

Penarth Heights Geotechnical Remediation Statement

ON BEHALF OF CREST NICHOLSON (SW)



FEBRUARY 2007

CAPITA SYMONDS

Quays Office Park
Conference Avenue
Portishead
North Somerset
BS20 7LZ
Tel: 01275 840840

May 2006

Penarth Heights Remediation Statement

1 General Principles

- 1.1 The results of the ground investigation were interpreted in the Geoenvironmental Report dated October 2005 carried out by Capita Symonds Limited. This report identified the areas of concern on site with respect to contamination and gave recommendations for remediation. No gross contamination was encountered.
- 1.2 The contamination on site is generally present within the ashy fill material that was used to infill the quarry areas to the north of Highview Road and the allotments. The area of ash is principally along the ridge at the northern boundary of the site north of the allotments and extending westwards by about 130m. Ash was also found in some exploratory holes in the sloping ground to the west of the allotments and extending almost to the western extremity of the site. The Made Ground comprised incinerated material, mainly ash and clinker elevated in concentrations of zootoxic and ecotoxic metals with some polyaromatic hydrocarbons. There are hotspots of contamination elsewhere on site, but generally the areas to the south of Highview Road and to the east of the allotments do not have concentrations of contaminants that pose a risk to human health or controlled waters.
- 1.3 The remediation requirements identified by the Geoenvironmental Report are as follows:
- Removal of a hotspot of lead contamination at Trial Pit 201
 - Clean capping on garden areas within the area of ash
 - Provision of a services corridor through areas of ash
 - Provision of passive gas protection measures to dwellings north of Highview Road/Paget Road.
- 1.4 A marginally elevated arsenic concentration was detected at 1.0m depth in WS303. This area is a recreational area, known as Plassey Square and is outside the main development area. The finalised landscape proposals are not available at present. If these included any excavation then it would be recommended that this hotspot be removed.
- 1.5 Subsequent to issue of the Geoenvironmental Report, testing was carried out on a water sample from the spring issuing in the Bowl to the north of the site. This showed an elevated level of naphthalene, although all other polyaromatic hydrocarbons were below detection limits. Following discussions with the Environment Agency, the agreed approach will be to significantly reduce the flow of water through the ash fill area by provision of capping.
- 1.3 The remediation targets for the site are as follows:

Determinand	Criterion (mg/kg)	Source
Arsenic	20	Soil Guideline Value
Lead	450	Soil Guideline Value

May 2006

2 Specific Requirements

- 2.1 Areas of contamination to be removed are identified on Drawing CS/4626/100A appended. Each area is nominally 5m across, but should be extended subject to validation to ensure all the relevant contaminant is removed.
- 2.2 Area A is to be removed to a minimum depth of 1.0m below proposed finished ground level. Only the sides of the excavation require to be validated by testing for lead to ensure removal of the hotspot.
- 2.3 If landscape proposals require any reduction in ground level at Area B, then this area is to be excavated to a minimum depth of 1.0m below proposed finished ground level. Only the sides of the excavation require to be validated by testing for arsenic to ensure removal of the hotspot.
- 2.4 Clean capping material at least 0.6m thick is to be placed on garden and landscape areas within the zone shown on Drawing CS/4626/100A appended.
- 2.5 The main services runs along roads within the capping zone shown on Drawing CS/4626/100A appended should be excavated to 0.3m outside the line of any services to be installed, and replaced with clean fill.
- 2.6 All dwellings within the zone shown on Drawing CS/4626/101A appended are to have passive gas protection to prevent ground gas from entering the building.

3 Validation Report

- 3.1 The validation report shall include:
 - Record of the areas excavated and validation testing results
 - Record of the areas provided with clean cover, and confirmation of its thickness
 - Record of the location and extent of clean fill placed to form services corridors.

Date/Dyddiad: 22nd June 2006

k for/Gofynwch am: Steven J Pye

Telephone/Rhif ffôn: 01446 709786

Fax/Ffacs: 01446 709449

Your Ref/Eich Oyl:

My Ref/Cyf:

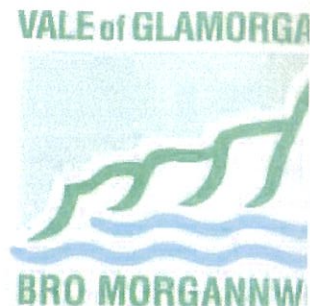
e-mail/e-bost: Email sjpye@valeofglamorgan.gov.uk

The Vale of Glamorgan Council
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Dr David Clinton
Capita Symonds Limited
Quays Office Park
Conference Avenue
Portishead
BS20 7LZ

Dear Dr Clinton,

Penarth Heights Remediation Statement

Further to your letter of the 15th June and your comments concerning radon, depth of clean cover and hotspot validation I can confirm that I am satisfied that the issues have now been addressed and justify that no significant environmental risks will prevail. I note your comments regarding slope stability and depth of cover and accept the proposal for the provision of 600mm.

I can also confirm that the proposed soil import criteria and rate of sampling are acceptable.

Yours sincerely,

Steven J. Pye
Contaminated Land Officer

Cc Paul Greenland, Crest Nicholson

CAPITA SYMONDS

26 JUN 2006



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AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Dr David Clinton
Captia Symonds Ltd.
Quay Office Park
Conference Avenue
Portishead
BS20 7LZ

Ein cyf/Our ref: H/PL/Vol/03
Eich cyf/Your ref:

Dyddiad/Date: 01 June 2006

Dear David

Penarth Heights

Information received:


- Crest Nicholson (SW) Ltd., Penarth Heights, Remediation Statement. Captia Symonds, May 2006.

Thank you for forwarding your remediation statement to us for review. As previously stated (via telephone), we are satisfied with the proposed remediation of the site with respect to the Polyaromatic Hydrocarbons and Arsenic.

We look forward to the validation report once remediation is completed.

Yours sincerely

Kay Roberts
Technical Officer (Groundwater)
Groundwater and Contaminated Land Team.

Job No / File
CS/4626
Captia Symonds
05 JUN 2006
To: 





NHBC Services

NHBC House, Davy Avenue, Knowlhill, Milton Keynes, Bucks MK5 8FP

Tel: 0870 241 4302 Fax: 0870 241 4759 www.nhbcbuilder.co.uk

Capita Symonds Ltd
Quays Office Park
Conference Avenue
Portishead
BS20 7LZ

Our Ref: ENG/WE/179880
Your Ref: DBC/4626

Date: 16th June 2006

For the attention of Dr David Clinton

Dear Sirs

Re: Royal Close Penarth South Glamorgan CF64 1

We acknowledge receipt of the following information relating to the above proposed development.

- Your letter dated 10th May 2006
- Remediation Statement date may 2006

We have considered the remedial proposals and can confirm that we have no objections to these in principle, however these will have to be assessed in detail once development proposals have been received.

If you are uncertain about our requirements or would like to discuss particular aspects of this project please do not hesitate to contact me.

Yours faithfully

Robert Hellawell
Principal Engineer

Direct line number: 01905 792033
Fax number: 0870 2413889

Copies to: Crest Nicholson (South West) Ltd,
Crest House, Lime Kiln Close, Stoke Gifford, Bristol, BS34 8ST



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A	HOTSPOT AREAS RELABELLED AND DEPTHS ADDED	AGC			05/06						PENARTH HEIGHTS			CREST NICHOLSON	
											CONTAMINATION HOTSPOTS REMOVAL AND CAPPING			<div>CAPITA SYMONDS</div> <div>Quays Office Park, Conference Avenue, Portishead, BRISTOL BS20 7LZ Tel: +44 (0)1275 840840 Fax: +44 (0)1275 840830</div>	
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AGC	DC	DC	MAR 06	1:2000		CS/4626/100			A						
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REV	A	KEY AMENDED	AGC	05/06	DATE
REV			DR	CH	PA

PENARTH HEIGHTS

PROPOSED GAS MEMBRANE AREA

DRAWN BY	CHECKED BY	PASSED BY	DATE	SCALES @ A3 SIZE	ISSUE STATUS
KH	DW	DC	MAR 06	1:2000	

CREST NICHOLSON

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CS/4626/101	-