

## **Torcoed Quarry groundwater abstraction**

### **1. Purpose of this document**

This report:

- explains how the application for a transitional full licence (also known as 'New Authorisation' licence) has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the use of specific bespoke conditions within the licence.

In determining this application, NRW has exercised its duties and powers under The Water Abstraction (Transitional Provisions) Regulations 2017.

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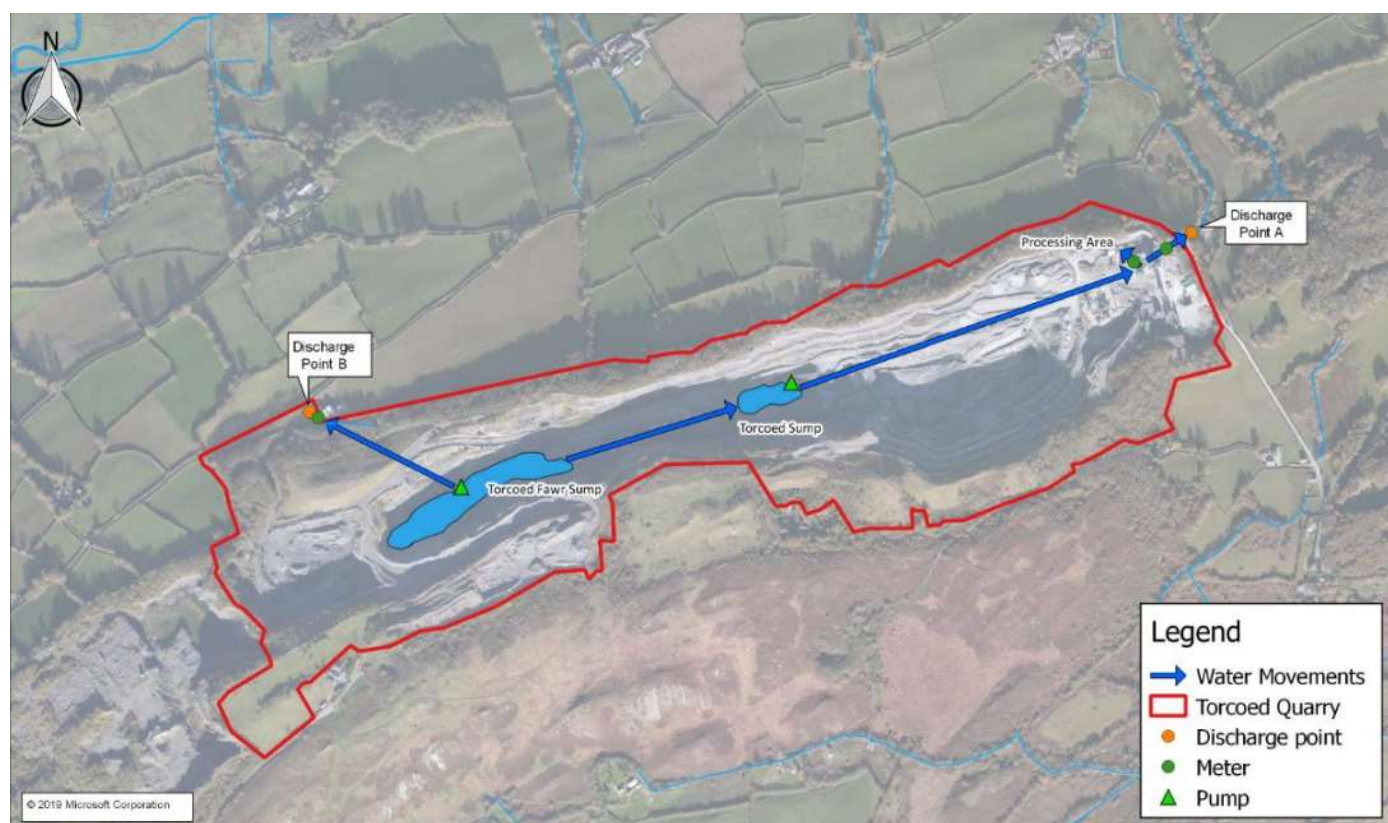
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### 3. Summary of the application

Torcoed Quarry is a limestone quarry operated by Tarmac Trading Ltd, located at Porthyrhyd, Carmarthen. The site is approximately 10 km west of Cross Hands and 10 km south east of Carmarthen. The site is a complex comprising of three quarry areas – Torcoed, Torcoed Fawr and Crwbin; consolidated under one planning permission in August 2017. The site is dewatered to facilitate the quarrying of the limestone; as the base of the quarry is below the water table the dewatering contains groundwater and rainfall components. The total area being quarried is approximately 32.4 ha.

The water pumped from the Torcoed void goes to an un-named tributary of the Gwendraeth Fach under discharge consent BP0235501 via a processing area, known as Point A in the application supporting information. Water from the Torcoed Fawr void is discharged under discharge consent BP0235501, but can also discharge to a different un-named tributary of the same river under permit BP0239301, known as Point B in the supporting information. As of 2015, most of the water from the Torcoed Fawr void is discharged via Point B

The water diverted to the processing area is stored in bowzers and tanks for use in on-site processes consisting of – crushing and screening, haul roads and silos; wheel washing; asphalt production; and dust suppression on dry days.



Schematic of water movement in both quarry sumps

We have decided to issue the licence application on 06/10/2022.

Licensing this abstraction is considered a first step to move towards sustainable abstraction and it will continue to be reviewed through future sustainability review processes.

#### 4. Application and licence determination details

Application details	
Applicant name and address	Tarmac Trading Limited Portland House Bickenhill Lane Solihull Birmingham B37 7BQ  Company no. 00453791
Application contact details	Andrew Tait <a href="mailto:permitcompliance@tarmac.com">permitcompliance@tarmac.com</a>
Application reference number	PAN-005684
New licence number	WA/060/0007/0003
WFD Waterbody number & name	Groundwater: GB41002G200500 – Tywi, Taf and Gwendraeths Surface water: GB110060029400 – Gwendraeth Fach – headwaters to tidal limit
Abstraction Licensing Strategy (ALS)	Carmarthan Bay Rivers
Catchment and sub-catchment	Catchment: 060 Sub-catchment: 0007 Gwendraeth Fach and Fawr
NRW Area	South West

Determination process details	
Date application received	10 June 2019
Date technical checks undertaken	23 July 2019
Date any final further information received and application validated	<p><b>30 September 2019</b> – Applicant confirmed they will proceed with determination for one full abstraction licence. The applicant had originally applied for one transfer and one full licence, see validation checks for further detail. Abstraction area confirmed.</p> <p><b>7 October 2019</b> – confirmation of maximum total annual abstraction quantities (1,836,802 cubic metres). Application validated.</p> <p><b>7 February 2020</b> – application contacts updated.</p> <p><b>27 September 2022</b> – Email from Agent confirming abstraction quantities for each purpose <a href="#">email dated 27/09/2022</a>. Process water abstraction rate confirmed as 73 litres per second which is equal to the maximum abstraction pump rate (see table 2.5 of technical note, document number 67034TN2 saved to DMS). As per Appendix F, the maximum daily for process water will be 97.6 cubic metres.</p>

Reason abstraction was previously exempt	Abstraction is for dewatering as part of mining/quarrying/engineering operations, this activity was previously exempt from licensing under section 29 of the Water Resources Act 1991.
Non- statutory determination date	31/10/2022
Application publication	This advertising decision was agreed by the <a href="#">NA Panel on 14/01/2021</a> and recorded in the <a href="#">NA Screening spreadsheet</a> .  Application advertised in the Carmarthan Journal on 28 April 2021. No public representations or comments received from statutory bodies. <a href="#">Voucher copy</a>
National Park notification	Not relevant as abstraction not located within a National Park.
External Consultation	None undertaken in accordance with current policies and guidance.
Environmental Impact Assessment Regulations (EIA) requirements	The proposal is not relevant under these regulations; therefore no environmental statement is required.

Abstraction details	Licence details		
Location of abstraction	Torcoed Quarry, Porthyrhyd, Carmarthan, Dyfed, SA32 8PY		
Source of supply	Underground strata known as 'Torcoed Fawr sump' and 'Torcoed sump' comprising of Pembroke Limestone Group		
Point(s) of abstraction (NGR) (single point, multiple points, reach or area)	Within the area marked 'Area A' on the map and not outside the boundary formed by straight lines running between the following National Grid References: SN 47875 13566 , SN 49431 14166, SN 49676 13886 and SN 48079 13326.		
Purpose of abstraction	1) Dewatering 2) Process water 3) Dust suppression		
Period of abstraction	All year.		
Quantities and rates:	For Dewatering:	For Dust Suppression:	For Process Water:
cubic metres per hour	1,179		97.6
cubic metres per day	28,292	80	97.6
cubic metres per year	1,812,414	7,488	16,900
litres per second	492		73
Means of abstraction	Two submersible pumps.		
Measurement of abstraction	Separate meters to measure the abstraction for dewatering (non-consumptive) and Process water (consumptive). For dust suppression: Capacity of Bowser x number of fills		
Frequency of measurement	Weekly for dewatering and process water Daily for Dust suppression		
Frequency of recording/reporting	Weekly		

Abstraction details	Licence details
Annual returns requirement	Yes
Licence end date	31 March 2030 in accordance with Carmarthan Bay Rivers ALS
Minimum value condition (Y/N)	N/A
Issue date	06/10/2022
Effective date	06/10/2022

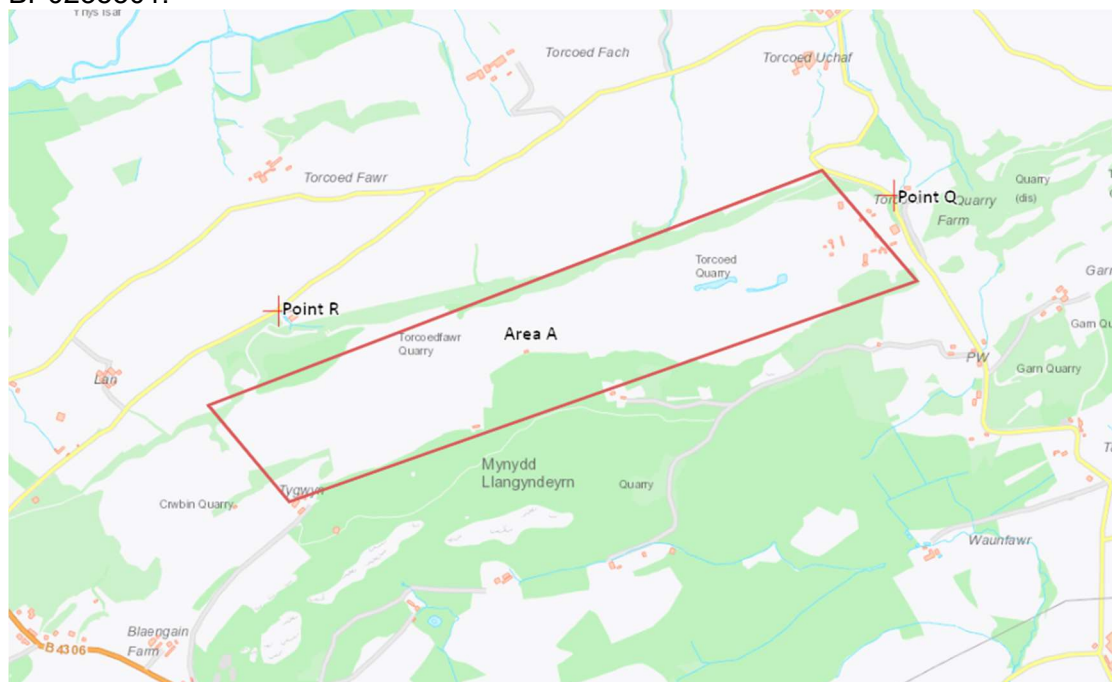
## 5. Advertisement of application

See Application publication in section 4 above. No representations were received.

## 6. Location of abstraction and discharge

The applicant has confirmed the abstraction area in correspondence dated 30/09/2019 ([Additional information](#)). In the report attached to the email the applicant confirms the area of abstraction is within National Grid References SN 47875 13566 , SN 49431 14166, SN 49676 13886 and SN 48079 13326, labelled Area A on the map below.

Water from the quarry sumps are currently discharged via one of 2 discharge points. Water pumped from Torcoed Fawr sump is either discharged directly to 'Discharge B' (Point R on the licence) on an un-named tributary of the Gwendraeth Fach as permitted under Environmental Permitting Regulations discharge consent number BP0239301. Or , alternatively is discharged via Torcoed sump to 'Discharge A' (Point Q on the licence) on another un-named tributary of the Gwendraeth Fach at NGR SN 49620 14110 as permitted by EPR discharge permit number BP0235501.

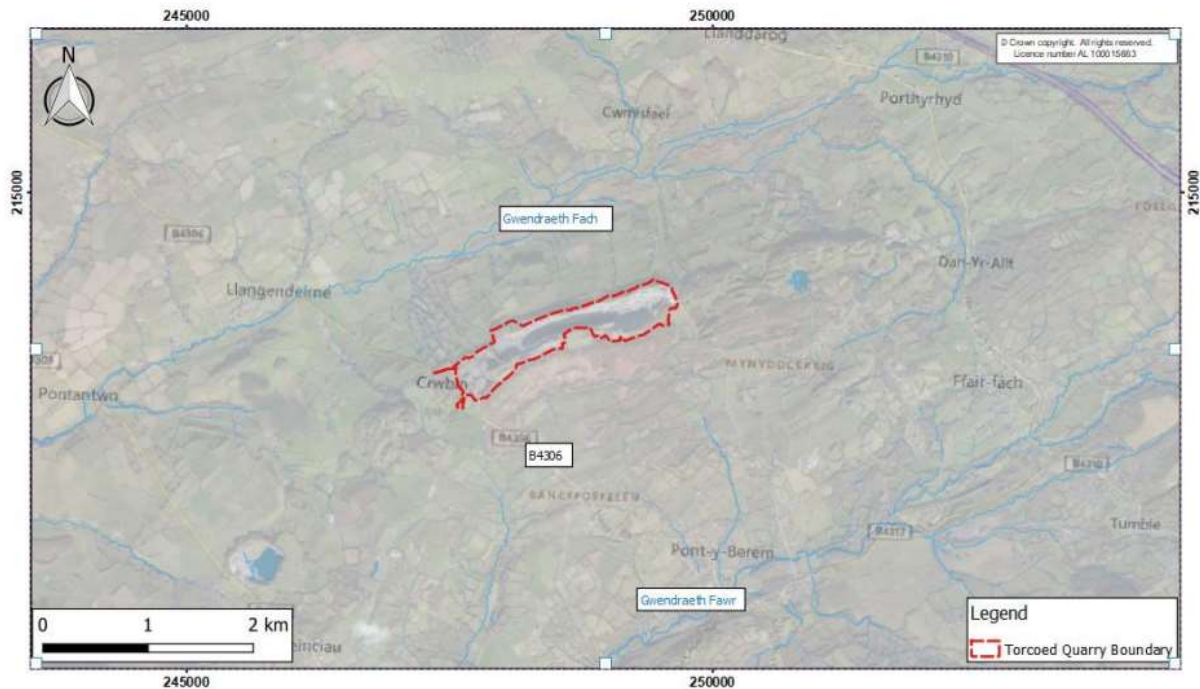


## 7. Rights of Access

The map provided includes an outline of the landownership of the applicant and demonstrates that the abstraction point lies within their landownership.



Figure 1.1 Torcoed location and owner/occupier boundary



## 8. Historical Evidence of abstraction and volumes

As part of the transitional licence application, applicants were required to submit evidence to demonstrate the quantities of water abstracted and when the abstraction took place during the seven year 'qualifying period' (January 2011 – December 2017).

The evidence provided by the applicant in their [readings and calculations spreadsheet](#) and [application documents](#) suggests that the maximum quantities abstracted during the qualifying period are as follows:

### Dewatering (non-consumptive):

492 litres per second  
 1,179 m<sup>3</sup> per hour  
 28,292 m<sup>3</sup> per day  
 1,812,414 m<sup>3</sup> per year

### Process area (consumptive):

73 litres per second  
 97.6 m<sup>3</sup> per hour (this is based on the ability to abstract the maximum daily amount within an hour due to the pumping capacity)  
 97.6 m<sup>3</sup> per day  
 16,900 m<sup>3</sup> per year

### Dust Suppression (consumptive)

80 m<sup>3</sup> per day  
 7,488 m<sup>3</sup> per year

### Total:

492 litres per second  
 1,188.8 m<sup>3</sup> per hour (for 23 hours a day)  
 28,370 m<sup>3</sup> per day  
 1,836,802 m<sup>3</sup> per year

The maximum annual abstraction quantities were confirmed by the applicant in their [email dated 7/10/2019](#) and [email dated 27/09/2022](#).

The process area water is split between the following uses:

- Dust suppression
- Wheel washing
- Asphalt production
- Crushing, screening, haul roads and silos

For the use of dust suppression the applicant has calculated maximum abstraction quantities based on the capacity of the tank, which is recorded as 8000 litres, and how often it is filled, which is a maximum of 10 times on a dry day. This gives a maximum abstraction of 80 cubic metres per day. Assuming a maximum of 30% of dry days in a year (not including non-working days) as the applicant suggests was the case between 2011-2017, this gives a yearly maximum of 7,488 cubic metres. The abstraction into the bowsers is not presently metered. The other 'process area' uses are metered.

NRW considers the volumes applied for acceptable. The evidence submitted supports the application and demonstrates that the abstraction has occurred during the qualifying period .

## 9. Technical assessment of the proposal

The application has been screened according to the New Authorisations (NA) screening process [and the results are recorded within the NA screening spreadsheet](#). Following this the application has been assigned a moderate risk and complexity score. This score was agreed by the [NA Panel on 14/01/2021](#).

### 9.1 Water Framework Directive Regulations 2017

The abstraction is located within GB41002G200500 Tywi, Taf and Gwendraeths. The overall status of this waterbody is Poor, however it is at Good Quantitative status. The surface water body (GB110060029400 – Gwendraeth Fach – headwaters to tidal limit) is also classified as Good Ecological Status.

The application was reviewed as part of the further consultation stage to determine whether scoping / detailed assessment was required under WFD Regulations 2017. This review concluded no scoping / detailed assessment was required under the WFD Regulations 2017.

The reasons for this are as follows:

- It is considered unlikely that there is direct connectivity with surface water flows. Therefore impacts on the WFD status of the surface waterbody are considered unlikely.
- The abstraction has been ongoing for many years with no reported impacts to the WFD status of the waterbody<sup>1</sup>.
- There are no anticipated incombination / cumulative impacts.
- The abstraction is not in connectivity with surface water bodies at high overall status or high status for morphology / hydromorphology<sup>1</sup>.
- The abstraction will be licensed based on historic operation so there will be no change in groundwater levels or quantitative status of the waterbody as a result of this abstraction.

Licensing this abstraction is considered a first step to move towards sustainable abstraction and it will continue to be reviewed through future sustainability review processes.

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<sup>1</sup> The 2015 Cycle 2 WFD classification data has been used to ensure all NA applications are screened, assessed and licensing decisions are made from the same static baseline dataset. The 2015 Cycle 2 WFD classification data (published in the second cycle RBMP's Dec 2015) was the most up to date data at the time when exemptions were removed, and the application window opened.

## 9.2 Hydrogeology/Hydrology and low flows protection

The abstraction is located in the Pembrokeshire limestone group underground strata in the village of Crwbin and lies approximately 870 metres South of the Gwendraeth Fach.

The abstraction has been occurring lawfully for many years, and in recognition of this the [2017 Government response](#) allows NRW as the regulator to have some discretion about the application HoFs to transitional licences.

For abstractions that are located within WFD waterbodies where flows are 'supporting good ecological status', the [2017 Government response](#) suggests the application of a 75% of Qn99 HoF condition. However, in line with our regulatory discretion, NRW consider this HoF is not required for the following reasons:

- The abstraction is from groundwater. The status of this waterbody is at Good quantitative status and the abstraction is not considered to be impacting surface water flows.
- There is insufficient evidence in Wales that a prescribed flow of 75% of Qn99 would provide any environmental benefit / be likely to result in any improvement to WFD status.
- Finally, flow gauges are not generally considered to operate reliably at such low flows, and therefore any condition applying this HoF would not be considered legally enforceable.

It is recognised that not applying a HoF may not be in line with the Abstraction Licensing Strategy (ALS) for Carmarthen Bay Rivers, but licensing the abstraction is considered a first step towards sustainable management, through future sustainability review processes.

## 9.3 Impact on fisheries

Not applicable to this application as a groundwater abstraction and considered unlikely to have any impacts to local surface waters.

## 9.4 Impact on water quality

As part of the activity operation some of the water abstracted is discharged to one of 2 discharge points, both on tributaries of the Gwendraeth Fach. A condition is included within the licence to ensure that water abstracted is discharged to the nearby watercourses ensuring that the abstraction consumptiveness is captured. The discharges are permitted under permit refs. BP0239301 and BP0235501.

## 9.5 Protected rights and lawful users

The applicant notes in their supporting evidence (see page 129 of document [PAN-005684 – Forms – New – Complete](#) saved to the DMS dated 10/06/2019) that they have a legal agreement with the owner of Garn-ffrwd Fish Farm to mitigate flows to Garn-ffrwd spring should they drop below a prescribed level, to ensure there are no adverse effects on water levels in the lakes at the Fish Farm which are fed by the spring. The spring supply to the fish farm is not a licensed activity. The spring is monitored as agreed in the Water Management Plan (WMP); a plan required as part of the operator's planning consent conditions. In addition to the agreed monitoring and mitigation for the above Garn-ffrwd spring, several other receptors including other local private water supplies were identified and are included within the WMP monitoring program (see section 9.10 below for further detail). Under Section 102(5) of the Water Act 2003, NRW can issue licences for previously exempt activities, even if the abstraction is causing derogation or affecting lawful users. Under Section 48A of the Water Resources Act 1991, affected parties are entitled to seek compensation through a private claim. It should be noted that the application was advertised in a local newspaper and on our website and no representations have been received. NRW acknowledges that the existing abstraction has been operating lawfully for many years under an exemption. NRW considers the abstraction poses a low risk to existing water users and should be licensed.



## 9.6 Habitats Directive, CROW Act, Conservation, heritage and landscape impacts

The following sites have been identified as a result of screening the application using MyMap. See [MyMap screening result](#) for full details.

Designation Type	Name of Site	Potential Impact	Distance & Direction from abstraction
SAC	None identified	Not applicable	
SPA	None identified	Not applicable	
RAMSAR	None identified	Not applicable	
SSSI	Coedydd Capel Dyddgen  Coedydd y Garn  Gweunydd a Choed Pen-Ty (Pen-Ty pastures and Wood)  Mynydd Llangynderyn  Waun-Fawr  Ynys Uchaf	Yes see below.	approx. 953 metres west of abstraction area  approx. 9.66 metres east of abstraction area  approx. 2.6 kilometres north of abstraction area  small area of site falls within abstraction boundary  approx. 340 metres south of abstraction area  approx. 784 metres north of abstraction area
AONB	None identified	Not applicable	
Protected habitat	Blanket Bog Reedbeds	No, the abstraction has been occurring lawfully with no reported impacts, and in accordance with Government policy a 'light touch risk-based' approach to licensing needs to be applied.	
Source Protection zone	None identified	Not applicable	
National Park	None identified	Not applicable	

The abstraction has been occurring lawfully with no reported impacts.

An Appendix 4 assessment has been completed for the SSSI sites identified in the table above and concluded no impact. During the initial consultation the conservation officer expressed concern on the quarry dewatering impacting on the Mynydd Llangynderyn SSSI. Further discussions with Geoscience advised connectivity between the sites was highly unlikely due to the area geology. The assessment was updated and reviewed, and signed off by the Conservation Officer on 13/09/2022. The assessment has been saved to the [DMS](#).

## 9.7 Serious Damage

Not applicable to this application

## 9.8 Cumulative Impacts

The abstraction has been ongoing for many years with no reported impacts, therefore we are satisfied that there are no anticipated cumulative / in-combination impacts.

## 9.9 Subsidence and Desiccation

The abstraction has been ongoing for many years with no reported impacts, therefore we are satisfied that there are no anticipated impacts relating to subsidence and desiccation.

## 9.10 Existing legislation and permissions

Planning consent number W/33265 has been issued by Carmarthenshire County Council to the site operators for its activities. This consent is valid until 31 December 2055 but is subject to regular review. As part of the planning consent the operator was required to produce and subsequently implement a Water Management Plan (WMP). A copy of this has been provided by the applicant in Appendix D of the document:

[Techincal Note: Torcoed Quarry: Transitional abstraction licence \(Transfer & Full\) application.](#)

A copy of the planning consent can also be found here in Appendix B.

The agreed WMP includes the following monitoring:

- Monitoring wells in the Old Red Sandstone, Penderyn Oolite and Cilrychen Limestone and Mynydd-Garegg Limestone – data loggers and monthly manual dipping
- Quarry discharge flows – data loggers and manual monthly readings
- Garn-ffrwd spring and Crwbin spring – data loggers and monthly readings
- Wells at Garn Bwll, Ysgubor-Fach and Garn Farm – monthly dipping measurements
- Rainfall gauges

Within the WMP the following receptors have been identified:

- Well at Ysgubor-Fach and associated private water supply
- Private water supply at Ffrwd-gain
- Garn-ffrwd fish farm spring
- Crwbin spring

A target level has been agreed with regards to the two identified private water supplies; and should monitoring levels drop below this for two consecutive months the mineral planning authority (Carmarthenshire Council Council) will be notified. Appropriate mitigation in consultation with affected parties will be put in place in the event of derogation occurring. Agreed mitigation for Garn-ffrwd fish spring is already in place (see section 9.5). The WMP identifies that Crwbin spring will be impacted by the quarrying activity however no identified ecological designations are supported by the spring.

NRW are satisfied that impacts to any lawful users are addressed via the planning consent, and as discussed in section 9.5 above, NRW can issue licences for previously exempt activities, even if the abstraction is causing derogation or affecting lawful users.

It should also be noted the contents of the WMP will be continually reviewed on a two year basis, and this will be in agreement with NRW.

## 10. Means of measurement of abstraction

The information submitted by the applicant shows that there are two meters installed that will be utilised to measure the volumes of water abstracted for dewatering: one on the discharge from the Torcoed Fawr sump (referred to as 'Discharge B' by applicant in water movement schematic – see section 3 above). The other meter measures water discharged from Torcoed Sump (referred to as 'discharge A' by the applicant). The total quantities from both these meters will be used to measure and record the dewatered quantities. A third meter is also installed at the Torcoed sump to measure water directed to the processing area.

The applicant will be required to use these meters to calculate the total quantity of water from the dewatering activity, and to determine how much of this water is used in consumptive purposes.

Dust suppression will be measured using a calculation of: the capacity of the bowser multiplied by the number of fills in a day, as agreed in writing by NRW. The capacity of the bowser as submitted by the applicant is 8000 litres.

## 11. Considerations of SMNR – Compliance with our General Purpose

We are satisfied that this decision is compatible with our general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

## 12. Criticality, PALS purposes and abstraction annual charges

### Criticality Class

Critical

### PALS Purposes

Primary Code	Secondary Code	Use/Loss Level code
I:Industrial, Commercial, Public Services	EXT: Extractive	660: Dewatering- Very low
I:Industrial, Commercial, Public Services	EXT: Extractive	060: Dust suppression - High
I:Industrial, Commercial, Public Services	EXT: Extractive	350: Process water - Medium

### Abstraction annual charges

The licence will be charged by multiplying together the following factors:

STANDARD CHARGE:							
Volume (ML)	Purpose	Source	Season	Loss Purpose:	Special Charges Agreements	SUC	Charge

1,812.414	Dewatering	1	1	0.003	n/a	14.95	£81.28
7.488	Dust suppression	1	1	1.0	n/a	14.95	£111.95
16.9	Process	1	1	0.6	n/a	14.95	£151.60

**PLUS**

COMPENSATION CHARGE:							
Volume (ML)	Purpose	EIUC Source	Season	Loss Purpose:	Special Charges	EIUC	Charge
1,812.414	Dewatering	1	1	0.003	n/a	0.00	£0.00
7.488	Dust suppression	1	1	1.0	n/a	0.00	£0.00
16.9	Process	1	1	0.6	n/a	0.00	£0.00

<b>Total Charge for 2022-23</b>	<b>£344.83</b>
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