

**Abstraction Licence:**

**WA/057/0025/0015**

**Variation Application**

**Summary of application**

August 2025

## 1. Introduction

- 1.1 This summary of application document provides information in relation to the variation of abstraction licence: WA/057/0025/0015. The document will outline the operator's requirement for a variation to the licence to accommodate an increase in abstraction volumes for one of the two purposes outlined within abstraction licence WA/057/0025/0015.
- 1.2 This abstraction licence variation application is submitted on behalf of the operator, Breedon Trading Ltd (Breedon thereafter) and is associated with their Taffs Well Quarry site located at Ty-Nant Road, Gwaelod-Y-Garth, Cardiff CF15 8LB (the Site).
- 1.3 Abstraction licence: WA/057/0025/0015 (the Licence) currently permits abstraction for two purposes; *Transfer for the purposes of dewatering* and *Dust Suppression* from the underground strata comprising of carboniferous limestone at the site.
- 1.4 This application seeks to increase the permitted abstraction volumes for the purpose of Dust Suppression only. There are no amendments required to the dewatering abstraction volumes currently permitted.
- 1.5 This document will provide further information to address sections of the application form submitted as part of the application providing additional information as required.
- 1.6 In addition to this summary of application document, the following supporting documents are also provided as part of the application:
  - WA-057-0025-0015 Breedon Trading LTD Taffs Well Site Map;
  - GES-03 Water Management Standard;
  - Breedon Trading Ltd ISO14001 Certificate exp Aug 27; and
  - 230623 Delegated Authority BTL - Rebecca Lodge.

## 2. Site Details

- 2.1 Taffs Well Quarry is a limestone quarry currently operating under planning permission, ref: 20/02351/MJR granted on 23 September 2023 which allows the lateral expansion and deepening of the site.
- 2.2 The quarry site extracts limestone of the Lower Carboniferous age. The site is located on the northern edge of Cardiff, less than one mile to the north of the M4 motorway, and to the west of the A470 dual carriageway. Access is from the B4262, through the disused Ty Nant Quarry and via a tunnel to the south-east corner of the site.
- 2.3 The site currently has two abstraction licences: WA/057/0025/0015 which is the subject of this variation application and 21/57/25/47 which is the subject of a separate variation application.
- 2.4 There are also six licensed groundwater abstractions within 3km of the site, the details of which are provided within Table 1 below.

**Table 1:**

Licensed Groundwater Abstractions						
Licence No.	Licence Holder Name	Use	Annual Qty (m <sup>3</sup> )	Source Type*	NGR	Distance from site
21/57/25/47	Breedon Trading Ltd	General use Dust suppression Mineral washing	136,380	GW:-	ST 1184 8235	Within the Site
21/57/25/0075	Tarmac Aggregates Ltd	Process Water	33,000	GW: Borehole	ST 1248 8292	82m east
21/57/25/0023	South Wales Forgemasters Ltd	Evaporative cooling	163,656	GW:-	ST 1260 8323	0.4km northeast
WA/057/0025/0014	Rhondda Cynon Taf County Borough Council	Heat pump	27,466.44	GW: Spring	ST 11925 83639	0.86km north

Licensed Groundwater Abstractions						
Licence No.	Licence Holder Name	Use	Annual Qty (m <sup>3</sup> )	Source Type*	NGR	Distance from site
21/57/25/0080	Radyr Golf Club	Spray irrigation	15,750	GW: Borehole	ST 12383 80291	1.56km south
21/57/25/0066	Whitechurch (Cardiff) Golf Club	Make up or top up water	4546	GW: Borehole	ST 14873 81384	2.15km southeast

\*GW – Groundwater

*Data provided by NRW for Breedon Trading Ltd, Taffs Well Quarry Hydrogeological Impact Assessment, V1.0, updated March 2025 (reference: ST19539/FINAL).*

2.5 There are three licensed surface water abstractions within 3km of the site, the details of which are provided within Table 2 below.

**Table 2:**

Licensed Surface Water Abstractions						
Licence No.	Licence Holder Name	Use	Annual Qty (m <sup>3</sup> )	Source	NGR	Distance from site
21/57/25/0046	Breedon Trading Ltd	Process Water	6819	Nant-y-Forest	ST 13569 82856	1.12km east
WA/057/0025/005	Cardiff Council	Hydroelectric Power Generation	5,13,216,000	Radyr weir	ST 13076 80819	1.26km south
WA/057/0025/009	Cardiff Council	Hydroelectric Power Generation	-	-	ST 13094 80791	1.3km south

*Data provided by NRW for Breedon Trading Ltd, Taffs Well Quarry Hydrogeological Impact Assessment, V1.0, updated March 2025 (reference: ST19539/FINAL).*

2.6 There are also 15 private water supplies within 3km of the site, the details of which are provided within Table 3 below.

**Table 3:**

ID	Source	Daily Abstraction Rate m <sup>3</sup>	NGR	Distance from site	Local Authority
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ID	Source	Daily Abstraction Rate m <sup>3</sup>	NGR	Distance from site	Local Authority
289	N/A	N/A	ST 13000 83700	1.01km northeast	Rhondda Cynon Taf
133	N/A	N/A	ST 11100 84600	2.11km northwest	
300	Borehole	N/A	ST 11800 84900	2.12km north	
314	Borehole	N/A	ST 11100 85500		
315	Borehole	N/A	ST 11100 85500		
316	Borehole	N/A	ST 11100 85500		
6	Spring	1.6	ST 09661 83343	2.17km northwest	Vale of Glamorgan
85	N/A	N/A	ST 12500 85200	2.31km north	Rhondda Cynon Taf
25	Stream	N/A	ST 11400 85300	2.62km north	
26	Stream	N/A	ST 11400 85300		
96	N/A	N/A	ST 09600 84200	2.70km northwest	
238	N/A	N/A	ST 10900 85300	2.82km north	
250	N/A	N/A	ST 13800 85400	2.88km northeast	
3	Borehole	0.8	ST 15259 83642	2.9km east	Vale of Glamorgan
292	N/A	N/A	ST 10100 84800	2.92km northwest	Rhondda Cynon Taf

*Data provided by Vale of Glamorgan Council and Rhondda Cynon Taf Council for Breedon Trading Ltd, Taffs Well Quarry Hydrogeological Impact Assessment, V1.0, updated March 2025 (reference: ST19539/FINAL).*

### 3. Current Abstraction Licence

- 3.1 The Licence was issued by Natural Resources Wales (NRW) to Cemex UK Materials Limited on 13<sup>th</sup> May 2022 under the Transitional Provisions with an expiry date of 31<sup>st</sup> March 2029. The licence was transferred to the current operator, Breedon on 23<sup>rd</sup> November 2022, retaining the original licence expiry date.
- 3.2 The current licence allows water to be abstracted for two purposes; Transfer for the purpose of dewatering and Dust Suppression.
- 3.3 For the purpose of transfer for the purpose of dewatering, the licence permits the abstraction of 643,000 m<sup>3</sup>/year. The water is required to be abstracted to allow safe and dry extraction of limestone from the quarry due to the depth of the quarry.
- 3.4 For the purpose of Dust Suppression, the licence permits the abstraction of 6,000 m<sup>3</sup>/year. The water is required to provide an effective solution to dry conditions and prevent fugitive emissions of dust at the site.
- 3.5 This variation application relates to an increase in permitted abstracted volumes for the purpose of Dust Suppression. Recorded abstracted data for the purpose of dust suppression since the licence was transferred to Breedon (November 2022) is provided in Table 4 below.

**Table 4:**

Year	Volume (m <sup>3</sup> )	% of Licence	Comments
November 2022 – March 2023	Dust Suppression = 7,405	123%	Abstracted volume exceeds permitted volume.
April 2023 – March 2024	Dust Suppression = 12,300	205%	Abstracted volume exceeds permitted volume.
April 2024 – March 2025	Dust Suppression = 13,189	220%	Abstracted volume exceeds permitted volume.

3.6 As Table 4 demonstrates, there have been exceedances of the permitted abstraction volume for the purpose of Dust Suppression since the Licence was transferred to Breedon. This variation application seeks to prevent further exceedances by increasing the permissible abstraction volumes to align with operational requirements.

## 4. Licence proposed changes

- 4.1 This application proposes to increase the permitted volumes of the Dust Suppression purpose on the Licence and is submitted as a normal variation.
- 4.2 As detailed within Section 3 of this document, the Site has exceeded the current permitted annual Dust Suppression volume for the previous three reportable returns periods due to operational requirements.
- 4.3 To mitigate any further exceedances whilst meeting operational requirements, Breedon proposes to increase the permitted volume for the purpose of Dust Suppression.
- 4.4 Based on the previous three reportable returns periods, it is proposed that the permitted volumes for the purpose of Dust Suppression are increased as per Table 5 below.

**Table 5:**

Period	Maximum Quantities	Comments
Annual	14,507 m <sup>3</sup> / annum	The figure is based on a maximum abstracted volume of 13,189 m <sup>3</sup> during the 24/25 reportable returns period plus 10% contingency.
Daily	65.94 m <sup>3</sup> / day	The figure is based on 14,507 m <sup>3</sup> / annum split across 220 operational days.
Hourly	6.59 m <sup>3</sup> / hour	The figure is based on 65.94 m <sup>3</sup> / day split across 10 operational hours.
Peak abstraction Rate	70 litres / second	The figure is based on the pump capacity and is in line with the current abstraction licence.

- 4.5 It is anticipated that dust suppression would be required for a period of 10 hours per day across 220 operational days per annum.

- 4.6 Although dust suppression is required for the most part during the spring/summer seasons when weather conditions tend to be drier, some sites within the Breedon portfolio have noticed the need to implement dust suppression measures outside of these seasons due to the changing climate. The site would ordinarily operate across 260 days in a calendar year but the figure of 220 days has been used to accommodate the winter period when it is likely, although not impossible to not require dust suppression measures.
- 4.7 There are no proposed changes required to the means of abstraction, this will remain as per current operational practices.

## 5. Water Efficiency & Environmental Management

5.1 Breedon operates to international environmental management system; ISO 14001 and a copy of the certificate is included within the application, ref: Breedon Trading Ltd ISO14001 Certificate exp Aug 27.

5.2 The scope of Breedon's ISO14001 certification extends to:

***The production and supply of aggregates. The extraction, processing and supply of sand and gravel. The production and supply of bituminous mixtures and coated chippings for roads and other paved areas and associated civil engineering works. Production and supply of ready mixed concrete and concrete products, including blocks. Production and supply of mortars and screeds. Laying of bituminous surfacing and the proprietary thin surfacing of roads (machine laying or hand laying).***

5.3 As part of the management system, the most relevant document in relation to water management is: 'GES-03 Water Management Standard'.

5.4 In summary, GES-03 ensures applicable sites are compliant by way of outlining the requirements of an abstraction licence, ensuring a site water management plan is developed and available, requires that appropriate water use measurement is in place by way of metering and that monitoring and reporting are completed both internally and externally (reporting of annual returns to the Regulator).

5.5 Monthly internal reporting of water use across Breedon allows sites to share best practice to reduce water consumption.

5.6 Inspection and maintenance programmes are in place and include regular checks of the water distribution system for leaks. Faults are recorded and repairs undertaken as quickly as possible. However, if there were instances of short-term leaks or losses, the water would infiltrate into the underlying strata and recharge the aquifer.

5.7 Breedon also has sustainability targets in relation to water management across the UK&I focusing on reduction and closed loop water systems.

## 6. Conclusions

- 6.1 The Site has planning permission to expand via the deepening of the quarry allowing the extraction of limestone across several years. The Site requires an adequate means to suppress dust during its operational lifetime to prevent particulate emissions leaving the site boundary which could potentially cause nuisance to neighbours.
- 6.2 As the volume of water abstracted for the purpose of dust suppression since the Licence was transferred to Breedon has exceeded the current permitted volumes in each reportable returns period, it is clear the current permitted volume of 6,000 m<sup>3</sup> per annum does not meet the operational requirements of the site.
- 6.3 The proposed increased volumes for the dust suppression purpose have been calculated in line with the maximum previously recorded returns data plus 10% contingency which should account for increased dry weather events such as those of Spring/Summer 2025.