M42 Junction 6 Improvement
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6.3 Environmental Statement
Appendix 9.13 White-clawed Crayfish Scoping Assessment

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

January 2019

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

M42 Junction 6 Improvement

Development Consent Order 202[ ]

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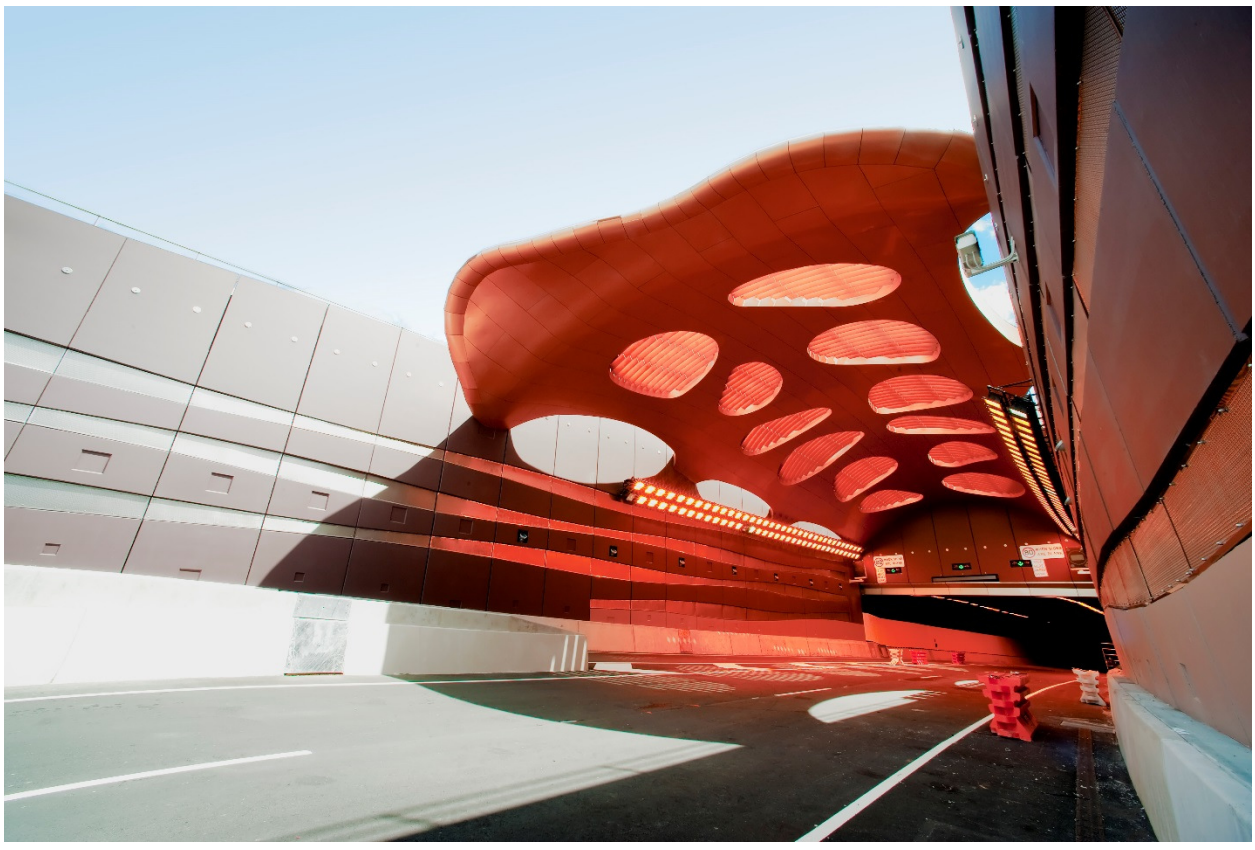
HIGHWAYS ENGLAND

M42 JUNCTION 6 IMPROVEMENT

WHITE-CLAWED CRAYFISH ASSESSMENT

MAY 05, 2017

CONFIDENTIAL



M42 JUNCTION 6 IMPROVEMENT

WHITE-CLAWED CRAYFISH ASSESSMENT

FINAL
CONFIDENTIAL

PROJECT NO.: 62241010
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1 INTRODUCTION

1.1 BACKGROUND

WSP (formerly Mouchel) was commissioned by Highways England to undertake a preliminary assessment of land within and adjacent to the proposed M42 Junction 6 Improvement Scheme to determine if the habitats present are likely to be used by white-clawed crayfish *Austropotamobius pallipes*. This report presents the results of the preliminary assessment undertaken in May 2017.

1.2 SCHEME LOCATION

At the time of writing, three possible route options (Options 1, 2 and 3) are being considered. All three options are predominantly located to the south west of Junction 6 close to the village of Bickenhill, although all route options also include improvements to the junction itself. The land within the proposed scheme is predominantly used for agriculture and pasture grazing, although the scheme is also close to the National Exhibition Centre (NEC), Birmingham International Railway Station and Birmingham Airport as well as proposed developments including High Speed 2 (HS2) route and terminal, a Motorway Service Area (MSA) and UK Central development.

1.3 STUDY AREA

A study area extending up to 1km from the proposed route was defined, with field surveys focussing on three watercourses present within the footprint of the scheme (see Figure 1): Hollywell Brook, which passes beneath the M42 at OS grid reference SP198836, Shadow Brook, which passes beneath the M42 at SP192809 and an unnamed watercourse, which passes beneath the motorway at SP194821.

1.4 STUDY AIMS AND OBJECTIVES

The study sought to determine whether habitats suitable for white-clawed crayfish are present within or adjacent to the proposed scheme. To achieve this, a review of records of protected species obtained from environmental bodies was undertaken to determine whether this species are known within the study area, along with field surveys to assess the value of the habitats present for white-clawed crayfish.

2 METHODOLOGY

2.1 DESK STUDY

Warwickshire Biological Records Centre, the local biological records centre, and the ENVIS database kept by Highways England was consulted to collate historical ecological records from within the study area.

2.2 FIELD SURVEY

A survey was undertaken in May 2017 to assess the suitability of each watercourse for white-clawed crayfish. The physical characteristics of the water course, including channel width, depth, substrate, bank profile and flow types, were assessed, as well as the vegetation structure within and along the banks. Any feature offering suitable refuge habitat, such as undercut banks, submerged tree roots and cobbles, was recorded. Professional judgement was used to assess the quality of the habitat to support white-clawed crayfish.

2.3 LIMITATIONS

It was not always possible for surveyors to walk directly alongside sections of the watercourses due to the presence of dense vegetation. However, it is considered that surveyors were able to gather sufficient information on the characteristics of the watercourse from accessible sections to allow a thorough assessment of suitability for white-clawed crayfish to be undertaken.

3 RESULTS

3.1 DESK STUDY

No records of white-clawed crayfish from within the study area were returned from the desk study.

3.2 FIELD SURVEY

3.2.1 HOLLYWELL BROOK

Within the study area, there are three distinct sections to Hollywell Brook, the first of which is to the west of the M42. Here, the brook flows between car parks and is culverted with a concrete base and banks. Moving east downstream, the banks are gently sloping with soil and vegetation, including submerged tree roots. The brook then passes beneath the M42.

The second section is between the M42 and Middle Bickenhill Lane. Hollywell Brook has steep banks covered with a range of vegetation, although several areas had been poached by livestock. The substrate of the brook was thick mud and silt. The brook was well shaded by bankside vegetation and this, combined with the shallow depth of the water meant there was little to no aquatic vegetation present in this section of the brook.

The third section was east of Middle Bickenhill Lane. Here, Hollywell Brook is more open and aquatic vegetation was present. A range of grasses and rushes were present along the steep banks and in the water itself. More cobbles were present in the substrate, and occasional trees were present in the banks, offering submerged roots.

In the third section, a single claw was found and identified as being from a signal crayfish *Pacifastacus lenisculus*. This is a non-native species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The signal crayfish both outcompetes white-clawed crayfish and carries crayfish plague *Aphanomyces astaci*, which is fatal to white-clawed crayfish. Given the likely presence of signal crayfish within Hollywell Brook, it is unlikely that white-clawed crayfish will be present within Hollywell Brook.

3.2.2 SHADOW BROOK

Shadow Brook is a shallow ditch that runs along the edge of field boundaries, both to the west and east of the M42 with a culvert beneath the motorway. The top of the bank of the brook was planted with a hawthorn dominated hedgerow. The brook itself was dry in places, with sections holding shallow areas of silted, standing water. The substrate of the brook was mud and silt. With no suitable refuge sites for crayfish identified and areas of the brook being found to be little more than a dry ditch, it is unlikely that white-clawed crayfish are present in Shadow Brook.

3.2.3 UNNAMED WATERCOURSE

Like Shadow Brook, the unnamed watercourse was a shallow ditch that is incorporated into field boundaries. The banks are hawthorn dominated, with brambles, nettles and ivy alongside. The banks are of soft earth and the substrate for the brook was again mud and silt. Like Shadow Brook, some sections of the brook were dry and what water was present was very shallow and with very slow flow, if any. With no suitable refuge sites for crayfish identified and areas of the brook being found to be little more than a dry ditch, it is unlikely that white-clawed crayfish are present in the unnamed watercourse.

4 EVALUATION AND RECOMMENDATIONS

4.1 WHITE-CLAWED CRAYFISH

No evidence of white-clawed crayfish was found within the study area during the survey work undertaken. The habitats within the study area were assessed for their potential to support this species. Two water courses, Shadow Brook and an unnamed water course were found not to offer suitable habitat for white-clawed crayfish. Hollywell Brook was found to support the invasive signal crayfish, a species which is known to outcompete white-clawed crayfish as well as carrying the crayfish plague, which is fatal to white-clawed crayfish. Therefore no further surveys or mitigation in respect of white-clawed crayfish is recommended.

4.2 SIGNAL CRAYFISH

Under the Wildlife and Countryside Act 1981 (as amended), it is unlawful to release non-native species, including signal crayfish, into the wild. Any non-native signal crayfish that are encountered during the works should not be returned to the channel of the watercourses, but should be removed and humanely destroyed. Natural England and the Environment Agency should also be informed as to the presence of a non-native species.

5 FIGURES

5.1 FIGURE 1: WATERCOURSE MAP