ITEM # 2

Auburn City Council
2015SYW165 - DA301/2015
3 Burroway Rd
Wentworth Point

Council Assessment Report & Appendix B

JOINT REGIONAL PLANNING PANEL
(Sydney West Region)

JRPP No	
DA Number	**301/2015**
Local Government Area	**Auburn City Council**
Proposed Development	**Staged development proposal for an overwater rowing club facility**
Street Address	**Pt Lot 2 DP 859608, Pt Lot 2 Burroway Road, WENTWORTH POINT**
Applicant/Owner	**RMS C/- Urban Growth**
Number of Submissions	**Nil**
Regional Development Criteria (Schedule 4A of the Act)	**CIV$ 13,754,369.00**
List of All Relevant s79C(1)(a) Matters	• List all of the relevant environmental planning instruments: s79C(1)(a)(i) - ***SEPP 55 – Remediation of Land*** - ***SEPP (Infrastructure) 2007*** - ***SREP 24 – Homebush Bay Area*** - ***SREP (Sydney Harbour Catchment) 2005*** • List any proposed instrument that is or has been the subject of public consultation under the Act and that has been notified to the consent authority: s79C(1)(a)(ii): - ***N/A*** • List any relevant development control plan: s79C(1)(a)(iii): - ***Sydney Harbour Foreshores and Waterways Area DCP 2005*** • List any relevant planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F: s79C(1)(a)(iv): - ***N/A*** • List any coastal zone management plan: s79C(1)(a)(v) - ***N/A*** • List any relevant regulations: s79C(1)(a)(iv) eg. Regs 92, 93, 94, 94A, 288 - ***N/A***
List all documents submitted with this report for the panel's consideration	**1. Assessment Report + Appendix B** **2. Conditions schedule** **3. Copy of contamination report/SAR/SAS** **4. Legal advice – Minter Ellison**
Recommendation	**Approval**
Report by	**FO**

Assessment Report and Recommendation Cover Sheet

AUBURN CITY COUNCIL

DA-301/2015 Pt Lot 2 Burroway Road, WENTWORTH POINT

SUMMARY

Applicant	R M S C/- Urban Growth
Owner	Maritime Authority of NSW
Application No.	DA-301/2015
Description of Land	Pt Lot 2 DP 859608, Pt Lot 2 Burroway Road, WENTWORTH POINT
Proposed Development	Staged development proposal for an overwater rowing club facility
Site Area	2716.00m^2
Zoning	W1 - Maritime Waters
Disclosure of political donations and gifts	Nil disclosure
CIV	$ 13,754,362.00
Issues	Permissibility of some uses

1. Recommendation

a. That Development Application No. DA-301/2015 for Staged development proposal for an overwater rowing club facility on land at Pt Lot 2 Burroway Road, WENTWORTH POINT be approved subject to the following appropriate conditions listed in the attached schedule.

2. Background

Wentworth Point Urban Activation Precinct

The Wentworth Point Urban Activation Precinct (WP-UAP) was announced by the Minister for Planning and Infrastructure in 2013. The site was nominated as an Urban Activation Precinct based on its proximity to the Parramatta and Sydney CBD's as well as its potential to connect with public transport. The site's proximity to existing parkland, Sydney Olympic Park and the Parramatta River were also key considerations in nominating the site.

The Wentworth Point UAP covers approximately 18.6 hectares of land area and is currently under the ownership of Roads and Maritime Services. The Department of Planning and Infrastructure prepared a proposal to redevelop the precinct for various land uses including:

- high density residential uses
- a new school with 18 classrooms
- community facilities
- maritime facilities that may include dry boat storage and a rowing/kayaking facility on the western side of Homebush Bay
- small scale supporting retail and commercial uses
- open space including a 3.9 hectare peninsula park with foreshore paths along the river and the bay, a network of pocket parks and a new maritime plaza.

The WP-UAP was rezoned by the Department of Planning and Infrastructure on 4 July 2014 via an amendment to the Auburn Local Environmental Plan 2010 and Wentworth Point Precinct Development Control Plan 2014 to permit the range of land uses outlined above. A range of

heights and densities across these sites including residential towers of up to 88 metres (25 storeys) with densities up to 2.6:1 was also proposed.

As a result of the rezoning of the WP-UAP in July 2014, the principal planning controls affecting the site are the Auburn LEP 2010 and the Wentworth Point Precinct Development Control Plan 2014. It is estimated that the rezoning will provide up to 2300 new dwellings within the precinct.

PL-30/2015

A pre-lodgement meeting was held between Council staff and the applicant on 14 July 2015 to discuss the proposal for an overwater rowing club facility located in the Homebush Bay. The proposal was generally considered to be satisfactory however required various matters to be addressed; including concerns surrounding permissibility of the use, prior to the formal lodgement of the development application.

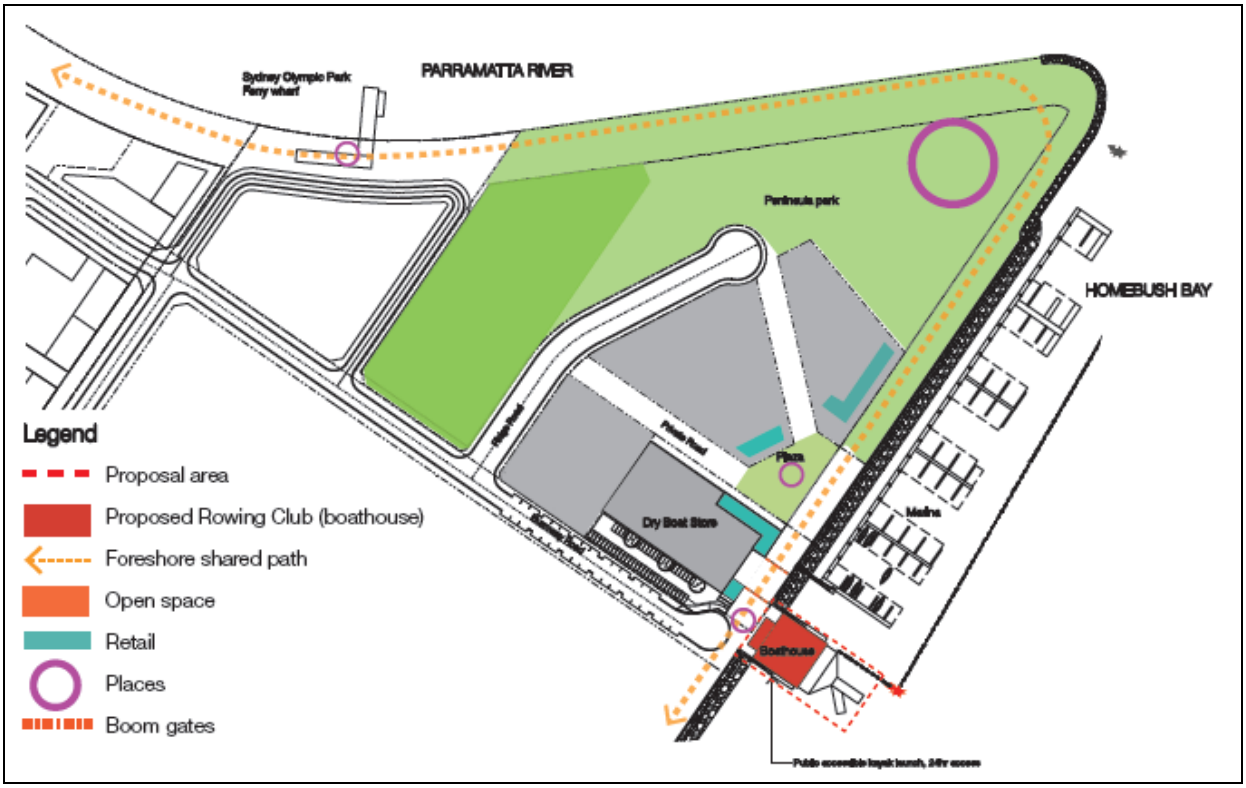
3. Site and Locality Description

The subject site relevant to this application relates to part of Homebush Bay and is located to the East of Burroway Road and at the Western edge of the foreshore on land below the Mean High Water Mark.

As indicated by the applicant's statement, the total area covered under this application for the purposes of a new rowing club facility comprises of approximately 2,716 square metres in area. The land at and below the MHWM is identified as being Crown Land and is administered by RMS whilst the adjoining land above the MHWM, is currently under the ownership of RMS.

The site is strategically located close to the geographic centre of the metropolitan Sydney region approximately 12km west of the Sydney CBD and 6km east of the Parramatta CBD. The Wentworth Point Precinct which extends south currently accommodates industrial uses which is undergoing transformation into a growing high density residential community.

An indicative location of the proposed rowing club facility is identified in the plan below:



4. Description of Proposed Development

Council has received a staged development application for an overwater rowing club facility.

Specifically, approval is sought for a concept proposal on the building envelope, use and parking allocation associated with the proposed use. Subsequent applications will be required to be lodged for the construction of the development which will be conditioned accordingly.

The area of the site consists of 2,715.75m^2 with dimensions of 76.5m in length by 35.5m in width.

The proposed building envelope footprint covers a total of 1,498m^2 and is proposed to be situated below or from the boundary of the foreshore (i.e. from the Mean High Water Mark). The maximum height of the building envelope for the proposed rowing club facility is 16.3m inclusive of the plant and lift overrun and is proposed to comprise of three (3) levels.

A maximum Gross Floor Area (GFA) of 3,819m^2 is also proposed for the rowing club facility with the following uses including:

Function/activity	Area
Ground level:	
Core entry foyer, 3 boats sheds for rowing boat storage/wash down area.	247.5m^2
Level 1:	
Core entry foyer, club room, club gym and club restaurant/bar and outdoor covered deck area.	347.5m^2
Level 2:	
Core entry foyer, Public/Commercial Function Room and outdoor open observation deck area.	916.5m^2
Total	**3,819m^2**

All parking for the proposed facility is to be located on the adjacent site currently known as Lot 204 which will comprise of 100 spaces to accommodate the demand for parking associated with the development.

5. Referrals

Internal Referrals

Development Engineer

The development application was referred to Council's Development Engineer for comment who advised that the subject proposal is generally satisfactory subject to specific recommended conditions of consent.

Environment and Health Officer

The development application was referred to Council's Environment and Health Officer for comment who advised that the subject proposal is generally satisfactory subject to specific recommended conditions of consent.

External Referrals

The application was referred to the following approval bodies for comment/advice:

a) Foreshore and Waterways Planning Advisory Committee

On 16 October 2015, Council referred the application to the Foreshore and Waterways Planning and Advisory committee for consideration and comment in accordance with Clause 29 and Schedule 2 of the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005; as the development is considered to be defined as a recreational or club facility.

To date, Council has yet to receive a formal response in relation to the above referral. In this regard, concurrence may be assumed.

b) Department of Primary Industries (Fisheries NSW)

To ensure compliance with the Fisheries Management Act 1994, the application was referred to Fisheries NSW for comment. On 18 November 2015, Council received formal comments from DPI recommending advisory conditions to be imposed on any consent during the construction or demolition process to minimise impacts on aquatic environment.

c) Department of Primary Industries (NSW Office of Water)

Whilst it is noted that integrated provisions under s.89 of the EP&A Act 1979 do not apply to development applications by the Crown, it is considered good practice to refer the subject application to the NSW Office of Water for their information and comment for precautionary means as the subject land adjoins the river foreshore - Homebush Bay.

In this instance, Council referred the application to NOW on 16 October 2015. To date, Council has received no formal response in relation to the application and as such can assume that no objections are raised in this regard.

6. Crown development application (EP& A Act s88)

Crown Development

The development proposal constitutes development by the "Crown" for the purposes of Division 4 Part 4 of the Environmental Planning and Assessment Act as detailed below:

Section 88(1) and 88(2) of the EPA Act relevantly provides the following:

> ***"Crown development application" means a development application made by or on behalf of the Crown.***
>
> and,
>
> ***A reference in this Division to the Crown:***
> ***(a) includes a reference to a person who is prescribed by the regulations to be the Crown for the purposes of this Division*:**

Clause 226(1)(a) of the EPA Regulations provides the following:

> ***The following persons are prescribed for the purposes of Division 4 of Part 4 of the Act (as referred to in section 88 (2) (a) of the Act):***
>
> ***(a) a public authority (not being Council)***

It is noted that the Roads and Maritime Services is a public authority. Given that this application is made on behalf of RMS, as a consequence, the subject development application constitutes a "Crown" development for the purposes of division 4 of the Act as referred to above.

Determination of Crown development applications

In view of the above, it should be noted that Section 89 of the EPA Act precludes a consent authority, including a regional panel, from refusing a Crown development application, except with the approval of the Minister, or from imposing a condition of consent to a Crown development application, except with the approval of the applicant or the Minister.

7. The provisions of any Environmental Planning Instruments (EP& A Act s79C(1)(a)(i))

The proposed development is affected by the following Environmental Planning Policies.

7.1 State Environmental Planning Policy No.55 - Remediation of Land

The requirement at Clause 7 of SEPP 55 for Council to be satisfied that the site is suitable or can be made suitable to accommodate the proposed development has been considered in the following table:-

Matter for Consideration	Yes/No
Does the application involve re-development of the site or a change of land use?	☒ Yes ☐ No
In the development going to be used for a sensitive land use (eg: residential, educational, recreational, childcare or hospital)?	☒ Yes ☐ No

Matter for Consideration	Yes/No
Does information available to you indicate that an activity listed below has ever been approved, or occurred at the site? acid/alkali plant and formulation, agricultural/horticultural activities, airports, asbestos production and disposal, chemicals manufacture and formulation, defence works, drum re-conditioning works, dry cleaning establishments, electrical manufacturing (transformers), electroplating and heat treatment premises, engine works, explosive industry, gas works, iron and steel works, landfill sites, metal treatment, mining and extractive industries, oil production and storage, paint formulation and manufacture, pesticide manufacture and formulation, power stations, railway yards, scrap yards, service stations, sheep and cattle dips, smelting and refining, tanning and associated trades, waste storage and treatment, wood preservation	☐ Yes ☒ No
Is the site listed on Council's Contaminated Land database?	☐ Yes ☒ No
Is the site subject to EPA clean-up order or other EPA restrictions?	☐ Yes ☒ No
Has the site been the subject of known pollution incidents or illegal dumping?	☐ Yes ☒ No
Does the site adjoin any contaminated land/previously contaminated land?	☒ Yes ☐ No
Details of contamination investigations carried out at the site: **The application has been accompanied with a SAR and SAS (0503-1407 and (0503-1407R), prepared by JBS&G, dated 14 January 2016, Rev 1 which concludes that the site can be made suitable to accommodate the proposal.** **Therefore, Council is satisfied that the development is satisfactory with respect to clause 7 of the SEPP and appropriate conditions have been recommended to be included in the consent to ensure compliance.**	
Has the appropriate level of investigation been carried out in respect of contamination matters for Council to be satisfied that the site is suitable to accommodate the proposed development or can be made suitable to accommodate the proposed development?	☒ Yes ☐ No

7.2 Sydney Regional Environmental Plan No. 24 - Homebush Bay Area

The proposed development which relates to an overwater rowing club facility is primarily located in a portion of the Homebush bay on the western edge of the foreshore. As such the relevant objectives and requirements of the SREP 24 are limited to the application and not directly relevant to the proposed development. No significant issues are raised in this regard.

7.3 Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The provision of the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 is the principal planning control that applies to the development proposal.

As previously indicated, the proposed rowing club facility is intended to be located in the Homebush bay (i.e. land below the MHWM) and as such the site is identified as being located within the area affected by the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. The subject area is also identified in the relevant map as being 'land within the Foreshores and Waterways Area' and is located in zone W1 – Maritime Waters in accordance with clause 16 under the relevant plan.

A summary of the relevant provisions applicable to the application is considered in the table below to demonstrate consistency and compliance with the statutory planning controls, whilst a more detailed analysis and comprehensive assessment of the ALEP is discussed further in the compliance table provided in **Appendix B** of this report.

Standard	Proposal	Compliance	Percentage variance
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005			
Cl. 17 **Zone no. W1 – Maritime Waters** a. Preference to protect waters for movement of commercial, public and industrial operations b. To allow development only where demonstrated compatibility with movement of commercial, public and industrial operations c. To promote equitable use of the waterway	Functions of the proposed rowing club facility are considered to be consistent with the objectives of this clause.	Yes	N/A
Cl. 18 **Development control in the waterways** Recreational or club facilities, *means a building or place used exclusively for sporting or leisure activities, whether operated for the purpose of gain or not.*	Proposed uses for the rowing club which includes ancillary or innominate uses such as restaurant/function room are permissible in the zone and therefore consistent with this clause. Refer to further discussions below.	Yes	N/A
Cl. 20 **General - matters for consideration** Applies only to Part 4 – Strategic foreshore sites and Part 5 – Heritage provisions	The subject site or area to which this application relates in not located within the strategic foreshore site or heritage area as per the relevant map. Clauses 20-27 are not relevant in this regard.	Yes	N/A
Cl. 28 and 29 **Foreshores and Waterways Planning and Development Advisory Committee** Referral required under Schedule 2 – Recreational or club facilities	Council has met its statutory obligations. The subject application was referred to the relevant authority for comment. To date, Council has received no response and can assume concurrence in this instance.	Yes	N/A
Cl. 36 **Development on land comprising acid sulfate soils** Applicable to all zones. Consideration of properly prepared acid sulfate soils management plan required.	Yes	Yes	N/A
Cl. 61-63 **Wetland protection** Applies only to wetland protection area as per relevant map.	Subject application is not affected by this clause as it is not identified as being within the wetland protection area as per the relevant map.	Yes	N/A

Based on the compliance table summary above, the proposed rowing club is generally consistent with the planning controls relevant to the site. The matter regarding permissibility and in particular clause 18 of the SREP is further discussed in detail below to demonstrate the suitability of the development with respect to the zoning.

7.3a – cl. 18 Development control in the waterways (SREP Sydney Harbour Catchment) 2005

(1) Except as otherwise provided by this plan, in relation to land within a zone to which a column of the Table to this clause applies:

(a) the development (if any) that may be carried out without development consent is indicated by the letter "P", and
(b) the development (if any) that may be carried out only with development consent is indicated by the letter "Y", and
(c) the development (if any) that is prohibited is indicated by the letter "N".

(2) Despite subclause (1), development not referred to in the Table to this clause may be carried out with development consent, but only if the consent authority is satisfied that the development:

(a) is not inconsistent with the aims of this plan or the objectives of the zone in which it is proposed to be carried out, and
(b) is not inconsistent with any other environmental planning instrument that applies to the land, and
(c) will not otherwise have any adverse impacts.

Table

	W1	W2	W3	W4	W5	W6	W7	W8
Advertisements	N	N	N	N	N	N	N	N
Advertising structures	N	N	N	N	N	N	N	N
Aids to navigation	P	P	P	P	P	P	P	P
Aviation facilities	Y	N	Y	Y	N	N	N	N
Boat launching ramps (Public)	Y	Y	Y	Y	Y	Y	Y	Y
Boat lifts (other than boat lifts for storage of vessels above water)	Y	N	Y	Y	Y	Y	Y	Y
Boat lifts for the storage of vessels above water	N	N	N	N	N	N	N	N
Boat repair facilities	Y	N	Y	Y	Y	Y	Y	Y
Boat sheds (private)	N	N	N	N	N	Y	N	N
Charter and tourism facilities	Y	N	Y	Y	Y	Y	N	N
Commercial marinas	Y	N	N	Y	Y	Y	N	N
Commercial port facilities	Y	N	Y	Y	N	N	N	N
Community facilities	Y	Y	Y	Y	Y	Y	Y	Y
Demolition (other than demolition of a heritage Item)	P	P	P	P	P	P	P	P
Dredging	Y	Y	Y	Y	Y	Y	Y	Y
Flora and fauna enclosures	Y	Y	P	P	P	P	P	P
General restoration works	P	P	P	P	P	P	P	P
Houseboats	N	N	N	N	N	N	N	N
Intertidal dredging	N	N	N	N	N	N	N	N
Maintenance dredging	P	Y	P	P	P	P	P	P
Mooring pens	N	N	N	N	N	Y	N	N
Naval activities	P	P	P	P	P	Y	Y	Y
Private landing facilities	N	N	N	N	N	Y	Y	N
Private landing steps	Y	Y	Y	Y	Y	Y	Y	Y
Private marinas	N	N	N	N	N	Y	N	N
Public boardwalks	Y	Y	Y	Y	Y	Y	Y	Y
Public water recreational facilities	Y	Y	Y	Y	Y	Y	Y	Y

Public water transport facilities	Y	Y	Y	Y	Y	Y	Y	Y
Reclamation works	N	N	N	N	N	N	N	N
Recreational or club facilities	**Y**	Y	Y	Y	Y	Y	Y	Y
Residential development	N	N	N	N	N	N	N	N
Single mooring (other than associated with a commercial marina or a boating industry facility)	P	P	P	P	P	P	P	P
Skids	Y	N	N	N	Y	Y	Y	Y
Slipways	N	N	N	N	N	Y	Y	Y
Swimming enclosures (private)	N	N	Y	Y	N	Y	Y	N
Swimming pools	N	N	N	N	N	N	N	N
Telecommunications facilities	Y	Y	Y	Y	Y	Y	Y	Y
Tourist facilities	N	N	N	N	N	N	N	N
Uses and activities prohibited under the *Control of Naval Waters Act 1918* of the Commonwealth	n/a	n/a	N	n/a	n/a	n/a	n/a	n/a
Water-based restaurants and entertainment facilities	**N**	N	N	N	N	N	N	N
Waterfront access stairs	N	N	N	N	N	N	N	N

Source: Legislation.nsw.gov.au – cl. 18, SREP (Sydney Harbour Catchment) 2005

Concerns were initially raised by Council Officers regarding the permissibility of certain uses proposed for the rowing club which are specifically identified as being prohibited in the zone W1 – Maritime Waters under the SREP. The uses proposed for the rowing club facility which primarily contained a restaurant/function room at levels 1 and 2 was considered by Council at the time to be categorised as a 'Water-based restaurant and or entertainment facility' and as such the applicant was requested to submit additional information to demonstrate otherwise.

Subsequently, the applicant sought independent legal advice on the matter of permissibility and land use categorisation. The legal advice provided by the applicant prepared by Minter Ellison dated 6 January 2016 concluded that:

> Firstly, "the boatshed, restaurant, gym, and function room are all functions which could be classified as either a recreational or club facility or ancillary and incidental to a recreational or club facility." (p1)
>
> Secondly, "despite prohibition of water-based restaurant and entertainment facility, club restaurant use could be permissible in the zone by either a necessary component of, or ancillary and incidental to the proposed recreational or club facility which is defined as *'...a building or place used exclusively for sporting or leisure activities, whether operated for the purpose of gain or not'*. Further the rowing club is intended to be established under the terms of the Registered Clubs Act 1979 (RC Act)" (p2)
>
> Lastly, and the "function room is considered to be characterised as being permissible as a class of innominate development (distinct from development for a water-based restaurant and entertainment facility) or ancillary and incidental to the overarching registered club under the RC Act. The function room as innominate development was established in *Colding v Manly Council* [2011] NSW LEC 57." (p3)

In addition, the legal advice also recommended specific conditions be included in the consent to ensure that the club would be used for the purposes described in the advice including:

> *(a) "a condition requiring that the Club Restaurant only be used by club members and their guests; and*
> *(b) a condition requiring that any use of the Club Function Room be the subject of an* ***authorisation under s23 of the RC Act.****"* (p3)

Therefore, having regard to the applicant's submission of legal advice, Council is satisfied that the development and its associated land use has been appropriately demonstrated to be permissible within the zone and no further objections are raised in this respect.

The proposed development is considered to perform satisfactorily with respect to the provisions of the SREP Sydney Harbour Catchment 2005.

7.4 Local Environmental Plans

The provisions and objectives of the Auburn Local Environmental Plan 2010 is not directly relevant to the subject application as the development proposal relates to an overwater rowing club facility located in the Homebush Bay. As previously stated the principal planning instrument that applies to the proposal is the SREP (Sydney Harbour Catchment) 2005 and thus the majority of the development standards contained within the ALEP 2010 are therefore not relevant or limited to the application.

8. The provisions of any Draft Environmental Planning Instruments (EP& A Act s79C(1)(a)(ii))

The proposed development is not affected by any relevant Draft Environmental Planning Instruments.

9. The provisions of any Development Control Plans (EP& A Act s79C(1)(a)(iii))

9.1 Wentworth Point Development Control Plan 2014

The proposed development which relates to an overwater rowing club facility is primarily located in a portion of the Homebush bay on the western edge of the foreshore. As such the relevant objectives and requirements of the DCP are limited to the application and not directly relevant to the proposed development. No significant issues are raised in this regard.

9.2 Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005

The objectives and requirements of this DCP has been considered in the assessment of the application. It is noted that due to the type of development proposed, the DCP is limited to the application. Notwithstanding, the controls that are considered to be relevant to the proposal are considered and discussed as follows:

<u>Part 4 – Design guidelines for water-based and land/water interface developments:</u>

The rowing club facility houses multiple uses including a boat shed with pontoon and ramps located at ground level (below mean high water mark (MHWM) on the eastern side of the peninsular foreshore.

It is noted previously that the DCP only contain controls for particular types of developments and as such is limited to the proposed development and subject application. Notwithstanding, the following requirements of the DCP that are considered to be most relevant has been considered and discussed below:

4.2 – General requirements

The development proposal is considered to satisfy the objectives outlined in this section of the DCP.

4.4 – Sitting of buildings and structures

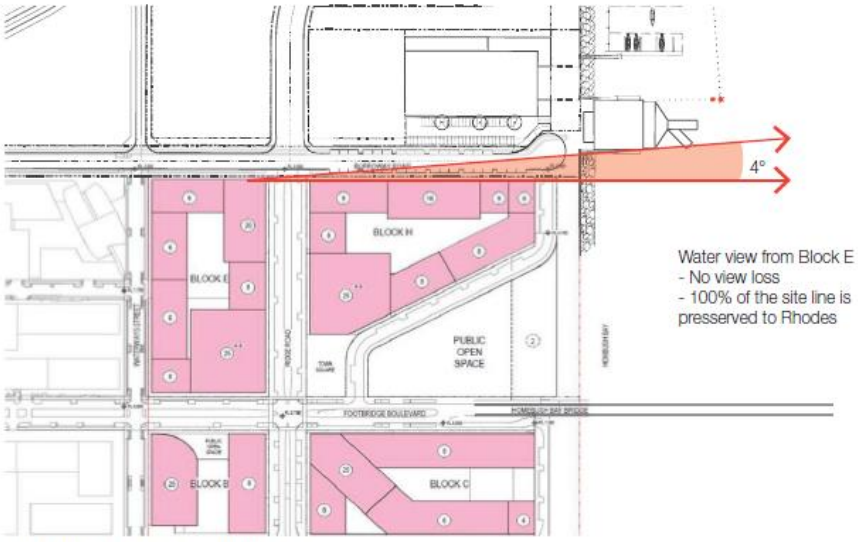
The proposed rowing club facility is to be located below the MHWM in a portion of Homebush Bay and is considered to satisfactorily address the waterway and given the nature of the development proposed – is considered to generally meet the requirements of this section. Further it should also be noted that this requirement primarily aimed at developments above the MHWM and typically the foreshore building line.

4.5 – Built form

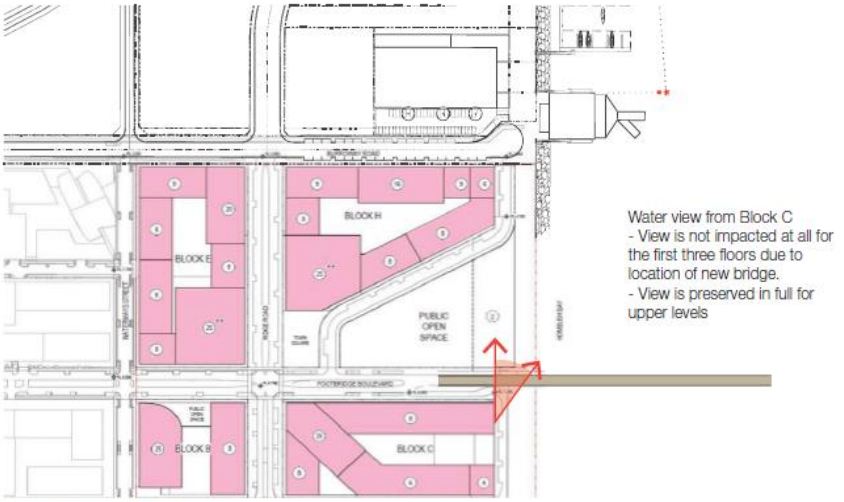
The proposed rowing club development is considered to enhance the setting and surrounding future built environment. The scale of the development is low and considered to be in keeping and sympathetic to the surrounding high rise residential apartment blocks planned for the area. The facility will typically comprise of 3 levels with a maximum height of up to 16.3m inclusive of the plant and lift overrun. The proposed building envelope, building design including visual appearance and materials is considered satisfactory and not inconsistent with the DCP.

Visual impact of the development:

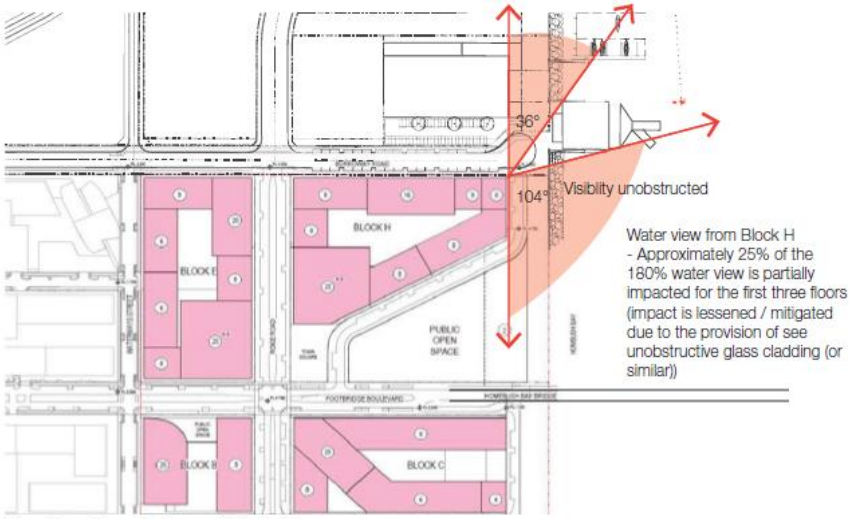
It is noted that the DCP only provides specific controls typically relating to the visual impact assessment and analysis of Marinas with associated moorings and boating vessels. Given that the proposal relates to a rowing club facility and is not considered to be a marina, a visual impact assessment study is not required to be undertaken in accordance with *section D1.3 (p59)* of the DCP. Notwithstanding, the applicant has submitted a basic view analysis of the proposed rowing club development in accordance with *section D1.4 (p70)* to demonstrate and ascertain the level of view loss resulting from the development of the rowing club. Based on the information submitted, the level of view loss created from the proposed development could be partially impacted for the first 3 floors of an adjacent Lot 10 high rise residential tower to the south of the rowing club (see below), however it should be noted that a formal application for the high rise development has yet to be submitted to Council for consideration.



View loss from Fairmead Block E

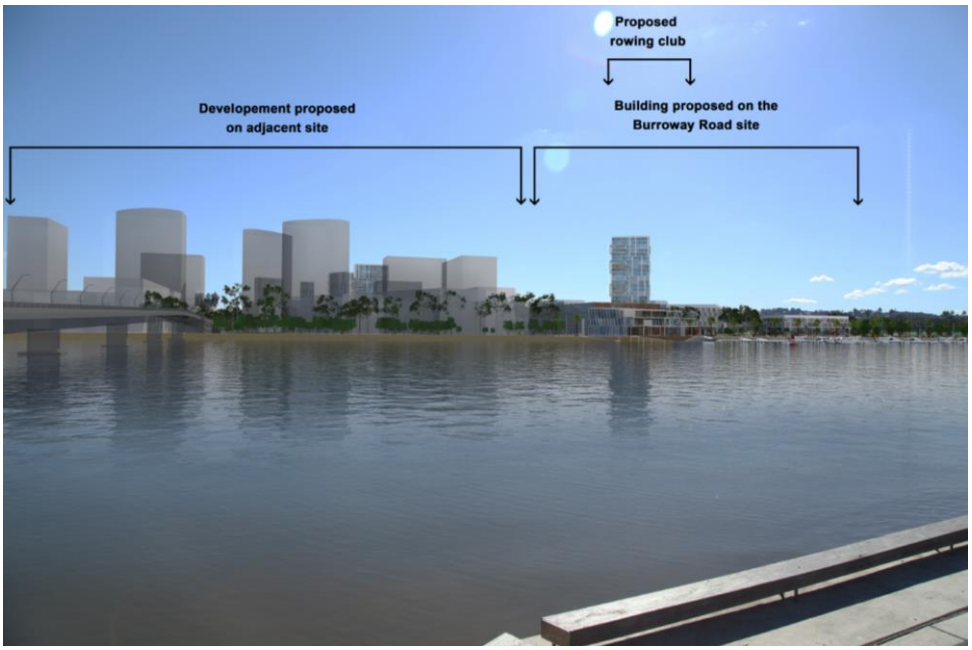


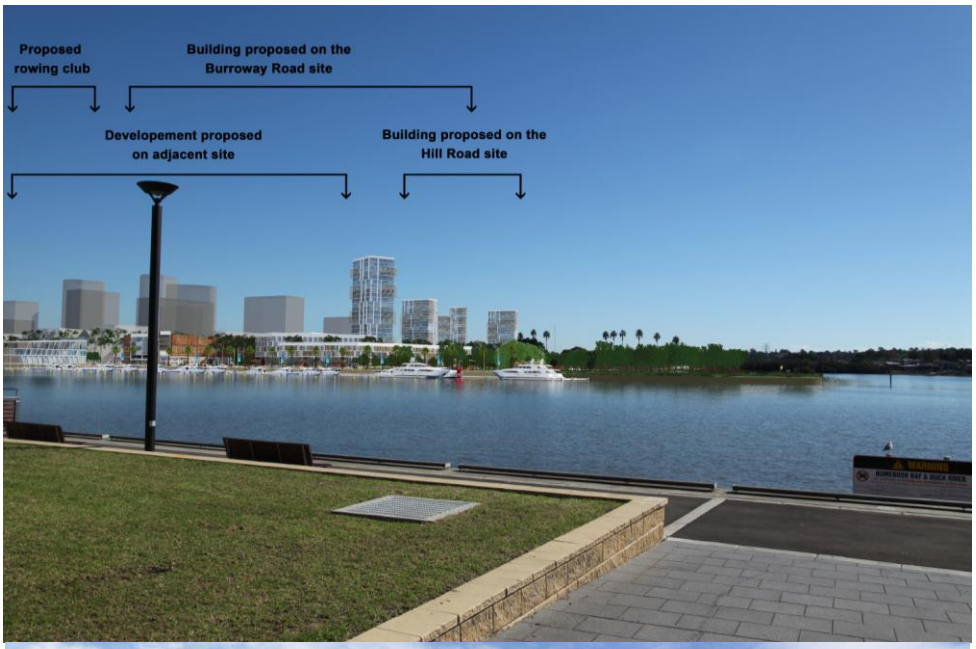
View loss from Fairmead Block C



View loss from Fairmead Block H

CM+ Conybeare Morrison | **View loss from Fairmead**
Wentworth Point - Rowing Club (Boathouse)


Proposed
rowing club
Developement proposed
on adjacent site
Building proposed on the
Burroway Road site



Having regard to the above, the proposal is considered to be satisfactory as the visual impact that is likely to result from the proposed development of a rowing club is considered to be minimal as the sitting and building envelope proposed seeks to minimise view loss and respect views and vista from the surrounding developments.

4.8 – Private landing facilities (including jetties, ramps and pontoons)

The proposed ramps and pontoon associated with the development is considered to meet the requirements of this section.

4.16 – Boat Sheds

The component of the development which relates to the boat shed at ground level or below the mean high water mark (MHWM) which forms the base or footprint of the building envelope is considered to meet the requirements of this section.

Section 94 - Development contributions

The subject application relates to a concept proposal or staged development application for the building envelope and associated uses only. As such section 94 contributions is not required for this stage. A subsequent development application to formalise the building works will be required to be lodged whereby the amount of developers contribution will be calculated, levied and conditioned to form part of the development consent.

The provisions of the Regulations (EP& A Act s79C(1)(a)(iv))

The proposed development raises no concerns as to the relevant matters arising from the EP& A Regulations 2000.

The Likely Environmental, Social or Economic Impacts (EP& A Act s79C(1)(b))

It is considered that the proposed development will have no significant adverse environmental, social or economic impacts in the locality.

The suitability of the site for the development (EP&A Act s79C(1)(c)

The subject site and locality is not known to be affected by any natural hazards or other site constraints likely to have a significant adverse impact on the proposed development. Accordingly, the site can be said to be suitable to accommodate the proposal. The proposed development has been assessed in regard it its environmental consequences and having regard to this assessment, it is considered that the development is suitable in the context of the site and surrounding locality.

Submissions made in accordance with the Act or Regulation (EP&A Act s79C(1)(d

Advertised (newspaper) ☒ Mail ☒ Sign ☒ Not Required ☐

In accordance with Council's Notification of Development Proposals Development Control Plan, the proposal was publicly exhibited for a period of 14 days between 15 September 2015 to 29 September 2015. No submissions were received as a result of public notification in respect of the proposed development.

The public interest (EP& A Act s79C(1)(e))

The public interest is served by permitting the orderly and economic development of land, in a manner that is sensitive to the surrounding environment and has regard to the reasonable amenity expectations of surrounding land users. In view of the foregoing analysis it is considered that the development, if carried out subject to the conditions set out in the recommendation below, will have no significant adverse impacts on the public interest.

Operational Plan / Delivery Program

This assessment and report relates to the Auburn City Council Operational Plan and Delivery Program, Our Places – Attractive and Liveable theme, action "2a.1.1.3 Assess development applications, complying development and construction certificates".

Conclusion

The development application has been assessed in accordance with the relevant requirements of the Environmental Planning and Assessment Act 1979.

The proposed development is appropriately located within the zone W1 – Maritime Waters under the relevant provisions of Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. The proposal is consistent with all statutory and non-statutory controls applying to the development. The development is considered to perform adequately in terms of its relationship to its surrounding built and natural environment, particularly having regard to impacts on adjoining properties.

For these reasons, it is considered that the proposal is satisfactory having regard to the matters of consideration under Section 79C of the Environmental Planning and Assessment Act, 1979, and the development may be approved subject to conditions.

Appendix B

a) Compliance table – Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

Sydney Regional Environmental Plan 2005 fully applies to the site and must be considered in the assessment of the development application.

Clause	Compliance	Comment
3 - **Land to which Plan applies** This plan applies to land within the Sydney Harbour Catchment, as shown edged heavy black on the Sydney Harbour Catchment Map, being part of the Sydney Region declared by order published in Gazette No 38 of 7 April 1989 at page 1841. Within the Sydney Harbour Catchment, particular provisions of this plan apply to: the Foreshores and Waterways Area, and various strategic foreshore sites, as shown on the Strategic Foreshore Sites Map, and various heritage items, as shown on the Heritage Map, and various wetlands protection areas, as shown on the Wetlands Protection Area Map.	Yes	The site is located within the Homebush Bay and this planning instrument will apply to the development application. There are works occurring within the W1 “Maritime Waters zone”.

5 - **Consent Authority:** The consent authority for land-based development and land/water interface development is the council of the local government area in which, or nearest to which, the land on which the development is proposed to be carried out, except as provided by subclauses (2) and (3). The consent authority for land-based development and land/water interface development is the Minister if: the land on which the development is proposed to be carried out is within a local government area, and another environmental planning instrument specifies the Minister as the consent authority for the same kind of development if it were to be carried out on that land. The consent authority for land-based development and land/water interface development is the Minister if: the land on which the development is proposed to be carried out is not within a local government area, and another environmental planning instrument specifies the Minister as the consent authority for the same kind of development if it were to be carried out on the nearest land that is within a local government area. Except to the extent to which some other environmental planning instrument provides, the consent authority for water-based development is the Minister administering the Ports Corporatisation and Waterways Management Act 1995. (5) Despite any other provision of this clause, the consent authority for a development application for consent to subdivision of land is: (a) the Minister administering the *Ports and Maritime Administration Act 1995* , if the land is owned by the Maritime Authority of NSW, or (b) the consent authority specified by this	Yes	As identified earlier in the report, a number of external referrals are required including the notification to the Foreshores and Waterways Planning and Development Advisory Committee. Subclause 2(a) and 2(b) have been considered in relation to the works occurring within the waterway and adjacent area. The Auburn Local Environmental Plan 2010 does not specify the Minister as being the consent authority for the works to occur within the bay and interface area. Accordingly, Council is the consent authority for the works occurring on its side of the river notwithstanding the external referrals that are required.

clause for land-based development and land/water interface development, in any other case. 13 - **Sydney Harbour Catchment**: The planning principles for land within the Sydney Harbour Catchment are as follows: (a) development is to protect and, where practicable, improve the hydrological, ecological and geomorphological processes on which the health of the catchment depends, (b) the natural assets of the catchment are to be maintained and, where feasible, restored for their scenic and cultural values and their biodiversity and geodiversity, (c) decisions with respect to the development of land are to take account of the cumulative environmental impact of development within the catchment, (d) action is to be taken to achieve the targets set out in *Water Quality and River Flow Interim Environmental Objectives: Guidelines for Water Management: Sydney Harbour and Parramatta River Catchment* (published in October 1999 by the Environment Protection Authority), such action to be consistent with the guidelines set out in *Australian Water Quality Guidelines for Fresh and Marine Waters* (published in November 2000 by the Australian and New Zealand Environment and Conservation Council), (e) development in the Sydney Harbour Catchment is to protect the functioning of natural drainage systems on floodplains and comply with the guidelines set out in the document titled *Floodplain Development Manual 2005* (published in April 2005 by the Department), (f) development that is visible from the waterways or foreshores is to maintain, protect and enhance the unique visual qualities of Sydney Harbour, (g) the number of publicly accessible vantage points for viewing Sydney	Yes	The proposed works are considered to improve the appearance and setting of the bay visually. A satisfactory marine ecology environmental assessment study prepared by Worley Parsons dated 24/4/15 has been submitted to accompany the application to ensure minimal disturbance, protection and preservation of the catchment.

Harbour should be increased, (h) development is to improve the water quality of urban run-off, reduce the quantity and frequency of urban run-off, prevent the risk of increased flooding and conserve water, (i) action is to be taken to achieve the objectives and targets set out in the *Sydney Harbour Catchment Blueprint*, as published in February 2003 by the then Department of Land and Water Conservation, (j) development is to protect and, if practicable, rehabilitate watercourses, wetlands, riparian corridors, remnant native vegetation and ecological connectivity within the catchment, (k) development is to protect and, if practicable, rehabilitate land from current and future urban salinity processes, and prevent or restore land degradation and reduced water quality resulting from urban salinity, (l) development is to avoid or minimise disturbance of acid sulfate soils in accordance with the *Acid Sulfate Soil Manual*, as published in 1988 by the Acid Sulfate Soils Management Advisory Committee.		
14 - **Foreshores and Waterways Area**: The planning principles for land within the Foreshores and Waterways Area are as follows: (a) development should protect, maintain and enhance the natural assets and unique environmental qualities of Sydney Harbour and its islands and foreshores, (b) public access to and along the foreshore should be increased, maintained and improved, while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation, (c) access to and from the waterways should be increased, maintained and improved for public recreational purposes (such as swimming, fishing and	Yes	Public access to the foreshore is not impacted by the development. Public access will be maintained and the visual aspects of the foreshore is considered to be improved with the new development.

boating), while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation, (d) development along the foreshore and waterways should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands and foreshores, (e) adequate provision should be made for the retention of foreshore land to meet existing and future demand for working harbour uses, (f) public access along foreshore land should be provided on land used for industrial or commercial maritime purposes where such access does not interfere with the use of the land for those purposes, (g) the use of foreshore land adjacent to land used for industrial or commercial maritime purposes should be compatible with those purposes, (h) water-based public transport (such as ferries) should be encouraged to link with land-based public transport (such as buses and trains) at appropriate public spaces along the waterfront, (i) the provision and use of public boating facilities along the waterfront should be encouraged. 15 - **Heritage Conservation**: The planning principles for heritage conservation are as follows: (a) Sydney Harbour and its islands and foreshores should be recognised and protected as places of exceptional heritage significance, (b) the heritage significance of particular heritage items in and around Sydney Harbour should be recognised and conserved, (c) an appreciation of the role of Sydney Harbour in the history of Aboriginal and European settlement should be encouraged, (d) the natural, scenic, environmental	Yes	The Auburn Local Environmental Plan 2010 does not list the site and nearby allotments as containing heritage items.

and cultural qualities of the Foreshores and Waterways Area should be protected, (e) significant fabric, settings, relics and views associated with the heritage significance of heritage items should be conserved, (f) archaeological sites and places of Aboriginal heritage significance should be conserved.		
17 - **Zoning objectives:** The planning instrument provides a zone W1 – Maritime Waters. The objectives of the zone are:- **Zone No W1 - Maritime Waters** (a) to give preference to and protect waters required for the effective and efficient movement of commercial shipping, public water transport and maritime industrial operations generally, (b) to allow development only where it is demonstrated that it is compatible with, and will not adversely affect the effective and efficient movement of, commercial shipping, public water transport and maritime industry operations, (c) to promote equitable use of the waterway, including use by passive recreation craft.	Yes	The development is considered to be consistent with the zoning objectives and requirements of the W1. Permissibility of the development is discussed in the main body of the report under section 7.
18 - **Development control in the waterways**: The table is relevant for the works occurring within the W1 Maritime Waters zone.	Yes	This section is discussed under 7.3a earlier in the report.
21 - **Biodiversity, ecology and environmental protection**: The matters to be taken into consideration in relation to biodiversity, ecology and environment protection are as follows: development should have a neutral or beneficial effect on the quality of water entering the waterways, development should protect and enhance terrestrial and aquatic species,	Yes	A satisfactory marine ecology assessment prepared by Worley Parsons has been undertaken by the applicant.

populations and ecological communities and, in particular, should avoid physical damage and shading of aquatic vegetation (such as seagrass, saltmarsh and algal and mangrove communities), development should promote ecological connectivity between neighbouring areas of aquatic vegetation (such as seagrass, saltmarsh and algal and mangrove communities), development should avoid indirect impacts on aquatic vegetation (such as changes to flow, current and wave action and changes to water quality) as a result of increased access, development should protect and reinstate natural intertidal foreshore areas, natural landforms and native vegetation, development should retain, rehabilitate and restore riparian land, development on land adjoining wetlands should maintain and enhance the ecological integrity of the wetlands and, where possible, should provide a vegetative buffer to protect the wetlands, the cumulative environmental impact of development, whether sediments in the waterway adjacent to the development are contaminated, and what means will minimise their disturbance. 22 - **Public access to and use of foreshores and waterways**: The matters to be taken into consideration in relation to public access to, and use of, the foreshores and waterways are as follows: development should maintain and improve public access to and along the foreshore, without adversely impacting on watercourses, wetlands, riparian lands or remnant vegetation, development should maintain and improve public access to and from the waterways for recreational purposes (such as swimming, fishing and boating), without adversely impacting on watercourses, wetlands, riparian lands or remnant vegetation, if foreshore land made available for public access is not in public ownership, development should provide appropriate	Yes	Public access to the foreshore will be maintained by the development.

tenure and management mechanisms to safeguard public access to, and public use of, that land, the undesirability of boardwalks as a means of access across or along land below the mean high water mark if adequate alternative public access can otherwise be provided, the need to minimise disturbance of contaminated sediments. 23 - **Maintenance of a working harbour**: The matters to be taken into consideration in relation to the maintenance of a working harbour are as follows: foreshore sites should be retained so as to preserve the character and functions of a working harbour, in relation to both current and future demand, consideration should be given to integrating facilities for maritime activities in any development, in the case of development on land that adjoins land used for industrial and commercial maritime purposes, development should be compatible with the use of the adjoining land for those purposes, in the case of development for industrial and commercial maritime purposes, development should provide and maintain public access to and along the foreshore where such access does not interfere with the use of the land for those purposes. 24 - **Interrelationship of waterway and foreshore uses**: The matters to be taken into consideration in relation to the interrelationship of waterway and foreshore uses are as follows: development should promote equitable use of the waterway, including use by passive recreation craft, development on foreshore land should minimise any adverse impact on the use of the waterway, including the use of the waterway for commercial and recreational uses,	Yes Yes	The foreshore sites will be retained and preserved and public access to the foreshore is generally not interfered with. A public benefit is being achieved in with the provision of this new facility.

development on foreshore land should minimise excessive congestion of traffic in the waterways or along the foreshore, water-dependent land uses should have priority over other uses, development should avoid conflict between the various uses in the waterways and along the foreshores.	Yes	The development is considered to improve the scenic quality of the area. Proposed scale of development is satisfactory and discussed earlier in the report.
25 - **Foreshore and waterways scenic quality**: The matters to be taken into consideration in relation to the maintenance, protection and enhancement of the scenic quality of foreshores and waterways are as follows: (a) the scale, form, design and siting of any building should be based on an analysis of: (i) the land on which it is to be erected, and (ii) the adjoining land, and (iii) the likely future character of the locality, (b) development should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands, foreshores and tributaries, (c) the cumulative impact of water-based development should not detract from the character of the waterways and adjoining foreshores.	Yes	The development will change the nature of the locality but not affect the functioning of the parklands or public access to the waterfront. The change will be visual and will enhance the setting of the area.
26 - **Maintenance, protection and enhancement of views**: The matters to be taken into consideration in relation to the maintenance, protection and enhancement of views are as follows: development should maintain, protect and enhance views (including night views) to and from Sydney Harbour, development should minimise any adverse impacts on views and vistas to and from public places, landmarks and heritage items, the cumulative impact of development on views should be minimised.	Yes	View lines to the bay will generally be retained. The development application is captured by Clause 29 and requires referral to the Foreshores and Waterways Planning and

Referrals to the Advisory Committee: Clause 29 to 31 addresses matters that require referral to the Foreshores and Waterways Planning and Development Advisory Committee.		Development Advisory Committee. Formal referral was undertaken on 2 February 2015 via the Department of Planning. Council staff has complied with the referral requirements.
Part 4 - Special Provisions: **Development on land comprising acid sulphate soils** (1) This clause applies to such of the land in the Foreshores and Waterways Area as is within Zone No W1, W2, W3, W4, W5, W6, W7, W8 or 8 (a). (2) Works that involve the excavation, dredging, filling or contouring of land to which this clause applies, or the extraction of soil or other extractive material from such land, may be carried out only with development consent. (3) Despite subclause (2), such works may be carried out without development consent if: (a) a copy of a preliminary assessment of the proposed works undertaken in accordance with the *Acid Sulfate Soils Assessment Guidelines* has been given to the consent authority, and (b) the consent authority has provided written advice to the person carrying out the works confirming that results of the preliminary assessment indicate the proposed works need not be carried out pursuant to an acid sulfate soils management plan prepared in accordance with the *Acid Sulfate Soils Assessment Guidelines*. (4) The consent authority must not grant development consent as required by this clause unless it has considered: (a) the adequacy of an acid sulfate soils management plan prepared for the	Yes	The development application has been referred to the Foreshores and Waterways Planning and Development Advisory Committee for assessment. The Committee consists of members of the Department of Planning and Maritime Authority of New South Wales. No response has been received from the Foreshore and Waterways Advisory committee in relation to the proposal. Acid sulphate soils. The matter concerning acid sulphate soils is addressed earlier in the report.

proposed development in accordance with the *Acid Sulfate Soils Assessment Guidelines*, and (b) the likelihood of the proposed development resulting in the discharge of acid water, and (c) (Repealed) (5) This clause requires development consent for the carrying out of works: (a) by councils or county councils (within the meaning of the Local Government Act 1993), or (b) by private drainage boards (within the meaning of the Water Management Act 2000), despite any other provision of this plan. (6) This clause does not apply to or in respect of works carried out by or on behalf of the Maritime Authority of NSW or Sydney Ports Corporation.	N/A	N/A
Clause 33 – commercial marinas within zone W1 is not applicable.	N/A	N/A
Part 4 - Strategic Foreshores sites and Master Plans: The provisions contained in this Part are not relevant to this application and are not reproduced here.	N/A	N/A
Part 5 - Heritage Provisions: The provisions contained in this Part "Heritage" are not relevant to the application because there are no heritage listed items of relevance within the Council boundary area close to the site. The planning instrument lists one heritage item within an approximate radius of 1 km from the site being Number 34 - Newington Arms Depot Wharf (Newington Arms Depot) Silverwater. Number 35 shown is within Parramatta City Council area which is the Shell Oil Refinery Wharf. The works will not impact on the wharf and no technical assessment is required concerning the matter.	Yes	A satisfactory marine ecology report has been submitted.

Part 6 Wetland Protection **61 - Objectives** The objectives of this plan in relation to wetlands are: (a) to preserve, protect and encourage the restoration and rehabilitation of wetlands, and (b) to maintain and restore the health and viability of wetlands, and (c) to prevent the fragmentation of wetlands, and (d) to preserve the scenic qualities of wetlands, and (e) to ensure that wetlands continue to perform their natural ecological functions (such as the provision of wetland habitat, the preservation of water quality, the control of flooding and erosion). **62 - Requirement for development consent** (1) Development within a wetlands protection area may be carried out only with development consent. (2) Development consent is not required by this clause: (a) for anything (such as dredging) that is done for the sole purpose of maintaining an existing navigational channel, or (b) for any works that restore or enhance the natural values of wetlands (including works to restore or enhance plant communities, water levels, water flows or soil composition), being works: (i) that are carried out to rectify damage arising from a contravention of this plan, and (ii) that are not carried out in association with any other development, and (iii) that have no significant impact on the environment beyond the site on which they are carried out. (3) Development consent is not required by this clause for any other development if: (a) in the opinion of the consent authority:	Yes	The development application is seeking consent for works within the waterway and appropriate concurrence referrals have been undertaken. The works are expected to improve the appearance of the waterway.

(i) the proposed development is of a minor nature, and (ii) the proposed development would not adversely affect the wetland or wetlands protection area, and (b) the proponent has notified the consent authority in writing of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development will comply with this subclause and that development consent is not otherwise required by this plan. (4) This Clause does not apply to development carried out by or on behalf of the Maritime Authority of NSW or Sydney Ports Corporation. (5) This clause does not apply to development that is prohibited by any other environmental planning instrument. **63 - Matters for consideration** (1) The matters referred to in this clause together with any other relevant matters): (a) are to be taken into consideration by consent authorities before granting consent to development under Part 4 of the Act, and (b) are to be taken into consideration by public authorities and others before they carry out activities to which Part 5 of the Act applies. (2) The matters to be taken into consideration in relation to any development are as follows: (a) the development should have a neutral or beneficial effect on the quality of water entering the waterways, (b) the environmental effects of the development, including effects on: (i) the growth of native plant communities, (ii) the survival of native wildlife populations, (iii) the provision and quality of habitats for both indigenous and migratory	Yes	The development application has been referred to relevant Government departments and found to be satisfactory subject to conditions. This is addressed earlier in the report.

species, (iv) the surface and groundwater characteristics of the site on which the development is proposed to be carried out and of the surrounding areas, including salinity and water quality and whether the wetland ecosystems are groundwater dependent, (c) whether adequate safeguards and rehabilitation measures have been, or will be, made to protect the environment, (d) whether carrying out the development would be consistent with the principles set out in *The NSW Wetlands Management Policy* (as published in March 1996 by the then Department of Land and Water Conservation), (e) whether the development adequately preserves and enhances local native vegetation, (f) whether the development application adequately demonstrates: (i) how the direct and indirect impacts of the development will preserve and enhance wetlands, and (ii) how the development will preserve and enhance the continuity and integrity of the wetlands, and (iii) how soil erosion and siltation will be minimised both while the development is being carried out and after it is completed, and (iv) how appropriate on-site measures are to be implemented to ensure that the intertidal zone is kept free from pollutants arising from the development, and (v) that the nutrient levels in the wetlands do not increase as a consequence of the development, and (vi) that stands of vegetation (both terrestrial and aquatic) are protected or rehabilitated, and (vii) that the development minimises physical damage to aquatic ecological communities, and (viii) that the development does not cause physical damage to aquatic ecological communities, (g) whether conditions should be imposed on the carrying out of the development requiring the carrying out of works to preserve or enhance the value of any surrounding wetlands.		

ITEM # 2

Auburn City Council
2015SYW153 - DA288/2015
3 Burroway Rd
Wentworth Point

Conditions

CONDITIONS OF DEVELOPMENT CONSENT

DA No: **DA-301/2015**
Property: **Pt Lot 2 Burroway Road, WENTWORTH POINT**
Description: **Staged development proposal for an overwater rowing club facility**

1. **Approved Plans**

The development is to be carried out in accordance with the approved stamped plans as numbered below:

Plan Number	***Prepared By***	***Revision No.***	***Dated***
DA-S1-01 Statement	Conybeare Morrison	-	Dec 2015
DA-S1-02 Access	Conybeare Morrison	-	Dec 2015
DA-S1-03 Indicative plan	Conybeare Morrison	-	Dec 2015
DA-S1-04 Indicative plan – level 1	Conybeare Morrison	-	Dec 2015
DA-S1-05 Indicative plan – level 2	Conybeare Morrison	-	Dec 2015
DA-S1-06 Indicative plan – section	Conybeare Morrison	-	Dec 2015
DA-S1-08 Plan – ground floor	Conybeare Morrison	-	Dec 2015
DA-S1-09 Plan – level 1	Conybeare Morrison	-	Dec 2015
DA-S1-10 Plan – level 2	Conybeare Morrison	-	Dec 2015
DA-S1-11 Section A/East West elevation	Conybeare Morrison	-	Dec 2015
DA-S1-12 Section C/South East & Section B/North West elevation	Conybeare Morrison	-	Dec 2015
DA-S1-13 Indicative area schedule	Conybeare Morrison	-	Dec 2015
Site Audit Statement 0503-1407-R and Site Audit Report reference 43392-102531	JBS&G Australia P/L	1	14.01.16
Acoustic planning study ref: 45.6958.R1:GA/DT/2015	Atkins Acoustics and Associates Pty Ltd.	1	Feb 2015
Traffic Impact Assessment Ref: 12.371r03v04	Traffix	3	May 2015

301015-03538-005 Marine Ecology Assessment	Worley Parsons	1	24.04.15
301015-03538 – MA-REP-006 Marine Engineering Report	Worley Parsons	1	17.08.15
Geotech Report Ref: 84357	Douglas Partners	1	23.09.14
Contamination report ref: 21/24829/211230	GHD	-	18.09.15

except as otherwise provided by the conditions of this determination (Note:- modifications to the approved plans will require the lodgement and consideration by Council of a modification pursuant to Section 96 of the Environmental Planning and Assessment Act).

Reason:- to confirm and clarify the terms of Council's approval.

2. **Time period of consent**

This consent shall lapse five (5) years from the date of determination unless the approved building, engineering or construction work has been physically commenced in accordance with this consent.

Development consent for the use of land does not lapse if the approved use of any land, building or work is actually commenced prior to the date on which the consent would otherwise lapse.

Reason:- to satisfy the requirements of Section 95 of the Environmental Planning and Assessment Act.

3. **Stormwater disposal**

The stormwater outlet in the seawall shall be clear of the proposed boat house structure and core. Details of the Burroway Road drainage system including the outlet with any proposed works shall be submitted as part of the future Stage 2 Development Application.

Reason:- to ensure stormwater is appropriately discharged.

4. **Parking and Loading**

An instrument shall be placed on the proposed Lot 204 to provide 100 car parking bays and loading bays with associated rights of way related to the subject development to the satisfaction of Council. In this regard,

a. The above parking shall be in addition to the parking requirements related to the proposed developments within Lot 204.
b. No shared parking arrangement (with any future development on lot 204) will be supported.
c. Detailed 88B instrument shall be submitted to Council for approval as part of the subdivision plan DA-273/2014. (The parking location shall be in close proximity to the subject development site to the satisfaction of Council).
d. Auburn Council shall be nominated as the Authority to vary or modify the subject restriction.

e. The instrument shall expire once the creation of parking allotments and R.O.W. are registered with respect to the subject development.

Reason:- to ensure adequate parking is being provided to serve the development.

5. **Seawall**

An instrument shall be registered on title that requires the owner of the subject development to:

a. maintain that part of the seawall and the land immediately adjacent to land owned by the owner of the subject development in good repair (to a width of 6 metres to the North-East and full width of Burroway Rd to the South-East), in a structurally sound manner, in a safe condition and in compliance with all applicable law;

b. repair all damage to that part of the seawall and the land immediately adjacent to land owned by the owner of the subject development (to a width of 6 metres North-East and full width of Burroway Rd to the South-East) to ensure that the seawall is maintained to the standard required by this condition.

The registered proprietor of the land comprising the seaward side of the seawall (that is, the land in Certificate of Title Volume 5018 Folio 1) shall have the benefit of this instrument.

Reason:- to ensure the seawall located adjacent to the building.

6. **Subsequent application/s to comply with Staged Development approval**

The determination of any further development application made in respect of the rowing club facility cannot be inconsistent with this staged development consent.

The detailed design of the approved envelopes including the location of service areas and future associated works relating to DA-301/2015, shall be contained within the building footprint and envelopes approved as part of this staged development consent. Any future development application made in respect of the land the subject of this staged development consent shall comply with the following:

a) The total cumulative gross floor area for the approved rowing club building envelope shall not exceed the maximum: 3,819 sqm;

a) The maximum building height of the approved rowing club building envelope shall not exceed 16.3m (3 storeys plus plant zone);

b) A separate development application for construction works which forms part of DA-301/2015, shall be submitted to Council for approval;

c) A minimum of 100 parking spaces shall be provided for the development and shall be in accordance with condition no. 7 of this development consent.

Reason:- to ensure consistency with section 83B of the EP&A Act 1979.

7. **Section 94 Developers Contributions – future stages/applications**

Section 94 contributions will be applicable for each of the subsequent stages of development forming part of this staged development consent in accordance with the Auburn Development Contributions Plan 2007.

Reason:- to ensure compliance with the Auburn Development Contributions Plan 2007 and ensure that s94 contributions are paid for each subsequent stage of developments within the staged development consent.

8. **Stormwater management**

Prior to the occupation of the subject development, all stormwater diversion shall be constructed in accordance with the approved Burroway Road drainage system.

Reason:- to prevent localized flooding.

9. **Seawall**

During and after construction of the subject development, the part of the seawall adjacent to the building frontage shall be maintained by the owner of the subject development in accordance with the registered instruments the subject of conditions of this consent (DA-301/2015).

Reason:- to ensure the seawall located adjacent to the development is appropriately maintained.

10. **Construction Environmental Management Plan and Operational Environment Management Plan**

A detailed Construction environmental Management plan and Operation Environmental Management plan are to be submitted to the Consent Authority as part of any future development application associated with the construction and use of this facility.

The CEMP and OEMP must demonstrate compliance with the requirements of the Site Audit Statement 0503-1407-R and Site Audit Report reference 43392-102531 (Rev 1) by JBS&G Australia Pty Ltd and associated contamination management plan prepared by GHD.

Reason:- to ensure the provisions of State Environmental Planning Policy No. 55 – Remediation of Land and the Contaminated Land Management Act are complied with.

11. **Acoustic report – future development application/s**

An acoustic report prepared by a suitably qualified acoustic consultant shall be submitted to the Consent Authority as part of any future development application associated with the construction and use of this facility.

The acoustic report must demonstrate compliance with all relevant statutory requirements and guidelines as applicable at time of the application and/or the criteria outlined in **Atkins Acoustics and associates Pty Ltd 45.6958.R1:GA/DT/2015 dated 2/2015.**

Reason:- to ensure the development does not cause a noise nuisance to the surrounding residential areas.

12. **Advisory conditions – Department of Primary Industries**

The following mitigation measure is to be used during construction to mitigate impacts on the aquatic environment:

a. Environmental safeguards (silt curtains, booms etc.) are to be used during construction to ensure that there is no escape of turbid plumes into the aquatic environment. Turbid plumes have the potential to smother aquatic vegetation and have a deleterious effect on benthic organisms.

Reason:- to ensure compliance with the requirements of the Fisheries Management Act 1994 and Fish Habitat and Conservation and Management Act 2013.

13. **Restrictions on use – rowing club**

a) The use of the Club Restaurant can only made available to club members and their guests;

b) The use of the Club Function Room shall be subject of an authorisation under s23 of the Registered Clubs Act 1979.

Reason:- to ensure compliance with the zoning requirements under the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005.

ITEM # 2

Auburn City Council
2015SYW153 - DA288/2015
3 Burroway Rd
Wentworth Point

Contamination Report

Site Audit Report
0503-1407

Proposed Rowing Club
Burroway Road
Wentworth Point NSW

14 January 2016
43392-102531 (Rev 1)
JBS&G Australia Pty Ltd

www.jbsg.com.au

NSW Site Auditor Scheme
SITE AUDIT STATEMENT

A site audit statement summarises the findings of a site audit. For full details of the site auditor's findings, evaluations and conclusions, refer to the associated site audit report.

This form was approved under the Contaminated Land Management Act 1997 on 31st October 2012. For more information about completing this form, go to Part IV.

PART I: Site audit identification

Site audit statement no. **0503-1407-R**

(This SAS is a revised version of 0503-1407 due to the amended property descriptor and zoning information in a revised version of the accompanying Site Audit Report (Rev 1))

This site audit is a ~~statutory audit~~/**non-statutory audit*** within the meaning of the *Contaminated Land Management Act 1997*.

Site auditor details (as accredited under the *Contaminated Land Management Act 1997*)

Name	**Andrew Lau**	Company	**JBS&G Australia Pty Ltd**		
Address	**Level 1, 50 Margaret Street**				
	SYDNEY	**NSW**		Postcode	**2000**
Phone	**02 8245 0300**	Fax	**02 8245 0399**		

Site Details

Address	**Off Burroway Road**		
	Wentworth Point NSW	Postcode	**2127**

Property description *(attach a list if several properties are included in the site audit)*

Part of Homebush Bay (refer to Site Plan in Site Audit Report)

Local Government Area	**Auburn**		
Area of Site (eg. hectares)	**2730 m^2**	Current zoning	**W1 Maritime Waters/ W5 Water Recreation**

To the best of my knowledge, the site ~~is~~**/is not*** the subject of a declaration, order, agreement, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*.

Declaration/Order/Agreement/Proposal/Notice* no(s) **N/A**

** Select as appropriate*

Site audit commissioned by

Name	**Greg Betts**	Company	**UrbanGrowth**
Address	**Level 14, 60 Station Street**		
	Parramatta NSW	Postcode	**2150**
Phone	**(02) 9841 8600**	Fax	**(02) 9841 8688**

Name and phone number of contact person (if different from above)

N/A

Purpose of site audit

☐ ~~A. To determine land use suitability (please specify intended use[s])~~

OR

☐ ~~B(i) To determine the nature and extent of contamination, and/or~~

☐ ~~B(ii) To determine the appropriateness of an **investigation/remedial action/management plan***, and/or~~

☑ B(iii) To determine if the land can be made suitable for a particular use or uses by implementation of a specified ~~**remedial action plan**~~**/management plan*** (*please specify intended use[s]*)

Rowing Club

Information sources for site audit

Consultancy(ies) which conducted the site investigation(s) and/or remediation:

GHD Pty Ltd

Title(s) of report(s) reviewed

Report for Homebush Bay West Contamination Assessment Sediment Investigation, GHD Pty Ltd, February 2010 (GHD 2010a).

Report for Dioxin Analyses in Sediment, Homebush Bay West, GHD Pty Ltd, July 2010 (GHD 2010b).

Report for Homebush Bay West Surface Water Investigation, GHD Pty Ltd, March 2013 (GHD 2013).

Proposed Rowing Club, Burroway Road, Wentworth Point, Desktop Contamination Assessment, GHD Pty Ltd, 18 September 2015 (GHD 2015).

Proposed Above Water Rowing Club Development, Wentworth Point, Contamination Management Plan (CMP), GHD Pty Ltd, January 2016 (GHD 2016).

Other information reviewed (including previous site audit reports and statements relating to the site) **NIL**

Site audit report

Title	**Site Audit Report, Proposed Rowing Club, Burroway Road, Wentworth Point NSW**
Report no.	**JBS&G 43392-102531 (Rev 1)** Date **14 January 2016**

** Select as appropriate*

PART II: Auditor's findings

Please complete either Section A or Section B, **not** both. *(Strike out the irrelevant section.)*

Use Section A where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land use(s).

Use Section B where the audit is to determine the nature and extent of contamination and/or the appropriateness of an investigation or remedial action or management plan and/or whether the site can be made suitable for a specified land use or uses subject to the successful implementation of a remedial action or management plan.

Section A

☐ **I certify that, in my opinion, the site is SUITABLE for the following use(s)** *(tick all appropriate uses and strike out those not applicable)*:

- ☐ Residential, including substantial vegetable garden and poultry
- ☐ Residential, including substantial vegetable garden, excluding poultry
- ☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ☐ Day care centre, preschool, primary school
- ☐ Residential with minimal opportunity for soil access, including units
- ☐ Secondary school
- ☐ Park, recreational open space, playing field
- ☐ Commercial/industrial
- ☐ Other (please specify)

subject to compliance with the following environmental management plan *(insert title, date and author of plan)* **in light of contamination remaining on the site:**

OR

☐ I certify that, in my opinion, the site is NOT SUITABLE for any use due to the risk of harm from contamination.

Overall comments

** Select as appropriate*

Section B

Purpose of the plan[1] which is the subject of the audit

I certify that, in my opinion:

☐ ~~**the nature and extent of the contamination HAS/HAS NOT* been appropriately determined**~~

AND/OR

☐ ~~**the investigation/remedial action plan/management plan* IS/IS NOT* appropriate for the purpose stated above**~~

AND/OR

☑ **the site CAN BE MADE SUITABLE for the following uses** *(tick all appropriate uses and strike out those not applicable)***:**

- ☐ ~~Residential, including substantial vegetable garden and poultry~~
- ☐ ~~Residential, including substantial vegetable garden, excluding poultry~~
- ☐ ~~Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry~~
- ☐ ~~Day care centre, preschool, primary school~~
- ☐ ~~Residential with minimal opportunity for soil access, including units~~
- ☐ ~~Secondary school~~
- ☐ ~~Park, recreational open space, playing field~~
- ☐ ~~Commercial/industrial~~
- ☑ Other (please specify) **Rowing Club**

if the site is ~~remediated/~~managed* in accordance with the following ~~remedial action plan/management~~ plan* *(insert title, date and author of plan)*

Proposed Above Water Rowing Club Development, Wentworth Point, Contamination Management Plan (CMP), GHD Pty Ltd, January 2016 (GHD 2016).

subject to compliance with the following condition(s):

NIL

[1] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

* *Select as appropriate*

Overall comments

The sediment and surface water assessment activities are considered to have met the requirements of the Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition) (DEC 2006).

Sediment analytical results from beneath the proposed rowing club footprint identified lead and zinc exceeding the ANZECC 2000 Guidelines (ISQG high) and OCPs exceeding the ISQG low trigger values. Elevated levels of TPH were also detected in the sediments, however no guidelines is available for TPHs in sediments.

Additional testing for dioxins, identified the presence of low levels of dioxins within the proposed rowing club development footprint. As per guidance from the Commissioners of Inquiry For Environment and Planning Report (December 2003), it is considered that the levels reported were less than the recommended level for Homebush Bay requiring additional investigation and potential remediation.

Sediments beneath the proposed rowing club footprint are considered not to pose an unacceptable risk to human health during construction or operation of the proposed development. However, appropriate environmental management of sediments will be required during the construction phase of the works, with suitable management plans to be prepared and implemented during both the construction and operational phases of the development.

An assessment of potential ecological exposures or pathways was not undertaken as part of the sediment investigation process. However, based on advice from NSW EPA to the auditor on 26/05/14 and sediment analytical results in other areas of the shoreline of Homebush Bay and Parramatta River, it is considered that the sediment quality identified beneath the proposed rowing club footprint is likely to be background levels associated with historical activities and landuses of the Rhodes Peninsula and historical dredging activities of Homebush Bay. Furthermore, it is considered that, based on the limited extent of the proposed development relative to the impacted sediments within Homebush Bay, the absence of an assessment of potential ecological exposure and / or pathways does not substantially affect the findings and the objectives of the audit, or suitability of the site for the proposed landuse.

An assessment of surface water conditions has been undertaken at the site during the previous investigations (GHD 2013) indicating the presence of dissolved copper and zinc in the surface water. However, taking into consideration the levels of copper and zinc at other surface water locations along the shoreline of Parramatta River and Homebush Bay, it is considered that the concentrations were indicative of background levels, with no evidence of any impact from the adjacent site uses or site. Furthermore, analytical results do not suggest any evidence of significant pollutant linkage in respect of petroleum hydrocarbons in the groundwater between Wentworth Point and surface water quality in the adjacent Parramatta River and Homebush Bay.

PART III: Auditor's declaration

I am accredited as a site auditor by the NSW Environment Protection Authority under the *Contaminated Land Management Act 1997* (**Accreditation No. 0503**).

I certify that:

- I have completed the site audit free of any conflicts of interest as defined in the *Contaminated Land Management Act 1997,* and
- with due regard to relevant laws and guidelines, I have examined and am familiar with the reports and information referred to in Part I of this site audit, and
- on the basis of inquiries I have made of those individuals immediately responsible for making those reports and obtaining the information referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete, and
- this statement is, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties under the *Contaminated Land Management Act 1997* for wilfully making false or misleading statements.

Andrew Lau
14 January 2016

** Select as appropriate*

PART IV: Explanatory notes

To be complete, a site audit statement form must be issued with all four parts.

How to complete this form

Part I identifies the auditor, the site, the purpose of the audit and the information used by the auditor in making the site audit findings.

Part II contains the auditor's opinion of the suitability of the site for specified uses or of the appropriateness of an investigation, or remedial action or management plan which may enable a particular use. It sets out succinct and definitive information to assist decision-making about the use(s) of the site or a plan or proposal to manage or remediate the site.

The auditor is to complete either Section A or Section B of Part II, **not** both.

In **Section A** the auditor may conclude that the land is *suitable* for a specified use(s) OR *not suitable* for any beneficial use due to the risk of harm from contamination.

By certifying that the site is *suitable*, an auditor declares that, at the time of completion of the site audit, no further remediation or investigation of the site was needed to render the site fit for the specified use(s). Any **condition** imposed should be limited to implementation of an environmental management plan to help ensure the site remains safe for the specified use(s). The plan should be legally enforceable: for example a requirement of a notice under the *Contaminated Land Management Act 1997* (CLM Act) or a development consent condition issued by a planning authority. There should also be appropriate public notification of the plan, e.g. on a certificate issued under s.149 of the *Environmental Planning and Assessment Act 1979.*

Auditors may also include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

In **Section B** the auditor draws conclusions on the nature and extent of contamination, and/or suitability of plans relating to the investigation, remediation or management of the land, and/or whether land can be made suitable for a particular land use or uses upon implementation of a remedial action or management plan.

By certifying that a site *can be made suitable* for a use or uses if remediated or managed in accordance with a specified plan, the auditor declares that, at the time the audit was completed, there was sufficient information satisfying guidelines made or approved under the CLM Act to determine that implementation of the plan was feasible and would enable the specified use(s) of the site in the future.

For a site that *can be made suitable*, any **conditions** specified by the auditor in Section B should be limited to minor modifications or additions to the specified plan. However, if the auditor considers that further audits of the site (e.g. to validate remediation) are required, the auditor must note this as a condition in the site audit statement.

Auditors may also include **comments** which are observations in light of the audit which provide a more complete understanding of the environmental context to aid decision-making in relation to the site.

In **Part III** the auditor certifies his/her standing as an accredited auditor under the CLM Act and makes other relevant declarations.

Where to send completed forms

In addition to furnishing a copy of the audit statement to the person(s) who commissioned the site audit, statutory site audit statements must be sent to:

EPA (NSW)
Contaminated Sites Section
PO Box A290, SYDNEY SOUTH NSW 1232
nswauditors@epa.nsw.gov.au

AND

the **local council** for the land which is the subject of the audit.

.

** Select as appropriate*

Site Audit Report
0503-1407

Proposed Rowing Club
Burroway Road
Wentworth Point NSW

14 January 2016
43392-102531 (Rev 1)
JBS&G Australia Pty Ltd

Table of Contents

Tables

Appendices

List of Abbreviations

A list of the common abbreviations used throughout this report is provided below.

As	Arsenic
AST	Aboveground Storage Tank
Cd	Cadmium
Cr	Chromium
Cu	Copper
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
B(a)P	Benzo (a) pyrene
DO	Dissolved oxygen
DoP	NSW Department of Planning
DQO	Data Quality Objectives
DP	Deposited Plan
EC	Electrical conductivity
EH	Redox potential
EPA	New South Wales Environment Protection Authority
Hg	Mercury
HIL	Health Based Investigation Level
LOR	Limit of Reporting
MAH	Monocyclic Aromatic Hydrocarbon
Ni	Nickel
OCP	Organochlorine Pesticide
SAR	Site Audit Report
SAS	Site Audit Statement
PAH	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PIL	(Provisional) Phytotoxicity Based Investigation Level
PCB	Polychlorinated Biphenyls
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percentage Difference
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank
Zn	Zinc

1. Introduction

1.1 Introduction and Background

Andrew Lau, of JBS&G Australia Pty Ltd (JBS&G), was engaged by UrbanGrowth NSW to conduct a site audit of the proposed rowing club development, located at the eastern perimeter of Burroway Road, Wentworth Point, NSW. The proposed rowing club development footprint (the site) is located 'overwater' within Homebush Bay and encompasses an area of 2730 m^2. Refer to **Appendix C** for the site layout.

It is understood that in August 2015, UrbanGrowth requested a change to the original Master Plan, requesting the inclusion of a rowing club, south the proposed marina. As required in the submission for the concept plan development application (DA-301/2015) to Auburn Council, it was a request by Council that a Section B Site Audit Statement (SAS) be completed to verify that the information provided in the development application (by the consultant) was "*complete, adheres to the appropriate standards and subject to the recommended construction and operational management plans, the site could be made suitable for the proposed use*". It was also a requirement by Council that offshore contamination management be considered (by the preparation of a suitable CMP) during the construction and operation of the proposed rowing club.

No previous Site Audit Statements (SAS) or Site Audit Reports (SAR) are known to exist for the site. However it is noted that a SAS and SAR, entitled *Site Audit Report – Maritime Precinct Stage 1 and 2*, Wentworth Point, Homebush Bay, NSW was previously prepared for the adjoining land parcel (identified as Lot 2 in DP 859608 and Lot 3 in DP 859608) by JBS Environmental in July 2010. Historical information, was sourced from this report only and included in **Section 2** and **3**, where relevant to the 'site'.

Andrew Lau is a Site Auditor accredited by the NSW Environment Protection Authority (EPA) under the *Contaminated Land Management Act* 1997 (CLM Act 1997) (Accreditation Number 0503). The audit was completed with the assistance of Rita Sirianni, one of JBS&G's senior consultants trained and experienced in contaminated land assessment and auditing. The audit reference number is 0503-1407.

1.2 Objectives of Audit

The objective of this site audit were to:

- Independently review the sediment investigation reports and surface water investigation report prepared by the consultant (GHD);
- Review the Contamination Management Plan (CMP) prepared by the consultant, in accordance with Auburn Council requirements; and
- Prepare a SAR and SAS, providing an opinion as to whether the site can be made suitable for the proposed landuse, i.e, rowing club, subject to implementation of the CMP.

In accordance with the requirements of the CLM Act 1997, the site audit was undertaken with consideration to:

- The provisions of the CLM Act, Regulations and subsequent amendments;
- The provisions of any environmental planning instruments applying to the site; and
- Relevant guidelines made or approved by the EPA (**Appendix A**).

1.3 Type of Audit

Since the site audit is not being undertaken in response to a legal requirement imposed by a consent authority or the EPA, the site audit has been conducted as a non-statutory audit.

1.4 Documents Reviewed

The following documents were reviewed as part of this site audit:

- *Report for Homebush Bay West Contamination Assessment Sediment Investigation*, GHD Pty Ltd, February 2010 (GHD 2010a).
- *Report for Dioxin Analyses in Sediment, Homebush Bay West*, GHD Pty Ltd, July 2010 (GHD 2010b).
- *Report for Homebush Bay West Surface Water Investigation,* GHD Pty Ltd, March 2013 (GHD 2013).
- *Proposed Rowing Club, Burroway Road, Wentworth Point, Desktop Contamination Assessment*, GHD Pty Ltd, 18 September 2015 (GHD 2015).
- *Proposed Above Water Rowing Club Development, Wentworth Point, Contamination Management Plan (CMP),* GHD Pty Ltd, January 2016 (GHD 2016).

Additional correspondence relating to the site audit is provided in **Appendix B**.

1.5 Site Inspections

Since the site is located over water, a site inspection was considered unnecessary by the site auditor, since there is nothing other than water to observe. This was confirmed through a review of recent Near Map images. Previous site inspections have been undertaken by the site auditor during previous site audits completed in recent years on the adjoining Wentworth Point.

1.6 Chronology of Site Assessment and Audit Works

The process of the sediment assessment, surface water assessment and audit undertaken at the site has been chronologically listed in **Table 1.2**.

Table 1.2: Summary of Assessment and Audit Works Undertaken at the Site

Date	Purpose
November 2009	Completion of a sediment sampling program by GHD including the collection of sediments across three transects (located 5, 10 and 20 m from the shoreline) at 50 m centres. Sediment sampling was undertaken across the shoreline of Homebush Bay, with a total of five sediment samples collected from within the proposed rowing club development footprint for subsequent analysis. Findings from the sediment sampling program were presented in a report (GHD 2010a).
May 2010	At the request of NSW EPA, a subsequent sediment sampling program was undertaken to assess the presence of dioxins, targeting the Homebush Bay shoreline, with selected samples also collected from within the proposed rowing club development footprint. Findings from the dioxin sediment sampling program were presented in a report (GHD 2010b).
January 2013	Completion of a surface water program, including the collection of 10 samples along the shoreline of Homebush Bay and Parramatta River surrounding Wentworth Point. Findings from the surface water investigation were presented in a report (GHD 2013).
August 2015	UrbanGrowth NSW have recently changed the Master Plan to allow for the inclusion of a rowing club south of the proposed marina, i.e, to the east of Burroway Road (i.e, 'the site'). Based on revisions to the Master Plan, an assessment on the contamination status for the proposed rowing club footprint was required as part of the concept plan development application. Subsequently in September 2015, a Desktop Contamination Assessment Report (GHD 2015) was prepared detailing the findings of the sediment and surface water sampling programs. The objective of the report was to review all previous sediment and surface water sampling results,

Date	Purpose
	with particular focus on the proposed rowing club development footprint and provide a comment on the suitability of the site for the proposed landuse.
14 December 2015	Commencement of Site Audit for the proposed rowing club development (0503-1407) including a review of previous reports.
18 December 2015	Preparation of a CMP by GHD for review by the auditor. The CMP was prepared in accordance with the requirements of Auburn Council, as part of the concept plan development application.
December 2015	Preparation of a Site Audit Statement 0503-1407 and Site Audit Report (JBS&G 2015), confirming that site can be made suitable for the proposed landuse, i.e, rowing club.
January 2016	Preparation of revised CMP (GHD 2016) with amended property descriptor and zoning information and Issue of a revised Site Audit Statement 0503-1407-R and Site Audit Report (JBS&G 2016), confirming that site can be made suitable for the proposed landuse, i.e, rowing club.

2. Site Description

2.1 Site Identification

The site details have been summarised in **Table 2.1** and described in further detail in the following sections. Plans identifying the subject site has been presented in **Appendix C**. The site location and lay out is shown in **Appendix D**.

Table 2.1: Summary Site Details

Street Address	Burroway Road, Wentworth Point, NSW
Property Description	Part of Homebush Bay
Parish	St John
County	Cumberland
Local Government Area	Auburn
Property Size	2730 m^2
Zoning	W1 (maritime waters) and W5 (maritime recreation)
Previous Use	Homebush Bay
Existing Use	Homebush Bay
Proposed Use	Rowing Club

2.2 Site Layout and Activities

The consultant (GHD 2015) reported that the site is located at the end of Burroway Road, Wentworth Point. Based on a review of site plans provided by UrbanGrowth, the site encompasses an area of approximately 2730 m^2.

The area located adjacent to the proposed development is owned by the NSW government and occupies an area of 18 hectares (located at 3-7 Burroway Road). The adjoining land is identified as Lot 2 in DP 859608 and Lot 3 in DP 859608. This area has been subdivided into a number of smaller yards currently leased for a variety of light industrial uses including radio transmission, warehouses and storage compounds. As discussed in **Section 1.1**, this area does not form part of the site audit. For completeness a brief summary of historical uses of the adjoining land has been included in **Section 3** of this report, however a detail regarding site conditions, historical uses and contamination status has been considered separately under Site Audit Report 0503-0912 (JBS41041-14719), dated July 2010 (JBS 2010).

A Master Plan was prepared for the development of the property located at 3-7 Burroway Road in April 2013, including mixed residential use, public school, maritime boat use and a large peninsula park with foreshore access. The consultant (GHD 2015) reported that recent changes to the Master Plan in 2015, by UrbanGrowth proposes the development of a rowing club south of the proposed marina, outside the eastern perimeter of Lot 10 on the Master Plan dated April 2013 ('the site'). Lot 10 is currently understood to be identified as proposed Lot 204 under DA273/2014.

The consultant (GHD 2015) reported that the site currently forms part of Homebush Bay, located in the upper region of the Sydney Harbour Catchment, with the proposed rowing club development located on the water of Homebush Bay.

2.3 Topography

The consultant (GHD 2015) reported that the site is relatively flat and is located at an elevation of 10 m Australian Height Datum (AHD). The consultant reported that adjoining areas and site has been subject to historical filling associated with land reclamation, which has altered the original topography of the area.

2.4 Soils and Geology

Numerous soil investigations have been undertaken across the land adjoining the site to the west. As previously discussed in **Section 1.1**, works undertaken within the land portion, adjoining the site to the west does not form part of this audit. A summary of relevant findings regarding soils and geology within the area was provided by the consultant (GHD 2015) and are discussed as follows.

The consultant (GHD 2015) reported that soils within the land area, west of the site, comprise man-made fill materials comprising dredged sand and mud, crushed sandstone, brick, concrete and demolition rubble and / or industrial and household waste to a maximum depth pf 3.4 m below ground surface (bgs). The fill material is underlain by Quaternary alluvial deposits comprising silty to peaty quartz, silt and clay, which generally represent dredged materials from Parramatta River, salt marsh or mangrove bed materials.

The soil conditions previously encountered on the adjoining land are consistent with conditions reported on the Sydney 1: 100 000 Geological Series Sheet 9130 (JBS 2010), indicating that the site is underlain by man-made fill, further underlain by Quaternary alluvial deposits. It is noted that the geological sheet also indicated that ferruginous and humic cementation may occur in places and shell layers are common.

2.5 Acid Sulphate Soils

The consultant (GHD 2015) completed a review of the Prospect / Parramatta River 1:25 000 Acid Sulphate Soils Risk map, which indicated that the site is classified as 'Disturbed Terrain'. This is classified as "including filled areas which often occur during reclamation of low lying swamps for urban development. Other disturbed terrain areas include areas which may have been mined or dredged or have undergone heavy ground disturbance through general urban development of construction of dams or levees."

The consultant (GHD 2015) considered that the Quaternary soils would be most likely classified as acid sulphate soils.

2.6 Hydrology

The consultant (GHD 2015) reported that the site is located within Homebush Bay, with the Parramatta River part of the catchment to the north.

The consultant (GHD 2015) reported that the adjacent properties are generally unsealed, with the majority of surface water on the adjoining properties likely to infiltrate to the underlying soils.

2.7 Sediments

The consultant (GHD 2015) reported that the sediments generally comprised fine grained sediments, including silty clays and clayey sands and sands with minor gravel content. Shell grit was also identified in selected areas.

2.8 Hydrogeology

A review of groundwater bore information was previously completed by the consultant and discussed in the JBS 2010. For completeness, a review of this information was completed. Relevant findings from the bore search indicates that presence of six registered bores within a 1 km radius, with information from two bores, indicating that the bores were used for irrigation and monitoring purposes. One bore was installed to a depth of 180 m, into multiple water bearing zone, including soils and sandstone bedrock; with the remaining bore installed to a depth of 5 m.

Groundwater monitoring and assessment works were previously completed on the adjoining land at Burroway Road, by GHD, Douglas Partners and Parsons Brinkerhoff between 2009 and 2015. The auditor notes that these works on the adjoining land do not form part of this audit, however for completeness, the consultant (GHD) has provided a summary of relevant groundwater conditions in the report (GHD 2015).

Based on a review of previous investigations completed at the site and the 2011 monitoring event completed by GHD, the consultant (GHD 2015) reported that groundwater levels were generally encountered at a depth of 1 m bgs, with groundwater assumed to be continuous within the fill horizon and underlying dredged materials. The consultant considered that based on the close proximity of Homebush Bay, groundwater beneath the site is generally saline and groundwater movement is influenced by tidal action.

2.9 Surrounding Environment

The site is located within Homebush Bay, with Parramatta River to the north. A variety of landuses, including industrial, commercial and residential are located beyond Homebush Bay and the Rhodes Peninsula to the east. The land adjoining the site to the west and southwest is currently used for light industrial uses.

2.10 Audit Findings

The information provided by the consultant (GHD 2015) in regards to the site condition and surrounding environment has been checked against, and generally meets the requirements of EPA 1997.

The auditor notes that the consultant (GHD 2015) obtained relevant regional information from previous investigations undertaken on the adjoining land at Burroway Road. As discussed in **Section 1.4**, the previous investigations undertaken on the land parcel of Burroway Road, do not form part of this audit, and regional information was only summarised, where required for completeness.

The auditor notes that the consultant (GHD 2015) provided site plans, with Figure 1 (GHD 2015) showing the extent of the investigation area and proposed rowing club development, however this figure was not to scale, with the site area not able to be calculated. The auditor subsequently requested a copy of relevant site plans from UrbanGrowth, which have been included in **Appendix C**. Based on a review of these site plans, the area for the site has been calculated and has been included in **Table 2.1**.

The consultant (GHD 2015) reported that quaternary soils would be likely classified as acid sulphate soils. The auditor considers that during the development works and potential excavation of sediments, a management plan will need to be prepared.

Overall, the information provided by the consultant (GHD 2015) in relation to site condition and the surrounding environment is considered adequate for the purposes of assessing the contamination status of the site.

3. Site History

3.1 Site History Information Sources

A detailed historical review was previously completed by GHD in 2010 on the adjoining land parcel located at Burroway Road, with relevant historical information also summarised in the SAR previously prepared by JBS in 2010 (JBS 2010). Historical information was previously sourced from aerial photographs; title searches; and council, EPA and WorkCover records. For completeness, a summary of historical information, with relevance to the site, has been provided below.

3.2 Historical Activities – Adjoining Land Parcel at Burroway Road

A summary of relevant historical information sourced from JBS 2010 indicates that the adjoining land was owned by numerous individuals and companies from 1936, including, but not limited to Metropolitan Meat Industry Commissioner and Maritime Services. The adjoining land was largely undeveloped until 1961, with the exception of a small building and small mast. From the 1960s, fill materials were understood to have been imported to the adjoining land, comprising dry shale fill from Prospect, building waste, municipal waste and industrial waste. From 1961, the site was occupied by warehouses and storage areas.

Homebush Bay and the nearby Newington areas were originally saltmarsh and wetland areas. The seawall around the eastern and northern boundary of the adjoining land was constructed in 1891, with filling behind the seawall reported to have commenced by 1930, particularly along the Wentworth Point area. Fill materials were reported to comprise relatively clean material dredged from Homebush Bay.

Historically the Rhodes Peninsula comprised heavy industrial uses from as early as 1930 until 1996.

3.3 Historical Activities – Homebush Bay

The consultant (GHD 2015) provided a summary of historical information for Homebush Bay. The consultant reported that the area surrounding Homebush Bay is heavily industrialised, with significant development occurring in the surrounding area during the mid-1900s, in particular along the Rhodes Peninsula, east of the site (i.e, where the former Union Carbide site was located). The former Union Carbide site was used for manufacturing of chemicals for over 60 years.

The consultant (GHD 2015) reported that in the late 1980s contaminated sediments were identified in Homebush Bay, containing contaminants of concern including chlorinated and non-chlorinated organics such as dioxins, hexachlorobenzene, DDT and benzo(a)pyrene. Remediation of the former Lednez / Union Carbide site and the adjacent sediments of Homebush Bay were conducted by Thiess Services from 2005 to 2011. Remediation of portions of the eastern half of the bay included dredging of the top half metre of sediments and either treatment by thermal desorption technologies to remove persistent contaminants or capping onshore.

3.4 Regulatory Information

Information sourced from the JBS 2010 audit report indicates that no notices have been issued on the adjoining land parcel, under the *Contaminated Land Management Act 1997*; with licenses and/or notices used under the *Protection of Environment Operations (POEO) Act 1997*.

However, a search of the Contaminated Sites Register and POEO Register previously completed for the surrounding properties identified 11 notices for premises located within a 1 km radius of the site and in the proximity of Homebush Bay; and 22 relevant current and suspended licenses

or notices for premises located within a 1 km radius of the site and in proximity to Homebush Bay.

3.5 Previous Investigations

3.5.1 Environmental Investigations

Numerous investigations have been undertaken on the adjoining land parcel between 2009 and 2015 by GHD, Parsons Brinkerhoff and Douglas Partners. Findings from these investigations, as reported by GHD (GHD 2015) indicated that the identified contamination on the adjoining parcel of land may pose a potential risk to planned future users, as proposed under the April 2013 Master Plan, without appropriate remediation. The results and findings from these previous investigations have not been considered further in this audit report, and will form part of a separate audit report.

The consultant (GHD 2015) reported that the previous investigations undertaken on the adjoining land parcel did not comment on the suitability of the 'site', within the proposed rowing club development.

3.5.2 Geotechnical Investigations

A geotechnical investigation was undertaken by Douglas Partners (DP) for the Wentworth Point Urban Activation Precinct in 2014 (report entitled *Report on Geotechnical Investigation, Wentworth Point Urban Activation Precinct, Hill Road and Burroway Road, Wentworth Point*, dated September 2014, DP 2014), which included the installation of one borehole (BH26) within the proposed rowing club development footprint. The consultant (GHD 2015) reported that additional sampling was also undertaken from a borehole adjacent to BH26 (BHA26A).

Soil sampling was also undertaken during these works, with one soil sample collected from BH26 at a depth of 2.95 m; and two samples collected from BHA26A at depths of 0.5-1 and 2-2.5 m. All samples were analysed for TRH, BTEX, PAHs, OCPs, OPPs, PCBs and phenols. A summary of the analytical results were provided by the consultant (GHD 2015), with relevant findings summarised as follows:

- Concentrations of TRH, BTEX, OCPs, OPPs, PCBs and phenols were reported below the laboratory limit of reporting (LOR).
- Concentrations of metals were either reported below the laboratory LOR or below the adopted criteria.

Analytical results and sample locations were provided by GHD in the GHD 2015 report, with relevant findings also summarised in the GHD 2015 report. However, it is noted that a copy of this report was not provided to the auditor for review. The historical DP data has been provided for information and comparative purposes only. However, it is considered that the levels reported by DP are generally comparable to the sediment assessment completed by GHD (further discussed in **Section 7**).

3.6 Proposed Rowing Club Development Documents

Numerous documents were provided to the consultant, GHD for review, relating to the proposed rowing club development, including but not limited to zoning information, concept plans and Statement of Environmental Effects (SoEE). It is noted that a review of these documents has been provided in the audit report for information purposes only, with a summary provided as follows:

- The proposed rowing club development will be located south of the planned marina and comprise a three storey boathouse building piled over water, pontoons to provide access for rowing boats into Homebush Bay and a public kayak pontoon. A foreshore promenade will be built to provide access to the proposed rowing club boathouse and the marina.

- Lot 10 will still be developed as a dry boat store and a car park (commercial land use), consistent with the April 2013 Master Plan. It is understood that this development may be completed separately to the rowing club development.
- Various marine environmental assessments for the proposed rowing club development have been completed and are subject to approval by the consent authority of Homebush Bay (i.e. Roads and Maritime Services).
- The boathouse building is proposed to sit on a concrete slab supported by a series of tubular steel piles. The piles will need to be founded through the sediments of Homebush Bay to at least 2.0 metres into the underlying rock. It is reported that that the piles would be pre-fabricated offsite and delivered to the 'site' by barge and the piles installed from the water using a piling barge. To minimise disturbance of sediments, swing moorings with concrete blocks and land based anchors (where possible) would be removed when the barge leaves the site. The piles would be lowered through the soft sediments under their own weight with vibration (if required) and then driven into rock and any stronger alluvium material. The piling process would generally move the sediments down and sideways. It is proposed that no spoil would be produced from the installation of the piles, with appropriate sediment controls to be implemented during the works.

3.7 Audit Findings

The site history information provided by the consultant (GHD 2015) has been checked against, and generally meets the requirements of EPA 1997.

The extent of the site history information presented by the consultant (GHD 2015) is considered sufficient and comprehensive in identifying contamination issues at the site as part of the investigation process.

4. Conceptual Site Model

The National Environment Protection (Assessment of Site Contamination) Measure, NEPC, 1999 (as amended 2013, NEPC 2013) identifies a conceptual site model (CSM) as a representation of site related information regarding contamination sources, receptors, and exposure pathways between those sources and receptors. The development of a CSM is an essential part of all site assessments and remediation activities.

NEPC (2013) identified the essential elements of a CSM as including:

- Known and potential sources of contamination and contaminants of concern including the mechanism(s) of contamination;
- Potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air);
- Human and ecological receptors;
- Potential and complete exposure pathways; and
- Any potential preferential pathways for vapour migration (if potential for vapours identified).

Based on the known contamination, each of the elements of the CSM are discussed as follows.

4.1 Sources of Contamination

Based on the site history review, the consultant identified the following areas of potential contamination:

- Potential contamination of sediments and waters of Homebush Bay associated with current and former onsite and offsite industries within the Rhodes Peninsula and Homebush Bay.

Based on the identified sources of contamination, the consultant (DP 2013a) identified the following contaminants of potential concern:

- Heavy Metals.
- Total Petroleum Hydrocarbons (TPH).
- Benzene, Toluene, Ethylbenzene and Xylenes (BTEX).
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Polychlorinated Biphenyls (PCBs).
- Organochlorine Pesticides and Organophosphorus Pesticides (OCPs/OPPs).
- Phenols.
- Tributyltin (TBT).

4.2 Potentially Affected Media

Potentially affected media are sediments and surface waters of Homebush Bay.

4.3 Potential Human and Ecological Receptors

Key human receptors for the potential contaminants sourced from the site include potential future users of the proposed rowing club. This would be anticipated to include recreational and commercial / industrial exposure durations consistent with club users and staff employed at the proposed club, respectively. Additional human exposures have been identified during the construction of the proposed rowing club, including construction workers.

Potential ecological receptors can be identified from a review of the water quality objectives for Sydney Harbour – Parramatta River Catchment. These are restricted to aquatic ecosystems and ecological receptors associated with aquatic foods sourced from the Bay. Potential exposures of these ecological receptors would be anticipated to occur via surface waters and sediments.

It is noted that the water quality objectives also identified a range of potential beneficial uses of water within the catchment. Water supply and drinking water based beneficial uses have not been considered for the site as the water is saline. Recreational exposures are considered in the potential exposure pathways.

4.4 Potential Exposure Pathways

It is considered that any human exposure of contaminated sediments and waters would be via incidental oral and dermal contact. Pathways for recreational users are anticipated to be restricted within the extent of the site area, as it is proposed that decking will be constructed over the water. To this extent, human activity will occur on the decking overlying the surface water and sediment. The presence of decking will prevent / restrict the exposure to the sediments and surface waters underlying the site.

Potential construction workers exposure will be restricted to potential oral and dermal exposures. The consultant (GHD 2016) has prepared a Contamination Management Plan (CMP) for the site identifying potential hazards as related to site contamination. It is anticipated that occupational health and safety controls will be implemented during the construction and operational phases of the proposed development works.

Ecological exposure pathways have not been specifically assessed for this development, or within the context of the site, consistent with advice received from Niall Johnson, EPA, conversation dated 26 May 2014, advising that the contamination of sediments in Homebush Bay in proximity to Wentworth Point is ambient and not related to the Wentworth Point site. Hence, this ecological exposure pathway has not been considered further in the context of the proposed water-based rowing facility.

4.5 Preferential Pathways

Previous investigations conducted by the consultant have found the distribution of sediments and surface water within the extent of the audit area to be relatively homogenous. There have been no preferential pathways of contamination migration identified within the extent of the site.

However, with the proposed construction works, it is proposed to install several piles within the extent of the audit area. The installation methodology reported by GHD infers that these will be installed by the displacement of materials to the side of the piles, as opposed to being driven down vertically. It is not anticipated that the installation of the piles will cause variation in the distribution of contaminants in the sediments.

4.6 Audit Findings

The auditor notes that the consultant (GHD 2010a, GHD 2010b and GHD 2013) did not prepare a detailed CSM. The auditor considers that this does not affect the outcome of this audit, particularly as the assessment of sediments and surface waters within the site were sufficient and meets the requirements of this audit. It is noted that for completeness, the auditor has reviewed the relevant information and has provided detail in **Section 4.3**, **4.4** and **4.5** of this audit report.

The consultant has not reported potential ecological exposures or pathways. However, consistent with the NSW EPA advice to the auditor on 26/05/2014, and the limited extent of the proposed development relative to the area of impacted sediments within Homebush Bay, this is not considered to substantially affect the findings of the consultant (GHD 2015) and the objectives of the audit.

Based on the previous investigations undertaken within the area adjacent to the site and based on the site history review, the auditors considers that the list of COPCs was adequate in assessing the nature and extent of contamination at the site.

Overall, the auditor considers that the identified potential contamination issues, and in consideration of the potentially contaminated media investigated by the consultant are considered appropriate for assessing the suitability of the site for the intended land use.

5. Sampling Analytical and Quality Program

An assessment of quality assurance and quality control (QA/QC) has been undertaken by the consultant (GHD 2010a, GHD 2010b and GHD 2013) by developing data quality indicators (DQIs), broadly based on the seven step process referred to in DEC 2006.

The sediment and surface water investigations included a greater area compared to the area identified by this site audit. The previous investigations targeted areas of the shoreline, north and northwest of the site along Parramatta River and the shoreline of Homebush Bay to the northeast of the site. The auditor notes for completeness the sediment and surface water data for the entire shoreline of Parramatta River and Homebush Bay was considered as part of this audit.

The auditor has undertaken a review of the QA/QC undertaken by the consultant, which has been summarised in **Table 5.1** against the PARCC parameters (precision, accuracy, representativeness, comparability and completeness).

Table 5.1 Data Usability Assessment (GHD 2010a, GHD 2010b and GHD 2013)

Parameter	DQIs	Requirement	Auditor Assessment
Field and Lab QA/QC			
Precision	Intra-laboratory duplicates (blind)	Collected at a rate of 1 per 20 samples. Analysed for primary contaminants of concern. RPDs less than 50%.	Soil duplicates were collected at a rate of 4 % for total samples collected and were analysed for the main contaminants of concern (GHD 2010a). One sediment duplicate (GHD 2010b) was collected during the additional sediment investigation and analysed for dioxins (rate of 10 %). RPDs ranged from 0-114 %, with elevated RPDs reported for 2,3,7,8-TCDD (one sample); metals (three samples), PAHs (3 samples) and TPH (two samples) in selected duplicate pairs. The consultant (GHD 2010a and GHD 2010b) considered that the elevated RPDs were generally due to a low concentration close to the LOR. The consultant considered that the RPDs did not significantly affect the reliability of the data set. The auditor concurs with the consultant's findings.
			Surface water duplicates were collected at a rate of 10% of total samples. RPDs ranged from 0-120 % and were within the acceptable range, with only one exceedance reported for mercury 120 %). The consultant (GHD 2013) reported that the difference between the primary and duplicate sample was attributed to low concentrations in the duplicate pairs, i.e, below or close to the laboratory LOR. The consultant considered that the recorded RPD exceedance does not affect the overall integrity of the results. The auditor concurs with the findings of the consultant and considers this acceptable and does not affect the assessment of the data.

Parameter	DQIs	Requirement	Auditor Assessment
Precision	Inter-laboratory duplicates (spilt)	Collected at a rate of 1 per 20 samples. Analysed for primary contaminants of concern. RPDs less than 50%.	Soil duplicates were collected at a rate of 1 % and were analysed for the main contaminants of concern during the sediment investigation works. Inter-laboratory duplicates were not collected during the additional sediment sampling works for dioxins (GHD 2010b). It is noted that the number of inter-laboratory duplicates collected does not meet the recommended minimum frequency. RPDs ranged from 0-131 %, with elevated RPDs reported for mercury, benzo(k)fluoranthene and chrysene in the duplicate pair. The consultant (GHD 2010a) reported that the elevated RPDs was attributed to low concentrations below close to the laboratory LOR. The consultant considered that the RPDs did not significantly affect the reliability of the data set. The auditor concurs with the consultant's findings and finds this acceptable. The absence of inter-laboratory duplicates during the dioxin sediment investigation is a minor non-conformance and does not affect the findings of this audit.
			Surface water duplicates were collected at a rate of greater than 10% and were analysed for main contaminants of concern. RPDs ranged from 0-40 %, and were within the DQI.
	Laboratory duplicates	One per batch. RPDs less than 50%.	Laboratory duplicates were undertaken by the primary laboratories. The reported RPDs were within the DQI, however elevated RPDs were reported as follows: • Selected PAHs during the sediment investigation works (DP 2010a); • 4.4-DDD in one sample during the sediment investigation works (GHD 2010a); and • Chromium and mercury in one sample only during the sediment investigation works (GHD 2010a). The elevated RPD is generally attributed to concentrations being low or close to the laboratory LOR. Even though elevated PRDs were reported, the auditor considers that the RPDs were considered acceptable.
Accuracy	Field rinsate blanks	Collected at a rate of 1 per piece of decontaminated sampling equipment. Analysed for primary contaminants of concern. Laboratory results below the laboratory limit of reporting (LOR).	Field rinsate blanks were not collected during the sediment and surface water investigation works. The consultant (GHD 2010a and GHD 2010b) reported that during the sediment sampling works, dedicated sampling equipment was used to minimise the risk of cross-contamination between sediment samples. It is noted that disposable nitrile gloves were used during the collection of each sample. During the surface water sampling works, the consultant (GHD 2013) reported that disposable bailers were used to collected grab samples, with also decontaminated before use and rinsed with river

Parameter	DQIs	Requirement	Auditor Assessment
			water in the vicinity of the sampling location before sampling. In addition, a new pair of disposable nitrile gloves were used for the collection of each sample to minimise any potential for cross-contamination. The auditor considers the sampling methods employed by the consultant are unlikely to have resulted in significant cross-contamination between sample locations and a review of the available analytical data does not indicate that this has occurred.
	Trip blanks	Collected at a rate of 1 per day of sampling where primary contaminants of concern include volatiles. Analysed for volatiles of concern. Laboratory results below laboratory LOR.	Trip blanks were not collected during the sediment and surface water sampling works (GHD 2010a, GHD 2010b and GHD 2013). The auditor considers that based on the sediment and surface water analytical data; and the absence of significant volatile contamination across the site, the absence of trip blanks during the sediment and surface water sampling program is considered acceptable and does not affect the accuracy of the data. Furthermore, the auditor notes that a review of the sample receipt advice shows that all eskies and sample containers were received intact and sealed, thereby reducing any potential for cross-contamination to have occurred.
	Trip spike	Collected at a rate of 1 per batch where primary contaminants of concern include volatiles. Laboratory results / recovery within 30 % of the spiked concentration.	No trip spikes were collected during the sediment and surface water sampling works (GHD 2010a, GHD 2010b and GHD 2013). No discussion was provided in the reported, however the auditor considers that this is a minor non-conformance and is not likely to affect the representativeness of the data. Furthermore, a review of the analytical data were comparable to visual observations made during both the sediment and surface water sampling, i.e, no odours, sheens or volatile contamination was observed at the site.
Accuracy	Laboratory surrogate spikes	Surrogate spikes to be performed as required by NATA accreditation, generally per sample analysed. Recoveries to be within 70-130 % or 10-140 % (phenols and OCPs).	Surrogate recoveries ranged from 23.1-128 % and were generally within laboratory control limits. Selected surrogate recoveries were reported at a low recovery for selected phenolic compounds and VOC compounds. However it is noted that the lower recoveries were acceptable and still within NATA endorsed recovery limits.
	Laboratory method blanks	Laboratory method blanks to be performed as required by NATA accreditation, generally 1 blank per batch. Results to be below laboratory LOR.	All laboratory method blanks < LOR.
	Laboratory control samples (LCS)	LCS to be performed as required by NATA accreditation, generally one per 20 samples per batch.	LCS recoveries ranged from 23.5-148 % and were generally within the laboratory control limits. Selected LCS recoveries reported both low and high recoveries for selected VOCs, phenolic compounds and

Parameter	DQIs	Requirement	Auditor Assessment
		Recoveries to be within 70-130 % or 10-140 % (phenols and SVOCs).	PAHs. However it is considered that these exceedances do not significantly impact the usability of the data and fall within the laboratories NATA endorsed control limits.
	Laboratory matrix spikes (MS)	MS to be performed as required as NATA accreditation, generally one per 20 samples per batch. Recoveries to be within 70-130 % or 10-140 % (phenols and OCPs).	MS recoveries ranged from 27.4-126 % and were generally within the laboratory control limits. Selected MS recoveries reported both high and low recoveries for selected PAHs, phenolic compounds and VOCs. However it is considered that these exceedances do not significantly impact the usability of the data and the recoveries generally fall within the laboratories NATA endorsed control limits. The auditor considers that the recovery limits does not reduce the precision of the testing laboratory or the accuracy of the results used for assessing site suitability.
Sediment and Surface Water Sampling and Analytical Schedule and Sampling Methodology			
Representa-tiveness	Sediment sampling locations	Samples to be collected on a representative basis consistent with the CSM.	The sediment sampling locations (GHD 2010a) were installed targeting the shoreline of Parramatta River and Homebush Bay. Samples were collected across three transects at 50 m centres. A total of five sediment samples were collected from the proposed rowing club development footprint. During the additional sediment investigation in 2010 (GHD 2010b), an additional five sediment locations were installed along the shoreline of Homebush Bay, with two of these sediment samples targeting the proposed rowing club footprint. The number of sediment sampling locations and the rationale adopted by the consultant during these works provides sufficient coverage and is considered suitable for assessing the sediments beneath the proposed development footprint. The auditor further notes that the lateral extent (i.e 20 m into the Bay) is considered a suitable distance to extend the sediment investigations particularly in considering future site users. Even though the sediment sample collected outside the proposed rowing club development area do not form part of this audit, it is considered that these sample locations represent background data which are useful in assessing the suitability of the site as part of this audit.
	Sediment sampling depths and intervals	Sampling depths should be consistent with the anticipated distribution of contamination as detailed in the consultant's CSM.	Sediment samples were generally collected at a maximum sampling depth of 1 m below the water / sediment interface. Samples were collected from the sediment core sampler at depths of 0-0.1 m; 0.2-0.3 m and 0.4-0.5 m, targeting the surface, sub-surface and mid-depth, respectively. The consultant has noted (GHD 2010a) that the targeted depth of 1 m could not be achieved at all locations due to obstructions on the seabed.

Parameter	DQIs	Requirement	Auditor Assessment
			The sampling depths were appropriate to assess the vertical extent of contamination, if any and nature of the sediments across the site.
	Sediment sampling methodology	Sediment samples to be collected using a methodology which is appropriate for the primary contaminants of concern.	Sediment samples were collected by a commercial diving company using polycarbonate push tubes. The sampling tubes were installed by hand into the sediments at the nominated sampling locations. All collected sampling tubes were sealed with aluminum caps and transferred to a storage area for a period of less than four hours. All sediment cores were then transferred to the laboratory for immediate refrigeration, under chain of custody conditions. Once all cores had been collected, GHD personnel removed he caps from the tubes to remove excess water. The sediment cores were logged, recording recovery and composition of sediments. Sediment samples were then transferred to laboratory supplied glass jars, completely filled to minimise headspace and capped immediately to minimise loss of volatiles. Sample jars were immediately placed back into the refrigeration units at the laboratory. The auditor considers that the sampling methods adopted by the consultants during the sediment investigation works are considered appropriate and are not likely to affect the representativeness of the sediment data.
	Surface Water sampling locations	Sampling locations to assess areas of concern, allow for delineation of contamination and assess surface water conditions of Homebush Bay	A surface water investigation comprising the collection of ten samples was undertaken in January 2013 along the shoreline of Homebush Bay and Parramatta River, surrounding Wentworth Point. The number and locations of surface water samples collected was sufficient to provide an assessment of the surface water conditions of Homebush Bay, underlying the proposed rowing club development. Additional surface water locations installed along other shoreline areas of Homebush Bay and Parramatta River, also assist in providing background levels and regional conditions of the waters of Homebush Bay.
Representa-tiveness	Surface water sampling methodology	Surface water samples to be collected are to be representative of conditions adjacent to the site.	Surface water samples were collected as grab samples using disposable bailers. Water quality parameters including temperature, pH, EC, dissolved oxygen and redox potential were measured at each sampling location. The auditor considers that the sampling method adopted by the consultant was generally considered appropriate and not likely to affect the representativeness of the data.
	Sediment and surface water sampling containers	Sediment samples to be collected into laboratory supplied, clean unpreserved Teflon lined jars.	Sediment samples were collected using polycarbonate push tubes, sealed with aluminum caps and transferred to a storage area for a period of less than four hours. Once the sediment cores were collected, GHD personnel removed the caps to remove any excess water, with sediment sample than transferred

Parameter	DQIs	Requirement	Auditor Assessment
		Surface water samples to be collected into laboratory supplied, clean and appropriately preserved sampling containers.	to laboratory supplied glass jars, which were sealed tight and placed on ice for transport to the analytical laboratories. Surface water samples were immediately placed into appropriately preserved containers provided by the laboratory. Samples for heavy metal analysis were field filtered using a disposable 0.45 µm filter.
	Sampling equipment decontamination	Sampling equipment to be decontamination between sampling locations or between sampling depths; and surface water locations where significant contamination is encountered.	The consultant (GHD 2010a and GHD 2010b) reported that sediment samples were collected using dedicated sampling equipment to minimise the risk of cross-contamination of sediment samples. It is noted that samples retrieved from the sample tubes were collected using new disposable nitrile gloves for each sample. Surface water samples were collected using disposable bailers, with new disposable nitrile gloves used at each location. The auditor considers the sampling methods employed by the consultants during the investigation works are unlikely to have resulted in significant cross-contamination between sample locations and a review of the available analytical data does not indicate that this has occurred.
Representa-tiveness	Sediment sample contamination screening	Samples to be screened for contamination via visual / olfactory observations and photo-ionisation detector (PID) measurement, if required.	As part of the sediment investigation works (GHD 2010a and GHD 2010b), the consultant provided field notes detailing observations of material types; visual and olfactory observations and sample depths.
	Sample storage and transport	Samples to be placed in an insulated container and chilled. Samples to be transported to laboratory under chain of custody conditions.	All soil samples were transported in ice-cooled chests (less than 4^{o}C), under chain of custody conditions, to laboratories that were NATA accredited for the analysis performed.
	Laboratory sample receipt advice	No damaged containers. No samples submitted in containers which have not been chilled. No samples to be submitted without sufficient times to comply with	Laboratory sample receipt advice provided by the nominated laboratories confirmed that all samples were received in suitable condition, with completed chain of custody documentation provided in the reports.

Parameter	DQIs	Requirement	Auditor Assessment
		recommended holding times.	
Representa-tiveness	Holding times	Samples to be extracted and analysed within recommended holding times.	A review of the consultant's COC documentation and laboratory reports indicates that all samples were analysed within their holding times for all analyses undertaken.
	Analytical Method	Samples to be analysed using NATA accredited methodology.	Laboratories used included: ALS (primary for sediment investigation, GHD 2010a); Envirolab (secondary for sediment investigation works, GHD 2010a); Australian Government – National Measurement Institute (NMI) (primary for sediment investigation works – dioxins, GHD 2010b); Envirolab (primary for surface water sampling works, GHD 2013); and MGT (secondary for surface water sampling works, GHD 2013). Laboratory certificates were NATA accredited.
	Sampling, analysis and quality plan completeness	100 % of sampling, analysis and quality plan to be implemented.	It is noted however that a SAQP was not prepared or reviewed by the auditor as part of the sediment and surface water investigation works completed by GHD in 2010 and 2013. A review of the investigation works as part of this audit confirms the suitability of the GHD reports, with no further investigation works required.
Complete-ness	Field documentation	All relevant field documentation to be collated including sampling logs and calibration records.	During the sediment sampling works, the consultant provided detailed field logs, which have been included in the reports (GHD 2010a and GHD 2010b). During the surface water sampling works, records of field notes and detailing of water quality parameters were provided in the report (GHD 2013). The consultant reported that all field monitoring equipment was appropriately calibrated (GHD 2013), calibration records were not provided in the report. However a review of the water quality data indicates that the results are generally consistent with background levels within Homebush Bay indicating that the equipment was suitably functioning and calibrated at the time of sampling. The auditor considers that the absence of calibration records does not affect the completeness of this audit.
	Laboratory documentation	All relevant laboratory documentation to be collated, including chain of custody records, sample receipt advice and analytical reports.	The consultant provided all relevant COC documentation; laboratory sample receipt advice; and full laboratory certificates in the reports.
	Critical sample validity	All critical sample data to be valid.	The auditor considers that the data is considered reliable, for the purpose of the sediment and surface water investigation.
	Sampling, analysis and quality approach	Adequately comparable sampling, analysis and quality approach to be used	The auditor considers that the data is comparable, as consistent sampling methods were employed throughout the direction of the investigation works and subsequent validation program. One consistent

Parameter	DQIs	Requirement	Auditor Assessment
		throughout the project.	consultant was engaged for the entire investigation works, including both sediment and surface water (I.e, GHD). Furthermore, consistent field staff were employed by each consultant during each phase of investigation works. All laboratory analysis was undertaken by NATA accredited laboratories.
	Sampler	Samplers used throughout the project to have sufficient experience.	The auditor considers that the data is comparable, as consistent sampling methods were employed throughout the direction of the investigation works and subsequent validation program. One consistent consultant was engaged for the entire investigation works, including both sediment and surface water (I.e, GHD). Furthermore, consistent field staff were employed by each consultant during each phase of investigation works. All laboratory analysis was undertaken by NATA accredited laboratories.

5.1 Audit Findings

The quality assurance/quality control measures employed by the consultant (GHD 2010a, GHD 2010b and GHD 2013) were checked and found, overall, to adequately comply with the requirements outlined in EPA 1997, EPA 2006 and NEPC 2013. The laboratory QA/QC results have been reviewed and the results indicate that the analytical laboratories were achieving adequate levels of precision and accuracy. As such, the sampling, analytical and quality protocols undertaken by the consultant were considered to be adequately reliable for the purpose of assessing the contamination status of the site; and is reliable and useable for the purpose of this audit.

6. Assessment Criteria

6.1 Sediment Criteria

The consultant (GHD 2010a and GHD 2010b) adopted sediment criteria based on the Interim Sediment Quality Guidelines (ISQG) presented in ANZECC/ARMCANZ 2000. The consultant has noted that the adopted criteria are not intended to be used as a 'clean-up' criteria, rather investigation levels to trigger site-specific risk assessment and/or management.

The consultant (GHD 2010a) noted that, in accordance with ANZECC/ARMCANZ 2000, the values obtained from the laboratory analysis for all sediment samples should be normalised to 1% organic carbon. The aim of this is to take into account the variability in the sediment attributed to factors such as grain size distribution. Based on this, the consultant normalised the sediment analytical results to 1% total organic carbon to enable an assessment with the adopted sediment quality guidelines.

The consultant (GHD 2010b) has not provided an assessment criteria / investigation criteria for dioxins. Dioxin levels have been converted to TCDD equivalent concentrations and compared within the dataset. The consultant has made further reference to the findings of the Commissioners of Inquiry For Environment and Planning – *Proposed Remediation of the Lednez Site and Part of the Bed of Homebush Bay,* Rhodes (December 2003) which recommends remediation / management on the basis of a TCDD equivalent level of 1 µg/kg.

The adopted sediment criteria are referenced below in **Tables 6.1**.

Table 6.1: Sediment Criteria (mg/kg)

Substance	ISQG High	ISQG Low
Metals		
Arsenic	70	20
Cadmium	10	1.5
Chromium	370	80
Copper	270	65
Nickel	52	21
Lead	220	50
Mercury (inorganic)	1	0.15
Zinc	410	220
PAHs		
Acenapthene	500	16
Acenapthylene	540	44
Anthracene	1,100	85
Fluorene	540	19
Naphthalene	2,100	160
Phenanthrene	1,500	240
Benzo(a)anthracene	1,600	261
Benzo(a)pyrene	1,600	430
Dibenzo(a,h)anthracene	260	63
Chrysene	2,800	384
Fluoranthene	5,100	600
Pyrene	2,600	665
Total PAHs	45,000	4,000
Pesticides		
Total DDT	46	1.6
p.p-DDE	27	2.2
Total DDD	20	2
Tributylin	70	7

Note 1: ANZECC/AMRCANZ (2000) 'Australian Water Quality Guidelines' – Interim Sediment Quality Guidelines.
Note 2: All values are in mg/kg except TBT which is expressed in µgSn/kg
Note 3: Trigger values normalised to 1% organic carbon

6.2 Surface Water Criteria

Taking into consideration that the site is located within Homebush Bay, the surface water criteria adopted by the consultant (GHD 2013) adopted during the investigation was based on the following:

- Trigger values relating to the protection of "slightly to moderately disturbed ecosystems" (marine water) based on 95% protection levels (ANZECC/ARMCANZ 2000) apart from the constituents which bio-accumulate which have been assessed to 99% protection levels;
- Low reliability marine water trigger values for the protection of aquatic ecosystems (ANZECC/ARMCANZ 2000); and
- Water quality guidelines for primary recreational purposes (ANZECC 2000).

The consultant (GHD 2013) noted that in the absence of EPA published guidelines for TPH, a TPH value of 600 µg/L was adopted from the Airports (Environment Protection) regulations 1997 (Statutory Results 1997 No. 13 as amended under the Airports Act 1996). This value was used as a screening level only.

A summary of the surface water investigation levels are presented in **Table 6.2**.

Table 6.2: Surface Water Criteria

Substance	Trigger Values for protection of 95% of marine water species (µg/L)[1]	Values for Recreational Purposes (µg/L)[5]
Metals/metalloids		
Arsenic (III)	2.3[2]	50
Cadmium	5.5	5
Chromium (VI)	4.4	50
Copper	1.3	1,000
Lead	4.4	50
Mercury	0.4	1
Nickel	70	100
Zinc	15	5,000
Petroleum Hydrocarbons[3]		
TRH C_{10}-C_{36}	600	600
BTEX		
Benzene	700	10
Toluene	180[2]	-
Ethylbenzene	5[2]	-
Ortho-xylene	350[4]	-
Meta-xylene	75[4]	-
Para-xylene	200[4]	-
PAHs		
Naphthalene	70	-
Benzo(a)pyrene	0.2[2]	0.01
Phenanthrene	2[2]	
Anthracene	0.4[2]	
Other		
pH	-	6.5-8.5

Note1: Trigger Values for a 95% Level of Protection of Species in Marine Water (Table 3.4.1) adopted.
Note 2: Consultant adopted low reliability trigger value (Section 8.3.7 ANZECC 2000)
Note 3: ANZECC thresholds are not available for petroleum hydrocarbons. Consultant (GHD 2013) has referred to other available Australian guidelines for TPH *viz. Airport (Environment Protection) Regulations* (1997), Schedule 2 Water Pollution Accepted Limits: Table 1.03 – Accepted limits of contamination. These guidelines have not been endorsed by EPA and were used as 'screening levels' only.
Note 4: Consultant adopted 95% trigger values for freshwater.
Note 5: ANZECC (2000) Water Quality Guidelines for primary recreational purposes (Table 5.2.3) adopted.

6.3 Audit Findings

The soil criteria adopted by the consultant have been checked against, and were generally consistent with, criteria endorsed by the EPA, with the exception of the following:

- No EPA published/endorsed criteria was provided for dioxins. However the consultant (GHD 2010) has adopted findings from the Commissioners of Inquiry For Environment and Planning – *Proposed Remediation of the Lednez Site and Part of the Bed of Homebush Bay, Rhodes* (December 2003).

The consultant also took into consideration aesthetic issues (i.e., odours and discolouration) as part of the investigation works.

The sediment investigation criteria adopted by the consultant have been checked against and were considered appropriate for the objectives for this audit. The adopted criteria are considered suitable for undertaking preliminary investigations into the sediment quality of the adjacent foreshore of Homebush Bay. The auditor notes that the consultant (GHD 2010b) has normalised the sediment analytical results to 1% TOC to ensure an accurate assessment with the adopted sediment quality guidelines. The auditor accepts the consultant's approach since the approach is consistent with the requirements of ANZECC/ARMCANZ 2000.

The surface water investigation criteria adopted by the consultant have been checked against, and were sourced from relevant EPA endorsed guidelines, namely ANZECC/ARMCANZ 2000. The adopted criteria are considered appropriate for assessing the potential impacts to ecological receptors relevant to the site (i.e., marine water in a semi-urban environment). The consultant (GHD 2013) also considered recreational uses of Homebush Bay.

The consultant (GHD 2013) did not consider trigger values for other PAH compounds and for completeness, the auditor has provided the criteria for phenanthrene and anthracene, which are based on low reliability trigger values, in **Table 6.2**.

Overall, the auditor considers that the sediment and surface water criteria adopted by the consultant were appropriate for assessing the nature and extent of contamination that may be present within the site.

7. Site Investigation Results

7.1 Field Observations

Based on the findings from the investigation works, the consultant (GHD 2010a, GHD 2010b and GHD 2013) provided a summary of field observations described as follows:

- Sediment sampling undertaken in November 2010 identified that sediments within Homebush Bay and Parramatta River comprised fine grained sediments (clayey silt and silty clay) and sands with minor gravel content. Field observations made during sub-sampling indicated that the material was fairly consistent throughout the core at most locations, with little stratification and / or lateral (i.e, between locations) changes noted. A review of the field data indicates that shell content was reported at most locations.
- The depth of the water column measured at each sample location at the time of sampling was noted as follows: 0.5 m to 3.6 m, along Transect C at approximately 5 m from the shoreline; 1.3 m to 3.7 m, along Transect B at approximately 10 m from the shoreline; and 1.7 m to 5 m, along Transect A at approximately 20 m from the shoreline.
- Organic odours and black striations were noted at one sample location collected along the shoreline of Homebush Bay. However it is noted that this sample location is located outside the proposed rowing club development footprint area. No obvious signs of staining or odours were noted in the sediments in the remaining sample locations (GHD 2010b).
- Field observations noted during the surface water sampling undertaken in 2013, indicated that the following:
    - The surface water samples collected were clear with minimal suspend solids.
    - Electrical conductivities (EC) of the surface water samples collected were higher than 40,000 µS/cm, indicative of highly saline, marine conditions; whilst the EC of the sample collected from the stormwater draining pipe recorded a lower EC and is likely tidal influenced; with the EC of the seep sample reporting a much lower EC than the nearby surface water sample, indicating that the seep on the foreshore beach of Wentworth Point is presentative of the hyporheic zone.
    - pH ranged from 6.95 to 7.86 and was circum neutral at all locations.
    - DO ranged from 0.07 mg/L to 7.6 mg/L; and redox ranged from -103.4 mV to 104.3 mV. The DO and redox potential were indicative of oxic and aerobic conditions, with the exception of the seep sample which was hypoxic and reducing.

7.2 Sediment Investigation Results

The consultant (GHD 2010a) provided summary tables (**Appendix F**) in addition to detailed laboratory reports and chain of custody documentation.

A summary of the analytical results, in comparison to the adopted sediment criteria (as provided in **Section 6.1**) is provided in **Table 7.1**, as follows.

Table 7.1: Summary of Sediment Analytical Results (mg/kg)

Substance	Minimum concentration	Maximum concentration	Exceedance to SAC
Metals			
Arsenic	< 5	32	Exceedances to ISQG low trigger value in 27 sediments. No exceedances to ISQG high trigger values.
Cadmium	< 1	4	Exceedances to ISQG low trigger value in 16 samples. No exceedances to ISQG high trigger values.

Substance	Minimum concentration	Maximum concentration	Exceedance to SAC
Chromium	6	1,090	Exceedances to ISQG low trigger values in 61 samples; and ISQG high trigger values in 4 samples.
Copper	< 5	195	Exceedances to ISQG low trigger value in 63 sediments. No exceedances to ISQG high trigger values.
Lead	13	348	Exceedances to ISQG low trigger value in 84 sediments; and ISQG high trigger values in 17 samples.
Mercury (inorganic)	< 0.1	1.4	Exceedances to ISQG low trigger value in 82 sediments; and ISQG high trigger values in 2 samples.
Nickel	< 2	35	Exceedances to ISQG low trigger value in 23 sediments. No exceedances to ISQG high trigger values.
Zinc	30	1,090	Exceedances to ISQG low trigger value in 71 sediments; and ISQG high trigger values in 47 samples.
TBT	< 0.5	10.1	Exceedance to ISQG low trigger value in one sample only. No exceedance to ISQG high trigger values.
Volatile Organic Compounds (VOCs)			
Total VOCs	< 0.5	0.8	-
Benzene	< 0.2	-	-
Toluene	< 0.5	3	-
Ethylbenzene	< 1	-	-
Total Xylenes	< 1	-	-
TPH			
C_6-C_9	< 10	-	-
C_{10}-C_{36}	< 200	3,320	-
PAHs			
Benzo(a)pyrene	< 0.5	73.26	No exceedances
Fluorene	< 0.5	57.44	Exceedance to ISQG low and high trigger values in one sample only.
Naphthalene	< 0.5	4.42	No exceedances.
Total PAHs	< LOR	523	No exceedances
OCPs			
4.4-DDE	< 0.5	0.8	No exceedance
DDD	< 0.5	3.7	Exceedance to ISQG low trigger value in 6 samples, no exceedances to ISQG high trigger values.
Other SVOCs			
Total SVOCs	< 0.5	0.47	-
Other			
Total Organic Carbon	0.02 %	6.63 %	-

Additional sediment analysis for dioxins was undertaken by GHD in May 2010. Results of the dioxin assessment is presented in GHD 2010b. The consultant (GHD 2010b) provided summary tables (**Appendix F**) in addition to detailed laboratory reports and chain of custody documentation.

A summary of the dioxin analytical results, both normalised and not normalised to TOC are presented in **Table 7.2** and **Table 7.3**, as follows.

Table 7.2: Summary of Total Dioxin Concentrations in Sediments (µg/kg) – Not Normalised

Location	Surface Sediments		Underlying Sediments	
	Sum PCDD[1] and PCDF[2] Congeners	WHO_{05}-TEQ_{DF}	Sum PCDD[1] and PCDF[2]Congeners	WHO_{05}-TEQ_{DF}
GHD28	446	1.31	442	1.27
GHD29	461	1.15	429	1.18
GHD30	488	1.4	574	1.23
GHD31	372	0.78	331	0.76
GHD32	376	0.84	401	1.06

Note1: dibenzo-p-dioxins
Note 2: dibenzofurans
Note 3: WHO toxic equivalents (dioxins and furans)

Table 7.2: Summary of Total Dioxin Concentrations in Sediments (µg/kg) – Normalised to TOC

Location	Surface Sediments		Underlying Sediments	
	Sum PCDD[1] and PCDF[2] Congeners	WHO_{05}-TEQ_{DF}	Sum PCDD[1] and PCDF[2]Congeners	WHO_{05}-TEQ_{DF}
GHD28	135	0.38	134	0.39
GHD29	144	0.36	413	0.39
GHD30	174	0.5	230	0.49
GHD31	155	0.33	92	0.21
GHD32	145	0.32	134	0.35

Note1: dibenzo-p-dioxins
Note 2: dibenzofurans
Note 3: WHO toxic equivalents (dioxins and furans)

7.3 Surface Water Investigation Results

The consultant (GHD 2013) provided summary tables (**Appendix F**) in addition to detailed laboratory reports and chain of custody documentation.

A summary of the surface water analytical results collected in January 2013, in comparison to the adopted surface water investigation levels (as provided in **Section 6.2**) is provided in **Table 7.4**, as follows. It is noted that the analytical results for filtered samples have been presented in **Table 7.4**.

Table 7.4: Summary of Surface Water Analytical Results (µg/L)

Substance	Minimum concentration	Maximum concentration	Exceedance to SWIL
Metals			
Arsenic	2	10	ST02 (ANZECC 2000 aquatic)
Cadmium	<0.1	-	No exceedance
Chromium	<1	-	No exceedance
Copper	<1	3	All locations for ANZECC 2000 aquatic (ST01, ST02, SW01-SW10)
Lead	< 1	-	No exceedance
Mercury (inorganic)	0.05	0.07	No exceedance
Nickel	< 1	-	No exceedance
Zinc	1.3	27	ST01, SW01, SW02 (ANZECC 2000 aquatic)
Volatile Organic Compounds (VOCs)			
Benzene	< 1	-	No exceedance
Toluene	< 1	-	No exceedance
Ethylbenzene	< 1	-	No exceedance
Xylenes	< 1	-	No exceedance
TPH			
C_6-C_9	< 10	-	-
C_{10}-C_{36}	< 250	-	No exceedance
PAHs			
Naphthalene	< 1	-	No exceedance

7.4 Consultant's Interpretations and Conclusions

The sediment and surface water investigations previously undertaken by GHD targeted a greater area than the proposed rowing club footprint, covering areas of shoreline extending north to Parramatta River (i.e, north of Hill Road) and along the shoreline of Homebush Bay (east of Burroway Road). Based on a review of the original Master Plan (in August 2015) and at the request of Auburn Council, GHD reviewed all previous sediment and surface water data, with the specific aim to assess sediment and surface water quality within the proposed footprint of the rowing club. A review of the results and summary of the findings were presented in GHDs Desktop Contamination Assessment Report (GHD 2015). A summary of the discussion of results, conclusions and recommendations is provided as follows:

- During the sediment sampling program in 2010 (GHD 2010a), sediments were collected on three transects (located five, 10 and 20 metres from the shoreline) at 50 metre centres. Five sediment sample locations (1A, 1B, 2A, 2B and 2C) were within the proposed footprint of the rowing club. Samples were tested for heavy metals, TPH, BTEX compounds, TBT, PAHs, VOCs and SVOCs. The consultant reported that sediments collected in the vicinity of the proposed rowing club contained lead and zinc that exceeded the ANZECC (2000) interim sediment quality guidelines (ISQG high), organochlorine pesticides that exceeded the ISQG low trigger values and TPHs.
- The consultant reported that concentrations of chemicals of concern analysed, did not exceed the soil investigation levels (for a commercial premises) endorsed by the NSW EPA.
- As part of the additional sediment sampling program undertaken in May 2010, a total of five samples were collected from the shoreline of Homebush Bay, with two sediment sample locations (GHD28 and GHD29) collected from within the proposed footprint of the rowing club. The consultant (GHD 2015) reported that even though sediments collected within of the proposed footprint of the rowing club were reported with dioxins, all recorded concentrations of the most toxic congener (2,3,7,8-TCCD) were less than 1 µg/kg, which was considered for Homebush Bay to be the level requiring additional investigation and potential remediation.
- The consultant (GHD 2015) reported that concentrations of dissolved arsenic, cadmium, chromium, lead, mercury and nickel in the surface water samples were generally less than or reported below the laboratory LOR, with reported results below the nominated surface water investigation levels.
- Dissolved copper and zinc were reported at elevated concentrations in the surface water, however the consultant (GHD 2015) considered that the concentrations were indicative of background levels, with no evidence of any impact from the adjacent site uses or site. The consultant also concluded that the seepage water sample was not considered to indicate a pollutant linkage with groundwater from the adjacent site.
- The consultant (GHD 2015) concluded that the analytical results of the surface water samples collected do not suggest any evidence of significant pollutant linkage in respect of petroleum hydrocarbon in the groundwater between Wentworth Point and surface water quality in the adjacent Parramatta River and Homebush Bay.
- The consultant (GHD 2015) considered that the sediments and surface water investigation programs did not identify any contamination issues that could affect the proposed rowing club development. The contamination associated with the sediments are not considered to pose an unacceptable risk to human health during construction or operation of the proposed rowing club. Appropriate environmental management of sediments, however is recommended during the construction phase of the works. Prior to the commencement of site works, a Construction Environmental Management Plan (CEMP) will be required to be prepared and should include, but not limited to demarcation of no go zones, sediment and erosion control plans. Should sediments be excavated during the development works, characterisation of the sediments and subsequent disposal as per NSW EPA waste guidelines will be required.

7.5 Audit Findings

The consultant (GHD 2010a, GHD 2010b, GHD 2013 and GHD 2015) provided tables and a summary of results that were generally accurate and complete.

The auditor notes that the even though the previous sediment and surface water investigation results covered a larger area compared to the proposed rowing club footprint, for completeness, all previous sediment and surface water analytical results have been discussed and summarised in **Section 7.2** and **Section 7.3**. It is also noted that the analytical results for sediments and surface water collected outside the proposed rowing club footprint provides background data to support that sediments and surface water within Homebush Bay have been impacted by historical uses of the Rhodes Peninsula and dredging activities of Homebush Bay, rather than adjacent current site activities.

Taking into consideration the above, the auditor notes however that a summary of the sediment data applicable to the 'site' only, i.e, the proposed rowing club footprint, as defined in this audit, has been provided in **Section 7.4**.

Relevant site plans provided by the consultant (GHD 2010a, GHD 2010b and GHD 2013) adequately identified the sampling locations relevant to the main site features such as boundaries and street frontage, and have been produced to scale. It is noted that the site plans provided in the GHD 2010a, GHD 2010b and GHD 2013 reports show sampling locations and site features of the adjacent Wentworth Point development, which covers an area greater than the area defined by this audit. The site plan, Figure 1, provided by the consultant in the GHD 2015 report shows the proposed rowing club development. However the auditor notes that Figure 1 not been prepared to scale and does not show a north arrow. The auditor subsequently requested a copy of relevant site plans from UrbanGrowth, which have been included in **Appendix C**. These drawings have been prepared to scale, which clearly identify the proposed site development and features, also clearly showing the site area. Relevant site plans are included in **Appendix C**.

The consultant has not reported potential ecological exposures or pathways. However consistent with the NSW EPA advice to the auditor on 26/05/2014, and the limited extent of the proposed development relative to the area of impacted sediments within Homebush Bay, this is not considered to substantially affect the findings of the consultant (GHD 2015) and the objectives of the audit.

The auditor also concurs with the consultant's findings and considers that the sediments beneath the proposed rowing club footprint are not considered to pose an unacceptable risk to human health during construction or operation of the proposed development. However, appropriate management of sediments will be required during the construction phase of the works, with suitable management plans to be prepared and implemented. Furthermore, the auditor notes that if the excavation of sediments is encountered during the development works, characterisation of the sediments and subsequent disposal as per NSW EPA waste regulations and guidelines will be required.

The conclusions reached by the consultants in relation to the sediment and surface water contamination issues are considered appropriate and meet the requirements of the site audit. Overall, the consultant reports (GHD 2010a, GHD 2010b, GHD 2013 and GHD 2015) are considered to have obtained and reported results in a manner which enables conclusions to be drawn regarding the suitability of the site for the proposed landuse and therefore meets the requirements of the site audit.

8. Site Management

8.1 Contamination Management Plan (CMP)

Based on the presence of contamination within the sediments, underlying the proposed development area and in accordance with the requirements of the development application for approval of a concept plan for the site (DA-301/2015), a CMP was developed by the consultant (GHD 2016) to identify site activities where site works may disturb contaminated sediments; identify contamination management responsibilities during the construction and operational phases of the development; and provide frameworks for offsite sediment and surface contamination management during the construction and operational phases of the development.

The CMP (GHD 2015) contained the following main provisions:

- Allocation of roles and responsibilities for the implementation of the plan.
- Requirement to prepare and implement a Contamination Environmental Management Plan (CEMP) during the construction phase of the works; and prepare an Operational Environmental Management Plan (OEMP) at the completion of the construction works and implement the plan during the operational phase of the development.
- Contamination management measures and monitoring during the development of the proposed (abovewater) rowing club, including provisions for activities that may potentially disturb contaminated sediments, such as piling; and moving / mooring of barges and workboats.

The consultant (GHD 2016) reported that based on information from Worley and Parsons, the proposed development will site on a concrete slab supported by a series tubular steel piles, with the piles founded through the sediments of Homebush Bay to at least 2 m into the underlying bedrock. It is understood that the piles will be prefabricated offsite and delivered to the site by barge, with the piles installed from the water using a piling barge (i.e driven piles).

The consultant (GHD 2016) noted that the CMP is a 'working' document and will require updating, as required, throughout the duration of the project, based on site observations and / or changes to the proposed construction techniques.

The auditor notes that the implementation of the CMP will be the responsibility of the site owner or site manager.

Since the consent authority has requested audit, it is assumed that the provisions of the CMP will become legally enforceable through the development consent process, since they form a condition of the Site Audit Statement (SAS) which presumably will be a condition of any consent granted for the proposed development.

8.2 Audit Findings

The CMP prepared by the consultant (GHD 2016) is consistent with the requirements of the EPA 2006, with the following noted:

- The CMP suitably details the framework for the management of offshore contamination during the construction and operational phases of the proposed development.
- The site owner is responsible for the maintenance and management of the site and will incorporate the CMP into their management responsibilities.
- Routine site inspections will be required during the works, with any changes to site conditions and / or changes to the proposed construction techniques (refer to **Section 8.1**) being observed, the CMP will be required to be updated.

- A CEMP and OEMP will be prepared and implemented by the site owner during the construction and operational phases of the development, respectively. The auditor notes that occupational health and safety controls will also need to be implemented during the construction and operational phases of the proposed development works.
- If the excavation of sediments is required during the development works, characterisation of the sediments and subsequent disposal as per NSW EPA waste guidelines will be required.
- The preparation of the CMP was a requirement by Auburn Council which will form part of the concept plan development application, to be submitted by UrbanGrowth.

The CMP is attached to this Site Audit Report (**Appendix F**) and also to the Site Audit Statement.

9. Evaluation of Landuse Suitability

In assessing the suitability of a site for an existing or proposed landuse in an urban context, the decision process for assessing urban redevelopment sites should be followed (Page 50 and 51, EPA 2006), as discussed in the following sections.

This audit was undertaken with the objective of independently reviewing the previous site investigation reports (DP 2010a, DP 2010b and GHD 2013, GHD 2015); and CMP (GHD 2016) to determine if the land can be made suitable for the proposed rowing club development.

9.1 Reporting in accordance with EPA requirements

The documents provided by the consultant have been checked against, and meet the requirements of, OEH 2011. As such, the reporting of the sediment and surface water investigation process is considered to be appropriate and meets the requirements of this audit.

9.2 Aesthetic have been addressed

As part of the investigation works, the consultant (GHD 2010a and GHD 2010b) completed an assessment of contaminant odours, soil discolouration and nature of sediments along the shoreline of Homebush Bay, including beneath the proposed rowing club building footprint. As such, aesthetic issues are considered to have been adequately addressed.

9.3 Sediments and Surface Water have been assessed against the appropriate investigation levels

The criteria adopted by the consultant for the sediment and surface water assessment process have been checked against, and are consistent with, appropriate criteria endorsed by the EPA. Where no endorsed criteria exist, the consultant adopted appropriately conservative criteria for assessing the suitability of the site.

9.4 Background sediment and surface water concentrations have been adequately addressed

As part of the sediment and surface water investigation works, the consultant sampled areas outside the 'site audit 'area, including areas of the shoreline along Parramatta River to the north and northwest and other areas of the shoreline along Homebush Bay to the northeast. Surface water sampling also targeted areas at both upgradient and downgradient locations; stormwater drainage pipe and a seepage sample from the foreshore beach along Parramatta River (north of the site).

The chemical concentrations in sediments and surface water samples collected outside the 'site area', at both upgradient and downgradient locations were consistent with the results obtained beneath the site, indicating that the reported concentrations are background levels regional to the area and consistent with historical uses of the Rhodes Peninsula and Homebush Bay.

Based on the above, it is considered that background sediment and surface water concentrations are considered to have been adequately addressed.

9.5 All impacts of chemical mixtures have been assessed

A range of chemicals of concern have been assessed in sediments and surface water. This has allowed consideration of potential mixtures. Noting the extent of potential exposure pathways, the extent of assessment of chemical mixtures is considered appropriate. Hence, there was no requirement to give any further consideration to the impact of chemical mixtures.

9.6 Site Management Strategy is Appropriate

A contamination management plan (GHD 2016) has been prepared for the site, identifying potential hazards as related to site contamination and is considered appropriate.

9.7 Contaminant migration (actual or potential) has been addressed

Contaminant migration may occur via leaching of sediments and / or migration of sediments. There are no parts of the proposed development works within the extent of the site audit rea that are considered likely to increase the rate of these processes. On this basis, no potential for contaminant migration has been identified and as such, meets requirements of the site audit.

10. Audit Summary Opinion

On the basis of the findings of the site audit, and subject to the limitations in Section 11, the following summary opinions are provided:

- The sediment and surface water assessment activities are considered to have met the requirements of the Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition) (DEC 2006).
- Sediment analytical results from beneath the proposed rowing club footprint identified lead and zinc exceeding the ANZECC 2000 Guidelines (ISQG high) and OCPs exceeding the ISQG low trigger values. Elevated levels of TPH were also detected in the sediments, however no guidelines is available for TPHs in sediments.
- Additional testing for dioxins, identified the presence of low levels of dioxins within the proposed rowing club development footprint. As per guidance from the Commissioners of Inquiry For Environment and Planning Report (December 2003), it is considered that the levels reported were less than the recommended level for Homebush Bay requiring additional investigation and potential remediation.
- Sediments beneath the proposed rowing club footprint are considered not to pose an unacceptable risk to human health during construction or operation of the proposed development. However, appropriate environmental management of sediments will be required during the construction phase of the works, with suitable management plans to be prepared and implemented during both the construction and operational phases of the development.
- An assessment of potential ecological exposures or pathways was not undertaken as part of the sediment investigation process. However, based on advice from NSW EPA to the auditor on 26/05/2014 and sediment analytical results in other areas of the shoreline of Homebush Bay and Parramatta River, it is considered that the sediment quality identified beneath the proposed rowing club footprint is likely to be background levels associated with historical activities and landuses of the Rhodes Peninsula and historical dredging activities of Homebush Bay. Furthermore, it is considered that, based on the limited extent of the proposed development relative to the impacted sediments within Homebush Bay, the absence of an assessment of potential ecological exposure and / or pathways does not substantially affect the findings and the objectives of the audit, or suitability of the site for the proposed landuse.
- An assessment of surface water conditions has been undertaken at the site during the previous investigations (GHD 2013) indicating the presence of dissolved copper and zinc in the surface water. However, taking into consideration the levels of copper and zinc at other surface water locations along the shoreline of Parramatta River and Homebush Bay, it is considered that the concentrations were indicative of background levels, with no evidence of any impact from the adjacent site uses or site. Furthermore, analytical results do not suggest any evidence of significant pollutant linkage in respect of petroleum hydrocarbons in the groundwater between Wentworth Point and surface water quality in the adjacent Parramatta River and Homebush Bay.
- It is considered that the site can be made suitable for the proposed landuse (i.e., the proposed rowing club development), subject to the implementation of the Contamination Management Plan (CMP) prepared for the site (GHD 2016).

11. Limitations

This audit was conducted with a reasonable level of scrutiny, care and diligence on behalf of the client for the purposes outlined in the Contaminated Land Management Act 1997. The data used to support the conclusions reached in this audit were obtained by other consultants and the limitations which apply to the consultant's report(s) apply equally to this audit report.

Every reasonable effort has been made to identify and obtain all relevant data, reports and other information that provide evidence about the condition of the site, and those that were held by the client and the client's consultants, or that were readily available. No liability can be accepted for unreported omissions, alterations or errors in the data collected and presented by other consultants. Accordingly, the data and information presented by others are taken and interpreted in good faith.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations reviewed, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this audit are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G and the Site Auditor reserve the right to review the report in the context of the additional information, subject to meeting relevant guideline requirements imposed by the EPA.

Appendix A: Guidelines made or approved by the EPA

Guidelines made or approved by the EPA (s.105 CLM Act 1997)

Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Paper No 4, 2000 (ANZECC/ARMCANZ 2000)

Australian Drinking Water Guidelines, National Health and Medical Research Council and Agriculture and Resource Management Council of Australia and New Zealand, 2011 (NHMRC/NRMMC 2011)

Composite Sampling, Lock, W. H., National Environmental Health Forum Monographs, Soil Series No.3, 1996, SA Health Commission, (NEHF 1996)

Contaminated Sites: Sampling Design Guidelines, NSW EPA, 1995 (EPA 1995)

Contaminated Sites: Guidelines for the Vertical Mixing of Soil on Former Broad-Acre Agricultural Land, NSW EPA, 1995 (EPA 1995b)

Contaminated Sites: Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes, NSW Agriculture and CMPS&F Environmental, February 1996 (NSW Agr. 1996)

Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA, 1997 (EPA 1997, reprinted and updated 2011)

Contaminated Sites: Guidelines for Assessing Banana Plantation Sites, NSW EPA, 1997 (EPA 1997b)

Contaminated Sites: Guidelines for Assessing Former Orchards and Market Gardens, NSW EPA, 2005 (EPA 2005)

Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition), NSW EPA, 2006 (EPA2006)

Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination, NSW EPA, March 2007 (EPA 2007)

Contaminated Sites: Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997, NSW EPA, June 2009 (EPA 2009)

Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards, Department of Health and Ageing and EnHealth Council, Commonwealth of Australia, June 2002 (EnHealth 2002)

National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013, National Environment Protection Council (NEPC 2013)

Appendix B: Audit Correspondence

CM+

Stage 1 DA

Wentworth Point Rowing Club- Architecture Concept Report

Prepared for

Urban Growth NSW

Roads & Maritime

December 2015

Conybeare Morrison International Pty Ltd
52 - 58 William Street, East Sydney, NSW 2011
T. 8244 8888 | E. mail@cmplus.com.au
cmplus.com.au

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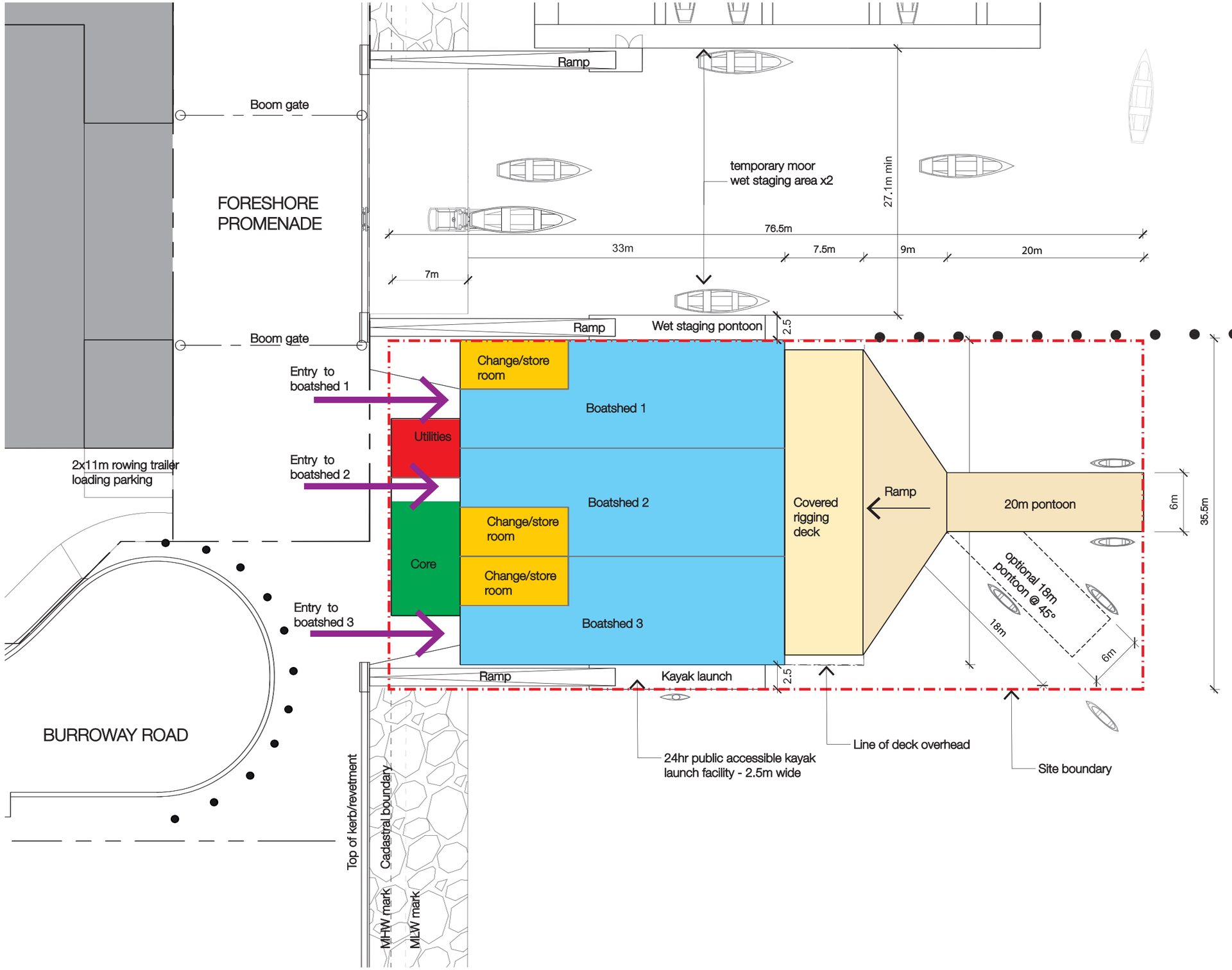

Notes

* Indicative floor plan layout only *

- Services on north face.
- Access to deck from rowing store.
- Rowing store entrance set back.
- Rowing club entrance setback from shared path

Legend

- Core
- Utilities
- Change/store room
- Boatshed
- Covered Rigging Deck
- Proposed Envelope

CM+ Conybeare Morrison

Indicative Plan - Ground Floor

Wentworth Point - Rowing Club (Boathouse)

Scale: 1:400 @ A3

0 120m

Client : Urban Growth NSW

Drawing No: DA-S1-03

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Appendix C: Site Plans

WATERWAYS AUTHORITY
CF 2/859608
Lot 2 DP859608
Prop No. 1972

Burroway Road

Boathouse
(Rowing Facility)

Total:
2,104sqm

Homebush Bay

C.T. VOL 5018 FOL 1

Leased land
Licensed area
Public access
RMS (Maritime) title boundary
Lot 24 in draft DP
Proposed works
Proposed easement for public access

0 10 20 30 40 50m

Plan compiled from information held in the Survey and Spatial Information Units.

NSW GOVERNMENT Transport Roads & Maritime Services

CUSTOM PLAN

LGA: AUBURN

Locality: HOMEBUSH BAY

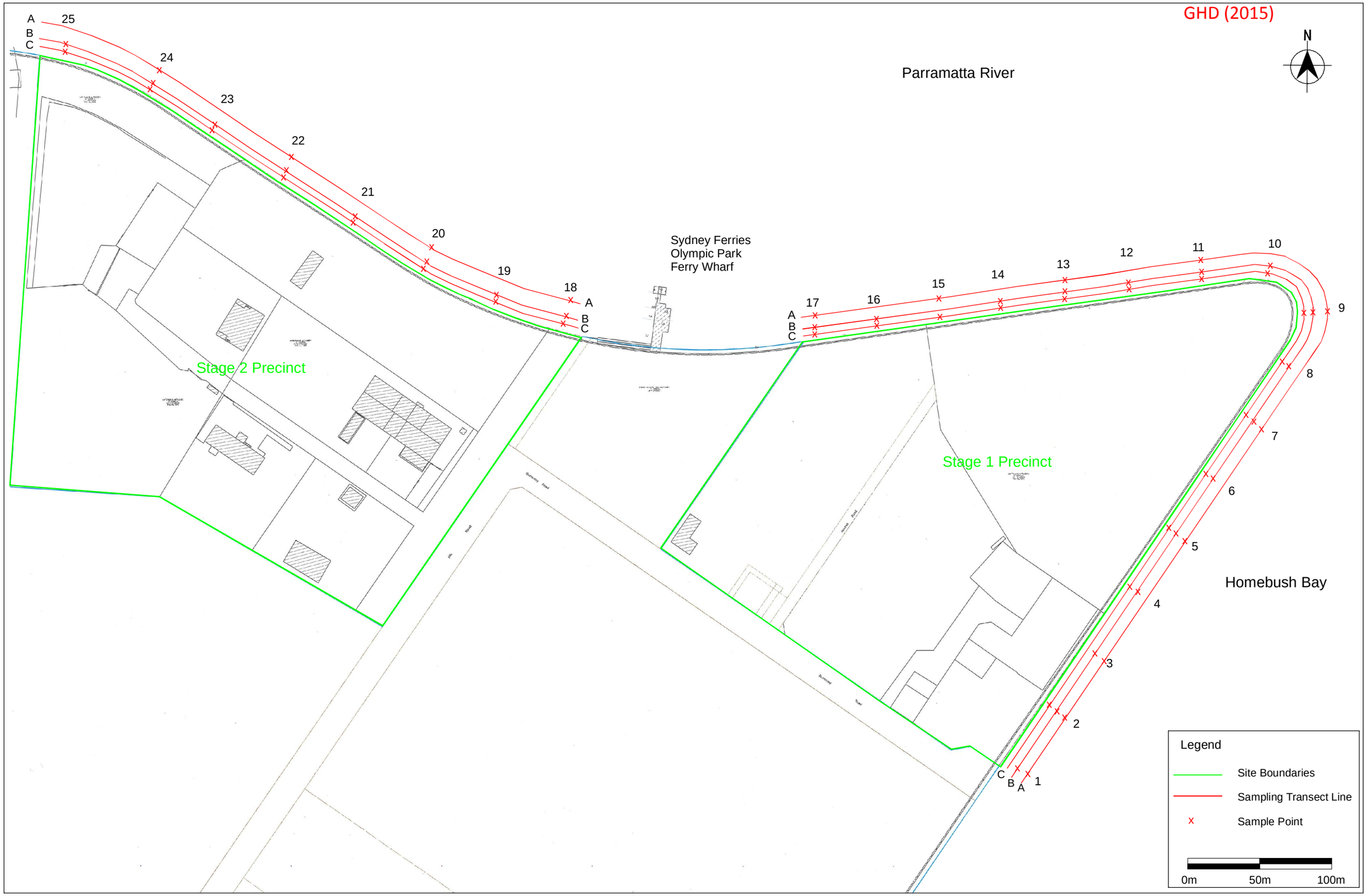
Proposed Lease of 2,019m^2 and Licence of 85m^2 adjoining Burroway Rd, Wentworth Point

Date Produced: 16 March 2015

PLAN N^O: AFL_10035_1

Appendix D: Consultant's Figures

GHD (2015)



Source: Base plan provided by NSW Maritime

CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

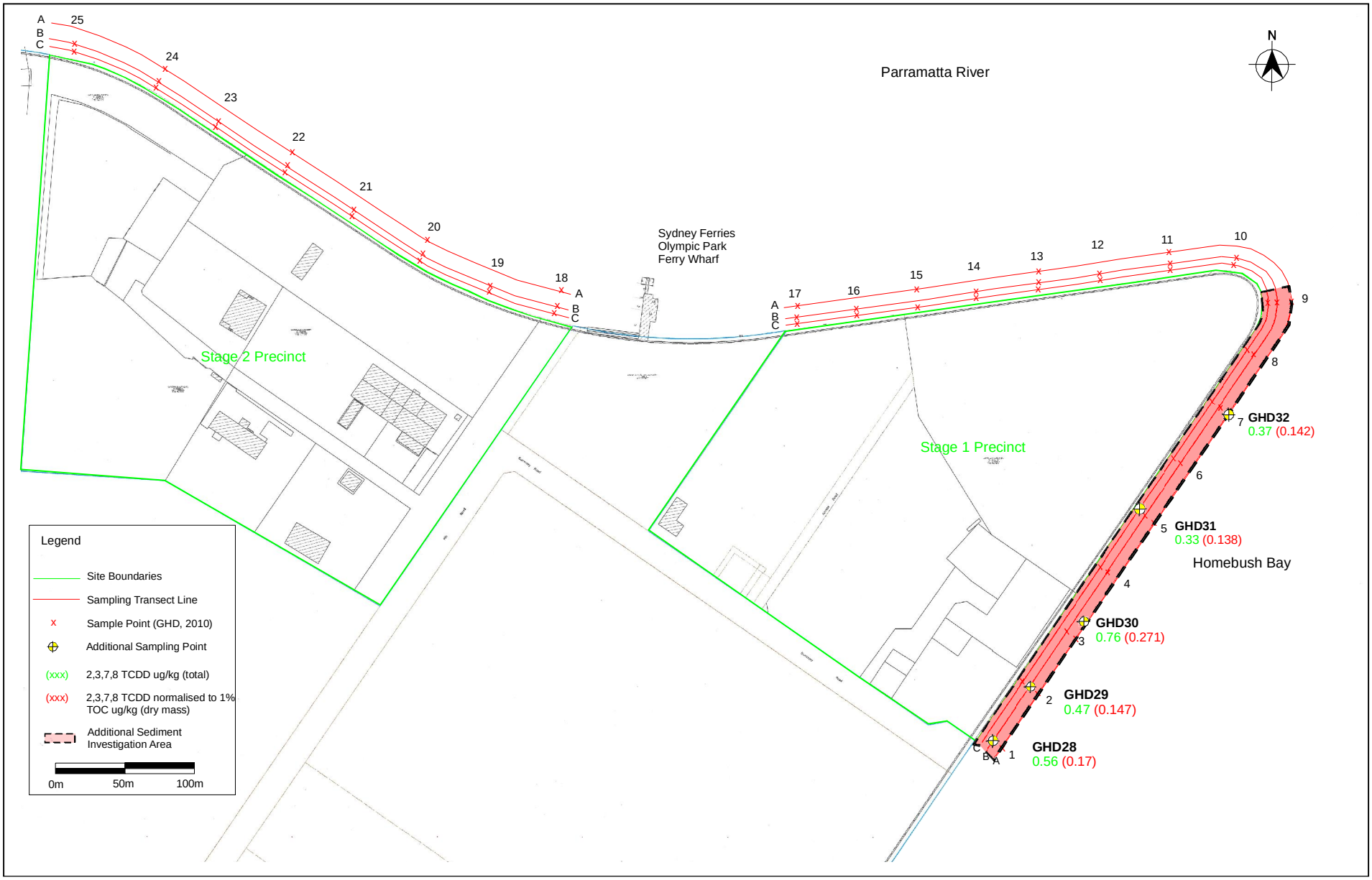
Sediment Sampling Locations

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig2.cdr

Figure 2

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

NSW Maritime

Homebush Bay West Sediment Assessment

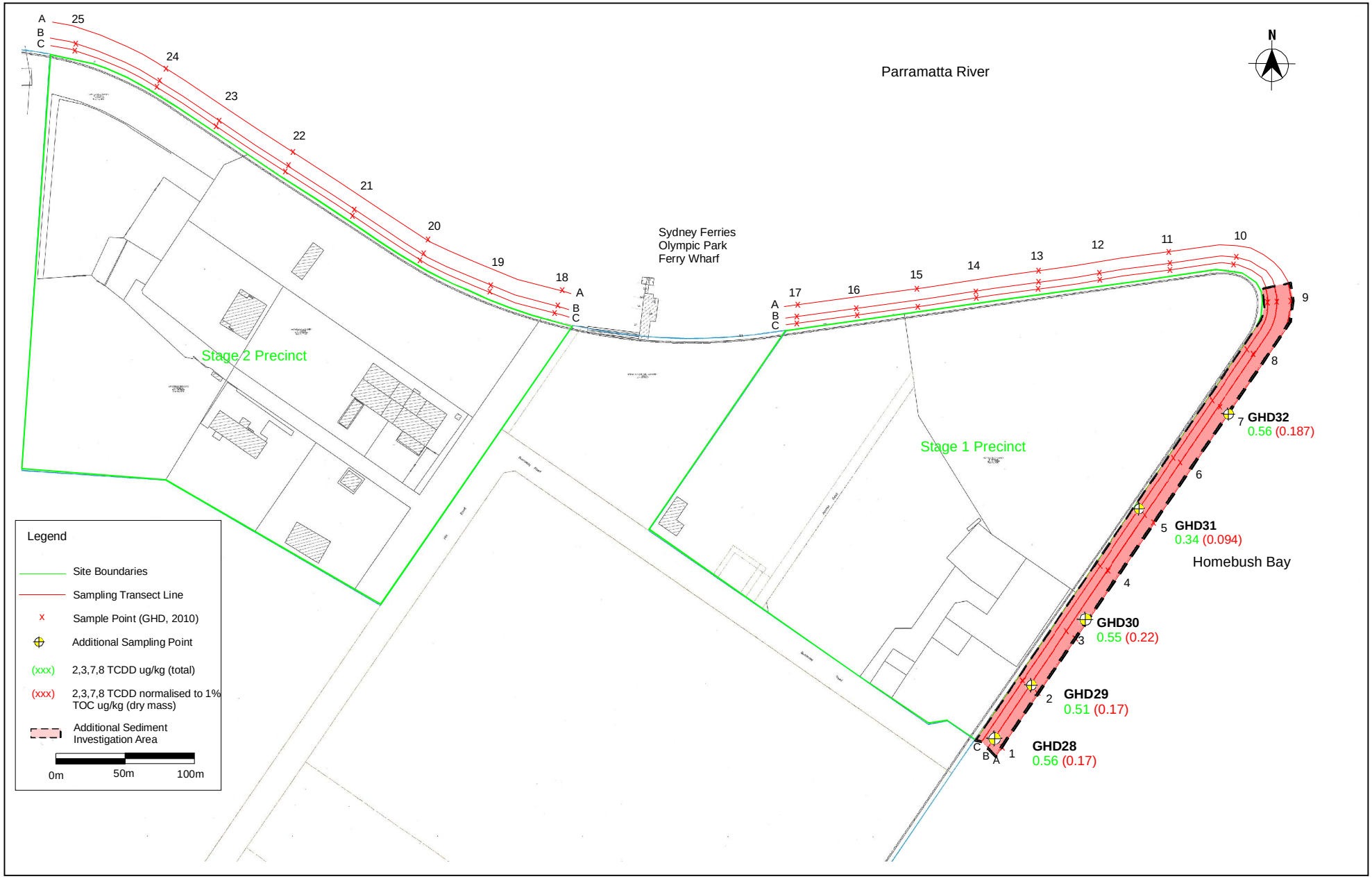
Sediment sampling Locations for Dioxin Analysis and Concentration of 2,3,7,8 TCDD in Surface Sediments (0-100mm)

Date | June 2010 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig2.cdr

Figure 3

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

NSW Maritime

Homebush Bay West Sediment Assessment

Sediment Sampling Locations for Dioxin Analsyses and Concentration of 2,3,7,8 TCDD in Underlying Sediments (450-550mm)

Date | June 2010 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig3.cdr

Figure 4

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au

0 10 20 40 60 80 100 150 200 300m

1:3000 @ A3

LEGEND

- CPTu, Cored Borehole & Dilatometer Testing
- CPTu, Dilatometer Testing
- CPTu
- Augered Borehole
- Geotechnical Cross Section A-A'

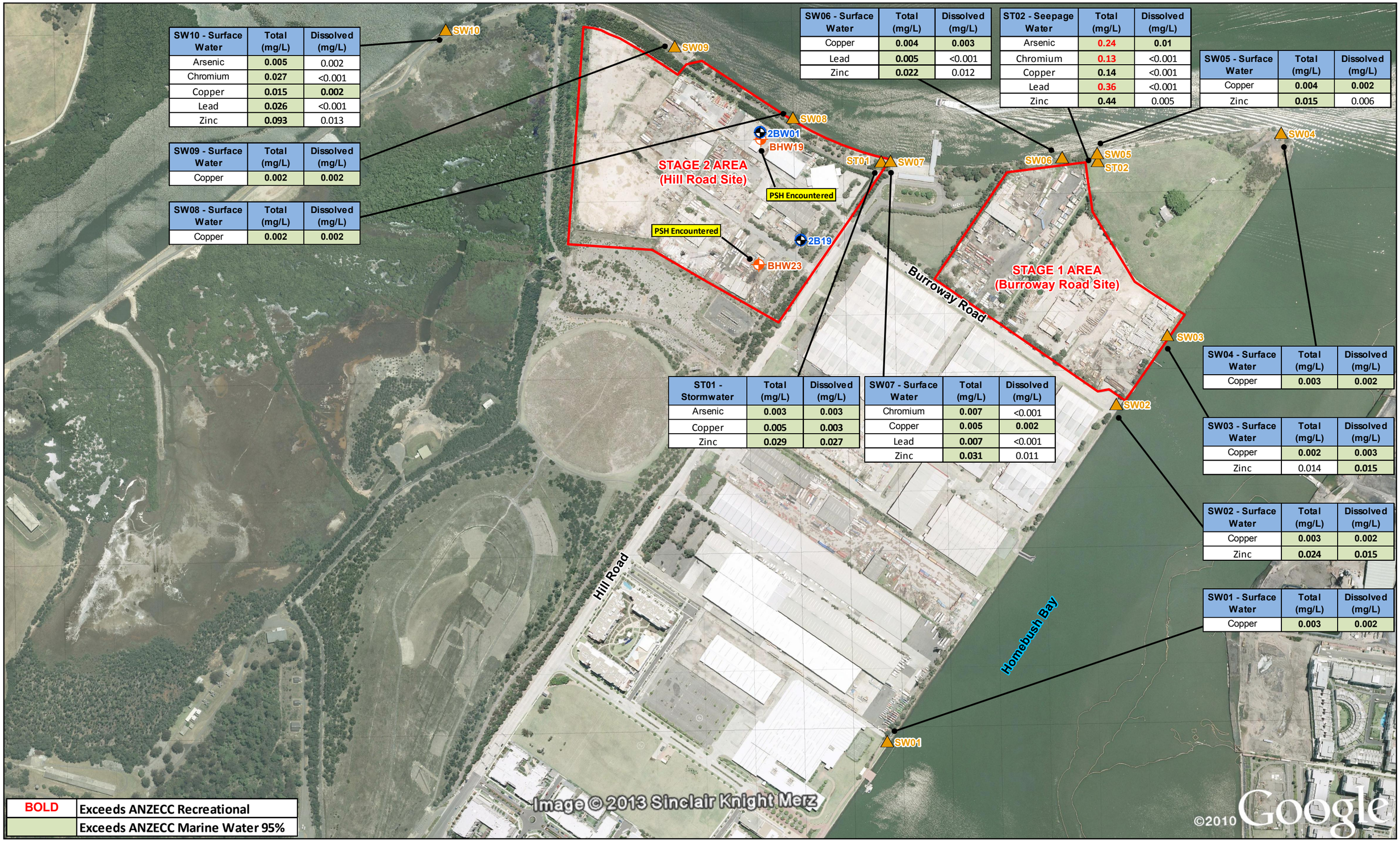
NOTE: Base drawing from Transport Roads & Maritime Services (Plan No.8, dated 21 May 2014)

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Urban Growth NSW		
OFFICE: Sydney	DRAWN BY: PSCH	
SCALE: As shown	DATE: 17.7.2014	

TITLE: **Figure 5 Locations of Tests**
Wentworth Point Urban Activation Precinct
Hill Rd & Burroway Rd, Wentworth Point

PROJECT No:	84357
DRAWING No:	5
REVISION:	0



SW10 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Arsenic	**0.005**	0.002
Chromium	**0.027**	<0.001
Copper	**0.015**	**0.002**
Lead	**0.026**	<0.001
Zinc	**0.093**	0.013

SW09 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.002**	**0.002**

SW08 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.002**	**0.002**

SW06 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.004**	**0.003**
Lead	**0.005**	<0.001
Zinc	**0.022**	0.012

ST02 - Seepage Water	Total (mg/L)	Dissolved (mg/L)
Arsenic	**0.24**	**0.01**
Chromium	**0.13**	<0.001
Copper	**0.14**	<0.001
Lead	**0.36**	<0.001
Zinc	**0.44**	0.005

SW05 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.004**	**0.002**
Zinc	**0.015**	0.006

ST01 - Stormwater	Total (mg/L)	Dissolved (mg/L)
Arsenic	**0.003**	**0.003**
Copper	**0.005**	**0.003**
Zinc	**0.029**	**0.027**

SW07 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Chromium	**0.007**	<0.001
Copper	**0.005**	**0.002**
Lead	**0.007**	<0.001
Zinc	**0.031**	0.011

SW04 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.003**	**0.002**

SW03 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.002**	**0.003**
Zinc	0.014	**0.015**

SW02 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.003**	**0.002**
Zinc	**0.024**	**0.015**

SW01 - Surface Water	Total (mg/L)	Dissolved (mg/L)
Copper	**0.003**	**0.002**

BOLD	**Exceeds ANZECC Recreational**
	Exceeds ANZECC Marine Water 95%

0 50 100 150 200
Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 56

N

LEGEND
- Site Boundary (Approximate)
- Groundwater Well Pump Testing Location (GHD, 2013)
- Surface Water Sampling Locations (GHD, 2013)

Roads and Maritime Services
Homebush Bay West Stage 1 and 2 Areas
Additional Contamination Assessment

Job Number 21-21835-01
Revision A
Date 13 Feb 2013

Sampling Locations and Surface Water Exceedences

Figure 6

G:\21\21835\GIS\Maps\MXD\21_21835_Z018_HB_Surface_Water_Exceedences.mxd

Data Source: Google Earth Pro 2012 - Imagery (Image Retrieved 15-11-2012). Created by: tnham

Level 15, 133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7199 **E** sydmail@ghd.com.au **W** www.ghd.com.au

GHD (2010a)

Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

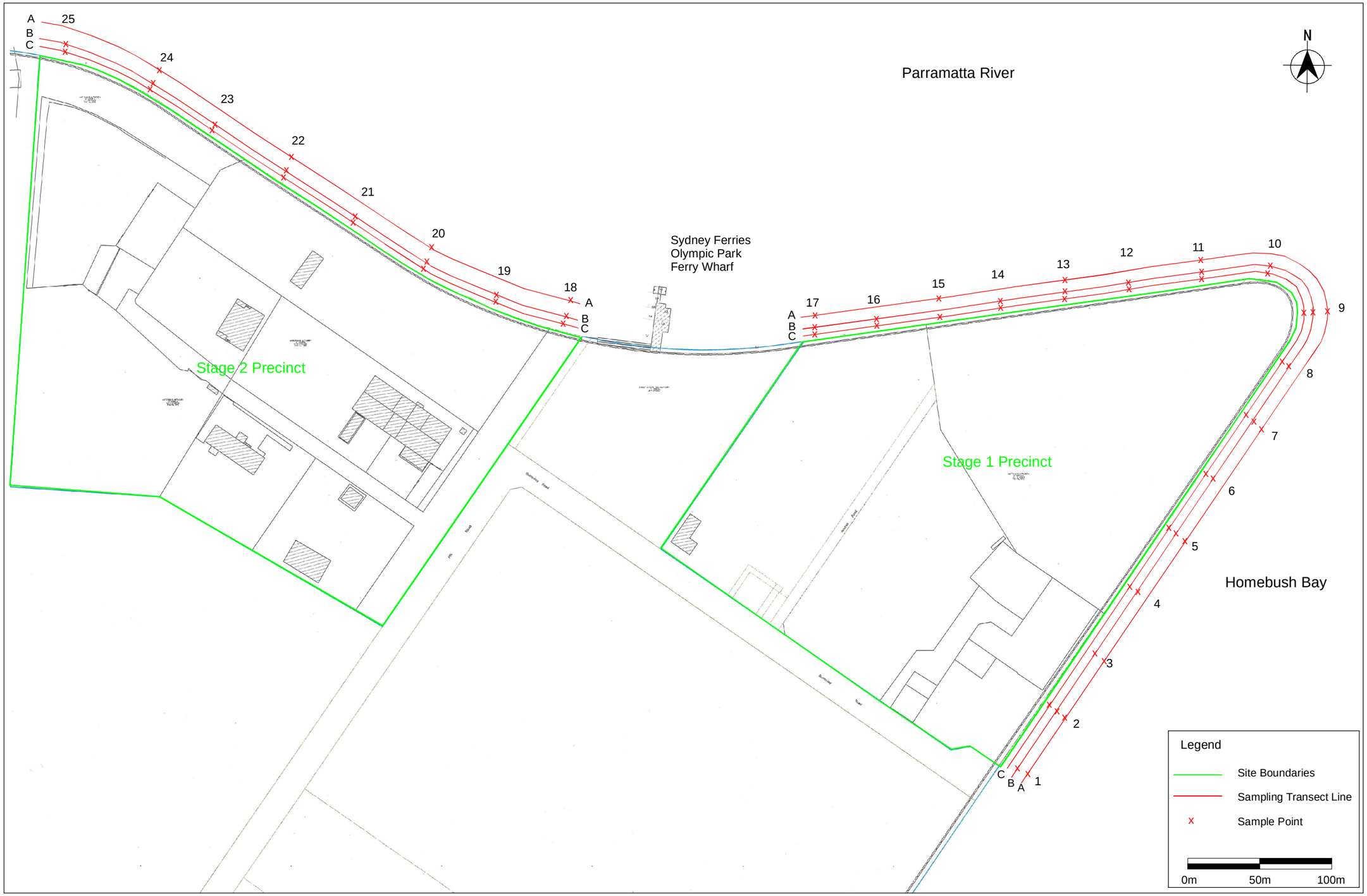
Site Location

Date | November 2009

job no | 21-18600
file ref | 21-18600_Fig1.cdr

Figure 1

10 Bond Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

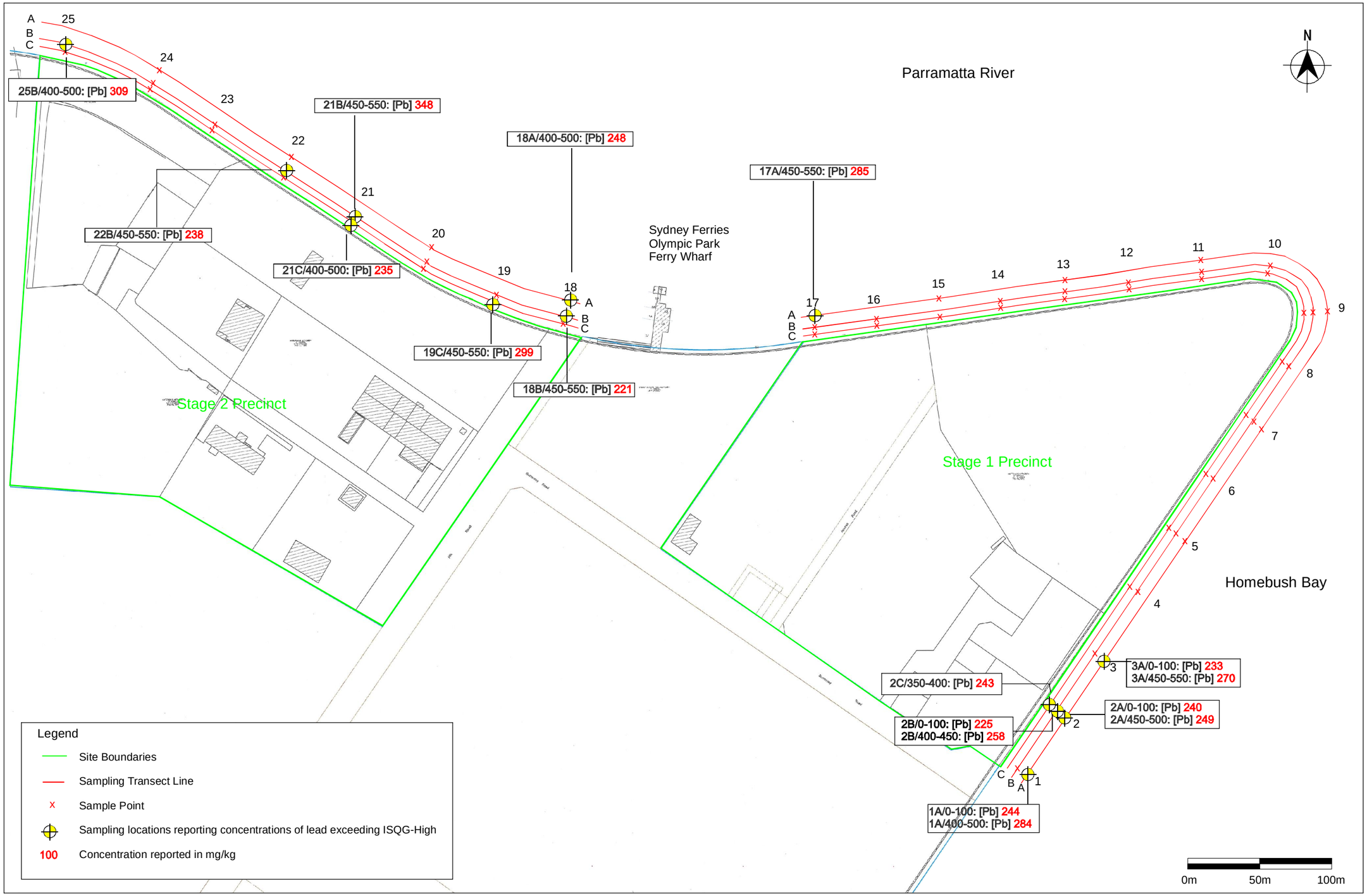
Sediment Sampling Locations

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig2.cdr

Figure 2

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

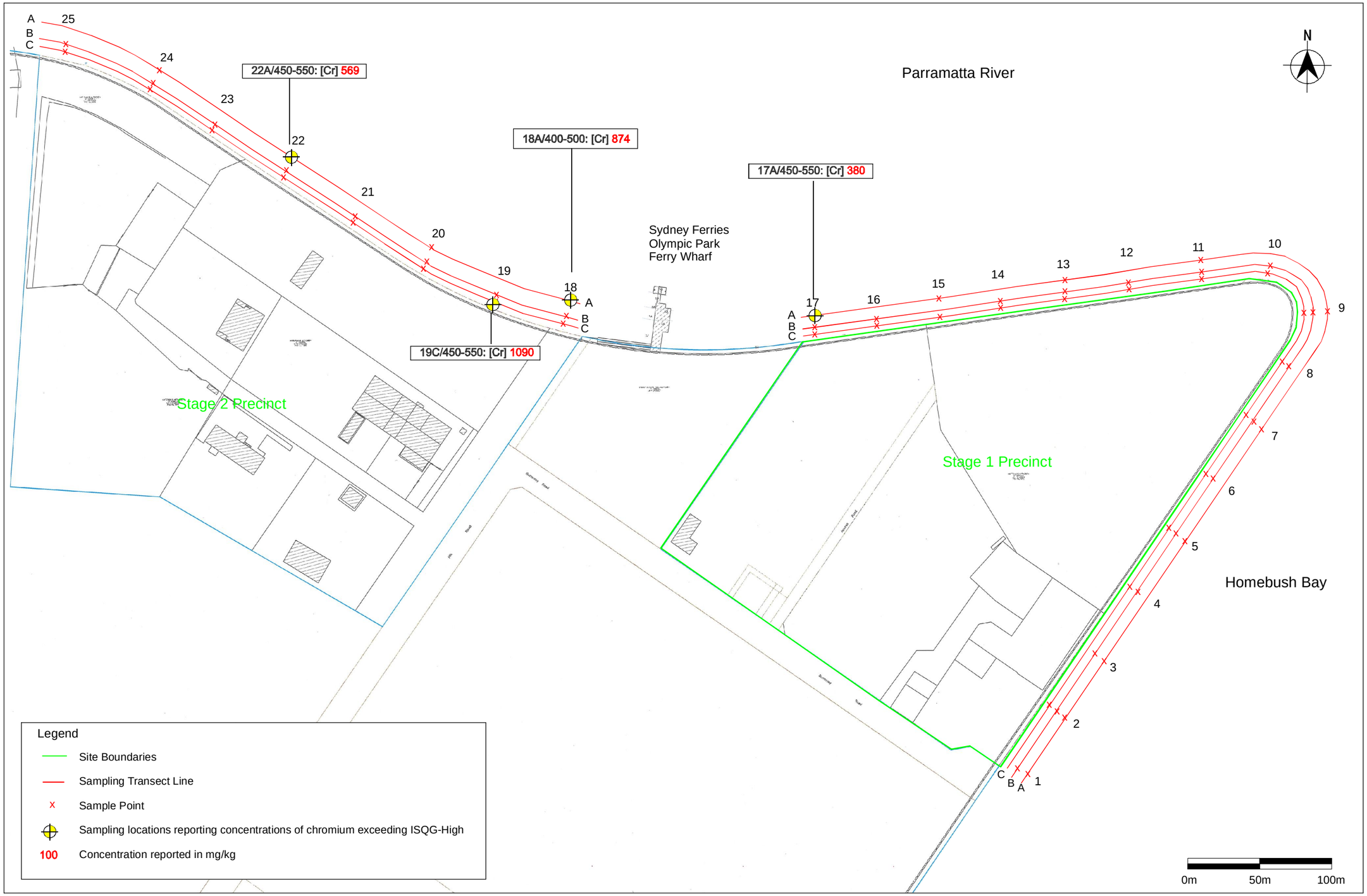
Concentrations of Lead Exceeding ISQG-High

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig3a.cdr

Figure 3a

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

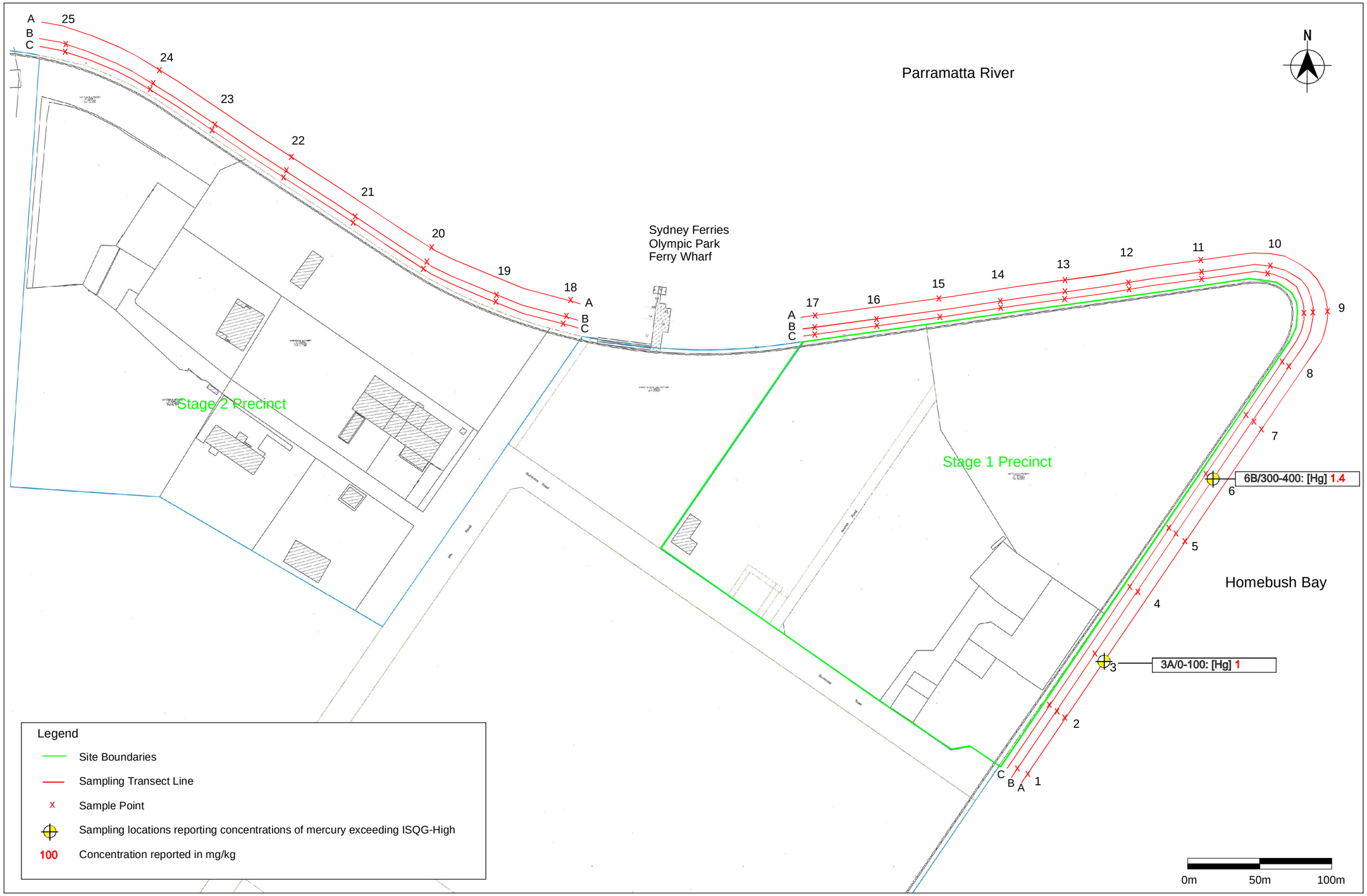
Concentrations of Chromium Exceeding ISQG-High

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig3b.cdr

Figure 3b

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

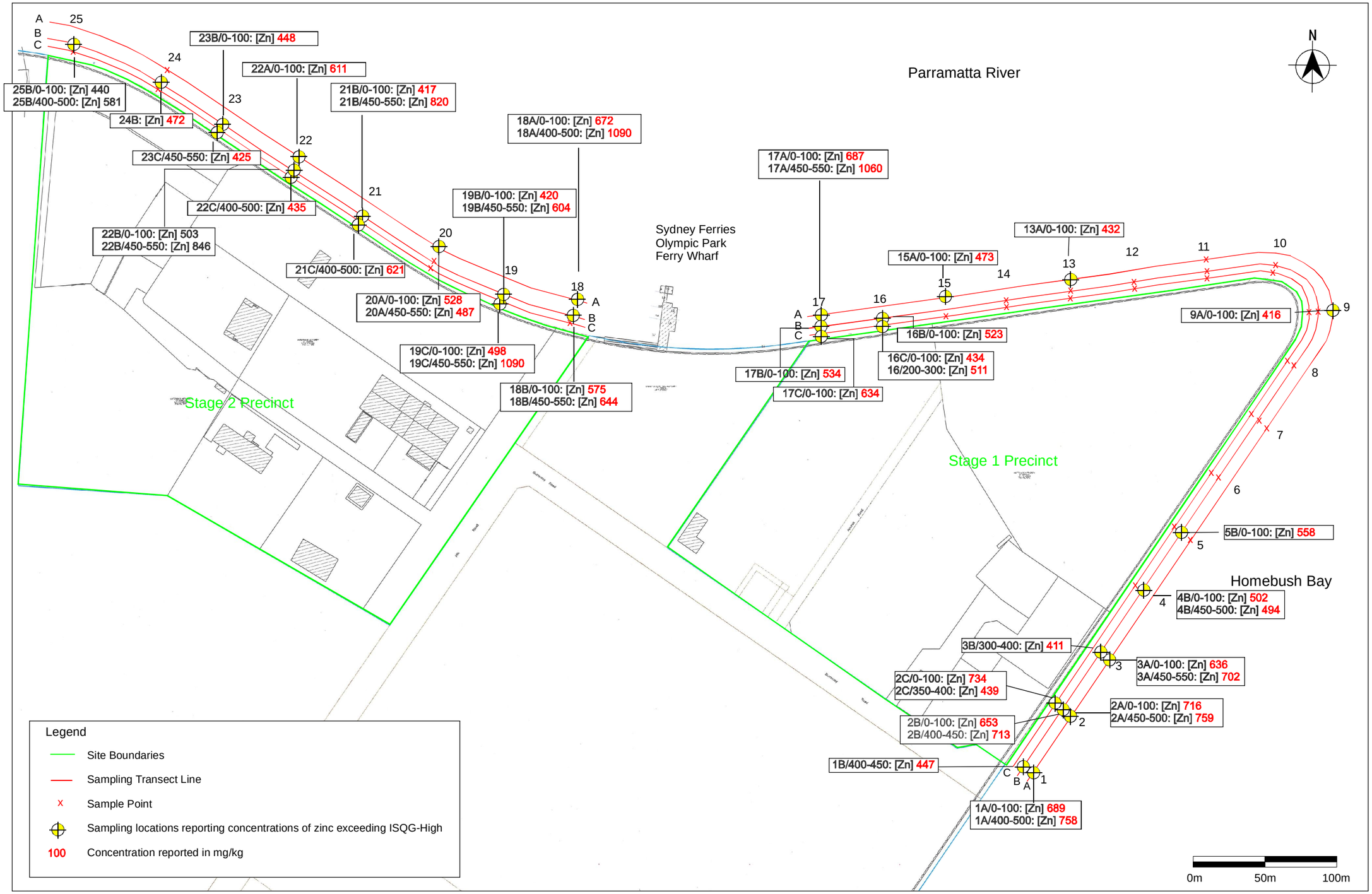
Concentrations of Mercury Exceeding ISQG-High

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig3cb.cdr

Figure 3c

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

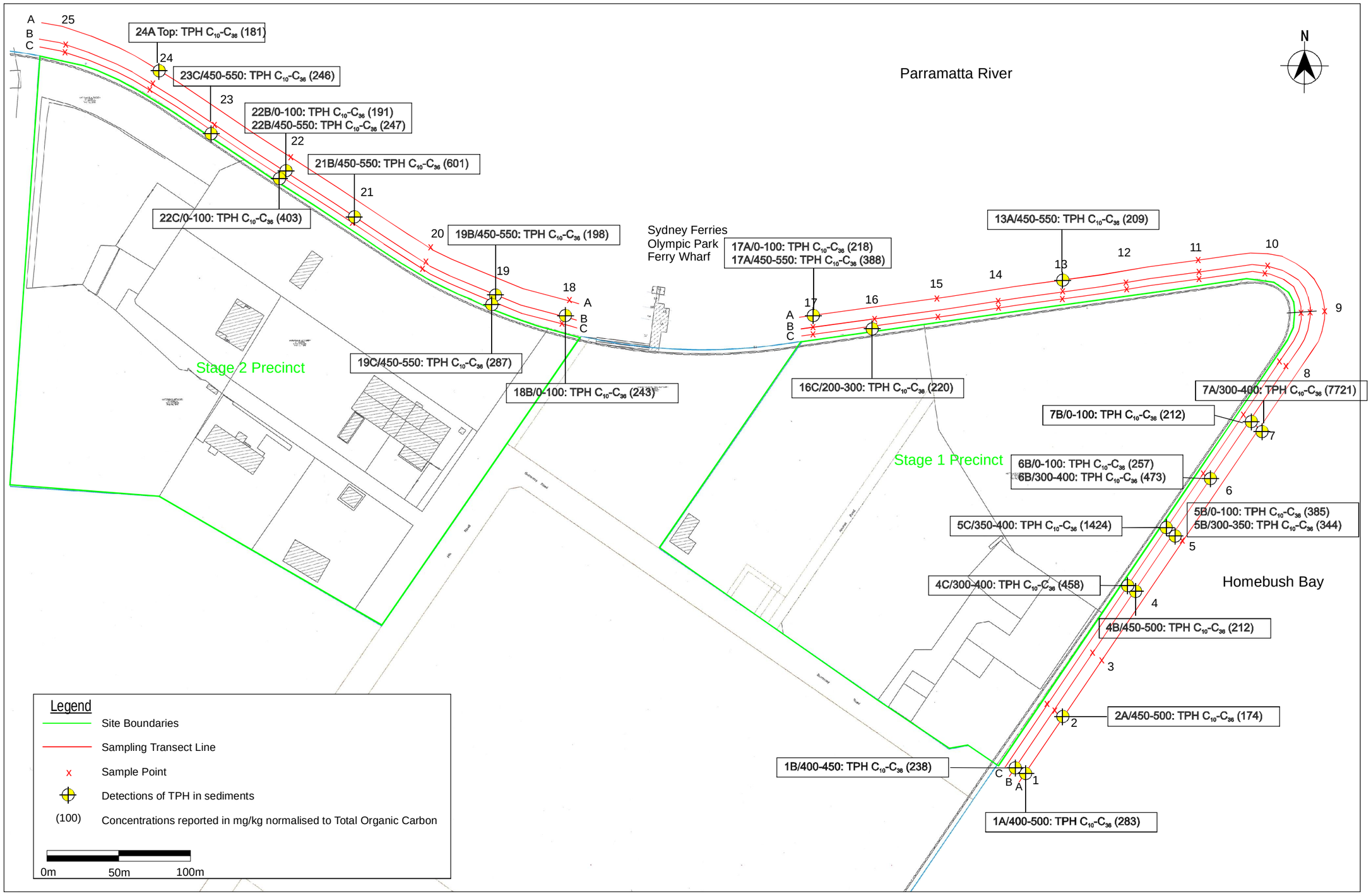
Concentrations of Zinc Exceeding ISQG-High

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig3d.cdr

Figure 3d

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

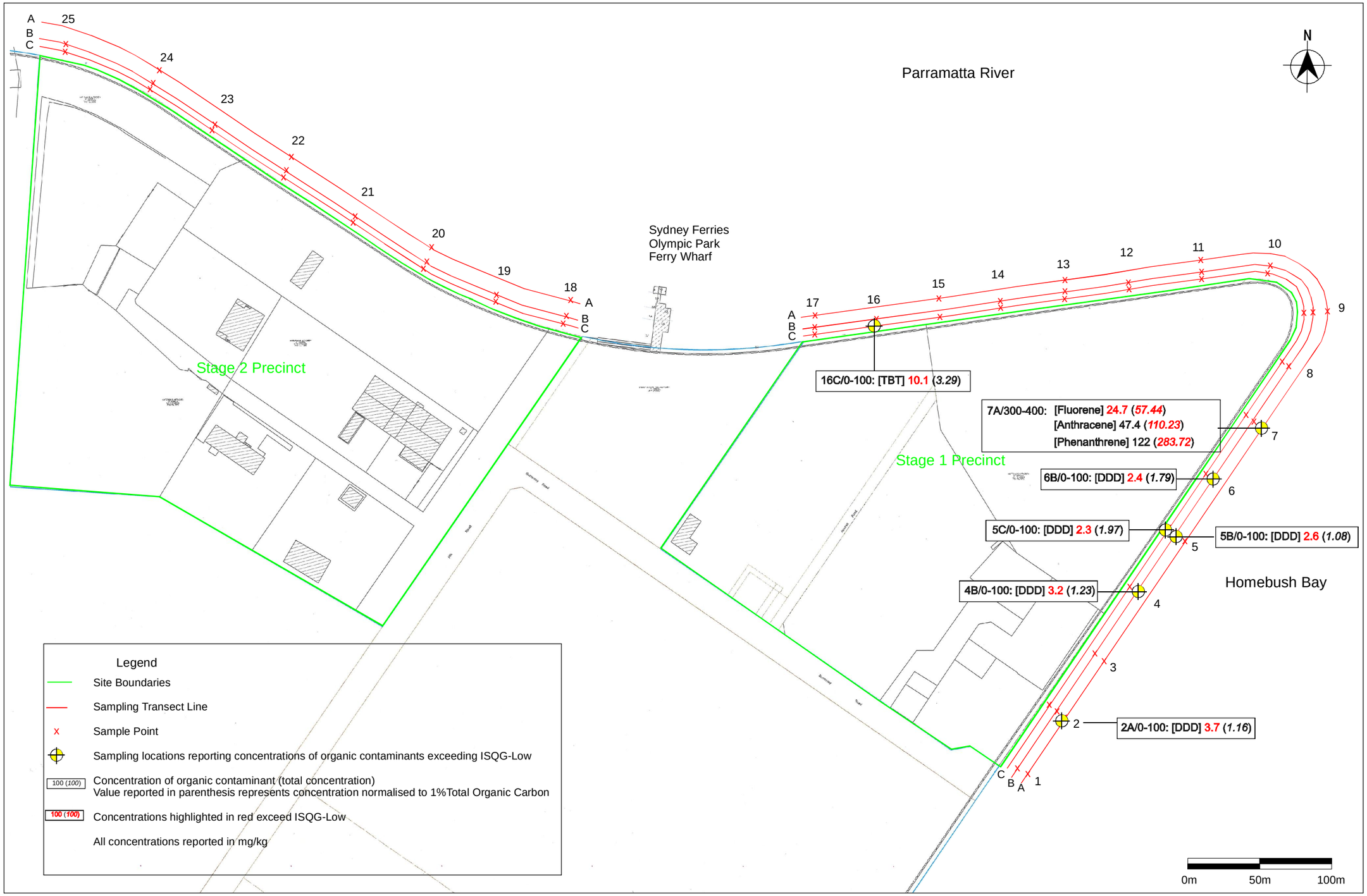
TPH C_{10}-C_{36} Detects in Sediments

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig4.cdr

Figure 4

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

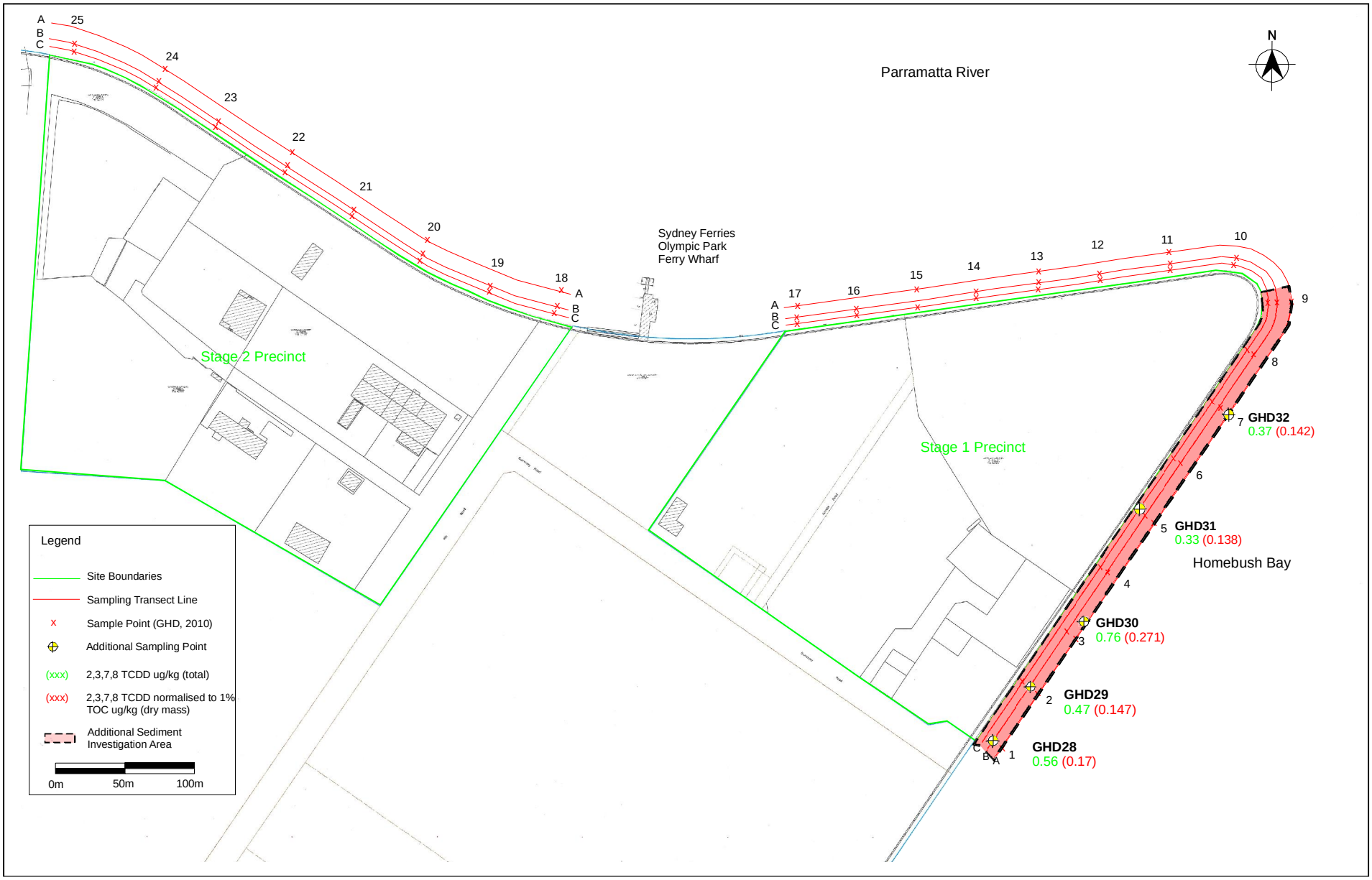
Sampling Locations Reporting Concentrations of Organic Compounds Exceeding the ISQG-Low

Date | Dec 2009 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig5.cdr

Figure 5

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

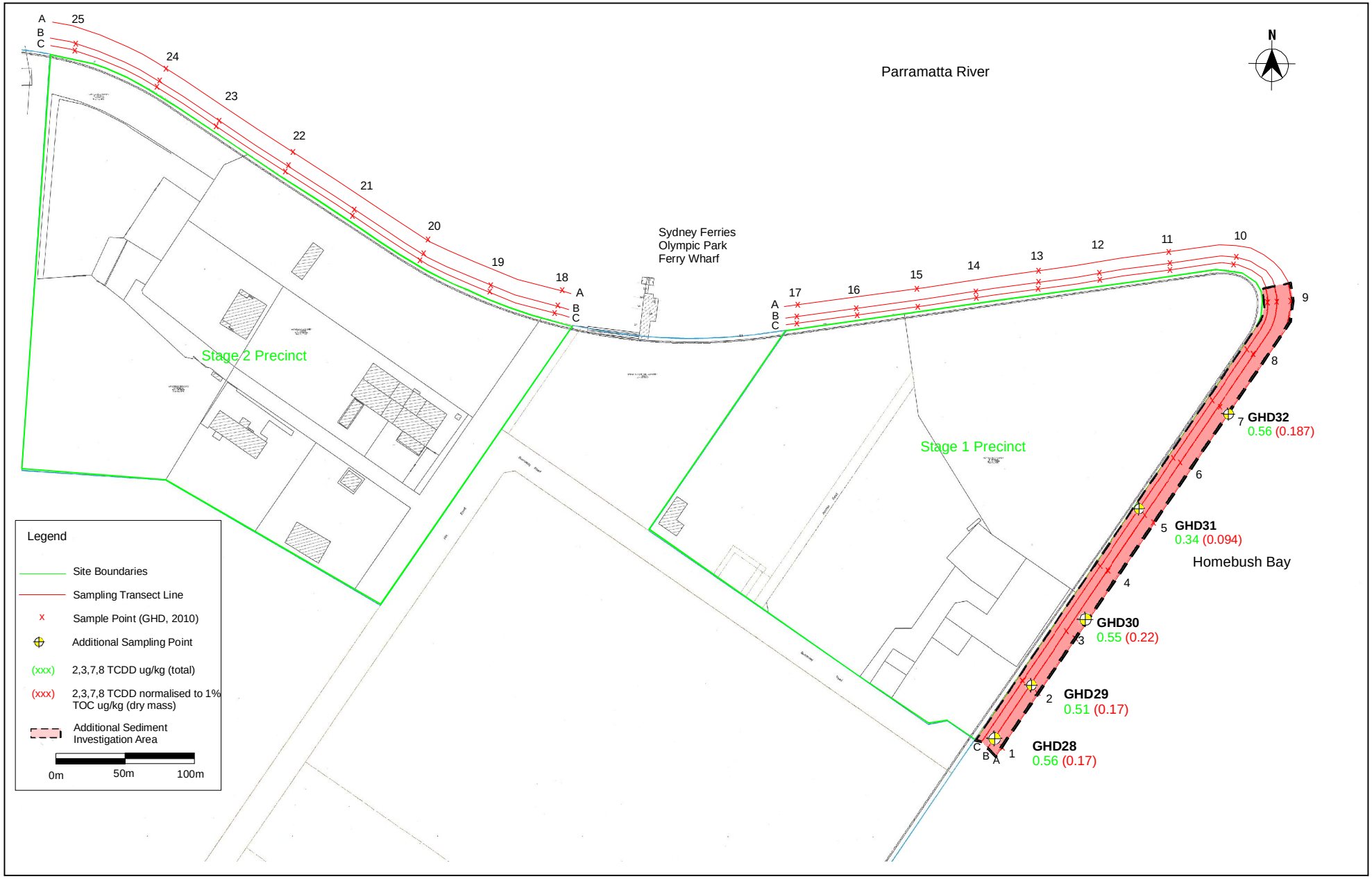
Concentration of 2,3,7,8 TCDD in Surface Sediments (0-100mm)

Date | June 2010 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig2.cdr

Figure 2

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



Source: Base plan provided by NSW Maritime

GHD CLIENTS | PEOPLE | PERFORMANCE

NSW Maritime
Homebush Bay West Sediment Assessment

Concentration of 2,3,7,8 TCDD in Underlying Sediments (450-550mm)

Date | June 2010 Scale | As shown

job no | 21-18600
file ref | 21-18600SedAssFig3.cdr

Figure 3

133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au

Appendix E: Consultant's Summary Tables

Table 1: Summary Of Sediment Samples Analytical Results
2118600 Homebush Bay West, Sediment Assessment

				Metals								BTEX						TPH					Pesticides			PAHs																		VOCs		TBT
			Total Organic Carbon	Lead	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Zinc	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			-	5	5	1	2	5	0.1	2	5	0.2	0.5	0.5	0.5	0.5		10	50	100	100	50	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
ISQG - Low			-	50	20	1.5	80	65	0.15	21	200	-	-	-	-	-	-	-	-	-	-	-	2.2	2	-	16	44	85	261	430	-	-	-	384	63	600	19	-	160	240	665	4000	-	-	5.0
ISQG - High			-	220	70	10	370	270	1	52	410	-	-	-	-	-	-	-	-	-	-	-	27	20	-	500	640	1100	1600	1600	-	-	-	2800	260	5100	540	-	2100	1500	2600	45000	-	-	70.0
Field ID	**Sample Depth**	**Sampled Date**																																											
01A	0-100	09-Nov-09	3.04	**244**	**23**	1	**189**	**144**	**0.6**	**23**	**689**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	0.5	<0.5	0.6	1.2	<0.8	0.5	<0.8	0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	1	7.5	ND	ND	2.9
01A	400-500	09-Nov-09	2.49	**284**	**22**	**2**	**208**	**146**	**0.8**	**27**	**758**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	350	330	705	-	-	-	<0.8	<0.8	<0.8	<0.8	0.9	0.9	<0.8	<0.8	<0.8	<0.8	0.9	<0.8	<0.8	<0.8	<0.8	1	8.1	-	-	-
01B	0-100	09-Nov-09	2.48	**103**	12	<1	61	**86**	**0.4**	20	**348**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.8	0.8	0.8	<0.5	<0.5	0.6	<0.5	1.4	<0.5	<0.5	<0.5	0.7	1.4	8.05	ND	ND	1.7
01B	400-450	09-Nov-09	1.95	**135**	**21**	1	**96**	**75**	**0.4**	**22**	**447**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	260	180	465	-	-	-	<0.5	<0.5	0.8	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.9	6	-	-	-
02A	0-100	09-Nov-09	3.20	**240**	**27**	**2**	**193**	**170**	**0.8**	**22**	**716**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	0.8	**3.7**	9.25	<0.5	0.6	0.7	0.9	1.4	0.9	<0.5	<0.8	0.7	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	1.6	10	ND	ND	3.0
02A	450-500	09-Nov-09	3.24	**249**	**27**	**2**	**206**	**153**	**0.8**	**24**	**759**	<0.2	<0.5	0.6	<0.5	<0.5	ND	<10	<50	280	260	565	-	-	-	<0.5	<0.5	0.7	0.6	0.8	0.9	0.6	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	1.2	7.7	-	-	-
02B	0-100	09-Nov-09	2.90	**225**	**22**	1	**177**	**158**	**0.9**	**22**	**653**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.7	<0.8	<0.5	<0.8	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.8	5.5	ND	ND	2.7
02B	400-450	09-Nov-09	2.80	**258**	**23**	**2**	**203**	**150**	**0.8**	**25**	**713**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.5	0.7	0.8	0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.9	6.35	-	-	-
02C	0-100	09-Nov-09	2.79	**179**	19	1	**107**	**99**	**0.9**	16	**734**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	1.3	3.1	<0.5	1.2	3.4	4	3.3	1.2	0.8	0.6	2.8	<0.5	12	0.7	0.8	<0.5	11	9.9	41.45	1.3	ND	4.6
02C	350-400	09-Nov-09	2.85	**243**	**29**	**2**	**184**	**96**	**0.8**	17	**439**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.5	0.6	0.7	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.1	6.4	-	-	-
03A	0-100	09-Nov-09	2.64	**233**	**21**	1	**183**	**142**	**1**	**22**	**636**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.7	<0.8	<0.5	<0.8	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.8	5.5	ND	ND	1.2
03A	450-550	09-Nov-09	2.39	**270**	**22**	**2**	**191**	**140**	**0.9**	**26**	**702**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	ND	-	-	-
03B	0-100	09-Nov-09	2.15	**145**	14	<1	**111**	**104**	**0.4**	14	**404**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	0.9	2.3	<0.5	<0.5	0.5	0.6	0.8	0.8	0.6	<0.5	0.5	<0.5	1.2	<0.5	<0.5	<0.5	0.5	1.4	8.15	ND	ND	2.6
03B	300-400	09-Nov-09	2.06	**154**	15	1	**114**	**95**	**0.6**	14	**411**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	5.35	-	-	-
04B	0-100	09-Nov-09	2.60	**190**	19	1	**135**	**113**	**0.8**	17	**502**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	**3.2**	6.9	<0.5	0.7	0.8	1.1	1.2	1	<0.5	<0.8	0.8	<0.5	1.8	<0.5	<0.5	<0.5	0.8	1.9	11.2	ND	ND	1.0
04B	450-500	09-Nov-09	2.62	**179**	**24**	1	**126**	**89**	**0.7**	16	**494**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	290	240	555	-	-	-	<0.5	0.5	0.7	0.8	1	1	0.6	<0.5	0.6	<0.5	1.3	<0.5	<0.5	<0.5	0.6	1.5	9.5	-	-	-
04C	0-100	09-Nov-09	0.92	**76**	15	<1	43	**86**	**0.2**	8	**217**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	5.1	ND	ND	1.1
04C	300-400	09-Nov-09	1.91	**120**	11	<1	64	54	**0.4**	14	**234**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	390	460	875	-	-	-	<0.5	<0.5	0.6	0.9	0.9	0.9	<0.5	<0.5	0.7	<0.5	1.6	<0.5	<0.5	<0.5	0.8	1.7	9.3	-	-	-
05A	0-100	09-Nov-09	0.35	44	**21**	<1	35	34	**0.2**	6	121	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.6	ND	ND	<0.5
05A	450-550	09-Nov-09	0.74	**53**	12	<1	38	40	0.1	5	142	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.6	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.6	4.45	-	-	-
05B	0-100	09-Nov-09	2.40	**203**	**23**	1	**156**	**120**	**0.5**	19	**558**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	500	400	925	0.7	**2.6**	6.85	<0.5	1	2.2	2.1	2.3	2.3	1.2	1	1.8	<0.5	3.8	<0.5	0.9	<0.5	1.7	3.9	23.5	ND	ND	4.8
05B	300-350	09-Nov-09	2.78	**164**	**27**	1	**100**	**76**	**0.5**	12	**367**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	510	420	955	-	-	-	<0.5	3.9	1.8	2.4	2.7	2.6	1.3	1.3	1.8	<0.5	4.1	0.7	1.1	<0.5	1.9	4.5	28.95	-	-	-
05C	0-100	09-Nov-09	1.17	**55**	7	<1	28	25	**0.2**	3	101	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	**2.3**	5.1	<0.5	<0.5	0.6	0.6	0.9	<0.5	<0.5	<0.5	0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.4	7.25	ND	ND	0.7
05C	350-400	09-Nov-09	1.45	**58**	9	<1	28	40	<0.1	4	90	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	1340	700	2065	-	-	-	<0.5	2.1	22.2	1.8	3.2	4.8	0.9	1.5	<0.5	<0.5	1.2	<0.5	0.8	<0.5	0.8	29	68.75	-	-	-
06B	0-100	10-Nov-09	1.34	**64**	10	<1	22	**81**	0.1	3	114	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	210	110	345	<0.5	**2.4**	5.3	<0.5	2	1.6	6.1	4.6	5.4	2.3	2	4.7	<0.5	9.2	<0.5	1.7	1	2.5	13.3	54.65	ND	ND	<0.5
06B	300-400	10-Nov-09	6.63	**158**	15	<1	13	**66**	**1.4**	5	172	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	1910	1200	3135	-	-	-	1.1	20.6	11.3	61.7	49.1	56.2	22.1	20.5	40.2	5.1	65.6	1.9	20.2	5.2	7.1	143	523.8	-	-	-
07A	0-100	10-Nov-09	1.73	**134**	17	<1	**99**	**106**	**0.4**	12	**366**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1.1	1.2	1.1	0.6	0.5	0.9	<0.5	1.6	<0.5	<0.5	<0.5	0.6	2	10.75	ND	ND	2.2
07A	300-400	10-Nov-09	0.43	**140**	16	<1	22	**72**	**0.4**	5	131	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	70	2230	1020	3320	-	-	-	6.3	12.7	47.4	42	31.5	32.6	12.6	10.1	29.7	2.9	112	**24.7**	10.6	1.9	122	106	483	-	-	-
07B	0-100	10-Nov-09	1.63	**112**	10	<1	59	**73**	**0.5**	8	**248**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	160	160	345	<0.5	0.7	1.9	<0.5	0.7	0.9	1.6	1.4	1.6	0.8	0.8	1.2	<0.5	3	<0.5	0.6	<0.5	1.8	3.1	16.7	ND	ND	1.0
07C	0-100	10-Nov-09	0.54	**138**	15	<1	73	**88**	**0.4**	9	**321**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	1	0.7	1.2	1.2	1.4	0.7	0.6	1	<0.5	2.1	<0.5	0.6	<0.5	1	2.2	13.7	ND	ND	0.8
07C	200-300	10-Nov-09	1.37	35	<5	<1	14	16	<0.1	<2	62	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.95	-	-	-
08B	0-100	10-Nov-09	0.40	40	7	<1	16	29	0.1	2	77	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.9	5.55	ND	ND	<0.5
08B	350-450	10-Nov-09	0.59	44	7	<1	18	19	0.1	2	88	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.6	0.6	0.7	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1	6.4	-	-	-
08C	0-100	10-Nov-09	0.74	**76**	8	<1	34	34	**0.2**	5	139	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.25	ND	ND	0.8
08C	400-500	10-Nov-09	2.16	**66**	10	<1	8	28	**0.2**	4	78	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	0.8	1.7	1.6	2	0.9	0.5	1.4	<0.5	3.3	<0.5	0.7	<0.5	2	3.2	17.35	-	-	-
09A	0-100	10-Nov-09	2.18	**147**	17	<1	**109**	**87**	**0.5**	14	**416**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.0
09A	400-500	10-Nov-09	2.00	33	16	<1	18	20	**0.2**	7	53	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
09B	0-100	10-Nov-09	0.77	**50**	11	<1	20	22	0.1	3	110	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1	0.9	1.1	<0.5	<0.5	0.8	<0.5	1.8	<0.5	<0.5	<0.5	1	1.8	9.65	ND	ND	<0.5
09B	400-500	10-Nov-09	1.60	**105**	19	<1	62	50	**0.5**	10	**296**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	1	1.1	1.2	0.7	0.6	0.9	<0.5	1.9	<0.5	0.5	<0.5	0.9	1.9	11.3	-	-	-
09C	0-100	10-Nov-09	0.59	46	7	<1	27	22	**0.2**	3	97	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
09C	250-350	10-Nov-09	0.42	30	5	<1	17	14	0.1	2	65	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.35	-	-	-
10B	0-100	10-Nov-09	0.49	38	8	<1	25	18	0.1	3	95	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4	ND	ND	<0.5
10C	0-100	10-Nov-09	1.16	**74**	16	<1	**128**	42	**0.3**	8	**225**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	0.8	2.2	2.1	2.7	1.3	0.7	1.8	<0.5	5	<0.5	1	<0.5	2.4	4.9	23.75	ND	ND	<0.5
10C	450-550	10-Nov-09	0.56	**60**	10	<1	43	31	**0.2**	5	153	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
11A	0-100	10-Nov-09	1.93	**129**	17	<1	**115**	**73**	**0.5**	12	**401**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1.2	1.2	1.3	0.8	0.6	1	<0.5	2.2	<0.5	0.6	<0.5	1.1	2.3	12.7	ND	ND	1.1
11A	400-500	10-Nov-09	1.68	**164**	**20**	<1	**143**	64	**0.7**	15	**384**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.9	1.2	1.3	0.8	0.6	0.7	<0.5	1.4	<0.5	0.6	<0.5	<0.5	1.5	10.5	-	-	-
11B	0-100	10-Nov-09	0.29	19	5	<1	10	7	<0.1	2	44	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
11B	300-400	10-Nov-09	0.22	15	<5	<1	8	<5	<0.1	<2	34	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
11C	0-100	10-Nov-09	0.26	20	8	<1	10	**195**	<0.1	3	53	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
11C	400-500	10-Nov-09	0.87	19	12	<1	15	8	<0.1	4	30	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
12B	0-100	10-Nov-09	0.48	36	7	<1	22	21	0.1	3	104	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	0.6
12B	450-550	10-Nov-09	0.86	**81**	13	<1	**93**	32	**0.3**	6	**237**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
12C	0-100	10-Nov-09	0.16	24	<5	<1	8	<5	0.1	<2	34	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
12C	450-550	10-Nov-09	0.02	29	13	<1	8	10	0.1	2	54	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
13A	0-100	10-Nov-09	2.11	**143**	**20**	1	**104**	**76**	**0.5**	12	**432**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	0.6	0.8	5	ND	ND	2.4
13A	450-550	10-Nov-09	1.72	**127**	16	<1	**114**	**67**	**0.5**	12	**384**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	190	170	360	-	-	-	<0.5	<0.5	<0.5	0.7	0.7	1	0.5	<0.5	0.7	<0.5	1.1	<0.5	<0.5	<0.5	0.6	1.1	7.8	-	-	-
13B	0-100	10-Nov-09	0.32	23	6	<1	9	7	**0.2**	<2	46	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
13B	400-500	10-Nov-09	0.77	41	10	<1	36	19	0.1	4	126	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4	-	-	-
13C	0-100	10-Nov-09	0.13	22	6	<1	8	6	<0.1	<2	41	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
13C	300-400	10-Nov-09	0.34	25	8	<1	12	9	<0.1	2	55	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
14B	-	11-Nov-09	0.68	46	10	<1	25	22	<0.1	3	115	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1	1	1	0.6	<0.5	0.8	<0.5	1.9	<0.5	<0.5	<0.5	1.2	2	10.3	ND	ND	0.9

Table 1: Summary of Sediment Samples Analytical Results

2118600 Homebush Bay West, Sediment Assessment

				Metals								BTEX						TPH					Pesticides		
			Total Organic Carbon	Lead	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Zinc	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL				5	5	1	2	5	0.1	2	5	0.2	0.5	0.5	0.5	0.5		10	50	100	100	50	0.5	0.5	
14C	Bottom	11-Nov-09	0.23	16	7	<1	6	5	<0.1	<2	39	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
14C	Top	11-Nov-09	0.17	20	7	<1	8	6	<0.1	<2	46	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
15A	0-100	11-Nov-09	2.68	**153**	**25**	<1	**131**	**88**	**0.3**	16	**473**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
15A	400-500	11-Nov-09	0.67	41	**25**	<1	42	26	**0.2**	5	117	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
15C	0-100	11-Nov-09	2.19	17	7	<1	8	7	<0.1	2	49	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
15C	300-400	11-Nov-09	0.22	13	5	<1	6	8	<0.1	4	65	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
16B	0-100	11-Nov-09	2.05	**161**	19	1	**148**	**95**	**0.3**	17	**523**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
16B	300-400	11-Nov-09	1.06	**86**	16	<1	**82**	59	**0.2**	10	**286**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
16C	0-100	11-Nov-09	3.07	**125**	**20**	<1	**102**	**77**	**0.2**	14	**434**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
16C	200-300	11-Nov-09	2.84	**133**	**23**	1	**154**	**98**	**0.2**	**24**	**511**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	340	260	625	-	-	-
17A	0-100	11-Nov-09	3.05	**204**	**22**	**2**	**203**	**121**	**0.4**	**22**	**687**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	340	300	665	<0.5	<0.5	ND
17A	450-550	11-Nov-09	2.69	**285**	**32**	**4**	**380**	**149**	**0.5**	**31**	**1060**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	580	440	1045	-	-	-
17B	0-100	11-Nov-09	2.37	**163**	19	1	**151**	**96**	**0.4**	17	**534**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
17B	200-300	11-Nov-09	1.17	41	<5	<1	22	17	<0.1	4	49	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
17C	0-100	11-Nov-09	2.22	**190**	**22**	1	**160**	**102**	**0.4**	18	**634**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
17C	400-500	11-Nov-09	0.24	33	10	<1	48	28	<0.1	4	106	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
18A	0-100	11-Nov-09	1.94	**192**	18	**2**	**196**	**106**	**0.4**	**22**	**672**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
18A	400-500	11-Nov-09	2.23	**248**	**28**	**4**	**874**	**130**	**0.5**	**31**	**1090**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
18B	0-100	11-Nov-09	2.37	**167**	16	1	**169**	**94**	**0.3**	20	**575**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	370	180	575	<0.5	<0.5	ND
18B	450-550	11-Nov-09	1.99	**221**	18	**2**	**185**	**98**	**0.3**	**23**	**644**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
18C	0-100	11-Nov-09	0.87	**74**	8	<1	55	40	**0.2**	9	**242**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
18C	400-500	11-Nov-09	1.35	**97**	11	<1	72	50	**0.2**	12	**300**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
19B	0-100	11-Nov-09	1.86	**124**	12	1	**110**	**80**	**0.2**	15	**420**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
19B	450-550	11-Nov-09	1.94	**219**	15	**2**	**165**	**83**	**0.3**	**23**	**604**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	180	180	385	-	-	-
19C	0-100	11-Nov-09	2.12	**152**	17	1	**153**	**85**	**0.3**	18	**498**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
19C	450-550	11-Nov-09	5.43	**299**	**29**	**3**	**1090**	**140**	**0.6**	**34**	**1090**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	120	870	570	1560	-	-	-
20A	0-100	12-Nov-09	2.24	**155**	17	1	**154**	**95**	**0.4**	17	**528**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
20A	450-550	12-Nov-09	1.95	**154**	17	1	**279**	**82**	**0.3**	19	**487**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
20B	0-100	12-Nov-09	0.77	**54**	7	<1	48	26	0.1	6	163	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
20B	450-550	12-Nov-09	1.09	**79**	15	<1	**107**	28	**0.2**	6	189	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
20C	0-100	12-Nov-09	0.62	27	6	<1	17	12	<0.1	3	74	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
20C	300-400	12-Nov-09	0.61	36	9	<1	11	13	0.1	3	59	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
21B	0-100	12-Nov-09	1.41	**118**	13	1	**102**	**67**	**0.2**	16	**417**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
21B	450-550	12-Nov-09	2.12	**348**	19	**2**	**230**	**122**	**0.3**	**35**	**820**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	690	560	1275	-	-	-
21C	0-100	12-Nov-09	0.97	**69**	8	<1	53	34	0.1	8	**220**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
21C	400-500	12-Nov-09	1.98	**235**	16	**2**	**174**	**87**	**0.3**	**26**	**621**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
22A	0-100	12-Nov-09	2.46	**195**	**23**	1	**202**	**120**	**0.5**	20	**611**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
22A	450-550	12-Nov-09	1.80	**112**	14	1	**569**	**71**	**0.3**	**23**	**359**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
22B	0-100	12-Nov-09	2.07	**132**	16	1	**125**	**77**	**0.3**	16	**503**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	180	190	395	<0.5	<0.5	ND
22B	450-550	12-Nov-09	2.33	**238**	**28**	**3**	**349**	**130**	**0.5**	**31**	**846**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	300	250	575	-	-	-
22C	0-100	12-Nov-09	1.03	**77**	10	<1	66	44	**0.2**	10	**256**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	190	200	415	<0.5	<0.5	ND
22C	400-500	12-Nov-09	1.83	**154**	14	1	**141**	**72**	**0.2**	17	**435**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
23B	0-100	12-Nov-09	1.87	**128**	16	<1	**126**	**80**	**0.3**	14	**448**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
23B	450-550	12-Nov-09	0.86	40	12	<1	33	19	0.1	5	105	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
23C	0-100	12-Nov-09	1.10	**59**	7	<1	54	31	<0.1	7	197	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
23C	450-550	12-Nov-09	1.12	**131**	17	1	**273**	**74**	**0.2**	**22**	**425**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	130	120	275	-	-	-
24A	Top	12-Nov-09	2.02	**82**	12	<1	**87**	58	**0.2**	10	**316**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	200	140	365	<0.5	<0.5	ND
24A	Bottom	12-Nov-09	3.14	**108**	13	<1	**110**	**68**	**0.2**	13	**352**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
24B	-	12-Nov-09	1.74	**146**	16	<1	**147**	**91**	**0.3**	17	**472**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
24C	-	12-Nov-09	1.12	**124**	13	<1	**103**	**66**	**0.2**	14	372	<0.2	<0.5	3	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
25B	0-100	12-Nov-09	1.73	**133**	14	<1	**129**	**80**	**0.3**	15	**440**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
25B	400-500	12-Nov-09	2.29	**309**	16	1	**119**	**90**	**0.3**	**28**	**581**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
25C	-	12-Nov-09	0.91	**87**	9	<1	79	49	**0.2**	10	**290**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
Duplicate Samples																									
GHD1	2A/0-100	09-Nov-09	3.21	**254**	**41**	**2**	**222**	**296**	**0.7**	**25**	**882**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	1080	910	2015	0.6	**2.3**	6.05
GHD2	3B/0-100	09-Nov-09	1.70	**155**	16	<1	**126**	**107**	**0.6**	15	**443**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	280	300	605	<0.5	0.6	1.7
GHD3	13C/0-100	10-Nov-09	0.21	20	5	<1	7	6	<0.1	<2	38	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND
GHD4	12B/450-550	10-Nov-09	2.25	**118**	15	<1	**97**	**67**	**0.2**	10	**373**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-
GHD5	17A/450-550	11-Nov-09	2.33	**275**	**31**	**3**	**443**	**149**	**0.6**	**30**	**981**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	720	540	1285	-	-	-
GHD6	20C/300-400	12-Nov-09		35	9	<0.5	9	14	0.2	4	62	<0.5	<1	<0.5	<2	<1	ND	<25	<50	<100	<100	ND	-	-	-

			PAHs																	VOCs		TBT
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
14C	Bottom	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	4.45	-	-	-
14C	Top	11-Nov-09	<0.5	<0.5	<0.5	0.6	0.6	0.6	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1	6.3	ND	ND	<0.5
15A	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.3	ND	ND	3.4
15A	400-500	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.1	-	-	-
15C	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	5.1	ND	ND	<0.5
15C	300-400	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
16B	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.7
16B	300-400	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
16C	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.7	4.45	ND	0.8	**10.1**
16C	200-300	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
17A	0-100	11-Nov-09	<0.5	<0.5	<0.5	0.8	1.2	1.2	1	<0.8	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	1.6	9.3	ND	ND	4.2
17A	450-550	11-Nov-09	<0.8	<0.8	<0.8	<0.8	1.2	1.1	1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2.1	9.8	-	-	-
17B	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	4.8	ND	ND	2.4
17B	200-300	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
17C	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	3.2
17C	400-500	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
18A	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	4.8	ND	ND	1.0
18A	400-500	11-Nov-09	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	ND	-	-	-
18B	0-100	11-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	4.7	ND	ND	2.0
18B	450-550	11-Nov-09	<0.5	<0.5	<0.5	0.7	0.9	0.8	0.7	<0.5	0.6	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	1.1	7.5	-	-	-
18C	0-100	11-Nov-09	<0.5	<0.5	<0.5	0.8	0.8	0.8	<0.5	<0.5	0.7	<0.5	1.4	<0.5	<0.5	<0.5	0.8	1.5	8.25	ND	ND	1.3
18C	400-500	11-Nov-09	<0.5	<0.5	<0.5	0.6	0.6	0.6	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	0.6	1	6.3	-	-	-
19B	0-100	11-Nov-09	<0.5	<0.5	<0.5	0.6	0.8	0.8	0.5	<0.5	0.6	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1.2	7.3	ND	ND	1.3
19B	450-550	11-Nov-09	<0.5	<0.5	<0.5	0.5	0.7	0.7	0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1	6.45	-	-	-
19C	0-100	11-Nov-09	<0.5	<0.5	<0.5	0.9	1.1	1.1	<0.5	<0.8	0.8	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	1.7	9.2	ND	ND	2.5
19C	450-550	11-Nov-09	<0.5	0.7	<0.5	1.1	1.4	1.5	1	<0.5	0.9	<0.5	1.1	<0.5	0.6	<0.5	0.6	3.8	13.6	-	-	-
20A	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1	5.35	ND	ND	2.2
20A	450-550	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.1	-	-	-
20B	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.9	5.2	ND	ND	0.7
20B	450-550	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	4.85	-	-	-
20C	0-100	12-Nov-09	<0.5	<0.5	<0.5	0.6	0.6	0.6	<0.5	<0.5	0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.1	6.65	ND	ND	<0.5
20C	300-400	12-Nov-09	<0.5	<0.5	<0.5	0.5	0.7	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	5.7	-	-	-
21B	0-100	12-Nov-09	<0.5	<0.5	<0.5	0.7	0.9	0.8	0.6	<0.5	0.6	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.4	8	ND	ND	1.8
21B	450-550	12-Nov-09	<0.5	<0.5	<0.5	0.7	0.9	1	0.7	<0.5	0.6	<0.5	1.1	<0.5	<0.5	<0.5	0.5	2	9	-	-	-
21C	0-100	12-Nov-09	<0.5	<0.5	<0.5	0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	0.7	1	6.1	ND	ND	1.1
21C	400-500	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	4.65	-	-	-
22A	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.3
22A	450-550	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
22B	0-100	12-Nov-09	<0.5	<0.5	<0.5	0.6	0.9	0.8	0.6	<0.5	0.6	<0.5	0.9	<0.5	<0.5	<0.5	0.7	1.5	7.9	ND	ND	1.9
22B	450-550	12-Nov-09	<0.8	<0.8	<0.8	<0.8	0.9	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2	8.5	-	-	-
22C	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.1	ND	ND	1.2
22C	400-500	12-Nov-09	<0.5	<0.5	<0.5	0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	0.5	1	6	-	-	-
23B	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	3.2
23B	450-550	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
23C	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
23C	450-550	12-Nov-09	<0.5	<0.5	<0.5	<0.5	0.7	0.6	0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	5.7	-	-	-
24A	Top	12-Nov-09	1.6	21.1	8.4	18.8	27.5	1.8	7.5	0.7	20.8	2	38.3	<0.5	5.6	4.4	4.3	85.9	244.65	ND	ND	1.9
24A	Bottom	12-Nov-09	<0.5	<0.5	1	1.4	1.2	1.2	0.6	0.6	1.1	<0.5	3.1	<0.5	<0.5	<0.5	2.9	3	14.7	-	-	-
24B	-	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.9
24C	-	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.25	ND	ND	1.9
25B	0-100	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.3	ND	ND	1.9
25B	400-500	12-Nov-09	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	1.3	5.65	-	-	-
25C	-	12-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.2
Duplicate Samples																						
GHD1	2A/0-100	09-Nov-09	<0.5	1.3	2.6	1.4	1.8	2	1	1	1.2	<0.5	2.4	<0.5	0.8	<0.5	1	3.8	20.3	ND	ND	**6.8**
GHD2	3B/0-100	09-Nov-09	<0.5	0.9	1	2.2	2.7	2.7	1.5	1.2	2	<0.5	5.7	<0.5	1.2	<0.5	1.9	6.1	28.2	ND	ND	3.0
GHD3	13C/0-100	10-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
GHD4	12B/450-550	10-Nov-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4	-	-	-
GHD5	17A/450-550	11-Nov-09	<0.8	0.8	<0.8	0.9	1.9	1.8	1.4	<0.8	0.8	<0.8	<0.8	<0.8	0.8	<0.8	<0.8	4.4	15.6	-	-	-
GHD6	20C/300-400	12-Nov-09	<0.1	0.2	<0.1	0.4	0.9	-	0.4	1.2	0.6	<0.1	0.7	<0.1	0.4	<0.1	0.2	0.9	5.9	-	-	-

BOLD Concentration exceeds ISQG-low trigger value (ANZECC, 2000)

BOLD (highlighted) Concentration exceeds ISQG-high trigger value (ANZECC, 2000)

Table 2: Summary of Sediment Samples Analytical Results - Organic Concentrations Normalised to TOC
2118600 Homebush Bay West, Sediment Assessment

				BTEX						TPH					Pesticides			PAHs																VOCs		TBT
			Total Organic Carbon	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.5	0.5	0.5	0.5	-	10	50	100	100	50	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
ISQG - Low				-	-	-	-	-	-	-	-	-	-	-	2.2	2	-	16	44	85	261	430	-	-	-	384	63	600	19	-	160	240	665	4000	-	-	5.0
ISQG - High				-	-	-	-	-	-	-	-	-	-	-	27	20	-	500	640	1100	1600	1600	-	-	-	2800	260	5100	540	-	2100	1500	2600	45000	-	-	70.0
Field ID	**Sample Depth**	**Sampled Date**																																		
01A	0-100	09-Nov-09	3.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	0.39	ND	0.16	ND	0.16	ND	0.30	ND	ND	ND	ND	0.33	2.47	ND	ND	0.95
01A	400-500	09-Nov-09	2.49	ND	ND	ND	ND	ND	ND	ND	ND	140.56	132.53	283.13	ND	ND	ND	ND	ND	ND	ND	0.36	0.36	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.40	3.25	ND	ND	-
01B	0-100	09-Nov-09	2.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.32	0.32	ND	ND	0.24	ND	0.56	ND	ND	ND	0.28	0.56	3.25	ND	ND	0.69
01B	400-450	09-Nov-09	1.95	ND	ND	ND	ND	ND	ND	ND	ND	133.33	92.31	238.46	ND	ND	ND	ND	ND	0.41	ND	0.26	0.31	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.46	3.08	ND	ND	-
02A	0-100	09-Nov-09	3.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25	1.16	2.89	ND	0.19	0.22	0.28	0.44	0.28	ND	ND	0.22	ND	0.41	ND	ND	ND	ND	0.50	3.13	ND	ND	0.94
02A	450-500	09-Nov-09	3.24	ND	ND	0.19	ND	ND	ND	ND	ND	86.42	80.25	174.38	ND	ND	ND	ND	ND	0.22	0.19	0.25	0.28	0.19	ND	ND	ND	0.28	ND	ND	ND	ND	0.37	2.38	ND	ND	-
02B	0-100	09-Nov-09	2.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24	ND	ND	ND	ND	ND	0.24	ND	ND	ND	ND	0.28	1.90	ND	ND	0.93
02B	400-450	09-Nov-09	2.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.25	0.29	0.18	ND	ND	ND	0.25	ND	ND	ND	ND	0.32	2.27	ND	ND	-
02C	0-100	09-Nov-09	2.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	1.11	ND	0.43	1.22	1.43	1.18	0.43	0.29	0.22	1.00	ND	4.30	0.25	0.29	ND	3.94	3.55	14.86	0.47	ND	1.65
02C	350-400	09-Nov-09	2.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.21	0.25	ND	ND	ND	ND	0.35	ND	ND	ND	ND	0.39	2.25	ND	ND	-
03A	0-100	09-Nov-09	2.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	0.30	2.08	ND	ND	0.45
03A	450-550	09-Nov-09	2.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
03B	0-100	09-Nov-09	2.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	1.07	ND	ND	0.23	0.28	0.37	0.37	0.28	ND	0.23	ND	0.56	ND	ND	ND	0.23	0.65	3.79	ND	ND	1.21
03B	300-400	09-Nov-09	2.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	0.29	ND	ND	ND	ND	0.29	ND	ND	ND	ND	0.39	2.60	ND	ND	-
04B	0-100	09-Nov-09	2.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.23	2.65	ND	0.27	0.31	0.42	0.46	0.38	ND	ND	0.31	ND	0.69	ND	ND	ND	0.31	0.73	4.31	ND	ND	0.38
04B	450-500	09-Nov-09	2.62	ND	ND	ND	ND	ND	ND	ND	ND	110.69	91.60	211.83	ND	ND	ND	ND	0.19	0.27	0.31	0.38	0.38	0.23	ND	0.23	ND	0.50	ND	ND	ND	0.23	0.57	3.63	ND	ND	-
04C	0-100	09-Nov-09	0.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.87	ND	ND	ND	ND	ND	0.54	ND	ND	ND	ND	0.87	ND	ND	ND	ND	0.87	5.54	ND	ND	1.20
04C	300-400	09-Nov-09	1.91	ND	ND	ND	ND	ND	ND	ND	ND	204.19	240.84	458.12	ND	ND	ND	ND	ND	0.31	0.47	0.47	0.47	ND	ND	0.37	ND	0.84	ND	ND	ND	0.42	0.89	4.87	ND	ND	-
05A	0-100	09-Nov-09	0.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.43	ND	ND	ND	ND	ND	1.43	ND	ND	ND	ND	1.71	13.14	ND	ND	ND
05A	450-550	09-Nov-09	0.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.81	ND	ND	ND	ND	0.81	6.01	ND	ND	-
05B	0-100	09-Nov-09	2.40	ND	ND	ND	ND	ND	ND	ND	ND	208.33	166.67	385.42	0.29	1.08	2.85	ND	0.42	0.92	0.88	0.96	0.96	0.50	0.42	0.75	ND	1.58	ND	0.38	ND	0.71	1.63	9.79	ND	ND	2.00
05B	300-350	09-Nov-09	2.78	ND	ND	ND	ND	ND	ND	ND	ND	183.45	151.08	343.53	ND	ND	ND	ND	1.40	0.65	0.86	0.97	0.94	0.47	0.47	0.65	ND	1.47	0.25	0.40	ND	0.68	1.62	10.41	ND	ND	-
05C	0-100	09-Nov-09	1.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.97	4.36	ND	ND	0.51	0.51	0.77	ND	ND	ND	0.43	ND	0.85	ND	ND	ND	ND	1.20	6.20	ND	ND	0.60
05C	350-400	09-Nov-09	1.45	ND	ND	ND	ND	ND	ND	ND	ND	924.14	482.76	1424.14	ND	ND	ND	ND	1.45	15.31	1.24	2.21	3.31	0.62	1.03	ND	ND	0.83	ND	0.55	ND	0.55	20.00	47.41	ND	ND	-
06B	0-100	10-Nov-09	1.34	ND	ND	ND	ND	ND	ND	ND	ND	156.72	82.09	257.46	ND	1.79	3.96	ND	1.49	1.19	4.55	3.43	4.03	1.72	1.49	3.51	ND	6.87	ND	1.27	0.75	1.87	9.93	40.78	ND	ND	ND
06B	300-400	10-Nov-09	6.63	ND	ND	ND	ND	ND	ND	ND	ND	288.08	181.00	472.85	ND	ND	ND	0.17	3.11	1.70	9.31	7.41	8.48	3.33	3.09	6.06	0.77	9.89	0.29	3.05	0.78	1.07	21.57	79.00	ND	ND	-
07A	0-100	10-Nov-09	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.64	0.69	0.64	0.35	0.29	0.52	ND	0.92	ND	ND	ND	0.35	1.16	6.21	ND	ND	1.27
07A	300-400	10-Nov-09	0.43	ND	ND	ND	ND	ND	ND	ND	ND	5186.05	2372.09	7720.93	ND	ND	ND	14.65	29.53	**110.23**	97.67	73.26	75.81	29.30	23.49	69.07	6.74	260.47	**57.44**	24.65	4.42	**283.72**	246.51	1123.26	ND	ND	-
07B	0-100	10-Nov-09	1.63	ND	ND	ND	ND	ND	ND	ND	ND	98.16	98.16	211.66	ND	0.43	1.17	ND	0.43	0.55	0.98	0.86	0.98	0.49	0.49	0.74	ND	1.84	ND	0.37	ND	1.10	1.90	10.25	ND	ND	0.61
07C	0-100	10-Nov-09	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.85	1.30	2.22	2.22	2.59	1.30	1.11	1.85	ND	3.89	ND	1.11	ND	1.85	4.07	25.37	ND	ND	1.48
07C	200-300	10-Nov-09	1.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	0.44	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.44	3.61	ND	ND	-
08B	0-100	10-Nov-09	0.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.25	ND	1.25	ND	ND	ND	ND	2.25	ND	ND	ND	ND	2.25	13.88	ND	ND	ND
08B	350-450	10-Nov-09	0.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.02	1.02	1.19	ND	ND	ND	ND	1.69	ND	ND	ND	ND	1.69	10.85	ND	ND	-
08C	0-100	10-Nov-09	0.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.68	ND	ND	ND	ND	0.68	5.74	ND	ND	1.08
08C	400-500	10-Nov-09	2.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	0.79	0.74	0.93	0.42	0.23	0.65	ND	1.53	ND	0.32	ND	0.93	1.48	8.03	ND	ND	-
09A	0-100	10-Nov-09	2.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.92
09A	400-500	10-Nov-09	2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
09B	0-100	10-Nov-09	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.30	1.17	1.43	ND	ND	1.04	ND	2.34	ND	ND	ND	1.30	2.34	12.53	ND	ND	ND
09B	400-500	10-Nov-09	1.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	0.69	0.75	0.44	0.38	0.56	ND	1.19	ND	0.31	ND	0.56	1.19	7.06	ND	ND	-
09C	0-100	10-Nov-09	0.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
09C	250-350	10-Nov-09	0.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.19	ND	ND	ND	ND	1.43	10.36	ND	ND	-
10B	0-100	10-Nov-09	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.02	8.16	ND	ND	ND
10C	0-100	10-Nov-09	1.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	1.90	1.81	2.33	1.12	0.60	1.55	ND	4.31	ND	0.86	ND	2.07	4.22	20.47	ND	ND	ND
10C	450-550	10-Nov-09	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
11A	0-100	10-Nov-09	1.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62	0.62	0.67	0.41	0.31	0.52	ND	1.14	ND	0.31	ND	0.57	1.19	6.58	ND	ND	0.57
11A	400-500	10-Nov-09	1.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	0.71	0.77	0.48	0.36	0.42	ND	0.83	ND	0.36	ND	ND	0.89	6.25	ND	ND	-
11B	0-100	10-Nov-09	0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11B	300-400	10-Nov-09	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
11C	0-100	10-Nov-09	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11C	400-500	10-Nov-09	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
12B	0-100	10-Nov-09	0.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.25
12B	450-550	10-Nov-09	0.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
12C	0-100	10-Nov-09	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12C	450-550	10-Nov-09	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
13A	0-100	10-Nov-09	2.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24	ND	ND	ND	ND	ND	0.33	ND	ND	ND	0.28	0.38	2.37	ND	ND	1.14
13A	450-550	10-Nov-09	1.72	ND	ND	ND	ND	ND	ND	ND	ND	110.47	98.84	209.30	ND	ND	ND	ND	ND	ND	0.41	0.41	0.58	0.29	ND	0.41	ND	0.64	ND	ND	ND	0.35	0.64	4.53	ND	ND	-
13B	0-100	10-Nov-09	0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13B	400-500	10-Nov-09	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	5.19	ND	ND	-
13C	0-100	10-Nov-09	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13C	300-400	10-Nov-09	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
14B	-	11-Nov-09	0.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.47	1.47	1.47	0.88	ND	1.18	ND	2.79	ND	ND	ND	1.76	2.94	15.15	ND	ND	1.32
14C	Bottom	11-Nov-09	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.61	ND	ND	ND	ND	2.61	19.35	ND	ND	-
14C	Top	11-Nov-09	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.53	3.53	3.53	ND	ND	ND	ND	5.88	ND	ND	ND	ND	5.88	37.06	ND	ND	ND
15A	0-100	11-Nov-09	2.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19	1.60	ND	ND	1.27
15A	400-500	11-Nov-09	0.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.90	6.12	ND	ND	-
15C	0-100	11-Nov-09	2.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23	ND	ND	ND	ND	0.37	ND	ND	ND	ND	0.37	2.33	ND	ND	ND
15C	300-400	11-Nov-09	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
16B	0-100	11-Nov-09	2.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.32
16B	300-400	11-Nov-09	1.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
16C	0-100	11-Nov-09	3.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	ND	ND	ND	0.23	1.45	ND	0.26	3.29
16C	200-300	11-Nov-09	2.84	ND	ND	ND	ND	ND	ND	ND	ND	119.72	91.55	220.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
17A	0-100	11-Nov-09	3.05	ND	ND	ND	ND	ND	ND	ND	ND	111.48	98.36	218.03	ND	ND	ND	ND	ND	ND	0.26	0.39	0.39	0.33	ND	ND	ND	0.36	ND	ND	ND	ND	0.52	3.05	ND	ND	1.38

Table 2: Summary of Sediment Samples Analytical Results - Organic Concentrations Normalised to TOC
2118600 Homebush Bay West, Sediment Assessment

				BTEX						TPH					Pesticides			PAHs																VOCs		TBT
			Total Organic Carbon	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.5	0.5	0.5	0.5	-	10	50	100	100	50	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
17A	450-550	11-Nov-09	2.69	ND	ND	ND	ND	ND	ND	ND	ND	215.61	163.57	388.48	ND	ND	ND	ND	ND	ND	ND	0.45	0.41	0.37	ND	ND	ND	ND	ND	ND	ND	0.78	3.64	ND	ND	-
17B	0-100	11-Nov-09	2.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	2.03	ND	ND	1.01
17B	200-300	11-Nov-09	1.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
17C	0-100	11-Nov-09	2.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.44
17C	400-500	11-Nov-09	0.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
18A	0-100	11-Nov-09	1.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	2.47	ND	ND	0.52
18A	400-500	11-Nov-09	2.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
18B	0-100	11-Nov-09	2.37	ND	ND	ND	ND	ND	ND	ND	ND	156.12	75.95	242.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	1.98	ND	ND	0.84
18B	450-550	11-Nov-09	1.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35	0.45	0.40	0.35	ND	0.30	ND	0.35	ND	ND	ND	ND	0.55	3.77	ND	ND	-
18C	0-100	11-Nov-09	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.92	0.92	0.92	ND	ND	0.80	ND	1.61	ND	ND	ND	0.92	1.72	9.48	ND	ND	1.49
18C	400-500	11-Nov-09	1.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44	0.44	0.44	ND	ND	ND	ND	0.74	ND	ND	ND	0.44	0.74	4.67	ND	ND	-
19B	0-100	11-Nov-09	1.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.43	0.43	0.27	ND	0.32	ND	0.43	ND	ND	ND	ND	0.65	3.92	ND	ND	0.70
19B	450-550	11-Nov-09	1.94	ND	ND	ND	ND	ND	ND	ND	ND	92.78	92.78	198.45	ND	ND	ND	ND	ND	ND	0.26	0.36	0.36	0.26	ND	ND	ND	0.41	ND	ND	ND	ND	0.52	3.32	ND	ND	-
19C	0-100	11-Nov-09	2.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	0.52	0.52	ND	ND	0.38	ND	0.57	ND	ND	ND	ND	0.80	4.34	ND	ND	1.18
19C	450-550	11-Nov-09	5.43	ND	ND	ND	ND	ND	ND	ND	22.10	160.22	104.97	287.29	ND	ND	ND	ND	0.13	ND	0.20	0.26	0.28	0.18	ND	0.17	ND	0.20	ND	0.11	ND	0.11	0.70	2.50	ND	ND	-
20A	0-100	12-Nov-09	2.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.45	2.39	ND	ND	0.98
20A	450-550	12-Nov-09	1.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	2.10	ND	ND	-
20B	0-100	12-Nov-09	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	ND	ND	ND	ND	ND	1.04	ND	ND	ND	ND	1.17	6.75	ND	ND	0.91
20B	450-550	12-Nov-09	1.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.73	ND	ND	ND	ND	0.73	4.45	ND	ND	-
20C	0-100	12-Nov-09	0.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.97	0.97	0.97	ND	ND	0.81	ND	1.61	ND	ND	ND	ND	1.77	10.73	ND	ND	ND
20C	300-400	12-Nov-09	0.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.82	1.15	0.98	ND	ND	ND	ND	0.98	ND	ND	ND	ND	1.31	9.34	ND	ND	-
21B	0-100	12-Nov-09	1.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50	0.64	0.57	0.43	ND	0.43	ND	0.71	ND	ND	ND	ND	0.99	5.67	ND	ND	1.28
21B	450-550	12-Nov-09	2.12	ND	ND	ND	ND	ND	ND	ND	ND	325.47	264.15	601.42	ND	ND	ND	ND	ND	ND	0.33	0.42	0.47	0.33	ND	0.28	ND	0.52	ND	ND	ND	0.24	0.94	4.25	ND	ND	-
21C	0-100	12-Nov-09	0.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	0.62	0.62	ND	ND	ND	ND	0.93	ND	ND	ND	0.72	1.03	6.29	ND	ND	1.13
21C	400-500	12-Nov-09	1.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30	ND	ND	ND	ND	0.40	2.35	ND	ND	-
22A	0-100	12-Nov-09	2.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53
22A	450-550	12-Nov-09	1.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
22B	0-100	12-Nov-09	2.07	ND	ND	ND	ND	ND	ND	ND	ND	86.96	91.79	190.82	ND	ND	ND	ND	ND	ND	0.29	0.43	0.39	0.29	ND	0.29	ND	0.43	ND	ND	ND	0.34	0.72	3.82	ND	ND	0.92
22B	450-550	12-Nov-09	2.33	ND	ND	ND	ND	ND	ND	ND	ND	128.76	107.30	246.78	ND	ND	ND	ND	ND	ND	ND	0.39	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	3.65	ND	ND	-
22C	0-100	12-Nov-09	1.03	ND	ND	ND	ND	ND	ND	ND	ND	184.47	194.17	402.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.58	3.98	ND	ND	1.17
22C	400-500	12-Nov-09	1.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27	0.33	0.33	ND	ND	ND	ND	0.44	ND	ND	ND	0.27	0.55	3.28	ND	ND	-
23B	0-100	12-Nov-09	1.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.71
23B	450-550	12-Nov-09	0.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
23C	0-100	12-Nov-09	1.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
23C	450-550	12-Nov-09	1.12	ND	ND	ND	ND	ND	ND	ND	ND	116.07	107.14	245.54	ND	ND	ND	ND	ND	ND	ND	0.63	0.54	0.45	ND	ND	ND	0.54	ND	ND	ND	ND	0.71	5.09	ND	ND	-
24A	Top	12-Nov-09	2.02	ND	ND	ND	ND	ND	ND	ND	ND	99.01	69.31	180.69	ND	ND	ND	0.79	10.45	4.16	9.31	13.61	0.89	3.71	0.35	10.30	0.99	18.96	ND	2.77	2.18	2.13	42.52	121.11	ND	ND	0.94
24A	Bottom	12-Nov-09	3.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.45	0.38	0.38	0.19	0.19	0.35	ND	0.99	ND	ND	ND	0.92	0.96	4.68	ND	ND	-
24B	-	12-Nov-09	1.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.67
24C	-	12-Nov-09	1.12	ND	ND	2.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.45	ND	ND	ND	ND	0.45	3.79	ND	ND	1.70
25B	0-100	12-Nov-09	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	2.49	ND	ND	1.10
25B	400-500	12-Nov-09	2.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	0.22	ND	ND	ND	ND	0.26	ND	ND	ND	ND	0.57	2.47	ND	ND	-
25C	-	12-Nov-09	0.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.42

BOLD Concentration exceeds ISQG-low trigger value (ANZECC, 2000)
BOLD Concentration exceeds ISQG-high trigger value (ANZECC, 2000)

Table 3: Summary Analytical Results - Dioxin Concentrations in Sediments
2118600 Homebush Bay West, Additional Sediment Assessment

Sample ID		GHD28		GHD29		GHD30		GHD31		GHD32	
Sample Depth		0-100	450-500	0-100	450-550	0-100	450-550	0-100	450-550	0-100	450-550
Laboratory Reference		N10/011842	N10/011843	N10/011844	N10/011845	N10/011846	N10/011847	N10/011848	N10/011849	N10/011850	N10/011851
Total Solids	%	40.4	47.3	39.3	48.5	49.1	49.7	43.8	60.4	44.6	54.5
TOC	%	3.3	3.3	3.2	3	2.8	2.5	2.4	3.6	2.6	3
PCDD/F Congeners											
2,3,7,8-TCDF	ug/kg dm	0.027	0.022	0.024	0.021	0.020	0.012	0.012	0.009	0.010	0.010
2,3,7,8-TCDD	ug/kg dm	0.560	0.560	0.470	0.510	0.760	0.550	0.330	0.340	0.370	0.560
1,2,3,7,8-PeCDF	ug/kg dm	0.022	0.021	0.018	0.017	0.014	0.015	0.012	0.009	0.009	0.009
2,3,4,7,8-PeCDF	ug/kg dm	0.130	0.110	0.110	0.099	0.078	0.078	0.070	0.051	0.049	0.048
1,2,3,7,8-PeCDD	ug/kg dm	0.052	0.052	0.052	0.046	0.043	0.034	0.032	0.030	0.023	0.025
1,2,3,4,7,8-HxCDF	ug/kg dm	0.360	0.300	0.300	0.290	0.230	0.220	0.160	0.170	0.150	0.150
1,2,3,6,7,8-HxCDF	ug/kg dm	0.064	0.057	0.052	0.054	0.046	0.040	0.031	0.028	0.024	0.028
2,3,4,6,7,8-HxCDF	ug/kg dm	0.040	0.035	0.032	0.034	0.028	0.026	0.017	0.017	0.020	0.017
1,2,3,7,8,9-HxCDF	ug/kg dm	0.005	0.004	0.005	0.005	0.003	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDF	ug/kg dm	0.089	0.087	0.081	0.078	0.077	0.069	0.059	0.051	0.065	0.055
1,2,3,6,7,8-HxCDF	ug/kg dm	0.990	0.970	0.900	1.000	0.830	0.850	0.510	0.520	0.590	0.590
1,2,3,7,8,9-HxCDF	ug/kg dm	0.220	0.240	0.210	0.190	0.210	0.180	0.130	0.130	0.130	0.140
1,2,3,4,6,7,8-HpCDF	ug/kg dm	1.900	1.690	1.640	1.760	1.540	1.620	1.040	1.040	1.050	1.140
1,2,3,4,7,8,9-HpCDF	ug/kg dm	0.230	0.200	0.190	0.230	0.170	0.210	0.130	0.130	0.140	0.150
1,2,3,4,6,7,8-HpCDD	ug/kg dm	33.700	32.300	30.400	29.900	29.300	31.300	20.100	19.000	22.100	25.500
OCDF	ug/kg dm	14.000	12.900	10.000	11.700	7.820	10.600	5.680	5.610	8.240	10.300
OCDD	ug/kg dm	353.000	351.000	379.000	349.000	414.000	489.000	320.000	281.000	318.000	335.000
PCDD/F Homologue Groups											
Total TCDF isomers	ug/kg dm	0.980	0.840	0.840	0.750	0.700	0.510	0.470	0.410	0.410	0.410
Total TCDD isomers	ug/kg dm	1.420	1.480	1.330	1.300	1.400	1.190	1.020	1.120	0.880	1.050
Total PeCDF isomers	ug/kg dm	1.110	0.970	0.920	0.830	0.720	0.890	0.630	0.570	0.600	0.560
Total PeCDD isomers	ug/kg dm	1.110	1.170	1.110	0.960	0.860	0.920	0.790	0.910	0.640	0.640
Total HxCDF isomers	ug/kg dm	2.420	2.250	2.170	2.110	1.870	1.580	1.150	0.970	1.090	1.140
Total HxCDD isomers	ug/kg dm	6.070	6.480	5.810	5.450	5.050	5.190	3.340	3.230	3.420	3.540
Total HpCDF isomers	ug/kg dm	7.170	6.230	6.050	6.650	5.900	6.130	3.670	3.490	4.250	4.420
Total HpCDD isomers	ug/kg dm	58.300	58.200	54.000	50.700	49.500	57.900	35.400	33.500	38.400	44.200
Summary Results											
Sum of PCDD and PCDF congeners [(a)]	ug/kg dm	446.000	442.000	461.000	429.000	488.000	574.000	372.000	331.000	376.000	401.000
WHO_{05}-TEQ_{DF} [(a)]	ug/kg dm	1.310	1.270	1.150	1.180	1.400	1.230	0.780	0.760	0.840	1.060

All results reported in ug/kg dry mass (dm)
ND - Concentration reported below the practical quantitiation limit of the laboratory
[(a)] Excluding LOD values

Table 4: Summary Analytical Results - Dioxin Concentrations in Sediments Normalised to TOC
2118600 Homebush Bay West, Additional Sediment Assessment

Sample ID		GHD28		GHD29		GHD30		GHD31		GHD32	
Sample Depth		0-100	450-500	0-100	450-550	0-100	450-550	0-100	450-550	0-100	450-550
Laboratory Reference		N10/011842	N10/011843	N10/011844	N10/011845	N10/011846	N10/011847	N10/011848	N10/011849	N10/011850	N10/011851
Total Solids	%	40.4	47.3	39.3	48.5	49.1	49.7	43.8	60.4	44.6	54.5
TOC	%	3.3	3.3	3.2	3	2.8	2.5	2.4	3.6	2.6	3
PCDD/F Congeners											
2,3,7,8-TCDF	ug/kg dm	0.008	0.007	0.008	0.007	0.007	0.005	0.005	0.003	0.004	0.003
2,3,7,8-TCDD	ug/kg dm	0.170	0.170	0.147	0.170	0.271	0.220	0.138	0.094	0.142	0.187
1,2,3,7,8-PeCDF	ug/kg dm	0.007	0.006	0.006	0.006	0.005	0.006	0.005	0.003	0.004	0.003
2,3,4,7,8-PeCDF	ug/kg dm	0.039	0.033	0.034	0.033	0.028	0.031	0.029	0.014	0.019	0.016
1,2,3,7,8-PeCDD	ug/kg dm	0.016	0.016	0.016	0.015	0.015	0.014	0.013	0.008	0.009	0.008
1,2,3,4,7,8-HxCDF	ug/kg dm	0.109	0.091	0.094	0.097	0.082	0.088	0.067	0.047	0.058	0.050
1,2,3,6,7,8-HxCDF	ug/kg dm	0.019	0.017	0.016	0.018	0.016	0.016	0.013	0.008	0.009	0.009
2,3,4,6,7,8-HxCDF	ug/kg dm	0.012	0.011	0.010	0.011	0.010	0.010	0.007	0.005	0.008	0.006
1,2,3,7,8,9-HxCDF	ug/kg dm	0.002	0.001	0.001	0.002	0.001	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDF	ug/kg dm	0.027	0.026	0.025	0.026	0.028	0.028	0.025	0.014	0.025	0.018
1,2,3,6,7,8-HxCDF	ug/kg dm	0.300	0.294	0.281	0.333	0.296	0.340	0.213	0.144	0.227	0.197
1,2,3,7,8,9-HxCDF	ug/kg dm	0.067	0.073	0.066	0.063	0.075	0.072	0.054	0.036	0.050	0.047
1,2,3,4,6,7,8-HpCDF	ug/kg dm	0.576	0.512	0.513	0.587	0.550	0.648	0.433	0.289	0.404	0.380
1,2,3,4,7,8,9-HpCDF	ug/kg dm	0.070	0.061	0.059	0.077	0.061	0.084	0.054	0.036	0.054	0.050
1,2,3,4,6,7,8-HpCDD	ug/kg dm	10.212	9.788	9.500	9.967	10.464	12.520	8.375	5.278	8.500	8.500
OCDF	ug/kg dm	4.242	3.909	3.125	3.900	2.793	4.240	2.367	1.558	3.169	3.433
OCDD	ug/kg dm	106.970	106.364	118.438	116.333	147.857	195.600	133.333	78.056	122.308	111.667
PCDD/F Homologue Groups											
Total TCDF isomers	ug/kg dm	0.297	0.255	0.263	0.250	0.250	0.204	0.196	0.114	0.158	0.137
Total TCDD isomers	ug/kg dm	0.430	0.448	0.416	0.433	0.500	0.476	0.425	0.311	0.338	0.350
Total PeCDF isomers	ug/kg dm	0.336	0.294	0.288	0.277	0.257	0.356	0.263	0.158	0.231	0.187
Total PeCDD isomers	ug/kg dm	0.336	0.355	0.347	0.320	0.307	0.368	0.329	0.253	0.246	0.213
Total HxCDF isomers	ug/kg dm	0.733	0.682	0.678	0.703	0.668	0.632	0.479	0.269	0.419	0.380
Total HxCDD isomers	ug/kg dm	1.839	1.964	1.816	1.817	1.804	2.076	1.392	0.897	1.315	1.180
Total HpCDF isomers	ug/kg dm	2.173	1.888	1.891	2.217	2.107	2.452	1.529	0.969	1.635	1.473
Total HpCDD isomers	ug/kg dm	17.667	17.636	16.875	16.900	17.679	23.160	14.750	9.306	14.769	14.733
Summary Results											
Sum of PCDD and PCDF congeners [(a)]	ug/kg dm	135.152	133.939	144.063	143.000	174.286	229.600	155.000	91.944	144.615	133.667
WHO_{05}-TEQ_{DF} [(a)]	ug/kg dm	0.397	0.385	0.359	0.393	0.500	0.492	0.325	0.211	0.323	0.353

All results reported in ug/kg dry mass (dm)
ND - Concentration reported below the practical quantitiation limit of the laboratory
[(a)] Excluding LOD values

Table 5: Analytical Results for Selected Organic Compounds in Soil (mg/kg)

Sample/ Depth (m)	Benzene	Toluene	Ethyl-benzene	Xylene	TRH $_{C6-C9}$	TRH $_{C10-C36}$
BHA26/2.5-2.95	<0.2	<0.5	<1	<3	<25	<250
BHA26A/0.5-1.0	<0.2	<0.5	<1	<3	<25	<250
BHA26A/2.0-2.5	<0.2	<0.5	<1	<3	<25	<250
BHA27/0.1-0.55	<0.2	<0.5	<1	<3	<25	<250
BHA28/0.4	<0.2	<0.5	<1	<3	<25	<250
BHA28/1.0	<0.2	<0.5	<1	<3	<25	<250

Notes: TRH = total recoverable hydrocarbons

Table 5: Analytical Results for Selected Organic Compounds in Soil (mg/kg)

Sample/ Depth (m)	Total PAH	Benzo(a) pyrene	OCP	OPP	PCB	Phenol
BHA26/2.5-2.95	0.07	0.07	NIL(+)VE	NIL(+)VE	NIL(+)VE	<5
BHA26A/0.5-1.0	0.67	0.11	NIL(+)VE	NIL(+)VE	NIL(+)VE	<5
BHA26A/2.0-2.5	NIL(+)VE	<0.05	NIL(+)VE	NIL(+)VE	NIL(+)VE	<5
BHA27/0.1-0.55	0.43	0.05	NIL(+)VE	NIL(+)VE	NIL(+)VE	<5
BHA28/0.4	2.4	0.2	NIL(+)VE	NIL(+)VE	NIL(+)VE	<5
BHA28/1.0	NIL(+)VE	<0.05	NIL(+)VE	NIL(+)VE	NIL(+)VE	<5

Notes: PAH = polycyclic aromatic hydrocarbons; OCP = organochlorine pesticides; OPP = organophosphorus pesticides; PCB = polychlorinated biphenyls

Table 7: Analytical Results for Selected Heavy Metals in Soil (mg/kg)

Sample/ Depth (m)	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
BHA26/2.5-2.95	30	<0.4	13	5	10	<0.1	5	23
BHA26A/0.5-1.0	20	2	240	120	230	0.7	22	630
BHA26A/2.0-2.5	30	<0.4	12	3	8	<0.1	4	19
BHA27/0.1-0.55	20	1	200	130	220	0.7	22	590
BHA28/0.4	30	<0.4	24	19	34	0.1	6	69
BHA28/1.0	<4	<0.4	9	7	6	<0.1	6	15

Table B: Relative Percent Difference Calculations

2118600 Homebush Bay West, Sediment Assessment

			Metals								BTEX					TPH				Pesticides		
			Lead	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Zinc	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	4,4-DDE	DDD	Total OCPs
Sample ID	**Sample Depth**	**Sampling Date**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
			5	5	1	2	5	0.1	2	5	0.2	0.5	0.5	0.5	0.5	10	50	100	100	0.5	0.5	-
			1	4	0.5	1	1	0.1	1	1	0.2	0.5	0.5	0.5	0.5	10	50	100	100	-	-	-
GHD1	-	-	254	41	2	222	296	0.7	25	882	ND	ND	ND	ND	ND	ND	ND	1080	910	0.6	2.3	6.05
05A	0-100	09-Nov-09	203	23	1	156	120	0.5	19	558	ND	ND	ND	ND	ND	ND	ND	500	400	0.7	2.6	6.85
			22	**56**	**67**	35	**85**	**33**	27	**45**	N/C	N/C	N/C	N/C	N/C	N/C	N/C	***73***	***78***	15	12	12
GHD2	-	-	155	16	ND	126	107	0.6	15	443	ND	ND	ND	ND	ND	ND	ND	280	300	ND	0.6	1.7
03B	0-100	09-Nov-09	145	14	ND	111	104	0.4	14	404	ND	ND	ND	ND	ND	ND	ND	*50*	*50*	ND	0.9	2.3
			7	13	N/C	13	3	40	7	9	N/C	N/C	N/C	N/C	N/C	N/C	N/C	***139***	***143***	N/C	40	30
GHD3	-	-	20	5	ND	7	6	ND	ND	38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13C	0-100	10-Nov-09	22	6	ND	8	6	ND	ND	41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
			10	18	N/C	13	0	N/C	N/C	8	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
GHD4	-	-	118	15	ND	97	67	0.2	10	373	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
12B	450-550	10-Nov-09	81	13	ND	93	32	0.3	6	237	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
			37	14	N/C	4	**71**	**40**	**50**	**45**	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	-	-	-
GHD5	-	-	275	31	3	443	149	0.6	30	981	ND	ND	ND	ND	ND	ND	ND	720	540	-	-	-
17A	450-550	11-Nov-09	285	32	4	380	149	0.5	31	1060	ND	ND	ND	ND	ND	ND	ND	580	440	-	-	-
			4	3	29	15	0	18	3	8	N/C	N/C	N/C	N/C	N/C	N/C	N/C	22	20	-	-	-
GHD6	-	-	35	9	ND	9	14	0.2	4	62	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
20C	300-400	12-Nov-09	36	9	ND	11	13	0.1	3	59	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
			3	0	N/C	20	7	**67**	29	5	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	-	-	-

a Laboratory PQL raised to 0.8 (value of half PQL used where concentration reported below the laboratory PQL in one sample)

Table B Continued: Relative Percent Difference Calculations

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			PAHs																VOCs	
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total sVOCs	Total VOCs
Sample ID	**Sample Depth**	**Sampling Date**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-
			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-
GHD1	-	-	ND	1.3	2.6	1.4	1.8	2	1	1	1.2	ND	2.4	ND	0.8	ND	1	3.8	ND	ND
05A	0-100	09-Nov-09	ND	1	2.2	2.1	2.3	2.3	1.2	*1*	1.8	ND	3.8	ND	*0.9*	ND	1.7	3	ND	ND
			N/C	26	17	40	24	14	18	0	40	N/C	45	N/C	*12*	N/C	**52**	24	N/C	N/C
GHD2	-	-	ND	0.9	1	2.2	2.7	2.7	1.5	1.2	2	ND	5.7	ND	1.2	ND	1.9	6.1	ND	ND
03B	0-100	09-Nov-09	ND	*0.25*	0.5	0.6	0.8	0.8	0.6	*0.25*	0.5	ND	1.2	ND	*0.25*	ND	0.5	1.4	ND	ND
			N/C	***113***	**67**	**114**	**109**	**109**	**86**	***131***	**120**	N/C	130	N/C	***131***	N/C	**117**	**125**	N/C	N/C
GHD3	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13C	0-100	10-Nov-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
			N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
GHD4	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-
12B	450-550	10-Nov-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-
			N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	-	-
GHD5	-	-	ND [a]	0.8	ND [a]	0.9	1.9	1.8	1.4	ND [a]	0.8	ND [a]	ND [a]	ND [a]	0.8	ND [a]	ND [a]	4.4	-	-
17A	450-550	11-Nov-09	ND [a]	*0.4* [a]	ND [a]	*0.4* [a]	1.2	1.1	1	ND [a]	*0.4* [a]	ND [a]	ND [a]	ND [a]	*0.4* [a]	ND [a]	ND [a]	2.1	-	-
			N/C	***67***	N/C	***77***	45	48	33	N/C	***67***	N/C	N/C	N/C	***67***	N/C	N/C	71	-	-
GHD6	-	-	ND	0.2	ND	0.4	0.9	-	0.4	1.2	0.6	ND	0.7	ND	0.4	ND	0.2	0.9	-	-
20C	300-400	12-Nov-09	ND	*0.25*	ND	0.5	0.7	0.6	*0.25*	*0.25*	*0.25*	*ND*	0.6	ND	*0.25*	ND	ND	0.8	-	-
			N/C	22	N/C	22	25	-	46	***131***	***82***	N/C	15	N/C	46	N/C	N/C	12	-	-

a Laboratory PQL raised to 0.8 (value of half PQL used where concentration reported below the laboratory PQL in one sample)

Table C: Summary Analytical Results

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				Metals								BTEX						TPH					Pesticides			PAHs																		VOCs		TBT
			Total Organic Carbon	Lead	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Zinc	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			5	5	1	2	5	0.1	2	5	0.2	0.5	0.5	0.5	0.5	0.5		10	50	100	100	50	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
ISQG - Low		-	50	20	1.5	80	65	0.15	21	200	-	-	-	-	-	-		-	-	-	-	-	2.2	2	-	16	44	85	261	430	-	-	-	384	63	600	19	-	160	240	665	4000	-	-	5.0
ISQG - High		-	220	70	10	370	270	1	52	410	-	-	-	-	-	-		-	-	-	-	-	27	20	-	500	640	1100	1600	1600	-	-	-	2800	260	5100	540	-	2100	1500	2600	45000	-	-	70.0
Field ID	**Sample Depth**	**Sampled Date**																																											
01A	0-100	09-Nov-09	3.04	**244**	**23**	1	**189**	**144**	**0.6**	**23**	**689**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	0.5	<0.5	0.6	1.2	<0.8	0.5	<0.8	0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	1	7.5	ND	ND	2.9
01A	400-500	09-Nov-09	2.49	**284**	**22**	**2**	**208**	**146**	**0.8**	**27**	**758**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	350	330	705	-	-	-	<0.8	<0.8	<0.8	<0.8	0.9	0.9	<0.8	<0.8	<0.8	<0.8	0.9	<0.8	<0.8	<0.8	<0.8	1	8.1	-	-	-
01B	0-100	09-Nov-09	2.48	**103**	12	<1	61	**86**	**0.4**	20	**348**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.8	0.8	0.8	<0.5	<0.5	0.6	<0.5	1.4	<0.5	<0.5	<0.5	0.7	1.4	8.05	ND	ND	1.7
01B	400-450	09-Nov-09	1.95	**135**	**21**	1	**96**	**75**	**0.4**	**22**	**447**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	260	180	465	-	-	-	<0.5	<0.5	0.8	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.9	6	-	-	-
02A	0-100	09-Nov-09	3.20	**240**	**27**	**2**	**193**	**170**	**0.8**	**22**	**716**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	0.8	**3.7**	9.25	<0.5	0.6	0.7	0.9	1.4	0.9	<0.5	<0.8	0.7	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	1.6	10	ND	ND	3.0
02A	450-500	09-Nov-09	3.24	**249**	**27**	**2**	**206**	**153**	**0.8**	**24**	**759**	<0.2	<0.5	0.6	<0.5	<0.5	ND	<10	<50	280	260	565	-	-	-	<0.5	<0.5	0.7	0.6	0.8	0.9	0.6	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	1.2	7.7	-	-	-
02B	0-100	09-Nov-09	2.90	**225**	**22**	1	**177**	**158**	**0.9**	**22**	**653**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.7	<0.8	<0.5	<0.8	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.8	5.5	ND	ND	2.7
02B	400-450	09-Nov-09	2.80	**258**	**23**	**2**	**203**	**150**	**0.8**	**25**	**713**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.5	0.7	0.8	0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.9	6.35	-	-	-
02C	0-100	09-Nov-09	2.79	**179**	19	1	**107**	**99**	**0.9**	16	**734**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	1.3	3.1	<0.5	1.2	3.4	4	3.3	1.2	0.8	0.6	2.8	<0.5	12	0.7	0.8	<0.5	11	9.9	41.45	1.3	ND	4.6
02C	350-400	09-Nov-09	2.85	**243**	**29**	**2**	**184**	**96**	**0.8**	17	**439**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.5	0.6	0.7	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.1	6.4	-	-	-
03A	0-100	09-Nov-09	2.64	**233**	**21**	1	**183**	**142**	**1**	**22**	**636**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.7	<0.8	<0.5	<0.8	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.8	5.5	ND	ND	1.2
03A	450-550	09-Nov-09	2.39	**270**	**22**	**2**	**191**	**140**	**0.9**	**26**	**702**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	ND	-	-	-
03B	0-100	09-Nov-09	2.15	**145**	14	<1	**111**	**104**	**0.4**	14	**404**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	0.9	2.3	<0.5	<0.5	0.5	0.6	0.8	0.8	0.6	<0.5	0.5	<0.5	1.2	<0.5	<0.5	<0.5	0.5	1.4	8.15	ND	ND	2.6
03B	300-400	09-Nov-09	2.06	**154**	15	1	**114**	**95**	**0.6**	14	**411**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	5.35	-	-	-
04B	0-100	09-Nov-09	2.60	**190**	19	1	**135**	**113**	**0.8**	17	**502**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	**3.2**	6.9	<0.5	0.7	0.8	1.1	1.2	1	<0.5	<0.8	0.8	<0.5	1.8	<0.5	<0.5	<0.5	0.8	1.9	11.2	ND	ND	1.0
04B	450-500	09-Nov-09	2.62	**179**	**24**	1	**126**	**89**	**0.7**	16	**494**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	290	240	555	-	-	-	<0.5	0.5	0.7	0.8	1	1	0.6	<0.5	0.6	<0.5	1.3	<0.5	<0.5	<0.5	0.6	1.5	9.5	-	-	-
04C	0-100	09-Nov-09	0.92	**76**	15	<1	43	**86**	**0.2**	8	**217**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	5.1	ND	ND	1.1
04C	300-400	09-Nov-09	1.91	**120**	11	<1	64	54	**0.4**	14	**234**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	390	460	875	-	-	-	<0.5	<0.5	0.6	0.9	0.9	0.9	<0.5	<0.5	0.7	<0.5	1.6	<0.5	<0.5	<0.5	0.8	1.7	9.3	-	-	-
05A	0-100	09-Nov-09	0.35	44	**21**	<1	35	34	**0.2**	6	121	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.6	ND	ND	<0.5
05A	450-550	09-Nov-09	0.74	**53**	12	<1	38	40	0.1	5	142	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	4.45	-	-	-
05B	0-100	09-Nov-09	2.40	**203**	**23**	1	**156**	**120**	**0.5**	19	**558**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	500	400	925	0.7	**2.6**	6.85	<0.5	1	2.2	2.1	2.3	2.3	1.2	1	1.8	<0.5	3.8	<0.5	0.9	<0.5	1.7	3.9	23.5	ND	ND	4.8
05B	300-350	09-Nov-09	2.78	**164**	**27**	1	**100**	**76**	**0.5**	12	**367**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	510	420	955	-	-	-	<0.5	3.9	1.8	2.4	2.7	2.6	1.3	1.3	1.8	<0.5	4.1	0.7	1.1	<0.5	1.9	4.5	28.95	-	-	-
05C	0-100	09-Nov-09	1.17	**55**	7	<1	28	25	**0.2**	3	101	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	**2.3**	5.1	<0.5	<0.5	0.6	0.6	0.9	<0.5	<0.5	<0.5	0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.4	7.25	ND	ND	0.7
05C	350-400	09-Nov-09	1.45	**58**	9	<1	28	40	<0.1	4	90	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	1340	700	2065	-	-	-	<0.5	2.1	22.2	1.8	3.2	4.8	0.9	1.5	<0.5	<0.5	1.2	<0.5	0.8	<0.5	0.8	29	68.75	-	-	-
06B	0-100	10-Nov-09	1.34	**64**	10	<1	22	**81**	0.1	3	114	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	210	110	345	<0.5	**2.4**	5.3	<0.5	2	1.6	6.1	4.6	5.4	2.3	2	4.7	<0.5	9.2	<0.5	1.7	1	2.5	13.3	54.65	ND	ND	<0.5
06B	300-400	10-Nov-09	6.63	**158**	15	<1	13	**66**	**1.4**	5	172	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	1910	1200	3135	-	-	-	1.1	20.6	11.3	61.7	49.1	56.2	22.1	20.5	40.2	5.1	65.6	1.9	20.2	5.2	7.1	143	523.8	-	-	-
07A	0-100	10-Nov-09	1.73	**134**	17	<1	**99**	**106**	**0.4**	12	**366**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1.1	1.2	1.1	0.6	0.5	0.9	<0.5	1.6	<0.5	<0.5	<0.5	0.6	2	10.75	ND	ND	2.2
07A	300-400	10-Nov-09	0.43	**140**	16	<1	22	**72**	**0.4**	5	131	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	70	2230	1020	3320	-	-	-	6.3	12.7	47.4	42	31.5	32.6	12.6	10.1	29.7	2.9	112	**24.7**	10.6	1.9	122	106	483	-	-	-
07B	0-100	10-Nov-09	1.63	**112**	10	<1	59	**73**	**0.5**	8	**248**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	160	160	345	<0.5	0.7	1.9	<0.5	0.7	0.9	1.6	1.4	1.6	0.8	0.8	1.2	<0.5	3	<0.5	0.6	<0.5	1.8	3.1	16.7	ND	ND	1.0
07C	0-100	10-Nov-09	0.54	**138**	15	<1	73	**88**	**0.4**	9	**321**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	1	0.7	1.2	1.2	1.4	0.7	0.6	1	<0.5	2.1	<0.5	0.6	<0.5	1	2.2	13.7	ND	ND	0.8
07C	200-300	10-Nov-09	1.37	35	<5	<1	14	16	<0.1	<2	62	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.95	-	-	-
08B	0-100	10-Nov-09	0.40	40	7	<1	16	29	0.1	2	77	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.9	5.55	ND	ND	<0.5
08B	350-450	10-Nov-09	0.59	44	7	<1	18	19	0.1	2	88	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.6	0.6	0.7	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1	6.4	-	-	-
08C	0-100	10-Nov-09	0.74	**76**	8	<1	34	34	**0.2**	5	139	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.25	ND	ND	0.8
08C	400-500	10-Nov-09	2.16	**66**	10	<1	8	28	**0.2**	4	78	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	0.8	1.7	1.6	2	0.9	0.5	1.4	<0.5	3.3	<0.5	0.7	<0.5	2	3.2	17.35	-	-	-
09A	0-100	10-Nov-09	2.18	**147**	17	<1	**109**	**87**	**0.5**	14	**416**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.0
09A	400-500	10-Nov-09	2.00	33	16	<1	18	20	**0.2**	7	53	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
09B	0-100	10-Nov-09	0.77	**50**	11	<1	20	22	0.1	3	110	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1	0.9	1.1	<0.5	<0.5	0.8	<0.5	1.8	<0.5	<0.5	<0.5	1	1.8	9.65	ND	ND	<0.5
09B	400-500	10-Nov-09	1.60	**105**	19	<1	62	50	**0.5**	10	**296**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	1	1.1	1.2	0.7	0.6	0.9	<0.5	1.9	<0.5	0.5	<0.5	0.9	1.9	11.3	-	-	-
09C	0-100	10-Nov-09	0.59	46	7	<1	27	22	**0.2**	3	97	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
09C	250-350	10-Nov-09	0.42	30	5	<1	17	14	0.1	2	65	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.35	-	-	-
10B	0-100	10-Nov-09	0.49	38	8	<1	25	18	0.1	3	95	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4	ND	ND	<0.5
10C	0-100	10-Nov-09	1.16	**74**	16	<1	**128**	42	**0.3**	8	**225**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	0.8	2.2	2.1	2.7	1.3	0.7	1.8	<0.5	5	<0.5	1	<0.5	2.4	4.9	23.75	ND	ND	<0.5
10C	450-550	10-Nov-09	0.56	**60**	10	<1	43	31	**0.2**	5	153	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
11A	0-100	10-Nov-09	1.93	**129**	17	<1	**115**	**73**	**0.5**	12	**401**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1.2	1.2	1.3	0.8	0.6	1	<0.5	2.2	<0.5	0.6	<0.5	1.1	2.3	12.7	ND	ND	1.1
11A	400-500	10-Nov-09	1.68	**164**	**20**	<1	**143**	64	**0.7**	15	**384**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.9	1.2	1.3	0.8	0.6	0.7	<0.5	1.4	<0.5	0.6	<0.5	<0.5	1.5	10.5	-	-	-
11B	0-100	10-Nov-09	0.29	19	5	<1	10	7	<0.1	2	44	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
11B	300-400	10-Nov-09	0.22	15	<5	<1	8	<5	<0.1	<2	34	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
11C	0-100	10-Nov-09	0.26	20	8	<1	10	**195**	<0.1	3	53	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
11C	400-500	10-Nov-09	0.87	19	12	<1	15	8	<0.1	4	30	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
12B	0-100	10-Nov-09	0.48	36	7	<1	22	21	0.1	3	104	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	0.6
12B	450-550	10-Nov-09	0.86	**81**	13	<1	**93**	32	**0.3**	6	**237**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
12C	0-100	10-Nov-09	0.16	24	<5	<1	8	<5	0.1	<2	34	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
12C	450-550	10-Nov-09	0.02	29	13	<1	8	10	0.1	2	54	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
13A	0-100	10-Nov-09	2.11	**143**	**20**	1	**104**	**76**	**0.5**	12	**432**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	0.6	0.8	5	ND	ND	2.4
13A	450-550	10-Nov-09	1.72	**127**	16	<1	**114**	**67**	**0.5**	12	**384**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	190	170	360	-	-	-	<0.5	<0.5	<0.5	0.7	0.7	1	0.5	<0.5	0.7	<0.5	1.1	<0.5	<0.5	<0.5	0.6	1.1	7.8	-	-	-
13B	0-100	10-Nov-09	0.32	23	6	<1	9	7	**0.2**	<2	46	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
13B	400-500	10-Nov-09	0.77	41	10	<1	36	19	0.1	4	126	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4	-	-	-
13C	0-100	10-Nov-09	0.13	22	6	<1	8	6	<0.1	<2	41	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
13C	300-400	10-Nov-09	0.34	25	8	<1	12	9	<0.1	2	55	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
14B	-	11-Nov-09	0.68	46	10	<1	25	22	<0.1	3	115	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	1	1	1	0.6	<0.5	0.8	<0.5	1.9	<0.5	<0.5	<0.5	1.2	2	10.3	ND	ND	0.9

Table C: Summary Analytical Results

2118600 Homebush Bay West, Sediment Assessment

				Metals								BTEX						TPH					Pesticides			PAHs																		VOCs		TBT
			Total Organic Carbon	Lead	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Zinc	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				5	5	1	2	5	0.1	2	5	0.2	0.5	0.5	0.5	0.5		10	50	100	100	50	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
14C	Bottom	11-Nov-09	0.23	16	7	<1	6	5	<0.1	<2	39	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	4.45	-	-	-
14C	Top	11-Nov-09	0.17	20	7	<1	8	6	<0.1	<2	46	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.6	0.6	0.6	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1	6.3	ND	ND	<0.5
15A	0-100	11-Nov-09	2.68	**153**	**25**	<1	**131**	**88**	**0.3**	16	**473**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.3	ND	ND	3.4
15A	400-500	11-Nov-09	0.67	41	**25**	<1	42	26	**0.2**	5	117	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.1	-	-	-
15C	0-100	11-Nov-09	2.19	17	7	<1	8	7	<0.1	2	49	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	5.1	ND	ND	<0.5
15C	300-400	11-Nov-09	0.22	13	5	<1	6	8	<0.1	4	65	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
16B	0-100	11-Nov-09	2.05	**161**	19	1	**148**	**95**	**0.3**	17	**523**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.7
16B	300-400	11-Nov-09	1.06	**86**	16	<1	**82**	59	**0.2**	10	**286**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
16C	0-100	11-Nov-09	3.07	**125**	**20**	<1	**102**	**77**	**0.2**	14	**434**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.7	4.45	ND	0.8	**10.1**
16C	200-300	11-Nov-09	2.84	**133**	**23**	1	**154**	**98**	**0.2**	**24**	**511**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	340	260	625	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
17A	0-100	11-Nov-09	3.05	**204**	**22**	**2**	**203**	**121**	**0.4**	**22**	**687**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	340	300	665	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.8	1.2	1.2	1	<0.8	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	1.6	9.3	ND	ND	4.2
17A	450-550	11-Nov-09	2.69	**285**	**32**	**4**	**380**	**149**	**0.5**	**31**	**1060**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	580	440	1045	-	-	-	<0.8	<0.8	<0.8	<0.8	1.2	1.1	1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2.1	9.8	-	-	-
17B	0-100	11-Nov-09	2.37	**163**	19	1	**151**	**96**	**0.4**	17	**534**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	4.8	ND	ND	2.4
17B	200-300	11-Nov-09	1.17	41	<5	<1	22	17	<0.1	4	49	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
17C	0-100	11-Nov-09	2.22	**190**	**22**	1	**160**	**102**	**0.4**	18	**634**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	3.2
17C	400-500	11-Nov-09	0.24	33	10	<1	48	28	<0.1	4	106	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
18A	0-100	11-Nov-09	1.94	**192**	18	**2**	**196**	**106**	**0.4**	**22**	**672**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	4.8	ND	ND	1.0
18A	400-500	11-Nov-09	2.23	**248**	**28**	**4**	**874**	**130**	**0.5**	**31**	**1090**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	ND	-	-	-
18B	0-100	11-Nov-09	2.37	**167**	16	1	**169**	**94**	**0.3**	20	**575**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	370	180	575	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	4.7	ND	ND	2.0
18B	450-550	11-Nov-09	1.99	**221**	18	**2**	**185**	**98**	**0.3**	**23**	**644**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.7	0.9	0.8	0.7	<0.5	0.6	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	1.1	7.5	-	-	-
18C	0-100	11-Nov-09	0.87	**74**	8	<1	55	40	**0.2**	9	**242**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.8	0.8	0.8	<0.5	<0.5	0.7	<0.5	1.4	<0.5	<0.5	<0.5	0.8	1.5	8.25	ND	ND	1.3
18C	400-500	11-Nov-09	1.35	**97**	11	<1	72	50	**0.2**	12	**300**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.6	0.6	0.6	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	0.6	1	6.3	-	-	-
19B	0-100	11-Nov-09	1.86	**124**	12	1	**110**	**80**	**0.2**	15	**420**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.6	0.8	0.8	0.5	<0.5	0.6	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1.2	7.3	ND	ND	1.3
19B	450-550	11-Nov-09	1.94	**219**	15	**2**	**165**	**83**	**0.3**	**23**	**604**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	180	180	385	-	-	-	<0.5	<0.5	<0.5	0.5	0.7	0.7	0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1	6.45	-	-	-
19C	0-100	11-Nov-09	2.12	**152**	17	1	**153**	**85**	**0.3**	18	**498**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.9	1.1	1.1	<0.5	<0.8	0.8	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	1.7	9.2	ND	ND	2.5
19C	450-550	11-Nov-09	5.43	**299**	**29**	**3**	**1090**	**140**	**0.6**	**34**	**1090**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	120	870	570	1560	-	-	-	<0.5	0.7	<0.5	1.1	1.4	1.5	1	<0.5	0.9	<0.5	1.1	<0.5	0.6	<0.5	0.6	3.8	13.6	-	-	-
20A	0-100	12-Nov-09	2.24	**155**	17	1	**154**	**95**	**0.4**	17	**528**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1	5.35	ND	ND	2.2
20A	450-550	12-Nov-09	1.95	**154**	17	1	**279**	**82**	**0.3**	19	**487**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.1	-	-	-
20B	0-100	12-Nov-09	0.77	**54**	7	<1	48	26	0.1	6	163	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.9	5.2	ND	ND	0.7
20B	450-550	12-Nov-09	1.09	**79**	15	<1	**107**	28	**0.2**	6	189	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	4.85	-	-	-
20C	0-100	12-Nov-09	0.62	27	6	<1	17	12	<0.1	3	74	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.6	0.6	0.6	<0.5	<0.5	0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.1	6.65	ND	ND	<0.5
20C	300-400	12-Nov-09	0.61	36	9	<1	11	13	0.1	3	59	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.5	0.7	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	5.7	-	-	-
21B	0-100	12-Nov-09	1.41	**118**	13	1	**102**	**67**	**0.2**	16	**417**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.7	0.9	0.8	0.6	<0.5	0.6	<0.5	1	<0.5	<0.5	<0.5	<0.5	1.4	8	ND	ND	1.8
21B	450-550	12-Nov-09	2.12	**348**	19	**2**	**230**	**122**	**0.3**	**35**	**820**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	690	560	1275	-	-	-	<0.5	<0.5	<0.5	0.7	0.9	1	0.7	<0.5	0.6	<0.5	1.1	<0.5	<0.5	<0.5	0.5	2	9	-	-	-
21C	0-100	12-Nov-09	0.97	**69**	8	<1	53	34	0.1	8	**220**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	0.7	1	6.1	ND	ND	1.1
21C	400-500	12-Nov-09	1.98	**235**	16	**2**	**174**	**87**	**0.3**	**26**	**621**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	4.65	-	-	-
22A	0-100	12-Nov-09	2.46	**195**	**23**	1	**202**	**120**	**0.5**	20	**611**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.3
22A	450-550	12-Nov-09	1.80	**112**	14	1	**569**	**71**	**0.3**	**23**	**359**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
22B	0-100	12-Nov-09	2.07	**132**	16	1	**125**	**77**	**0.3**	16	**503**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	180	190	395	<0.5	<0.5	ND	<0.5	<0.5	<0.5	0.6	0.9	0.8	0.6	<0.5	0.6	<0.5	0.9	<0.5	<0.5	<0.5	0.7	1.5	7.9	ND	ND	1.9
22B	450-550	12-Nov-09	2.33	**238**	**28**	**3**	**349**	**130**	**0.5**	**31**	**846**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	300	250	575	-	-	-	<0.8	<0.8	<0.8	<0.8	0.9	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2	8.5	-	-	-
22C	0-100	12-Nov-09	1.03	**77**	10	<1	66	44	**0.2**	10	**256**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	190	200	415	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.1	ND	ND	1.2
22C	400-500	12-Nov-09	1.83	**154**	14	1	**141**	**72**	**0.2**	17	**435**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	0.5	1	6	-	-	-
23B	0-100	12-Nov-09	1.87	**128**	16	<1	**126**	**80**	**0.3**	14	**448**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	3.2
23B	450-550	12-Nov-09	0.86	40	12	<1	33	19	0.1	5	105	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	-	-	-
23C	0-100	12-Nov-09	1.10	**59**	7	<1	54	31	<0.1	7	197	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
23C	450-550	12-Nov-09	1.12	**131**	17	1	**273**	**74**	**0.2**	**22**	**425**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	130	120	275	-	-	-	<0.5	<0.5	<0.5	<0.5	0.7	0.6	0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	5.7	-	-	-
24A	Top	12-Nov-09	2.02	**82**	12	<1	**87**	58	**0.2**	10	**316**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	200	140	365	<0.5	<0.5	ND	1.6	21.1	8.4	18.8	27.5	1.8	7.5	0.7	20.8	2	38.3	<0.5	5.6	4.4	4.3	85.9	244.65	ND	ND	1.9
24A	Bottom	12-Nov-09	3.14	**108**	13	<1	**110**	**68**	**0.2**	13	**352**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	1	1.4	1.2	1.2	0.6	0.6	1.1	<0.5	3.1	<0.5	<0.5	<0.5	2.9	3	14.7	-	-	-
24B	-	12-Nov-09	1.74	**146**	16	<1	**147**	**91**	**0.3**	17	**472**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.9
24C	-	12-Nov-09	1.12	**124**	13	<1	**103**	**66**	**0.2**	14	**372**	<0.2	<0.5	3	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.25	ND	ND	1.9
25B	0-100	12-Nov-09	1.73	**133**	14	<1	**129**	**80**	**0.3**	15	**440**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.8	<0.5	<0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.3	ND	ND	1.9
25B	400-500	12-Nov-09	2.29	**309**	16	1	**119**	**90**	**0.3**	**28**	**581**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	1.3	5.65	-	-	-
25C	-	12-Nov-09	0.91	**87**	9	<1	79	49	**0.2**	10	**290**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.2
Duplicate Samples																																													
GHD1	2A/0-100	09-Nov-09	3.21	**254**	**41**	**2**	**222**	**296**	**0.7**	**25**	**882**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	1080	910	2015	0.6	**2.3**	6.05	<0.5	1.3	2.6	1.4	1.8	2	1	1	1.2	<0.5	2.4	<0.5	0.8	<0.5	1	3.8	20.3	ND	ND	**6.8**
GHD2	3B/0-100	09-Nov-09	1.70	**155**	16	<1	**126**	**107**	**0.6**	15	**443**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	280	300	605	<0.5	0.6	1.7	<0.5	0.9	1	2.2	2.7	2.7	1.5	1.2	2	<0.5	5.7	<0.5	1.2	<0.5	1.9	6.1	28.2	ND	ND	3.0
GHD3	13C/0-100	10-Nov-09	0.21	20	5	<1	7	6	<0.1	<2	38	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5
GHD4	12B/450-550	10-Nov-09	2.25	**118**	15	<1	**97**	**67**	**0.2**	10	**373**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	<100	<100	ND	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4	-	-	-
GHD5	17A/450-550	11-Nov-09	2.33	**275**	**31**	**3**	**443**	**149**	**0.6**	**30**	**981**	<0.2	<0.5	<0.5	<0.5	<0.5	ND	<10	<50	720	540	1285	-	-	-	<0.8	0.8	<0.8	0.9	1.9	1.8	1.4	<0.8	0.8	<0.8	<0.8	0.8	<0.8	0.8	<0.8	<0.8	4.4	15.6	-	-	-
GHD6	20C/300-400	12-Nov-09		35	9	<0.5	9	14	0.2	4	62	<0.5	<1	<0.5	<2	<1	ND	<25	<50	<100	<100	ND	-	-	-	<0.1	0.2	<0.1	0.4	0.9	-	0.4	1.2	0.6	<0.1	0.7	<0.1	0.4	<0.1	0.2	0.9	5.9	-	-	-

BOLD Concentration exceeds ISQG-low trigger value (ANZECC, 2000)

BOLD Concentration exceeds ISQG-high trigger value (ANZECC, 2000)

Table D: Summary Analytical Results - Organic Concentrations Normalised to TOC
2118600 Homebush Bay West, Sediment Assessment

				BTEX						TPH					Pesticides			PAHs																VOCs		TBT
			Total Organic Carbon	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.5	0.5	0.5	0.5	-	10	50	100	100	50	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
ISQG - Low				-	-	-	-	-	-	-	-	-	-	-	2.2	2	-	16	44	85	261	430	-	-	-	384	63	600	19	-	160	240	665	4000	-	-	5.0
ISQG - High				-	-	-	-	-	-	-	-	-	-	-	27	20	-	500	640	1100	1600	1600	-	-	-	2800	260	5100	540	-	2100	1500	2600	45000	-	-	70.0
Field ID	**Sample Depth**	**Sampled Date**																																		
01A	0-100	09-Nov-09	3.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	0.39	ND	0.16	ND	0.16	ND	0.30	ND	ND	ND	ND	0.33	2.47	ND	ND	0.95
01A	400-500	09-Nov-09	2.49	ND	ND	ND	ND	ND	ND	ND	ND	140.56	132.53	283.13	ND	ND	ND	ND	ND	ND	ND	0.36	0.36	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.40	3.25	ND	ND	-
01B	0-100	09-Nov-09	2.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.32	0.32	ND	ND	0.24	ND	0.56	ND	ND	ND	0.28	0.56	3.25	ND	ND	0.69
01B	400-450	09-Nov-09	1.95	ND	ND	ND	ND	ND	ND	ND	ND	133.33	92.31	238.46	ND	ND	ND	ND	ND	0.41	ND	0.26	0.31	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.46	3.08	ND	ND	-
02A	0-100	09-Nov-09	3.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25	1.16	2.89	ND	0.19	0.22	0.28	0.44	0.28	ND	ND	0.22	ND	0.41	ND	ND	ND	ND	0.50	3.13	ND	ND	0.94
02A	450-500	09-Nov-09	3.24	ND	ND	0.19	ND	ND	ND	ND	ND	86.42	80.25	174.38	ND	ND	ND	ND	ND	0.22	0.19	0.25	0.28	0.19	ND	ND	ND	0.28	ND	ND	ND	ND	0.37	2.38	ND	ND	-
02B	0-100	09-Nov-09	2.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24	ND	ND	ND	ND	ND	0.24	ND	ND	ND	ND	0.28	1.90	ND	ND	0.93
02B	400-450	09-Nov-09	2.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.25	0.29	0.18	ND	ND	ND	0.25	ND	ND	ND	ND	0.32	2.27	ND	ND	-
02C	0-100	09-Nov-09	2.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	1.11	ND	0.43	1.22	1.43	1.18	0.43	0.29	0.22	1.00	ND	4.30	0.25	0.29	ND	3.94	3.55	14.86	0.47	ND	1.65
02C	350-400	09-Nov-09	2.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.21	0.25	ND	ND	ND	ND	0.35	ND	ND	ND	ND	0.39	2.25	ND	ND	-
03A	0-100	09-Nov-09	2.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	0.30	2.08	ND	ND	0.45
03A	450-550	09-Nov-09	2.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
03B	0-100	09-Nov-09	2.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	1.07	ND	ND	0.23	0.28	0.37	0.37	0.28	ND	0.23	ND	0.56	ND	ND	ND	0.23	0.65	3.79	ND	ND	1.21
03B	300-400	09-Nov-09	2.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	0.29	ND	ND	ND	ND	0.29	ND	ND	ND	ND	0.39	2.60	ND	ND	-
04B	0-100	09-Nov-09	2.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.23	2.65	ND	0.27	0.31	0.42	0.46	0.38	ND	ND	0.31	ND	0.69	ND	ND	ND	0.31	0.73	4.31	ND	ND	0.38
04B	450-500	09-Nov-09	2.62	ND	ND	ND	ND	ND	ND	ND	ND	110.69	91.60	211.83	ND	ND	ND	ND	0.19	0.27	0.31	0.38	0.38	0.23	ND	0.23	ND	0.50	ND	ND	ND	0.23	0.57	3.63	ND	ND	-
04C	0-100	09-Nov-09	0.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.87	ND	ND	ND	ND	ND	0.54	ND	ND	ND	ND	0.87	ND	ND	ND	ND	0.87	5.54	ND	ND	1.20
04C	300-400	09-Nov-09	1.91	ND	ND	ND	ND	ND	ND	ND	ND	204.19	240.84	458.12	ND	ND	ND	ND	ND	0.31	0.47	0.47	0.47	ND	ND	0.37	ND	0.84	ND	ND	ND	0.42	0.89	4.87	ND	ND	-
05A	0-100	09-Nov-09	0.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.43	ND	ND	ND	ND	ND	1.43	ND	ND	ND	ND	1.71	13.14	ND	ND	ND
05A	450-550	09-Nov-09	0.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.81	ND	ND	ND	ND	0.81	6.01	ND	ND	-
05B	0-100	09-Nov-09	2.40	ND	ND	ND	ND	ND	ND	ND	ND	208.33	166.67	385.42	0.29	1.08	2.85	ND	0.42	0.92	0.88	0.96	0.96	0.50	0.42	0.75	ND	1.58	ND	0.38	ND	0.71	1.63	9.79	ND	ND	2.00
05B	300-350	09-Nov-09	2.78	ND	ND	ND	ND	ND	ND	ND	ND	183.45	151.08	343.53	ND	ND	ND	ND	1.40	0.65	0.86	0.97	0.94	0.47	0.47	0.65	ND	1.47	0.25	0.40	ND	0.68	1.62	10.41	ND	ND	-
05C	0-100	09-Nov-09	1.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.97	4.36	ND	ND	0.51	0.51	0.77	ND	ND	ND	0.43	ND	0.85	ND	ND	ND	ND	1.20	6.20	ND	ND	0.60
05C	350-400	09-Nov-09	1.45	ND	ND	ND	ND	ND	ND	ND	ND	924.14	482.76	1424.14	ND	ND	ND	ND	1.45	15.31	1.24	2.21	3.31	0.62	1.03	ND	ND	0.83	ND	0.55	ND	0.55	20.00	47.41	ND	ND	-
06B	0-100	10-Nov-09	1.34	ND	ND	ND	ND	ND	ND	ND	ND	156.72	82.09	257.46	ND	1.79	3.96	ND	1.49	1.19	4.55	3.43	4.03	1.72	1.49	3.51	ND	6.87	ND	1.27	0.75	1.87	9.93	40.78	ND	ND	ND
06B	300-400	10-Nov-09	6.63	ND	ND	ND	ND	ND	ND	ND	ND	288.08	181.00	472.85	ND	ND	ND	0.17	3.11	1.70	9.31	7.41	8.48	3.33	3.09	6.06	0.77	9.89	0.29	3.05	0.78	1.07	21.57	79.00	ND	ND	-
07A	0-100	10-Nov-09	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.64	0.69	0.64	0.64	0.35	0.29	0.52	ND	0.92	ND	ND	ND	0.35	1.16	6.21	ND	ND	1.27
07A	300-400	10-Nov-09	0.43	ND	ND	ND	ND	ND	ND	ND	ND	5186.05	2372.09	7720.93	ND	ND	ND	14.65	29.53	**110.23**	97.67	73.26	75.81	29.30	23.49	69.07	6.74	260.47	**57.44**	24.65	4.42	**283.72**	246.51	1123.26	ND	ND	-
07B	0-100	10-Nov-09	1.63	ND	ND	ND	ND	ND	ND	ND	ND	98.16	98.16	211.66	ND	0.43	1.17	ND	0.43	0.55	0.98	0.86	0.98	0.49	0.49	0.74	ND	1.84	ND	0.37	ND	1.10	1.90	10.25	ND	ND	0.61
07C	0-100	10-Nov-09	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.85	1.30	2.22	2.22	2.59	1.30	1.11	1.85	ND	3.89	ND	1.11	ND	1.85	4.07	25.37	ND	ND	1.48
07C	200-300	10-Nov-09	1.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	0.44	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.44	3.61	ND	ND	-
08B	0-100	10-Nov-09	0.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.25	ND	1.25	ND	ND	ND	ND	2.25	ND	ND	ND	ND	2.25	13.88	ND	ND	ND
08B	350-450	10-Nov-09	0.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.02	1.02	1.19	ND	ND	ND	ND	1.69	ND	ND	ND	ND	1.69	10.85	ND	ND	-
08C	0-100	10-Nov-09	0.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.68	ND	ND	ND	ND	0.68	5.74	ND	ND	1.08
08C	400-500	10-Nov-09	2.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	0.79	0.74	0.93	0.42	0.23	0.65	ND	1.53	ND	0.32	ND	0.93	1.48	8.03	ND	ND	-
09A	0-100	10-Nov-09	2.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.92
09A	400-500	10-Nov-09	2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
09B	0-100	10-Nov-09	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.30	1.17	1.43	ND	ND	1.04	ND	2.34	ND	ND	ND	1.30	2.34	12.53	ND	ND	ND
09B	400-500	10-Nov-09	1.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	0.69	0.75	0.44	0.38	0.56	ND	1.19	ND	0.31	ND	0.56	1.19	7.06	ND	ND	-
09C	0-100	10-Nov-09	0.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
09C	250-350	10-Nov-09	0.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.19	ND	ND	ND	ND	1.43	10.36	ND	ND	-
10B	0-100	10-Nov-09	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.02	8.16	ND	ND	ND
10C	0-100	10-Nov-09	1.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	1.90	1.81	2.33	1.12	0.60	1.55	ND	4.31	ND	0.86	ND	2.07	4.22	20.47	ND	ND	ND
10C	450-550	10-Nov-09	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
11A	0-100	10-Nov-09	1.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62	0.62	0.67	0.41	0.31	0.52	ND	1.14	ND	0.31	ND	0.57	1.19	6.58	ND	ND	0.57
11A	400-500	10-Nov-09	1.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	0.71	0.77	0.48	0.36	0.42	ND	0.83	ND	0.36	ND	ND	0.89	6.25	ND	ND	-
11B	0-100	10-Nov-09	0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11B	300-400	10-Nov-09	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
11C	0-100	10-Nov-09	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11C	400-500	10-Nov-09	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
12B	0-100	10-Nov-09	0.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.25
12B	450-550	10-Nov-09	0.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
12C	0-100	10-Nov-09	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12C	450-550	10-Nov-09	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
13A	0-100	10-Nov-09	2.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24	ND	ND	ND	ND	ND	0.33	ND	ND	ND	0.28	0.38	2.37	ND	ND	1.14
13A	450-550	10-Nov-09	1.72	ND	ND	ND	ND	ND	ND	ND	ND	110.47	98.84	209.30	ND	ND	ND	ND	ND	ND	0.41	0.41	0.58	0.29	ND	0.41	ND	0.64	ND	ND	ND	0.35	0.64	4.53	ND	ND	-
13B	0-100	10-Nov-09	0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13B	400-500	10-Nov-09	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	5.19	ND	ND	-
13C	0-100	10-Nov-09	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13C	300-400	10-Nov-09	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
14B	-	11-Nov-09	0.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.47	1.47	1.47	0.88	ND	1.18	ND	2.79	ND	ND	ND	1.76	2.94	15.15	ND	ND	1.32
14C	Bottom	11-Nov-09	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.61	ND	ND	ND	ND	2.61	19.35	ND	ND	-
14C	Top	11-Nov-09	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.53	3.53	3.53	ND	ND	ND	ND	5.88	ND	ND	ND	ND	5.88	37.06	ND	ND	ND
15A	0-100	11-Nov-09	2.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19	1.60	ND	ND	1.27
15A	400-500	11-Nov-09	0.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.90	6.12	ND	ND	-
15C	0-100	11-Nov-09	2.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23	ND	ND	ND	ND	0.37	ND	ND	ND	ND	0.37	2.33	ND	ND	ND
15C	300-400	11-Nov-09	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
16B	0-100	11-Nov-09	2.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.32
16B	300-400	11-Nov-09	1.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
16C	0-100	11-Nov-09	3.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	ND	ND	ND	0.23	1.45	ND	0.26	3.29
16C	200-300	11-Nov-09	2.84	ND	ND	ND	ND	ND	ND	ND	ND	119.72	91.55	220.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
17A	0-100	11-Nov-09	3.05	ND	ND	ND	ND	ND	ND	ND	ND	111.48	98.36	218.03	ND	ND	ND	ND	ND	ND	0.26	0.39	0.39	0.33	ND	ND	ND	0.36	ND	ND	ND	ND	0.52	3.05	ND	ND	1.38

Table D: Summary Analytical Results - Organic Concentrations Normalised to TOC
2118600 Homebush Bay West, Sediment Assessment

				BTEX						TPH					Pesticides			PAHs																VOCs		TBT
			Total Organic Carbon	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15 - C28 Fraction	TPH C29-C36 Fraction	TPH+C10 - C36 (Sum of total)	4,4-DDE	DDD	Total OCPs	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Total (NSW, 1999)	Total sVOCs	Total VOCs	Tributyltin
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.5	0.5	0.5	0.5	-	10	50	100	100	50	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
17A	450-550	11-Nov-09	2.69	ND	ND	ND	ND	ND	ND	ND	ND	215.61	163.57	388.48	ND	ND	ND	ND	ND	ND	ND	0.45	0.41	0.37	ND	ND	ND	ND	ND	ND	ND	ND	0.78	3.64	ND	ND	-
17B	0-100	11-Nov-09	2.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	2.03	ND	ND	1.01
17B	200-300	11-Nov-09	1.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
17C	0-100	11-Nov-09	2.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.44
17C	400-500	11-Nov-09	0.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
18A	0-100	11-Nov-09	1.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	2.47	ND	ND	0.52
18A	400-500	11-Nov-09	2.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
18B	0-100	11-Nov-09	2.37	ND	ND	ND	ND	ND	ND	ND	ND	156.12	75.95	242.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	1.98	ND	ND	0.84
18B	450-550	11-Nov-09	1.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35	0.45	0.40	0.35	ND	0.30	ND	0.35	ND	ND	ND	ND	0.55	3.77	ND	ND	-
18C	0-100	11-Nov-09	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.92	0.92	0.92	ND	ND	0.80	ND	1.61	ND	ND	ND	0.92	1.72	9.48	ND	ND	1.49
18C	400-500	11-Nov-09	1.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44	0.44	0.44	ND	ND	ND	ND	0.74	ND	ND	ND	0.44	0.74	4.67	ND	ND	-
19B	0-100	11-Nov-09	1.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.43	0.43	0.27	ND	0.32	ND	0.43	ND	ND	ND	ND	0.65	3.92	ND	ND	0.70
19B	450-550	11-Nov-09	1.94	ND	ND	ND	ND	ND	ND	ND	ND	92.78	92.78	198.45	ND	ND	ND	ND	ND	ND	0.26	0.36	0.36	0.26	ND	ND	ND	0.41	ND	ND	ND	ND	0.52	3.32	ND	ND	-
19C	0-100	11-Nov-09	2.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	0.52	0.52	ND	ND	0.38	ND	0.57	ND	ND	ND	ND	0.80	4.34	ND	ND	1.18
19C	450-550	11-Nov-09	5.43	ND	ND	ND	ND	ND	ND	ND	22.10	160.22	104.97	287.29	ND	ND	ND	ND	0.13	ND	0.20	0.26	0.28	0.18	ND	0.17	ND	0.20	ND	0.11	ND	0.11	0.70	2.50	ND	ND	-
20A	0-100	12-Nov-09	2.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	ND	ND	ND	ND	0.45	2.39	ND	ND	0.98
20A	450-550	12-Nov-09	1.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	2.10	ND	ND	-
20B	0-100	12-Nov-09	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	ND	ND	ND	ND	ND	1.04	ND	ND	ND	ND	1.17	6.75	ND	ND	0.91
20B	450-550	12-Nov-09	1.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.73	ND	ND	ND	ND	0.73	4.45	ND	ND	-
20C	0-100	12-Nov-09	0.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.97	0.97	0.97	ND	ND	0.81	ND	1.61	ND	ND	ND	ND	1.77	10.73	ND	ND	ND
20C	300-400	12-Nov-09	0.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.82	1.15	0.98	ND	ND	ND	ND	0.98	ND	ND	ND	ND	1.31	9.34	ND	ND	-
21B	0-100	12-Nov-09	1.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50	0.64	0.57	0.43	ND	0.43	ND	0.71	ND	ND	ND	ND	0.99	5.67	ND	ND	1.28
21B	450-550	12-Nov-09	2.12	ND	ND	ND	ND	ND	ND	ND	ND	325.47	264.15	601.42	ND	ND	ND	ND	ND	ND	0.33	0.42	0.47	0.33	ND	0.28	ND	0.52	ND	ND	ND	0.24	0.94	4.25	ND	ND	-
21C	0-100	12-Nov-09	0.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	0.62	0.62	ND	ND	ND	ND	0.93	ND	ND	ND	0.72	1.03	6.29	ND	ND	1.13
21C	400-500	12-Nov-09	1.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30	ND	ND	ND	ND	0.40	2.35	ND	ND	-
22A	0-100	12-Nov-09	2.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53
22A	450-550	12-Nov-09	1.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
22B	0-100	12-Nov-09	2.07	ND	ND	ND	ND	ND	ND	ND	ND	86.96	91.79	190.82	ND	ND	ND	ND	ND	ND	0.29	0.43	0.39	0.29	ND	0.29	ND	0.43	ND	ND	ND	0.34	0.72	3.82	ND	ND	0.92
22B	450-550	12-Nov-09	2.33	ND	ND	ND	ND	ND	ND	ND	ND	128.76	107.30	246.78	ND	ND	ND	ND	ND	ND	ND	0.39	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	3.65	ND	ND	-
22C	0-100	12-Nov-09	1.03	ND	ND	ND	ND	ND	ND	ND	ND	184.47	194.17	402.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.58	3.98	ND	ND	1.17
22C	400-500	12-Nov-09	1.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27	0.33	0.33	ND	ND	ND	ND	0.44	ND	ND	ND	0.27	0.55	3.28	ND	ND	-
23B	0-100	12-Nov-09	1.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.71
23B	450-550	12-Nov-09	0.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
23C	0-100	12-Nov-09	1.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
23C	450-550	12-Nov-09	1.12	ND	ND	ND	ND	ND	ND	ND	ND	116.07	107.14	245.54	ND	ND	ND	ND	ND	ND	ND	0.63	0.54	0.45	ND	ND	ND	0.54	ND	ND	ND	ND	0.71	5.09	ND	ND	-
24A	Top	12-Nov-09	2.02	ND	ND	ND	ND	ND	ND	ND	ND	99.01	69.31	180.69	ND	ND	ND	0.79	10.45	4.16	9.31	13.61	0.89	3.71	0.35	10.30	0.99	18.96	ND	2.77	2.18	2.13	42.52	121.11	ND	ND	0.94
24A	Bottom	12-Nov-09	3.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.45	0.38	0.38	0.19	0.19	0.35	ND	0.99	ND	ND	ND	0.92	0.96	4.68	ND	ND	-
24B	-	12-Nov-09	1.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.67
24C	-	12-Nov-09	1.12	ND	ND	2.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.45	ND	ND	ND	ND	0.45	3.79	ND	ND	1.70
25B	0-100	12-Nov-09	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	2.49	ND	ND	1.10
25B	400-500	12-Nov-09	2.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	0.22	ND	ND	ND	ND	0.26	ND	ND	ND	ND	0.57	2.47	ND	ND	-
25C	-	12-Nov-09	0.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.42

BOLD Concentration exceeds ISQG-low trigger value (ANZECC, 2000)
BOLD Concentration exceeds ISQG-high trigger value (ANZECC, 2000)

Table A: Relative Percent Difference Calculations
2118600 Homebush Bay West, Additional Sediment Assessment

Sample ID		GHD30	GHD33	RPD
Sample Depth		0-100	-	
Laboratory Reference		N10/011846	N10/011852	
Total Solids	%	49.1	49.7	1 %
TOC	%	2.8	2.7	4 %
PCDD/F Congeners				
2,3,7,8-TCDF	ug/kg dm	0.020	0.012	50 %
2,3,7,8-TCDD	ug/kg dm	0.760	0.410	**60 %**
1,2,3,7,8-PeCDF	ug/kg dm	0.014	0.010	33 %
2,3,4,7,8-PeCDF	ug/kg dm	0.078	0.049	46 %
1,2,3,7,8-PeCDD	ug/kg dm	0.043	0.029	39 %
1,2,3,4,7,8-HxCDF	ug/kg dm	0.230	0.160	36 %
1,2,3,6,7,8-HxCDF	ug/kg dm	0.046	0.032	36 %
2,3,4,6,7,8-HxCDF	ug/kg dm	0.028	0.019	38 %
1,2,3,7,8,9-HxCDF	ug/kg dm	0.003	0.003	3 %
1,2,3,4,7,8-HxCDF	ug/kg dm	0.077	0.062	22 %
1,2,3,6,7,8-HxCDF	ug/kg dm	0.830	0.640	26 %
1,2,3,7,8,9-HxCDF	ug/kg dm	0.210	0.140	40 %
1,2,3,4,6,7,8-HpCDF	ug/kg dm	1.540	1.180	26 %
1,2,3,4,7,8,9-HpCDF	ug/kg dm	0.170	0.150	13 %
1,2,3,4,6,7,8-HpCDD	ug/kg dm	29.300	24.300	19 %
OCDF	ug/kg dm	7.820	8.250	5 %
OCDD	ug/kg dm	414.000	348.000	17 %
PCDD/F Homologue Groups				
Total TCDF isomers	ug/kg dm	0.700	0.410	52 %
Total TCDD isomers	ug/kg dm	1.400	0.870	47 %
Total PeCDF isomers	ug/kg dm	0.720	0.680	6 %
Total PeCDD isomers	ug/kg dm	0.860	0.720	18 %
Total HxCDF isomers	ug/kg dm	1.870	1.290	37 %
Total HxCDD isomers	ug/kg dm	5.050	3.790	29 %
Total HpCDF isomers	ug/kg dm	5.900	4.480	27 %
Total HpCDD isomers	ug/kg dm	49.500	41.100	19 %
Summary Results				
Sum of PCDD and PCDF congeners [(a)]	ug/kg dm	488.000	410.000	17 %
WHO_{05}-TEQ_{DF} [(a)]	ug/kg dm	1.400	0.920	41 %

All concentrations expressed in ug/kg dry mass (dm)

[(a)] *Excluding LOD values*

BOLD *RPD exceeds GHDs nominally accepted range of 50%*

Table B: Summary Analytical Results - Dioxin Concentrations in Sediments
2118600 Homebush Bay West, Additional Sediment Assessment

Sample ID		GHD28		GHD29		GHD30		GHD31		GHD32	
Sample Depth		0-100	450-500	0-100	450-550	0-100	450-550	0-100	450-550	0-100	450-550
Laboratory Reference		N10/011842	N10/011843	N10/011844	N10/011845	N10/011846	N10/011847	N10/011848	N10/011849	N10/011850	N10/011851
Total Solids	%	40.4	47.3	39.3	48.5	49.1	49.7	43.8	60.4	44.6	54.5
TOC	%	3.3	3.3	3.2	3	2.8	2.5	2.4	3.6	2.6	3
PCDD/F Congeners											
2,3,7,8-TCDF	ug/kg dm	0.027	0.022	0.024	0.021	0.020	0.012	0.012	0.009	0.010	0.010
2,3,7,8-TCDD	ug/kg dm	0.560	0.560	0.470	0.510	0.760	0.550	0.330	0.340	0.370	0.560
1,2,3,7,8-PeCDF	ug/kg dm	0.022	0.021	0.018	0.017	0.014	0.015	0.012	0.009	0.009	0.009
2,3,4,7,8-PeCDF	ug/kg dm	0.130	0.110	0.110	0.099	0.078	0.078	0.070	0.051	0.049	0.048
1,2,3,7,8-PeCDD	ug/kg dm	0.052	0.052	0.052	0.046	0.043	0.034	0.032	0.030	0.023	0.025
1,2,3,4,7,8-HxCDF	ug/kg dm	0.360	0.300	0.300	0.290	0.230	0.220	0.160	0.170	0.150	0.150
1,2,3,6,7,8-HxCDF	ug/kg dm	0.064	0.057	0.052	0.054	0.046	0.040	0.031	0.028	0.024	0.028
2,3,4,6,7,8-HxCDF	ug/kg dm	0.040	0.035	0.032	0.034	0.028	0.026	0.017	0.017	0.020	0.017
1,2,3,7,8,9-HxCDF	ug/kg dm	0.005	0.004	0.005	0.005	0.003	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDF	ug/kg dm	0.089	0.087	0.081	0.078	0.077	0.069	0.059	0.051	0.065	0.055
1,2,3,6,7,8-HxCDF	ug/kg dm	0.990	0.970	0.900	1.000	0.830	0.850	0.510	0.520	0.590	0.590
1,2,3,7,8,9-HxCDF	ug/kg dm	0.220	0.240	0.210	0.190	0.210	0.180	0.130	0.130	0.130	0.140
1,2,3,4,6,7,8-HpCDF	ug/kg dm	1.900	1.690	1.640	1.760	1.540	1.620	1.040	1.040	1.050	1.140
1,2,3,4,7,8,9-HpCDF	ug/kg dm	0.230	0.200	0.190	0.230	0.170	0.210	0.130	0.130	0.140	0.150
1,2,3,4,6,7,8-HpCDD	ug/kg dm	33.700	32.300	30.400	29.900	29.300	31.300	20.100	19.000	22.100	25.500
OCDF	ug/kg dm	14.000	12.900	10.000	11.700	7.820	10.600	5.680	5.610	8.240	10.300
OCDD	ug/kg dm	353.000	351.000	379.000	349.000	414.000	489.000	320.000	281.000	318.000	335.000
PCDD/F Homologue Groups											
Total TCDF isomers	ug/kg dm	0.980	0.840	0.840	0.750	0.700	0.510	0.470	0.410	0.410	0.410
Total TCDD isomers	ug/kg dm	1.420	1.480	1.330	1.300	1.400	1.190	1.020	1.120	0.880	1.050
Total PeCDF isomers	ug/kg dm	1.110	0.970	0.920	0.830	0.720	0.890	0.630	0.570	0.600	0.560
Total PeCDD isomers	ug/kg dm	1.110	1.170	1.110	0.960	0.860	0.920	0.790	0.910	0.640	0.640
Total HxCDF isomers	ug/kg dm	2.420	2.250	2.170	2.110	1.870	1.580	1.150	0.970	1.090	1.140
Total HxCDD isomers	ug/kg dm	6.070	6.480	5.810	5.450	5.050	5.190	3.340	3.230	3.420	3.540
Total HpCDF isomers	ug/kg dm	7.170	6.230	6.050	6.650	5.900	6.130	3.670	3.490	4.250	4.420
Total HpCDD isomers	ug/kg dm	58.300	58.200	54.000	50.700	49.500	57.900	35.400	33.500	38.400	44.200
Summary Results											
Sum of PCDD and PCDF congeners [(a)]	ug/kg dm	446.000	442.000	461.000	429.000	488.000	574.000	372.000	331.000	376.000	401.000
WHO_{05}-TEQ_{DF} [(a)]	ug/kg dm	1.310	1.270	1.150	1.180	1.400	1.230	0.780	0.760	0.840	1.060

All results reported in ug/kg dry mass (dm)
ND - Concentration reported below the practical quantitiation limit of the laboratory
[(a)] Excluding LOD values

Table C: Summary Analytical Results - Dioxin Concentrations in Sediments Normalised to TOC
2118600 Homebush Bay West, Additional Sediment Assessment

Sample ID		GHD28		GHD29		GHD30		GHD31		GHD32	
Sample Depth		0-100	450-500	0-100	450-550	0-100	450-550	0-100	450-550	0-100	450-550
Laboratory Reference		N10/011842	N10/011843	N10/011844	N10/011845	N10/011846	N10/011847	N10/011848	N10/011849	N10/011850	N10/011851
Total Solids	%	40.4	47.3	39.3	48.5	49.1	49.7	43.8	60.4	44.6	54.5
TOC	%	3.3	3.3	3.2	3	2.8	2.5	2.4	3.6	2.6	3
PCDD/F Congeners											
2,3,7,8-TCDF	ug/kg dm	0.008	0.007	0.008	0.007	0.007	0.005	0.005	0.003	0.004	0.003
2,3,7,8-TCDD	ug/kg dm	0.170	0.170	0.147	0.170	0.271	0.220	0.138	0.094	0.142	0.187
1,2,3,7,8-PeCDF	ug/kg dm	0.007	0.006	0.006	0.006	0.005	0.006	0.005	0.003	0.004	0.003
2,3,4,7,8-PeCDF	ug/kg dm	0.039	0.033	0.034	0.033	0.028	0.031	0.029	0.014	0.019	0.016
1,2,3,7,8-PeCDD	ug/kg dm	0.016	0.016	0.016	0.015	0.015	0.014	0.013	0.008	0.009	0.008
1,2,3,4,7,8-HxCDF	ug/kg dm	0.109	0.091	0.094	0.097	0.082	0.088	0.067	0.047	0.058	0.050
1,2,3,6,7,8-HxCDF	ug/kg dm	0.019	0.017	0.016	0.018	0.016	0.016	0.013	0.008	0.009	0.009
2,3,4,6,7,8-HxCDF	ug/kg dm	0.012	0.011	0.010	0.011	0.010	0.010	0.007	0.005	0.008	0.006
1,2,3,7,8,9-HxCDF	ug/kg dm	0.002	0.001	0.001	0.002	0.001	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDF	ug/kg dm	0.027	0.026	0.025	0.026	0.028	0.028	0.025	0.014	0.025	0.018
1,2,3,6,7,8-HxCDF	ug/kg dm	0.300	0.294	0.281	0.333	0.296	0.340	0.213	0.144	0.227	0.197
1,2,3,7,8,9-HxCDF	ug/kg dm	0.067	0.073	0.066	0.063	0.075	0.072	0.054	0.036	0.050	0.047
1,2,3,4,6,7,8-HpCDF	ug/kg dm	0.576	0.512	0.513	0.587	0.550	0.648	0.433	0.289	0.404	0.380
1,2,3,4,7,8,9-HpCDF	ug/kg dm	0.070	0.061	0.059	0.077	0.061	0.084	0.054	0.036	0.054	0.050
1,2,3,4,6,7,8-HpCDD	ug/kg dm	10.212	9.788	9.500	9.967	10.464	12.520	8.375	5.278	8.500	8.500
OCDF	ug/kg dm	4.242	3.909	3.125	3.900	2.793	4.240	2.367	1.558	3.169	3.433
OCDD	ug/kg dm	106.970	106.364	118.438	116.333	147.857	195.600	133.333	78.056	122.308	111.667
PCDD/F Homologue Groups											
Total TCDF isomers	ug/kg dm	0.297	0.255	0.263	0.250	0.250	0.204	0.196	0.114	0.158	0.137
Total TCDD isomers	ug/kg dm	0.430	0.448	0.416	0.433	0.500	0.476	0.425	0.311	0.338	0.350
Total PeCDF isomers	ug/kg dm	0.336	0.294	0.288	0.277	0.257	0.356	0.263	0.158	0.231	0.187
Total PeCDD isomers	ug/kg dm	0.336	0.355	0.347	0.320	0.307	0.368	0.329	0.253	0.246	0.213
Total HxCDF isomers	ug/kg dm	0.733	0.682	0.678	0.703	0.668	0.632	0.479	0.269	0.419	0.380
Total HxCDD isomers	ug/kg dm	1.839	1.964	1.816	1.817	1.804	2.076	1.392	0.897	1.315	1.180
Total HpCDF isomers	ug/kg dm	2.173	1.888	1.891	2.217	2.107	2.452	1.529	0.969	1.635	1.473
Total HpCDD isomers	ug/kg dm	17.667	17.636	16.875	16.900	17.679	23.160	14.750	9.306	14.769	14.733
Summary Results											
Sum of PCDD and PCDF congeners [(a)]	ug/kg dm	135.152	133.939	144.063	143.000	174.286	229.600	155.000	91.944	144.615	133.667
WHO_{05}-TEQ_{DF} [(a)]	ug/kg dm	0.397	0.385	0.359	0.393	0.500	0.492	0.325	0.211	0.323	0.353

All results reported in ug/kg dry mass (dm)
ND - Concentration reported below the practical quantitiation limit of the laboratory
[(a)] *Excluding LOD values*

Appendix F: Contamination Management Plan

Urban Growth NSW

Proposed Above Water Rowing Club Development, Wentworth Point

Contamination Management Plan (CMP)

January 2016

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1. Introduction

1.1 Background

The New South Wales government owns a property at 3 to 7 Burroway Road, Homebush Bay (referred to as "the property" or "Burroway Road site"). The property has been sub-divided into a number of smaller yards, which are leased for a variety of light industrial uses including radio transmission, warehouses and storage compounds.

GHD has been assisting RMS for the contamination assessment program for the property regarding soil, groundwater, surface water, soil vapour and hazardous ground gas contamination. Based on the findings of the investigations, GHD assisted RMS in preparing a conceptual remedial action plan (RAP) for the property based on the master plan of April 2013.

In August 2015 Urban Growth NSW advised GHD that an over water rowing club has been planned adjacent to proposed Lot 204 (DA273/2014) on the Burroway Road site (refer to ***Figure 1****). The zoning for the site of the proposed rowing club within the confines of Homebush Bay is part W1 (maritime waters) and part W5 (maritime recreation).*

As required in the submission for the concept plan to Auburn Council, GHD completed a desktop contamination assessment for the proposed rowing club (GHD 2015) which summarised the previously completed soil and groundwater investigations for the property and sediment investigations at Homebush Bay.

In a response to Urban Growth's development application (DA-301/2015) for approval of the concept plan, Auburn Council requires a Section B site audit statement to verify the information provided in the application was *complete, adheres to the appropriate standards and subject to the recommended construction and operational management plans, the site could be made suitable for the proposed use.* A contamination management plan (CMP) is considered the appropriate framework for offshore contamination management during the construction and operation of the above water rowing club and will allow a Section B site audit statement to be prepared. Contamination related to onshore development has been addressed by previously completed conceptual remedial action plan (Conceptual RAP) that has been reviewed and endorsed by the relevant auditor (Mr. Andrew Lau).

This CMP has been prepared by GHD Pty Limited (GHD) on behalf of Urban Growth NSW.

1.2 CMP Objectives

The objectives of this CMP include:

- Identifying site activities where site works may disturb contaminated soil / sediments.
- Identifying contamination management responsibilities during the construction and operation phases.
- Providing frameworks for offshore sediment and surface contamination management during construction and operation.

The CMP is required to be a 'working' document and may be amended throughout the project following reviews, site observations or changes to the recommended construction techniques.

1.3 Roles and responsibilities

The following roles and responsibilities have been identified:

Table 1 Roles and responsibilities

Role		Responsibility
Project owner	Roads and Martime or its nominee	The client and principal, to ensure that the framework of contamination management measures are integrated in the construction environmental management plan (CEMP) and operation environmental management plan (OEMP)
Contractor	To be confirmed	The contractor will be responsible for preparing a CEMP which shall incorporate contamination management measures discussed in this CMP and implementing the CEMP during the construction phase.
Environmental consultant	To be confirmed	The environmental consultant will be required to liaise with the Client and Contractor, and provide monitoring / waste classification when needed.
Rowing club operator	To be confirmed	The rowing club operator will be responsible for preparing an Operation Environmental Management Plan (OEMP) which shall incorporate contamination management measures discussed in this CMP and implementing the OEMP during the operation of the rowing club.

1.4 Application

This CMP was prepared for the planning purpose of the proposed above water rowing club development at Wentworth Point. A CEMP should be prepared at the completion of the detailed design of the facility and implemented during the construction phase. An OEMP should also be prepared at the completion of the construction and implemented during the operation phase.

1.5 Limitations

This report: has been prepared by GHD for Urban Growth NSW and *may only be used and relied on by Urban Growth NSW for the purpose agreed between GHD and the Urban Growth NSW as set out in Section 1 of this report.*

GHD otherwise disclaims responsibility to any person other than Urban Growth NSW arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report Section 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Urban Growth NSW and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Project description

2.1 Project background

The desktop contamination assessment completed by GHD (2015) summarised the proposed rowing club development.

The proposed rowing club development (CM+ 2015) will be located south of the planned marina and comprise a three storey boathouse building piled over water, pontoons to provide access for rowing boats into Homebush Bay and a public kayak pontoon. A foreshore promenade will be built to provide access to the proposed rowing club boathouse and the marina.

Lot 10 will still be developed as a dry boat store and a car park (commercial land use), consistent with the April 2013 masterplan. It is understood that this development may be completed separately to the rowing club.

The boathouse building (Worley Parsons 2015) would sit on a concrete slab supported by a series of tubular steel piles. The piles would need to be founded through the sediments of Homebush Bay to at least 2.0 metres into the underlying rock. Worley Parsons envisage that the piles would be prefabricated off site, delivered to site by barge and the piles installed from the water using a piling barge (i.e. driven piles).

The proposed rowing club location and layout are presented in **Figures 1** and **2**.

2.2 Possible construction and operation activities

The proposed above water rowing club development is in the concept / planning phase. Based on Worley Parsons 2015 and an understanding of projects similar in nature, the construction activities will likely include:

- Piling.
- Installation of floating pontoons and associated infrastructure.
- Moving / mooring of barges / workboats.
- Disturbance of soils on the land to allow anchoring of the pontoon and associated infrastructure.
- Building construction activities (i.e. vessel and equipment operations, hammering, cutting, drilling).

Once construction is complete, the rowing club operation activities will likely include:

- Launching of rowing boats onto water.
- Lifting of rowing boats from water.
- Anchoring of vessels / dingy close to the pontoon.
- General commercial activities.

Figure 1 Proposed Rowing Club Location

Figure 2 Proposed Rowing Club Layout

3. Contamination assessment

The desktop contamination assessment completed by GHD (2015) summarised the results of sediment and surface water investigations completed within the footprint of the proposed above water rowing club development.

- *Report for Homebush Bay West Contamination Assessment Sediment Investigation* (GHD, 2010). Sediment samples collected to a depth of 0.5 metres below the bed of the bay in the vicinity of the proposed rowing club contained lead and zinc that exceeded the ANZECC (2000) interim sediment quality guidelines (ISQG high) and organochlorine pesticides that exceeded the ISQG low. The sediment samples also contained total petroleum hydrocarbons (TPH).
- *Report of Dioxin Analyses in Sediment, Homebush Bay West* (GHD, 2010). Two sediment sample locations were collected within the proposed footprint of the rowing club which were tested for dioxin. Although these two sediments contained dioxins, all recorded concentrations of the most toxic congener (2,3,7,8-TCCD) were less than 1 µg/kg, which was considered for Homebush Bay to be the level requiring additional investigation and potential remediation.
- *Homebush Bay West Surface Water Investigation* (GHD, 2013). The surface water samples collected from Homebush Bay in the vicinity of the proposed above water rowing club development reported that dissolved and total copper and zinc concentrations exceeded the surface water quality guidelines for protecting ecological systems. However, no exceedance of surface water quality guidelines for recreational purposes was reported.

In summary, the following contamination has been identified within the footprint of the proposed above water rowing club development and related to the proposed development:

- Sediments with elevated lead, zinc and organochlorine pesticides and detected TPH and dioxin.

4. Contamination management measures

4.1 Potential disturbance of sediments

The following construction activities will potentially disturb the sediments:

- Piling
- Moving / mooring of barges / workboats

Disturbance of sediments during operations is unlikely provided the motor dinghy does not enter shallow zones or anchor within the waterway in the vicinity of the pontoon.

4.2 Contamination management measures

The recommended contamination management measures for activities during development of the proposed above water rowing club are summarised in Table 2:

Table 2 Contamination management measures and monitoring

Activities potentially disturbing sediments	Impact	Control Measures	Monitoring
Piling	Disturbing the marine sediment and potentially resulting in vertical mixing of contaminated sediments and resuspension of contaminated sediments into the water column which have the potential to cause localised impacts on water quality	• No go zone should be defined based on the final design of the facility. • Piling method which minimise disturbance to the sediments. • The piles should be lowered through the soft sediments under their own weight with vibration (if required) and then driven into rock and any stronger alluvium material. • A cover of approximately 0.5 m thick of pea gravel or similar should be placed at the piling locations prior to their installation. • Suitable turbidity curtains should be used during the installation of piles to limit the movement of resuspended contaminated sediment where required.	Waste classification in compliance with NSW EPA guidelines shall be undertaken if any sediment waste is generated during the construction. Surface water monitoring.
Moving / mooring of barges / workboats		• Limit the use of anchor lines from barges / vessels where possible to minimise disturbance of the seafloor. • No swing anchors to be used in Homebush Bay and land-based anchors are to be used where possible.	Surface water monitoring

Activities potentially disturbing sediments	Impact	Control Measures	Monitoring
		• Avoid moving floating plants in periods of poor weather and at low tide. • Shallow water work should be planned for early morning (usually calmer conditions), in high or rising tide conditions and when weather conditions are stable.	

5. References

GHD, 2010a, *Report for Homebush Bay West Contamination Assessment Sediment Investigation*, dated 3 February 2010

GHD, 2010b, *Report for Dioxin Analyses in Sediment, Homebush Bay West* (2010b), dated 14 July 2010

GHD, 2015, *Proposed Rowing Club, Burroway Road, Wentworth Point, Desktop Contamination Assessment*, dated 18 September 2015

Conybeare Morrison (CM+), 2015, *Stage 1 DA Wentworth Point Rowing Club Architecture Concept Report*, dated June 2015

Worley Parsons, 2015, *Wentworth Point Rowing club Marine Engineering Concept Report*, dated 17 August 2015

GHD

133 Castlereagh St Sydney NSW 2000

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T: +61 2 9239 7100 F: +61 2 9239 7199 E: sydmail@ghd.com.au

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		Name	Signature	Name	Signature	Date
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ITEM # 2

Auburn City Council
2015SYW153 - DA288/2015
3 Burroway Rd
Wentworth Point

Legal Advice
Minter Ellison

MinterEllison

6 January 2016

BY EMAIL

Mr David Doyle
Roads and Maritime Services

Dear Dave

Permissibility of proposed Wentworth Point Rowing Club

We have been instructed to advise on the permissibility of the proposed Wentworth Point Rowing Club (**Club**) in the *'W1 – Maritime Waters'* zone and *'W5 – Water Recreation'* zone (**Zones**) under the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005* (**SREP**).

We understand that Auburn City Council (**Council**) has expressed concerns regarding the permissibility of the Club in the Zones based on their prohibition of development for the purposes of a *'water-based restaurant and entertainment facility'*.

We are of the view (as explained in more detail below) that the Club should not be characterised as a *'water-based restaurant and entertainment facility'* and can be properly characterised as consisting of a *'recreational or club facility'* (as defined by the SREP), which is permissible with development consent in the Zones.

1. Summary of advice

1.1 In this advice we have broken the Club into its constituent uses and set out how each of those uses ought to be characterised under the SREP. These uses are:

(a) the boatsheds, covered rigging deck, ramp and pontoon on the ground floor (**Boatshed**);

(b) the club restaurant on level one (**Club Restaurant**);

(c) the club gym on level one (**Club Gym**); and

(d) the club function room on level two (**Club Function Room**).

1.2 All of these functions could be classified as either:

(a) a *'recreational or club facility'*; or

(b) ancillary and incidental to a *'recreational or club facility'*.

1.3 The references to ancillary and incidental uses in this advice refer to the line of cases commencing with *Foodbarn Pty Ltd v Solicitor-General* (1975) 32 LGRA 157, in which the Court of Appeal held at 161 that:

'...where a part of the premises is used for a purpose which is subordinate to the purpose which inspires the use of another part, it is legitimate to disregard the former and to treat the dominant purpose as that for which the whole is being used.'

1.4 Put another way, the principle expressed above means that if an otherwise prohibited use of land is subordinate to (expressed as being ancillary, incidental or inextricably linked in other related cases) a permissible use, that prohibited use is subsumed by the permissible use and is no bar to the development as a whole being carried out.

2. Boatshed use

2.1 Under the SREP, a *'recreational or club facility'* which is defined as *'...a building or place used exclusively for sporting or leisure activities, whether operated for the purpose of gain or not'*.

2.2 What may constitute a *'sporting or leisure'* activity is not defined by the SREP, and in those circumstances the words should be read according to their ordinary meaning. A dictionary may be used to identify this ordinary meaning (per Beazley ACJ in *Norrie v New South Wales Registrar of Births, Deaths and Marriages* [2013] NSWCA 145 at [84]).

2.3 The Macquarie Dictionary (to which recourse is frequently had by Australian courts, per *State Chamber of Commerce and Industry v Commonwealth* (1987) 163 CLR 329 at 348) relevantly defines "sporting" as follows:

'... engaging in, given to, or interested in open-air or athletic sport.'

2.4 We are comfortable that rowing, being as it as an Olympic sport, would comfortably fit the definition of a *'sporting activity'*. Accordingly, the Boatshed use ought to be regarded as permissible in the Zones.

3. Club Restaurant use

3.1 We are of the view that notwithstanding the prohibition on development for the purposes of a *'water-based restaurant and entertainment facility'* the Club Restaurant can be permissible in the Zones by virtue of being either a necessary component of, or ancillary and incidental to, the proposed *'recreational or club facility'* which is defined as *'...a building or place used exclusively for sporting or leisure activities, whether operated for the purpose of gain or not'*.

3.2 As stated above, a rowing club is intended to be established under the terms of the *Registered Clubs Act 1979* (**RC Act**) and the Club Restaurant use is intended to be solely for the use of club members and their guests.

3.3 As s10(1) of the RC Act requires a club to contain:

(a) *'...accommodation appropriate for the purposes of the club'*; and

(b) *'...a properly constructed bar room'*

we are of the view that facilities for club members such as the Club Restaurant use are expressly contemplated as being part of the *'leisure activities'* of a club use under the SREP.

3.4 Alternatively, even if the Club Restaurant use were not directly within the definition of a *'recreational or club facility'* as defined under the SREP, restaurants and similar refreshment facilities are so frequently a central and inextricably linked part of clubs that we are of the view that they are ancillary and incidental to the permissible club use.

4. Club Gym use

4.1 A gymnasium is not prohibited development within the Zones, and in any event is clearly part of the *'sporting or leisure activities'* that may be carried out by a permissible *'recreational or club facility'* in the Zones.

5. Club Function Room use

5.1 We are of the view that the Club Function Room can be characterised as being either:

(a) permissible in its own right as a class of innominate development (distinct from development for a *'water-based restaurant and entertainment facility'*); or

(b) ancillary and incidental to the overarching registered club under the RC Act, as described in section [3] of this advice.

Function room as innominate development

5.2 In *Codling v Manly Council* [2011] NSWLEC 57 (a case dealing directly with characterisation of development under the SREP), the appellant successfully appealed an earlier finding that a function centre ought to be characterised as a prohibited *'water-based restaurant or facility'*.

5.3 In the appeal, Pain J held at [40] that:

> *'... The specified purpose* [that is, a function centre] *is not that of a restaurant and an application for a function centre purpose is not in this case an application for a restaurant use.'*

5.4 Accordingly, Pain J's finding was that development for the purposes of a function centre could be carried out in the relevant zone under the SREP, notwithstanding the SREP's prohibition of development for the purposes of a *'water-based restaurant or entertainment facility'* in that zone.

5.5 We are of the view that this precedent can be relied upon to ensure that the Club Function Room use is permitted as part of the Club in the Zones.

Function room as ancillary and incidental to a registered club

5.6 As stated above in section [3] of this advice, we are of the view that a registered club under the terms of the RC Act could be permissible in the Zones as a *'recreational or club facility'*.

5.7 Under s23(1) of the RC Act, specified parts of club premises may be the subject of an authorisation that permits people who are not members of the club or minors to attend *'functions of a cultural, educational, religious, patriotic, professional, charitable, political, literary, sporting, athletic, industrial or community nature'* in a specified part of the club premises. Weddings are explicitly stated to be such a function.

5.8 Provided the Club obtains, or is capable of obtaining, an authorisation under s23 of the RC Act, we are of the view that the existence of such a regime for authorising functions on club premises clearly anticipates the carrying out of such functions as being an ancillary and incidental function of a registered club.

6. Recommendations

6.1 In order to give the Council sufficient comfort that the Club will be used for the purposes described above and that its constituent uses as a *'recreational or club facility'* will not stray beyond what is permissible in the Zones, we suggest that conditions of the following kind may be imposed:

(a) a condition requiring that the Club Restaurant only be used by club members and their guests; and

(b) a condition requiring that any use of the Club Function Room be the subject of an authorisation under s23 of the RC Act.

Please call Simon Ball on 9921 4353 to discuss any matter raised in this advice.

Yours faithfully
MinterEllison

SBall

Simon Ball
Partner

Contact: Simon Ball T: +61 2 9921 4353
simon.ball@minterellison.com
Partner: Simon Ball T: +61 2 9921 4353