Site methodology for use of machinery on Japanese knotweed infested sites.

Principles

Refer also to Environment Agency's Code of Practice 'Managing Japanese knotweed on development sites' available from www.gov.uk

Desk Study:

1. Check database to see if sites have been recorded on the area in question.

Site Survey:

2. Ensure that the surveyor has adequate information to identify the species and all its parts at all times of year.

3. Assess site from exterior vantage points to determine areas of Japanese knotweed and to determine best method of access.

4. Cut surrounding vegetation - not Japanese knotweed - if and as necessary to permit access for work requirements (e.g. survey, treatment). (NB assess risk of other ecological issues, e.g. nesting birds, protected species)

5. Define areas of Japanese knotweed preferably by GPS survey, and by marking (paint, posts etc as appropriate).

Site Information

6. Provide information at any access points onto site to indicate the presence of Japanese knotweed and to warn others not to enter the areas marked.

Site works

7. Establish a point for a membrane on which machinery and equipment can be checked and cleaned of soil and vegetation after each instance of dealing with a Japanese knotweed infested area and also before leaving site. If the cleaning area is not immediately adjacent to the infested area the route between the area of infestation and the treatment area should be protected by a membrane layer which should be inspected for contamination on a daily basis, contaminant removed and disposed of as below.

8. Thorough inspection and removal of contaminant by brushing is recommended for all tools and equipment used on site. This should extend

to clothing and boots. Wheeled excavation machinery is preferable to tracked machinery in view of the difficulty of thorough cleaning of the latter. The cleaning area membrane should be checked on a daily basis and contaminated material disposed of appropriately either in a treatment area within the site or taken, in secure and appropriately licensed transport, to an appropriately licensed disposal facility. If high pressure washing is the only alternative, the activity should take place in an enclosed area, the material filtered and the residue disposed of as above.

9. If machinery required for the work cannot avoid the plant and transit through it is vital proceed as follows:

In the growing season i.e. the plant is in leaf,

- carry out a treatment of the plant with glyphosate according to label recommendations at least 7 days but preferably 14 days before access is required by machinery.
- After this time has elapsed, flatten the canes on the access line by squashing down e.g. with a digger bucket and unroll a membrane of at least two metres more than sufficient width for the required access along the access line before any vehicle is allowed along it.

In the dormant season

- flatten the canes and provide a membrane as above.

10. If pedestrian access only is required cut canes by hand after the required period of herbicide treatment and lay them along the access corridor or deal with them as specified in paragraph 8.

Drilling works

11. Where it is necessary to do test drilling in a site with Japanese knotweed:
    - treat as above with herbicide and, after the required delay,
    - define an area at least 3 metres by 3 metres, dependent on the size of the machinery access required, centred on the centre of the bore,
    - place a membrane of adequate size adjacent to the required test site,
    - cut the plant material from the site down to ground level by hand and place on the membrane,
    - excavate the 3m by 3m hole to sufficient depth to remove the Japanese knotweed and either place material on the membrane or onto a secure treatment area within the site boundaries.
    - Carry out drilling, ensuring that any material is returned to the appropriate level on completion.
    - Return the contaminated soil to its original position if it is not to be treated in the secure site mentioned or removed in the way described in paragraph 8.

The objective is to ensure that Japanese knotweed rhizome is not placed more deeply in the soil profile and thus may remain dormant in such sub optimal growing conditions.

Site excavations

12. When there is no option to avoid excavation through a Japanese knotweed infested site, or where excavation is necessary as part of an agreed

control programme a wheeled excavator will pose less of a risk of further spread than a tracked machine.

- A swathe of sufficient width to accommodate the machine and to permit its operation should be cut by hand through the clump.
- The last 10 metres from either side of visible above ground canes should be excavated inwards towards the clump to minimise the risk of linear spread.
- If this material is to be reinstated on site, rather than removed to appropriately licensed landfill or treated elsewhere within the site, it should be deposited on a suitable membrane adjacent to the trench and the material returned according, as far as possible, to its original position within the soil profile.
- It is good practice to separate any observed detached rhizome by hand, to double bag it in polythene sacks and to dispose of it to a suitably licensed landfill site.

Japanese knotweed separation

13. Where it is recommended that Japanese knotweed should be excavated and separated this should be done in a similar way to the methodology in 11 above under supervision, with tined machinery, to draw rhizome up through the soil profile and to physically remove as large a proportion as possible.
    - An area within the radius of the boom should be prepared with a membrane both connecting the excavation site and of sufficient size at the receptor site to allow for the reception of the amount to be excavated.
    - The material should be transported by swinging the bucket to the receptor site, the bucket shaken and rhizome removed to a container for transport within the site to the secure receptor area.
    - At least 2 groundworkers are required to monitor and ensure adequate depth of excavation and to remove rhizome at the receptor site.
    - The separated rhizome should be placed in sealed containers for transport to the secure storage area.
    - The usual procedure would be to permit the rhizome to desiccate in situ in this area, though immediate disposal as detailed in paragraph 8 is an option.
    - The soil may then be returned to the excavated site and membranes removed with all necessary precautions to prevent the spread of viable material.
    - The treatment area must then remain undisturbed to allow for assessment of any regrowth.
    - The area to be retreated and the methodology repeated as necessary.

There are now specific machines and methodologies that can be used for knotweed separation through specialist knotweed treatment contractors.

Secure Treatment Area

14. Secure treatment areas should be designated on site where knotweed contaminated material can be deposited on a suitable membrane for further treatment (herbicide, desiccation etc.). The area must be large enough to adequately accommodate the material with at least a 5m margin on all sides.

Suitable membrane

15. Membranes used to contain knotweed material must be impervious (to prevent growth through them) and be of a thickness and durability to withstand damage during the period of treatment and monitoring period. If necessary membranes should be laid on sand or other suitable material to prevent puncturing.

Record keeping

16. Ensure that records of the contaminated areas and the treatment methodology are kept with site records for future reference.

17. Cornwall Council maintains on behalf of the Cornwall Knotweed Forum a record of the distribution and extent of Japanese knotweed in Cornwall and would appreciate copies of survey records. These can be submitted via the website (www.cornwallknotweed.org.uk or emailed to invasives@cornwall.gov.uk)

