

Land at Brook Lane, Rustington

Water Vole Mitigation and Method
Statement

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1.0 Introduction

Background

- 1.1 The Ecology Partnership was instructed by Store Property Ltd to provide a technical ecological response to the design strategy of the bridge over the ditch in terms predicted impacts on water voles and recommendations for working and a detailed method statement of works.
- 1.2 Water vole is fully protected by the Wildlife and Countryside Act 1981 (and subsequent amendments). The legislation makes it an offence to:
- Intentionally kill, injure or take a water vole.
 - Possess or control a live or dead water vole, any part of, or anything derived from a water vole. Intentionally or recklessly damage, destroy or obstruct access to any place that a water vole uses for shelter or protection.
 - Intentionally or recklessly disturb a water vole while it is occupying a structure or place that it uses for shelter or protection.
- 1.3 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 states that public authorities must have regard to the conservation of biodiversity. Section 41 of the Act requires the Secretary of State to maintain a list of Habitats and Species of Principal Importance in England; the list includes water vole.
- 1.4 Water voles have been identified using the ditch, with records of water voles from previous surveys from adjacent applications as well as from our recent surveys. A sighting of a water vole (13th April 2017) and regular recordings of water vole latrines with fresh evidence has been recorded this year when undertaking reptile surveys of the adjacent land. As such water voles are known to still be active across the site.
- 1.5 The redevelopment of the bridge needs to avoid killing or injuring water voles, disturbing them in a place of shelter and damaging or blocking access to their place of shelter as they are protected under Schedule 5 of the Wildlife and Countryside Act (1981 as amended). Therefore, the mitigation strategy focuses on displacing the water voles

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- from the construction zone immediately prior to commencement and subsequent compensation of any habitat loss.
- 1.6 The access to the site will come off the A259 down Brook Lane and pass over the ditch as per the current access arrangement. The bridge currently would not be able to support the proposed development and this bridge would have to be removed and a new one built which spans the ditch.
- 1.7 It is considered that impacts on water voles can be largely avoided or minimised through consideration of the location of the new bridge and the extent of the proposals for the habitats associated with the ditch. The new bridge will span the banks of the ditch and in essence the banks below will remain unaffected by the bridge with the supports located beyond the immediate banks, set back at 1.5m from the top of the embankment.
- 1.8 The proposals will result in a temporary small scale disturbance of the ditch and a slight modification resulting from the removal of the current bridge and headwalls. The footprint of these works is highly localised and will be smaller than a typical female territory (less than 50m of bankside vegetation) and is likely to result in impacts 5m on either side (a total of 10m) of bank side vegetation having to be removed (temporarily) to remove the current bridge and siting of the new abutments of the new bridge. The deck of the bridge will span across the ditch and will not impact upon the structure of the ditch itself (there will be no headwalls etc). It is considered that the habitat loss is completely reversible and the duration of works would be kept to a minimal.
- 1.9 The methodology for the removal of the current bridge and the construction of the new bridge is detailed below:

2.0 Impacts

Direct Impacts

- 2.1 Direct impacts are considered to be kept to a minimum. No long term habitat fragmentation will occur. The proposals will result in a short term and temporary disturbance which will be completely reversible.
- 2.2 The recommended approach to the removal of the old bridge and the replacement with a new bridge would be using the method of displacement. Whilst this has some concerns with effectiveness, due to the small scale of the habitats involved in the project (approximately 10m, with 5m on weather side of the current bridge span) it is considered to be appropriate in this case.
- 2.3 Currently no water vole burrows have been identified within the 5m on either side of the bridge. However, update surveys to inform on burrow locations will be undertaken prior to any clearance of vegetation.
- 2.4 Removal of the vegetation will occur in spring. This will commence with the strimming of vegetation in the working accord of the bridge span (5m on either side of the old bridge). Any trees which will have to be removed will have been undertaken under ecological supervision prior to low level vegetation removal. All trees felled will be felled away from the banks. All wood will be stacked on site in suitable areas for site level enhancements.
- 2.5 Vegetation should be strimmed down to bare earth, and emergent aquatic vegetation cut back to water level. As the area to be cleared is relatively small it is unlikely that compensatory habitats will need to be in place prior to displacement.
- 2.6 Following clearance, arisings should be raked-off and burrow entrances, if present, checked to ensure they have not become blocked. The cleared area should be left bare of vegetation for 3 to 5 days to allow any remaining animals to relocate.

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- 2.7 Following habitat manipulation, the cleared area should be re-surveyed for signs of water vole activity. Assuming there is no evidence that water voles are still present, a destructive search of burrows, if present within the stretch, within the construction zone should be undertaken by a suitably experienced ecologist.
- 2.8 Following the destructive search, construction works should be undertaken within several days (to remove the existing structure) followed by replacing with the new structure. It is expected that this work will take place within 10 working days or less. It will be necessary to maintain the working area as bare ground until the work is complete.
- 2.9 Due to the limited nature of works proposed, water voles could then to re-colonise naturally the small area which has been disturbed.
- 2.10 In summary the following actions would be undertaken:
- Update survey to assess where the nearest burrows are;
 - Remove any trees within the works area prior to any other clearance. Stack wood piles in the enhancement areas of the site;
 - Strim the banks 5m on either side of the bridge down to ground level under ecological supervision. This must be undertaken in spring;
 - Remove all arsing from the bank side;
 - Re survey the area after several days to assess the levels of use of the site;
 - Undertake destructive search of the banks during any further clearance required;
 - Removal of old bridge under ecological supervision;
 - Maintain and monitor vegetation levels, ensuring vegetation is kept to a minimal during site works;
 - Replace the old bridge with the spanning new bridge, including watching brief of the location of the abutments;
 - Once completed, allow vegetation to naturally regenerate.
- 2.11 Once this has been completed, the entire ditch network spanning the development boundary, will be fenced off to be protected throughout the course of the development. This will be from 10m from the edge of the ditch.

Indirect Impacts

- 2.12 Consideration of indirect impacts must be considered as part of the development process.
- 2.13 For the majority of the length of the ditch, the construction zone will be located more than 10m from the top of the bank. Therefore, significant indirect impacts are not predicted so long as at least a 5m buffer from the top of the bank is maintained. However, pollution from site run-off is a possibility. To ensure this does not happen, standard site procedures as recommended by the Environment Agency should be adopted to ensure that no contaminants or effluent, such as oil, fuel or chemical spills, are released into the Black Ditch. It is understood that a construction environmental management plan is likely to be conditioned. This should include sensitive working practises adjacent to the ditch network.
- 2.14 In terms of long term indirect impacts, it is considered that the increase of a residential development could have impact on water voles to the potential increase in domestic cats, which can predate on water voles. In order to reduce the potential impact from predation, the design of the site has ensured a significant buffer between the ditch and any residential development, with a large amount of open space adjacent to the ditch. As such a planting scheme along the edges of the ditch which can help deter predators (such as the planting of a thorny hedgerow) can be incorporated in to the landscape plan. It is recommended that this be detailed in the landscape plan.
- 2.15 It is also considered that the site will have an enhanced capacity for water voles post development with the creation of a new balancing pond which can be planted and created to incorporate features which water voles would be able to exploit. Again it is recommended that a thorny planted hedgerow be planted adjacent to the pedestrian access to prevent incursion by cats and potentially by people.

3.0 Enhancements

- 3.1 In order to achieve conservation benefits it will be necessary to implement a habitat creation or enhancement strategy. This could include creating new areas of wetland linked to the main channel of Black Ditch. This would help to mitigate against any potential habitat loss related to roadworks but also provides additional habitat for a species which is the fastest declining mammal in the UK and is vulnerable to extinction. Indeed, one of their biggest threats is habitat loss and fragmentation from unsympathetic riverside management. This additional habitat should be linked with the existing brook to provide connectivity to the wider landscape.
- 3.2 The new balancing pond to the south east corner of the site will be planted and designed for water voles. The banks should be stable and stepped with good vegetation cover and should use substrate that voles can easily dig into (Figure 1). There should be some depth to the water immediately in front of the bank to allow the voles to escape quickly. The watercourse should contain water at all times of the year.

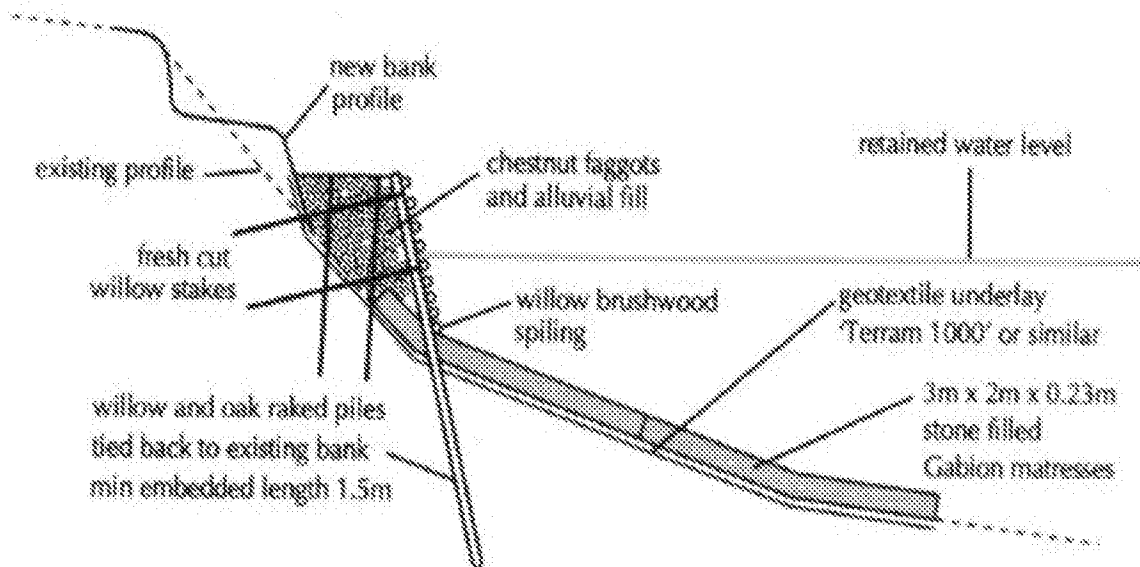


Figure 1: Example of water vole bank design (Strachan 1998)

3.3 The water's edge should be planted with tall wetland plants of local provenance, which are used for foraging and protection from predators. Species should include:

- Sedges (*Carex sp.*) e.g. Greater tussock sedge (*Carex paniculata*)
- Branched bur-reed (*Sparganium erectum*)
- Reed sweet-grass (*Glyceria maxima*)
- Reed-canary grass (*Phalaris arundinacea*)
- Yellow flag iris (*Iris pseudacorus*)
- Meadowsweet (*Filipendula ulmaria*)
- Willowherb (*Epilobium sp.*)
- Soft rush (*Juncus effusus*)

Long Term Management

3.4 The banks and new balancing pond will be managed in a sensitive method. The long term management of these habitats will form part of the wider management of the site, including the public open space and the wildfire corridor.

4.0 Conclusions

4.1 The presence of water voles within the ditch which runs adjacent to the site must be considered within the development process. Whilst direct impacts are considered to be minimal with impacts only being short term and temporary.

4.2 The method statement has been developed to ensure that no water voles are harmed by the bridge removal and new bridge construction.

4.3 It is considered that the method statement of works and the enhancement measures are such that the favourable conservation status of water voles in the local area will not be impacted on by the development.

Appendix 1: New Bridge Construction

The Ecology Partnership

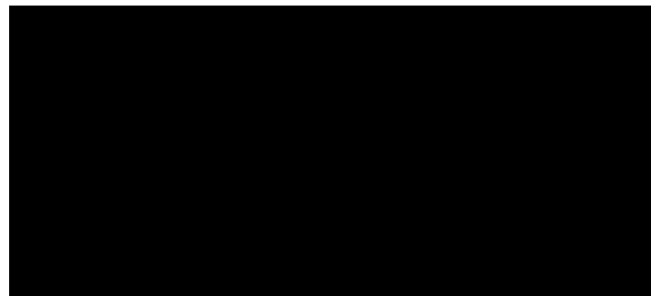
Thorncroft Manor

Thorncroft Drive

Leatherhead

Surrey

KT22 8JB



Approved by: Alexia Tamblyn MA (Oxon) MSc CEnv MCIEEM FRGS,

Managing Director

Date: 3rd May 2017