



# **ENVIRONMENTAL STATEMENT – VOLUME 3 – APPENDIX 8.8**

## **Bat Tree Roost Assessment Survey Report – Repower**

### **Drax Bioenergy with Carbon Capture and Storage**

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations, 2009 - Regulation 5(2)(a)

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PUBLIC

# **The Drax Power (Generating Stations) Order**

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

## **Environmental Statement**

### **Appendix 9.6 - Bat Tree Roost Assessment Survey**



The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure)

Regulations 2009 – Regulation 5(2)(a)

## **Drax Power Limited**

### **Drax Repower Project**

Applicant: DRAX POWER LIMITED  
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## DISCLAIMER

This report was prepared in 2017 based on the project design, development parcels and project terminology contained within the Preliminary Environmental Information Report (PEIR).

## EXECUTIVE SUMMARY

All technical information contained within the report is still relevant and valid. Due to change in scheme design, some recommendations are no longer needed. Land that was previously inaccessible at the time of the PEIR has now been surveyed as per the survey methodology stated in this document. No further trees with suitability for roosting bats have been identified within the Proposed Scheme.

Drax Power Limited are submitting a Development Consent Order (DCO) application to the Planning Inspectorate for a Proposed Scheme. This will include the repowering up to two existing coal-fired units with gas at the Existing Drax Power Station Complex, along with the construction of a battery storage facility and Gas Pipeline.

Records of bats from within 5 km of the Site were identified during the desk study which forms part of the Preliminary Ecological Appraisal (PEA) undertaken by WSP in 2017. Additionally, trees with suitability for supporting roosting bats were identified on Site during a Preliminary Ecological Appraisal (PEA) undertaken by WSP in 2017. Consequently, WSP were commissioned to undertake preliminary ground level roost assessments for trees of the Site.

Thirteen trees were found to have low, moderate or high suitability:

- High = 4 trees (T1, T2, T5 & T7).
- Moderate = 6 trees (T3, T4, T6, T8, T9 & T10).
- Low = 3 trees (T11, T12 & T13).

The ten trees identified as having moderate or high suitability to support roosting bats (T1-T10) will require further survey. It is recommended that the Potential Roost Features (PRFs) are aerially inspected (by tree-climbing survey) to further assess the suitability of these trees to support bat roosts. Additional surveys in the form of dusk emergence and dawn re-entry surveys may be required following the aerial inspections to obtain more information about any confirmed or possible roosts identified.

The three trees identified as having low suitability to support roosting bats (T11-T13) do not require further survey. All other trees that were surveyed have negligible suitability to support roosting bats and so do not need to be considered further.

Trees present in the areas that were not accessible have not been surveyed. Preliminary ground level roost assessments must be carried out in advance of any works. These assessments may lead to further survey requirements.

If any trees with bat roosts are affected by the Proposed Scheme avoidance and/or mitigation measures would be required. In the event of any roosts being lost or otherwise significantly affected by the Proposed Scheme, a draft European Protected Species (EPS) licence from Natural England would also need to be submitted with the DCO application

# 1 INTRODUCTION

## 1.1 Project Background

- 1.1.1. Drax Power Limited is proposing to repower up to two existing coal-fired units with gas at the Existing Drax Power Station Complex. The Proposed Scheme will also include a new battery storage facility and Gas Pipeline. It is intended that consent for the Proposed Scheme will be secured via an application to the Planning Inspectorate for a Development Consent Order (DCO).
- 1.1.2. WSP conducted a preliminary ecological appraisal (PEA) of land within and adjacent to Drax Power Station (Yorkshire, National Ordnance grid reference SE 661 272), hereafter referred to as the 'Power Station Site' and within a 100 m buffer either side of two potential routes for a gas pipeline extending east of the plant (Options 4 and 5), hereafter referred to as the 'Pipeline Study Area'. These areas are hereafter collectively referred to as 'the Site'.
- 1.1.3. Option 4, extends to approximately 4 km east of the plant ending adjacent to Rusholme Lane (National Ordnance grid reference SE 698 266). Option 5 extends to approximately 3 km south east of the plant ending adjacent to Brier lane (National Ordnance grid reference SE 687 256).
- 1.1.4. Records of bats were returned from the desk study element of the PEA. Furthermore, trees with potential to support roosting bats were recorded during surveys to inform the PEA.
- 1.1.5. Preliminary ground level roost assessment of trees were subsequently commissioned by Drax Power Limited. The purpose of these surveys was to establish the suitability of trees within the Site to support roosting bats.

## 1.2 Legislation and Policy Context

- 1.2.1. All UK bat species are fully protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended) and also receive protection under the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally kill, injure or take these species; damage, destroy or obstruct roosts; and deliberately disturb these species (whether in a roost or not). Additionally, it is illegal to possess, transport, sell, barter or exchange any part of a bat.
- 1.2.2. Development activities that could result in impacts to bats should avoid/minimise the likelihood of an impact occurring. If impacts are unavoidable then the works may need to be carried out under a European Protected Species (EPS) development licence.
- 1.2.3. Greater horseshoe bat, lesser horseshoe bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat and barbastelle are identified as Species of Principal Importance (SPI) via the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Under Section 40 of the NERC Act 2006 public bodies have a duty to have regard to the conservation of SPI when carrying out their statutory functions. Bats are also listed as priority species in the Selby Local Biodiversity Action Plan.



## 2 METHODS

### 2.1 Overview

- 2.1.1. Preliminary ground level roost assessment surveys were carried out over two visits between 14-15 and 26-28 September 2017 by ecologists suitably qualified and experienced at undertaking such surveys. The surveys were undertaken in line with best practice guidelines (Collins, 2016)<sup>1</sup>. The aim of the survey was to carry out an assessment of all trees within the Site, where access was available.
- 2.1.2. Trees were surveyed throughout the Power Station Site, which is split into eight Development Parcels A-H, and throughout the Pipeline Study Area along pipeline route Option 4 and Option 5. Figure 1, Section 5 shows the locations of the Development Parcels and Pipeline Options and highlights areas that were surveyed and those where access was not permitted. The trees were assessed as having either negligible, low, moderate or high suitability to support roosting bats (see Table 9.6.1).

### 2.2 Preliminary Ground Level Roost Assessment

- 2.2.1. The assessments were completed from ground level with the use of binoculars and a high-powered torch (where necessary). Each tree was systematically viewed to record the presence or absence of Potential Roost Features (PRF). The features searched for included, but were not restricted to, the following:
- Natural holes (e.g. knot holes) arising from naturally shed branches, or branches previously pruned back to the branch collar.
  - Cavities, such as those which develop from flush cuts or created by branches tearing out from the parent stem.
  - Woodpecker holes.
  - Cracks/splits in stems or branches (both vertical and horizontal).
  - Partially loose or plate bark.
  - Ivy (*Hedera helix*) stems with diameters > 50 mm which may create suitable roosting opportunities between the ivy and tree stem or branch.
  - Existing bird and bat boxes.
- 2.2.2. All PRFs were recorded and the location of the trees was recorded on a map (see Figure 2, Section 5). Photographs were taken of the trees (see Appendix 1).
- 2.2.3. In addition, signs of use by bats were recorded including (but not limited to):
- Bat droppings (these may accumulate under an established roost).
  - Insect wings (from feeding).
  - Actual sightings of bats.
- 2.2.4. Each tree, was categorised in terms of the potential for bat roosts to be present in accordance with descriptions contained within Table 9.6.1. The locations of all trees with suitability to support roosting bats are shown on Figure 2, Section 5.

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

*Table 9.6.1 - Categorisation of Bat Roosting Suitability of Trees (adapted from Collins, 2016)<sup>1</sup>*

<b>Level of Suitability to Support Roosting Bats</b>	<b>Rationale</b>
Negligible	Tree with no or very limited roosting opportunities for bats, no evidence of use by bats and where the tree is isolated from foraging habitat.
Low	Tree with a low number of roosting opportunities and with limited connectivity to foraging habitat. Tree has no evidence of current use by bats. A tree of sufficient size and age to contain PRFs but with none seen from the ground, or features seen with only very limited roosting potential.
Moderate	Tree with features present that are suitable for roosting bats and with connectivity to foraging habitat. Tree has no evidence of current use by bats. Examples of features include branch cavities and tear outs.
High	Tree with features that are highly suitable for roosting bats and with good connectivity to quality foraging habitat such as woodland or lakes. Tree has no evidence of current use by bats. Examples of features include trunk cavities and woodpecker holes.

## 2.3 Limitations

- 2.3.1. Preliminary ground level roost assessments of trees can be undertaken at any time of year. The winter months are optimal as visibility of PRFs is improved due to the lack of leaves. The surveys were completed in September, when trees were still in leaf. In some instances, it is possible that leaf cover could have limited visibility of PRF in tree canopies. Where this may have been the case, trees were assigned a roosting suitability on a precautionary basis.
- 2.3.2. A large area of the Site (see Figure 1) was not surveyed due to access not being granted. Therefore the trees in these areas could not be assessed for their suitability to support bats and should be surveyed once access is permitted.

## 3 RESULTS

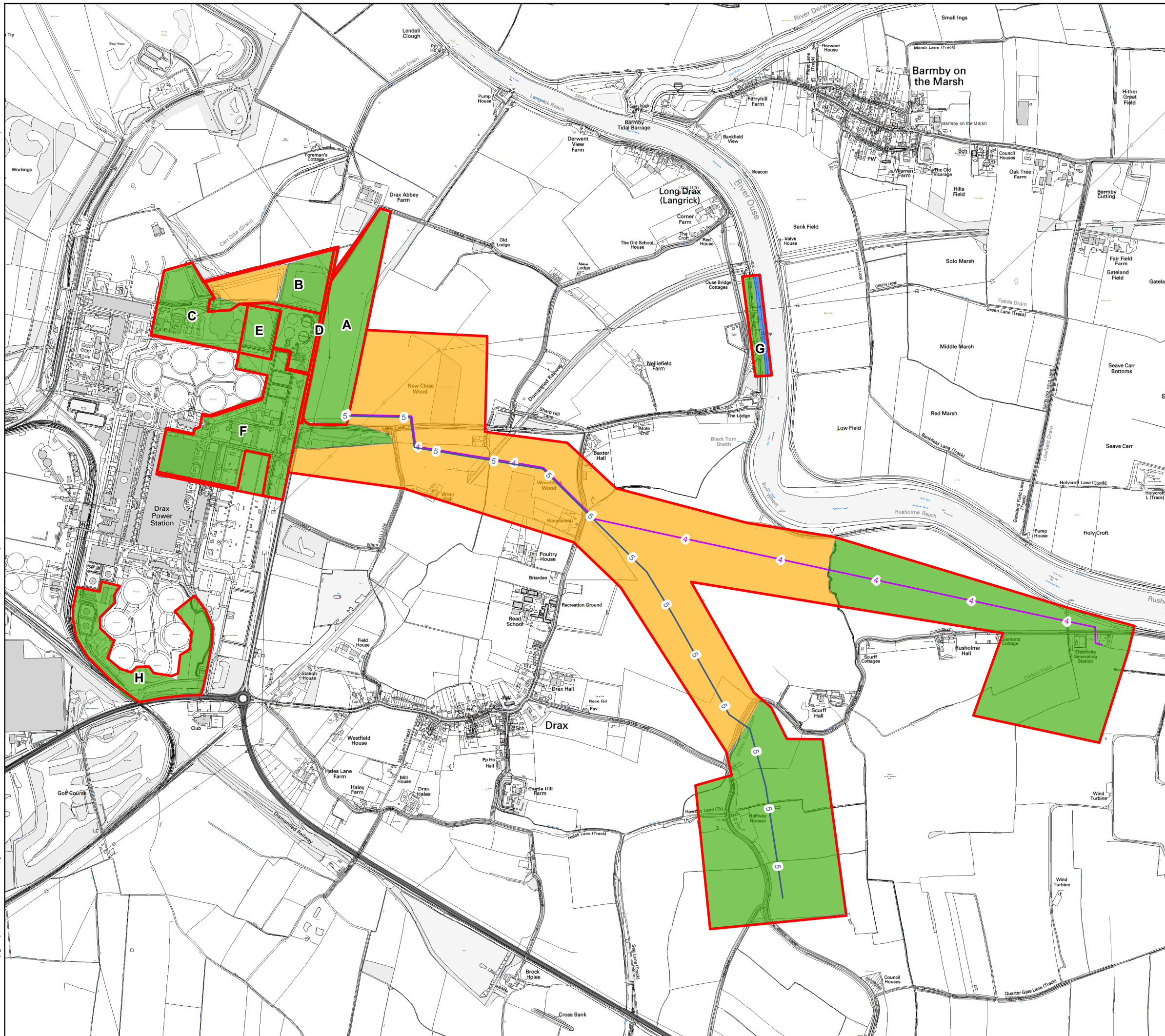
### 3.1 Preliminary Ground Level Roost Assessment

- 3.1.1. All accessible trees within the Site were assessed for their suitability to support roosting bats. The locations of trees assessed as having either low, moderate or high suitability for supporting roosting bats are shown in Figure 2, Section 5. All other trees on Site were assessed as having negligible or no suitability and do not need to be considered further.
- 3.1.2. Thirteen trees were found to have low, moderate or high suitability:
  - High = 4 trees (T1, T2, T5 & T7).
  - Moderate = 6 trees (T3, T4, T6, T8, T9 & T10).
  - Low = 3 trees (T11, T12 & T13).
- 3.1.3. Five trees (T1-T5) with bat roost suitability were identified in Development Parcel B at the Power Station Site; three with high suitability and two with moderate suitability.
- 3.1.4. Eight trees (T6-T13) with bat roost suitability were identified along pipeline Option 5 in the Pipeline Study Area; one with high suitability, four with moderate suitability and three with low suitability.
- 3.1.5. No trees with bat roost suitability were identified in the other Development Parcels at the Power Station Site or along pipeline Option 4 in the Pipeline Study Area



## 4 INTERPRETATION OF RESULTS

- 4.1.1. Thirteen trees suitable for supporting bat roosts were identified in Development Parcel B at the Power Station Site and along Pipeline Option 5 in the Pipeline Study Area. No trees with features suitable for roosting bats were recorded at the other Development Parcels or along pipeline Option 4.
- 4.1.2. The ten trees identified as having moderate or high suitability to support roosting bats (T1-T10) will require further survey. It is recommended that the PRFs are aerially inspected (by tree-climbing survey) to further assess the suitability of these trees to support bat roosts. Additional surveys in the form of dusk emergence and dawn re-entry surveys may be required following the aerial inspections to obtain more information about any confirmed or possible roosts identified.
- 4.1.3. The three trees identified as having low suitability to support roosting bats (T11-T13) do not require further survey, as per Collins, 2016<sup>1</sup>. However, if they are to be felled then this should be carried out segmentally and under ecological supervision.
- 4.1.4. All other trees that were surveyed have negligible suitability to support roosting bats and so do not need to be considered further.
- 4.1.5. Trees present in the areas that were not accessible have not been surveyed. Preliminary ground level roost assessments must be carried out in advance of any works. These assessments may lead to further survey requirements.
- 4.1.6. If any trees with bat roosts are affected by the Proposed Scheme avoidance and/or mitigation measures would be required. In the event of any roosts being lost or otherwise significantly affected by the Proposed Scheme, a draft European Protected Species (EPS) licence from Natural England would also need to be submitted with the DCO application



### Key

- Accessible
- Not surveyed due to land access constraints
- Not surveyed due to health & safety constraints
- Site Boundary
- Route Option 4
- Route Option 5

0 110 220 330 440 550 m

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Client:

DRAX POWER LIMITED

Project:

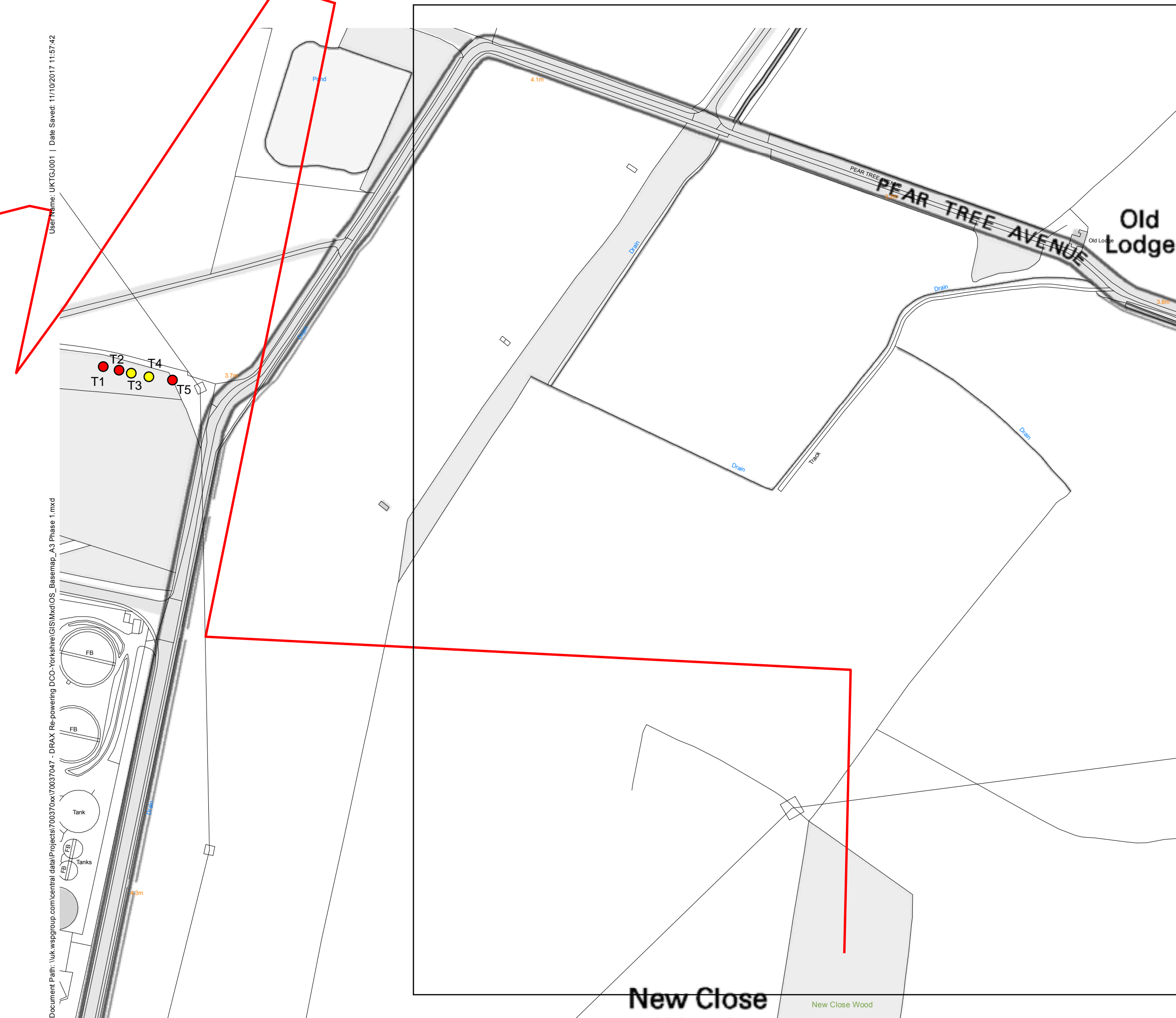
DRAX REPOWER PROJECT

Title

Figure 1: Preliminary Ground Level Roost Assessment Survey Access

Drawing No:	Sheet	Drawn:	TJ
Date:	05/10/2017	Checked:	KJ
Scale:	14,000 @ A3	Approved:	PD





Key

**Suitability**

- High
- Moderate
- Site Boundary

0 20 40 60 80 100 m

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**wsp**

Client:

DRAX POWER LIMITED

Project:

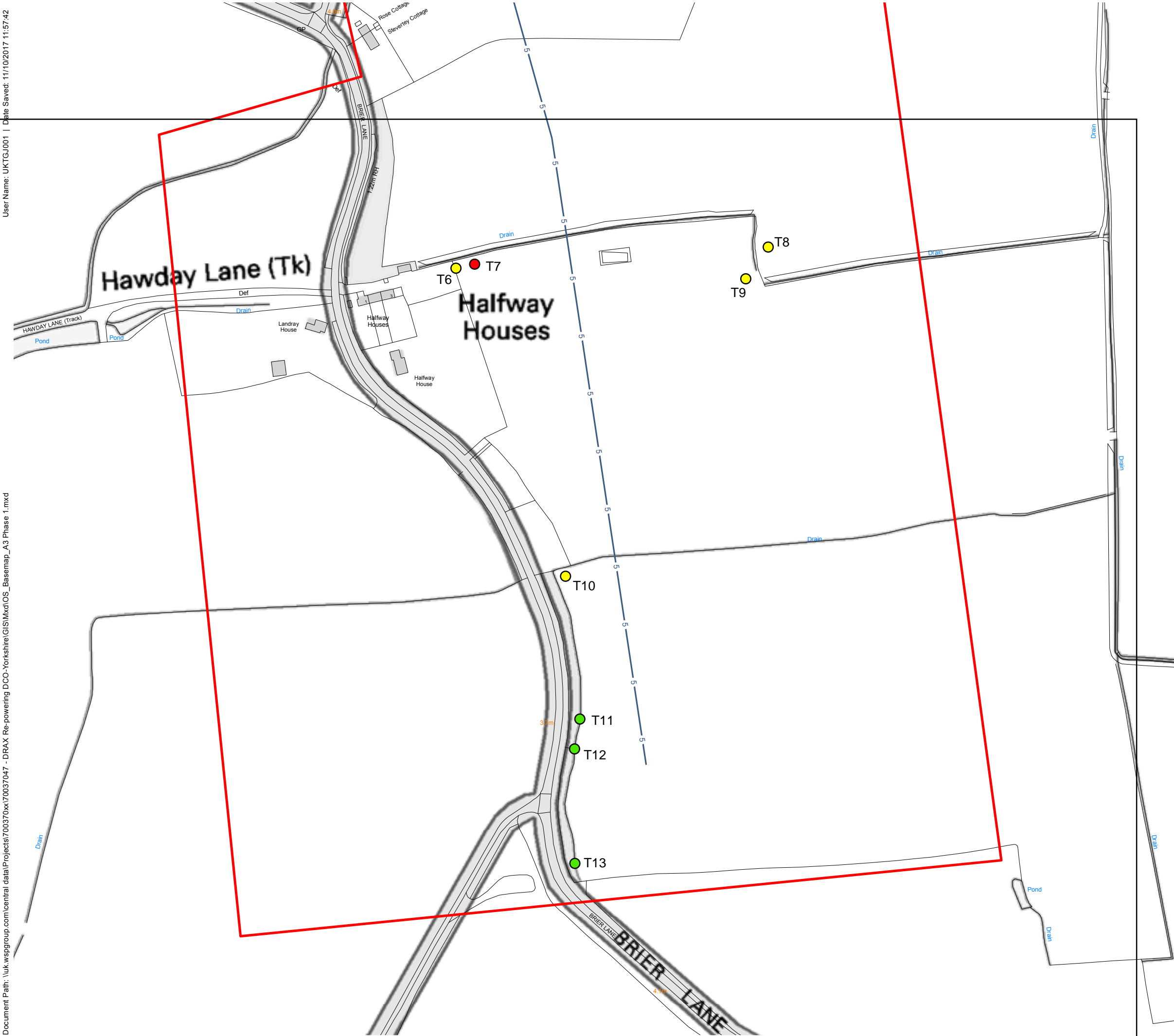
DRAX REPOWER PROJECT

Title

Figure 2:  
Preliminary Ground Level Roost Assessments

Drawing No:	Sheet 4	Drawn:	TJ
Date:	05/10/2017	Checked:	KJ
Scale:	2,500 @ A3	Approved:	PD





Key

**Suitability**

- High
- Low
- Moderate

Site Boundary

Route Option 5

0 20 40 60 80 100 m

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Client:

DRAX POWER LIMITED

Project:





DRAX REPOWER PROJECT

Title



Figure 2:  
Preliminary Ground Level Roost Assessments

Drawing No:	Sheet 11	Drawn:	TJ
Date:	05/10/2017	Checked:	KJ
Scale:	2,500 @ A3	Approved:	PD

## APPENDIX 1: PHOTOGRAPHS

	
<p><b>Photograph 1</b> – Oak tree T5 with high suitability</p>	<p><b>Photograph 2</b> – PRF in limb of T5 with high suitability</p>
	
<p><b>Photograph 3</b> – Oak tree T7 with high suitability</p>	<p><b>Photograph 4</b> – PRF of T7 with high suitability</p>



	
<p><b>Photograph 5 – Oak tree T9 with moderate suitability</b></p>	<p><b>Photograph 6 – PRF of T9 with moderate suitability</b></p>



