Small areas of peat have been identified near the intakes and penstock but no details of type or quantities have been provided. Upper layer peat( acrotelmic) has the potential to be reused and peat produced on site should be re-used were possible within the development.

Continued....



However where reuse is not suitable, peat may be regarded as waste, meaning regulatory controls must be applied to its storage, treatment or disposal. Details of how peat, found within the development, will be dealt with should be provided including its storage and reinstatement. We therefore **object** on the grounds of lack of information in respect of peat management.

## 4. Ecology

- 4.1 As outlined in section 1 a CAR licence has already been obtained for the proposal, however, the location of the outfall has now been moved further downstream. Consultation with SEPA fish ecology specialists resulted in the decision that fish survey work would not be necessary. However, as the watercourse feeds into a brown trout fishery and may support migratory fish including salmon, it may be preferable to keep the outfall in its original location.

## Designations

- 4.2 The proposed scheme falls within Beinn a' Chuallaich SSSI which is designated for its vascular and montane plant assemblages. The site is important for its range of calcareous habitats which are of floristic importance, including flush mires, grasslands, base-rich heath and rock outcrops. SNH should be consulted on this proposal if not done so already.
- 4.3 Dunalastair Water is designated as part of the Tay SAC for Atlantic salmon and Lamprey species and is a SSSI for wetland and grassland fen, marsh and swamp habitats and bird species. During construction there will be a risk of pollution to these designated sites and appropriate mitigation set out in a CMS must be implemented to avoid this. SNH should be consulted with regards to the protection of designated species and habitats.

## GWDTE Comments

- 4.4 CG10 has been identified across much of the site, however, as it lies over limestone it is not considered to be a Groundwater Dependent Terrestrial Ecosystem (GWDTE) in this case. It is also unlikely that any deep areas of peat will be present within the site boundary given the nature of the vegetation, slope and underlying geology. However as a full peat survey has not been carried out, it must be outlined as requested in Section 3 as to how peat will be dealt with if it is found to be present.
- 4.5 The GWDTE's which have been identified on site are small areas of M10 and M15 within the CG10 mosaic. Although the exact location of these areas is not mapped, the detail of the habitats is highlighted through the NVC survey target notes. We require **clarification** as to whether the proposed tracks or trenches are at least 100m from these areas of GWDTE. It appears that some may be within 100m (target notes 11 and 15). Target note 17, highlighting an area of M15 mire, is not visible on the map at all. If nearer than 100m mitigation is required to maintain hydrological flows. If down slope of a sensitive habitat a 10m buffer zone is recommended. If avoidance of the identified GWDTEs through micro-siting is not possible, mitigation measures to maintain the functionality of wetlands and prevent structures from becoming preferential conduits of water should be secured as a **planning condition**. We therefore request that such mitigation measures are sought as a condition if permission is to be granted. The applicant should clarify the above position and we therefore **object** on the grounds of lack of information in respect of the protection of ecology.

Continued....

- 4.6 Where the pipeline trenches pass through or near sensitive GWDTE habitats, construction should include impermeable barriers and/or clay plugs to avoid the trench acting as a preferential conduit of groundwater.
- 4.7 All the identified areas of M10 flush and M15 mire (on the uppermost parts of the site between the east and west burns) should be marked out by an experienced Ecological Clerk of Works and avoided by machinery to prevent damage during construction works.

### **Construction of the proposal**

- 4.8 The Environmental Statement outlines that 'during construction each penstock will be excavated to an average depth of 900mm. Top soil will initially be removed and placed to the side of the route. The average width of the trench will be 750m.' We assume that the reference to 750m is simply a typo, we would ask the applicant to **clarify** this.
- 4.9 In addition, we recommend that the time between excavating and backfilling of individual sections of pipeline/cable trench is minimised. As a rule, we advise backfilling within three days to minimise drying and disturbance. With regard to the excavation of turf and arisings, these should be stock-piled on impervious sheeting, away from any watercourses and not on any wetlands, before being backfilled into the trench to prevent drying out. Turfs should be cut in a random fashion to prevent the surface, on reinstatement, becoming preferential pathways for water. Reinstatement should replace the soils in the original layering. Movement of vehicles across sensitive areas should be kept to a minimum (with further advice sought from SNH on the area within the SSSI). Such details should be included in the requested CEMP
- 4.10 Any areas identified as wetlands should not be used to treat contaminated water. It is recommended that an experienced Ecologist marks the sensitive areas for exclusion during the construction phase.

### **5. Construction Environmental Management Plans (CEMPs) and pollution prevention**

- 5.1 We would ask that a **condition** is attached to any planning permission granted, such that the CEMP is submitted for approval to the determining authority at least two months prior to the proposed commencement (or relevant phase) of development to order to provide consultees with sufficient time to assess the information.
- 5.2 The document should incorporate detailed pollution prevention and mitigation measures for all construction elements potentially capable of giving rise to pollution during all phases of construction, reinstatement after construction and final site decommissioning. It should also include any site specific Construction Method Statements provided by the contractor as required by the planning authority and statutory consultees. Certain techniques, which aren't necessarily covered within guidance, e.g. clean water cut off trenches, frequent use of staggered silt trap ponds along the road system etc can avoid problems arising in the first instance. The CEMP should also take due cognisance of our comments in relation to Ecology in preparation of the CEMP.

### **Detailed advice for the applicant**

Continued....

## **6. Construction Environmental Management Plan (CEMP)**

- 6.1 Please note that we have requested that a planning condition is attached to any consent requiring a detailed CEMP be submitted at least two months prior to the proposed commencement of development. The CEMP should incorporate detailed pollution prevention and mitigation measures for all construction elements potentially capable of giving rise to pollution during all phases of construction, reinstatement after construction and final site decommissioning.
- 6.2 Please also note that we will expect that a PMP to be submitted as part of the CEMP. Quantities of excavated peat against subsequent quantities that will be capable for appropriate re-use should be specified. Any peat which can not be appropriately re-used or managed on site must be identified and quantified and a methodology should be submitted regarding how this surplus will be managed. Disposal of surplus peat is classed as waste disposal and will require to be authorised under either the Waste Management Licensing (Scotland) Regulations 2011 or the Pollution Prevention and Control (Scotland) Regulations 2000.
- 6.3 The placement of surplus peat to borrow pits or bunds is not encouraged as experience has shown that peat used as cover can suffer from significant drying and oxidation. In addition, peat redeposited at depth can lose structure and create a hazard when the stability of the material deteriorates.
- 6.4 We would direct the applicant to the Scottish Renewables publication 'Guidance on the assessment of peat volumes, re-use of excavated peat and the minimisation of waste' for further information on our requirements. The document is available here at <http://www.scottishrenewables.com/publications/guidance-assessment-peat-volumes-reuse-excavated>

## **7. Construction Phase**

- 7.1 To avoid contamination of aquatic habitats it is imperative that during the construction phase silt and any other pollutants such as oils and concrete are not allowed to enter the watercourses, as they can cause significant ecological damage. Run-off of any contaminated water to drains or burns should be avoided by following carefully laid-out work procedures and following guidance provided in SEPA's Pollution Prevention Guidance which is available at [www.sepa.org.uk](http://www.sepa.org.uk). Timing of the construction phase should avoid periods of high rainfall to prevent siltation within the watercourses. Areas of wetland should not be used for the treatment of contaminated water.

## **8. Licensing issues**

- 8.1 As outlined above I would recommend that you liaise with my colleagues in the local operations team to ensure that all matters pertinent to the CAR licensing process are dealt with satisfactorily.

## **Regulatory advice for the applicant**

## **9. Regulatory requirements**

Continued....

- 9.1 Details of regulatory requirements and good practice advice for the applicant can be found on the [Regulations section](#) of our website. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the regulatory team in your local SEPA office at:

SEPA Perth, Strathearn House, Lamberkine Drive, Broxden Business Park, Perth, PH1 1RX. Tel: 01738627989.

If you have any queries relating to this letter, please contact me by telephone on 0131-2737361 or e-mail at [planning.se@sepa.org.uk](mailto:planning.se@sepa.org.uk)

Yours faithfully

Diarmuid O'Connor  
Senior Planning Officer  
Planning Service

ECopy to: Adrian Loening, Mor Hydro Ltd, [adrian@morhydro.com](mailto:adrian@morhydro.com)

*Disclaimer*

*This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at this time. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning or similar application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application or similar application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. For planning applications, if you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found on our [website planning pages](#).*

## Comments to the Development Quality Manager on a Planning Application

<b>Planning Application ref.</b>	16/00823/FLL	<b>Comments provided by</b>	E McMillan
<b>Service/Section</b>	TES - Flooding	<b>Contact Details</b>	
<b>Description of Proposal</b>	Installation of a hydro-electric scheme and associated works		
<b>Address of site</b>	Drumchastle Hydro Scheme Dunalastair for Allt Mor Hydro LLP		
<b>Comments on the proposal</b>	I have no objection to this application.		
<b>Recommended planning condition(s)</b>	<p>Should planning permission be granted the following condition should apply;</p> <p><b>Condition:</b> The developer shall ensure that during the construction of the development that all surface water is controlled, treated and discharged under the principles of SUDS all to the satisfaction of the Council as Flood Authority.</p> <p><b>Reason:</b> In the interests of best practice surface water management; to avoid undue risks to public safety and flood risk.</p>		
<b>Recommended informative(s) for applicant</b>			
<b>Date comments returned</b>	12/7/2016		





## Comments to the Development Quality Manager on a Planning Application

<b>Planning Application ref.</b>	16/00823/FLL	<b>Comments provided by</b>	Tony Maric Transport Planning Officer
<b>Service/Section</b>	Transport Planning	<b>Contact Details</b>	[REDACTED]
<b>Description of Proposal</b>	Installation of a hydro-electric scheme and associated works		
<b>Address of site</b>	Drumchastle Hydro Scheme Dunalastair		
<b>Comments on the proposal</b>	Insofar as the roads matters are concerned, I have no objections to this proposal.		
<b>Recommended planning condition(s)</b>			
<b>Recommended informative(s) for applicant</b>			
<b>Date comments returned</b>	13 July 2016		



# Memorandum

To	Development Quality Manager	From	Regulatory Service Manager
Your ref	16/00823/FLL	Our ref	MP
Date	18 July 2016	Tel No	

The Environment Service

Pullar House, 35 Kinnoull Street, Perth PH1 5GD

## **Consultation on an Application for Planning Permission RE Installation of a hydro-electric scheme and associated works Drumchastle Hydro Scheme Dunalastair for Allt Mor Hydro LLP**

I refer to your letter dated 22 June 2016 in connection with the above application and have the following comments to make.

### Recommendation

**I have no objection in principle to the application but recommend the under noted condition be included on any given consent.**

### Comments

This application introduces a hydro scheme with the powerhouse being located some 40 metres from residential receptors. I have some concerns with respect to noise as the turbines powering these schemes are very noisy. This can be mitigated by designing the power house in such a way as to minimise breakout. There are other hydro schemes in the area a similar distance from properties, and noise has never been proven to be an issue, therefore I can support this application subject to the application of the undernoted condition.

### Condition

All plant or equipment shall be so enclosed, attenuated and/or maintained such that any noise therefrom shall not exceed Noise Rating 25 between 0700 and 2300 hours daily, or Noise Rating 20 between 2300 and 0700 hours daily, within any neighbouring residential property, with all windows slightly open, when measured and/ or calculated and plotted on a rating curve chart.

### **PWS**

#### **Comments**

The development is for a small scale hydropower scheme in a rural area with private water supplies (including Dunalastair Drumchastle) believed to serve properties in the vicinity. The development will not require a drinking water supply. No detailed information regarding the location or protection of the private water supplies used by the properties in the vicinity is included in the environmental information which accompanies the application. Details of the proposed methods of alerting affected individuals as a result of a contamination issue arising from the development should be included along with alternative water supply arrangements. To maintain water quality and supply in the interests of residential amenity and ensure the

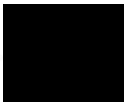
private water supply or septic drainage systems of neighbours of the development remain accessible for future maintenance please note the following condition and informative. No public objections relating to the water supply were noted at the date above.

### **Condition**

Prior to commencement of site works, details of the location and measures proposed for the safeguarding and continued operation, or replacement, of any septic tanks and soakaways / private water sources, private water supply storage facilities and/or private water supply pipes serving properties in the vicinity, sited within and running through the application site, shall be submitted to and approved in writing by the Council as Planning Authority. The approved protective or replacement measures shall be put in place before the site works commence and shall be so maintained throughout the period of construction.

### **Informative 1**

The applicant should ensure that any existing wayleaves for maintenance or repair to existing private water supply or septic drainage infrastructure in the development area are honoured throughout and after completion of the development.



## CHX Planning Local Review Body - Generic Email Account

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**From:** Ayling, Bea [REDACTED]  
**Sent:** 24 October 2016 10:58  
**To:** CHX Planning Local Review Body - Generic Email Account; Paige Crighton  
**Subject:** RE: TCP/11/16(443)  
**Attachments:** Drumchastle Hydro Scheme - RSPB comments.pdf

Dear Gillian,

Thank you for notifying RSPB Scotland of this application for a LRB review.

We submitted comments to PKC on 7<sup>th</sup> July about the original application as we had concerns about the proposal and its potential impacts on Schedule 1 birds (no bird surveys had been undertaken) and on the Beinn a' Chuallaich SSSI. Please find attached our original letter outlining these concerns in more detail. The information contained in the Notice of Review does not address the concerns and recommendations set out in our letter.

We therefore agree with the delegated decision of the planning authority that there is a lack of information to enable full assessment of the proposed development.

Kind regards,

**Bea Ayling** Conservation Officer (maternity cover)

**Tayside & Fife** Ground Floor, Robertson House, 1 Whitefriars Crescent, Perth PH2 0PA



[rspb.org.uk](http://rspb.org.uk)

**Let's give nature a home** in Scotland



RSPB Scotland is part of the RSPB, the country's largest nature conservation charity, inspiring everyone to give nature a home. Together with our partners, we protect threatened birds and wildlife so our towns, coast and countryside will teem with life once again. We play a leading role in BirdLife International, a worldwide partnership of nature conservation organisations.

The Royal Society for the Protection of Birds (RSPB) is a registered charity: England and Wales no. 207076, Scotland no. SC037654





By Email: [developmentmanagement@pkc.gov.uk](mailto:developmentmanagement@pkc.gov.uk)

7<sup>th</sup> July 2016

Dear John Russell,

**16/00823/FLL | Installation of a hydro-electric scheme and associated works | Drumchastle Hydro Scheme Dunalastair**

RSPB Scotland would like to provide comments on the above planning application.

We believe that climate change is the most serious long-term threat to wildlife in the UK and globally. Switching from fossil fuels to renewable energy sources is essential to reduce greenhouse gas emissions, which contribute significantly to climate change. However, RSPB Scotland considers renewable energy developments should be sited, designed and managed so as to avoid significant harm to birds and their habitats.

RSPB Scotland does not object to the proposal but has some concerns that the Council and developer should address before the application is permitted.

This proposal is within the Beinn a' Chuallaich SSSI, designated for montane habitat (favourable maintained) and the vascular plant assemblage (unfavourable recovering). We note from the separate Ecology Chapter for the Environmental Statement that there could be permanent loss of qualifying feature habitats from within the SSSI.

Although RSPB Scotland does not hold any bird records for the site, we have been informed by the Tayside Raptor Study Group that Schedule 1 raptors, peregrine falcons, nest within 1km of the site. There is also potential for this development to have an impact on nationally and internationally important ground nesting bird species such as black grouse, merlin, hen harrier and various wader species due to the habitats on site.

We agree with the recommendations in section 6 of the Ecology Chapter, which we reiterate below.

## Recommendations

To address the issues above, we consider that additional information should be requested from the applicant.

Tayside & Fife Office  
Ground Floor  
Robertson House  
1 Whitefriars Crescent  
Perth  
PH2 0PA

Tel: 01738 630 783

[www.rspb.org.uk/scotland](http://www.rspb.org.uk/scotland)



Patron: Her Majesty the Queen Chairman of Council: Professor Steve Ormerod, FIEEM Chief Executive: Dr Mike Clarke  
Chairperson: Prof. Colin Galbraith Director, RSPB Scotland, Stuart Housden OBE Regional Director: Martin Auld  
The RSPB is a registered charity in England and Wales 207076, in Scotland SCO37654

### Bird surveys

As stated above, the proposal lies in an area of upland that is likely to have habitat suitable for ground breeding raptors. As recommended in the Ecology Chapter, the Tayside Raptor Study Group should be contacted to determine whether they have any up to date information on breeding locations in this area. In the event that breeding raptors are found in close proximity to the proposal then no construction work should take place during the breeding season (March to August) to avoid any unnecessary disturbance to breeding birds and ensure that the requirements of the Wildlife and Countryside Act are met.

The Ecology Chapter confirms that no breeding bird survey has been carried out as part of the assessment and recommends that such a survey should be carried out. We agree with this recommendation, to inform the identification of any necessary mitigation measures to avoid disturbance or displacement.

### SSSI impacts

It is not clear from the Environmental Statement how impacts on the SSSI qualifying features will be mitigated. There is potential for permanent habitat loss through construction of the new quad track and burial of the penstock.

The Ecology Chapter states that there is currently insufficient information to fully determine the percentage of temporary or permanent loss of any habitat. RSPB Scotland agrees that more assessment should be carried out to ensure impacts are reduced to an acceptable level.

We also recommend that any permission granted should be subject to a condition requiring the submission and approval of a habitat management plan, detailing how any temporary or permanent habitat loss will be reinstated or replaced (e.g. dry heath, mire and flushes within the SSSI).

We hope you find these comments helpful. Should you wish to discuss any of the above please do not hesitate to contact me.

Yours sincerely,

Bea Ayling  
Conservation Officer (maternity cover)

Gillian Taylor  
The Atrium  
137 Glover Street  
Perth  
PH2 0LQ

2 November 2016  
Our ref: CNS/DC/P&K

Dear Ms Taylor,

**Installation of a hydro-electric scheme and associated works  
Drumchastle Hydro Scheme, Dunalastair  
Town and Country Planning (Schemes of Delegation & Local Review  
Procedure)(Scotland) Regulations 2013**

Thank you for your letter of 20 October 2016 notifying us that the above application will be considered by the Perth and Kinross Local Review Body.

You will be aware from our letter of 13 July 2016 that the proposed hydro scheme is located upstream of the River Tay SAC. We note that the reasons given for refusal include a lack of information on how the development could impact on the River Tay SAC. We therefore wish to clarify our position in relation to the SAC. We consider conditions would be necessary to ensure that the interests of the River SAC are protected. However, on the basis of the information provided with the application, we were able to reach the view that, with appropriate pollution control measures, impacts could be overcome.

In our response we advised that, provided the proposed construction environment management plan and construction method statement adequately set out the site specific measures necessary to minimise the risk of pollution during construction, in our view the proposal was unlikely to have a significant effect on any of the interests of SAC. We further advised that preparation and adherence to these documents must be attached to any planning permission. The developer's Environmental Statement set out that a construction method statement and a construction environment management plan would be provided.

Our letter of 13 July sets out the basis of our concerns in relation to potential impacts on the SSSI and NSA, which remain unchanged.

Scottish Natural Heritage, Inverdee House, Baxter Street, Torry, Aberdeen, AB11 9QA  
Tel: 01224 266500 Fax: 01224 895958 [www.snh.gov.uk](http://www.snh.gov.uk)

Dualchas Nàdair na h-Alba, Taigh Inbhir Dhè, Sràid Baxter, Torraidh, Obar Dheathain, AB11 9QA  
Fòn: 01224 266500 Facs: 01224 895958 [www.snh.gov.uk/gaelic](http://www.snh.gov.uk/gaelic)

Please let me know if you require any further information or advice from SNH in relation to this proposal.

Yours sincerely

**Gavin Clark**  
Operations Manager  
Tayside and Grampian

22<sup>nd</sup> November 2016

Gillian A Taylor  
Perth and Kinross Local Review Body  
Perth and Kinross Council  
2 High Street  
Perth  
PH1 5PH

Dear Ms Taylor,

**Town & Country Planning (Scotland) Act 1997**  
**The Town & Country Planning (Schemes of Delegation & Local Review**  
**Procedure) (Scotland) Regulations 2013**  
**Application Ref: 16/00823/FLL – Installation of a hydro-electric scheme and**  
**associated works at Drumchastle Hydro Scheme, Dunalastair – Allt Mor Hydro LLP**

Thank you for your letter of 10<sup>th</sup> November inviting further comment on the two attached documents from the RSPB and SNH in respect of the above scheme.

By way of background I would like to explain the typical development timescale of a small hydro schemes because I believe that this will help the Local Review Body understand the actions taken by developers to comply with environmental protection planning conditions;

Small hydro schemes often take several years between initial concept, planning and water (CAR) licences, finance, support mechanism (typically Feed in Tariff) registration, construction and grid connection. During that period there are frequently elements of redesign that are required as new, or previously unrecognised, environmental concerns are raised.

A typical scheme may be 18 months to 2 years in initial planning, including resource estimation and monitoring. This is then followed by a period of usually 1 year to 18 months for environmental studies, CAR licence and planning application. Following award of CAR licence and planning consents the project will enter a phase of financing and detailed design taking into account the conditions set in the planning consent and CAR licence. Typically this pre-construction phase will also last 1 year to 18 months accounting for typical restrictions contained in the CAR licence. Construction is then typically 9 to 12 months. The process can therefore last 5 years and sometimes longer.

All of the above assumes that a grid connection is available at the end of the development and construction process. If a grid connection is not available then the financing and construction period would necessarily be delayed such that its completion is commensurate with the availability of an export connection to the local distribution system.

During this development period environmental conditions and guidance can and frequently does change. Both SEPA and the planning authorities account for this possibility by the inclusion of conditions attached to the CAR Licence and the planning consent which should allow the development of an agreed detailed design, construction method statements and environmental protection plans which meet the standards not at the date of consents but at the date that construction commences.

Dealing with the specific comments of the two consultees;

The RSPB require that a ground nesting raptor study is accrued out and that the extent of the ground likely to be disturbed by access tracks is defined. In addition a requirement to define under the environmental management plan how temporary or permanent habitat loss will be re-instated.

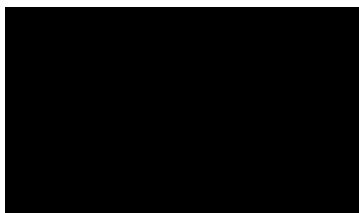
In response: **The project developers suggest that these terms be included as a condition of the planning consent, there being little point in surveying for ground nesting birds several years prior to potential ground disturbance and before detailed designs are available. The submitted environmental statement clearly defines that no new tracks are required, but that some temporary track will be needed to access the intake areas during construction. The exact location of these temporary tracks may require ‘micro-siting’ following nesting bird surveys and the restoration will therefore depend on the terrain encountered along final agreed routes.**

The SNH response requires that “proposed construction environment management plan and construction method statement adequately set out the site specific measures necessary to minimise the risk of pollution during construction” but that the proposal would be “unlikely to have a significant effect on any of the interests of SAC” if such plans were agreed.

In response: **The project developer is fully aware of the need for a robust construction and environmental management plan. This again requires that up to date surveys are taken such as to minimise the time between survey and construction. The development of such construction and environmental management plans is a normal part of the pre-construction phase of hydro development and can be adequately dealt with through planning conditions applied to any granted consent.**

I trust that this fully conveys the position of Allt Mor Hydro LLP as developer of this project and adequately addresses the concerns of the consultees.

Yours sincerely

A large black rectangular box redacting the signature of Adrian Loening.

Adrian Loening  
Director.