



Method Statements for Control &
Eradication of Invasive Non-Native Species
(INNS)
For
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We are ISO9001 / ISO14001 / ISO45001 compliant and a member of the PCA Property Care Association

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1. Assessment & Conclusion

1.1 Current Position

Untreated and ignored, the Knotweed will continue to grow and spread by underground extension of the rhizome system. (This creates a slow but steady increase in eventual management costs).

There is a risk of spread to new areas on site by physical movement of viable parts of the plant e.g. by persons legitimately or illegitimately on site pulling up stems and dropping elsewhere on site, or below ground site investigations which carry a particularly high risk of serious spread. (This can cause an immediate and very significant increase in management costs).

As all material consisting of, or containing Knotweed is controlled waste, there are legal implications set out below, these particularly apply to any persons who move, or who allow Knotweed to be moved off site.

The known presence of Knotweed has a detrimental effect on the value of a site.

1.2 Implications of Existing Knotweed in relation to Development Proposals

1.2.1 Legal

Section 34 of the Environmental Protection Act 1980 (EPA90) imposes a duty of care on persons concerned with controlled waste. The duty applies to any person who produces, imports, carries, keeps, treats or disposes of controlled waste, or as a broker has control of such wastes. Breaching the duty of care is an offence, with a penalty of an unlimited fine if convicted on indictment.

All material containing Knotweed is controlled waste.

Japanese Knotweed is included in Part II of Schedule 9 of the Wildlife & Countryside Act 1981. Section 14 of the Act states that "If a person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence".

Anyone convicted of an offence under Section 14 of the Wildlife & Countryside Act 1981, may face a fine of £5,000 and/or 6 months imprisonment, or 2 years and/or an unlimited fine on indictment.

Environmental Agency Code of Practice Version 2 for management of Knotweed requires an acceptable Management Plan to be set up and implemented with management on site the first choice and removal to landfill a last resort.

1.2.2 Practical

Development works will include demolition, excavation and construction of roads and buildings etc., in location of, or in proximity of Knotweed. Unless all relevant Knotweed containing material is identified and removed or otherwise sufficiently managed before commencement of these works, the following risks arise.

- Controlled waste may be removed from site in breach of the above legal requirements.
- Knotweed containing material may be mixed with "clean" material, increasing volumes.
- Knotweed material may be lost on site in existing or new locations and cause damage to new structures.

- Sales of completed properties may be prevented as many Mortgage Lenders are currently refusing to provide funds where Knotweed is present, or in proximity to (up to 14 meters) the boundary of the property, unless an acceptable Management Plan together with an insurance backed Warranty is provided by a recognized Knotweed Specialist.

Generally, cost of managing Knotweed material is high, particularly disposing off site to landfill. Spreading and increasing controlled waste has a considerable impact on these costs.

2. Knotweed Management Plan

2.1 Objectives

- Demonstrate intent to provide and record ample duty of care.
- Meet the requirements of the Property Care Association Knotweed Code of Practice.
- Minimise and define the final total cost of Knotweed management.
- Reduce risks of spread of viable Knotweed material by any means as soon as possible.
- Enable construction program to be maintained without above or any further risks.
- Completely eradicate all on site, and any off-site Knotweed which is a threat to the integrity of this plan.
- To provide a permanent documented and photographic record to prove the carrying out of duty of care.
- Provide a satisfactory answer regarding Knotweed issues to any interested third party.
- Cover the site against risk of knotweed return by an insurance backed guarantee.
- Enhance the value of the site.

2.2 Initial Controls

- Identify and set out safe working margin around Knotweed locations, provide marker tape and warning signage.
- Apply systemic herbicide to Knotweed to commence weakening of the plant system, and to reduce viability and risks if accidentally spread, using an appropriate number of visits relevant to terrain and size of Knotweed stands, to ensure a uniform dose to whole of the plant (subject to seasonal constraints).

2.3 Pre-construction start enabling works

- Carefully dig out all material containing Knotweed in areas, dig limited on boundary by need to retain stability of adjacent fences and property. Treat remaining Knotweed in boundary locations by direct injection of herbicide into rhizome.
- Set aside all dug material in designated re-handling area, sift out and bag rhizome material, remove bagged material from site and incinerate, bury processed material on site in location TBA.
- Surplus clean spoil from the bury cell will be placed in a trimmed stockpile in close proximity to the cell. If it is necessary to relocate spoil to a new location, then extra costs will be incurred.

- Check whole site for any traces of Knotweed previously unidentified, include in Management Plan.

2.4 Continuing controls during construction

- Maintain signage around risk areas, (this will primarily be boundary lines of site in locations of off-site Knotweed).
- Ensure management controls are set up for, and prior to any perceived works inside risk areas, (e.g. fence post hole digging on boundary with retained Knotweed).

2.5 Throughout whole Management period

- Monitor whole site and relevant adjacent boundary areas, treat remaining Knotweed with herbicide.
- Provide a remedy for any other Knotweed issues which may arise.
- Collect documented and photographic records to provide permanent evidence of duty of care and proof of implementation and completion of Management Plan.

Monitoring: Throughout whole management period as per section 5.5

Year	Minimum Visits
1	2
2	2
3	1
4	1

Any additional visits required during or after this time are FOC.

For the purpose of this contract, the definition of eradication and proof of eradication is that both:

A. Four years (growing seasons min 1st treatment by end October for year 1, last visit no sooner than July of year 4) have elapsed since the initial treatment,

B. AND the last two years of visits have been made with no use of herbicide and no return of Knotweed.

3. Standard of Services

As part of our aim to provide High levels of customer care, Elcot Environmental Ltd is ISO 9001, ISO 14001 and OHSAS 18001 registered, for Quality, Environmental and Health & Safety Standards in the Control and Management of Japanese Knotweed and other invasive weeds

We, in 2004 identified a need to set a benchmark standard (which is now accepted as an industry benchmark) to measure the success of Knotweed controls and to ensure that this is achieved in every contract package we carry out for our clients.

In outline, this is as follows:

1. To achieve and record a history of controls as set out in our site-specific proposals, to the procedures and standards in our ISO 9001 and ISO 14001 documents, for a minimum of four- or five-years dependent on circumstances and control proposals.
2. To achieve and record a history of a minimum of two years with no visible live Knotweed on site and with no herbicide treatment carried out in that time (treatment by herbicide may suppress or conceal live Knotweed).
3. At no further cost to our client *
 - a. To increase the number of visits per year, if required, to maximise controls as soon as possible.
 - b. To extend the monitoring period beyond the minimum years, if required, to achieve item 2.

* *Excludes costs incurred by breach of controls by third parties.*

4. Key elements to the Control of Japanese knotweed by Elcot Environmental Limited

The Environmental Agency recommends combination methods and the use of methods developed by reputable specialists which may go beyond information contained in the Code of Practice.

Elcot Environmental Ltd has developed enhanced combination methods which follow but are developed beyond the guidelines. We have used these methods successfully for more than nineteen years.

Key elements are:

- If time and season permit an initial uniform application of herbicide at the legal maximum rate. This may require two or three visits at 2 – 3 weeks apart on larger stands. This has achieved an apparent 99-100% kill in one season. This concurs with field trials by Nomix Chipman (the herbicide suppliers) in conjunction with the Environmental Agency.
- Provision of expert management to conduct a dig which removes only material containing Knotweed. This regularly produces arisings in the region of 15 – 40% of the Environmental Agency's "worst case" guidelines, (3m deep and 7m beyond visible Knotweed), with the obvious consequential cost savings.
- The dig is operated to slice, rather than scoop material, this ensures that the rhizome mass is reduced to much smaller sections, this reduced the amount of stored energy in any one entity and thus reduces the ability to support regrowth.
- Following the process of digging, the bulk of the rhizomes are removed by hand, bagged up and carted off site for incineration. Although the remaining material must still be treated as controlled waste, the vigour and risk of re-growth is greatly reduced, enabling the material, where practical, to be buried on site with only a shallow cap. Due to the fact that the vegetation has been removed from this material, it can be placed, if otherwise suitable, under car-parking areas etc, subject to further precautions.

A recognition that it is impossible to be certain that a site is entirely clean of Knotweed in the short term is essential (however much money may be spent in the attempt). This issue is addressed by:

- Site-wide monitoring program for several years, with a target of two years with no return, after all other control measures have taken place. Issues concerning Knotweed beyond site boundaries, but in close proximity to the site are also addressed in a suitable manner. This ensures that the entire method demonstrates an ample "duty of care" to deal with all the Knotweed issues relating to the site.

5. Method Statement

5.1 Method Statement for Application of Herbicide (Preliminary and Ongoing)

Herbicide application is by knapsack spraying using a telescopic or extended lance to assist reach high foliage or in difficult terrain. Pressure limitation valve set at one bar and coarse droplet nozzle to reduce drift to a minimum.

Application to be over the target foliage and as much as possible to the underside as well. Foliar application to obtain maximum application to target and minimum collateral application to non-target plants or ground.

Operatives to be qualified to recognised national standards applicable to the works, and extensively 'in house' trained to achieve EEL specialist methods and standards and to follow all training guidelines and label recommendations or DEFRA off-label recommendations, where applicable.

Herbicides used from:

1. GLYPHOSATE

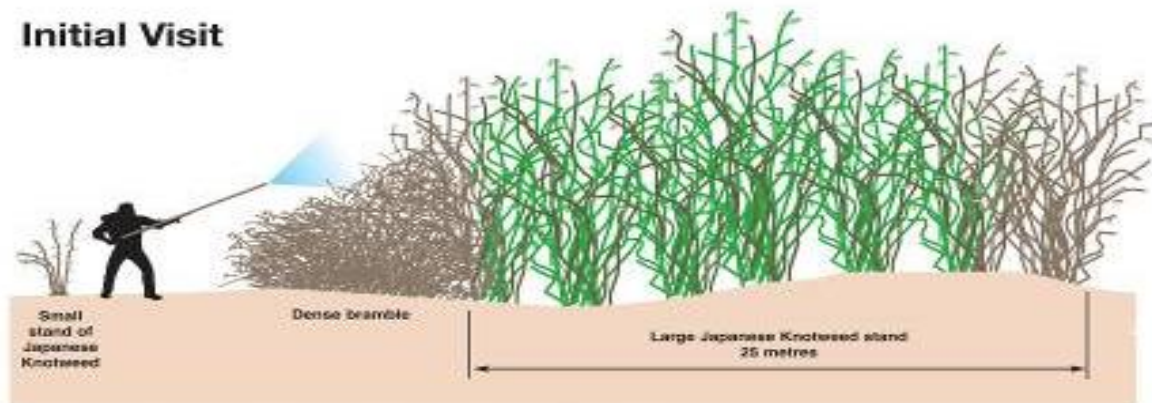
A non-residual herbicide which in certain formulas, may be applied near watercourses (subject to approval from the relevant Environmental Agency Department).

2. GARLON

The most effective herbicide for controlling Knotweed, where conditions allow its use. Care needed due to its ability to damage non-target trees or shrubs. May be applied as an extra control to cleared areas, or as a precaution to floor slabs or road bases.

In conjunction with the above herbicides, adjuvants such as rain-fast additives or surfactants may be used at the manufacturers recommended rates at the operative's discretion.

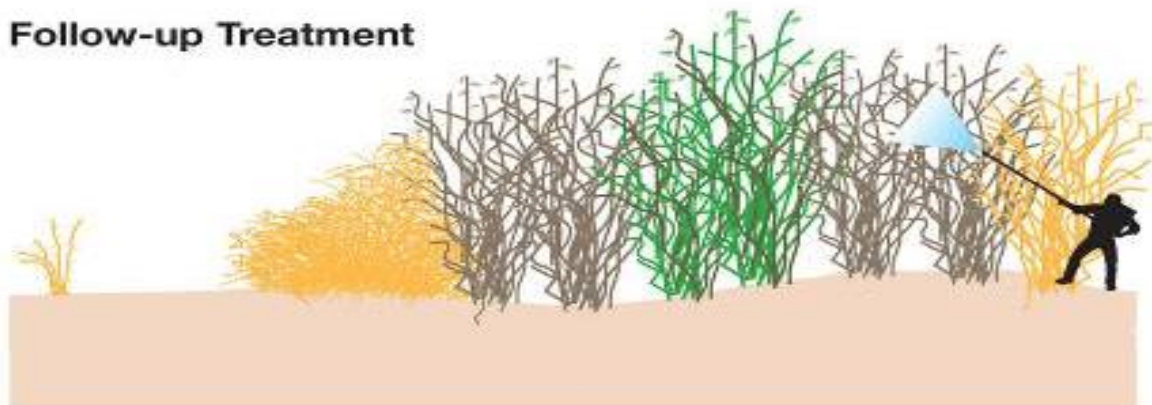
Initial Visit



- Treat all Japanese Knotweed that can be reached without:
 1. Danger to operator (dangerous objects, steep slopes hidden to dense vegetation).
 2. Walking into Japanese Knotweed and breaking off target stems.
 3. Overdosing by trying to reach more than is practical.

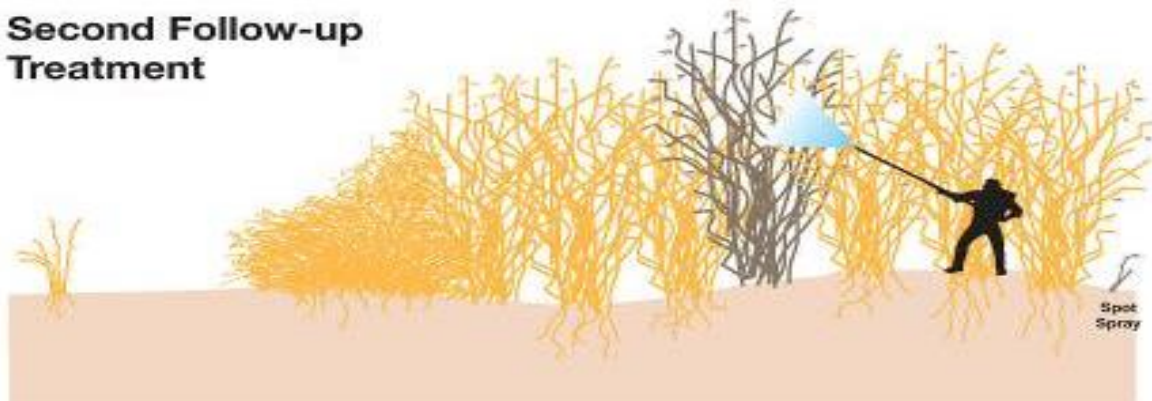
Normally a 3-5 metre band into stand from outside margin.

Follow-up Treatment



- 1. Walk through treated, defoliated Japanese Knotweed.
- 2. Check for, and treat, any patches missed with spot spray.
- 3. Treat next band towards the core of stand.
- 4. Start treatment on previously dangerous to reach parts, through safe defoliated approaches - use fall arrest systems, extra lance extensions as part of safe means of access.

Second Follow-up Treatment



- 1. Walk through treated, defoliated Japanese Knotweed.
- 2. Treat all previously untreated Japanese Knotweed.
- 3. Check for, and spot treat, any new shoots beyond previous boundary.
- 4. Ensure dose does not exceed legal limits.

5.2 Method Statement for the Excavation and Hand Sifting of Knotweed rhizome area

Areas of Knotweed contamination are dug through as set out below. Material is moved to a designated re-handling area and rhizomes and root crowns are manually removed from the material during a sift by a 360° excavator and placed in bags marked “Japanese Knotweed for incineration”. A target of 70-80% by weight, of root being removed, (if material is to be moved to a designated area on site for further controls), or a target of 60-70% by weight, (if area is to be cleared as far as possible and left in site for further controls).

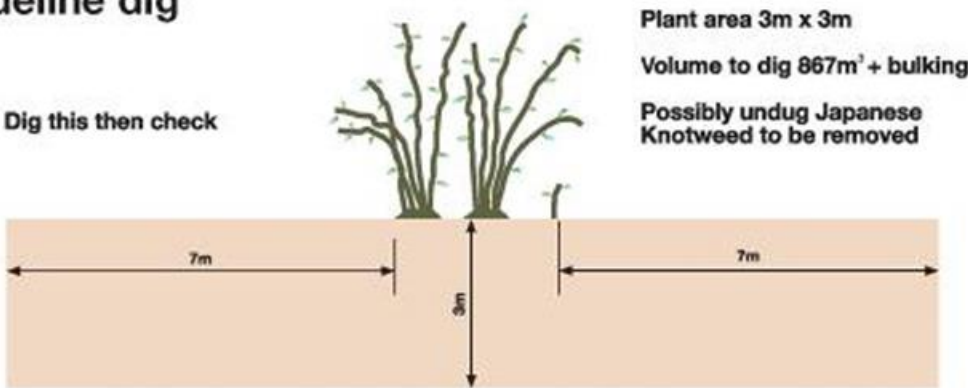
The bagged Knotweed is then taken off site and transported to SN25 5DL using Elcot Environmental Ltd Waste Carriers Licence No: CBDU265971 for incineration under and exemption from Waste Management Licensing Exemption Ref – WEX 080869.

Limiting amount of arisings by using skilled personnel

Whilst it has been recommended in the past that areas containing Knotweed are excavated to 3m deep and 7m beyond where Knotweed can be seen, this is a “worst case” scenario and if followed blindly, will generally produce vast quantities of previously uncontaminated material. The method used to reduce this is as follows:

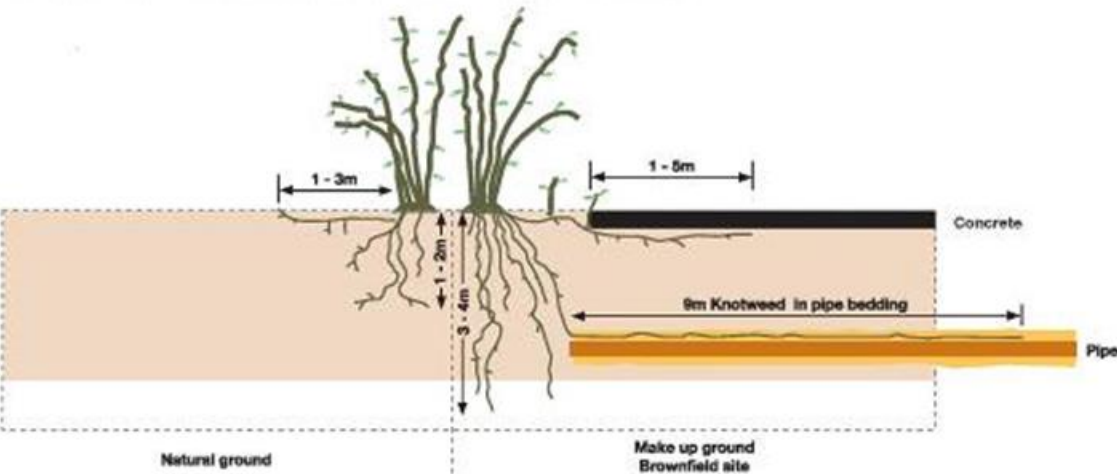
- Wherever possible, dig from inside the contaminated areas to the visible edges and in depth, only as far as Knotweed is visible.
- When an area or section appears to be clean, a careful search of the surface is carried out by skilled personnel. If no rhizomes are perceived, a further approximately 100mm layer is removed and examined and treated as controlled waste.
- If no more Knotweed is found, a further 200 – 300mm of material is loosened and searched. If on this third check no rhizome is found, material is left in site.
- The above stages are attended by a skilled and experienced Dig Manager who will be present not merely on site but will be in the vision line of and directly signal and control the Operator of the excavator and continuously observe the surfaces exposed by excavation.
- This method generally reduces the volume of arisings to some 15 – 40% of the “worst case” scenario, whilst not limiting a particular excavation to any assumed depth or lateral width.
- To avoid spread of contaminated material during excavations, tracks and wheels of machines are cleaned before moving off area. To prevent spillage bags of Knotweed are top tied before moving, stored if required in secure designated area and transported in closed vans.

Guideline dig

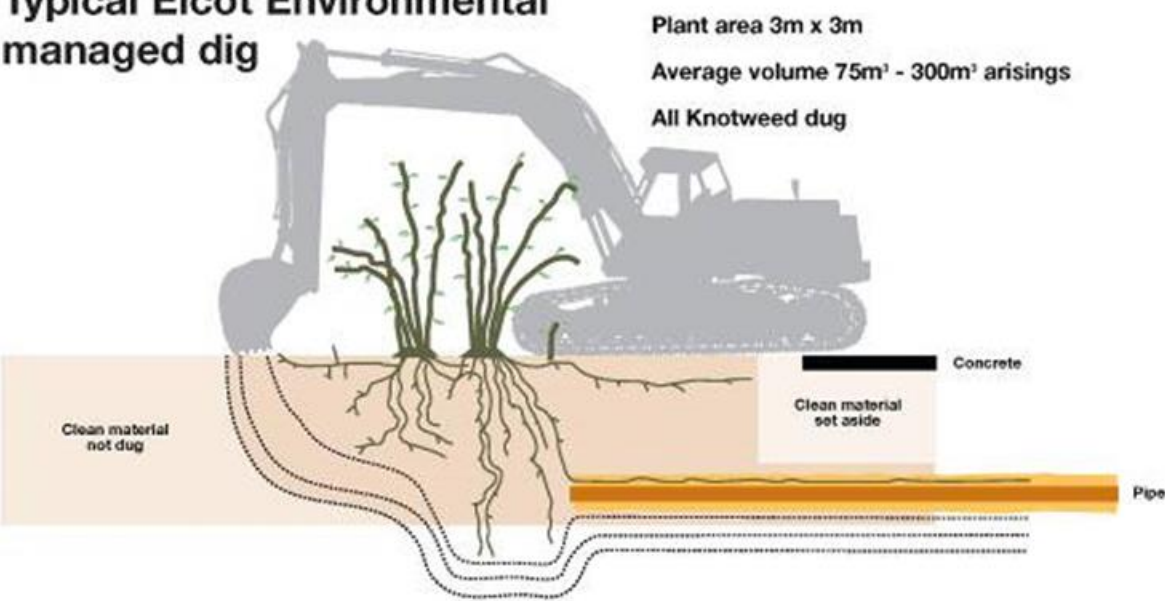


Elcot Environmental experience of Japanese Knotweed below ground habit

Based on numerous full depth digs from 1997-2008



Typical Elcot Environmental managed dig



5.3 Method Statement for the burying of de-graded material

Prior to the excavation, formation of any proposed works to be determined and any location of service runs that may be deeper than formation level. Location and height of fill of controlled waste material is positioned to avoid service runs and to maintain a minimum depth of 500mm below formation level.

Depth of dig will be determined by the safety and practicality specific for site. If material is to be placed under a car park area, suitability of materials is assumed good for this use. Due to the fact that vegetative material i.e., Knotweed rhizomes and if required for the purpose, any other roots etc, will be picked out of this material settlement due to decomposing vegetation will not be a problem.

If material is to be placed in a proposed car park area, this will be compacted in a manner to be specified by yourselves, which is acceptable for ground engineering purposes, for the application.

If, however, material is to be placed in a proposed soft landscape area, material will be compacted by bucket and machine as fill proceeds.

All due care will be taken to avoid spillage on the haul route to the fill and entire area will be checked and cleaned prior to capping.

Issues relating to any other containments in otherwise clean (Knotweed free) excavated material from pit, will be dealt with as proposed for main contract. (This material is already on site and the issues already there).

Volume of arisings from managed dig
15 - 40% of unmanaged dig



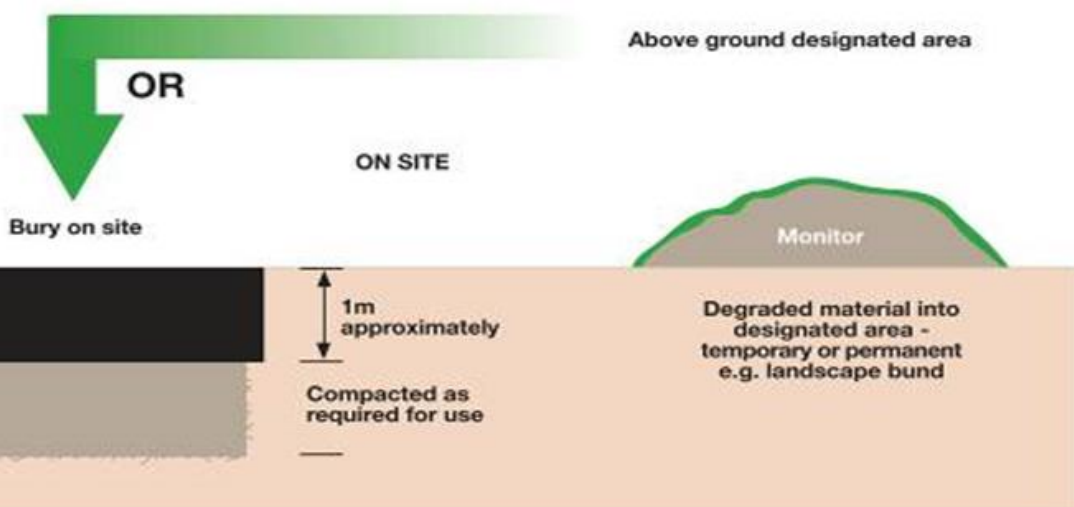
Sift out rhizomes into bags

Sifted arisings
to licenced tip



Bags to incineration off site

OR



5.4 Ongoing Monitoring

The purpose of ongoing monitoring is to achieve and prove to achieve a complete eradication of Knotweed on site and any Knotweed off, but sufficiently close to site to create an obvious threat to the integrity of the on-site treatment.

It is not intended to be a substitute for best practice in earlier, different parts of the Knotweed Management Program, but is recognition that a guarantee to eradicate Knotweed site wide in one year does not prevent Knotweed from re-growing due to a number of fairly obvious reasons.

In most cases the only herbicide application during this period will be knotweed locations on, or off site where this method of control was proposed in the Management Plan.

5.5 Measurement of achievement of Eradication

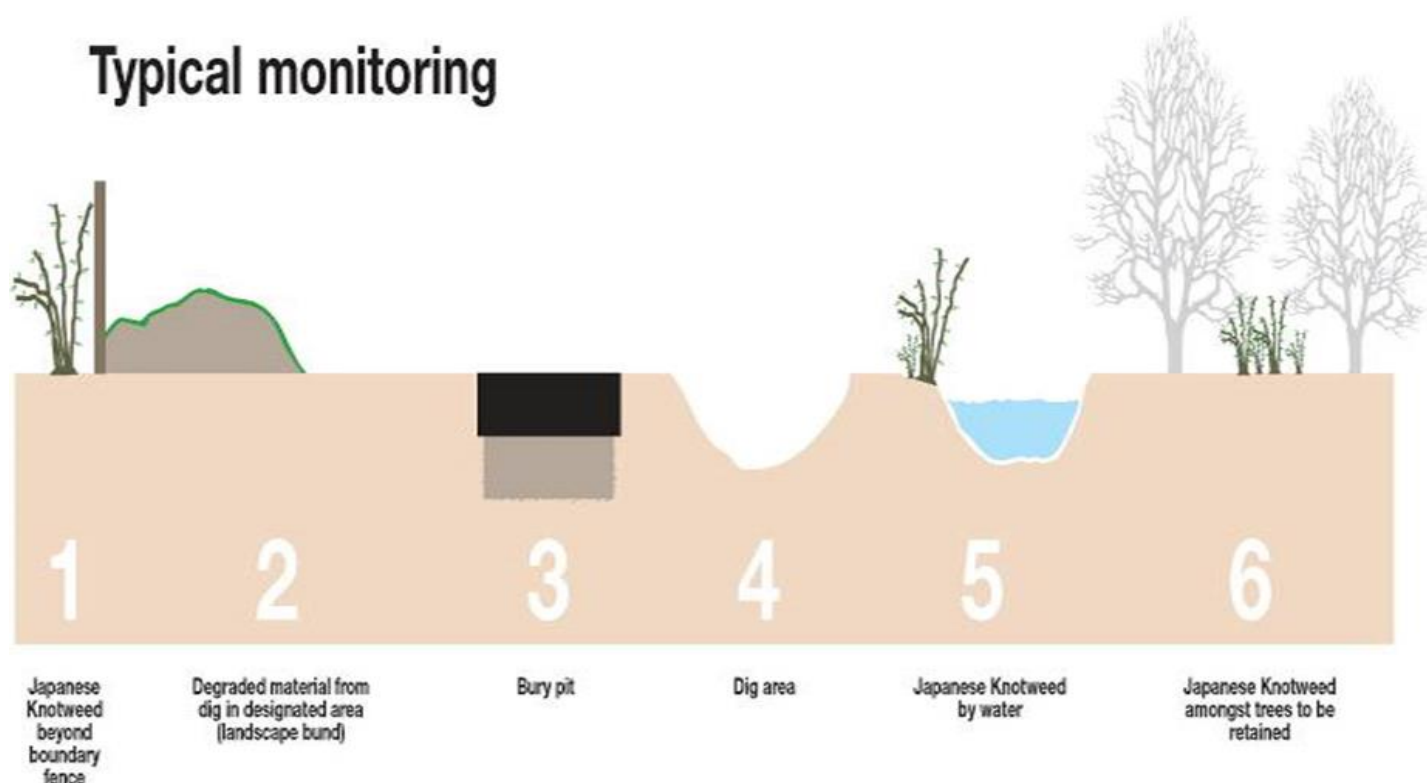
After 26 years of experience of managing Knotweed, comparing the former Welsh Development Agency viability test results and other test measures with hundreds of long-term 4-10 year's plus site wide results, (including sites with construction over unrecognized established Knotweed), we have established a consistent historic record where a combined method of control is applied site wide.

- Established Knotweed does not generally remerge in location more than three years after last record of visible growth.
- Fragments of emerging recently spread Knotweed can be eliminated in one year by herbicide.

Based on this and to provide an optimum margin of safety which is moderated by site specific history, we have set a benchmark measure to achieve standards required by our ISO 9001 and ISO 14001 quality and environmental standards.

“To monitor a site for the longer of 4 or 5 planned years or, 2 years with no treatment and no visible live Knotweed is achieved”.

Typical monitoring



	YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR
1	Obtain permission from landowner to commence treatment	Spot treatment may be required	Spot treatment may be required	No Knotweed - no treatment
2	Treat at the beginning of the year with residual herbicide. Possibly plant up and end of season.	No Knotweed - no treatment	No Knotweed - no treatment	2 or more years in 4 year plan with no Knotweed - end of scheduled controls
3	Monitor - if no Knotweed, no treatment will be necessary.	No Knotweed - no treatment	No Knotweed - no treatment	
4	Monitor - if no Knotweed, no treatment will be necessary.	No Knotweed - no treatment	No Knotweed - no treatment	
5	Treat with Round-up Biactive, adjacent to water.*	5 - 10% may need re-treatment	1 - 2% may need re-treatment	Possibly 5 years monitoring needed in this context - 3 to treat and 2 to confirm
6	Careful treatment	5 - 10% may need re-treatment	1 - 2% may need re-treatment	

* Obtain approval from Environment Agency

5.6 Herbicide treatment of Japanese Knotweed in properties adjacent to site

It is our view that any responsible proposals to manage Japanese Knotweed on site must also include measures to prevent re-infestation from any Japanese Knotweed that is off site but in close proximity. These measures should take into consideration and as far as practical, provide protection against all the ways which Japanese Knotweed can re-encroach.

Normally this is best dealt with by herbicide application and monitoring.

Other methods such as root barriers on the boundary do not fully prevent the risk of site re-infestation for the following reasons:

- Integrity to root barrier may be difficult to obtain or any given depth may not be sufficient.
- Vigorously growing Knotweed will support persistent attempts of below ground rhizomes to penetrate weaknesses in barrier, in some soil conditions to reach under a barrier at a depth of 3m plus.
- Changes in surface ground levels later may enable rhizomes to grow over top of root barrier.
- Stems or rhizomes may be thrown over boundary fence.

All these situations mean that whilst vertical barriers provide a resistance and delay to re-encroachment, it is more of a psychological “comfort” barrier than an actual comprehensive appraisal and addressing of long-term issues.

Herbicide application will almost immediately slow down growth and metabolism of the plant. Stems and near surface rhizomes are rendered inert quite quickly. Longer term, monitoring and spot spraying will kill the entire plant system, fully preventing the long-term risk of re-encroachment. Costs of including herbicide treatment and monitoring to Japanese Knotweed in adjacent properties, in the on-site program are minimal, often less than 10% of the cost of a root barrier and as can be seen from the above, a far more certain control measure.

Our approach to occupiers of adjacent properties is subject to our client’s preference, but is always discreet and diplomatic.

There is no need to insist on an immediate start to a program of treatment and monitoring. Treatment can include foliar spray to established Knotweed, where desirable non-target shrubs are not present, through to discreet cut down and removal of bulk of foliage, with injections into lower remaining stems.

The herbicides used are extremely target specific and are not harmful to humans or animals, unless the concentrate is taken in impossibly large quantities. Both are rated by the World Health Authority as less harmful to the body than common table salt.

6. Management of Mare's Tail

The Plant

Horsetail or Mare's tail (*Equisetum*) is a perennial weed which will grow in a wide variety of soils; rhizomes can penetrate several meters (but normally half to one and a half meters) below the soil surface. They thrive in poor soils but have no preference for soil type.

The Problem

Very invasive plant, although indigenous to the UK therefore not on schedule 9 of the non-native species, BSI3882:2015 specification for topsoil requires that soil is free of Mare's tail among other pernicious weeds.

The main problem on new construction sites is the ability and likelihood that Mares tail will perforate footpath and other low specification tarmac surfaces.

When in a planted landscape area, it becomes harder to treat with herbicide, with shrubs being more susceptible to the chemicals than the Mare's tail.

Pathways of Spread

- Slow spread of below ground rhizome by natural growth.
- Rapid spread by movement of rhizome containing soils during development or for other reasons.
- Spread by spore during early spring.

Management Outline

Due to the uncontrollable spread by spore which is likely to be from sources both on and off-site it is impossible to commit to permanent eradication of the plant.

Management should focus on minimizing risk of established rhizome masses perforating tarmac and preventing clean topsoil being mixed with soils contaminated with plant material.

Even with these precautions it is impossible to identify extent of recent spore spread, however growth from spore is unable to penetrate tarmac in the first year of growth.

- **Herbicide** applications during the growing season April – October will reduce the vigor of established plant masses and destroy new plant growth from spore.
- **Spore stop**, (not a herbicide but a recent extra tool) a spray on adhesive that with correct timing (around March) can glue the spore heads and reduce spore spread

Excavation and segregation of contaminated topsoil from the remainder of site together with excavation of subsoils and similar segregation with material either buried onsite or placed in permanent bunds for ongoing treatment will if properly managed reduce risks of tarmac perforation. Should circumstances not permit excavation in full vulnerable footpath surfaces can be protected by underlaying a heavy gauge membrane e.g., Terram 3000 or increasing thickness of sub-base tarmac.

Excavation of Mares tail

Excavation will require digging to between approximately 0.5-1.5 m deep, with removal carried out in approximately 100-200mm slices until no more plant material is found. Bio-hygiene controls must be in place during this operation to prevent cross contamination.

7. Management and Eradication of Giant Hogweed

The Plant

Giant Hogweed (*Heracleum mantegazzianum*) is a perennial plant listed as a non-native invasive species under schedule 9 of the Wildlife and Countryside Act. Legislation applies to the movement of the plants or material containing the plants, off site.

Growth is from seed which can be viable for up to 5 years.

Health Hazard

Skin contact with sap from the plant can cause 2nd degree burns, Eye contact can cause permanent blindness.

Pathways of Spread

Spread is primarily by distribution of seed by wind, with further spread by flowing water and by-passing animals and humans. Movement of soils containing seed or plants will introduce the plant to entirely new areas.

Management Outline

Management and eradication of Giant Hogweed is by preventing any new seeding, and prevention of movement of seed or plant containing soils and destruction of the entire plant by treatment with herbicide.

Generally, this is by herbicide treatment to prevent any new season's plants from producing seed, seed is viable for minimum 5 years, and preventing spread of viable seed or seed containing soil.

A program of 3 visits between April and end of May whilst growth is short will reduce risk to operator and is required to ensure growth is under control before flowerheads form. 2 later visits between June and August are required to ensure late emergent or concealed plants are treated. Any flower heads found must be carefully cut bagged and deep buried or incinerated.

Prove up of eradication will require continuation of monitoring with above treatment as required with both a minimum of five years and until two growing seasons without any new emergence has been achieved.

Burial option will be required if development is planned before prove-up of eradication is obtained.

Burial of seed containing material, (Preferably after at least one application of herbicide has been made), with a compacted cap of at least 1 m on site in an identified location which will not be disturbed, will be required if time is not available to achieve prove-up period.

Site specific assessment and issues

Spread risk

Development activities on site may spread material before herbicide treatment can be proved up.

Any off-site upstream locations of Giant Hogweed provide a source of waterborne re-infestation of on-site banks

Site specific method

Obtain consent from the Environment Agency to use herbicide near water.

Carry out an initial application of Glyphosate based herbicide to all plant foliage. This will require several visits to achieve application to all existing and emerging plants, between **April and August until 3 full growing seasons passed without regrowth with a further visit in the following year.**

Cut and remove flower heads of plants in potential redevelopment area to prevent this year's seeding.

Continue to monitor site until:

Both five growing seasons April – October have passed with any new plants destroyed by herbicide before flowering and seeding **and** two growing seasons with no new plants found.

Carry out burial option if required.

8. Management of Himalayan Balsam

It needs to be understood that:

Himalayan balsam is an annual plant (lives for part of one year only)

The prime means of spread of Himalayan balsam to new locations is by seed thrown from ripe seed pods (From early August) up to 7 m but mostly within 3 m around existing plants, flowing water will carry seeds down stream to new areas both situations provided a primary seed bank on the soil which will produce 1000s of new plants on an ever-increasing area each year. In addition to this a secondary area with occasional plants is formed by seed being transported on feet of animals and humans

Management generally is by herbicide treatment to prevent any new season's plants from producing seed, seed is viable for 1-2 years, and preventing spread of viable seed or seed containing soil.

Legal

All material consisting of or containing Himalayan balsam plant material including seed is classified as controlled waste if removed from site.

Monitoring with Herbicide treatment

Effective herbicide treatment will require 3 visits between April and May using contact and possibly a short-term residual herbicide, with a further 2 visits between June and August to treat any late germination growth. Thorough monitoring for a minimum of 2 seasons to ensure no plant is allowed to produce seed is vital.

Double scrape and stockpile

If time does not allow in situ treatment seed containing soil can be carefully scraped up (double scrape to remove a total of 150mm-300mm depth) and stockpiled, provided any surface growth is treated and prevented from seeding the stockpile can be certified clean after 2 growing seasons.

Dispose of off site

As a last resort scraped material can be disposed of to landfill as controlled waste.

Recontamination from offsite locations

Recontamination from offsite locations is almost inevitable if these sources are present. Particularly on any water course with upstream contamination. However above management will enable construction works on site without contamination issues.

9. Management and Eradication of Montbretia

The plant

Montbretia (Crocasmia) is a perennial plant listed as a non-native invasive species under schedule 9 of the Wildlife and Countryside Act, legislation applies to the movement of the plants or material containing the plants, off site.

Growth is from corms which divide and produce additional corms each year.

Pathways of spread

Spread is primarily by movement of movement of corms, or soil containing corms to new areas.

Management Outline

Management and eradication of Crocasmia is by preventing spread of corms or soil containing corms and destruction of the entire plant by treatment with herbicide.

Prove up of destruction will require continuation of monitoring with above treatment as required with both a minimum of three years and until two growing seasons without any new emergence has been achieved.

Burial of corm containing material (after at least one application of herbicide has been made) with a compacted cap of at least 1 m on site in an identified location which will not be disturbed will be required if time is not available to achieve prove up period.

Site specific assessment and issues

Spread risk

Development activities on site may spread material before herbicide treatment can be proved up.

Site specific method

Carry out an initial application of Glyphosate base herbicide to all plant foliage

Attend and manage a dig and bury of material containing crocasmia corms and other plant material and certification of clean down of equipment used with arisings from cleanings placed in bury location.

Continue to monitor site until

Both three growing seasons April – October have passed with any new plants dug and removed entirely from site and disposed of by incineration and two growing seasons with no new plants found.

10. Management of Cotoneaster Subspecies

Listed on schedule 9 The Wildlife and Countryside Act, 1981

It needs to be understood that:

Cotoneasters are woody shrubs with several hundred different subspecies ranging from ground hugging plants to small trees, many designed into landscape planting schemes, a few are listed as nonnative invasive plants, these often hybridize with non-listed plants making certain ID difficult.

This document refers to managing the listed plants and close hybrids.

The prime means of spread of Cotoneaster to new locations is by seed (seed is viable for 1-2 years) from berries after passing through a bird's gut and dumped as garden waste Localized spreading also occurred through branches in contact with soil re rooting.

Management generally is by herbicide treatment to kill existing plants (if time allows) to prevent any new season's berries and seed and fully removing entire plants together with likely seed containing soil surfaces in and around plants.

Removal from site

All material consisting of or containing cotoneaster plant material is controlled waste if removed from site, and disposal must be to landfill licenced to receive controlled waste.

Bury on site option.

If possible, bury on site with a minimum cover of 2 m to finished ground level may be carried out.

Mortgage risk

Currently the presence, or former presence of listed cotoneaster is not considered a mortgage risk.