APP/M1900/W/21/3278097: Land at Former Hatfield Aerodrome, AL4 0HP

Affinity Water Rule 6 Statement

Affinity Water is the UK's largest 'water-only' company, supplying a population of more than 3.6 million people with more than 900 million litres of the high-quality drinking water each day. We have three geographically separate supply regions: Central, Southeast and East. The application for the establishment of a new quarry on land at the former Hatfield Aerodrome, that is the subject of the Appeal, is located in our Central region.

Our Central region brings diverse challenges including being located in one of the driest parts of the UK; existence of some of the world's rare chalk streams; supporting economic and housing growth; being the location of the country's large transportation hubs at Heathrow Airport, Luton Airport and Stansted Airport and of proposed major infrastructure projects including a third runway at Heathrow, expansion of Luton Airport and High-Speed Rail (HS2).

Affinity Water is a statutory water undertaker under the Water Industry Act 1991 (the "Act"). The Act sets out the main powers and duties of water undertakers. Section 37 of the Act provides the general duty to supply water:

"General duty to maintain water supply system etc.

It shall be the duty of every water undertaker to develop and maintain an efficient and economical system of water supply within its area and to ensure that all such arrangements have been made:

(a) for providing supplies of water to premises in that area and for making such supplies available to persons who demand them; and

(b) for maintaining, improving and extending the water undertaker's water mains and other pipes,

as are necessary for securing that the undertaker is and continues to be able to meet its obligations under this Part."

Section 68 of the Act provides the duties of the water undertaker with respect to water quality:

"Duties of water undertakers and water supply licensees with respect to water quality.

(1) It shall be the duty of a water undertaker where its supply system is used for the purpose of supplying water to any premises for domestic or food production purposes—

(a) to ensure that any water so supplied is wholesome at the time of supply; and

(b) so far as reasonably practicable, to ensure, in relation to each source or combination of sources from which water is so supplied, that there is, in general, no deterioration in the quality of the water which is supplied from time to time from that source or combination of sources.

and this section and section 69 below apply, in relation to the duty of an undertaker, whether or not the water supplied using the undertaker's supply system is supplied by the undertaker.

(1A) It shall be the duty of a water supply licensee—

(a) when supplying water to any premises for domestic or food production purposes, in accordance with the licensee's retail authorisation or restricted retail authorisation, to ensure that the water is wholesome at the time of supply; and

(b) so far as reasonably practicable, to ensure, in relation to each source or combination of sources from which that licensee supplies water to premises for domestic or food production purposes, in accordance with the licensee's retail authorisation or restricted retail authorisation, that there is, in general, no deterioration in the quality of the water which is supplied from time to time from that source or combination of sources,

(2) For the purposes of this section and section 69 below and subject to subsection (3) below, where a water undertaker's supply system is used for the purpose of supplying water to any premises, any water so supplied to any premises shall not be regarded as unwholesome at the time of supply where it has ceased to be wholesome only after leaving the undertaker's pipes.

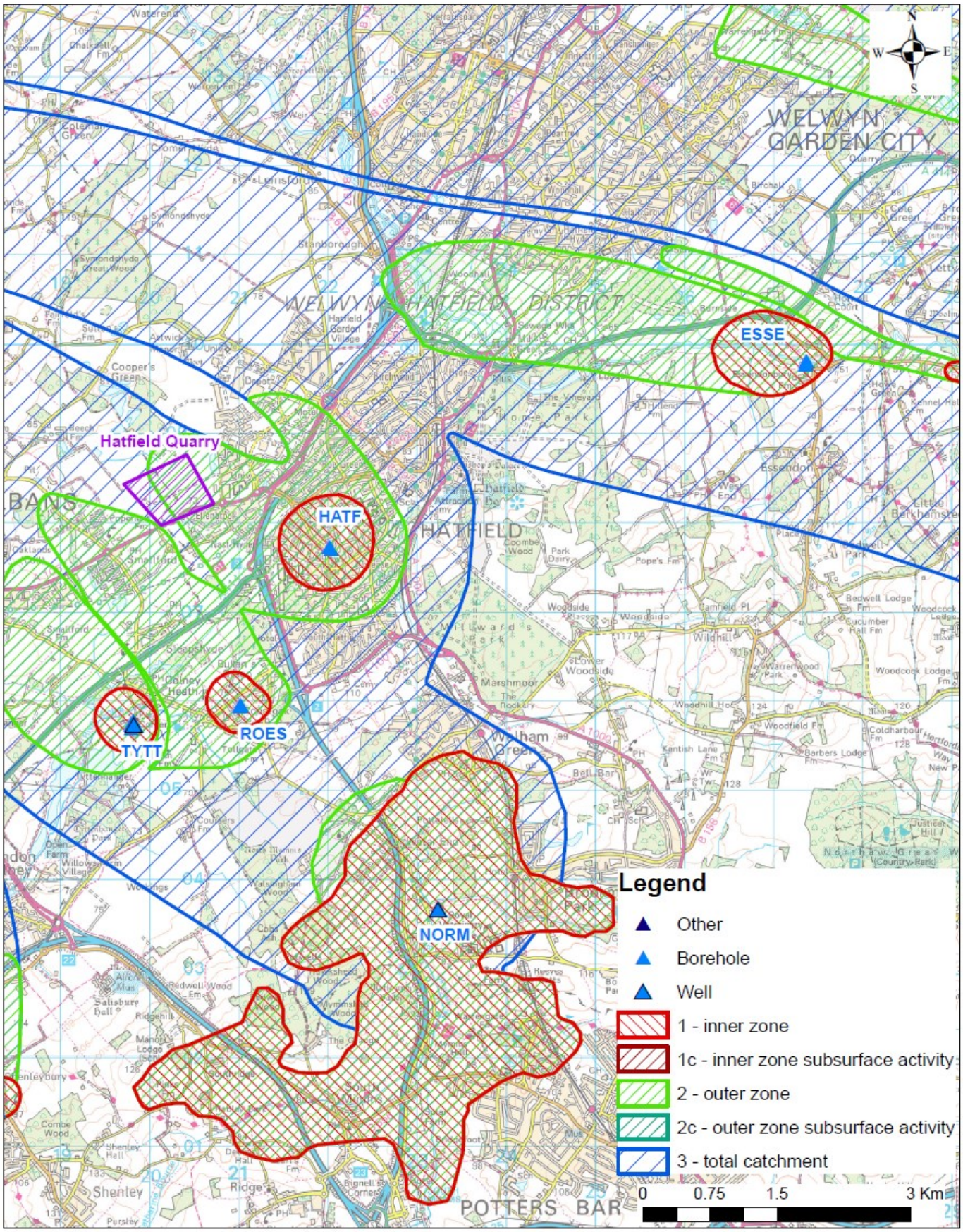
(3) For the purposes of subsection (1) above where a water undertaker's supply system is used for the purpose of supplying water to any premises, and the water so supplied would not otherwise be regarded as unwholesome at the time of supply, that water shall be regarded as unwholesome at that time if—

(a) it has ceased to be wholesome after leaving the undertaker's pipes but while in a pipe which is subject to water pressure from a water main or which would be so subject but for the closing of some valve; and

(b) it has so ceased in consequence of the failure of the undertaker, before the water is supplied, to ensure that such steps are taken as may be prescribed for the purpose of securing the elimination, or reduction to a minimum, of any prescribed risk that the water would cease to be wholesome after leaving the undertaker's pipes……."

The bromate and bromide contamination in the Chalk aquifer in the vicinity of Hatfield and the proposed application, originates from the site of a former chemical works in Sandridge, now referred to as St Leonards Court (SLCourt). Contamination of the Chalk groundwater at Bishops Rise pumping station (HATF) was first discovered by Three Valleys Water (now Affinity Water) in May 2000, when it was testing groundwater quality in preparation for implementation of a new limit for bromate in drinking water under the now repealed Water Supply (Water Quality) Regulations 2000 (SI 2000 No. 3184).

Since May 2000, we have not used the groundwater abstraction source at HATF for public supply due to the concentration of bromate in the Chalk groundwater. We operate several other abstraction points in the vicinity which are of relevance. These are ESSE, ROES, TYTT and NORM. The bromate pollution and the actions dealing with it, all have an impact on our operations at these sites. You should be aware that the proposed mineral extraction site is located within an Environment Agency defined groundwater Source Protection Zone 3 (SPZ) corresponding to a number of these sources, whilst being in or bordering one or more SPZ 2 zones, see following map.


WELWYN GARDEN CITY
HATFIELD DISTRICT
ESSE
Hatfield Quarry
HATF
HATFIELD
ROES
TYTT
NORM
POTTERS BAR
Legend
Other
Borehole
Well
1 - inner zone
1c - inner zone subsurface activity
2 - outer zone
2c - outer zone subsurface activity
3 - total catchment
0
0.75
1.5
3 Km

We currently operate the scavenge pumping operation at HATF in accordance with the abstraction licence TH/038/0001/001 granted by the Agency for that operation. We are licensed to abstract up to 9 megalitres (million litres) per day (Ml/d) and, as a condition of the abstraction licence, that quantity is treated and then returned to the sewer network for further treatment. The scavenge pumping at HATF has a direct operational impact on other down-hydraulic gradient sources in the Lea valley (such as ESSE) as well as the blending ratio in our NORM treatment works which can impact on our ability to comply with our duties to supply water.

We have a licence to abstract water at ESSE (licence number 29/38/01/60) in the amount of 5 Ml/d on an annual average basis and 9 Ml/d on a daily peak basis as part of the group licence with two other sources located in the Upper Lea catchment. Because of the concentration of bromate in this abstracted water, it is necessary to blend water abstracted at ESSE with water uncontaminated by bromate from sources at ROES, TYTT and NORM, utilising a purpose-built raw water main from ESSE to our NORM Water Treatment Works. This dependency on blending for bromate is very delicate and has knock-on impacts on our operations on a day-to-day basis, as well as on our ability to maintain resilience.

It should be noted that we have been in contact with Brett Aggregates Limited regarding the original Application for which we submitted an objection, and this was followed by direct discussions around our concerns. Our objection to the original Application was removed on the basis that Brett Aggregates Limited (the Applicant) would enter into a private agreement with Affinity Water Limited in relation to monitoring and additional controls, including trigger values within the private agreement to initiate actions if groundwater levels were to reach the historic low levels or bromate concentrations in the monitoring boreholes would exceed defined prescribed values. This private agreement was primarily aiming for the protection of: a) our scavenging operation at HATF source and b) our groundwater abstraction sources at TYTT and ROES in order to maintain water supply resilience and to ensure that the bromate plume does not change its position and spatial extent from our abstraction sources due to the quarrying activities and c) limiting any future costs exposure to Affinity's customers in the event of any negative impact on the local water sources due to Brett's activities. The Application was refused prior to the final monitoring agreement being entered into and, although it is acknowledged that Heads of Terms had been agreed between the parties, a full agreement affording all necessary protections is not currently in place.

The purpose of this Statement is to reinstate our original request for appropriate monitoring provisions to be applied to the above application for the reasons described above. This requirement was originally presented to Hertfordshire Country Council in letters dated 13/08/2018 and 18/12/2021 (respectively).

In this submission to this Appeal, Affinity Water wishes to advise the inspector of the significance of a suitable monitoring arrangement being put in place should the development be approved and be able to progress. We would therefore request that, should the appeal application be successful, appropriate measures are put in place requiring (as a minimum) agreement of a suitable monitoring plan prior to any development commencing. We would also request that prior to confirmation of these monitoring arrangements, we are consulted as to our suitability in meeting the requirements for the future protection of groundwater sources for public water supply.

The monitoring requirements should be linked to triggers on:

a) the lowest recorded Chalk and Lower Mineral Horizon (LMH) groundwater levels in existing boreholes around the proposed quarry and

b) historic bromate concentrations at a number of observation boreholes around the proposed quarry.

These triggers would reference the need for further technical meetings with further actions to be decided upon at the time.

We have substantial knowledge and experience around the bromate plume in this location and to ensure that all relevant risks and factors in this regard are able to be fully considered by the Inspector, we have applied for Rule 6 status to assist with the Inquiry. We anticipate that the provision of our expert knowledge and technical information in this area will be of interest to the Inspector and confirm that we will be available to assist the Inquiry as required.

We are also aware that a further Scoping Opinion (PL/0209/21-Scoping) was submitted for another proposal at this location. We provided a response to Hertfordshire County Council on this scoping opinion on the 25 June 2021. In our response, we have indicated that we require the following issues to be addressed:

- Revision of the potential risks caused by the proposed new method of extraction from dry Upper Mineral Horizon (UMH) and wet Lower Mineral Horizon (LMH). Potential risks may include:
    - Cross contamination between the LMH/Chalk and the UMH aquifer
    - Extreme scenarios influencing the migration of the bromate plume
    - Alteration of LMH aquifer storage and its influence on surrounding groundwater levels
- Proposal for additional groundwater level and water quality monitoring to align with the renewed quarry plan in:
    - Both UMH and LMH pre-, post- and during operation
    - Extreme scenarios that consider the new extraction method and triggers associated with this.
- Reviewing the cumulative impact of the recharge lagoons operated by both CEMEX and Brett quarries, and the control mechanisms in place to ensure this does not exacerbate groundwater flood risk in the area.
- Restoration of a boulder clay layer (or similar of hydraulic properties) post-operation to ensure current hydraulic separation between UMH and LMH/Chalk is maintained.