

Penarth Heights

Japanese Knotweed Report

ON BEHALF OF CREST NICHOLSON (SW)



FEBRUARY 2007

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Figure

NPA/I0050/202: Japanese Knotweed Survey

1.0 INTRODUCTION

- 1.1 This document provides a report on the status of Japanese Knotweed growth and treatment as of January 2007 on land at Penarth Heights. It has been prepared by Nicholas Pearson Associates (NPA) on behalf of Crest Nicholson (SW) Ltd to inform development feasibility and programme. Note: Since the identification, onsite, of Japanese Knotweed, it has been the responsibility of Vale of Glamorgan Council, as landowner, to seek and action its eradication.
- 1.2 The site, located on a prominent hillside overlooking Cardiff Bay, currently comprises a number of residential blocks, associated external gardens and courtyards/ parking areas together with areas of open space generally laid to grass with a range of trees. The residential blocks are for the most part empty and have been for a number of years. The site is framed to the north and west by unmanaged woodland and scrub. The site and adjacent woodland areas are currently owned by Vale of Glamorgan Council (VGC). An area of allotments is owned by Penarth Town Council.
- 1.3 Japanese Knotweed (and a close variant, Giant Knotweed), was identified in 2003. It was present in significant and extensive areas within the scrub/ woodland areas to the north of the site, including The Bowl. In places it constituted the entire canopy, with other areas comprising isolated stands/ clumps, although these areas may be linked to other areas by root rhizomes. Other areas where Knotweed was present included: the slope to the east of the allotments/ north west of Arcot Triangle; to the south of the community building; within the woodland west of the main development area; adjacent to Paget Road play area.
- 1.4 For simplicity, reference is made to Knotweed rather than differentiate between the different varieties. The ongoing treatment is the same for both species. The figure in this report (NPA/10050/202) shows the location of identified areas of both Japanese and Giant Knotweed.
- 1.5 Disposal of material contaminated with the plant can be very expensive in order to comply with relevant legislation. In the UK, it is listed under Schedule 9, Section 14 of the W&CA 1981, making it an offence to plant or otherwise cause the species to grow in the wild. It is also classified as 'controlled waste' under the terms of the Environmental Protection Act 1990, and it must therefore be disposed of safely at a licenced landfill Site in accordance with the EPA (Duty of Care) Regulations 1991. Giant Knotweed is not currently subject to

legislative control, although its invasive nature makes it an undesirable species to have on a Site.

2.0 SUMMARY OF KNOTWEED SURVEY AND TREATMENT HISTORY

2.1 A summary of the survey work and treatment that has been undertaken, by various parties is as follows:

- 2003 - May 2004; survey and mapping of Knotweed by Wardell Armstrong (WA) reporting in WA Report dated June 2004.
- July 2004; proposal for treatment by Complete Weed Control (CWC).
- July 2004; pre contract meeting VGC/ CWC establish that areas of Knotweed more extensive than identified in earlier WA report and agree to spray increased areas.
- July/ August 2004; VGC instruct CWC.
- August/ September 2004; CWC work commences with herbicide spraying (area on the slope to the east of the allotments/ north west of Arcot Triangle).
- Jan/ Feb 2005; CWC cut down Knotweed on slopes to north of the site in preparation for treatment.
- April 2005; CWC spray main areas with herbicide.
- May 2005; NPA survey of site and note areas of untreated Knotweed (as per dwg. NPA 10050 D 202) as well as main treated areas. Untreated areas include infestation previously unrecorded by WA.
- June – September 2005; CWC have carried out two further herbicide applications. These applications included treatment of previously untreated Areas 8a – 8i inclusive and 10.

- September 2005; Site visit attended by VGC (Mark White and Ken Evans), CWC (Alan Abel), Crest Nicholson (Steve Horton), NPA (Simon Kale). CWC staff arrived during site visit to commence the fourth (and final) application of the year.
- April – July 2006; two further herbicide applications by CWC.
- 18 July 2006; Site visit attended by Crest Nicholson, VGC and CWC (note of Knotweed condition noted at the time of the meeting is included below).
- August – September 2006; two further herbicide applications by CWC.

2.2 CWC are contractually committed to undertake a further two herbicide treatments prior to June 2007.

3.0 SUMMARY OF CWC CONTRACT WITH VGC

- 3.1 CWC are contracted to treat all areas with herbicide as identified in WA Report between July 2004 – July 2007. Herbicide treatment will be carried out 4 x per year (late April, June, July and September). Some areas will therefore receive up to 11 no. treatments by June 2007.
- 3.2 It should be noted that the original contract stated that CWC would treat 3x a year. CWC have confirmed that due to the extent of Knotweed they are now treating 4 x per year until control is achieved. CWC objective is to do a achieve clearance as soon as possible and to 'do a good job'.

4.0 REPORT OF SEPTEMBER 2005 SITE VISIT

4.1 Objectives of meeting/ site visit:

- To review treatment undertaken.
- Identify areas of Knotweed as yet untreated.
- Confirm proposed programme of treatment.

- Discuss potential implications for development programme.

Note: Scrub/ bramble growth prevented physical and visual access to all areas of the site. Whilst Knotweed generally grows taller than surrounding vegetation the potential for other isolated clumps to have spread to within scrub areas remains. The only areas previously identified not seen related to isolated clumps 6b and 6c. These to be checked.

- 4.2 Areas of treated Knotweed are overall showing good control, albeit with some variation of Knotweed regrowth. This is likely due to a variation of take up of, and response to, the herbicides applied. The extent of Knotweed areas also gave practical difficulties in achieving perfect results during initial treatments. Best control had been achieved of isolated clumps, although large patches of some of the extensive areas (1a, 1b, 1c, and 11) had not regrown significantly.
- 4.3 CWC advised that given the extent of Knotweed the results after 3-4 herbicide applications (approximately one third of proposed works) was good. CWC was confident of 95% control at the end of the Contract due June 2007.
- 4.4 The site visit identified 2 no. additional clumps of Knotweed (untreated) adjacent to zig zag path down to Terra Nova Way (now labeled 12a & 12b). CWC and VGC advised that these were outside the existing Contract area but would now be included for treatment.
- 4.5 The site visit identified that clumps of Knotweed were located or had spread further down the hill to the north of Area 3 (now labeled as 13a, 13b & 13c). CWC agreed these areas would now be treated.
- 4.6 The site visit identified that Areas 4a, 7 and 9 had not been treated. CWC agreed Area 9 had been missed in error. CWC agreed Areas 4a and 7 would be included as part of all future treatments.
- 4.7 CWC advised that all areas would be considered as equal priority and receive the same treatment.
- 4.8 CN advised that the initial development works would relate to drainage. This would be affected by Areas 1b, 8c- 8i inclusive, 10 and possibly 12a and 12b. CWC advised that with

the proposed herbicide treatment only it was very unlikely that the area (especially 1b) would be clear of Knotweed before June 2007 (end of Contract). Furthermore due to the extent of growth there remains the potential for Knotweed to remain alive at the end of the Contract.

5.0 REPORT OF JULY 2006 SITE VISIT

5.1 Objectives of meeting/ site visit:

- To review treatment undertaken since last visit.
- Identify any new areas of Knotweed.
- Confirm proposed programme of treatment.
- Discuss potential implications for development programme.

5.2 The treatment of the Knotweed was progressing with many areas showing reduced vigour. New areas of growth were apparent on the edges of a number the treated areas. The treatment of the Giant Knotweed in particular was proving more difficult with many clumps regenerating after continuous spraying.

5.3 In general, the following summaries were made regarding the treatment of the Knotweed:

- The Knotweed was showing reduced vigour in the areas between Prince Rhodry House, Prince Llewellyn House, Prince Edward House, Arcot Triangle and Harbour View Road. Single stems and clumps have regenerated on the edges of the treated area. These areas were undergoing treatment.
- The Knotweed was showing reduced vigour on the sloping areas to the north of the disused playground. Single stem regeneration was evident on the edges of the treated area. The Giant knotweed was persisting in this area and the stems may require injecting with herbicide to bring these weeds under control.

- The Knotweed was showing reduced vigour on the areas between the former Harbour View Community Centre, the allotments and the derelict flats. Sparse single stem regeneration is evident on the edges of the treated area. These areas were undergoing treatment.
- The Knotweed was persisting on the sloping areas between the former Harbour View Community Centre and the footpath leading down to Terra Nova Way. A more intensive spraying treatment was being sought by CWC for this area.
- The Knotweed was showing reduced vigour in the treated areas on the sloping ground to the north of the main east- to- west woodland footpath.

5.4 Overall the treatment programme was demonstrating good control across the site. However, local new or continued growth after such intensive treatment was an indication of the establishment of the plants onsite. Despite this the Contractor remained confident of good control by end of June 2007.

6.0 CONCLUSIONS AND DISCUSSION

6.1 The current herbicide treatment was having a good effect across the areas infested and the Contractor was confident of continued success. All known areas identified were receiving treatment.

6.2 However, eradication is not likely to be successful until June 2007 at the earliest, with the potential for Knotweed still remaining onsite. This is more likely for the areas that had not been untreated until September 2005. There is therefore a high likelihood of the need for continued treatment after June 2007.

6.3 Furthermore, due to significant areas of dense scrub, there remains the potential for Knotweed to exist or spread unnoticed.

6.4 There is an option available to bring forward Knotweed eradication as set out in the Wardell Armstrong Report. This comprises digging out affected Knotweed area, spreading excavated material on another part of the site and treating with herbicide. This could be

considered for the Bowl area, or other isolated locations, since the drainage works may require significant groundworks.

- 6.5 The option would obviously have cost implications and would need discussion and consideration with regard to timing, planning status, land ownership and development programme.
- 6.6 We would recommend that close liaison be maintained with CWC as treatment proceeds with site inspections held approximately two weeks after every treatment to check on the effectiveness of the work
- 6.7 We would recommend that a detailed resurvey of the site for Knotweed is carried out in April 2007, before significant spring scrub growth occurs to check for any areas of Knotweed. Ongoing monitoring would also be recommended until Knotweed is confirmed as absent from site. A considered soil management strategy will be prepared prior to development commencing.

TABLE SHOWING SCHEDULE OF AREAS AND DATE OF START OF TREATMENT.

Table to be read in conjunction with NPA drawing 10050/ 100 Japanese Knotweed Survey

Comments on treatment coding:


1. Areas undergoing treatment with minimal knotweed regeneration.
2. Areas undergoing treatment with sparse single stem regeneration.
3. Areas undergoing treatment with clumps of knotweed regenerating.
4. Areas undergoing treatment with persistent knotweed regeneration.


Area No.	Area Description	Identified by	Knotweed undergoing treatment	Comments on treatment (July 2006)
1a	Northern open areas	WA	Yes - April 05	3
1b	"	WA	Yes - April 05	4
1c	"	WA	Yes - April 05	2
2a	Isolated areas of knotweed adjacent to derelict flats and allotments	WA	Yes - August 04	2
2b	"	WA	Yes - August 04	2
2c	"	WA	Yes - August 04	2
2d	"	WA	Yes - August 04	2
3	Areas of knotweed adjacent to woodland edges	WA	Yes - April 05	3
4a	"	WA	Yes - Sept 05	3
4b	"	WA	Yes - August 04	4
5	Knotweed on sloping ground to the north of Harbour View Road	NPA	Yes - August 04	3
6a	Isolated knotweed areas on sloping ground to the north of Harbour View Road	NPA	Yes - July 05	3
6b	"	NPA	Yes- April 06	3
6c	"	NPA	Yes- April 06	2
7	Isolated areas of knotweed adjacent to woodland edges	NPA	Yes - Sept 05	3
8a	Isolated areas of knotweed on northern edge of the development boundary	NPA	Yes - July 05	3
8b	"	NPA	Yes - July 05	3
8c	"	NPA	Yes - July 05	3
8d	"	NPA	Yes - July 05	2
8e	"	NPA	Yes - July 05	3
8f	"	NPA	Yes - July 05	2
8g	"	NPA	Yes - July 05	3
8h	"	NPA	Yes - July 05	3
8i	"	NPA	Yes - July 05	3


Area No.	Area Description	Identified by	Knotweed undergoing treatment	Comments on treatment (July 2006)
9	Areas of knotweed within the understorey of the ash trees	NPA	Yes - Sept 05	3
10	Isolated areas of knotweed adjacent to footpath leading into the bowl	NPA	Yes - July 05	3
11	Knotweed within disused play area	NPA	Yes - April 05	2
12a	Isolated knotweed areas adjacent to the switchback footpath	NPA	Yes - Sept 05	3
12b	"	NPA	Yes - Sept 05	3
13a	Isolated knotweed areas to the north of the main east-west woodland footpath	NPA	Yes - Sept 05	2
13b	"	NPA	Yes - Sept 05	2
13c	"	NPA	Yes - Sept 05	2
14a	Isolated knotweed areas on sloping ground to the north of Harbour View Road	NPA	Yes- April 06	2
14b	"	NPA	Yes- April 06	2
14c	"	NPA	Yes- April 06	2
14d	"	NPA	Yes- April 06	2
15a	Areas of knotweed to the east of the clump of ash trees	NPA	Yes- April 06	3
15b	"	NPA	Yes- April 06	3
16	Areas of knotweed adjacent to woodland edges	NPA	Yes- April 06	1
17a	Areas of knotweed adjacent to the switchback footpath	NPA	Yes- July 06	4
17b	Areas of knotweed adjacent to the switchback footpath	NPA	Yes- July 06	4
18	Knotweed on sloping ground to the north of Harbour View Road	NPA	Yes- July 06	3





LEGEND


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
Approximate location and area of untreated Giant and Japanese Knotweed (Updated July 2006).
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Approximate location and area of Giant and Japanese Knotweed undergoing treatment (Updated July 2006).
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
Standoff distance of 7 metres to be observed (Updated July 2006).
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
Development site boundary
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1 Northern open areas.
- 


2 Isolated area of knotweed adjacent to derelict flats and allotments.
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
3 Areas of knotweed adjacent to woodland edges.
- 


4 Areas of knotweed adjacent to woodland edges.
- 


5 Areas of knotweed on sloping ground to the north of Harbour View Road.
- 


6 Isolated areas of knotweed on sloping ground to the north of Harbour View Road.
- 


7 Isolated areas of knotweed adjacent to woodland edges.
- 


8 Isolated areas of knotweed on the northern edge of the development boundary.
- 


9 Areas of knotweed within the understorey of the ash trees.
- 


10 Isolated areas of knotweed adjacent to the footpath leading into the bowl.
- 


11 Knotweed within the disused play area.
- 


12 Isolated knotweed areas adjacent to switchback footpath.
- 

13 Isolated knotweed areas to the north of the main east-west woodland footpath.
- 

14 Isolated areas of knotweed on sloping ground to the north of Harbour View Road.
- 

15 Areas of knotweed to the east of the clump of ash trees.
- 

16 Areas of knotweed adjacent to woodland edges.
- 

17 Areas of knotweed adjacent to the switchback footpath.
- 

18 Areas of knotweed on sloping ground to the north of Harbour View Road.

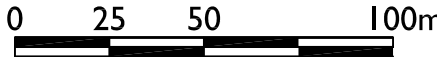
NOTE

-Areas 1-4 as identified by Wardell Armstrong (WA, June 2004).
-Areas 5-18 as identified by Nicholas Pearson Associates (NPA, May 2005/ Updated July 2006).
-Isolated areas of untreated Knotweed persist in treated areas (NPA, May 2005/ Updated July 2006).
-Please refer to Complete Weed Control (South Wales) Ltd for details of the ongoing knotweed treatment.

Comments on knotweed treatment (July 2006).

- (1) Area treated with minimal knotweed regeneration.
(2) Area treated with sparse single stem knotweed regeneration.
(3) Area treated with clumps of knotweed regenerating.
(4) Area treated with persistent knotweed regeneration.

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6a	Isolated knotweed areas on sloping ground to the north of Harbour View Road	NPA	Yes - July 05	3
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Japanese Knotweed plan

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	Name	Signature	Position	Date
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Checked by:	N Pearson		Director	08.02.2007
Approved by:	N Pearson		Director	08.02.2007

REVISION RECORD

Rev	Date	Originator	Checker	Approver	Description

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