

Form WRE: Application for a new impoundment licence, technical variation to an impoundment licence or the removal of an existing impoundment

Water Resources Act 1991, Environment Act 1995, The Water Resources (Abstraction and Impoundment) Regulations 2006, The Natural Resources Body for Wales (Functions) Order 2012

1. Application type

New impoundment licence ☐

Removal of an existing impoundment ☒

To licence an existing impoundment ☐

Technical variation to an impoundment licence ☐

Give existing licence or pre- application reference number(s)

Complete sections 2 and 4

2. Impoundment details

All information should correspond with any maps and drawings submitted with this application

2.1 Provide details of all impoundment points. For structures spanning a watercourse, provide a National Grid Reference for each bank. If necessary, continue on a separate sheet and tick here to show that you have done this. ☒

Impoundment location name / reference	National Grid Reference for each bank, looking downstream (12 digit)	
	Left bank	Right bank
Prince Llewelyn Reservoir	SH 742690 530739	SH 742685 530353

2.2 Please provide a full description of the impoundment, outlining its purpose and how it will operate. If this information is detailed in a supporting document, provide the document title or reference in the space below.

If necessary, continue on a separate sheet and tick here to show that you have done this. ☐

Prince Llewelyn is a small reservoir owned by Natural Resource Wales (NRW). The total capacity of the reservoir is 5,477m³. NRW consider it to be a priority asset based on both its current condition and proximity to residential properties and a major road, with the potential for loss of life in the event of a breach. Therefore, NRW has taken the decision to decommission the reservoir to significantly reduce their future liability.

The dam is an embankment is 5.8m at greatest height, spanning 39m in length with a 4m crest width. There is an additional 1m shelf on the upstream face that is one meter lower than the main crest.

Concerns about the dam safety were raised. Because of these concerns, NRW have decided to decommission the embankment and reduce their ongoing future liability, together with lower requirements for maintenance.

The works described in the drawings package attached are to be carried out. It is proposed to decommission (so that the asset is no longer deemed to be a reservoir) Prince Llewelyn Reservoir by creating a notch 3.1m below the current crest level. This will significantly improve the safety of the structure whilst ensuring the minimal variation to the downstream waterbody.

It is proposed to carry out dewatering of the reservoir during the construction phase. The construction phase is envisaged to occur between August and October. Therefore, there will be abstraction of water from the watercourse, which is then returned to the water body 20-30m downstream. Abstraction rates will therefore rely on the experienced inflows during this period.

3. Description of impoundment

3.1 Name of watercourse

Unnamed (A tributary to the Afon Lledr)

3.2 Will your proposed impoundment result in a change to the wetted perimeter (downstream) or new submerged areas behind (upstream of) the impounding works?

No ☐ Yes ☒ If yes, ensure this is shown on any map or drawings submitted

3.3 Will the ponded area created by the impoundment be lined?

No

☒

Yes

☐

If yes, give details.

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3.4 Give the height of the impoundment structure, from the downstream toe to crest or top of spillway (in metres above Ordnance Datum). If the proposal involves an existing impoundment, state the change in height (in millimetres).

Current Spillway – 196.00mAOD (5.38m in height at maximum)

Proposed – 193.30mAOD (2.68m in height at maximum)

Change in height = -2700mm

3.5 What is the overflow or crest level of the impoundment (in metres above Ordnance Datum)?

Current Crest Level – 196.4mAOD

Proposed Crest Level – 196.4mAOD

3.6 What is the proposed capacity of the impoundment when full to spillway level (in cubic metres)?

Current Capacity = 5477m³

Proposed Capacity = 311m³

3.7 Will the proposal create a raised reservoir?

No

☒

Yes

☐

3.8 Does the proposal involve the controlled release of water to safeguard downstream flows? No ☒ Yes ☐ If yes, provide details

There will be minimum attenuation of the flow. Therefore, the outflow of the reservoir will correlate with the experienced inflows. There will be no changes to the hydrological flows entering and exiting the reservoir on completion of the project.

3.9 Is the impounded water to be used for a subsequent purpose? No

☒

Yes

☐

If yes, provide details (for abstractions, state the daily and annual quantities in cubic metres).

3.10 How will the impounded area be filled initially, and subsequently refilled if applicable?

There is currently, and will continue to be after the proposed works, no active controls in place for filling and refilling the impounded area. The only way the reservoir will be filled will be through natural means, such as rainfall and via groundwater, exactly the same as to what is already there. Given that this impounded area serves no purpose other than to maintain an existing ecology, the level of the reservoir is not critical.

4. Fish and eel passage

4.1 Confirm the fish species present at your site.

There is no fish passage up or downstream at present, the completed works will retain a similar ecosystem. An NRW Fisheries officer Richard Pierce has been consulted on this application, does not foresee there to be any issues with regards to the scheme.

4.2 Complete the table below with full details of the measures you intend to take to safeguard these fish species.

	Intake	Outfall
Type of fish screen	None required	None Required
Screen aperture size (mm)	N/a	N/a
Screen height and width (mm)	N/a	N/a
Type of upstream fish passage	N/a	
Proposed flow for fish pass (m/s)	N/a	
Type of downstream fish passage	N/a	

5. Construction, maintenance and operation

5.1 Provide details of maintenance or activities relating to the operation of the impoundment. If necessary, continue on a separate sheet and tick here to show that you have done this. ☐

The objective is to decommission the dam. The variation to the impoundment has been designed in order to reduce the liability to NRW. Therefore, it is predicted that there is a minimal requirement for the maintenance of the structure.

Maintenance activities will include:

- Re-mortaring of the masonry where applicable;
- Replacement/repositioning of fallen masonry.

5.2 Provide details of diversion works or removal of existing works.

There are no permanent diversion works or removal of existing works.

6. Planning application

Have you sought advice on your planning application?

No ☐ Yes ☒

If yes, submit a copy of the Planning Authority's response. We have applied for permitted development.

7. Declaration

Please see Guidance Note WRX for details of who can sign this section and note the information in that document relating to the Data Protection Act 1998.

By signing below, you are declaring that as far as you know and believe the information given in this form, on any map and in any supporting or additional information, is true.



Signed

SIAN WILLIAMS

Print name

HEAD OF OPERATIONS, NORTH WEST

Position

4th MAY 2020

Date

Application Checklist

Please tick the following checklist items to indicate that you have included the required information. If any sections of the form are left blank and no supporting information submitted, where we have insufficient information to make a decision on your application, we will return your application to you.

Essential:

Form WRA completed, if there have been any changes since pre-application an updated Form WRA is required ☒

Map with all impoundment points and new wetted perimeters/submerged areas clearly marked ☒

Drawings and Design Statement ☒

State number of continuation sheets (enter 0 if none included)

Where relevant:

Form WRD completed, if your proposal also requires an abstraction licence ☐

Stage 1 photo survey (contact us for more details on this requirement) ☐

Letter of authorisation from the applicant, allowing an agent to act as signatory ☐

Further information requested in our pre-application response letter to you ☒

Planning Authority response, where available ☐

Additional supporting information - please list below:

1. Completed WRE form
2. WFD Screening Document
3. Drawing Prince Llewelyn Reservoir NRW Land Ownership
4. Drawing 10035306-ARC-XX-XX-DS-RE-0002-P04 Design Philosophy
5. Drawing 10035306-ARC-XX-XX-DR-RE-0018-P01 Wetted Perimeter

6. Drawing 10035306-ARC-DR-RE-0008-P02 Spillway Details
7. Drawing 10035306-ARC-DR-RE-0007-P02 Long Sections
8. Drawing 10035306-ARC-DR-RE-0006-P02 Dam Cross Sections
9. Email from NRW Water Resources Permitting Team – titled Prince Llewelyn – Impoundment Licence Application extras. Noting changes from initial version submitted and changes that have been noted for version 2.
10. Photos of Prince Llewelyn were shared with Jennifer Pocock via the Sharefile – file name Prince Llewelyn Impoundment licence https://cyfoethnaturiolcymru-my.sharepoint.com/:f/g/personal/jo_parkinson_cyfoethnaturiolcymru_gov_uk/EphctCFEQkJPpadEpo0PcrABdbdwehtTaALZNL_DQR-jMg?e=3i8PAs
11. Drawing 10035306-ARC-XX-XX-DR-RE-0022-P01-Spillway Overview