

1MCo4 Main Works – Contract Lot S2

Ecology Technical Note: River Pinn Temporary Footbridge Works

28th June 2021

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1. Definitions and abbreviations

The tables below outline abbreviations and technical terms used within this report.

Abbreviations

Table 1 List of abbreviations

Abbreviation	Definition
AA	Accredited Agent
CSJV	Costain Skanska Joint Venture
ESMP	Ecological Site Management Plan
GCN	Great Crested Newts
HS2	High Speed Two Ltd
LA	Local Authority
MWCC	Main Work Civils Contract
PROW	Public Right of Way
SCSJV	Skanska Costain STRABAG Joint Venture
SSECP	Site Specific Environmental Control Plan
SSSI	Site of Special Scientific Interest
SSP	Sustainable Sourcing Plan

2. Introduction

2.1. Purpose

- 2.1.1. The purpose of this ecology technical note is to detail the results of the ecological surveys and mitigation measures undertaken for the proposed River Pinn temporary footbridge construction. This document has been produced in order to support SCS's Schedule 17 application to the London Borough of Hillingdon for the proposed bridge construction works.
- 2.1.2. The site consists of a 100m section of the River Pinn and associated bankside vegetation to the east of Breakspere Road in West Ruislip between x:507372 y:187203 and x:507474 y:187219. The surrounding area consists of an 18-hole golf course to the east and south of the site with the Chiltern Mainline railway line and the Celandine Way PROW located 20m to the south of the site. To the north the site is bordered by close cropped semi-improved grassland previously used as horse pasture.
- 2.1.3. Ecological surveys of the River Pinn and adjacent areas have been undertaken on behalf of HS2 between 2013 and 2020. The results of these survey have been used to inform this document. Surveys for the following species groups have been undertaken.
- Great crested newt;
 - Bats;
 - Otter;
 - Reptiles;
 - Kingfisher;
 - Fish and
 - Aquatic invertebrates

3. Development Proposal

- 3.1.1. The proposals are for the construction of a new temporary pedestrian footbridge over the River Pinn located at National Ordinance Grid Reference TQ07400 87213. In order to undertake the HS2 construction works PROW U45, U46 and U47 must be diverted to avoid the construction footprint. The temporary footbridge is required to allow for a crossing point over the River Pinn along the new diverted PROW route.

4. Baseline Survey Information

4.1. Sites of Importance for Nature Conservation

- 4.1.1. The site does not fall within the footprint of any statutory sites for nature conservation, with the nearest being the Ruislip Woods SSSI located 1.3km to the north west of the site.
- 4.1.2. The southern bank of the River Pinn worksite is located within the West Ruislip Golf Course and Old Priory Meadows Site of Borough Grade I Importance for Nature Conservation. This site covers 17.94ha and is made up two section of opposing banks along the River Pinn. The southern bank beside the golf course is a rich wetland habitat, with adjacent wet grassland and a drainage ditch. The river here supports water-starwort, brooklime and fool's water-cress, with common fleabane and hemlock higher up the banks. The wet grassland is dominated by meadowsweet, tufted hair-grass, gipsywort, red clover, common nettle and common knapweed.
- 4.1.3. In addition the site is located 80m north of the Madfield Covert, Railway Mead and River Pinn Site of Borough Grade II Importance for Nature Conservation. This site runs along the banks of the River Pinn between the West Ruislip Golf Course in the north and Swakeleys Drive in the south. The site covers 12.43ha and consists of three distinct areas. Railway Mead is bounded by mature hedgerows of mainly oak and blackthorn. Its grassland supports abundant common knapweed, lady's bedstraw and white clover, as well as autumn hawkbit, burnet saxifrage and tormentil. Green woodpeckers are regularly seen in this area. Mad Field Covert is an oak and ash woodland over elder, blackthorn and hazel. At ground level plants include bramble, nettle, giant fescue and herb robert. The River Pinn's banks are lined by alder, crack willow and white willow interspersed with ash, English elm, field maple and dogwood. In one section, the river flows through woodland of oak with hornbeam, wild cherry and sweet chestnut. Riverbank plants include hemlock, hairy brome and wood meadow-grass along with bramble and Himalayan balsam.

4.2. Phase 1 Habitat Survey

- 4.2.1. A Phase 1 Habitat survey was carried out of the site in 2012-2013. The habitats on site consisted of running water with bankside vegetation of semi-improved neutral grassland, scatter and dense scrub and scattered trees. Species present included bramble, common nettle, sedge species, meadow grass, dog rose, brooklime, deadly nightshade, young ash and pedunculate oak. Himalayan balsam dominates the majority of the northern bank of the river within the proposed works area.
- 4.2.2. The section of watercourse within the works site is between 2.5 to 3m wide with a moderate flow and a earth substrate. The banks are predominately earth with small sections of brick were overflow pipes are present. The banks are shallow and the show signs of regular flooding. The water level of the river is very seasonal and is known to overflow in the wetter winter months and occasional drop to very low levels in warm weather.

4.3. Great Crested Newts

- 4.2.3. Four ponds were recorded on the wider golf course to the east and south of the proposed River Pinn work site (see Figure 1 below for pond locations). A low population of GCN was recorded

within a single pond 010-AH1-024004, located 20m from the River Pinn worksite in 2017. Surveys undertaken of the other 3 ponds in 2017 and 2019 recorded no GCN present.

Figure 1 – location of ponds



- 4.2.4. Ponds 010-AH1-024004, 010-AH1-023004 and 010-AH1-023001 were removed in February and March of 2020 as part of the MWCC. Pond 010-AH1-023002 was enhanced by EWC in January 2020 in order to act as a temporary receptor pond for any GCN found during the MWCC.
- 4.2.5. Pond 010-AH1-024004 was drained and destructively searched in March 2020 under the HS2 Organisational GCN Licence. During this drain down a total of 94 GCN were removed and released into the terrestrial habitat around the banks of the receptor pond. As such, a moderate population of GCN are known to be present on the golf course adjacent to the River Pinn.
- 4.2.6. Pitfall trapping was carried out in 2020 of the terrestrial habitat along the railway embankment to the south of the River Pinn site. No GCN were recorded during the 30-day trapping period. All vegetation suitable to support GCN in their terrestrial phase was destructively search under the supervision of the AA on the HS2 Organisational Licence in October 2020.

4.4. Bats

- 4.4.1. The site and adjacent golf course consist of areas of semi-natural broadleaved woodland and numerous scattered trees. All the trees within the HS2 Act limits were subject to a ground-based tree assessment in 2017 and 2018. All trees found to have potential to support roosting bats were subject to further survey in 2018 and 2019 in the form of a mixture of climbed inspections and emergence and re-entry surveys.
- 4.4.2. The ground-based tree inspection identified two mature ash trees with moderate potential to support roosting bats within the footprint of the temporary footbridge works. As per best practice a single dusk emergency was carried out in July and a single dawn re-entry survey in August 2019.

A summer roost of common pipistrelle was confirmed as present within one of the trees and the tree was removed under a Bat Low Impact Class Licence in 2019.

4.5. Otter

- 4.5.1. A otter survey was carried out in 2018 along both banks of a 1.5km stretch of the River Pinn to assess the presence of potential otter holts and any associated field signs. The survey area ran from Swakeleys Drive in the south to the northern boundary of the West Ruislip Golf Course. No potential otter holts or field signs associated with otter were recorded.
- 4.5.2. An update survey was carried out in October 2020 of the 100m work site and for 50m either side. No otter holts or field signs were recorded, and the survey area contained no habitat features such as dense scrub or tree root structures suitable to support an otter holt. In addition, the area was subject to high levels of disturbance from dog walkers and adjacent construction.

4.6. Reptiles

- 4.6.1. The areas of longer grassland associated with the roughs and the mosaic of scrub and rough grassland habitats along the banks of the River Pinn and those within the golf course to the east provide habitat for widespread reptile species.
- 4.6.2. A reptile presence/likely absence survey was carried out in June to September 2017. A total of 13 adult male and female slow worms were observed both on, and adjacent to the golf course to the east of the River Pinn. Some of these were recorded under the same refugia on multiple visits and therefore are likely to be the same individual. The peak count was three individuals on 11 July 2017.

4.7. Kingfisher

- 4.7.1. An assessment of the site was carried out in October 2020 of the suitability of the section of the River Pinn within the works site to support nesting kingfisher. The site was found to be unsuitable to support nesting kingfisher. However, the site did contain features such as adjacent overhanging tree branches that could support low numbers of foraging kingfisher.
- 4.7.2. In addition, during the fish surveys carried out in 2020 kingfisher were recorded foraging along the river.

4.8. Fish

- 4.8.1. An electrofishing survey was undertaken of the works footprint and a location downstream and one upstream in November 2020. These surveys recorded a total of seven different species were recorded across all three survey locations. Species present consisted of bullhead, stone loach, 3 spined stickleback, 10 spined stickleback, minnow, perch and gudgeon. Full details of these surveys can be found within the River Pinn Ecology Assessment 1MCo4-SCJ-EV-ASM-SSo5_SLo8-000001.

4.9. Aquatic Surveys

- 4.9.1. Aquatic surveys consisting of Macroinvertebrate sampling and analysis, Macrophyte assessment, Phytobenthos sampling and analysis and Filamentous algae cover assessment were carried out in November 2020. The surveys were undertaken at three locations: within the realignment site, downstream of the work site and upstream of the works site.
- 4.9.2. The Macrophyte survey recorded a relatively low diversity of the aquatic macrophytes across the survey areas. The highest number of species associated with the riverine habitats (i.e. channel or margin occurrences) was ten, recorded at the realignment site. The upstream and downstream sites recorded six and eight species, respectively. Schedule 9 invasive Canadian pondweed was recorded within the realignment site.
- 4.9.3. The Macroinvertebrate survey recorded a number of Taxa between 15 and 24, which is reasonably good for a built-up area in Outer London. The majority of the invertebrate samples collected during the River Pinn survey supported species that were predominantly common or very common (individual CCI scores of 1 and 2, respectively) and these generated CCI index values ranging between 3.5 and 4.5. These equated to communities comprising low conservation values. However, the realignment site sample 1 was an exception and yielded a CCI index of 8.41, indicating that this site supported at least one species of restricted distribution and/or a community of moderate taxon richness.
- 4.9.4. During the Phytobenthos surveys a total of 93 diatom species were documented in the 9 phytobenthic samples analysed. The most abundant diatom in the majority of the samples was *Amphora pediculus*, a good indicator of elevated nutrients but still plentiful oxygen. *Rhoicosphenia abbreviata*, which was common in many samples, is a common epiphyte, particularly on the filamentous alga, *Cladophora glomerata*. Species of *Navicula* were also well represented. These are motile taxa common in lowland streams such as the Pinn.
- 4.9.5. Full details of these surveys can be found within the River Pinn Ecology Assessment 1MCo4-SCJ-EV-ASM-SSo5_SLo8-000001.

5. Mitigation Measures

5.1. Sites of Interest for Nature Conservation

- 5.1.1. The works will result in the loss of a small amount of habitat from the West Ruislip Golf Course and Old Priory Meadows SINC. As part of the wider construction works across the golf course enhancement and compensational planting and landscaping will be carried out and will be detailed in an ESMP.
- 5.1.2. The works have the potential to indirectly impact the nearby Madfield Covent, Railway Mead and River Pinn SINC from factors such as pollution run off. All works will be carried out in accordance with the pollution control measures detailed within the SSECP for the area.

5.2. Great crested newts

- 5.2.1. All suitable habitat for GCN within the works site was removed under the HS2 Organisation Licence for this species in 2020. As such, no further mitigation is required for this species.

5.3. Bats

- 5.3.1. Both the trees suitable to support roosting bats within and adjacent to the works site were removed by EWC in 2019.
- 5.3.2. The river is likely to act as a commuting corridor for bats. As no night working or additional lighting is proposed for these works the impact to commuting bats is low.

5.4. Reptiles and nesting birds

- 5.4.1. The majority of vegetation that could support either reptiles or nesting birds within the works site has already been cleared under ecological supervision as part of the wider HS2 works. However, all additional vegetation clearance required will be subject to a vegetation permit approved by the ecology manager prior to works commencing. This permit will determine the requirement for ecological supervision and mitigation measures such as nesting bird inspections and 2 phased directional cutting.

5.5. Fish

- 5.5.1. As the new river channel will be dug and allowed to fill with water before the existing channel is dammed and removed manual translocation of fish is not deemed appropriate.

5.6. Schedule 9 Invasive Plants

- 5.6.1. Large stands of Schedule 9 species Himalayan balsam are present along the northern bank of the River Pinn. All works in these areas will be undertaken under the control measures detailed in the Biosecurity plan for the West Ruislip Portal area. These measures will include no removal works while the seedpods of the plant are present, signage and wash down of tools and equipment. The soil within these area will be removed as controlled waste to ensure the plant does not spread through the reuse of soil contaminated with Himalayan balsam seeds.
- 5.6.2. Canadian pondweed has been recorded within the water channel of the River Pinn. Once the existing water channel has been drawn down the vegetation will be removed using a machine and removed from site as controlled waste.