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Document
SRB-J

30 June 2008

Marco Muia
Oaktree Environmental Ltd

Our Ref: RSK/MA/P660003/01/01

Dear Marco,

RE: FLOOD RISK, BARRY SUNRISE CHP PLANT, BARRY DOCKS

As a part of the planning application for the Barry site, RSK Environment Ltd has been commissioned to provide an assessment of flood risk. The following paragraphs explain the work undertaken.

The proposed development is located within Zone B but outside Zone C2, as identified by Technical Advice Note 15: Development & Flood Risk (July 2004) (TAN15). Zone B can be defined as “*areas known to have been flooded in the past evidenced by sedimentary deposits*” and Zone C2 as “*areas of floodplain without significant flood defence infrastructure*”. Any development within Zone C would require a full Flood Consequences Assessment (FCA).

The proposed development is also located outside the Environment Agency Wales (EAW) extreme (0.1%) Flood Map, which would normally underlay Zone B. Although a full FCA is not required, the EAW promote a precautionary approach where site levels should be compared against the adjacent extreme outline to determine if the site is at risk of flooding.

We therefore undertook a topographic survey of the site and produced three cross sections from north of the site through to the direction of the dock to confirm that the development is above the adjacent extreme flood outline and corresponding Zone C2. These are attached as Annex A. When flood level data was requested from the EAW, we were notified that the only available data was over 10 years old and not for the location requested. The data would have to be extrapolated from levels in Cardiff and Porthcawl.

This information was submitted via email to the EAW as a pre-planning enquiry on the 25 June 2008 (E-mail to EA attached as Annex B together with previous correspondence). In a subsequent conversation with Matthew Parry, Development Control Officer (and Acting Team Leader) of the EAW on the 26 June 2008, he confirmed that the site was not at risk of flooding and the cross sections were acceptable. A recent policy change within the EAW meant that applications in Zone B were taken on a risk-based approach and if the zone is outside the Q1000 Flood Map, then there is no perceived risk to the development.

A formal response from the Planning Liaison to the pre-planning enquiry is awaited, although Matthew has indicated that there is no objection to the proposed development from the information submitted.

I trust this information is sufficient for the purposes of the planning application and please do not hesitate to contact me should you have any further questions or queries.

We will submit the expected further correspondence from the EA to you when available.



RSK Environment Ltd
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Yours Sincerely,

Catherine Anderson MSc
Environmental Consultant
RSK Environment Ltd
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<mailto:canderson@rsk.co.uk>
Direct Line: 01454 227575

Enc.

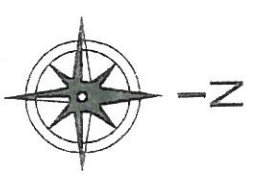
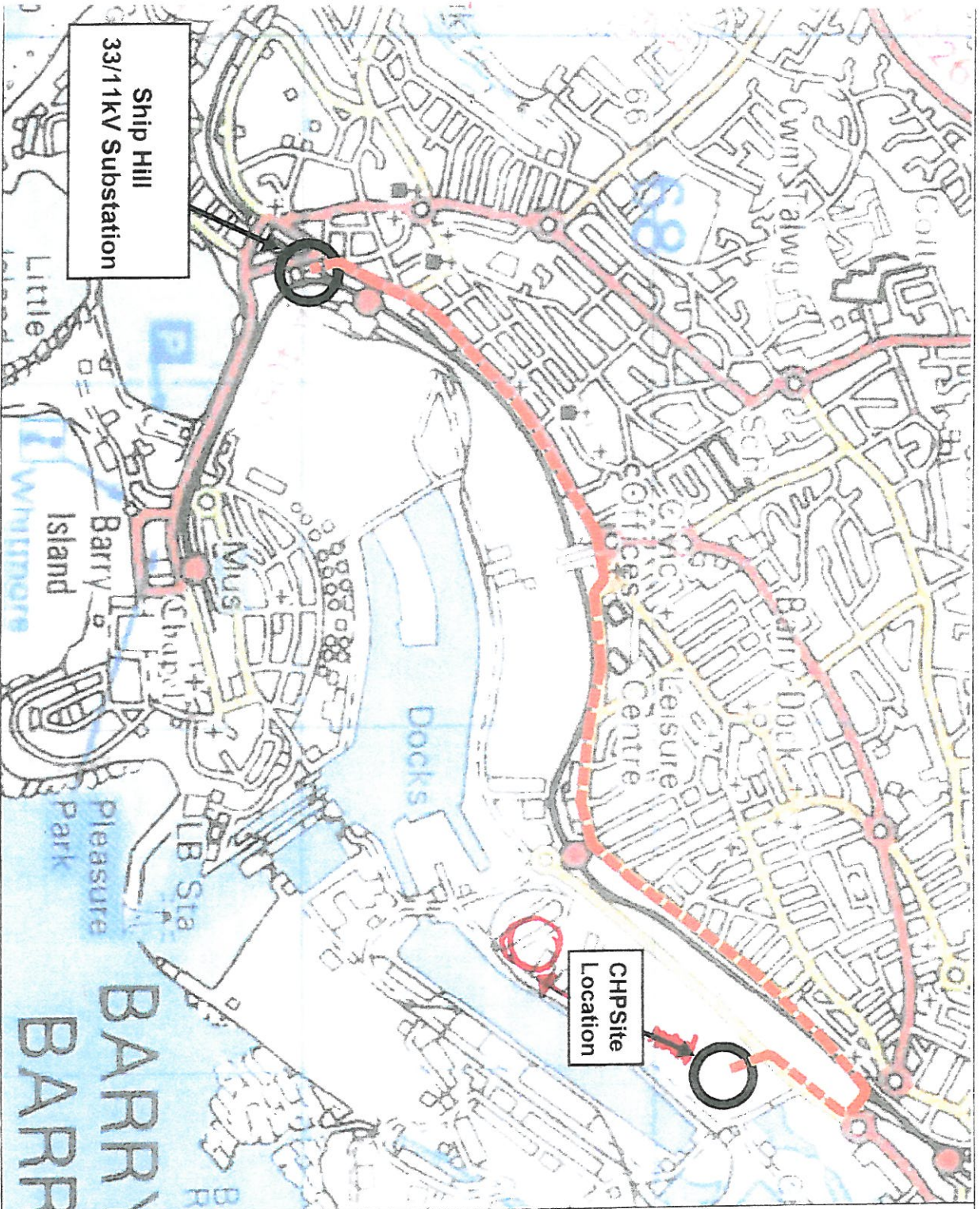
Annex A: Topographic Survey and Cross Sections

Annex B: EA Correspondence, including EAW Flood Data and Welsh Assembly Government Development Advice Map (DAM) of TAN15 zones



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516



Scale: not to scale

Drawn: J. Davies Date: 09/01/08

Drawing No.: 2007-271107-03

Cell Site number: *

Title:
**PROPOSED
CABLE ROUTE**

Site Name and Address
**Barry
South Wales**

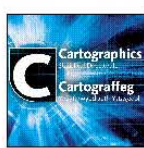
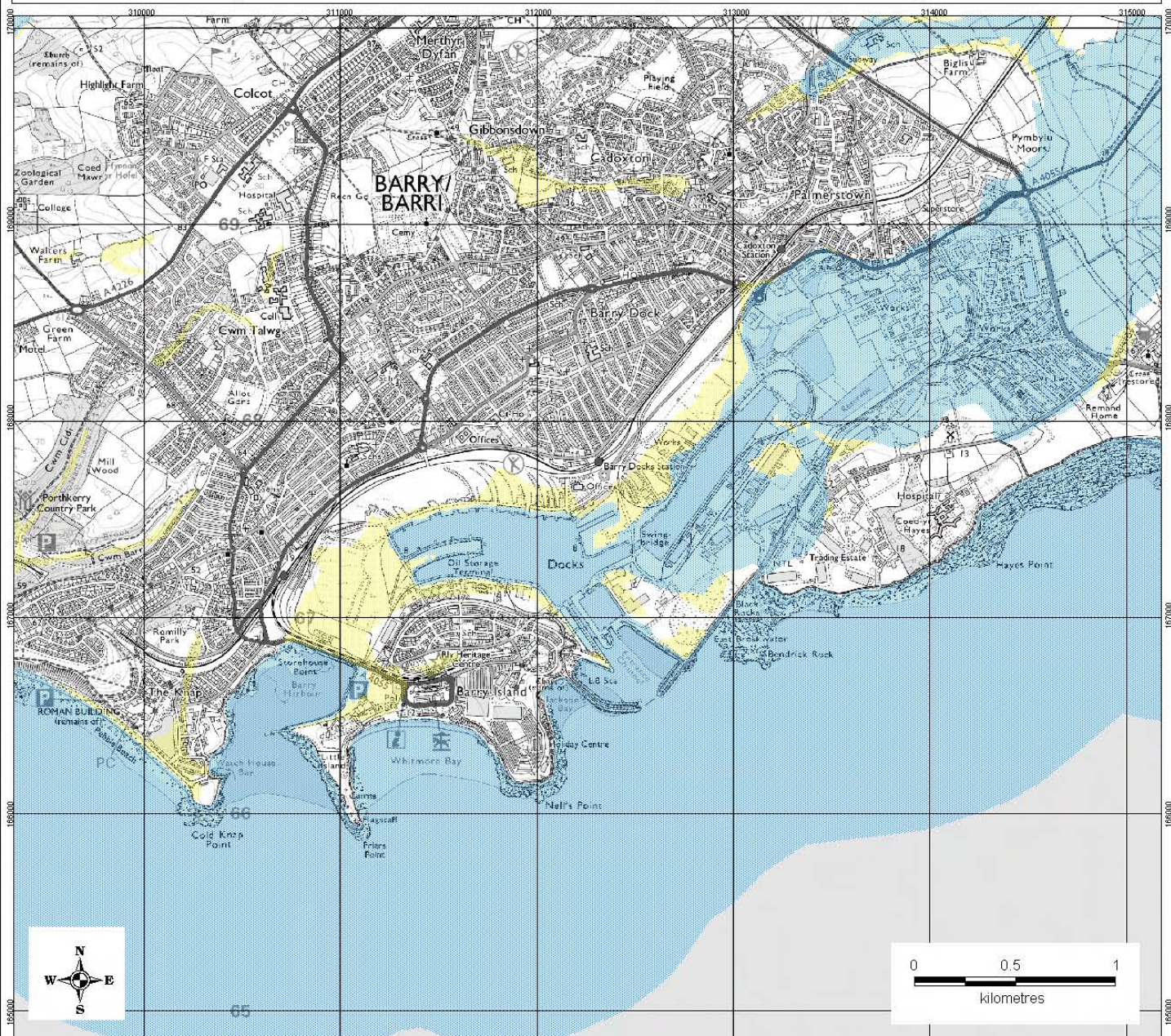
**DNO
CONSULTING
LTD.**

2nd Floor, 2007-271107-03
 2 Charlwood Court
 Newport Street
 Swindon
 tel: 0870 770 7728

LEGEND:

— UNDERGROUND CABLE ROUTE

TAN15 Development and Flood Risk: Development Advice Map ST16NW



- Zone A: Considered to be at little or no risk of fluvial or tidal/coastal flooding
 - Zone B: Areas known to have been flooded in the past
 - Zone C1: Served by significant infrastructure, including flood defences
 - Zone C2: Without significant flood defence infrastructure
- Zones C1 & C2 based on Environment Agency's Extreme Flood Outline ($\geq 0.1\%$ - River, Tidal or Coastal)

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 Mae atgynhyrchu heb ganiatâd yn torri hawlfraint y Goron a gall hyn arwain at erlyniad neu achos sifil. Cynulliad Cenedlaethol Cymru - Rhif trwydded: 100017916

Rob Domeney

From: Catherine Anderson
Sent: 24 June 2008 10:30
To: Parry, Matthew; mike.walsh@environment-agency.gov.uk
Subject: Barry Sunrise CHP Plant
Attachments: EA response.pdf; P1580.dwg; P1580_Sections.dwg; barry location.pdf; Barry_ST16NW.jpg

Matthew/Mike

Please find attached the following:

- * Location plan
- * DAM map;
- * Topographic survey and cross sections; and
- * EAW flood level data.

The application is for a CHP plant in Barry Docks and from the DAM is located within a zone B. However from the EAW flood map there is no underlying Q200 or Q1000. In addition, a letter from Kayna we found on the planning register states that there has been no history of flooding to an adjacent development and the EAW had no objection to the development in relation to flood risk.

We have undertaken a topographic survey of the area which shows levels to be 7.83m AOD nearest the dock rising to 9.4m AOD to the north of the site. Looking at the EAW level data, it is stated that no levels are available for the Barry area, but extrapolating the levels from the Cardiff and Porthcawl data provided would put the Q200 at approximately 7.55m AOD and Q1000 at 7.85m AOD. However this data is now over 10 years old.

This is not an exact science and I would appreciate your view on this especially when other adjacent sites have been identified as being not at risk from flooding. The intention is to raise the site approximately 300-600m to make it more level with the north of the site anyway so would this be adequate mitigation for a site in zone B?

Your comments would be most beneficial to this project so that we can progress the site appraisal.

Kind Regards
Catherine

Catherine Anderson
Environmental Consultant

RSK Environment Ltd
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A member of the **RSK Group plc**

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04/07/2008

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creating a better place



Asiantaeth yr
Amgylchedd Cymru
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Agency Wales

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RSK Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Ein cyf/Our ref: SAF12782

Eich cyf/Your ref: 080506CB027

Dyddiad/Date: 22nd May 2008

Dear Ms Nowak

Re: Flood Risk and Drainage Assessment - Barry, Viaduct Road CF63 4AB

Thank you for your enquiry with regards to obtaining flood level information for a site in Barry. Please find attached and below information that has been provided by our Flood Risk Mapping Team that should answer your enquiry in full.

The Flood Map consists of a combination of detailed localised flood risk mapping studies, supplemented with national generalised modelling. In the absence of any localised study for the area, the flood extents shown in **Figure 1** are from generalised modelling only. These have been derived from two components; a 3D ground level map of England and Wales (referred to as the Digital Terrain Map or 'DTM') and a 2D flow / tidal modelling component.

In **Figure 1**, the risk from flooding is predominantly tidal. These tidal extents have been produced using stillwater tide levels that are based upon Dixon, M.J. and Tawn, J.A. (1997) "Extreme Sea Levels at the UK A Class Sites: Optimal Site by Site Analyses and Spatial Analyses" - Proudman Oceanographic Laboratory, Internal Document No. 112. They do not take into account any wave action or climate change, and are based for the year 1997.

Tide levels are available for Cardiff (approx NGR ST 18030, 74612) and Porthcawl (approx NGR SS 78544, 79401). The predicted levels are as follows:

CARDIFF

0.5% (YEAR 1997) = 8.17mAOD

0.1% (YEAR 1997) = 8.40mAOD

PORTHCAWL

0.5% (YEAR 1997) = 7.03mAOD

0.1% (YEAR 1997) = 7.25mAOD

We are not aware of any historic flooding to the site.

I hope that this information is of use to you. Please feel free to contact me on 029 2024 5236 if you require further information.

Kindest Regards

Darren Jones
External Relations Officer

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