



EAST STREET, DOWLAIS Development Land

JAPANESE KNOTWEED CONTROL



PREPARED FOR Merthyr Tydfil Housing Association (MTHA)

*Revision B
Dated 04/06/20*

Identification

Japanese knotweed was identified on site by David Clements Ecology within their Ecological Assessment undertaken in May 2017.

Japanese Knotweed (*Fallopia japonica*) is a non-native invasive species of plant which has thrived and spread across the UK since its introduction as an ornamental garden plant in the mid-nineteenth century.

In the UK the plant is mainly spread through rhizome fragments or cut stems. Tests have shown that a 0.7gramme piece of rhizome (approx 10mm long) will regenerate and form a new plant. Freshly cut stems which are in contact with ground are also able to regenerate. Knotweed plants in the UK are female and currently the seeds produced are not viable and do not therefore pose a risk for spreading.



Japanese Knotweed leaf and flowers



Japanese Knotweed – Early growth

During early spring new shoots emerge which are purple in colour as are the early leaves and look similar to asparagus spears. The main stems are hollow and soon turn green with distinctive purple spots and can grow up to 10cm per day.

The underground rhizomes are thick and woody with a knotty appearance and when broken reveal a bright orange-coloured centre which bears a resemblance to a carrot.

The rhizomes can extend to over 2 metres depth and can spread laterally up to 7 metres from the parent plant

The dead canes are easily visible during winter months and are very brittle when touched. Unsightly growth such as this can easily be trashed down and either left in-situ or removed as in this state it poses no risk.



Japanese Knotweed rhizome

Treatment

There are two primary methods of treating Japanese Knotweed. Herbicide treatment or physical removal. The method employed being dependant on the location of the knotweed and the timescale available for treatment.

MTHA treated all Japanese Knotweed growth with 'Garlon Ultra' herbicide on 16th October 2019

Proposed Construction Zone and Areas of Intrusive Groundworks – Treatment Plan 1

To facilitate construction within areas where knotweed has been identified the knotweed and contaminated soils will need to be excavated and removed off site to a licensed landfill facility.

The contaminated area will need to be excavated upto seven metres past the last visible signs of knotweed growth in all directions and upto a depth of 2 metres.

To ensure that contaminated soils are not spread into neighbouring areas that do not have knotweed growth a temporary fence is to be installed around the contaminated area and maintained for the duration of the works. No personnel to breach the fencing at any time.

Traditionally the contaminated soils would be removed via bulk excavation using a mechanical excavator, with excavation continuing until no knotweed rhizome was evident. However, in this instance the presence of buried archaeology and the requirement to expose and record this during the excavation works will require a phased approach.

During the first phase, to avoid disturbing the archaeology the contaminated soils are to be carefully stripped in layers (depth of each layer to be confirmed by the archaeologist) using a mechanical excavator under the supervision of an archaeologist and a suitably qualified operative who will continually inspect the excavations for signs of knotweed rhizome.

The soils will be stripped such that the buried archaeology is sufficiently exposed for the archaeologists to inspect and record as required and the arisings ideally loaded directly onto a lorry for removal. Where direct loading is not possible then the soils are to be stockpiled within the confines of the fenced area for as minimal period as possible before being removed.

Final cleaning of the archaeology may need to be completed manually and in this instance all material removed is to be placed onto a stockpile within the contaminated area whilst awaiting removal. Again, all works to be supervised by an operative experienced in the identification of knotweed rhizome.

Mechanical excavation will cease whilst the archaeology is inspected and recorded but pedestrian movement within the contaminated area should be kept to the minimum.

To ensure no contaminated soils are removed from the contaminated area during the archaeological inspection and recording operations a small, stone hardstand is to be created at the access point to the working area with a washing station containing a sump where all footwear, tools etc that have been in contact with the soils are to be washed before leaving the working area. The washings being collected in the sump before being added to the site stockpile for removal.

Once the archaeological works have been completed all pedestrian access into the contaminated area is to be ceased and the bulk excavation will continue under the supervision of suitably qualified operative who will continually inspect the excavations for signs of knotweed rhizome.

Excavation will continue until there is no visible evidence of any knotweed rhizome remaining.

The contaminated material is to be excavated and where possible placed directly into a disposal lorry in one operation, with care taken to ensure that no material spills onto surrounding ground. Any spilled material is to be removed and placed onto the lorry for removal immediately and the area over which the contaminated material has been loaded is to be scraped clean with the arisings placed into a lorry for removal.

The tracks and bucket on the excavator are to be cleaned of any soils before it leaves the contaminated area as will all hand tools, footwear etc with the arisings again placed into the lorry for disposal. The hard stand area will also be excavated and placed onto the lorry for removal.

Disposal lorries must only be part filled to ensure no spillage can occur in transport and all loads are to be covered prior to leaving site. Any spillage on the access roads is to be removed immediately and the arisings placed back into the contaminated area for removal.

Where excavations are upto a neighbouring boundary where knotweed is known to exist a suitable rootbarrier is to be installed to a depth of upto 3 metres between the neighbouring property and the site to ensure knotweed is not able to encroach back into the site.

Proposed Undeveloped Land - Treatment Plan 2

Where Japanese Knotweed has been identified on areas that are not proposed to form part of the construction area and are located in excess of seven metres from the construction zone then this can be treated with herbicide.

Prior to commencing any construction works on site a suitable fence is to be installed a minimum of seven metres from all knotweed stands to prevent any ingress into the contaminated areas. The fence to remain in place for the duration of the construction phase.

Allow for trashing down knotweed as required to gain access through the stands and apply glyphosate based herbicide to all visible growth prior to senescence in late Summer/early Autumn of each year

Methodology

The Japanese Knotweed should be treated with herbicide containing Glyphosate such as Roundup Pro-Biactive 360 or 450.

Glyphosate is a systemic herbicide which acts by blocking a plant's enzyme system. The herbicide is absorbed through growing leaves and stems where it is translocated throughout the plant and root network. It kills virtually all annual and perennial weeds including grasses. Glyphosate is quickly broken down in soil or sediment and is harmless to animal life.

Roundup Pro Biactive is a very safe herbicide and when used in accordance with the directions on the label is non hazardous as defined by COSHH and does not carry a hazard symbol. However, it is recommended that people and animals should be kept out of the treated areas until the herbicide is dry.

To maximize the effects of the herbicide the knotweed must be left to grow unchecked until the point of treatment which will be prior to senescence in late summer/early autumn thus providing maximum leaf cover for chemical uptake.

The herbicide should be applied using a knapsack sprayer by operatives who hold as a minimum NPTC PA1 and PA6 qualifications.

The herbicide must be applied to all visible growth, ensuring as much leaf contact as possible.

The remaining vegetation should be cut down manually using a scythe/sickle or mechanically using reciprocating blades, such as those on mechanical hedgecutters, once the knotweed stems and leaves have died back fully. Avoid the use of mechanical trimmers, especially if knotweed growth has not fully died back, as they have the potential to spread live knotweed vegetation.

Programme

A visit to apply herbicide should be programmed for mid-late September/early October 2020, prior to the on-set of senescence.

Treatment to be undertaken during dry weather with minimal wind to avoid chemical drift.

A follow up visit should be undertaken during late Spring or early Summer 2021 to inspect the treated areas for knotweed re-growth. The findings from the inspection to be reported to MTHA

The above treatment and inspection regime to be repeated annually for a further 4 years with the final inspection being completed in Spring 2024.

Following the Spring 2024 inspection a report is to be presented to MTHA detailing the findings and any recommendations for continued treatment if knotweed re-growth is evident.

If knotweed regrowth is evident then further herbicide treatment is to be completed in Autumn 2024 with a inspection undertaken in Spring 2025. This process to be continued until no regrowth occurs.

If no knotweed growth is evident a further inspection is to be undertaken in Spring 2025 and again in 2026.

Japanese Knotweed rhizome has the ability to remain dormant within the ground for several years (20 years has been suggested but is as yet unconfirmed) with dormancy often broken through ground disturbance during construction.