
A large stand of knotweed in summer delaying the start of development

Hidden threat

Nicolas Seal examines the legal, financial and technical implications of discovering Japanese knotweed on a development site

Part C of the Building Regulations (Site preparation and resistance to contaminates and moisture) states clearly that a site should be adequately prepared so as to minimise the hazard of damage to the building from existing vegetation, contaminated top soil or pre-existing foundations. Under the 2010 updates to the Building Regulations, site investigation is now recommended in order to determine how much unsuitable material should be removed before building begins. Where Japanese knotweed is concerned, determining the extent of the problem is a job for a specialist.

If you have a site you intend to develop you should aim to completely eradicate the knotweed before any construction works commence, unless you want to incur delays and major expense at a later stage in the project. The earlier the problem is identified and dealt with correctly, the less expensive the remediation.

Containing the problem

Alongside the practical frustrations of having Japanese knotweed on site, there are legal implications too. If you cause the knotweed to be spread off site, you could find yourself at the wrong end of criminal proceedings under the Wildlife and Countryside Act 1981, or the Environmental Protection Act 1990 'duty of care'. Offences under these Acts can result in custodial sentences. Soil contaminated with Japanese knotweed is considered 'controlled waste' and must be disposed of at an appropriate licensed landfill site. If you consign knotweed-infested soils off site other than strictly in accordance with these legislative requirements, whether intentionally or not, you will run the risk of prosecution.

While Japanese knotweed poses no threat to human health, its impact on building and development can be considerable. Imagine a site where viable knotweed rhizome remains hidden in the ground, possibly to a depth of 2m or more, having laterally spread into areas you might imagine are unaffected. Once you disturb these soils whether by ignorance, accident or intentionally, you would almost certainly fragment and spread the knotweed rhizomes to other areas of your site. This would significantly increase the scale of the problem, and hence the cost of remediation. Specialist intervention at an early stage will help to correctly assess the scale of the problem and determine the best treatment option for the site.

It is currently very difficult to secure finance on land with Japanese knotweed on or near it and its discovery can cause unwelcome and expensive delays to building projects.

Treatment options

A site investigation will accurately map out the scale of the infestation and assess the treatment options. As well as budget and timeframe, proximity to boundaries, groundwater levels, proximity to water courses, and tree preservation orders will all have an impact on the best available treatment option. Broadly, the treatment options fall into two main categories – in situ herbicide treatment or physical removal.

In situ herbicide treatment is usually the most economic approach but does attract a time penalty, so may not be suitable where site works are due to commence and fast track eradication is required. At best it will take one growing season to complete, for which the ground needs to be undisturbed, in a safe location and the plant in good health. Where these conditions are not met the efficacy of the treatment is reduced and the required treatment period increased to two or more years.

While it is possible to achieve complete eradication using herbicides, verification is not easy and post-treatment management is required. There is always a risk that viable rhizome remains so if you are likely to disturb the soils in the area, during or post construction, and re-growth cannot be tolerated, then you should look at a physical removal method.

Physical removal is usually undertaken with a 360 track-mounted excavator under the supervision of a specialist trained in correct identification of rhizome. This is essential to ensure that all and only infested soil is removed, the process is carried out in accordance with the law and rhizome is not spread on or off site during the process.

Control strategy

Common problems that may arise to impede total excavation include close proximity of protected trees, boundaries, underground obstructions, utility services and groundwater. If the rhizome cannot be completely removed then a 'control' strategy involving containment, monitoring and further herbicide treatment will need to be adopted. Once excavated, infested soils can either be exported off site for disposal at a licensed landfill site or be processed on site.

Stockpile and treat

This method can be used successfully to move knotweed infested soil from one part of a site to another to buy time. Infested material is excavated from the critical area (e.g. under the footprint of the proposed development) and stockpiled elsewhere on site. Rhizome within the stockpile is encouraged to grow, and is then treated with herbicide. The time taken to eradicate the knotweed within the stockpile is dependent on the depth. A stockpile no thicker than 500mm can usually be eradicated within one growing season if treated correctly.

> “If you cause the knotweed to be spread off site, you could find yourself at the wrong end of criminal proceedings

This method requires large areas of space to be allocated so is not suited to many development sites. The treated stockpile material should remain on site for an indeterminate period of time.

If the material is to be taken off site in the future, the material should be considered as potentially knotweed infested. This will attract the same cost penalty as the dig and dump method, therefore making the stockpile and treat method inappropriate in this situation.

Soil processing

If space is not available for the stockpile or treat method, then on-site processing of the soil using Xtract™ will be an economic solution. This remediation technique, eligible for Land Remediation Tax Relief under the Finance Act 2001, removes viable rhizome from the soil, so that the soil can be reused on site. The process is very quick, so should prevent delays to construction. It has minimal environmental impact, since no infested soil is sent to landfill and no herbicide is used. The method takes a matter of days or weeks depending on the volumes, and can be carried out at any time of year. It typically reduces the waste volume being consigned off site for disposal by 98%.

In very limited circumstances Xtract™ may not be appropriate (e.g. infested soils are contaminated with materials that pose a risk to health). In these cases either on-site cell burial, or dig and dump – consigning material to landfill – will be the options.

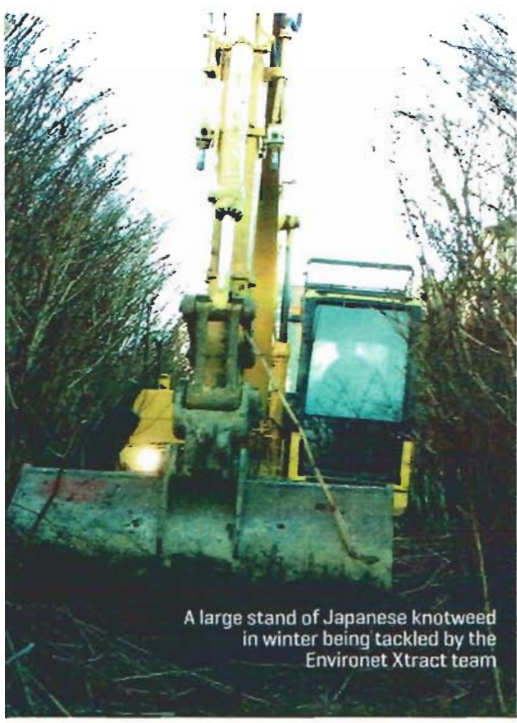
Cell burial involves the excavation of a large deep pit on site for the burial of knotweed infested soils. Membranes to create an impermeable containment cell are often used to reduce the amount of clean cover over the pit from 5m to 2m. The method should be considered as a containment method, not an eradication method, and is seldom the best option. Dig and dump is recommended as the method of 'last resort' by the Environment Agency. If it is to be used it pays to have a specialist supervising the work not only to ensure that all legal requirements are met, but also that all, and only, Japanese knotweed-infested soil is removed. Expert supervision can result in significantly reduced volumes, thereby saving cost not only on waste but also on buying in clean fill. The cost of haulage and landfill taxes makes this by far the most expensive option both financially and environmentally.

Knotweed guarantees

Historically, knotweed guarantees have been issued by the company carrying out the treatment works, covering any further treatment free of charge for any emerging re-growth. Clearly these guarantees are worthless if the company ceases to trade, which has been the case with at least two large knotweed companies over the past few years.

Lenders have therefore begun to insist on insurance backed guarantees (IBG). This has lead to a number of IBGs being underwritten by insurance companies that are Financial Conduct Authority regulated, but not rated by the credit rating agencies. Because banks and other financial institutions rightly look to manage their risks, the trend towards requiring IBGs from rated insurers is surely here to stay.

There is currently only one UK Japanese knotweed eradication company that can offer an IBG from an 'A' rated insurer, and that is Lloyd's of London. You will not find a better level of security than this. As a surveyor or other professional adviser to banks and other financial institutions this is the level of security you should recommend.



A large stand of Japanese knotweed in winter being tackled by the Environet Xtract team

Images © Environet UK

More information

For further knowledge and information on Japanese knotweed visit **www.isurv.com**, RICS' online information online portal

Nicolas Seal is a Director at Environet
nic.seal@environetuk.com

Further +info

Related competencies include **T015, T051**