

Water Industry Act 1991 - Section 166 Consent to Discharge

Discharges by Water Undertakers in pursuance of their duties to supply water

If in England please send below;

To: The Environment Agency	
Email: PSC.Sheffield1.NE@environment-agency.gov.uk	Office Use Only
	Application No:
	Date Received:

If in Wales please send below;

To: Natural Resources Wales	
Email: permitreceiptcentre@naturalresourceswales.gov.uk	Office Use Only
	Application No:
	Date Received:

FAO Water Quality Team

Registered address:

Dwr Cymru
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Correspondence address:

FAO:	Gemma Morris
Contact Name:	Gemma Morris
Address	Denbigh Depot, Spencer Trading Estate, Rhyl Road, Denbigh, LL16 5TQ
Tel:	07881017230
Email:	gemma.morris@dwrcymru.com

Site Address to which this application applies:	Llyn Anafon, above Abergwyngregyn NGR: SH 69940 69933
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On behalf of Dwr Cymru Cyfyngedig I hereby apply for a consent to make a discharge of effluent under the provisions of;

- Section 166(3) (b) of the Water Industry Act 1991

Plan to accompany the application is included. Please refer all inquiries on this application to me at the address provided.

Signed: *C. Thorpe*

Print Name: CHRISTINE THORPE

On behalf of: Dwr Cymru Cyfyngedig

Date: 16th January 2020

1) Discharge

- a) National Grid Reference: SH 69940 69933
 - i) Discharge Point: Low Level Outlet
 - ii) Sample Point: Low Level Outlet
- b) Pipe Diameter (mm): 450mm
- c) Volume
 - i) Total Volume to be Discharged: This is not possible to provide, as it will depend on the weather. The frequency of the discharge will be continuous (as the current spillway operates, as the reservoir is always at Top Water Level)
 - ii) Total Daily Volume: 51,840 cubic metres / day
 - iii) Rate of Discharge: 0.6m³/second

2) Application Type

A discharge under S166 (3)(b)	
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3) State Name of Receiving Water Course:

Afon Anafon

4) Nature of Work To Be Carried Out:

The proposed work will essentially turn the existing valve tower into a spillway. It is proposed to gradually lower the level of the reservoir by gradually lowering the tower. This will be done by modifying the tower with stop logs, which will be removed over a period of 5-10 years.

At the moment, there is a wet well type masonry-faced reinforced concrete valve tower about 30m upstream of the dam crest. A 375mm dia. valve discharges water from the reservoir into the bottom of the valve tower. The 375mm dia. scour main runs from the downstream side of the base of the tower under the base of the dam, to a point below the dam. Thereafter, it splits into the 150mm dia supply main to Llanfairfechan (now disused) and a 375mm dia scour branch that discharges into the Anafon watercourse. The scour valve is currently tested twice per year with a maximum flow of 0.35m³/s.

The proposed work will involve gradually lowering the reservoir by 1.44m below the existing top water level; this will be carried out over a 5-10 year period. To do this the existing valve tower will be modified to function as an adjustable spillway. This will involve lowering the valve tower walls to 1.44m below the top water level, and installing a new frame including weir stoplogs which will be used to control the reservoir level. The stop logs will be gradually removed in layers over a period of 5-10 years.

The water from the new valve tower will continue to be discharged at the same location via the scour pipe. The maximum flow will be 0.6m³/s, with the normal flow Q50 being 0.07m³/s. Since the new tower will be acting as a new spillway, the flow will be continuous (as the current spillway is) apart from prolonged dry periods, for a period of between 5 and 10 years.

5) Nature of Resulting Discharge

The existing scour valve is tested on a six monthly basis under the requirements of the Reservoir Act 1975. This helps to ensure that there isn't a large build up of silt behind the pipework. The existing scour valve has a maximum discharge of approximately 0.35m³/s.

Impounding Reservoir discharge through pipe greater than 229mm diameter

DSF 008

The new discharge will run continuously, as the spillway does. However, instead of discharging into the channel via the spillway structure, the flow will discharge into the channel via a pipe.

7) Duration Of Discharge

Start Date :	September 2020	End Date :	5-10 years from start date
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8) Mitigating Measures

- The proposal is expected to have a positive impact in terms of silt as flows will only be discharged from the top water level. Flows will also be continuous.
- Suitable barriers will be put in place around the modified valve tower to ensure debris is kept to a minimum.

9) Other Relevant Information

- Drawings of the proposed works are provided to accompany this application.

10) Attach plan/map showing location of reservoir and washout to water course:

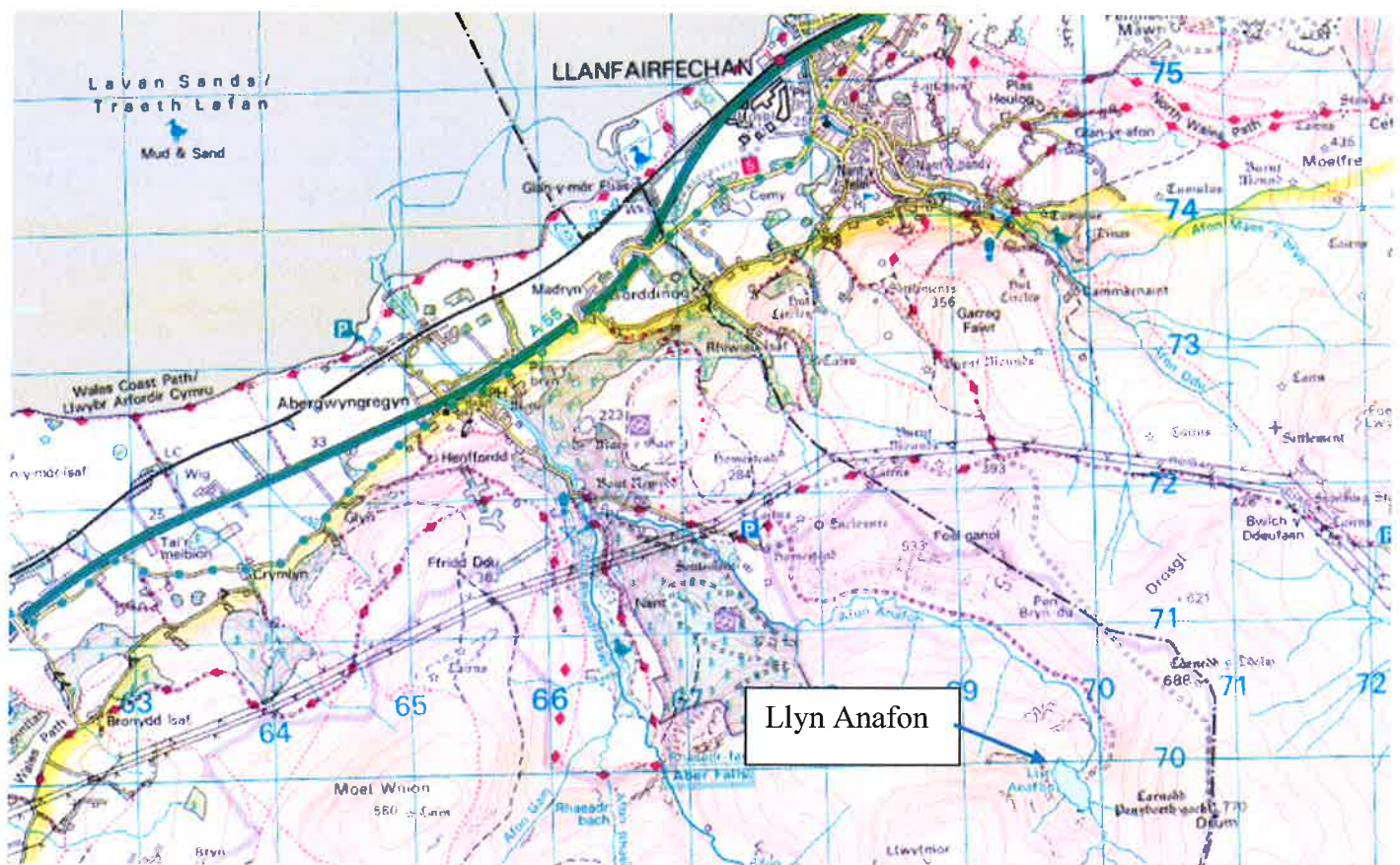


Figure 1 - Site location

Figure 2 - location map of site with where flows will enter stream.

