

03 March 2015

Mike German  
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Dear Mr German

**HORNSEY WATER WORKS INCLUDING THE SLUICE HOUSE AND CAMPSBOURNE WELL PUMPING STATION, HORNSEY WATER WORKS, NEWLAND ROAD (TQ3047589833) CAMPSBOURNE PUMPING STATION, CROSS LANE (TQ3054089510) AND SLUICE HOUSE AT TQ3070489552**

#### **RESPONSE TO INVITATION TO COMMENT**

We are writing on behalf of Thames Water Utilities Ltd (“Thames Water”) who have instructed Montagu Evans to review the Hornsey Water Works and associated buildings (hereafter referred to as “the site”).

These representations are submitted in response to your letter dated 15<sup>th</sup> February 2015 inviting comments to be submitted within 21 days.

In summary, we consider that site and associated Sluice House do not have the requisite special interest to warrant inclusion on the Secretary of State’s list of buildings as per s.1(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990.

#### **Wider Context**

We note that the site lies within the Hornsey Water Works and Filter Beds Conservation Area, which was designated by the London Borough of Haringey (“the Council”) in 1994. The Council has also included the following structures (which lie on the site), on the Local List of Buildings of Merit under entry number 15:

- TWA Waterworks Gatehouse (Added 27 January 1997);
- 1859 Sluice House MWB on New River (Added 27 January 1997);
- Site of 1859 Waterwheel adjoining Sluice House (1 May 2004);
- 1875 Coal Tramway Bridge across New River (1 May 2004);
- New River aqueduct north to embankment tunnel (1 May 2004);
- Filter Beds of 1859 and 1879 (1 May 2004); and
- Sluice House south of Filter Beds (1 May 2004).

These structures were also identified as part of the “New River” designation in the “Sites of Industrial Heritage Interest” as part of Haringey’s Unitary Development Plan (“UDP”) adopted July 2006 (Saved Policies version July 2009).

Thames Water supports the allocation of this site for future residential use following recent development to the south of the site. Two specific filter beds have been identified as part of the site allocation and are expected to

become available for development during the lifetime of the Council's Site Allocations Development Plan Document ("DPD").

Thames Water have also confirmed that they require flexibility to manage the operational activities on the site. They consider that designation of any of the structures or buildings under their ownership would have serious implications both for the short-term management of the waterworks and in the future should re-development become a viable opportunity.

### **Description of the Site**

The site has an approximate square-form and is orientated northwest/southeast. It is bounded to the north and west by Alexandra Park, with the associated reservoir extending to the north. The reservoir is fed by the adjacent New River which forms the eastern boundary with the partially screened railway line beyond. The area to the south is now occupied by a recent development comprising seven residential blocks. To the west of this area is the Sluice House, also owned by Thames Water.

The site is accessed from two locations. The first is from the south on Greenways, however this access point is not commonly used. The main entrance is on the western boundary from Newland Road where a secured modern palisade gate ensures controlled access.

The water works site comprises:

- Two shallow rubble-lined, raw water reservoirs (for filtering out silt before water passed to the filter tanks) which lie to the north of the site and adjacent to Alexandra Palace;
- A number of operational buildings;
- A disinfection plant;
- A series of disused concrete-lined filter tanks; and
- A large bromate plant (2008), which incorporates a series of modern buildings and lies within an area that was formerly used as filter beds.

The water is sourced for the site from the River Lea and four abstraction boreholes that lie to the north.

The water is then pumped, via the New River, into the small bankside reservoirs and later into the treatment plant.

The main reservoir lies to the north of the filter beds and connects to the New River at the southern entrance of the Wood Green tunnel (Grade II, Listed Building Number 1189317).

Nine filter tanks were originally arranged in a square pattern (See Enclosed Historic Maps). However, only four of the tanks remain intact and are now generally disused. The filter tanks are concrete lined with the bottoms covered with concrete tiles. At the sides of each tank are filter structures but these have been altered with to incorporate metal pipework.

The remaining filter beds all have a concrete access ramp in one corner. The ramps were used for access to the filter beds during cleaning.

Five of the original filter beds have been infilled.

The four earliest filter beds (as shown in the 1<sup>st</sup> Edition Ordnance Survey Map, 1876) were built over when the bromate plant was constructed in 2008. A further tank, in the southeast corner of the site, was built over for an operational building dating to the late-twentieth century.

The remaining filter bed, in the northwest of the site has also been infilled. We understand through discussions with site operators that it was the former location of a temporary construction compound for the Bromate plant.

The other building relevant to this review, and which is also subject to English Heritage's assessment, is the Sluice House. The building was used for regulating the flow of the New River. It lies approximately 250m to the southeast of the Hornsey Water Works and dates originally from 1859. The wings were demolished during the mid-twentieth century.

The remaining part of the Sluice House spans the river with a modern (1993) pump house to the west. The exterior is rendered yellow stock brick with a slate-covered double-pitched roof. The southern elevation includes two doorways that provide independent access at either end of the building (access was only available at the eastern end during inspection for this assessment). The doorways have fan lights with plank doors, while the windows have been removed and boarded up.

The fenestration pattern to the exterior has been altered. A number of narrow-arched windows formerly occupied the both the north and south elevations, however these have been infilled.

The interior is divided into five spaces: two rooms deep at both ends, and a central open space that spans the New River. We understand that a poncelot-type waterwheel was contained within the building. No evidence for the waterwheel was located during the site visit.

### **Historic Development**

The Hornsey reservoirs and filter beds were originally built in 1859 by William Chadwick Mylne (1781-1863), Chief Engineer of the New River Company. They were created as part of a series of improvements to the London water supply originally conceived to bring clean drinking water into the City of London. The principal element of this scheme was the New River which was built between 1609 and 1613. It spanned 39 miles from Chadwell Spring in Hertfordshire to the New River Head in Islington and comprised a channel that was 10 feet wide and four feet deep.

In response to the cholera outbreak in the mid-nineteenth century, the Metropolis Water Act (1852) was passed by Parliament allowing improvements to the supply of water by building new channels along the course of the New River.

A series of alterations were made improving the water supply the principal aim of providing a long-term and reliable water supply. The modified channel, widened and shortened, extended for 20 miles terminating at Stoke Newington, the River Lea Intake and a series of boreholes and pumping stations.

The stretch of the New River between Alexandra Palace and Hornsey High Street was built as part of this process and included a Sluice House of 1859. Also built following the 1852 Act, was a system that regulated the quality of the water. This resulted in the construction of water treatment plants on the New River, first at New River Head between 1854-6, followed by Stoke Newington Waterworks from 1855, and finally the Hornsey Water Treatment Works in 1859.

The Hornsey Water Treatment Works initially comprised three filter tanks, each with vertical concrete sides. By 1876, a fourth had been constructed to the south of the central tank, and within 25 years, all nine filter tanks had been established in a square plan-form.

By the end of the twentieth century the New River was outmoded by the construction of the London Ring Main, but nevertheless continued in operation to provide a backup supply when needed. The filter beds quickly fell out of use and were emptied shortly after.

Until c 2000, the Site had been vulnerable to algal blooms mainly caused by the shallow bank side storage. The algae blocked the slow sand filters and production from the plant suffered as a result. Recovery would often take several weeks while the filter beds were drained down, skimmed and then run-to-waste.

In 2000 routine sampling revealed that the northern part of the New River was contaminated with bromate (a potential carcinogenic formed when ozone used to disinfect drinking water reacts naturally with bromide in source water). To provide a long-term solution to combat the bromate issue, Thames Water gained consent to

build a bromate plant on three of the filter beds. According to cartographic evidence, these filter beds were the original three constructed in 1859. Construction of the bromate plant was completed in 2008.

### Assessment Criteria

This section of the report sets out the listing criteria against which the site and Sluice House will be assessed. The Listing Selection Criteria are published in the *Principles of Selection for Listing* (English Heritage 2010).

The statutory criteria for listing are the special architectural or historic interest of a building or structure. In this particular case there are few historic buildings that remain on waterworks part of the site and any designation would relate mainly to the filter beds. The Sluice House is more traditional in this regard, as a building rather than an industrial structure.

Many buildings or structures are interesting architecturally or historically. However, in order to be designated a building must have “special” interest in a national context.

Buildings on the list are graded to reflect their relative architectural and historic interest. Buildings of a particular historic interest may justify a higher grading than would otherwise be appropriate.

- Grade I buildings are of exceptional interest;
- Grade II\* buildings are particularly important buildings of more than special interest;
- Grade II buildings are of special interest, warranting every effort to preserve them.

The Secretary of State applies the following criteria when assessing whether a building is of special interest and therefore should be added to the statutory list:

**Architectural interest.** *To be of special architectural interest a building must be of importance in its architectural design, decoration or craftsmanship; special interest may also apply to nationally important examples of particular building types and techniques (e.g. buildings displaying technological innovation or virtuosity) and significant plan forms;*

**Historic interest.** *To be of special historic interest a building must illustrate important aspects of the nation’s social, economic, cultural, or military history and/or have close historical associations with nationally important people. There should normally be some quality of interest in the physical fabric of the building itself to justify the statutory protection afforded by listing.*

When making a listing decision, the Secretary of State may take into account the extent to which the exterior contributes to the architectural or historic interest of any group of buildings of which it forms part. This is generally known as group value. The Secretary of State will take this into account particularly where buildings comprise an important architectural or historic unity or a fine example of planning (e.g. squares, terraces or model villages) or where there is a historical functional relationship between a group of buildings. If a building is designated because of its group value, protection applies to the whole of the property, not just the exterior.

### General Principles

**Age and rarity.** The older a building is, and the fewer the surviving examples of its kind, the more likely it is to have special interest. The following chronology is prepared as a guide to assessment; the dates are indications of likely periods of interest and are not absolute. The relevance of age and rarity will vary according to the particular type of building because for some types, dates other than those outlined below are of significance. The following general principles are as follows:

- Before 1700: All buildings that contain a significant proportion of their original fabric are listed.
- From 1700 to 1840: Most buildings are listed.

- After 1840: Because of the greatly increased number of buildings erected and the much larger numbers that have survived, progressively greater selection is necessary.
- After 1945: Particularly careful selection is required for buildings from this period.
- Buildings of less than 30 years old: Normally listed only if they are of outstanding quality and under threat.

The Hornsey Water Works and filter beds fall into the third category, and so progressively greater selection is necessary.

**Aesthetic merits.** The appearance of a building – both its intrinsic architectural merit and any group value – is an important consideration in judging listing proposals, but the special interest of a building will not always be reflected in obvious external visual quality. Buildings that are important for reasons of technological innovation, or as illustrating particular aspects of social or economic history, may have little external visual quality.

There is a clear emphasis on the importance of aesthetics in selecting buildings for listing. The filter beds have no demonstrable aesthetic value. Indeed, industrial buildings of this type often favour engineering and practical requirements over aesthetic merit. There are cases where the overall visual quality of industrial buildings have been taken into account and these examples are listed below. However, this is not a primary consideration at Hornsey due to the utilitarian and prosaic appearance of the water treatment plant.

**Selectivity.** Where a building qualifies for listing primarily on the strength of its special architectural interest, the fact that there are other buildings of similar quality elsewhere is not likely to be a major consideration. However, a building may be listed primarily because it represents a particular historical type in order to ensure that examples of such a type are preserved. Listing in these circumstances is largely a comparative exercise and needs to be selective where a substantial number of buildings of a similar type and quality survive. In such cases, the Secretary of State's policy is to list only the most representative or most significant examples of the type.

A small number of filter beds have been listed as we explain below. However, these examples tend to have a particular quality related to relative age, group value and a particular characteristic such as architectural value or technological advancement.

**National interest.** The emphasis in these criteria is to establish consistency of selection to ensure that not only are all buildings of strong intrinsic architectural interest included on the list, but also the most significant or distinctive regional buildings that together make a major contribution to the national historic stock.

The filter beds are not unique to London, however, they do represent an early example of their kind and were associated with the development of the New River, an important and influential element that influenced the development of the City of London.

The Sluice House, meanwhile, is of a type that became more common from the late-eighteenth century. Regionally, the Sluice House at Bush Hill in Enfield (Listed Description Number: 200829) is an early example and which was built as part of the works on the New River. It was most likely designed by Robert Mylne and completed in 1796, some 53 years prior to the Sluice House at Hornsey.

### **Specific criteria**

English Heritage has also published Listing Selection Guides to further assist with the assessment of buildings. The one guide that is relevant to the Hornsey Water Works is, *Utilities and Communications Structures* (April 2011).

The selection guide recognises that utilities and communications each contribute vastly to modern life:

*“Functional as they are, their history remains important. They combined entrepreneurial discovery with municipal or state undertakings; science and engineering were housed in monumental premises with strong architectural character; and modern improvements have taken place alongside the retention of large elements of historic infrastructure.” (2011, 2)*

The selection guide notes that those buildings relating to utilities should first be assessed in terms of their intrinsic value – this may lie in their special architectural, planning, engineering and technological interest:

*“As with industrial buildings more generally, completeness can be of overriding importance especially where important processes can be illustrated on a single site. (The ‘special considerations’ outlined more fully in the selection guide Industrial Buildings are relevant to the Utilities which in many ways are a sub-set of the industrial category.) Relative date may be significant, as will rarity. Alteration and upgrading is likely to have taken place, and assessment of the authenticity of the structures from a historical point of view will sometimes be necessary. The designation of buildings and structures concentrates on the above-ground evidence of the systems.” (2011, 2)*

The main areas for assessment have been underlined and place emphasis on the completeness and authenticity of such structures, with further weight on the relative date and rarity.

More specific to this assessment, the listing guide identifies “Water Supply” and “Water Works” and “Filter Beds” as a sub-set of Utilities and Communications.

In relation to Water Works, the criteria refers mainly to pump stations:

*“England’s oldest extant water-pumping beam engines (of 1820 onwards) are those at Kew (listed Grade I). Because of their rarity almost all surviving pumping houses (or stations) from before 1860 are listed: there are some half dozen from before 1850, and twenty plus from the 1850s. The decades between 1860 and 1930 were the most active years of waterworks’ architecture. They saw the widespread use of steam engine pumping and most undertakings, both private and municipal, built impressive pumping stations. These buildings were public symbols of the investment of both local authorities and private companies and reflected the high value placed on the activity, and its association with health and town improvement. Waterworks often occupied large areas and these were often carefully landscaped with aesthetic and amenity considerations in mind. The most important, especially when associated with complete sets of buildings, may be eligible for inclusion on the Register of Parks and Gardens.” (2011. 8)*

In relation to Filter Beds, the criteria notes:

*“Filter beds are increasingly rarely found as more compact filtration systems have replaced them. The rate at which water could be filtered was accelerated by the introduction in the 1920s of rapid filters, housed in primary filter houses. Mid nineteenth-century filter houses are technologically important and significant examples, such as the group of six at Swithland Reservoir, Leicestershire (listed Grade II) complete with an air vent disguised as a gazebo, may merit listing.” (2011, 9)*

Although the listing guidance does make specific reference to filter beds, it is also important to understand those examples that have already been designated.

The National Heritage List identifies three principal examples relating to filter beds, two of which relate to Cropston Reservoir (Listed Description Numbers: 1074630 and 1178122) and a further at Swithland Reservoir (Listed Description Number: 1188198), both in Leicestershire. Both complexes survive in a “park-like setting” and have idiosyncratic octagonal beds that have an attractive visual quality.

The listed building descriptions of the filter beds attach weight to the relative aesthetic value of the structures and their setting; associations with the principal construction phase; and, inherent architectural and engineering interest.

### **Assessment Against Criteria**

The special considerations in relation to buildings associated with Utilities and Communications are summarised below.

It is important to note as a general rule that the principles of selection confirm that the building must be of special interest in a national context if it warrants designation. In other words, the design must be of importance to the nation. Historic interest must reflect the nation’s social, economic, cultural or military history and historical associations must be with nationally important people or events.

Thus, a building must have clear special interest in a national context and not merely some degree of interest. After all, almost any project of any scale requires the mobilisation of social capital and in that case must have some interest. Likewise any building of the recent past, of any scale, has a history because one can generally locate it in primary and secondary sources. Thus, the fact that one can tell the story of a building does not in itself make that building of special interest.

This assessment addresses the listing criteria through the following steps:

- Relative date and rarity;
- Intrinsic interest - for instance, special architectural, planning, and innovation/technology interest;
- Assessment of the building against specific selection guide criteria (Utilities and Communications).

### **General Considerations**

#### Age and Rarity

**Criteria:** *After 1840 - Because of the greatly increased number of buildings erected and the much larger numbers that have survived, progressively greater selection is necessary.*

This criteria is less applicable to the filter beds, because they only became prominent from the mid-nineteenth century onwards. The Hornsey Water Works and filter beds in particular are an early example of their type, dating from 1859. However, none of the beds from the original phase have survived owing to the construction of the bromate plant. Consequently, the architectural value of the water treatment works has been diminished.

The Sluice House to the south of the main site also dates to the 1859. The house formed one of a number of buildings that contributed to the New River and thus has an intrinsic historical value associated with it. However, as building type, sluice houses are quite common. Listed examples are generally earlier in date and associated with designed landscapes (Listed Building Number: 1344652), or are associated with early-nineteenth century engineering with surviving mechanical machinery (Listed Building Number: 1334951).

We were unable to locate any historical machinery of note within the Sluice House at Hornsey. Moreover, the building is a late example of its kind, even within the context of the New River. Consequently, the building is neither rare enough, nor has an age that meets this particular set of criteria.

### Aesthetic Merits

**Criteria:** *Buildings that are important for reasons of technological innovation, or as illustrating particular aspects of social or economic history, may have little external visual quality.*

*There is a clear emphasis on the importance of aesthetics in selecting buildings for listing.*

The appearance of the filter beds is less of a consideration in this case. The filter beds are functional structures and were not designed to have any particular aesthetic quality. In this case, the filter beds do not have any particular merit in this regard, being constructed in concrete and having a utilitarian character. The appearance has been made worse through successive phases of alteration to the group culminating in the construction of the bromate plant in the north of the site.

The appearance of the Sluice House and the triple arch arrangement over the New River make a limited contribution to the building's heritage significance. The degree of alteration comprising the demolition of the wings, infilling of characterful slim windows, and the construction of the modern pump house has reduced any claim to having special interest due to aesthetic merit.

### Selectivity

**Criteria:** *A building may be listed primarily because it represents a particular historical type in order to ensure that examples of such a type are preserved. Listing in these circumstances is largely a comparative exercise and needs to be selective where a substantial number of buildings of a similar type and quality survive. In such cases, the Secretary of State's policy is to list only the most representative or most significant examples of the type.*

As noted above, the remaining filter beds do not represent the initial phase of construction. Moreover, the site represents only four of the original nine. When compared to the listed examples noted above, the Hornsey examples lack the intrinsic architectural quality and completeness.

In relation to the Sluice House, see above under Age and Rarity.

### National Interest

**Criteria:** *The emphasis in these criteria is to establish consistency of selection to ensure that not only are all buildings of strong intrinsic architectural interest included on the list, but also the most significant or distinctive regional buildings that together make a major contribution to the national historic stock.*

If both the filter bed and sluice house were afforded a 'geographic value' they would be of local interest only. They are not the most significant or distinctive regional examples mainly because the architectural value and integrity of the site has been eroded so heavily.

This assessment is supported by the Council's recognition of the structures, identifying them as locally listed buildings and as Sites of Industrial Heritage Interest in the Council's UDP adopted July 2006 (Saved Policies version March 2013):



## Specific Considerations

### Completeness and Authenticity

**Criteria:** *As with industrial buildings more generally, completeness can be of overriding importance especially where important processes can be illustrated on a single site.*

*Alteration and upgrading is likely to have taken place, and assessment of the authenticity of the structures from a historical point of view will sometimes be necessary.*

The filter beds and Sluice House have lost much of their completeness. Alterations have been made over the course of the twentieth and twenty-first centuries. These have eroded the architectural interest of the site, thus reducing authenticity and completeness in both cases.

### Relative Date and Rarity

*Relative date may be significant, as will rarity.*

See above under 'Age and Rarity'.

## Previous Assessments of the Site

The site forms part of the Hornsey Water Works and Filter Beds Conservation Area which was designated in November 1994. However, a Conservation Area Appraisal assessing the significance of the site has not been prepared by the London Borough of Haringey.

On behalf of the Council, the site was reviewed by Malcolm Tucker in 1996 (*Industrial Archaeological Report on Hornsey Gasworks*). Tucker identified the Engine House, Cross Lane Well House Pumping Station, Engineer's House, Gate House tramway Bridge and Sluice House as being of historical and industrial value. We surmise that the report guided the identification of features of industrial heritage interest as noted in the UDP Saved Policies and indeed the Local List of Buildings of Merit.

Between 1998 and 2001, English Heritage completed four reports relating to the Water and Sewage Industries as part of the Monument Protection Programme (MPP) for the evaluation of industrial monuments. It identified frameworks for management and future conservation action for the industry, including statutory designation where applicable.

The Step 3 report (2000) noted that Water Treatment was represented nationally by 17 sites. Most of the example were where filtration was a component of pumping, abstraction or an impounding scheme. Filter beds were commonly quite plain features however two had particular interest. The Surbiton works of the 1850s (Surrey) retained the earliest survival of slow sand filter beds by James Simpson. The other example was the ornate listed filter beds Cropston, Leicestershire, which had not survived by c 2000. Against this background, the Hornsey works of 1853 were deemed to have some importance (2000, 13).

The Step 4 report (2001) provided an overview of the historical background, a series of recommendations and finally, other considerations for these sites. On that basis, the report stated that the Hornsey Reservoirs and Treatment Works (New River 93) should be subject to "conservation action through the planning process and local authority conservation service in accordance with local and national policies" (2001, 28, 47). It is clear that even at the turn of the twenty-first century, English Heritage considered that the site did not merit national designation. This was an assessment made prior to the further erosion of the site's completeness through the construction of the bromate plant.

## Summary and Conclusion

Overall, we consider that the Hornsey Water Works and Sluice House do not have the requisite special interest to warrant inclusion on the Secretary of State's list of buildings as per s.1(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990.

We consider that in both cases they lack the necessary rarity of type, degree of technological innovation, or the context of a readable group of structures that illustrate the industrial process of the treatment of water, to merit special interest in relation these important building types.

It is clear from historical research that the filter beds and Sluice House have been subject to demonstrable alterations substantially eroding their completeness and integrity. These are salient concepts when assessing industrial buildings of this type, particularly with those dating from the 1840s onwards. As a consequence there is a high threshold for designating buildings from this period. The loss of the early filter beds through the construction of the bromate plant, as well as the significant alterations to the Sluice House, detract from the overall significance of both structures, and thus their ability to meet the designation criteria.

This assessment is endorsed by the MPP Step 4 report completed in 2001 when English Heritage recommended that the site should be managed through the planning process.

We do consider that these structures have clear local interest through their association with the improvement works to the New River in the second half of the nineteenth century. The filter beds, in particular, were early examples of their type, and were integral to the provision of clean water to the City of London. This interest is managed through existing planning designations as Locally Listed Buildings of Merit and the Hornsey Water Works and Filter Beds Conservation Area.

## Closing

We trust this formal response to the consultation will be considered in your Stage 2 assessment. If you have any questions please do not hesitate to contact Edward Kitchen or Dr Timur Tatlioglu of this office (contact details above).

Yours faithfully,

## MONTAGU EVANS LLP

ENC – Historic Map Regression  
Site Photography

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