

Appendix 6.6 Rare Plant Mitigation Strategy

BARRY WATERFRONT CONSORTIUM

THE QUAYS

CORKY-FRUITED WATER-DROPWORT & CHILDRING PINK MITIGATION STRATEGY

31 JULY 2013



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THE QUAYS

CORKY-FRUITED WATER-DROPWORT
& CHILDIRG PINK MITIGATION STRATEGY

DOCUMENT REF: E0811601 – Doc 09 – 31 JULY 2013

Issue	Revision	Stage	Date	Prepared by	Approved by	Signed
1	-	Draft for review	02 July 2013	Annabelle Phillips	Dr Matthew Watts (Director)	
2	Minor amendments to strategy	Draft for review	24 July 2013	Annabelle Phillips	Dr Matthew Watts (Director)	
3	-	Final draft	24 July 2013	Annabelle Phillips	Dr Matthew Watts (Director)	
4	Minor amendments following feedback from LPA	Final	31 July 2013	Annabelle Phillips	Dr Matthew Watts (Director)	

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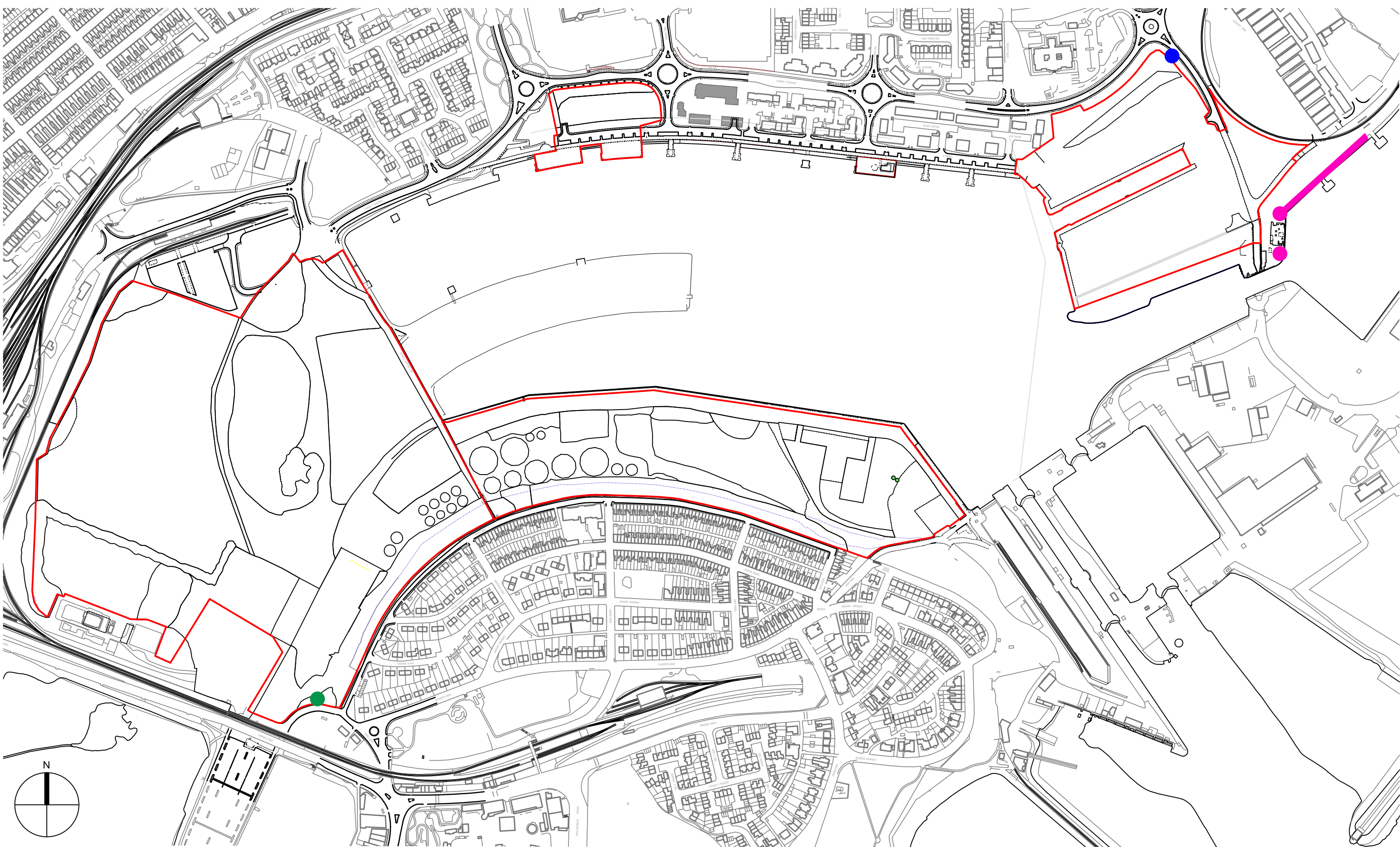
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Appendices

- Appendix I Site location plan
- Appendix II Route of proposed access road

1.0 INTRODUCTION

- 1.1 Soltys Brewster Ecology were commissioned to devise a mitigation strategy for a number of rare plants which are associated with the Quays development in Barry. The Quays development is spread over approximately 41ha of land located around the former dock area of Barry Waterfront. Construction at the site is to be undertaken through a series of phases, commencing with site preparation for Phase 1 from summer 2012 in the area known as West Pond (see location plan in Appendix I).
- 1.2 Surveys undertaken at the site in 2008 and 2011 identified the site as supporting a mosaic of habitats dominated by semi-improved grassland, early successional and ruderal vegetation, scrub and bare ground. A number of rare or notable plants were found within or immediately adjacent to the development footprint during surveys undertaken at the site in 2008, including Childing Pink *Petrorhagia nanteuilim*, Corky-fruited Water-dropwort *Oenanthe pimpinelloides* and Corn Parsley *Petroselinum segetum* (see Figure 1 for locations). Targeted update surveys for these plants were undertaken in July and August 2012 and March 2013.
- 1.3 Outline Planning Condition 28 is of relevance to the mitigation strategy for rare plants, including
- 28 No development shall commence, on the relevant phases of development, until full details of a translocation method and management and monitoring scheme for Oenanthe pimpinelloides and Petroselinum segetum and protection of Petrorhagia nanteuilim shall be submitted to and approved in writing with the Local Planning Authority and the development shall be implemented thereafter in accordance with the approved scheme, unless any variations are agreed in writing with the Local Planning Authority.*
- 1.4 Childing Pink is listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) which affords it full protection. It is also Nationally Rare and Vulnerable (Cheffings & Farrell, 2005). Childing Pink is found on land owned by Associated British Ports (ABP) directly adjacent to the development site at East Quay (see Figure 1). Surveys at the site in 2008 recorded approximately 250 plants, with approximately 150 plants recorded during update surveys undertaken in 2012.
- 1.5 Corky-fruited Water-dropwort, though not an uncommon plant in a national context, is known to be very rare in South Wales (Preston et al., 2002) and is not listed in the Flora of Glamorgan (Wade et al., 1994). A small population of Corky-fruited Water-dropwort (approximately 10 flowering individuals) were recorded within an area of poor semi-improved grassland at West Pond in 2008 (see Figure 1). Targeted surveys for



Key:

- Childing Pink location 2012
- Corky-Fruited Water-dropwort location 2013
- Corn Parsley location 2008
- Site boundary

<p>o client/project Barry Waterfront Consortium The Quays, Barry</p>	<p>o drawing Figure 1. Rare Plant Location Plan</p>	
<p>o drawing no. E0811601/Doc 09/Fig 1</p>	<p>o revision *</p>	<p>o scale NTS @ A3</p>
<p>o drawn AP</p>	<p>o date Jul 2013</p>	

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this plant undertaken in summer 2012 did not find any flowering/ fruiting plants present, although surveys undertaken in March 2013 identified approximately 20-30 individual plants.

- 1.6 A small number of Corn Parsley plants were noted on a road verge on the western boundary of East Quay in 2008 (for location see Figure 1). Wade *et al.* describe Corn Parsley in Glamorgan as 'rare, confined to a few sites in the southern Vale'. It is not considered to be rare or threatened in a national context, although it is increasingly uncommon. This species was not found during surveys conducted in 2012 and is thought likely to have become extinct in this location due to frequent mowing of the road verge. As such this species is no longer a consideration in terms of development at the site.
- 1.7 Mitigation strategies and management plans for the whole site were developed and agreed with the local authority in 2012 (SBE, 2012a-d). This strategy should be read in conjunction with these documents to provide a comprehensive review of the mitigation and management proposed as part of the development.

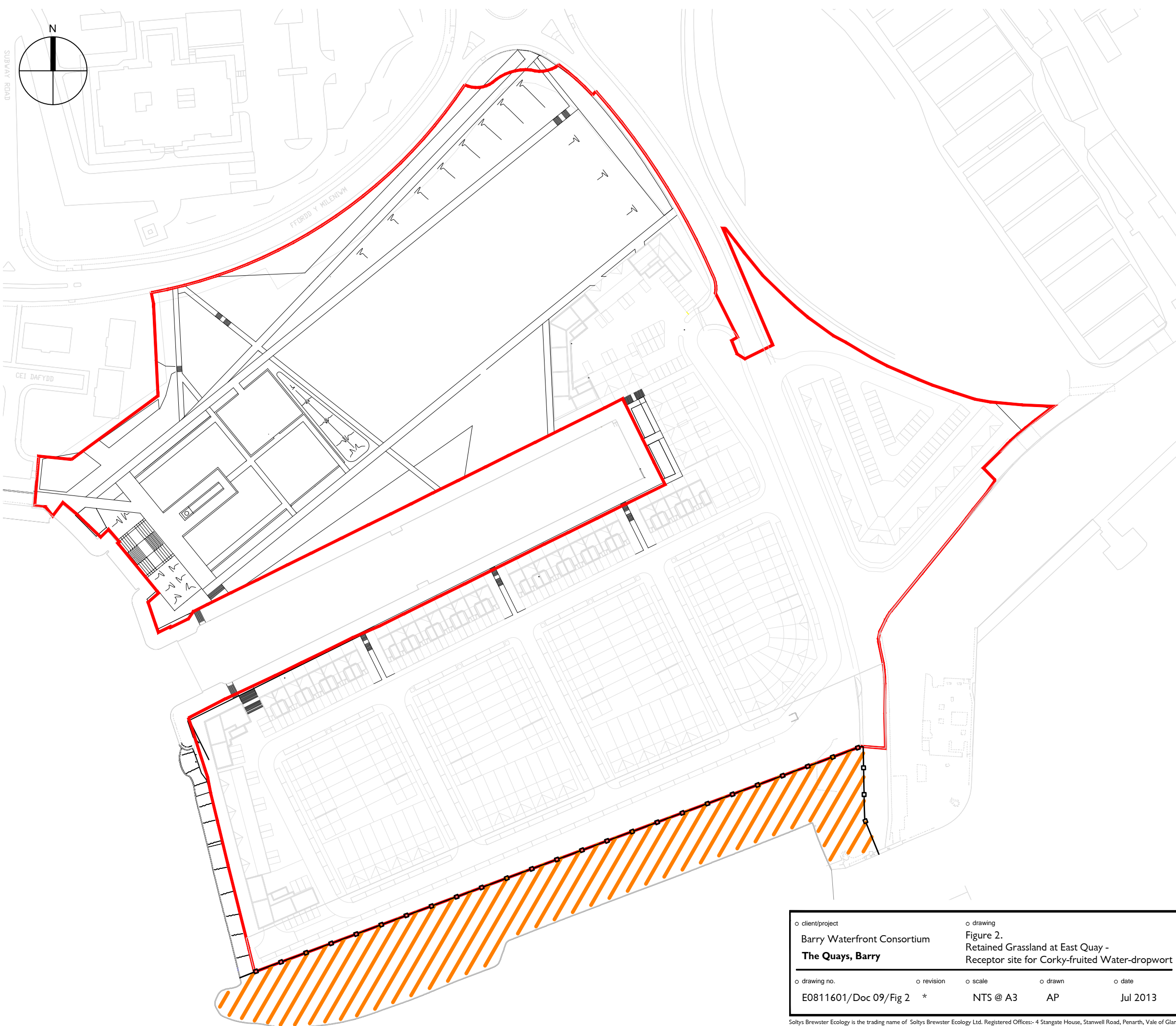
2.0 CORKY-FRUITED WATER-DROPWORT TRANSLOCATION STRATEGY

Survey Results and Location


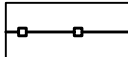
- 2.1 Approximately 10 Corky-fruited Water-dropwort plants were identified on the site during surveys undertaken 2008. Subsequent surveys undertaken in the summer of 2011 and July 2012 did not find any plants present or any evidence to suggest the plant persisted at the site. However, an update survey undertaken in early March 2013 identified approximately 20-30 plants located in two small areas (approximately 0.5m²) within the area shown in Figure 1.
- 2.2 An access road is required through the area that currently supports Corky-fruited Water-dropwort from late July 2013 (for location Appendix II). As such the Corky-fruited Water-dropwort will require moving prior to any works within this area.


Receptor site

- 2.3 The receptor site identified for Corky-fruited Water-dropwort includes the area of semi-improved neutral grassland at East Quay which has been identified for retention and management to encourage use by ground nesting birds (for location see Figure 2). The receptor site supports semi-improved neutral grassland which is similar in structure and species composition to the area in which Corky-fruited Water-dropwort is currently found. The receptor site is currently unmanaged, although is subject to localised grazing by rabbits (Plate 1).



Key:

-  Receptor site for Corky-fruited Water-dropwort
-  Fence with lockable gates

o client/project Barry Waterfront Consortium The Quays, Barry	o drawing Figure 2. Retained Grassland at East Quay - Receptor site for Corky-fruited Water-dropwort			
o drawing no. E0811601/Doc 09/Fig 2 *	o revision *			o scale NTS @ A3
		o drawn AP	o date Jul 2013	4 Stangate House Stanwell Road Penarth Vale of Glamorgan CF64 2AA Telephone:- + 44(0) 29 2040 8476 Facsimilie:- + 44(0) 29 2040 8482 e-mail:- enquiry@soltysbrewster.co.uk

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- 2.4 The land associated with the receptor site is under the ownership of ABP and is subject to a Section 106 agreement which allows for its retention and management associated with ecological mitigation works as part of the Quays development. Management of the receptor site is discussed in Section 3.0 below.
- 2.5 ABP have agreed to the area being used as a receptor site for the plant. However, a legal agreement is required to be in place before the plant can be translocated to the receptor site which is expected to take up to 2 months to finalise (i.e. anticipated September 2013).

Translocation strategy

- 2.6 During the survey undertaken in 2012, no flowering heads were noted and the Corky-fruited Water-dropwort does not appear to be flowering/ setting seed. As such the collection and sowing of seed is not considered a viable option. However, as a perennial species it should stand a good chance of survival following whole-plant translocation to the receptor site. The access road is required to be constructed from late July/ early August 2013 and as such the plants will be moved into temporary storage containers in late July/ early August 2013 (immediately prior to construction of the access road). Once the legal agreement has been finalised with ABP, the plants will be transferred to the final receptor site at East Quay in late summer/ early autumn 2013.
- 2.7 The population of Corky-fruited Water-dropwort is concentrated within two relatively small areas of turf (approximately 0.5m²), and these will be dug up by hand (using a spade). To minimise disturbance to the plants and their roots, the plants will be dug up en masse to a minimum of 1 spade depth (c.300mm) to ensure that the roots are disturbed as little as possible. Any Ivy *Hedera helix* that is rooted in the turfs around the plants will be removed to prevent it smothering the plants or establishing within the receptor site.
- 2.8 The turfs containing the plants will be transferred into temporary storage containers (plastic containers with drainage holes drilled into the base - minimum size 70L). Before introducing the turfs, soil from the area in which the plants are currently located will be placed into the base of the container to a minimum depth of 150mm, with the turf placed on top and gently compacted to ensure good contact between the turf and the underlying soil. Following planting within the containers, the turfs will be immediately and thoroughly watered using fresh water. The planting of the turfs within the containers is to be overseen by the project ecologist.
- 2.9 The plants will be thoroughly watered a minimum of once every 2 days using fresh water during the entire period the plants are kept in containers. This will be increased to once a day during periods of particularly dry/ hot weather. The containers will be stored in a secured location in close proximity to the site compound. The on-going watering of the plants will be the responsibility of the Barry Waterfront Consortium and will be implemented via the project manager.

Plate 1. Receptor site (retained grassland at East Quay, photo taken December 2011)



- 2.10 Once the legal agreement concerning the receptor site has been finalised (expected to be by late September) the plants will be carefully transported and immediately planted in holes prepared within the receptor site at East Quay. Soil will be back-filled around the plants and lightly compacted to ensure good contact between the plants and the underlying soil. The plants will be thoroughly watered immediately following planting.
- 2.11 For the first 2 weeks following translocation to East Quay, and in days with no/ low rainfall (i.e. brief, light showers as opposed to heavy/ prolonged rainfall), the plants will be watered once a day to ensure they do not dry out and to aid establishment at the receptor site. From weeks 2-4 following translocation, the plants will be watered twice a week during periods of no/ low rainfall. If plants appear to be drying out, the frequency of watering will be increased as required. The final translocation of the plants to East Quay, preparation and selection of the receptor area at and watering during the first 4 weeks will be undertaken by the project ecologist.

3.0 MANAGEMENT FOR CORKY-FRUITED WATER-DROPWORT

- 3.1 On-going management of the site will be the responsibility of The Barry Waterfront Consortium. Management of the areas associated with Corky-fruited Water-dropwort will be undertaken for a minimum of 20 years in accordance with the submitted interim and post-development management strategies previously devised and agreed with the Vale of Glamorgan (Soltys Brewster 2012 a-d). As East Quay is not scheduled for development until ca. 2020, the interim management strategy for all retained grassland involves an annual cut in September/October with all arisings removed.
- 3.2 The retained grassland to the south of East Quay will be maintained as a semi-improved sward with the aim of attracting ground nesting bird species such as a Skylark and Meadow Pipit (SBE, 2012d) as well as maintaining the population of Corky-fruited Water-dropwort. The area will be securely fenced out from the adjacent residential development to prevent access by members of the public, both to limit disturbance to vegetation/ nesting birds and on health and safety grounds associated with the dock edge along the southern boundary.
- 3.3 To maintain a grassland sward suitable for Corky-fruited Water-dropwort and for use by ground nesting birds, the grassland will be maintained at a height of c.200- 500mm. To achieve this, and prevent scrub encroachment upon the grassland, the grassland will be cut each year in September/ October to a height of c.200mm. Cutting in September/ October will leave the area undisturbed over the spring/ summer for ground nesting birds and will allow the Corky-fruited Water-dropwort to flower and set seed over the summer. All cuttings/ arisings will be removed and disposed of/ composted off-site to prevent nutrient enrichment and encourage floral diversity.
- 3.4 Encroaching scrub will be cut back to prevent smothering of the plants, and will be cut back each year as required if scrub cover exceeds 5-10%. All cutting of scrub and grassland will be undertaken outside the breeding bird season which typically runs from March to August inclusive (i.e. cutting possible between September and February).
- 3.5 Disturbance/ scarification of small areas the site will also be undertaken annually to open up the sward and create bare ground which the plants can colonise. 15 small areas will be scarified within the retained grassland each year, with each area being approximately 2m x 2m. Scarification will be undertaken using a scarifying rake or similar and will result in at least 75% bare ground within each 2m x 2m area. Scarification is to be undertaken on a rotational basis, with different areas scarified each year. These works are to be undertaken between September and February, after the flowers have set seed and prior to germination in the spring.

3.6 Prior to the commencement of any construction works adjacent to the retained grassland area the development footprint will be clearly demarcated using appropriate fencing (Heras or similar) to prevent encroachment into this area. During all construction works vehicles will not be tracked over the area and the area will not be used for storage or for any other purpose to prevent damage to the areas. Following completion of construction, a permanent fence is to be erected along the boundary of the land owned by the Consortium/ ABP to prevent access by members of the public, both to limit disturbance to nesting birds/ vegetation and on health and safety grounds associated with the dock edge along the southern boundary.

4.0 PROTECTION OF CHILDIRG PINK

4.1 Childing Pink is found in close proximity to the development site boundary (see Figure 1) on land owned by ABP. This area is unlikely to be affected by any development works. However, as a precaution and prior to the commencement of any construction works adjacent to the area which support Childing Pink, the development footprint will be clearly demarcated using appropriate fencing (Heras or similar) to prevent encroachment into this area. During all construction works vehicles will not be tracked over the area and the area will not be used for storage or for any other purpose associated with the development to prevent damage to the areas.

5.0 MONITORING

5.1 Monitoring for Corky-fruited Water-dropwort and Childing Pink will be undertaken in years 2, 5, 10 and 20 following implementation of the mitigation strategy in 2013 (monitoring to be undertaken in years 2015, 2018, 2023 and 2033). All monitoring will be undertaken by a suitably qualified ecologist.

5.2 Monitoring visits will be undertaken between July and August (when the plants are in flower and should be easily visible within the sward). Monitoring visits will record the number of Childing Pink and Corky-fruited Water-dropwort plants present, map their location and assess the condition of the habitat and the success of the current management regime. Monitoring visits will also assess grazing pressure by rabbits. Rabbits are likely to assist with the maintenance of the short sward preferred by both Childing Pink and Corky-fruited Water-dropwort. However, excessive/ selective grazing of the plants concerned may be detrimental to the maintenance of the populations in the long-term. If Corky-fruited Water-dropwort is not visible during surveys undertaken in July/ August, repeat surveys will be undertaken in March the following year (when the basal rosettes should be most visible).

- 5.3 Following the monitoring visits a brief report including a review of the current management regime will be prepared and submitted to the local planning authority.

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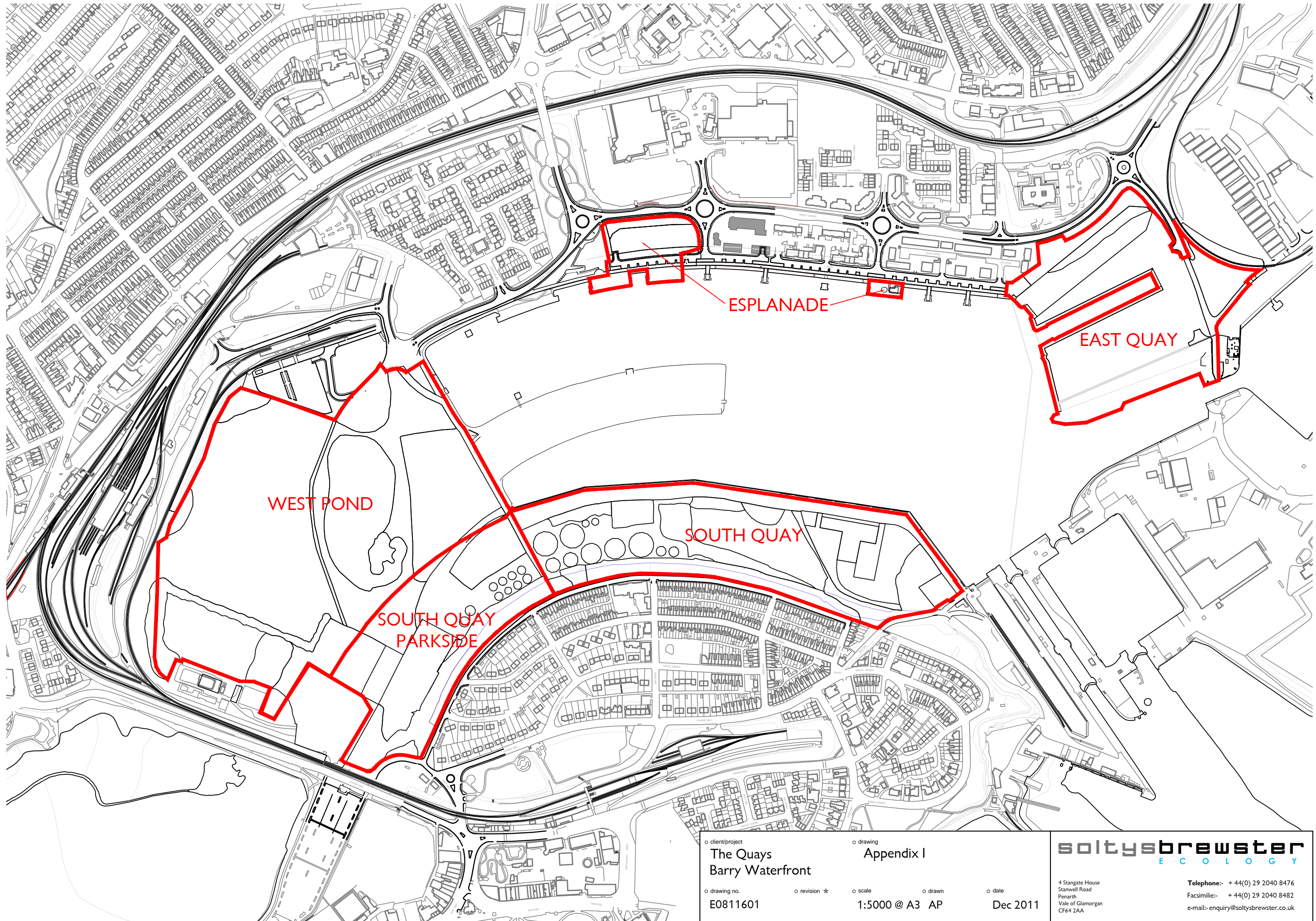
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APPENDIX I SITE LOCATION PLAN



client/project
**The Quays
Barry Waterfront**

drawing
Appendix I

drawing no.
E0811601

revision *

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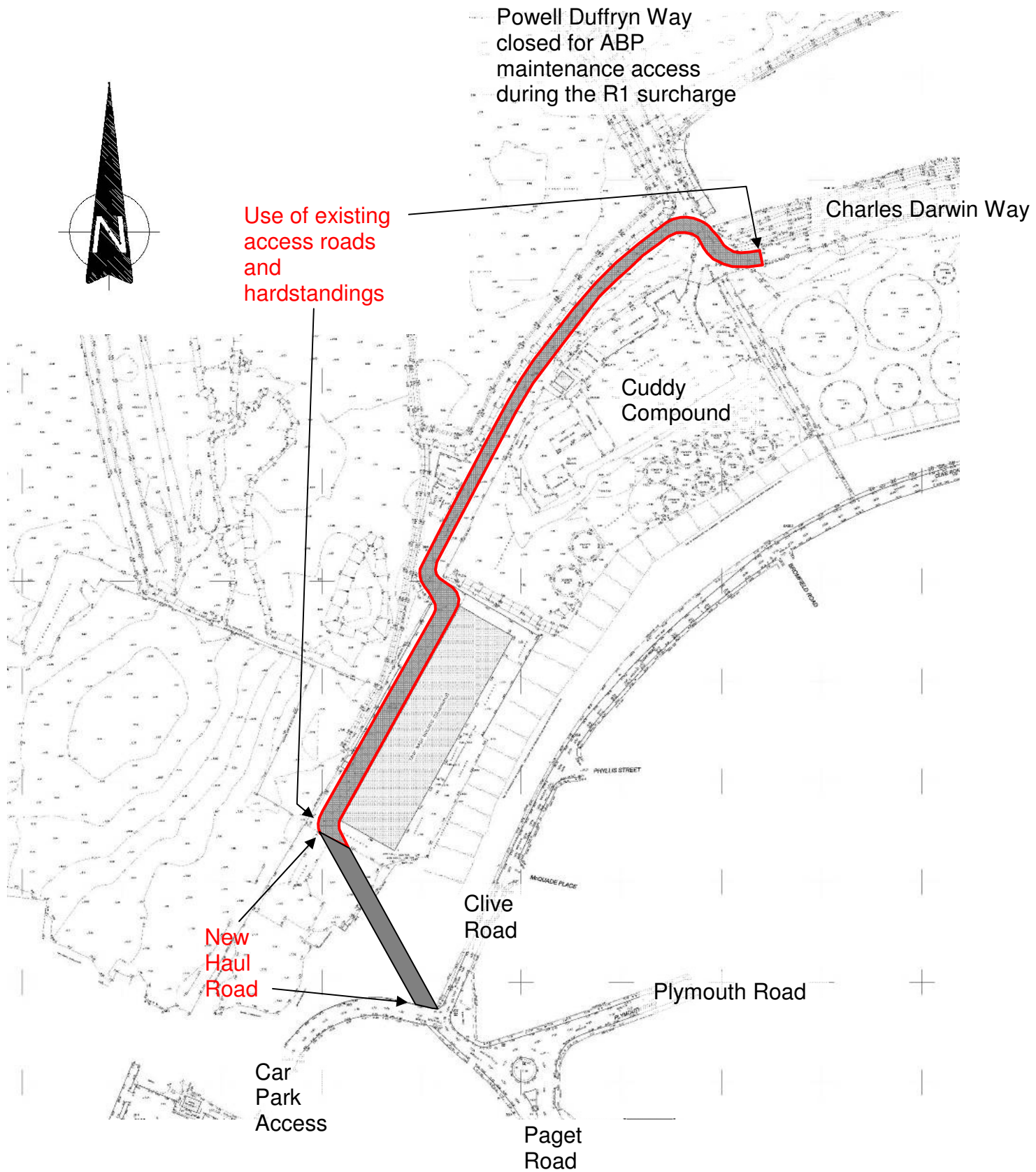
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APPENDIX II ROUTE OF PROPOSED ACCESS ROAD



THE QUAYS, BARRY WATERFRONT

ABP MAINTENANCE ACCESS TO SOUTH QUAY

(Temporary access provision off Barry Island during the surcharging of Zone R1)