



THE  
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## Red Bank Neighbourhood Infrastructure Works

Manchester

## Bat Survey Report

TEP

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|----------------|---------------------------------------------------------------|
| Document Title | Red Bank Neighbourhood Infrastructure Works Bat Survey Report |
| Prepared for   | Manchester City Council (MCC)                                 |
| Prepared by    | TEP- Warrington                                               |
| Document Ref   | 9082.008                                                      |

|          |                  |
|----------|------------------|
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| Date     | February 2022    |
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| Approved | Emma Pickering   |

| Amendment History |               |                   |                    |                                               |            |
|-------------------|---------------|-------------------|--------------------|-----------------------------------------------|------------|
| Version           | Date          | Author / Modifier | Checked / Approved | Reason(s) issue                               | Status     |
| 1.0               | February 2022 | SD                | EP                 | First Issue                                   | Superseded |
| 2.0               | February 2022 | SD                | EP                 | Updated following change to red line boundary | Issued     |
|                   |               |                   |                    |                                               |            |
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## 1.0 INTRODUCTION

- 1.1 The Environment Partnership (TEP) was commissioned by Far East Consortium (FEC) to undertake an assessment of the site for roosting bats in March 2021. Arup commissioned TEP in November 2021 to produce this report to support an Ecological Impact Assessment (EclA).

### Purpose of this Document

- 1.2 This report has the following objectives:
- give an overview of the habitats present within the site which could be used by bats for roosting;
  - identify and characterise any confirmed bat roosts within the site, including species, type and status of roost;
  - identify how bats use the site for foraging and commuting; and
  - evaluate the value of the site for bats.

### Legislation

- 1.3 All bat species and their roosts are legally protected in the UK. All bats are listed as European Protected Species (EPS) in Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the Habitats Directive. There is also protection for bats and roosts in England and Wales under the Wildlife & Countryside Act 1981 (as amended).
- 1.4 It is a criminal offence if any persons:
- deliberately capture, injure or kill a bat;
  - intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
  - damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
  - possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
  - intentionally or recklessly obstruct access to a bat roost.
- 1.5 A number of bat species are also listed as Section 41 UK Priority Species including barbastelle bat *Barbastella barbastella*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Bats are also identified with LBAPs by Greater Manchester.

### Site Description

- 1.6 The site is located within Cheetham Hill, Manchester and is centred on grid reference SJ 84674 99639. The site is located in an urban setting and the wider landscape comprises mainly commercial development.

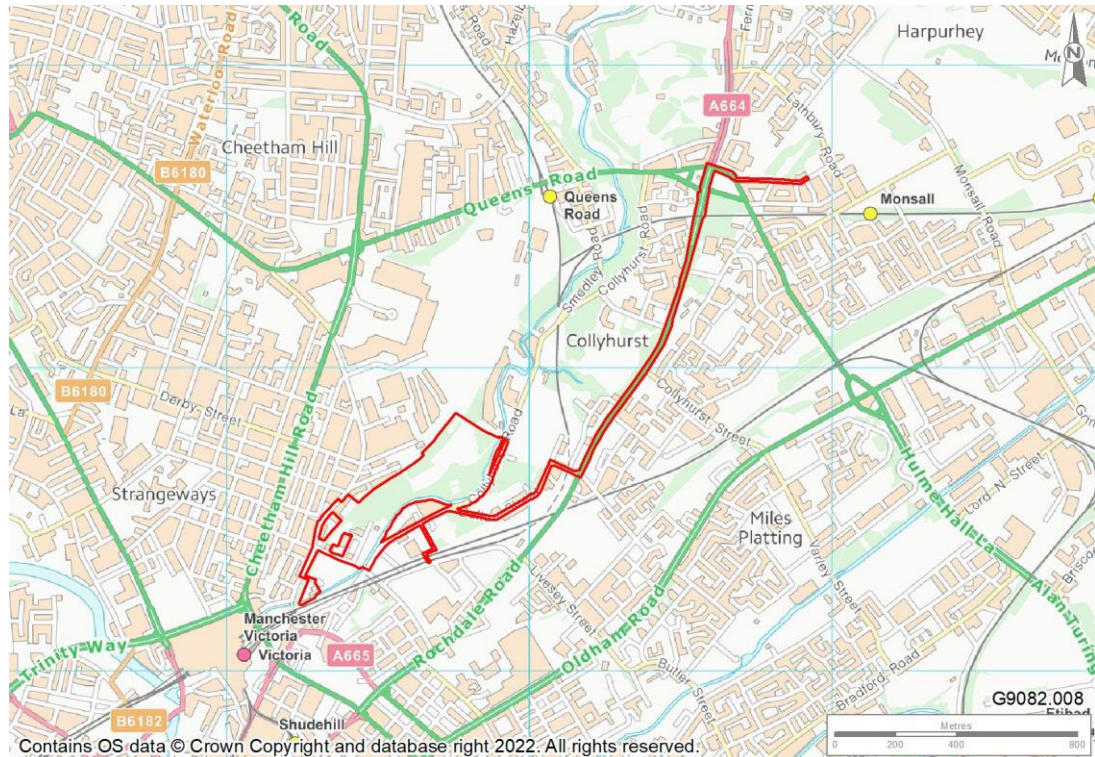


Figure 1: Site Location and Context

## 2.0 Methods

- 2.1 The following bat surveys were undertaken in accordance with the Bat Conservation Trust (BCT) Survey Guidelines (Collins, 2016<sup>1</sup>).

### Desk Study

- 2.2 Information regarding historic flora species records, protected habitats and protected sites was collated as part of a desk study which was completed by in April 2021.

### Roost Surveys

#### Buildings

##### Preliminary Roost Assessment

- 2.3 A daytime building external survey was carried out at buildings on 22nd and 29th March 2021 by Stephanie Davies (Natural England Class Survey licence Ref: 2020-44415-CLS-CLS).
- 2.4 The buildings were inspected externally for field signs of bats such as droppings, scratch marks, insect remains and urine smear marks. Binoculars and an endoscope were used as aids. The survey was conducted with year-round use by bats in mind.
- 2.5 Buildings were categorised according to their bat roost suitability as determined by the characteristics and potential roost features (PRF) detailed in Table 1.

*Table 1: Categorisation of buildings for bat roost suitability*

| Suitability | Characteristics                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Potential Roost Features                                                                                                                                                                                                                      |
|-------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High        | <i>Several of the following features:</i> | Pre – 20th century buildings. Agricultural buildings of traditional brick, stone or timber construction. Large unobstructed flying spaces. Roof warmed by sun, in particular south facing roofs without shade. Large roof timbers with gaps at joints (e.g. mortise joints), cracks and holes. Numerous access points for bats to fly into. Buildings near woodland and/or water. Low levels of disturbance. Buildings may be poorly maintained or aged, providing access points for bats into roof structures or crevices in bridges, but at the same time not too draughty, wet or cool. | PRF that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time (e.g. maternity/hibernation) due to their size, shelter, protection, conditions and surrounding habitat. |
| Moderate    | <i>Some of the following features:</i>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | One or more PRF that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (maternity/hibernation).                                    |

<sup>1</sup> Collins, J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

| Suitability | Characteristics                                                                                                                                                                                                                                                                                                                                                                                                | Potential Roost Features                                                                                                                                                                                                                                              |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low         | Modern/intact buildings with few potential access points for bats. Brick buildings often with pitched slate or tile roofs but may have small or cluttered roof space. Flat roofed buildings with weatherboards or similar feature at the eaves with potential bat access behind or into building. Cooler, shaded, light or draughty voids. Buildings often lacking connectivity to woodland or areas of water. | One or more PRF that could be used by individual bats opportunistically, however, these PRFs do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats. |
| Negligible  | Flat roof structures lacking weatherboards, hanging slates or cladding. Modern/intact buildings with no bat access points. Lacking connectivity to any woodland or areas of water. High levels of regular disturbance. High levels of internal/external lighting. Buildings in very poor condition such that internal spaces are not weatherproof, being exposed to high levels of light, wind and/or rain.    | Negligible habitat features on site likely to be used by roosting bats.                                                                                                                                                                                               |

### *Survey Constraints*

- 2.6 Bat droppings are one of the field signs the survey looks to identify as evidence of bat activity. However, droppings on external surfaces can be washed or blown away by weather. Weather prior to and during the daytime external survey was calm with no rain and therefore there was no significant constraint to the external inspections.
- 2.7 No internal access to the buildings was taken at the time of the survey. This was due to health and safety guidance surrounding COVID-19 at the time of the survey. Survey methods, such as internal inspection of roof voids, cannot be undertaken following social distancing guidance from the Government and company policies at the time.

### **Trees**

#### Preliminary Roost Assessment

- 2.8 All trees within the site were subject to daytime ground level assessment (GLTA) for their suitability to support roosting bats. The GLTA was completed on 22nd and 29th March 2021 by Stephanie Davies.
- 2.9 Trees were viewed from the ground with the aid of binoculars and a high powered torch where necessary. Where accessible from the ground, potential roost features (PRF) were closely inspected using an endoscope and torch as aids. Based on the PRF characteristics, trees were categorised for their roost suitability according to the criteria summarised in Table 2.

*Table 2: Categorisation of trees for bat roost suitability*

| Suitability | Potential Roost Features (PRF)                                                                                                                                                                                                                                        |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High        | A tree with one or more PRF that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time (e.g. maternity/hibernation) due to their size, shelter, protection, conditions and surrounding habitat. |
| Moderate    | A tree with one or more PRF that could be used by bats but which are unlikely to support a roost of high conservation status (i.e. not suitable for maternity or hibernation use).                                                                                    |
| Low         | One or more PRF that could be used by individual bats opportunistically, but which is not suitable to be used on a regular basis or by larger numbers of bats.                                                                                                        |
| Negligible  | No PRF present.                                                                                                                                                                                                                                                       |

### *Survey Constraints*

- 2.10 At the time of the GLTA the weather conditions were optimal for survey.
- 2.11 There are no seasonal constraints for undertaking preliminary bat roost assessments of trees. However, the optimal period to undertake this survey is between December and March when trees are out of leaf. This survey was undertaken during the optimal period.

### *Nocturnal Roost Surveys of Trees*

- 2.12 Tree T1 was identified during the daytime evaluation to have moderate suitability for roosting bats. This tree was therefore subject to further nocturnal surveys in accordance with their evaluation (moderate suitability receiving two nocturnal surveys).
- 2.13 Surveys were led by Stephanie Davies (Natural England Licence Ref: 2020-44415-CLS-CLS) and Cameron Campbell. Surveyors were stationed at fixed vantage points around the tree such that all potential roost features were in view. Dusk emergence surveys commence 15 minutes before sunset and finish 1.5 hours after sunset.
- 2.14 One heterodyne and either one frequency division detector (Anabat SD2 or Anabat Express) or full spectrum detector (Bat Logger M) were employed at each vantage point on all surveys.
- 2.15 During each survey observations such as bat species, behaviours such as close interest in a tree or its features, commuting or passing bats and weather conditions were recorded.
- 2.16 Weather conditions were recorded at the start and end of surveys in addition to any significant change in condition during the survey. Weather was optimal during all the nocturnal surveys, temperatures ranging from 17°C at the start to 12°C at the finish.
- 2.17 Calls of bats recorded by the frequency division detectors were analysed to verify species identification after the completion of nocturnal surveys using Kaleidoscope Pro Analysis software by Stephanie Davies.

Table 3: Details of nocturnal roost survey of T1

| Date/<br>Visit       | Time of<br>sunset/<br>sunrise | Start |      |                    |      |                   | Finish |      |       |      |      |
|----------------------|-------------------------------|-------|------|--------------------|------|-------------------|--------|------|-------|------|------|
|                      |                               | Time  | Temp | Cloud <sup>2</sup> | Rain | Wind <sup>3</sup> | Time   | Temp | Cloud | Rain | Wind |
| Visit 1:<br>01/07/21 | 21:41                         | 21:26 | 17   | 4                  | None | 1                 | 23:11  | 16   | 7     | None | 1    |
| Visit 2:<br>02/08/21 | 21:05                         | 20:50 | 14   | 2                  | None | 0                 | 22:35  | 12   | 1     | None | 1    |

### Limitations

- 2.18 Dawn re-entry surveys were not used at this site due to over-riding health & safety concerns. Many of the fixed vantage points are located in or adjacent to St. Catherine's Wood. Unauthorised encampments are present within the woodlands on site. Arriving on site, pre-dawn, and walking through the woodland at low light levels while people are potentially rough sleeping was considered a significant health & safety risk.

### Data Analysis and Species Identification

- 2.19 Recorded data was analysed following completion of the static recording periods using Kaleidoscope Pro Analysis software. Data analysis was completed by Stephanie Davies.

## Activity Transects & Static Monitoring

- 2.1 Bat activity & static monitoring survey visits were not able to be undertaken at this site due to over-riding health and safety issues. After consultation with GMEU, it was agreed records of bat activity collected during nocturnal roost surveys (of buildings along Dantzig Street) and historical data would be acceptable when assessing the site for commuting and foraging bats.

## Evaluation Method

- 2.2 For the purposes of this assessment and of assigning value to bats, the guidance set out in (Wray *et. al.* 2010<sup>4</sup>) has been followed.
- 2.3 The guidance provided by Wray *et. al.* (2010) includes a framework for identifying the importance of bats in the landscapes through the evaluation of bat roosts and habitats. Applying this framework, bat roosts can be valued according to species rarity (Table 4) and roost status (Table 5).

<sup>2</sup> Cloud cover is reported in oktas or eighths (i.e. 0 oktas represents the complete absence of cloud, 1 okta cloud cover of 1 eighth or less, and so on to 8 oktas which represents full cloud cover), with the additional convention that 9 oktas represents sky obscured by fog or mist.

<sup>3</sup> Wind strength is reported using the Beaufort Scale of Wind Force, this scale runs from 0 to 12, information on the conditions experienced during surveys are as follows: 0 – Calm (vertical smoke); 1 – Light Air (slight smoke drift); 2 – Light Breeze (leaves gently rustle).

<sup>4</sup> Wray, S., Wells, D., Long, E., Mitchell-Jones, T (2010) Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25

Table 4: Species rarity in England (adapted from Wray et. al 2010)

| Rarity                                  | Species*                                                                                                                                                     |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Common<br>(population over 100,000)     | Common pipistrelle<br>Soprano pipistrelle<br>Brown long-eared                                                                                                |
| Rarer<br>(population 10,000 to 100,000) | Lesser horseshoe bat<br>Daubenton's bat<br>Natterer's bat<br>Whiskered bat<br>Leisler's bat<br>Noctule<br>Nathusius' pipistrelle<br>Serotine<br>Brandt's bat |
| Rarest<br>(population under 10,000)     | Greater horseshoe<br>Bechstein's bat<br>Barbastelle<br>Grey long-eared<br>Alcathoe bat<br>Greater mouse-eared bat                                            |

Table 5: Valuation of roosts

| Geographic Scale Of Importance | Roost Type                                                                                                                                                                                                                                        |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Negligible                     | -                                                                                                                                                                                                                                                 |
| Site                           | -                                                                                                                                                                                                                                                 |
| Local                          | Feeding perches (common species)<br>Individual bats (common species)<br>Small numbers of non-breeding bats (common species)<br>Mating sites (common species)                                                                                      |
| County                         | Maternity sites (common species)<br>Small numbers of hibernating bats (common and rarer species)<br>Feeding perches (rarer/rarest species)<br>Individual bats (rarer/rarest species)<br>Small numbers of non-breeding bats (rarer/rarest species) |
| Regional                       | Mating sites (rarer/rarest species) including well used swarming sites<br>Maternity sites (rarer species)<br>Hibernation sites (rarest species)<br>Significant hibernation sites for rare/rarest species or all species assemblages               |
| National                       | Maternity sites (rarest species)<br>Sites meeting Sites of Special Scientific Interest (SSSI) guidelines based on bats                                                                                                                            |
| International                  | Special Area of Conservation (SAC) sites with bats as qualifying species                                                                                                                                                                          |

- 2.4 Wray et. al (2010) identifies a numerical scoring system which can be applied to commuting habitat (Table 6) and foraging habitat (Table 7). The score derived from these evaluations is then applied to the geographical scale proposed by the CIEEM EcIA guidelines (Table 8).

*Table 6: Valuing commuting habitat for bats*

| Species (Score) | Number Of Bats (Score)       | Roosts/Potential Roosts Nearby (Score)                            | Type And Complexity Of Linear Features (Score)                                                    |
|-----------------|------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Common<br>(2)   | Individual bats<br>(5)       | None<br>(1)                                                       | Absence of (other) linear features<br>(1)                                                         |
|                 | Small number of bats<br>(10) | Small number<br>(3)                                               | Un-vegetated fences and large field sizes<br>(2)                                                  |
| Rarer<br>(5)    | Large number of bats<br>(20) | Moderate number/not known<br>(4)                                  | Walls, gappy or flailed hedgerows, isolated well-grown hedgerows, and moderate field sizes<br>(3) |
|                 | Individual bats<br>(5)       | Large number of roosts, or close to a SSSI for the species<br>(5) | Well-grown and well connected hedgerows, small field size<br>(4)                                  |
| Rarest<br>(20)  | Small number of bats<br>(10) | Close to or within a SAC for the species<br>(20)                  | Complex network of mature well established hedgerows, small fields and rivers/streams<br>(5)      |

*Table 7: Valuing foraging habitat for bats*

| Species (Score) | Number Of Bats (Score)       | Roosts/Potential Roosts Nearby (Score)                            | Type And Complexity Of Features (Score)                                                   |
|-----------------|------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Common<br>(2)   | Individual bats<br>(5)       | None<br>(1)                                                       | Industrial or other site without established vegetation<br>(1)                            |
| Rarer<br>(5)    | Small number of bats<br>(10) | Small number<br>(3)                                               | Suburban areas or intensive arable land<br>(2)                                            |
| Rarest<br>(20)  | Large number of bats<br>(20) | Moderate number/not known<br>(4)                                  | Isolated woodland patches, less intensive arable and/or small towns and villages<br>(3)   |
|                 |                              | Large number of roosts, or close to a SSSI for the species<br>(5) | Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets<br>(4) |
|                 |                              | Close to or within a SAC for the species<br>(20)                  | Mosaic of pasture, woodlands and wetland areas<br>(5)                                     |

*Table 8: Scoring system for commuting and foraging habitats*

| Score   | Geographic Value |
|---------|------------------|
| 1 – 10  | Not important    |
| 11 – 20 | Local            |
| 21 – 30 | County           |
| 31 – 40 | Regional         |
| 41 – 50 | National         |

## 3.0 Results

### Desk Study

- 3.1 The desk study identified the following bat records within 2km of the site:
- Brown long-eared bat *Plecotus auritus* (EPS, WCA5, S41, LBAP);
  - Common pipistrelle *Pipistrellus pipistrellus* (EPS, WCA5, LBAP);
  - Soprano pipistrelle *Pipistrellus pygmaeus* (EPS, WCA5, S41, LBAP);
  - Unidentified *Pipistrellus* sp. (EPS, WCA5, LBAP);
  - Daubenton's bat *Myotis daubentonii* (EPS, WCA5, LBAP);
  - Unidentified *Myotis* bat (EPS, WCA5, LBAP).

### Roost Surveys

#### Buildings and Structures

##### Preliminary Roost Assessment

- 3.2 The detailed findings and a photographic record of the daytime building assessments are presented in Table 9. G9082.014 illustrates the locations and survey findings for each building.
- 3.3 Based on the daytime surveys, buildings B1- B10 were assessed to have negligible suitability for roosting bats.

*Table 9: Results of daytime building inspections*

| Ref | Description                                                                                                                                                                                                                                                                                                                                                                  | Photographs                                                                          |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| B1  | <p>Main Creamline double height building comprising corrugated iron with a mono pitched corrugated iron roof with skylights. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                                                                                                                                      |  |
| B2  | <p>A single storey and double height brick building previously used as offices for Creamline Dairy. The roof is pitched comprising corrugated iron. The window and door frames are uPVC. There are wooden fascia boards but no gaps between the boards and brick were identified. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p> |  |

| Ref | Description                                                                                                                                                                                                                                                                                                                                                                                                                    | Photographs                                                                          |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| B3  | <p>A small storage outbuilding comprising wooden panelling and wire mesh. The roof is flat and comprised of sheet iron. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                                                                                                                                                                                             |    |
| B4  | <p>Single storey loading bays comprising corrugated iron and brick. One side is open fronted. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                                                                                                                                                                                                                       |    |
| B5  | <p>A security lodge porta cabin and adjoining brick electricity store. The porta cabin has a flat roof and steel frame. There are no suitable features for roosting bats.</p> <p>The brick electricity store has a corrugated asbestos lean to roof and wooden fascia boards. No gaps between the boards and brick were identified. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p> |   |
| B6  | <p>A metal shed with adjoining porta cabin. The shed is comprised of corrugated iron with a corrugated iron lean to roof. The porta cabin is wooden with a flat roof. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                                                                                                                                               |  |
| B7  | <p>A double storey warehouse comprised of corrugated iron. The roof is pitched and made from corrugated iron. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                                                                                                                                                                                                       |  |

| Ref | Description                                                                                                                                                                                                                               | Photographs                                                                         |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| B8  | <p>A small brick security lodge with a wooden door. The roof is flat comprised from corrugated iron. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                           |   |
| B9  | <p>A double and single storey warehouse comprised of corrugated iron. The roof is pitched corrugated iron. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p>                                     |   |
| B10 | <p>A single storey brick building used for commercial services. No windows present with large sliding corrugated iron doors. The roof is flat. There are no suitable features for roosting bats.</p> <p>Roost suitability: Negligible</p> |  |

- 3.4 Two bridge crossings over the River Irk are present within the site boundary; one at St. Catherine's Wood (A) and one at Packaging Products (B). These structures were only viewed at a distance as there was no safe access into the River and limited views from the road side. It is thought that these structures would have only low suitability for roosting due to the fluctuating water levels of the River Irk making any potential roost features liable to flooding & less suitable for roosting bats in the long term.

Table 10: Results of daytime bridge inspections

| Ref | Description                                                                                                                                                                                                                                                                                                                                                                                             | Photographs                                                                          |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| A   | <p>Bridge crossing to access St. Catherine's Wood. The structure is comprised of concrete and appears to be well sealed. No obvious gaps were visible from the roadside, however no access within the structure was possible. It may be possible there are small gaps where the concrete joins at either end of the bridge. A precautionary assessment has been made.</p> <p>Roost suitability: Low</p> |  |

| Ref | Description                                                                                                                                                                                                                                                                                                                                                              | Photographs                                                                        |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| B   | <p>Bridge crossing at Packaging Products. This is a small structure comprising a steel bridge and the supporting walls made of sandstone. Gaps between the sandstone blocks, where cement had eroded was visible from the roadside, however close inspection of these features was possible. A precautionary assessment has been made.</p> <p>Roost suitability: Low</p> |  |

## Trees

### Preliminary Roost Assessment

- 3.5 All trees within the site boundaries were assessed for their suitability for roosting bats. Of these trees, four were assessed as having low suitability for roosting bats and one was assessed as having moderate suitability (Table 11). All remaining trees were assessed as having negligible suitability for roosting bats due to the lack of suitable roosting features.

*Table 11: Results of preliminary roost assessment of trees*

| Ref | Description                                                                                                                                                                                                                | Photographs                                                                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| T1  | <p>A willow on the bank of the River Irk which has a severe transverse snap creating small crevices suitable for a small number of bats.</p> <p>SJ 84845 99639</p> <p>Roost suitability: Moderate</p>                      |  |
| T2  | <p>A cherry species with a large east facing cavity. The cavity is well occluded and is c. 0-1.5m in height. This feature could be used on an opportunistic basis.</p> <p>SJ 84760 99625</p> <p>Roost suitability: Low</p> |  |

| Ref | Description                                                                                                                                                                                                          | Photographs                                                                         |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| T3  | <p>Sycamore tree with flaking bark in the upper branches. The conditions of this feature are not suitable for long term use, but may be used opportunistically.<br/>SJ 84754 99627</p> <p>Roost suitability: Low</p> |   |
| T4  | <p>Sycamore tree with flaking bark in the upper branches. The conditions of this feature are not suitable for long term use, but may be used opportunistically.<br/>SJ 84752 99626</p> <p>Roost suitability: Low</p> |   |
| T5  | <p>A cherry species with a tear out in the main stem &amp; exposed heartwood. Small crevices suitable for opportunistic roosting.<br/>SJ 84756 99625</p> <p>Roost suitability: Low</p>                               |  |

## Activity Transects & Static Monitoring

- 3.6 Paul Chester & Associates undertook a series of survey during 2018 and 2019 to establish the baseline conditions of the wider Northern Gateway project area. The Red Bank study area was subject to extensive bat surveys on a monthly basis over a six month period. This confirmed a number of species from the study area. These were common pipistrelle, soprano pipistrelle, noctule and Leisler's. In excess of 95% of all records related to common pipistrelle. Other species were recorded only rarely and in the case of Leisler's, very rarely. With regard to spatial distribution of bats through the study area, whilst there were occasional records of individual bats scattered across large parts of the study area, in excess of 95% of all records were associated with the River Irk corridor and immediate surrounds. This part of the study area represented the most important foraging habitat, providing an excellent food source as well as a distinctive habitat corridor through the study area.
- 3.7 Whilst no substantial roost was found, small numbers of bats were confirmed as roosting in brickwork adjacent to the River Irk towards the downstream limit of the study area. Roosting was also suspected in buildings close to the River Irk towards the upstream limit.

- 3.8 Nocturnal roost surveys of buildings along Dantzic Street, undertaken by TEP in 2021, identified common pipistrelle and noctule bat present within the area. In excess of 95% of all records related to common pipistrelle. General foraging and commuting activity was noted along the River Irk and within St. Catherine's Wood. These results are akin to the findings of Paul Chester & Associates. Two common pipistrelle day roosts were identified within the Noyek Plywood building during the 2021 roost surveys.

## 4.0 Evaluation

- 4.1 All of the buildings within the site, associated with this application, were assessed as having negligible suitability for roosting bats due to the lack of potential roosting features (PRFs).
- 4.2 Two bridge structures within the site, were assessed as having low suitability for roosting bats.
- 4.3 One tree was assessed as having moderate suitability for roosting bats (T1) and four trees within the site were assessed as having low suitability for roosting bats (T2-T5).
- 4.4 Nocturnal roost surveys of T1 identified no roosting bats.
- 4.5 The site is of Local importance for commuting and foraging common and soprano pipistrelle, noctule bat and Leisler's. Evaluation of commuting data is summarised at Table 12 and evaluation of foraging data is summarised at Table 13.

*Table 12: Evaluation of the site for commuting bats*

| Species (Score)         | Number Of Bats (Score)    | Roosts Nearby (Score)      | Type And Complexity Of Linear Features (Score) | Value (Score) |
|-------------------------|---------------------------|----------------------------|------------------------------------------------|---------------|
| Common pipistrelle (2)  | Small number of bats (10) | Small number of roosts (3) | Connected woodland and rivers (5)              | Local (20)    |
| Soprano pipistrelle (2) | Individual bats (5)       | None (1)                   | Connected woodland and rivers (5)              | Local (13)    |
| Noctule (5)             | Individual bats (5)       | None (1)                   | Connected woodland and rivers (5)              | Local (16)    |
| Leisler's (5)           | Individual bats (5)       | None (1)                   | Connected woodland and rivers (5)              | Local (16)    |

*Table 13: Evaluation of the site for foraging bats*

| Species (Score)         | Number Of Bats (Score)    | Roosts Nearby (Score)      | Type And Complexity Of Habitat Features (Score)  | Value (Score) |
|-------------------------|---------------------------|----------------------------|--------------------------------------------------|---------------|
| Common pipistrelle (2)  | Small number of bats (10) | Small number of roosts (3) | Connected woodland blocks in urban landscape (4) | Local (19)    |
| Soprano pipistrelle (2) | Individual bats (5)       | None (1)                   | Connected woodland blocks in urban landscape (4) | Local (12)    |

| Species (Score) | Number Of Bats (Score) | Roosts Nearby (Score) | Type And Complexity Of Habitat Features (Score)            | Value (Score) |
|-----------------|------------------------|-----------------------|------------------------------------------------------------|---------------|
| Noctule (5)     | Individual bats (5)    | None (1)              | Connected woodland blocks and river in urban landscape (4) | Local (15)    |
| Leisler's (5)   | Individual bats (5)    | None (1)              | Connected woodland blocks and river in urban landscape (4) | Local (15)    |



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