

Title	Proposed Development on land off Stryt-Issa, Penycae, Wrexham – Biosecurity Risk Assessment
Client	Mr P. Hughes
Date of Risk Assessment	8th June 2020
Author	Tom Knight (Marches Ecology)

1 Introduction

Background

- 1.1 Planning consent (Ref. no. P/2018/0925) has been provided for the construction of two semi-detached residential properties on land at 50 Stryt-Issa, Penycae, Wrexham (approximate OS Grid Ref. SJ 286 456). The consent was provided subject to fifteen conditions. Condition 13 requests the submission of a Biosecurity Risk Assessment and states:

'Prior to commencement of development, a Biosecurity Risk Assessment shall be submitted to and approved in writing by the Local Planning Authority. The Assessment shall include: - i) Measures to control any INNS on site; ii) Measures or actions to prevent INNS being introduced to the site for the duration of construction and operational phases of the scheme'.

This document has been produced by Marches Ecology to satisfy this requirement.

- 1.2 *'Section 14(1) of the Wildlife and Countryside Act 1981 (as amended) makes it illegal to release or allow to escape into the wild any animal which is not ordinarily resident in Great Britain and is not a regular visitor to Great Britain in a wild state, or is listed in Schedule 9 to the Act. It is also illegal to plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act. The Schedule 9 list of animal and plant species has been amended by the Wildlife and Countryside Act 1981 (Variation of Schedule 9)(England and Wales) Order 2010¹. Section 14 (1) covers spreading the species or transferring polluted ground material from one area to another.*

The *Invasive Alien Species (Enforcement and Permitting) Order 2019* relates to the prevention and management of the introduction and spread of non-native species and the associated licensing/ permitting system.

- 1.3 A Biosecurity Risk Assessment identifies and assesses the risk posed due to the accidental spread of invasive non-native species (INNS) or diseases and proposes suitable control measures. It has been produced as a standalone document so that the salient points may be included in any Toolbox Talk or site induction provided to site contractors. The delivery of a Toolbox Talk would ensure site awareness and identify individual responsibility.

Plants are listed under *Part II of Schedule 9²*. Henceforth in this report such plants will be referred to as '*Schedule 9 plants*'.

- 1.4 The structure of this Risk Assessment has been adapted from that provided by Scottish Natural Heritage (SNH) in a 'Biosecurity Risk Assessment proforma' and Natural Resources Wales (NRW) in a 'Generic Tree Health Biosecurity Risk Assessment Process and

¹ <http://www.nonnativespecies.org/index.cfm?pageid=67>

² <http://www.legislation.gov.uk/ukpga/1981/69/schedule/9>

Template³. This Risk Assessment was completed by Tom Knight of Marches Ecology on 8th June 2020.

Site Survey

- 1.5 A site survey was undertaken on 4th June 2020 by Tom Knight of Marches Ecology. The purpose of this site survey was to identify, wherever possible, any INNS on or close to the site. Where INNS were identified the location and status was recorded. Due to the nature of the site this survey largely focused on *Schedule 9* plants. June is an appropriate time of year to undertake such a survey.
- 1.6 It should be noted that while every effort was expended during the survey on 4th June 2020 to locate, identify and record all *Schedule 9* plants within the survey site Marches Ecology can offer no guarantee that all such plants were found. Furthermore, this report confers no guarantee for the subsequent success of treatment of the *Schedule 9* plants or should such plants remain present/ or re-grow following such treatment.

Site Description

- 1.7 The proposal briefly concerns the construction of two new semi-detached residential dwelling units and formation of the associated vehicular access. The new residential dwellings would be constructed within the garden area of the existing dwelling (50 Stryt-Issa). The proposal would necessitate the felling of a single tree. This tree is located immediately outside the western site boundary.
- 1.8 The proposed new houses would largely be located on an area of poor semi-improved grassland (a currently unmanaged, former lawn). The existing garden also contains a few ornamental shrubs and hedge, a dilapidated garage, areas of hard-standing and various walls.

Need for Biosecurity Measures

Introduction

- 1.9 The GB Non-native Species Secretariat (NNSS) states that '*Biosecurity means taking steps to make sure that good hygiene practices are in place to reduce and minimise the risk of spreading invasive non-native species. A good biosecurity routine is always essential, even if invasive non-native species are not always apparent*'⁴. Prevention of the spread of parasites and diseases could also be added to this statement.
- 1.10 It is not always possible to see INNS/ diseases and they can be transmitted accidentally by people moving between sites. They are most often transported in soil or organic material, such as plant debris, that can be carried on footwear, equipment or by the wheels of vehicles and machinery. Some pathogens are dispersed in water and so the risk of these being spread increases when conditions are wet.

Known Status of INNS at the Site

- 1.11 *Figure 1* (attached at the end of this Risk Assessment) presents the results of the site survey. *Table 1* below provides further information for the target note locations shown on *Figure 1*.

³ <https://cdn.naturalresources.wales/media/684820/eng-th-biosecurity-risk-assessment.pdf>

⁴ <http://www.nonnativespecies.org/index.cfm?pageid=174>

Table 1 – Target Notes

Target Note	Details
1	A small <i>Cotoneaster simonsii</i> (Himalayan Cotoneaster) shrub to approximately 1.5 m high growing out of the top of a wall located outside the site.
2	A small <i>Cotoneaster</i> sp. seedling approximately 1 m from the drip line of the <i>Salix caprea</i> (Goat Willow) located outside the site that is to be felled.
3	No <i>Fallopia japonica</i> (Japanese Knotweed) stems were visible at the location near the Goat Willow tree from which they were recorded in January 2018. At the time of the survey in 2018 it appeared that some of the Japanese Knotweed had been chemically treated. This area is no longer managed so the vegetation was generally to 1.2 m high. This could have obscured low stems of Japanese Knotweed.
3a	A single stem of Japanese Knotweed was recorded at this location which is further away from the Goat Willow and on the opposite side of a post-and-rail fence. It is approximately 10-12 m from the site boundary wall and 5 m from the drip line of the Goat Willow. The stem is approximately 1.3 m high.
3b	A single stem of Japanese Knotweed to approximately 1.6 m high. It is approximately 7 m from the site boundary wall.
3c	A single stem of Japanese Knotweed to approximately 1 m high.
3d	A small clump of Japanese Knotweed approximately 15-20 m from the site boundary wall.
3e	A single stem of Japanese Knotweed to approximately 1 m high.
3f	A single stem of Japanese Knotweed to approximately 0.6 m high.
4	A young <i>Fraxinus excelsior</i> (Ash) sapling apparently infected with <i>Hymenoscyphus fraxineus</i> .

1.12 No INNS listed on *Schedule 9* of the *Wildlife and Countryside Act 1981* have been recorded from the proposed development site.

1.13 Two species of plant listed on *Schedule 9* have been recorded from close to the site:

- *Fallopia japonica* (Japanese Knotweed).
- *Cotoneaster simonsii* (Himalayan Cotoneaster)/ *Cotoneaster* sp. (Cotoneaster).

Scattered stems of Japanese Knotweed were recorded from an area of land to the west/northwest of the site (*Target Notes 3* and *3a-3f*).

A small shrub of Himalayan Cotoneaster was recorded growing from a wall-top to the east of the site (*Target Note 1*) and a Cotoneaster seedling was recorded from the land to the west of the site (*Target Note 2*).

It is possible that dense vegetation/ *Rubus fruticosus* agg. (Bramble) may have obscured the presence of *Schedule 9* plants particularly in the land to the west/ northwest of the site.

- 1.14 The NNSS provides factsheets including identification features for Japanese Knotweed and Cotoneaster at:

- <http://www.nonnativespecies.org/index.cfm?sectionid=47>

Further information on Japanese Knotweed is provided by Welsh Government:

- Welsh Government (2018). *Public Information on Invasive Species in Wales – Japanese Knotweed*⁵.

- 1.15 A young Ash sapling was recorded at *Target Note 4* which exhibited symptoms of having been infected by *Hymenoscyphus fraxineus*. This fungus, which is of eastern Asian origin, causes Ash dieback.

Vulnerable Species/ Habitats

- 1.16 NRW in their response (Ref. CAS-71188-N0F1, dated 15/11/18) to the planning application state that they '*consider biosecurity to be a material consideration owing to the nature and location of the proposal*' and further that '*biosecurity issues concern invasive non-native species (INNS) and diseases*'. The NRW response mentions the presence of Japanese Knotweed at the site but does not identify what ecological resources are deemed to be at risk.

- 1.17 Japanese Knotweed usually spreads by natural means or through human activity. This plant does not produce seed in the UK but spreads via underground rhizomes which can typically grow to a depth of 2 m and extend up to 7 m from the parent plant. New plants can grow from the nodes of pieces of green stem and fragments of rhizome as small as 0.7 grams. It can therefore be spread where the above ground stems are cut or there is soil disturbance around the plant. This plant could be spread further in the small area of tall ruderal vegetation/ wet grassland (outside the site) from which it is currently recorded.

- 1.18 As noted previously Cotoneaster has been recorded from outside the site. As birds are often the vector for the spread of Cotoneaster it is possible that these plants could act as a source. Cotoneaster may be spread by the transferral of berries and plant material. The areas of tall ruderal vegetation to the west/ northwest of the site are vulnerable to the spread of this non-native invasive plant. Cotoneaster can colonise open grassland becoming dominant to the exclusion of native species.

- 1.19 *Hymenoscyphus fraxineus* is most frequently spread by the wind blowing the spores of the fungus and can travel tens of miles. The movement of logs from infected trees may be a further pathway for the disease, although this is considered to be a low risk. Similarly, spores could potentially be spread on clothing/ footwear and equipment/ machinery.

- 1.20 While it is possible that the work-force could transfer INNS/ diseases onto the proposed development site the habitats present are not considered to be particularly valuable.

Other INNS that could be Brought to Site

- 1.21 It is possible that other INNS (e.g. Giant Hogweed, Indian Balsam), besides those listed above, could be inadvertently transported to the site. However, further to the Risk Assessment conducted below it is considered that the proposed general control measures should be sufficient in this instance with respect to other INNS that could potentially be transported to the site.

⁵ <https://gov.wales/sites/default/files/publications/2018-01/japanese-knotweed-controlling-it-on-your-land.pdf>

2 Biosecurity Risk Assessment

Activities that may Cause Spread

- 2.1 No INNS have been recorded from the site and as such activities within the site would not directly affect any such species.
- 2.2 As mentioned above Japanese Knotweed is most frequently spread by cutting the stems or disturbing the soil around growing stems. As part of the proposed development the tree at *Target Note 3* is to be felled and will be replaced with two new planted trees. These activities have the potential to spread Japanese Knotweed principally via the disturbance of the substrate and transferral of contaminated soil from the site.
- 2.3 Cotoneaster is usually spread through the dispersal of the berries but also through transferral of uprooted plants. The cutting of above-ground stems and transport of this material could cause the incidental dispersal of berries. Disturbance of the soil/ substrate around existing plants may result in the spread of seedlings and seed. Similarly, if the plants are uprooted and not disposed of correctly, they can re-grow if transferred to a suitable site. The plant at *Target Note 1* will not be affected by the proposed development. The small Cotoneaster at *Target Note 2* could be affected during the felling of the tree at *Target Note 3*.
- 2.4 Any activities that involve disturbance of the soil/ substrate may cause the spread of other invasive non-native plants and/ or plant diseases. Typical activities might include initial site clearance/ levelling and any subsequent excavation, e.g. for the installation of utilities/ pipes, foundations, etc. This includes the transfer of soil on machinery and human vectors on to or off-site. Animal diseases could also potentially be transferred in this way.

Activity Risk Assessment

- 2.5 *Table A* on the following page presents the Activity Risk Assessment based on the assessment procedure described on the SNH proforma. For each activity the severity of impact (S), should the INNS be spread is assessed on a numerical (1-5) scale. Category 5 is the highest impact. The likelihood of spread (L) is similarly assessed on a numerical (1-5) scale. Category 5 is 'very likely' that the INNS would be spread.
- 2.6 The overall risk (R) for that activity is calculated by multiplying $S \times L$. The SNH proforma provides a matrix that identifies three levels of risk rating - green-amber-red. A score of four or less (green) is usually considered acceptable. A score of 4-12 is amber; above 12 is red and is considered unacceptable.
- 2.7 Following this initial assessment control measures that should be undertaken to reduce the likelihood of INNS being spread are identified/ described. A rating of low-high (1-5) is subsequently assigned for the residual likelihood (REL) of INNS being spread after the control measures are implemented. The residual risk (Rr) is recalculated by multiplying $S \times Rl$. The residual risk scale is as follows:
 - **0-4 - Risk likely to be acceptable.**
 - **4-12 - Consider further options for reducing risk; if not available consider proceeding with caution.**
 - **12+ - Risk is too high; do not proceed until further consideration of control options has been taken into account.**

Table A - Activity Risk Assessment

Activity	Hazard Description	Risk Rating			Control Measures	Rr after Controls		
		S	L	R		S	RI	Rr
Site clearance: removal of vegetation, removal of soil. Importation of materials, e.g. hardcore.	1). Contamination of vehicles/ machinery and subsequent spread of INNS/ diseases to other sites. 2). Removal of contaminated soil/ materials - potential to spread INNS/ diseases within, and to other sites. 3). Importation of contaminated materials.	2	4	8	1). Wherever possible, avoid bringing vehicles on to site. 2). Where vehicles are brought on to site keep to hard-standing wherever possible. 3). Maintain good machinery hygiene (including before accessing the site). Keep vehicles free from accumulated mud, pay particular attention to tyres/ wheel arches; tracks/ under-carriage. 4). If machinery/ equipment/ footwear has entered waterbodies on other sites they will be disinfected before accessing site, and prior to leaving. 5). Seek a declaration/ indemnity from suppliers that imported materials such as hardcore/ top-soil is weed/ disease free.	2	2	4
Moving vehicles/ machinery between sites	1). Contamination of machinery (on tyres, tracks, buckets, etc) and subsequent spread of INNS/ diseases to other sites.	2	4	8	As 1-4 above.	2	2	4
Construction workers moving between sites	1). Contamination of footwear/ hand-tools and subsequent spread of INNS/ diseases to other sites.	2	3	6	1). Follow the 'Control Measures' for Cotoneaster and Japanese Knotweed detailed in <i>Section 3</i> . As 1 above. 2). Keep foot-wear and hand-tools free from accumulated mud, pay particular attention to the treads on foot-wear. Thoroughly clean footwear at the end of each day or leave on site.	2	1	2
Groundworks & landscaping: any excavations including foundations, pipe installation, etc	1). Contamination of machinery and subsequent spread of INNS/ diseases to other sites. 2). Removal of contaminated soil/ materials - potential to spread INNS/ diseases within, and to other sites. 3). Contaminated soil could roll onto adjacent land.	2	5	10	As 1-4 above.	2	2	4

Activity	Hazard Description	Risk Rating			Control Measures	Rr after Controls		
		S	L	R		S	RI	Rr
Felling the tree at <i>Target Note 3</i> and replacement planting	1). Contamination of vehicles/ machinery and subsequent spread of INNS/ diseases to other sites. 2). Removal of contaminated soil/ materials - potential to spread INNS/ diseases within, and to other sites. 3). Contamination of footwear/ hand-tools and subsequent spread of INNS/ diseases to other sites.	2	4	8	1). Follow the 'Control Measures' for Cotoneaster and Japanese Knotweed detailed in <i>Section 3</i> .	2	2	4

3 Method Statement

Introduction

- 3.1 Biosecurity risks at the site are limited to the potential for INNS/ diseases to be transferred on/ off and within site. No INNS have been identified from the site but this Risk Assessment advocates a precautionary approach principally to avoid the introduction of INNS to the site (and their subsequent spread).
- 3.2 Japanese Knotweed and Cotoneaster have also been identified from an area of land to the west/ northwest of the site. A tree is to be felled and two new trees planted in this area. This work could result in the inadvertent spread of these *Schedule 9* plants. Further to the appropriate implementation of the control measures the associated risk is likely to be deemed 'acceptable'.
- 3.3 The publication: Scottish Government (2010). *Biosecurity guidance for SEARS staff*. Revised October 2010; describes four levels of biosecurity control dependent on the perceived risk of the activity. Based on the Risk Assessment undertaken (*Table A* above) it is considered that the proposed works require Level 1 (Low Risk) biosecurity control as described in this guidance document and the general control measures detailed below are provided on this basis. The SEARS guidance and Forestry Commission (2012)⁶ are useful sources of general information on biosecurity. NRW also refer to Forestry Commission (2012).
- 3.4 This Method Statement will be issued to the Construction Site Manager (or equivalent) and it will be discussed with all contractors/ sub-contractors as part of a Tool-box Talk/ site induction. It will also be made available on site at all times.

General Control Measures

- 3.5 To minimise the risk of spreading INNS/ diseases to/ from the site the following precautions should be put in place and adhered to by all site personnel:
- 1) An appropriate location for the cleaning of machinery/ footwear as detailed below will be identified prior to the start of any works at the site. These facilities will be maintained throughout the construction phase.
 - 2) All machinery/ equipment to be used on the site will be assessed in terms of sites where it has been previously utilised. Should invasive plant species have been, or may have been, present, all machinery/ equipment will be thoroughly cleaned using brushes/ a pressure-washer (at an appropriate off-site, hard-standing, location) prior to being utilised on the site. All soil and other debris/ vegetation will be removed. As part of good machinery hygiene this approach should ideally be followed at all times.
- Should the machinery/ equipment have previously been used in a waterbody then the procedure detailed above would be followed. In addition, the machinery/ equipment will be disinfected (e.g. with Virkon) in accordance with the guidance provided in the ARG UK Advice Note 4⁷.

⁶ Forestry Commission (2012). *Biosecurity Guidance*. Forestry Commission, Edinburgh.

⁷ *Amphibian & Reptile Groups of the United Kingdom Advice Note 4 – Amphibian Disease Precautions: A guide for UK Fieldworkers*. Version 2, revised March 2017.

When using disinfectant, the instructions should be read and safety information implemented, use should be in accordance with the instructions, contact with eyes and skin should be avoided and personal protection equipment should be worn as necessary.

3) The machinery utilised for the work will remain on-site for the duration of the work. On completion of the work the machinery will be thoroughly cleaned using brushes/ a pressure-washer. All soil and other debris will be removed from, in particular, the tracks, undercarriage and arm/ attachment. This will be undertaken on hard-standing within the site. Hand-tools/ other equipment should similarly be cleaned.

4) Refuelling of machinery or vehicles will be carried out in accordance with the appropriate Environment Agency Pollution Prevention Guidelines and all other relevant pollution guidance.

5) No vehicles will be allowed on site (areas where there is exposed soil/ substrate/ vegetation) unless they are required for the construction works. All other vehicles will be parked on existing areas of hard-standing. Delivery vehicles should park on the adjacent road.

6) Each contractor will use the same pair of footwear for the duration of the work and this footwear will be kept in the site compound throughout or will be thoroughly cleaned at the end of each day. This footwear will be cleaned using brushes and water/ a pressure-washer (on an area of hard-standing) prior to being utilised on the site. On completion of the work or at the end of each day all footwear will be thoroughly cleaned again at the same location. All soil and other debris will be removed from the footwear to avoid transferral of seed/ plant fragments to other sites.

As mentioned above should the contractor have entered any waterbodies on a previous site the footwear will be disinfected in accordance with the guidance provided in the ARG UK Advice Note 4.

7) Visitors (particularly those that will subsequently attend other sites) must clean their footwear before attending the site. The footwear used while accessing the work site must not be used when visiting other work sites until it has been thoroughly cleaned.

Other than where machinery/ footwear has entered a waterbody on a previous site it is currently considered unnecessary for anybody else accessing the site to disinfect their footwear/ vehicles - biosecurity hygiene being limited to cleaning with a brush/ water as described above.

Control Measures for Japanese Knotweed

3.6 The known above-ground stems of Japanese Knotweed would not be directly impacted by the proposed development but the extent of under-ground parts of these plants is not known. The following measures should be implemented when felling the tree at *Target Note 3* and when planting the replacement trees at this location:

1) The general control measures listed above must be followed at all times. It will be particularly important to thoroughly clean all footwear, tools and machinery before leaving site. All soil and plant fragments must be removed.

2) All trunks of the Goat Willow to be felled should be felled away from the known locations of the Japanese Knotweed (e.g. towards the west/ southwest). This may require winching of some of the trunks and possibly section-felling.

3) Cut logs/ trunks should not be dragged and should be left on site.

- 4) Brash should not be dragged. No brash should be removed from site but should be chipped on site. Where a mobile chipper is used it should be located at the southern end of the work area and as far away from the Japanese Knotweed as possible. Before leaving the site, the chipper must be subject to cleaning as detailed in the general control measures above. No other vehicles should access the site/ should remain on hard-standing.
- 5) No personnel or machinery should access to the north of the post-and-rail fencing – the area within which the Japanese Knotweed has been recorded. This post-and-rail fence is approximately 2 m away from the drip-line of the Goat Willow at its closest point.
- 6) The Goat Willow stump should not be removed but if required, treated with an appropriate herbicide in-situ.
- 7) All personnel will maintain a watching brief for further stems of Japanese Knotweed. If any further stems are identified the area should be avoided. The stems should not be cut but clearly marked with e.g. hazard-tape. If a number of stems are identified it may be necessary to cease work until the Japanese Knotweed has been subject to appropriate chemical/ physical control measures by a specialist company.
- 8) The trees to be planted should be located as close to Stryt-Issa as possible, or at least as far away from the known locations of Japanese Knotweed as possible. Planting should be undertaken with hand-tools (e.g. spades) only.



Single stem of Japanese Knotweed at *Target Note 3a* (04/06/20).



The Japanese Knotweed at *Target Note 3a* is visible in the foreground, with the post-and-rail fence just behind it. The Goat Willow to be felled is in the left back-ground. This stem is approximately 5 m from the drip-line of the Goat Willow and is the closest known Japanese Knotweed to this tree.

Control Measures for Cotoneaster

3.7 There is a single young Cotoneaster seedling/ sapling at *Target Note 2*. It is located approximately 1 m from the drip-line of the Goat Willow to be felled. The following measures should be implemented when felling the tree at *Target Note 3* and when planting the replacement trees at this location:

- 1) The Cotoneaster should be clearly marked with hazard-tape or similar prior to the start of work. If there are no berries present on the plant then the stem can be cut to ground level. The cut stem should be left in place with the hazard-tape around it. This location should be avoided during the works.
- 2) The control measures for Japanese Knotweed listed as items 1-4 and 8 above should be adhered to.
- 3) The Goat Willow trunks should not be felled across the location of the Cotoneaster.



The Cotoneaster seedling/ sapling at *Target Note 2* (04/06/20).

Control Measures for Ash Dieback

- 3.8 A young Ash sapling was recorded at *Target Note 4* that showed signs of Ash dieback. This location is to the north of the post-and-rail fence that separates the area from which Japanese Knotweed has been identified from that within which the Goat Willow to be felled is located. This location will not be directly affected but there could be spores on the land within which the work is to be undertaken.
- 3.9 Due to the presence of Ash dieback near the site basic biosecurity measures will be implemented. Best practice guidance is available on the Natural Resources Wales/ Forestry Commission England websites⁸⁹. The biosecurity measures for low-risk activities are applicable in this instance. The requirements of these measures will be met by complying with the general control measures listed above.

⁸ <https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/tree-health-and-biosecurity/biosecurity/?lang=en>

⁹ <https://www.forestryengland.uk/sites/default/files/pdf/Biosecurity%20Policy.pdf>

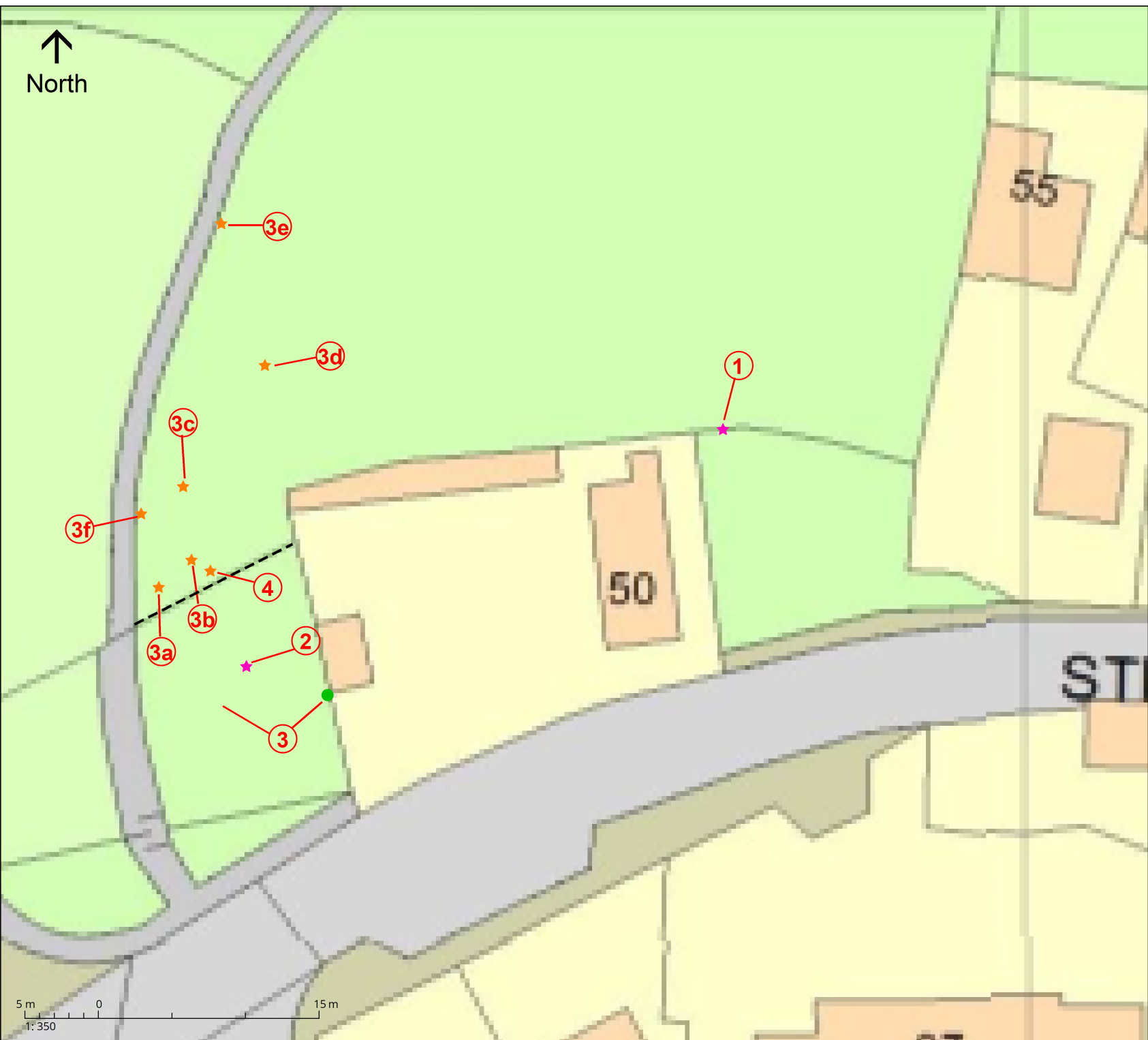


The Ash sapling at *Target Note 4* that exhibits symptoms of Ash dieback (04/06/20).

4 Signatories

I have read and understand the requirements of this method statement.

[illegible]



- ★ Japanese Knotweed
- ★ Cotoneaster
- Goat Willow tree to be felled
- Post-and-rail fence
- Target Note

C423 Proposed Development on land off Stryt-Issa, Penycae, Wrexham - Biosecurity Risk Assessment

Figure 1 - Target Notes

Date: 08/06/2020

Base mapping provided by client.