



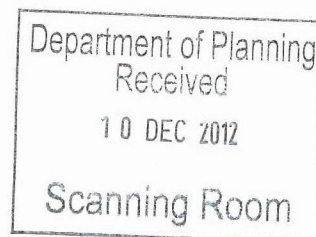
Department of  
Primary Industries



- 5 DEC 2012

OUT12/30355

Ms Belinda Scott  
Infrastructure Projects  
NSW Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001



Dear Ms Scott

**Water and Wastewater Servicing of the West Dapto Urban Release Area and  
Adjacent Growth Areas (09\_0189)  
Response to exhibition of Environmental Assessment**

I refer to your letter of 4 September 2012 requesting advice from the Department of Primary Industries in respect to the above matter.

Comment by Fisheries NSW

Fisheries NSW advises the comments and recommended conditions on any proposed approval, as detailed in Attachment A.

For further information please contact Dr. Trevor Daly, Fisheries Conservation Manager – South Coast (Batemans Bay office) on 4478 9103 or at [trevor.daly@dpi.nsw.gov.au](mailto:trevor.daly@dpi.nsw.gov.au).

Comment by NSW Office of Water

The NSW Office of Water advises the comments and recommended conditions on any proposed approval, as detailed in Attachment B.

For further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on 4729 8262 or at: [Janne.Grose@water.nsw.gov.au](mailto:Janne.Grose@water.nsw.gov.au).

Crown land issues

It is possible that Crown land may be sought for location of proposed works as detailed alignments are resolved. A condition on any approval should be that Sydney Water is to make early contact with Crown Lands, prior to any finalisation of exact alignments, if this is proposed.

For further information, please contact Scott Mullen, Project Manager Regional and Strategic Projects (Parramatta office) on 8836 5317 or: [Scott.Mullen@lands.nsw.gov.au](mailto:Scott.Mullen@lands.nsw.gov.au).

Other comment

It is noted that the Lake Illawarra Authority has made a separate submission on this application.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Phil Anquetil', with a stylized, cursive script.

Phil Anquetil

**Executive Director Business Services**



## **Attachment A**

### **Water and Wastewater Servicing of the West Dapto Urban Release Area and Adjacent Growth Areas (09\_0189) Response to exhibition of Environmental Assessment (EA) Comment by Fisheries NSW**

Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is "no net loss" of key fish habitats upon which they depend. To achieve this, the Department ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act respectively) and the associated *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (1999)*.

Fisheries NSW notes that parts of Dapto Creek, Mullet Creek, Reed Creek, Robins Creek, Marshall Mount Creek and Macquarie Rivulet and their tributaries are located within the proposed development area, which drain to Lake Illawarra and have the potential to be impacted by the proposed development. It is Fisheries NSW policy that all developments should aim to achieve no net impacts on receiving waterways.

Overall, Fisheries NSW has no objection to approval of the proposal as outlined in the Environmental Assessment (including Statement of Commitments) but makes the following comments and recommendations:

1. Fisheries NSW recommends that any project approval require that under-boring (micro tunnelling and horizontal directional drilling) is used for all water and wastewater pipeline crossings of major waterways mapped as key fish habitat by Fisheries NSW (3<sup>rd</sup> order and above) including Dapto Creek, Mullet Creek, Reed Creek, Robins Creek, Marshall Mount Creek and Macquarie Rivulet.
2. Fisheries NSW notes that the final construction methodology for each creek crossing will be determined during the detailed design (EA p.136). Fisheries NSW recommends the proponent be required to consult with Fisheries NSW with regard to the waterway crossing methodologies and site-specific mitigation measures to be used for all those waterways we have identified above as key fish habitat.
3. Fisheries NSW recommends that any proposed new or upgraded temporary access road crossings of waterways must be designed and constructed in accordance with the Fisheries NSW *Policy and Guidelines for Fish Friendly Waterway Crossings (2004)* and *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (2004)*. These documents are available at [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au), under 'Aquatic Habitats' and 'Publications'. The design of any road crossings of the key fish habitat waterways listed above should be submitted to Fisheries NSW for approval prior to construction.
4. Fisheries NSW concurs with the proposed safeguards and mitigation measures to minimise environment impacts, in particular those related to marine and inland water quality, flora and fauna, soils and groundwater, and flooding, detailed in sections 6.3, 6.4, 6.5, 6.8 and 6.12 of the EA.

**End Attachment A**

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## Attachment B

### Water and Wastewater Servicing of the West Dapto Urban Release Area and Adjacent Growth Areas (09\_0189) Response to exhibition of Environmental Assessment (EA) Comment by NSW Office of Water

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#### 1. Comment and advice.

##### 1.1 Stability of the pipelines

###### Pipeline depth at watercourse crossings

The Office of Water previously recommended:

- the EA needs to address the pipeline depth at the watercourse crossings; and
- scour calculations for bankfull flow need to be undertaken (where there is a channel and there is no bedrock or clay) to determine the appropriate burial depth of the pipelines at the watercourse crossings.

Section 3.4.1 of the EA notes route and feasibility studies will be undertaken during detailed design, and the design of watercourse crossings would consider the potential for the bed and banks of watercourses to scour and migrate (page 40). Clarification is required as to when the route and location feasibility studies are to be provided.

The applicant needs to demonstrate the watercourse crossing method for the pipelines will have caused minimal harm to the watercourses and waterfront land post construction and meet the following criteria:

- The watercourses will remain in their current state of stability or have their stability improved in the long term and where possible bed and bank stability of any affected watercourse will be enhanced and improved to mimic a naturalised state.

###### Bank erosion and Channel Migration

The Office of Water's previous submission raised concern that the GSGA report identified numerous watercourse constraints and recommended that the EA address these. Section 6.8.2 of the EA confirms that for most of the proposal the pipelines would cross watercourses that are generally stable, with low potential for channel migration. It indicates four watercourses have been identified as being high risk with the potential to erode but design and construction techniques would mitigate potential impacts. The section notes site specific evaluations would focus on sensitive locations such as dynamic watercourses and refers to the possibility of additional watercourses with risks similar to the four high constraint sites. It is unclear if an additional assessment is proposed to identify other high risk watercourses. The GSGA recommends a fluvial geomorphological assessment is undertaken of the watercourses in the study area (Table 7.1, page 76). It is recommended the applicant demonstrates the watercourses and any waterfront land will remain in their current state of stability or have their stability improved.

##### 1.2 Watercourse crossings

Section 3.4.2 of the EA notes the specific creek lines to be trenched would be assessed as part of the detailed design process and would take into account potential geomorphological impacts on the watercourses and riparian land (page 41). The detailed design process needs to demonstrate the watercourses will be minimally harmed and will not be less stable in the long term (and where possible more stable) than if the trenching does not occur.



Section 6.5.2 of the EA states that "*where possible the exit and entry points for under boring would be located outside the top of bank*" (page 136) whereas Section 6.8.2 indicates that where possible the exit and entry points would be located outside the riparian corridors (page 170). Clarification is required on this. The Office of Water supports underground boring commencing from the outer edge of the riparian land (rather than from top of bank) to avoid impacts on the waterway/ aquatic environment and any existing native riparian vegetation or rehabilitation of riparian vegetation.

#### Pipeline corridor widths

In the submission of 16 April 2012, the Office of Water sought clarification on the proposed construction footprint width at the watercourse crossings. Section 3.4.2 of the EA notes the construction footprint for the pipeline corridors is expected to typically be between 6 m and 10 m wide (page 42) and Section 6.5.2 notes a management measure may include limiting the extent of direct pipeline construction impact to a maximum width of 10m through native vegetation (page 137). For those riparian corridors that are to be conserved and rehabilitated in the West Dapto Release Area, it is recommended these areas are minimally disturbed (particularly where there is remnant native vegetation) and any areas of disturbance are rehabilitated to emulate the local native vegetation community of the area.

If the construction footprint is to be between 6-10 m wide, it is recommended the extent of direct impact is limited to 6 m (rather than 10m) through native riparian vegetation.

#### Access Tracks

It is noted permanent access tracks are not required across waterways (see Section 6.5.3, page 138). Section 6.5.2 of the EA includes a mitigation measure that where practical and feasible permanent access tracks required for maintenance purposes will be located outside riparian corridors. The Office of Water supports the locating of access tracks outside the riparian corridors but where this will not be the case, it is recommended the area of disturbance is minimised.

### **1.3 Riparian Land**

Section 6.5.2 of the EA notes the potential impacts of constructing the proposal are likely to be limited to removing native vegetation at 14 specific locations (page 126) but the potential impact on the future rehabilitation of fully vegetated riparian corridors also needs to be assessed. It is not clear if riparian land affected by the proposal can be rehabilitated in the future with fully structured riparian vegetation if the pipelines are located under these areas and permanent access tracks are located in the riparian areas.

Section 6.5.2 includes a mitigation measure to "place alignments outside the 'top of bank' where pipelines run parallel to watercourses" and notes this allows for the potential establishment of riparian vegetation (page 136). Where possible, underground infrastructure should be located outside the riparian corridors and not just the 'top of bank' except where it can be demonstrated they can be located without adversely impacting any existing native riparian vegetation (particularly any threatened species or community) or the future rehabilitation of fully vegetated riparian corridors.

If pipelines are to be located within the riparian corridors it needs to be demonstrated that the project will not adversely effect existing native riparian vegetation or the rehabilitation of riparian land with fully structured riparian vegetation.

### **1.4 Watercourse Monitoring**

Any watercourse crossings proposed to be trenched need to be monitored to assess the impact of the construction work on the watercourse stability. There is a need to monitor before construction commences (to provide a bench mark data), during and following construction until certified as stable to ensure the watercourses are rehabilitated to a standard equal to or better than the existing condition.

The monitoring program should include monitoring and maintenance of any bank stabilisation and



stream bed and bank rehabilitation. The rehabilitation will need to be monitored until all crossing sites are identified as stable by an independent suitably qualified certifier.

Monitoring should be undertaken for the rehabilitation of native riparian vegetation. A maintenance period of 5 years is recommended after final planting. The rehabilitation of other non native vegetation in riparian areas should be maintained until it is established and the area has been certified as stable by a suitably qualified independent certifier.

## **1.5 Wetlands**

Section 3.3.2 of the EA states the wastewater pipelines would be designed to avoid wetlands and swamps as much as possible and Section 6.5.2 indicates coastal freshwater lagoons should be avoided where practical and technically feasible (page 136). It is recommended the pipeline route avoids wetland areas. If this is not possible, these areas should be underbored instead of using open trenching to minimise impacts.

## **1.6 Licensing requirements**

Section 6.8.2 of the EA notes if groundwater is encountered during construction it would be pumped out. The proponent needs to quantify the amount of water to be taken to determine if a licence is required from the Office of Water.

### **Table 10.1 Draft Statement of Commitments**

The Office of Water's submission on the ToA made recommendations in relation to the draft Statement of Commitments, these recommendations are reiterated.

## **2. Recommended Conditions of Approval**

1. Prior to commencement of construction, a water licence must be obtained for any dewatering activity undertaken.
2. Prior to commencement of construction, a fluvial geomorphological assessment must be undertaken of all watercourses to be affected by pipeline construction. The assessment is to identify:
  - the appropriate watercourse crossing methodology for the pipelines;
  - where trenching or underboring is proposed, the depth of scour should be determined, and crossings designed to be deeper than the identified scour depth.
  - appropriate setback distances of the pipeline alignment from the watercourses where it is proposed to run parallel to the watercourses.
3. The project is to avoid or minimise disturbance of riparian corridors that are to be conserved and rehabilitated in the West Dapto release area. Where disturbance is unavoidable, disturbed areas are to be rehabilitated to emulate the local native vegetation community of the area.
4. Prior to commencement of construction, a monitoring program is to be developed to demonstrate the ongoing stability of watercourse crossings and rehabilitation of disturbed areas. The monitoring program is to:
  - Provide for monitoring prior to, during and after construction, for a period of 5 years, or until disturbed areas are certified as stable.
  - Include the monitoring and maintenance of any bank stabilisation and stream bed and bank rehabilitation.