

Bury WwTW Storm Tanks Scheme Ecological Assessment Report

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Bury WwTW Storm Tanks Scheme
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Project manager: Connor Crawford
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Prepared by: Robyn Walton
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Jacobs U.K. Limited

5 First Street
Manchester M15 4GU
United Kingdom

T +44 (0)161 235 6000
F +44 (0)161 235 6001
www.jacobs.com

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Contents

1.	Introduction.....	4
1.1	Background.....	4
1.1.1	Scheme Description	4
1.1.2	The Planning Application.....	4
1.2	Site context.....	4
1.3	Survey and report objectives	5
2.	Survey methodology	6
2.1	Desk Study	6
2.2	Field Survey	6
2.3	UK Habitat Classification surveys.....	7
2.4	Protected and Notable Species scoping survey	7
2.5	Ground Level Tree Assessment	7
2.6	Habitat Suitability Index Assessment.....	8
2.7	eDNA surveys.....	8
2.7.1	Field Survey limitations	8
3.	Survey findings	9
3.1	Designated Sites.....	9
3.2	Habitats	9
3.2.1	Desk Study	9
3.2.2	Field Survey	9
3.3	Amphibians.....	9
3.4	Badgers	10
3.5	Bats	10
3.6	Breeding birds	10
3.7	Otter and Water Vole	10
3.8	Reptiles.....	11
3.9	Other Notable Fauna.....	11
3.10	Invasive species.....	11
4.	Summary of impacts and outline mitigation proposals	12
4.1	Designated sites.....	12
4.2	Habitats	12
4.3	Other protected and / or Notable Fauna	12

1. Introduction

1.1 Background

Jacobs was commissioned by United Utilities to produce an Ecological Assessment Report for works associated with the development at Bury Wastewater Treatment Works (WwTW), hereafter referred to as 'the site'. United Utilities has a regulatory requirement to reduce the spill volume from the existing storm tanks at Bury WwTW to achieve compliance with Water Framework Directive (WFD) standards. This will contribute towards an improvement of water quality in the River Irwell to 'good' status by September 2026.

In 2020, the water sector regulators invited water companies to make proposals to help deliver a 'green economic recovery'. The necessary works at Bury WwTW were included within this initiative and are part of United Utilities' broader strategic portfolio of interventions across the Greater Manchester area to improve water quality in the Manchester Ship Canal and the rivers which feed into this strategic water body.

1.1.1 Scheme Description

Following an evaluation of options by United Utilities during an optioneering phase, and based on the requirements for the scheme as defined by the WFD standards, the proposed scheme would result in the provision of 6,000m³ additional storage at Bury WwTW in the form of 2 no. new storm tanks and associated infrastructure. The tanks will provide additional storm tank capacity at the works and will return flows to the treatment process after a storm subsides. The additional storage volume would therefore reduce the spill volume at the existing storm tank overflow.

1.1.2 The Planning Application

The scheme constitutes elements that require planning permission under the provisions of the Town and Country Planning Act 1990 and elements that are deemed permitted development in accordance with the Town and Country Planning (General Permitted Development) (England) Order 2015 (GPDO).

The development is shown on the 'Proposed Site Layout' drawing (Ref: 80062960-02-UU-BURYZ-97-DR-C-00012), which illustrates the elements that will be constructed under United Utilities' permitted development rights and those elements that require approval from the Local Planning Authority.

Planning permission is being sought under the Town and Country Planning Act (1990) for the Electrical Control Building. The proposed building will be 10m long x 4m wide x 3m high, and raised on a 1.2m high steel platform for flood protection. It will be constructed of Glass Reinforced Plastic (GRP) coloured green to BS 4800 14 C 39. For further detail refer to the 'Elevations and Floor Layout' Drawing (Ref: 80062960-02-UU-BURYZ-97-DR-C-00015).

1.2 Site context

The site is located off Crossfield Street to the south of Bury (Greater Manchester), (Ordnance Survey (OS) grid reference: 379520, 415833) and is situated within a predominantly urban landscape with woodland blocks, hedgerows and community greenspaces. The site comprised areas of neutral grassland, broadleaved woodland, scrub, scattered trees and buildings associated with the treatment works. The River Irwell borders the site to the north and west separating the site from the adjacent landscape. Beyond the site boundary lies arable areas to the south-east; extensive woodland to the south; with the A56 to the east with golf courses and residential areas beyond.

1.3 Survey and report objectives

This report is a non-formal Ecological Assessment Report. The elements of the proposed works that require planning are highly localised and minor in extent, a proportionate approach to the assessment and report has been applied. The objectives of the report are as follows:

- To inform the local planning authority of ecological constraints relating to planning consents only,
- Identify the potential for and presence of protected species,
- Assess the likely impacts (if any) on any ecological features arising from the planning consents, and,
- Provide recommendations for further surveys, licensing or appropriate mitigation if necessary.

2. Survey methodology

A range of ecological surveys have been undertaken at Bury WwTW in May 2022 and collated into a Preliminary Ecological Appraisal Technical Note¹. This Ecological Assessment Report aims to provide the survey information and results pertinent only to the areas covered within the planning application. Surveys or reports which do not cover the planning application area or will not be impacted by the planning proposals, have not been included in this Ecological Assessment Report.

2.1 Desk Study

An ecological desk study was completed by Stantec as part of the PEA report to collate current baseline data held by statutory and non-statutory consultees in line with standard guidelines and current best practice (CIEEM, 2017)².

Ecological records were requested from Greater Manchester Ecology Unit (GMEU) in May 2022. Additionally, the Multi Agency Geographic Information for the Countryside (MAGIC) website was searched for any supplementary information. The desk study records include only those from the last 10 years to reflect the current / recent ecological context of the Site.

The following baseline data were gathered for a 2km radius around the site, extended to 10km for European or internationally designated sites:

- Records of statutory sites designated for nature conservation value including European Sites (Comprising Special Areas of Conservation (SAC's), Special Protection Areas (SPAs) and Ramsar sites). And UK sites such as Sites of Special scientific Interest (SSSI) and National Nature Reserves (NNR);
- Records of non-statutory sites designated for nature conservation, e.g., Sites of Biological Importance (SBIs)
- National Habitat Network as shown on MAGIC;
- Records of notable habitats as listed in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and ancient woodland parcels;
- Records of legally protected species and notable species, including Species of Principal Importance (SPI's) under the NERC Act (2006), locally rare and scarce species and European Protected Species (EPS); and,
- Records of invasive non-native species.

Additionally, a search of ponds within a 250m radius of the site was also carried out using a combination aerial photography and OS mapping.

The desk study also included a review of relevant national and local planning policy and biodiversity strategies.

2.2 Field Survey

A walkover survey was undertaken by an ecologist on 17th May 2022 in which the survey area was traversed on foot. This survey used the methodology detailed by the Habitat Classification Working Group³, where habitats were classified according to UKHab guidance⁴. The walkover survey undertaken in May 2022 identified ecological constraints within the proposed site including the potential for protected or notable species as well as the habitats present.

¹ Bury WwTW Technical note (Stantec 2022)

² CIEEM. (2017) Guidelines for Preliminary Ecological Appraisal. Version: December 2017. Chartered Institute for Ecology and Environmental Management, Winchester. Available online:
https://www.cieem.net/data/files/Publications/Guidelines_for_Preliminary_Ecological_Appraisal_Jan2018_1.pdf

³ <https://www.bristol.gov.uk/files/documents/5695-cd11-6-h-public-inquiry-for-land-at-broom-hill-brislington-meadows/file>

⁴ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>

The survey was undertaken in accordance with that set out in the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal⁵ (2017), by looking for evidence of any protected species, or identifying habitats which may be capable of supporting protected or notable species and the results have been included in this report as the most up to date baseline.

2.3 UK Habitat Classification surveys

A UKHab assessment is a comprehensive habitat classification system which was developed due to changes over time in habitat categorisation, recording and analyses. It is best practice to map and classify habitats using standard habitat correspondence tables and covers terrestrial, freshwater and coastal ecosystems. The outputs from the assessment can then be used to complete further assessments such as Biodiversity Net Gain.

The UKHab survey was carried out on the 17th of May 2022 in accordance with the Habitat Classification Guidance (2018). This involved mapping (where appropriate) and describing the broad habitats and compiling a general plant species list to reflect the floristic assemblage of each habitat type. The condition of all habitats recorded on site have been assessed in line with the Defra Biodiversity Net Gain Metric version 4.0 guidance released by Natural England in 2023.

2.4 Protected and Notable Species scoping survey

As part of the PEA, an assessment of the potential for the habitats on site to support protected or notable species was made. This assessment was based on the quality, extent and interconnectivity of suitable habitats, along with the results of the desktop study data. Protected and notable species include Species of Principle Importance (SPI) as listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and Red and Amber listed Birds of Conservation Concern (BoCC) as per Stanbury et al., 2021⁶.

- The field survey also included the following:
 - A rapid assessment of trees for bat potential (see section 2.5 below for methodology) of trees on site;
 - A walkover to identify any ponds within 250m of the site within publicly accessible areas;
 - Environmental eDNA survey of all suitable waterbodies within 250m of the site; and
 - A search for any evidence of badger activity within the site itself and all accessible land up to a distance of 30m away

2.5 Ground Level Tree Assessment

An assessment of the suitability of the trees within the site to provide opportunities for roosting bats was undertaken during the field survey. This was a high-level scoping assessment due to the large areas of woodland and numbers of trees present. Any specific trees with obvious suitable roosting features were identified.

The Bat Conservation Trust (BCT) has developed a survey protocol (Collins, 2016)⁷ which categorises the suitability for trees to support roosting bats. Using the categories detailed below, an assessment was made of the potential for each tree/group of trees included within the survey to support roosting bats:

- Known or Confirmed Roost: Confirmed bat roost with field evidence of the presence of bats (trees where bat(s), and/or clear evidence of bat use, were found to be present).
- High Suitability: trees with multiple highly suitable features capable of supporting larger roosts.
- Medium Suitability: trees with definite bat suitability supporting fewer features than high potential trees.

⁵ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester

⁶ <https://www.bto.org/our-science/publications/birds-conservation-concern/status-our-bird-populations-fifth-birds>

⁷ Collins, J, (ed.) (2016). Bat Survey for Professional Ecologists: Good Practice Guidelines (3rd Edition), Bat Conservation Trust, London.

- Low Suitability: trees with no obvious suitability although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited suitability to support bats.
- Negligible Suitability: trees with no suitability to support bat roosts (trees with no obvious features with suitability to support a bat roost).

2.6 Habitat Suitability Index Assessment

A walkover check for ponds was undertaken within 250m of the site, where access was granted and an HSI assessment of any ponds encountered was completed.

The HSI for GCN was developed by Oldham et al. (2000)⁸. It is a scoring system of evaluating habitat quality and quantity using a numerical index; values close to 0 indicate unsuitable habitat, 1 represents optimal habitat. The HSI for the GCN incorporates ten suitability indices, all of which are factors thought to affect GCN (ARG UK, 2010)⁹.

The walkover survey for ponds and HSI assessments were undertaken on the 17th of May 2022. No appreciable rain or wind affected the surveys.

2.7 eDNA surveys

The walkover identified one pond within 250m of the site which may provide suitable habitat for breeding amphibians. An eDNA survey (water sample and laboratory analysis) to confirm the presence/ likely absence of GCN was undertaken on 17th May 2022. Water samples were taken, following the recommended protocol by Natural England (Biggs et al, 2014)¹⁰ and were sent to SureScreen Scientifics for subsequent laboratory analysis.

2.7.1 Field Survey limitations

Data supplied by records centres provides useful baseline information on the species that have been recorded within a local area and details of sites with nature conservation designations. This data often includes surveys undertaken by third parties on an 'ad hoc' basis so may be incomplete. Absence of species records may not therefore indicate absence of that species from an area. For this reason, a preliminary ecological appraisal is always informed by both desk study and information gathered during field survey.

The access to the pond surveyed at central OSGR SD 80214 07602 for eDNA was approximately 60% due to presence of extensive giant hogweed around the banks and a boundary fence.

⁸ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10(4), 143-155.

⁹ <https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file>

¹⁰ Biggs et al, 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

3. Survey findings

3.1 Designated Sites

There are no international or nationally designated areas within or adjacent to the site. The closest designated site is Ashclough Site of Special Scientific Interest (SSSI) located 3.8km west of the site. There is one internationally designated area within a 10km radius; Rochdale Canal Special Area of Conservation (SAC) located over 8km to the east of the site.

The site falls within the Impact Risk Zone (IRZ) for the West Pennine Moors SSSI located over 8km north of the Site as mapped on MAGIC for this SSSI. However, there are no activities at this location which meet the criteria consultation for Natural England's SSSI IRZs¹¹.

There are ten Sites of Biological Importance (SBI) non-statutory designated areas identified within 2km of the site. The closest is Swan Lodge SBI Grade B, located approximately 760m to the north-west of the site, separated from the site by the River Irwell and residential areas.

The site also falls within Network Enhancement Zone 2 of the Nature Improvement Area as mapped on Defra's MAGIC website.

3.2 Habitats

3.2.1 Desk Study

The desk study returned records of Habitats of Principal Importance (HoPI) as mapped by MAGIC within 2km of the site. These included deciduous woodland located within the site, lowland fens located approximately 400m to the south of the site, open mosaic habitat on previously developed land located approximately 700m south-west of the site, lowland dry acid grassland located approximately 750m south of the site, coastal and floodplain grazing marsh located approximately 1.2km north-west of the site, purple moor Grass and rush pasture located approximately 1.2km north-west of the site.

3.2.2 Field Survey

The UKHABs survey undertaken on the entire treatment works site recorded five separate habitat types including other broad-leaved woodland, other neutral grassland, mixed scrub, bramble scrub and urban habitats.

Within the proposed planning application boundary the only habitat type present is Other Neutral grassland (g3c), this comprises the entire planning application area of approximately 60m².

The small area of **Other neutral grassland (g3c)** is of moderate condition due to meeting 4/6 requirements within the condition assessment. Species included vetch species (*Vicia* sp.), cocksfoot (*Dactylis glomerata*) false oat grass (*Arrhenatherum elatius*), reed canary grass (*Phalaris arundinacea*), ribwort plantain (*Plantago lanceolata*), hard rush (*Juncus inflexus*), red campion (*Silene dioica*), thistle (*Cirsium* sp.), dock (*Rumex* sp.), colts foot (*Tussilago farfara*).

3.3 Amphibians

GMEU provided the following amphibians records from the 2km study area:

- 11 records of common toad (*Bufo bufo*) - most recent record from 2021 located approximately 1.8km north-west of the site but separated from the Site by the River Irwell.
- Five records of great crested newts (*Triturus cristatus*) within last 10 years. The closest record is approximately 1.1km to the south of the site from 2013. All records are separated from the site by the River Roch and the River Irwell.

¹¹ <https://magic.defra.gov.uk/MagicMap.aspx> (Site Check Report generated on 20th April 2023)

A search for waterbodies within a 250m radius surrounding the application site using OS mapping and online aerial imagery identified one waterbody (Pond 1) within the search area. A walkover of this area also confirmed no additional waterbodies present.

Pond 1, located at GridRef: SD 80214 07602 is a large (approximately 4000m²) man made attenuation pond located to the south-west of Bury WwTW. The surrounding habitat is grassland which is frequently mown due to solar panel arrays present to the north, east and south. A belt of woodland runs along the western side of the pond with the River Irwell directly beyond. The pond was formed of concrete slabs with a shallow gradient to deeper water, aquatic vegetation included Potamogeton species, water mint (*Mentha aquatica*), water forget-me-not (*Myosotis scorpioides*), bogbean (*Menyanthes trifoliata*) and rigid hornwort (*Ceratophyllum demersum*). The marginal and bankside species included willowherb *Epilobium* sp, giant hogweed and reed canary grass.

The pond was assessed as holding “excellent” suitability for GCN following the HSI assessment however, the eDNA result for pond 1 returned as negative, therefore it is unlikely GCN are present within the application site at this time and are not considered further in this assessment.

3.4 Badgers

There are no suitable habitats within the application site to support badgers, and during the walkover survey of the wider area surrounding the application site was deemed unlikely to support badger setts therefore badgers are not considered further in this assessment.

3.5 Bats

GMEU returned 131 records of bat species within the last ten years. Fifteen of these were bat roosts. The most recent bat roost from 2019 was located approximately 1.3 km to the north-east of the site. The remaining records were for a mixture of foraging, droppings, commuting or casualties.

There are no habitats on site suitable for roosting bats. Other neutral grassland provides poor foraging opportunities for bats and are therefore not considered further in this assessment

3.6 Breeding birds

The desk study identified over 2400 records of bird species of conservation concern (SPI or listed under Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended)) from within the 2km search area.

The closest record for a Greater Manchester Species Action Plan was for Willow tit (*Poecile montanus*) in 2021 located approximately 1.6km north-west of the site.

The grassland may provide suitable habitat for ground nesting species such as skylark, however none were recorded during the survey. The closest record from 2021 is approximately 1.8km north-west of the site.

There are no habitats within the planning application boundary that are suitable for breeding birds, the proposals are not expected to result in significant effects to breeding birds and are therefore not considered further in this assessment.

3.7 Otter and Water Vole

GMEU returned 23 recent records of otter. The most recent record from 2021 is located approximately 1.9km to the north-west. The River Irwell to the north and east of the site is considered suitable for commuting and foraging otter. Access to the River Irwell was heavily constrained due to the boundary fence and extensive presence of giant hogweed.

No suitable resting places or holts etc were present within the application site at the time of the survey and otters are therefore not considered further in this assessment.

GMEU returned no records of water vole (*Arvicola amphibius*). Due to the fast flow, extensive width, rocky substrate / stone wall and very little bankside vegetation, the River Irwell offers negligible suitability for water vole.

The application site does not support any suitable riparian habitats for water vole and is at a distance from the River that water vole are considered likely to be absent at the time of the survey and are therefore not considered further in this assessment.

3.8 Reptiles

One records of common lizard from 2015 was returned by the desk study. The record is located approximately 1.4km to the south-east of the site, separated from the site by the River Roch.

No suitable habitats for reptiles including basking or hibernation refugia were present within the application site at the time of the survey and are therefore not considered further in this assessment.

3.9 Other Notable Fauna

There were 18 records of hedgehog (*Erinaceus europaeus*) (UK Species of Principle Importance (SoPI)) with the most recent record from 2021 located approximately 1.8km north-west of the site. GMEU also returned 61 records of brown hare (*Lepus europaeus*) (UK SoPI and Greater Manchester BAP species) with the most recent record from 2021 also located approximately 1.8km north-west of the site. Roe deer (*Capreolus capreolus*) were observed on site within the grassland and close to Pond 1.

The application site provides a small area of suitable foraging habitat for hedgehog. The application site is not considered to support brown hare or roe deer due to the small areas of sub-optimal habitat present.

3.10 Invasive species

GMEU returned no records of invasive species within the study area, however, Himalayan balsam and Giant hogweed was recorded on site during the survey but are both absent from within the planning application boundary.

4. Summary of impacts and outline mitigation proposals

4.1 Designated sites

There is no statutory designated site located within 2km of the proposed works. The closest designated site is Ashclough Site of Special Scientific Interest (SSSI) located 3.8km west of the site. The site is designated for its geological nature.

There are no habitat connections to the scheme and no other pathways (e.g. hydrological) have been identified between them. Works on site are temporary and localised so it is assumed that any impacts are likely to be negligible and temporary. With the distance and intervening habitats between the SSSI and the WwTW extension, it is not anticipated there will be any direct or indirect effects that could adversely impact the features of the SSSI.

4.2 Habitats

A single habitat is present within the planning application footprint and comprises a small area of other neutral grassland (g3c UK Habitat Classification Category). As part of the proposals there will be a permanent loss of this grassland (approximately 60m²).

The grassland is well-managed and regularly mown. This habitat is classified as being of moderate condition. The loss of this small area of moderate condition grassland will not have a significant impact on the overall biodiversity on site and therefore no specific compensation or mitigation is proposed.

In order to provide a positive biodiversity enhancement for this planning application, landscaping proposals will incorporate land within the wider vicinity of the Electrical Control Building will seek to reinstate other neutral grassland habitat with a species rich seed mix around the permanent installations and are shown on the Landscape Reinstatement Plan.

The permanent habitat loss of low value and easily replicable habitats which will be partially compensated for with the landscaping design will be over a small and localised area and impacts are considered to be negligible.

4.3 Other protected and / or Notable Fauna

Where vegetation clearance is necessary, a hand search for any hedgehogs (or any other mammals / amphibians / common reptiles) should take place prior to works. No evidence of these species was identified during the survey.