

Job No: 4135-1

Project: Pen Y Don, new specialist care facility building at Pendine Park, Greenfield Road, Wrexham, for Pendine Park Care Organisation, to compliment and improve the existing care facilities on site

Date: 19th January 2022

REVIEW OF NATIONAL RESOURCES WALES (NRW) PRE-APPLICATION CONSULTATION RESPONSE DATED 22 NOVEMBER 2021 – REFERENCE CAS-173142-V6W7, and DWR CYMRU WELSH WATER PRE-APPLICATION CONSULTATION RESPONSE DATED 19 NOVEMBER 2021 REFERENCE PPA0006210

In relation to Foul water drainage, the NRW response stated :-

Foul Drainage

We note the site is within the catchment of the River Dee and Bala Lake Special Area of Conservation (SAC). As you are aware, on the 21st January 2021, we published an evidence package outlining phosphorus levels for all river SACs across Wales. As part of this package, we issued a [Planning Position Statement](#), in which we advised that any proposed development that might increase the amount of phosphate (or phosphorus) within a river SAC catchment could lead to damaging effects to the SAC. Therefore, such proposals should be screened through a Habitats Regulations Assessment (HRA), to determine whether they are likely to have a significant effect on the SAC.

The suitability of foul drainage arrangements for the proposed development is a matter for the LPA to determine. We therefore advise that as part of any future planning application submission, you provide the LPA with sufficient details of the proposed method of foul drainage to inform their HRA.

For further information, please refer to the [Planning Advice](#) (May 2021) on our website.

The consideration of potential increases to phosphate levels in certain rivers (in this case the River Dee) relates solely to Foul Water discharges. It does not relate to surface water.

The detailed drainage proposals submitted as part of the Pre-Application Consultation pack are for the foul drainage from the proposed new care building (Pen Y Don) to connect into the existing foul drainage system on site at Pendine Park. This is a fully designed foul drainage proposal including reports, and is to a for-construction level of detail which is sufficient for consideration by the Planning Authority and Building Control.

Regarding the NRW's point on HRA Screening the site is within the catchment area of the river Dee & Bala lake SAC (UK0030252).

Gov.UK guidance for HRA Assessment has 3 stages;

1. Screening - to check if the proposal is likely to have a significant effect on the site's conservation objectives. If not, you do not need to go through the appropriate assessment or derogation stages.

2. Appropriate assessment - to assess the likely significant effects of the proposal in more detail and identify ways to avoid or minimise any effects.

3. Derogation - to consider if proposals that would have an adverse effect on a European site qualify for an exemption.

In the case of this application, the point being made by the NRW is to assess whether the proposals have a detrimental effect on the SAC by worsening the levels of Phosphates in the River Dee and Bala Lake. The guidance uses the term “significant effect” on the SAC.

Although the proposed development site is within the catchment area of the River Dee & Bala Lake SAC, it is at a significant distance from both of the primary water bodies.

The proposed site is 8.6Km from the River Dee and 42.25Km from Bala Lake.



The foul water outflow from the development is 'domestic' in nature, a matter identified in the Pre-Consultation response received from Dwr Cymru Welsh Water (DCWW) in their formal response dated 19th November 2021 reference PPA0006210.

DCWW have no objections to the proposed development.



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Date: 19/11/2021
Our Ref: PPA0006210

Dear Sir/Madam,

Site Address: Penfine Park, Summerhill, Wrexham
Development: 2D:Develop an Extra Care Facility

I refer to your pre-planning enquiry received relating to the above site, seeking our views on the capacity of our network of assets and infrastructure to accommodate your proposed development. Having reviewed the details submitted I can provide the following comments which should be taken into account within any future planning application for the development.

I refer to the Schedule 1C - Article 2D notice received and your formal request for a pre-application consultation response before applying for planning permission from Dwr Cymru Welsh Water as a 'Specialist Consultee' as defined by Paragraph (y) of Schedule 4 of the Town & Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016. It is acknowledged that the consultation request relates to a major development site and thus seeks a substantive response within 28 days from the date of the notice, 29th October 2021, as per the requirements of Article 2E. This request includes our views on the capacity of our network of assets and infrastructure to accommodate your proposed development.

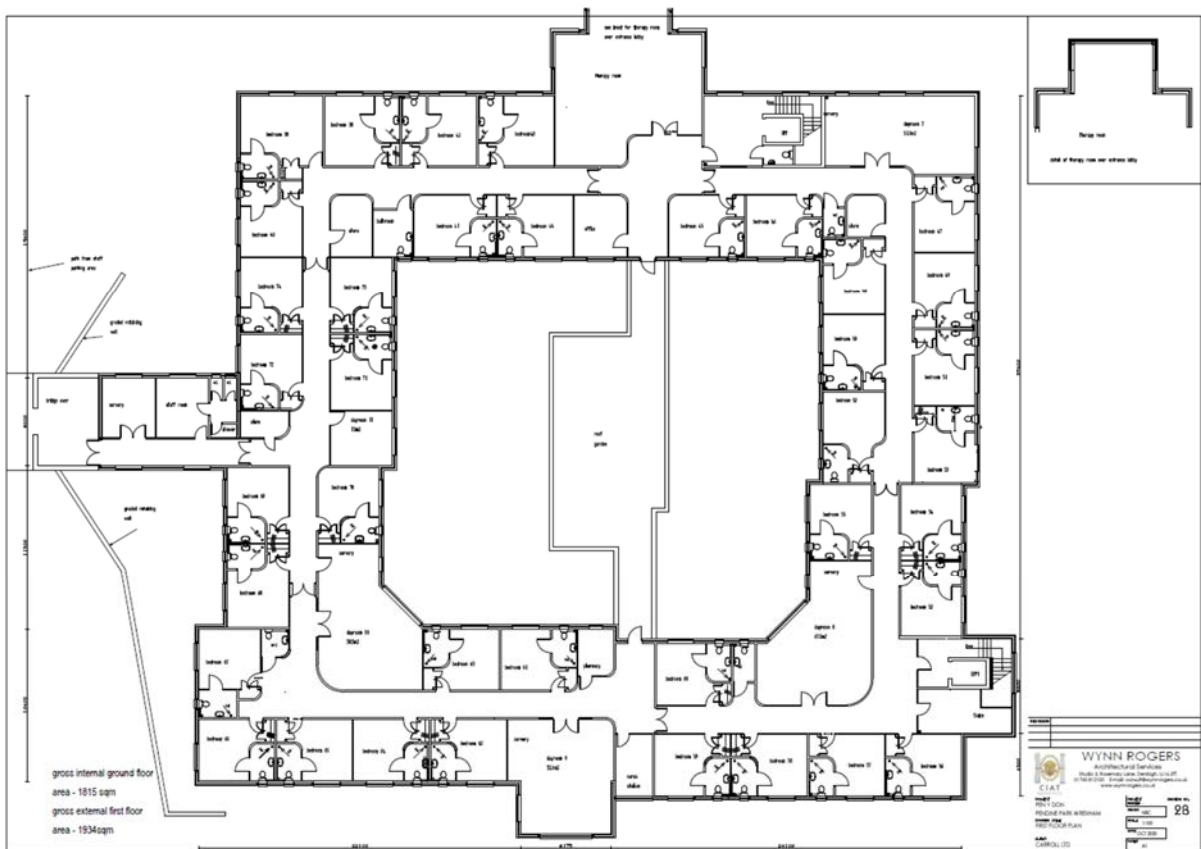
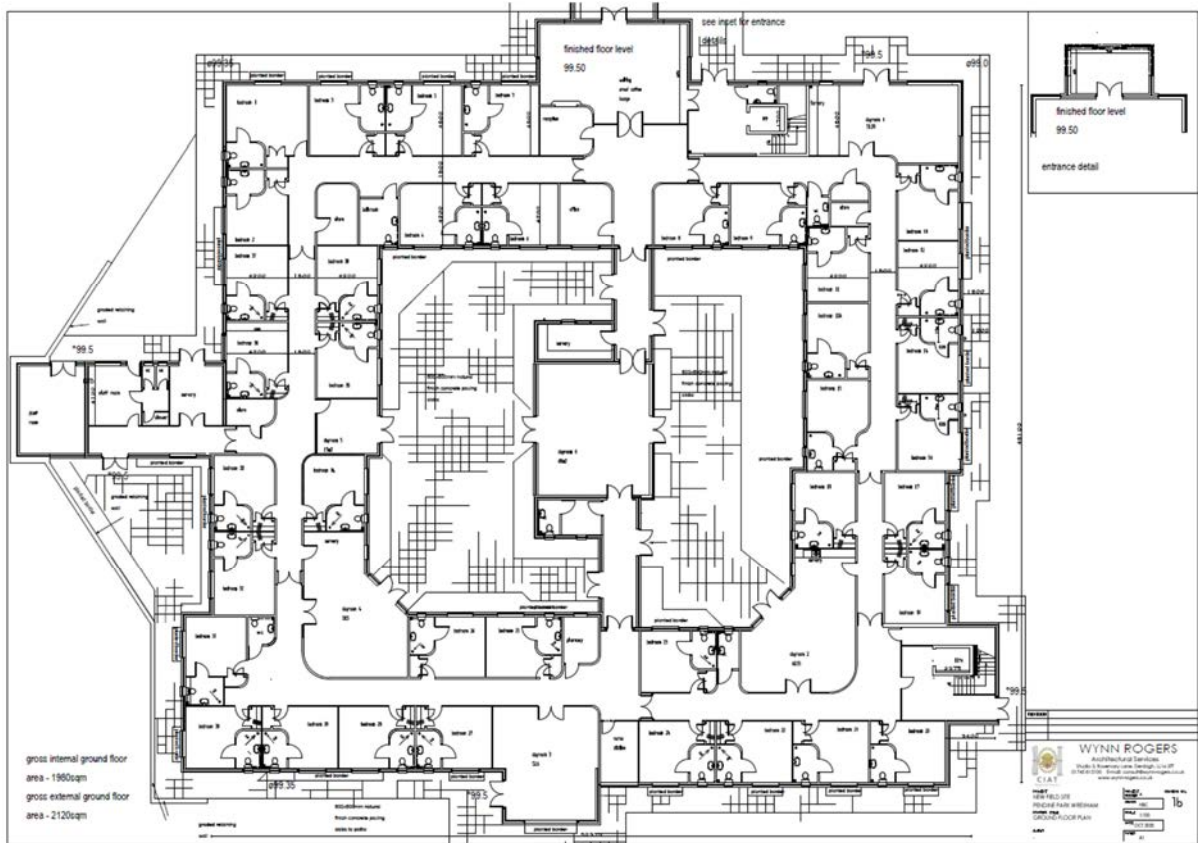
Having reviewed the details submitted I would advise there is no objection to the proposed development and offer the following standing advice which should be taken into account within any future planning application for the development:

The proposed development consists of 75 single bedrooms each with a toilet and shower. In addition to these, there are 8 WC's on the ground floor, 7 on the first floor and a sluice room. There are no specialist drainage requirements, no laundry and no kitchens or food preparation areas.

To this end, the foul drainage is considered 'domestic' in nature and content.

See below floor plans as submitted

McCORMICK ARCHITECTURE



DCWW continue to advise that they can accept the foul water flows from the development into the public sewer system. They confirm there are two treatment plants that can serve the site and both of these have Phosphate permits (see extract below).

SEWERGE NETWORK

We can accept domestic foul water only flows from the proposed development site.

We can advise that flows from this site can discharge to Five Fords & Gresford WwTWs, these both have phosphate permits. This matter will need to be considered further by the local planning authority.



Welsh Water is owned by Glas Cymru – a 'not-for-profit' company.
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We welcome correspondence in
Welsh and English.

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Rydym yn croeso awgustyn gohebiaeth yn y
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NRW's own guidance online "Advice to planning authorities for planning applications affecting phosphorus sensitive river Special Areas of Conservation" states:-

What does this mean for development proposals involving connection to public wastewater treatment works?

Developments connecting to an existing public wastewater treatment works that has the capacity and associated phosphorus stripping facility to accommodate additional wastewater is unlikely to increase phosphorus inputs to a SAC beyond what has already been assessed and permitted by NRW.

The planning authority, or other competent authority under the Habitats Regulations, should examine the appropriate assessments carried out in respect of the extant environmental permit(s), along with any new information or changes in circumstances, to ensure that adverse effect on site integrity can be ruled out.

DCWW have made significant investment of £23million in their Five Fords treatment plant and relative to Phosphates a report states :

Phosphorus discharge consent: *In order to achieve the new phosphorus discharge consent of 1mg/l, ferric dosing has been installed together with improvements to the primary tanks, and continuous phosphorous monitoring. Primary tank modifications have include new scraper bridges and automated desludging with covers fitted over the desludge wells no minimise odour nuisance. A new pump station allows transfer of primary sludge direct to the new sludge treatment plant.*

From the European Commission urban waste water website (United Kingdom) relative to the Gresford Waste Water treatment works it is meeting the requirements of phosphate and nitrogen stripping, and is meeting performance in all sectors, and has done so since 2014.

Key to this consideration is that both the treatment plants that can serve this site's foul water treatment both have Phosphate Permits and are operating to remove/reduce phosphates and nitrogen from the waste water they treat.

- ? Treatment performance: COD: Pass
- ? Treatment performance: TSS: NR
- ? Treatment performance: Total nitrogen: NR
- ? Treatment performance: Total phosphorus: NR
- ? Treatment performance: Other: Pass

Compliance: **Compliant**

Treatment type in place: Secondary treatment

Treatment required: Secondary treatment

Treatment met: Yes

Performance met: Yes

In cause of failure: Bad operating/Bad design or dimensioning: 0

In cause of failure: Bad design or dimensioning: 0

In cause of failure: Further information on cause of failure:

Not available

Waste Water Network Connexions

Linked agglomeration(s):

Gresford

Linked receiving area(s):

Dee (West)

Linked discharge point(s):

RIVER ALYN

Gresford Treatment Works data.

DCWW state in their consultation response letter :

SEWERAGE TREATMENT

No problems are envisaged with the Waste Water Treatment Works for the treatment of domestic discharges from this site. connection to Five Fords catchment preferable.

Therefore one concludes that the foul water from the proposed Pen Y Don development will be domestic in nature and will connect to the existing Pendine Park foul drainage system which in turn is already connected to the public foul water sewer system, and will aim to be treated at the Five Fords treatment works.

CONCLUSION:

The proposed foul water outflow from the site will be treated by the DCWW Five Fords treatment works which has a Phosphate permit and will scrub/strip the phosphates from the domestic discharge of the development so that it will either not increase or actively reduce the phosphate levels that enter the riverine system of the River Dee SAC.

To this end, one presents that the proposed Pen Y Don development is compliant with the NRW aims for protecting the River Dee & Bala Lake SAC.

Attachments:

- Improvement report for the Five Fords treatment works
- European Commission urban waste water website (United Kingdom) – Gresford wwTw.

Five Fords WwTW

new anaerobic digestion plant and habitat quality upgrade

by Lee Simpson, Simon Cady, John Salisbury and Paul Hunter

Dŵr Cymru Welsh Water has invested £23 million at its Five Fords Wastewater Treatment Works (WwTW), near Wrexham, Clwyd in North Wales. The project includes improvements to wastewater treatment, as part of the Habitat quality improvement programme and a new anaerobic digestion plant, which is part of Welsh Water's AMP5 Sludge Strategy. This paper explains the work undertaken from late 2010 through to March 2012 in upgrading the facility and providing improved sustainable sludge treatment in North Wales.



Complete sludge digestion and CHP plant - Courtesy of Dŵr Cymru Welsh Water

The existing works

Five Fords WwTW is required to achieve a new treated effluent consent under the Habitats Directive, with the implementation of new Ammonia and Phosphorus consents.

The original and new consents are shown in the table on the right.

The site has two treatment streams. Stream A is an activated sludge plant with surface aeration, and Stream F is a percolating biofilter plant. The works receives a mixed domestic and trade effluent flow, with a future design horizon load requiring treatment of:

BOD: 13,902 kg/d NH₄-N: 1,164 kg/d TP: 376 kg/d

The site also includes a sludge treatment centre where indigenous and imported sludges are disinfected with lime and dewatered before storage and recycling to local farmland.

The original consent was:

BOD: 50 mg/l	SS: 60 mg/l	NH ₃ -N: 16 mg/l
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With UWWTD composite sampling consent requirements of:

BOD: 25 mg/l	COD: 125 mg/l	
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The new consent is

BOD: 50 mg/l	SS: 60 mg/l	NH ₃ -N: 10 mg/l
P: 1 mg/l	Along with the existing UWWTD requirements	

The required flow consent conditions have remained the same:

DWF: 27,720 m ³ /d = 321 l/s	FFT: 69,607 m ³ /d = 806 l/s
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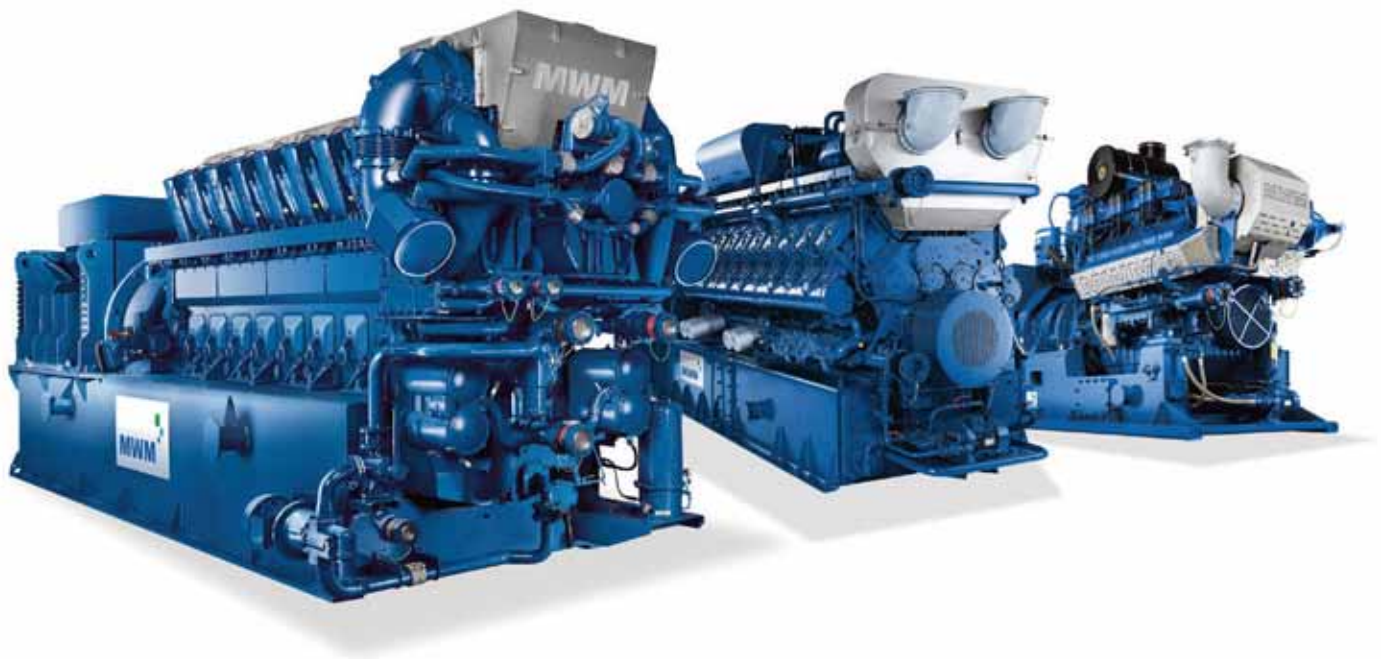
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Diver inspection of existing aeration basins
Courtesy of Dŵr Cymru Welsh Water



Raw sludge screening and buffer storage tank and anaerobic digesters
Courtesy of Dŵr Cymru Welsh Water

This plant did not have enough capacity to treat the increased sludge produced resulting from the new Habitat Directive. It was therefore agreed that the sludge centre was upgraded to provide a new sustainable sludge treatment plant with renewable power generation, including thickening, anaerobic digestion, biogas collection, and high efficiency CHP. This plant will allow the site to move towards power self-sufficient waste water service with export of surplus renewable power to grid.

The design throughput for the new sludge plant is 10,000 tonnes of dry solids per year (tDS/y). This will increase the strength of return liquors, which will be treated through the upgrading of the wastewater treatment works. The new project also addresses any potential odour issues arising from both existing and new equipment.

Description of improvements

Activated sludge plant: To achieve the new ammonia discharge consent, a series of improvements have been included to overcome hydraulic constraints and increase the capacity and efficiency of the existing ASP. A new anoxic tank has been constructed upstream of the existing ASP in order to improve denitrification and improve process stability and efficiency.

This comprises a new concrete tank approximately 1,700m³ in volume, complete with flow baffles and submersible mixers. Hydraulic limitations have been overcome by installing a new 800mm transfer pipeline alongside the existing settled sewage flow channel. Improvements to the existing ASP has included the refurbishment of 9 (No.) existing surface aerators and associated baffles. Additional aeration capacity has been provided, consisting of a series of fine bubble diffusers mounted on special lift out frames, complete with new variable-speed blowers and interconnecting pipework. Submersible flow inducers have been fitted to improve flow within the aeration lanes.

New outlet weirs have been fitted to the aeration lanes to overcome hydraulic constraints, provide equal flow distribution to the existing four final settlement tanks (FSTs), and provide continuous MLSS monitoring and automatic control.

RAS system: The original RAS system which consisted of a combination of submersible pump and screw pumps has been uprated with new variable speed submersible RAS pumps and a flow meter to allow automatic real time control.

F works: Improvements to the F works included refurbishment of the biofilter distributors and installation of new variable speed recirculation pumps, and flow meter to allow optimum recirculation during periods of low flow. Improved lifting arrangements were included for safe maintenance of the new pump installation.

Inlet works: Improvements to the inlet works included uprated screenings handling equipment, refurbishment of the de-gritting installation, improved storm water separation and flow distribution.

Phosphorus discharge consent: In order to achieve the new phosphorus discharge consent of 1mg/l, ferric dosing has been installed together with improvements to the primary tanks, and continuous phosphorous monitoring. Primary tank modifications have include new scraper bridges and automated desludging with covers fitted over the desludge wells no minimise odour nuisance. A new pump station allows transfer of primary sludge direct to the new sludge treatment plant.

Ferric dosing plant: The ferric dosing plant includes banded bulk storage of ferric sulphate (96m³ for 14 days storage) complete with a tanker unloading area and safety equipment. Automatically adjustable dosing pumps allow optimum four-point dosing of ferric into the screened sewage flow and secondary treatment.



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SAS: Further improvements included suspending co-settlement of SAS in the A Works primary tanks. New submersible SAS pumps replaced the original SAS draw-off and a new rising main was installed to transfer SAS direct to the new sludge treatment plant.

Sludge treatment plant: The new sludge treatment plant provides improved sustainable sludge treatment in North Wales and has been sized to treat the additional sludge arising from phosphate removal.

The new plant includes imported sludge reception, sludge thickening, and 2 (No.) 4,000m³ anaerobic digesters, which have been designed to process up to 12,000 tDS/y.

Digester gas is collected and used by 2 (No.) high efficiency 600kW CHP units, to provide all process heating requirements and sufficient renewable power – to move the whole works toward power self-sufficient service, with savings in operational carbon footprint and operating costs. Treated sludge will be dewatered and recycled to local farmland, as a high-value fertiliser.

The new sludge treatment plant includes 3 (No.) sludge tanker reception bays to safely receive thickened raw sludge imports. Each of these unloading bays is fitted with data logger in order to accurately monitor the source, volume and DS of the sludge received.

The indigenous primary sludge and raw sludge imports are combined in a reception sump and pumped through a series of 4 (No.) strain presses mounted on an elevated platform and the screened sludge is transferred to the screened sludge buffer. Similarly, SAS is pumped direct from the works to a SAS buffer tank.

All sludges are pre-thickened by a series of 4 (No.) gravity belt thickeners. The belt thickeners are provided with dedicated sludge transfer and polymer dosing pumps. In normal operation 2 (No.)

units are used to thicken raw indigenous and imported sludges, 1 (No.) unit is used for thickening SAS, with 1 (No.) unit available as a common standby.

Sludge digestion plant: All thickened sludge is transferred by dedicated pumps direct to the thickened sludge storage tank and is mixed to maintain consistent characteristics. The sludge digestion plant includes 3 (No.) thickened sludge digester feed pumps (duty, duty, standby) feeding 2 (No.) anaerobic digesters, each with a working volume of approximately 4,000m³, and fitted with jet mixing and pumped recirculation through dedicated heat exchangers.

Sludge is displaced from the digesters via overflow bellmouths and flows by gravity to 2 (No.) existing tanks, providing post digestion buffer storage before conditioning and dewatering using the existing centrifuge dewatering plant. Digested sludge cake is then stored before recycling to local farm land.

Biogas: Biogas flows from the digesters to a membrane type gas holder through oversized stainless steel pipework with automatic condensate traps installed at the low points to automatically remove condensate as the biogas cools.

Under normal operation, all of the biogas is cleaned to remove siloxane and used in the high efficiency CHP units in order to produce renewable power and hot water for process heating. Also, a dual fuel hot water boiler has been installed in order to produce hot water using either biogas or natural gas during periods when the CHP units are being maintained. Surplus biogas can be transferred to a waste gas burner.

Odour control: In order to minimise odour nuisance all raw sludge tanks and equipment are covered and potentially odourous air is extracted and transferred to a dedicated odour control plant.



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Complete sludge digestion plant
Courtesy of Dŵr Cymru Welsh Water



Five Fords Anaerobic Digestion plant including membrane gas holder
and high efficiency CHP units - Courtesy of Dŵr Cymru Welsh Water



New sludge digestion plant including raw sludge storage, thickening,
thickened sludge buffer tank, anaerobic digesters, odour control, and
main control building - Courtesy of Dŵr Cymru Welsh Water



Biogas utilisation plant including membrane gas holder, siloxane
removal, high efficiency CHP units, standby hot water boiler and
emergency flare - Courtesy of Dŵr Cymru Welsh Water

Liquid lime slurry: There is also the facility to dose liquid lime slurry to the digested sludge in order to produce enhanced quality sludge cake for recycling to local farm land.

Sludge strategy

Dwr Cymru Welsh Water's sludge strategy is to maximise resource recovery and move towards the most sustainable, efficient, environmentally beneficial, economical, and customer supported service. Further improvements are being planned at Five Fords including Advanced Digestion and biomethane injection into the grid or use as vehicle fuel.

Conclusions

This improvement project has provided the following benefits:

- Compliance with new Habitats Directive including improved levels of nitrification and phosphate removal.
- Improved process reliability and resilience of North Wales largest wastewater treatment works.
- Improved efficiency of wastewater treatment including denitrification, increased aeration efficiency and optimum process control.
- Improved resource recovery including renewable power generation that helps move the works to power self-sufficient wastewater service.
- Operational savings which will support reducing customer bills.

The delivery team is working closely with Welsh Water to further optimise the economic, environmental and society benefit of wastewater service at Five Fords WwTW.

Delivery partners

The project was delivered through close involvement with Welsh Water's operational and strategy team, and in partnership with Imtech Process (process, mechanical and electrical design, construction, testing, commissioning and performance testing, Costain (civil design and construction) and EC Harris. Key supply chain partners who contributed to the successful delivery of this project included William Hughes Civil Engineering Ltd, Lloyd Morris Electrical, Mectec Engineering, JB Fabrications and Siemens.

Timeline

Following outline design and agreement of target cost, work commenced in late 2010, and the project has been successfully delivered.

The improvement programme for this wastewater treatment plant included improved screening, grit removal, storm water management, new settlement tank scrapers, improved flow control, ferric dosing, new anoxic tank, improved aeration and control. This work allows treatment of the full flow, and compliance with the new effluent consent, which required improved levels of nitrification and phosphate removal.

Construction was completed in March 2012 and the plant is now fully commissioned, generating renewable power and undergoing a period of extended performance testing before final handover in September.

The Editor & Publishers would like to thank the following for providing the above article for publication:

Lee Simpson (Project Manager) & Simon Cady (Lead Engineer) with Imtech Process, and John Salisbury (Construction Manager) & Paul Hunter (Project Manager) with Costain.

The authors wish to thank Welsh Water for its support, as well as all the companies and their employees who contributed to the successful delivery of this project.

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River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid

● Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Shropshire and Staffordshire, West Wales and The Valleys
Centroid*	SJ423503
Latitude	53.04722222
Longitude	-2.861111111
SAC EU Code	UK0030252
Status	Designated Special Area of Conservation (SAC)
Area (ha)	1271.32

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of River Dee and
Bala Lake/ Afon Dyfrdwy a
Llyn Tegid SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (4%)
- Salt marshes, Salt pastures, Salt steppes (2%)
- Inland water bodies (Standing water, Running water) (90%)
- Improved grassland (2%)
- Broad-leaved deciduous woodland (2%)



Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation**

Species occurrence description not yet available.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

- Not Applicable

Annex II species that are a primary reason for selection of this site

- **1106 Atlantic salmon** *Salmo salar*
Habitat occurrence description not yet available.
- **1831 Floating water-plantain** *Luronium natans*
Habitat occurrence description not yet available.

Annex II species present as a qualifying feature, but not a primary reason for site selection

- **1095 Sea lamprey** *Petromyzon marinus*
- **1096 Brook lamprey** *Lampetra planeri*
- **1099 River lamprey** *Lampetra fluviatilis*
- **1163 Bullhead** *Cottus gobio*
- **1355 Otter** *Lutra lutra*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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GRESFORD STW

European Commission urban waste water website: United Kindom

Date of production: 19/01/2022

Title : GRESFORD STW

Creator : Ministry of XX (host)

Subject : UWWTD SIIF national platform of United Kingdom

Summary : Present pages are part of a project aiming at implementing UWWTD SIIF platform in United Kingdom. The Structured Implementation and Information Framework (SIIF) concept is a ongoing Euro-pean Commission (Environment Directorate General) pilot project essentially focused on the organisation and management of data in order to enhance the generation of information for policy makers, interested parties and the public at all levels on how legislation is practically implemented. The concept developed is in line with the provisions of the Public Access to Environmental Information and INSPIRE Directives.

Contributors : Office International de l'Eau, DG Environment

Date : 19/01/2022

Type : Text

Format : PDF

Link : <https://uwwtd.eu/United-Kingdom/treatment-plant/ukwawawwtp000108/2012>

Language : Eng

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Disclaimer:

The UWWTD SIIF platform is developed to enhance expert and citizen access to information about implementation of Urban Waste Water Directive (91/271/EEC). Our goal is to keep this information timely and accurate. If errors are brought to our attention, we will try to correct them. However, the Commission and its consultant accept no responsibility or liability whatsoever with regard to the information on these sheets. The information presented is purely summary of the data collected, and implementation of calculations defined on the basis of the Directive with no interpretation and the way it is presented was agreed by the DG ENV representatives. It may not in any circumstances be regarded as stating an official position of the European Commission.

GRESFORD STW

UWWTP : **GRESFORD STW** - Identifier : **UKWAWA_WW_TP000108** - Status : **Active - Connected** - Reporting year : **2012**

Region (NUTS) Code : UKL23 - Region (NUTS) Name : Flintshire and Wrexham



compliance Time Line



[View history](#)

■ Compliant ■ Not compliant ■ Not relevant ■ No information ■ ?

Description

? **Load entering UWWTP (p.e.):** 17 669

Method used to determine the load : Not available

Rate of entering load transported to this UWWTP by trucks (%): Not available

Physical Capacity (p.e.): 17 669 ? **Waste water treated (m3/y):** Not available

Method used to determine the volume of waste water treated: Not available

? **Treatment performance: BOD5:** Pass

- ? **Treatment performance: COD:** Pass
- ? **Treatment performance: TSS:** NR
- ? **Treatment performance: Total nitrogen:** NR
- ? **Treatment performance: Total phosphorus:** NR
- ? **Treatment performance: Other:** Pass

Compliance: [Compliant](#)

Treatment type in place: Secondary treatment

Treatment required: Secondary treatment

Treatment met: Yes

Performance met: Yes

In cause of failure: Bad operating/Bad design or dimensioning: 0

In cause of failure: Bad design or dimensioning: 0

In cause of failure: Further information on cause of failure:

Not available

Waste Water Network Connexions

Linked agglomeration(s):

[Gresford](#)

Linked receiving area(s):

[Dee \(West\)](#)

Linked discharge point(s):

[RIVER ALYN](#)

Site information

Year of data: 2012

Source of data: ☐ [See sourcefile](#)

Other years :

Year of data: 2018

Source of data: ☐ [See sourcefile](#)

Year of data: 2016

Source of data: ☐ [See sourcefile](#)

Year of data: 2014

Source of data: ☐ [See sourcefile](#)

UWWTP national Internet hyperlink: Not available

Characteristics

Latitude : 53.09000000

Longitude : -2.97000000

Date of closing: Not provided

Explanation for closing: Not provided

ID of the successor: Not provided

Primary treatment: ✓

Secondary treatment: ✓

N removal: ✗

P removal: ✗

UV: ✗

Ozonation: ✗

Sand filtration: ✗

Chlorination: ✗

Micro filtration: ✗

Other treatment: ✗

Other type of more stringent treatment: Not provided

Other type of more stringent : 0

ID of E-PRTR facility: Not provided

Accidents: ✗

Remarks: Not provided