

Natural Resources Wales Permitting decisions

Refusal

We have decided to refuse the variation of the environmental permit for discharge of 17.5m³/day of secondary treated sewage effluent from Maenan Abbey Caravan Park operated by Thornley Leisure (Maenan) Limited.

The applicant is Thornley Leisure (Maenan) Limited.

The proposed facility location is Maenan Abbey Caravan Park, Maenan, Llanrwst LL26 0UL.

The application was to vary the discharge location from NGR SH 78597 65625 (Point A please refer to map) to NGR SH 78860 65711 (Point B). The reason given for the proposed change in discharge point is that the operator has not reached agreement with the neighbouring landowner in order to lay the drainage infrastructure in the adjacent field to connect to the current permitted discharge point at SH 78597 65625.

Water quality modelling was used to derive an environmentally protective ammonia limit which was calculated to be 10mg/l. After numerous discussions with the Agent and Operator, it was stated in an email from the Operator to the Environment Team Leader dated the 20th September 2021, that the Operator will not be able to and therefore is not willing to comply with the limit of 10mg/l of ammonia so therefore the application to vary the permit is refused.

We have taken into account all relevant considerations and legal requirements, and based on all the evidence received, we have decided to refuse the variation for Maenan Abbey Caravan Park operated by Thornley Leisure (Maenan) Limited.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

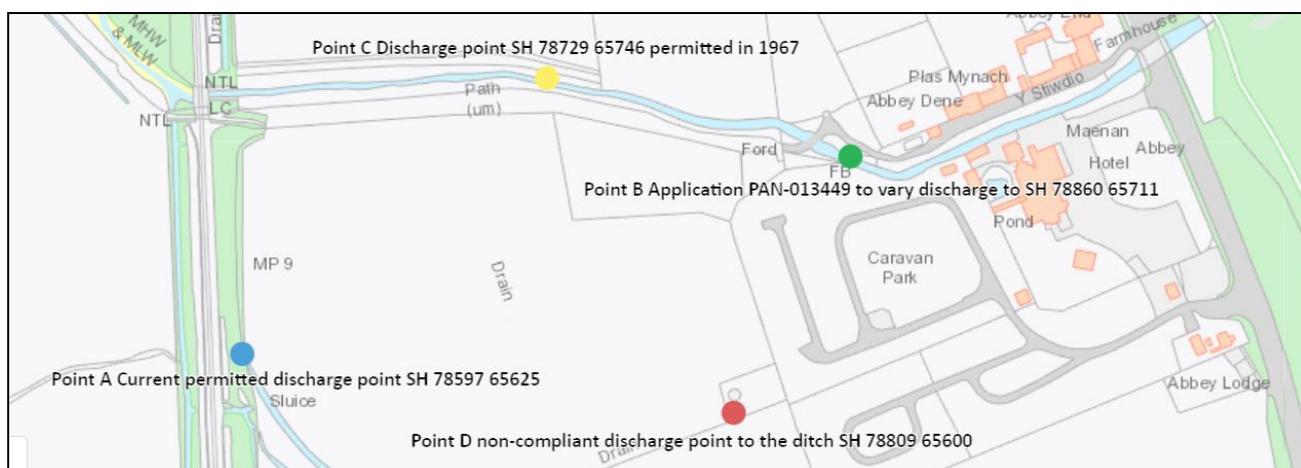
Structure of this document

- Annex 1 the Key Issues and reasons for refusal
- Annex 2 consultation responses

Annex 1 the Key Issues and reasons for refusal

History of the site

The site has a long and varied history. An existing permit had been in place since 1967 (Ref. CG00702-01) (“the permit”). The permit regulated a discharge from the caravan park to surface water at Maenan stream which is approximately situated at national grid reference NGR SH 78729 65746 (Point C). (No NGR is stated on the original permit but a detailed description is provided.) In reality, the site has been discharging at NGR SH 78809 65600 (Point D) certainly since transfer of the permit to Thornley Leisure (Maenan) Ltd in 1996 and probably since the date the permit was issued in 1967. Accordingly, the operator had been non-compliant with the permit since taking transfer in 1996, and it is likely the discharge activity from the site had been carried out by others in a non-compliant manner since issue in 1967.



An application was received on 17th September 2019 to vary the permitted discharge point in the permit for Maenan Abbey Caravan Park to the location at NGR SH 78809 65600 (Point D) i.e. the discharge point that was currently being used by the operator. The discharge activity consists of treated sewage effluent from a package treatment plant serving the caravan park. This application was refused on the 18th December 2019 due to unacceptable impact on the proposed receiving environment which was a seasonally dry ditch with no flow.

A variation application was received and duly made on the 19th March 2020. The proposed discharge application was to vary the discharge location NGR SH 78809 65600 (point D) to NGR SH 78597 65625 (Point A). The applicant had verbal permission from the landowner to lay drainage infrastructure in the adjacent field to discharge at the proposed NGR. The permit was issued on the 18th May 2020.

On the 11th March 2021 NRW received a further variation application to change the discharge point as the operator was unable to reach agreement with the neighbouring landowner in order to lay the drainage infrastructure in the adjacent field to connect to the current discharge point at SH 78597 65625. The operator applied to move the discharge point to the Maenan stream NGR SH 78860 65711 (Point B).

Determination Decision

Water quality modelling was used to derive an environmentally protective ammonia limit which was calculated to be 10mg/l as a maximum. This limit was determined from modelling (detailed below) and is necessary to protect the environment at the proposed discharge location.

The permit was drafted and included a condition that the 10mg/l of ammonia limit would be effective from 1st May 2022. This would allow the Operator a reasonable period of time to make the necessary improvements to the package treatment plant whether that be to upgrade the treatment plant or install a new treatment plant to achieve compliance with this permit condition. The draft permit was sent to the Agent on 24th August 2021. After numerous discussions with the Agent and Operator, it was stated in an email from the Operator to the Environment Team Leader dated the 20th September 2021, that the Operator will not be able to and therefore is not willing to comply with the limit of 10mg/l of ammonia so therefore the application to vary the permit is refused.

How We Reached Our Decision

The Maenan stream - the watercourse to which the Operator applied to discharge to at NGR SH 78860 65711 (Point B)- is not a designated Water Framework Directive stretch however the stream enters the River Conwy approximately 420m downstream which is designated under Water Framework Directive as having high status. The classification is based on parameters including physicochemical, hydromorphological and ecological (including fish).

The current package treatment plant can achieve limits of 20mg/l of ammonia and 20mg/l of BOD. In order to inform our decision, river modelling was undertaken to assess the potential impact of the proposed discharge on the receiving watercourse, taking into account the level of treatment that the package plant provides. This was done using River Quality Planning 2.6 software (also called Monte Carlo) as described in guidance document H1

Annex D2 – Assessment of sanitary and other pollutants within Surface Water Discharges.

The river modelling was undertaken to calculate the impact that the proposed discharge would have on the existing concentrations of ammonia and Biochemical Oxygen Demand (BOD) downstream of the proposed discharge point. The Maenan stream is not a designated WFD stretch, however the River Conwy to which the Maenan stream enters is a designated WFD stretch and is classed as High. Therefore the modelling for the Maenan stream was undertaken using mid-class data for High.

Hydrology data requested by the NRW Permitting Service shows that the mean flow at the proposed discharge point is 14515m³/day (168l/s) and at Q95 (5% exceedance flow) the mean flow is 1468m³/day (17l/s). Using the flow data for the Maenan stream, the model found that based on the effluent quality of the package treatment plant of 20mg/l of BOD, there would be a 0.66% deterioration in the 90%ile quality of BOD in the watercourse which was acceptable. With regard to ammonia, the model found that based on the effluent quality of the package treatment plant of 20mg/l of ammonia, there would be a 30% deterioration in the 90%ile quality of ammonia in the watercourse which is unacceptable.

In many cases and in line with our policy and guidance, we can allow up to a 10% deterioration in the receiving watercourse for each physicochemical element provided that this will not cause a deterioration beyond the class limit. The model was re-run using a 'backward calculation' whereby a target that is needed to be met is inputted into the model. In this case, the target was a 10% deterioration in the 90%ile quality of ammonia. The model then calculates a maximum limit that needs to be met allowing for this 10% deterioration. Using the River Quality Planning 2.6 software, the model found that a 10% deterioration in the 90% quality of ammonia, a limit of 10mg/l would be permissible and would not cause a deterioration beyond the class limit of high.

Legal Framework

- Environmental Permitting Regulations 2016
- Salmon and Freshwater Fisheries Act 1975
- Directive 2000/60/EC establishing a framework for Community action in the field of water policy ("Water Framework Directive 2000"); the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

Summary and Conclusion:

In summary, we have decided to refuse this application for the following reason:

We have determined from modelling using River Quality Planning 2.6 software in accordance with NRW guidance document H1 Annex D2 – Assessment of sanitary and other pollutants within Surface Water Discharges that a limit of 10mg/l for ammonia is necessary at the proposed discharge point.

The Operator has stated that they will not be able to and therefore is not willing to comply with the limit of 10mg/l of ammonia and therefore the permit is refused.

Annex 2

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process. (Newspaper advertising is only carried out for certain application types, in line with our guidance.)

Response received from
External representee 1 and External representee 2
Brief summary of issues raised
<p>The following issues raised are relevant to any considerations that we may have during the Water Quality Permitting process and are addressed below.</p> <ul style="list-style-type: none">• Limited or no dilution in the Maenan stream during the summer months. There is a diversion of the stream immediately downstream of the A470 and reconverges with the stream past the hotel• There are protected species within the stream• Public footpath nearby and there may be public health issues if the permit is granted• Potential health hazard and smell
Summary of actions taken or show how this has been covered
<p>Hydrology data was obtained for input into the River Quality Planning 2.6 software. The mean flow in the Maenan stream at the proposed discharge point is 14515m³/day (168l/s) and at Q95 (5% exceedance flow) the mean flow is 1468m³/day (17l/s). This data demonstrates that there is still sufficient flow in the watercourse during extended low flow periods.</p> <p>Atlantic Salmon are protected under the Salmon and Freshwater Fisheries and Act 1975 and are present within Maenan stream. Conversations with the Fisheries Officers in Natural Resources Wales confirm that should the flow in the Maenan stream start to reduce, the salmon would migrate downstream to the River Conwy. Historically there was a deep pool within the stream where salmon would become trapped but due to recent storm events, the pool is no longer there making the channel more navigable for the fish. In addition, the water quality modelling has shown that under the Water Framework Directive, 10mg/l of ammonia would be protective of high status which takes into account the ecological aspects of the catchment.</p> <p>Our overall purpose is to ensure that the environment and natural resources of Wales are sustainably maintained, enhanced and used, now and in the future. When considering the amenity value of a stream and any effects that a discharge may have we would take into account any effect on water quality which has a serious effect on the quality or use of that water including persistent and significant impacts on fish, the discharge of hazardous substances, the risk to human health in terms of recreation including EC protected bathing waters and other major water use for recreational events. Water quality modelling has shown that a limit of 10mg/l of ammonia and</p>

20mg/l of BOD would be environmentally protective. The stream is not a designated bathing water and conditions that would be included on the permit including the requirement for the Operator to have a robust management system in place to ensure the package plant is operating satisfactorily at all times ensures minimal risk to the receiving environment.

External Consultation
Cadw
Brief summary of issues raised
Cadw were consulted with on the 14 th April 2021. No response was received.
Summary of actions taken or show how this has been covered
N/A