

# North West Growth Centre water related services for first release precincts

Modification Assessment Report

**RESPONSE TO SUBMISSIONS**

July 2012

# Contents

<b>1</b>	<b>Introduction</b> .....	<b>4</b>
1.1	General.....	4
1.2	The Part 3A approval process and consultation .....	4
1.3	Purpose of this Submissions Report.....	5
1.4	Proposal description .....	5
1.5	Summary of changes since Modification Assessment Report exhibition .....	6
<b>2</b>	<b>Submissions</b> .....	<b>10</b>
2.1	Submissions.....	10
<b>3</b>	<b>Consideration of submissions</b> .....	<b>14</b>
3.1	Legislative planning framework .....	14
3.2	Flora and fauna .....	14
3.3	Aboriginal heritage .....	19
3.4	Water quality and hydrology.....	19
3.5	Soils and groundwater .....	20
3.6	Amenity (Visual and Noise).....	20
3.7	Stakeholder engagement and consultation .....	21
3.8	Statement of commitments.....	22
<b>4</b>	<b>Statement of Commitments</b> .....	<b>25</b>
<b>5</b>	<b>References</b> .....	<b>37</b>

## List of Tables

Table 2-1	Issues raised in Submissions.....	10
Table 3-1	Potential direct impact of the Modification Proposal on Endangered Ecological Communities in the Field Assessment Area by Carrier (Table 3-1 of MAR) .....	17
Table 4-1	Statement of Commitments for North West Growth Centre (NWGC) water related services for first release precincts.....	25

## List of Figures

Figure 1-1	Location of additional drinking water and wastewater infrastructure – ‘the Modification Proposal’ .....	7
Figure 1-2	The Modification Proposal – Area A .....	8
Figure 1-3	The Modification Proposal – Area B .....	9

## List of Appendixes

**Appendix A – Submissions**

# Glossary and abbreviations

<b>AHIA</b>	Aboriginal Heritage Impact Assessment
<b>AHIMS</b>	Aboriginal Heritage Information Management System
<b>AHMS</b>	Archaeological and Heritage Management Solutions
<b>BCO</b>	Biodiversity Certification Order
<b>CPW</b>	Cumberland Plain Woodland
<b>DP&amp;I (formerly DoP)</b>	NSW Department of Planning and Infrastructure (formerly NSW Department of Planning)
<b>DN</b>	Nominal Diameter (of pipelines)
<b>EA</b>	Environment Assessment
<b>EEC</b>	Endangered Ecological Community
<b>ENV</b>	Existing Native Vegetation
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>EPBC Act</b>	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>FRP</b>	First release precincts
<b>GCC</b>	NSW Growth Centre Commission
<b>L/s</b>	Litres per second
<b>MCoA</b>	Minister's Conditions of Approval
<b>NWGC</b>	North West Growth Centre
<b>OEH (formerly DECCW and DECC)</b>	NSW Office of Environment and Heritage (formerly the NSW Department of Environment, Climate Change and Water and prior to that the NSW Department of Environment and Climate Change)
<b>PPR</b>	Preferred Project Report
<b>Project</b>	The project as approved by DP&I – North West Growth Centre water related services for first release precincts (MP07 0125)
<b>Modification Proposal</b>	The scope of works in this application for modification.
<b>RAP</b>	Registered Aboriginal Party
<b>RBM</b> s	Relevant Biodiversity Measures
<b>SGTF</b>	Shale Gravel Transition Forest
<b>SPS</b>	Sewage Pumping Station
<b>TSC Act</b>	Threatened Species Conservation Act 1995
<b>WPS</b>	Water Pumping Station
<b>WWTP</b>	Waste Water Treatment Plant (formerly Sewage Treatment Plant (STP))

# 1 Introduction

## 1.1 General

The NWGC is one of two growth centres established by the 2005 *Metropolitan Strategy — City of Cities: A Plan for Sydney's Future* to play a key role in accommodating Sydney's future housing needs (NSW Government 2010b). New release areas will cater for up to 30% of Sydney's growth, of which the growth centres form a significant part.

The NWGC is planned to provide 70,000 new dwellings for about 200,000 people. In June 2006, the NSW Government released six precincts in the NWGC for planning and development and these are known as the first release precincts.

The first release precincts are Alex Avenue, Area 20, Colebee, North Kellyville, Riverstone and Riverstone West. All of these precincts have now been rezoned. The water related services required for these precincts have already been approved by the Minister for Planning and Infrastructure. Sydney Water started construction of these works in mid 2009. Sydney Water is seeking a modification to this Project Approval for additional drinking water and wastewater infrastructure to service these precincts.

In addition to the first release precincts, the Marsden Park Industrial precinct has been released in accordance with the Precinct Acceleration Protocol and was rezoned in 2010. Sydney Water is not responsible for water related services in this precinct. The NSW Government also announced the second release precincts in the NWGC in October 2009. These precincts are Box Hill, Box Hill Industrial and Schofields. The Department of Planning and Infrastructure (DP&I) has completed precinct planning for the second release precincts. Sydney Water is seeking Project Approval for water related services to service these precincts under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

## 1.2 The Part 3A approval process and consultation

The Minister for Planning granted approval for the Project on 18 November 2008 subject to a number of conditions (the Minister's Conditions of Approval). In accordance with transitional arrangements, following Part 3A's repeal, modifications to the Project will continue to be assessed under Part 3A and the Minister for Planning and Infrastructure remains the approval authority.

Section 75W of the EP&A Act caters for proposed changes and modifications to approved projects under the former provisions of Part 3A and Part 5 Division 4. Section 75W(2) provides that a proponent may request the Minister to modify the Minister's approval for a project but also provides that 'approval for a modification is not required if the infrastructure as modified will be consistent with the existing approval'. Section 75W(4) provides that the Minister may modify the approval, with or without conditions.

Sydney Water submitted a Modification Application and supporting Modification Assessment Report (MAR), for the proposed changes as a preliminary consistency assessment indicated that the Modification Proposal is not consistent with the approved Project as described in the EA and PPR.

The MAR was publicly exhibited for two weeks from 24 May 2012 to 6 June 2012. The exhibition gave the community, government agencies and stakeholder groups an opportunity to input ideas, raise issues and provide feedback. During this time community and stakeholders were invited to comment on the Proposal.

## 1.3 Purpose of this Submissions Report

This Submissions Report responds to issues raised in the submissions received following public exhibition of the MAR. Responses to the submissions draw on the findings of the MAR, and provide additional information in an attempt to clarify questions raised. This report will assist DP&I to advise the Minister for Planning and Infrastructure on whether the Modification Proposal should proceed.

DP&I received five submissions in response to the MAR and forwarded them to Sydney Water. The last submission was received on 19 June 2012. DP&I also advised that Sydney Water was required to respond to the issues raised in the submissions. This report has been prepared in response to submissions received, and the Statement of Commitments has been revised.

## 1.4 Proposal description

### 1.4.1 Summary

The Modification Proposal involves construction, operation and maintenance of additional drinking water and wastewater infrastructure to service components of the NWGC first release precincts, not previously assessed in the EA or PPR. The proposed changes include the following:

- relocation of wastewater pumping station 1154 (SP1154)
- addition of Rising Pipeline 3 to connect SP1154 to Riverstone Wastewater Treatment Plant (WWTP)
- addition of wastewater lead-in pipelines to service Riverstone Scheduled Lands
- realignment of the Chain of Ponds wastewater carrier in four locations
- addition of Crown and Hamilton Street water pipeline
- extension of the Edmund St water pipeline

The MAR also proposes a revised Statements of Commitments that aligns with those listed in the water related services for North West Growth Centre second release precincts. The summary of the Modification Proposal above should be read in conjunction with the MAR as the Proposal details remain unchanged.

### 1.4.2 Proposal refinement

Due to the iterative nature of infrastructure design, the Proposal description in the EA, PPR and MAR includes the ongoing refinement of pipeline corridors and site-based assets. Such refinements will be consistent with the overall nature of the Proposal.

It is anticipated that changes will be made during the detailed design process to avoid engineering constraints (eg. geology and topography) and to further minimise environmental impacts, including avoiding Aboriginal heritage sites of high significance, further reducing disturbance to vegetation and riparian corridors and minimising community impacts.

To accommodate possible future changes to the Proposal, the MAR considered maximum impacts along pipeline corridors and within sites. In most instances a larger area than will actually be impacted has been assessed (known as the Field Assessment Area in the MAR) but there may also be changes that occur outside the Field Assessment Area. To enable future changes to the Proposal Sydney Water seeks approval for:

- the Proposal to be located anywhere within the Field Assessment Area described in the MAR; and

- the Proposal to be located outside the Field Assessment Area where;
  - changes are consistent with the environmental objectives of the Proposal;
  - changes result in a neutral or positive outcome relative to impacts described in the EA; and
  - no additional environmental mitigation measures are required.

If the final design of the Proposal is not consistent with the Minister for Planning and Infrastructure's approval of the Proposal, Sydney Water will apply for another modification of the approval under the former Part 3A of the EP&A Act.

This approach is incorporated into Statement of Commitments (80 and 81) in Chapter 4.

## 1.5 Summary of changes since Modification Assessment Report exhibition

The Modification Proposal remains unchanged from what was considered in the Modification Assessment Report (MAR). Figures from the MAR that show the Modification Proposal's location and components are reproduced below in Figures 1-1 to 1-3.

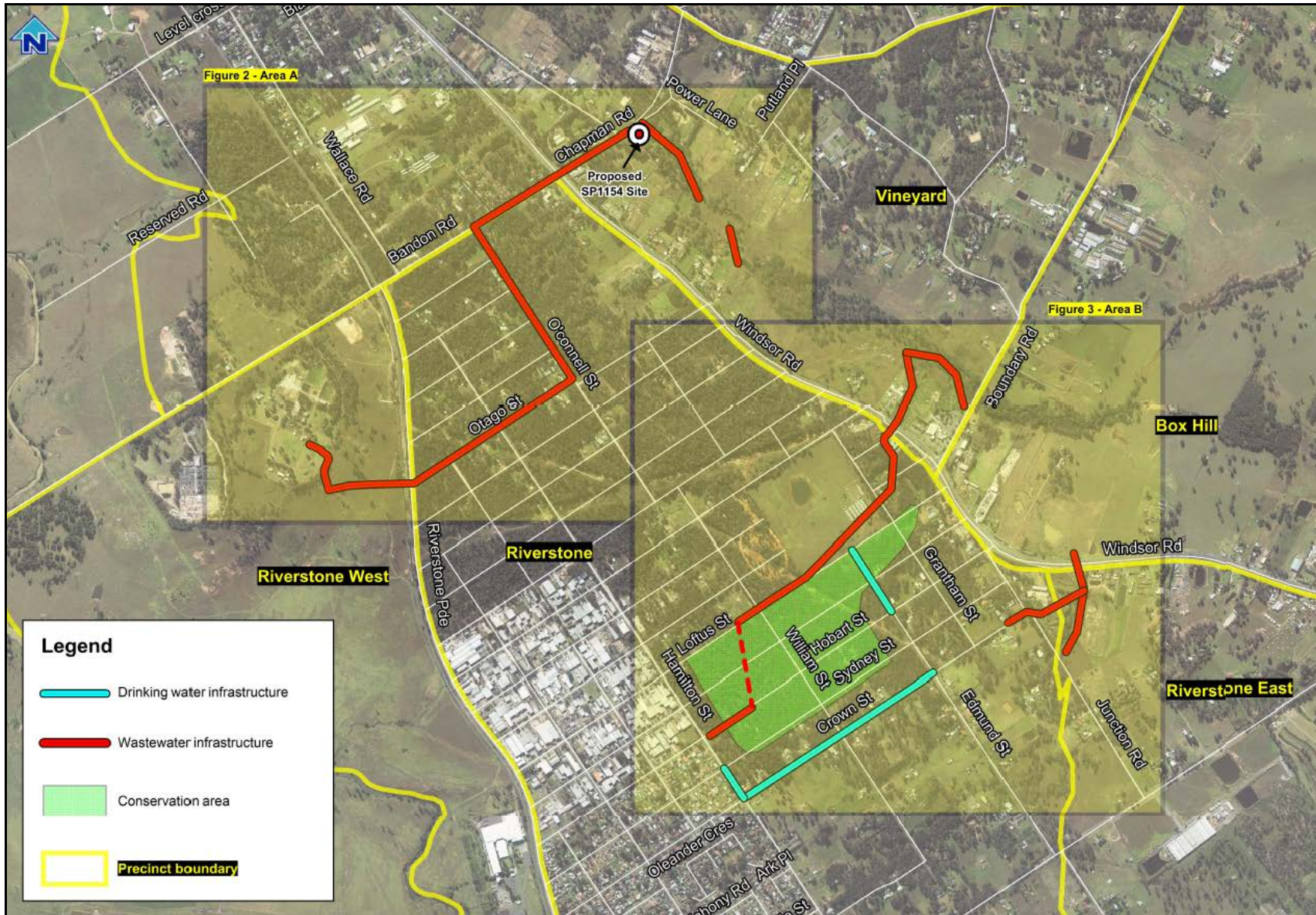


Figure 1-1 Location of additional drinking water and wastewater infrastructure – ‘the Modification Proposal’

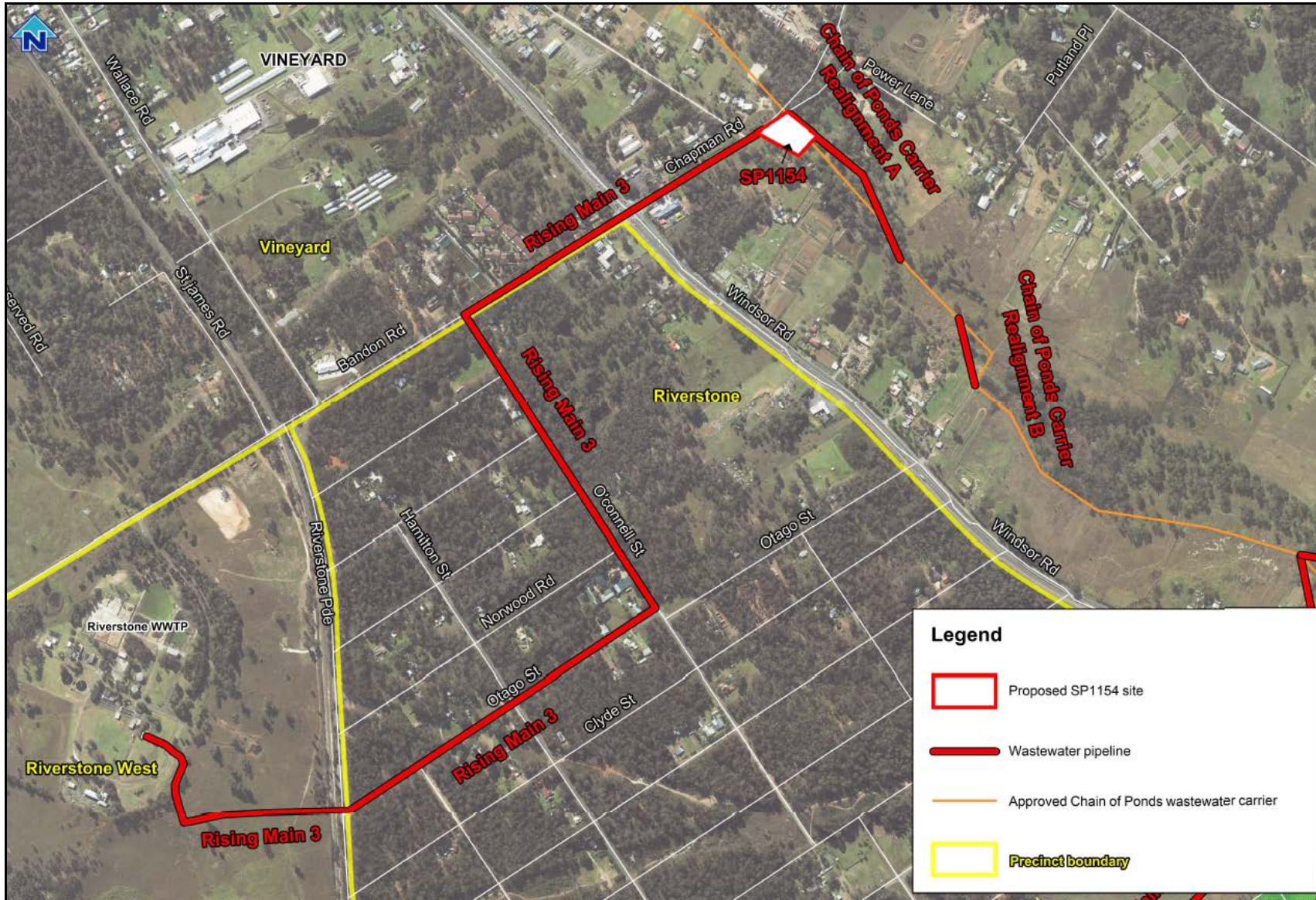


Figure 1-2 The Modification Proposal – Area A

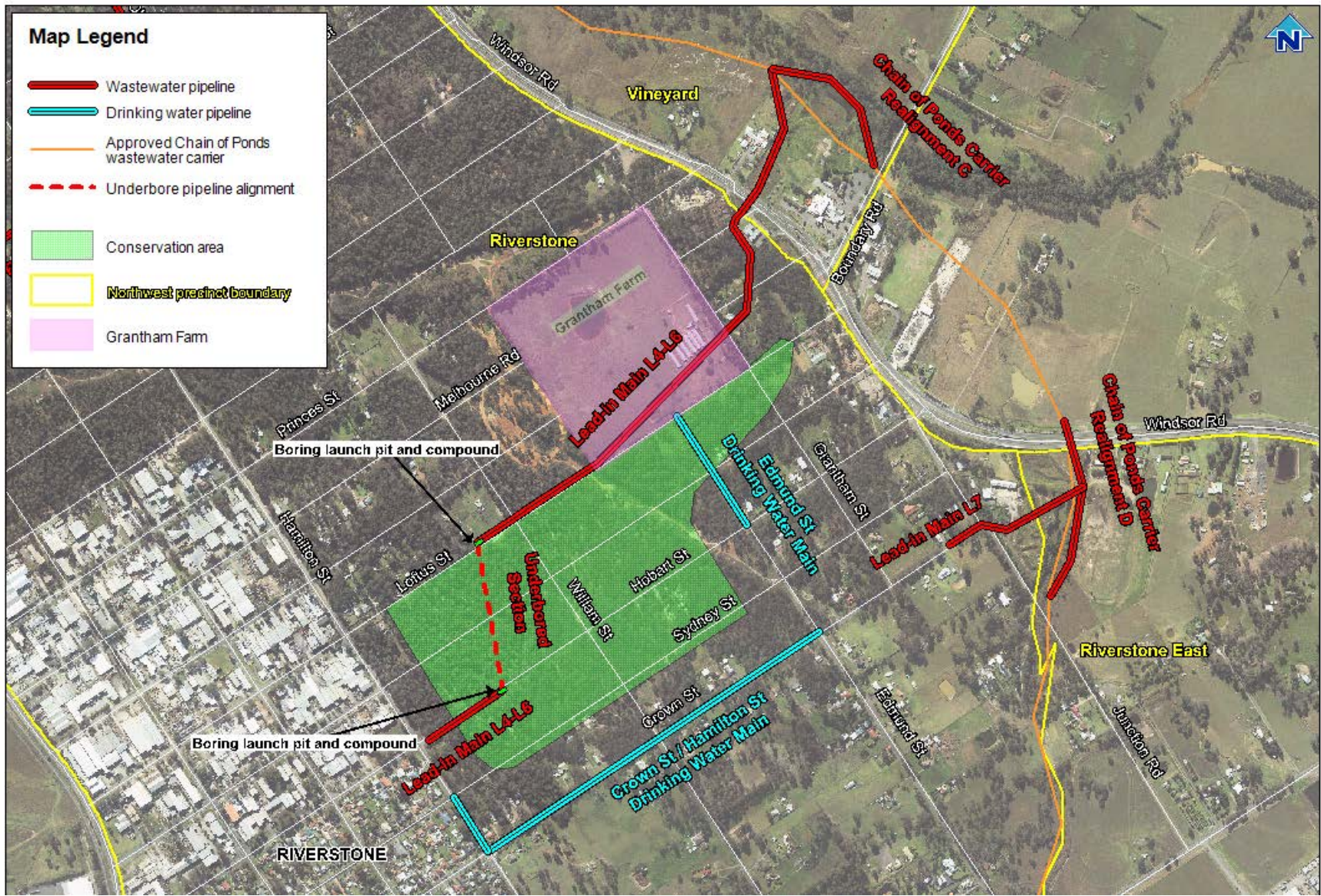


Figure 1-3 The Modification Proposal – Area B

## 2 Submissions

### 2.1 Submissions

During the public exhibition of the MAR, submissions were invited from the community and other stakeholders. This section summarises issues raised in the submissions to the DP&I.

#### 2.1.1 Formal submissions

The DP&I received five formal written submissions from state government agencies all of which raised issues and comments regarding the Modification Proposal. The DP&I also raised comments that it asked Sydney Water to address. Sydney Water has summarised and addressed all the issues raised in the submissions and by the DP&I.

Sydney Water compiled 33 issues or comments from the submissions to be addressed. The most common request was for further information regarding flora and fauna issues, including the biodiversity offsets and clarification on the revised Statement of Commitments.

Table 2-1 outlines the issues raised in the submissions, categorised by topic and author. Sydney Water's responses to these submissions are provided in Chapter 3.

**Table 2-1 Issues raised in Submissions**

#	Issue raised	Submission author
	<b>Legislative framework</b>	
1	All Environmental Protection Licence Requirements, including overflow limits, must be complied with at all times, in relation to the proposed changes to the configuration of the reticulation system.	EPA
	<b>Flora and fauna</b>	
2	Clarify the amount of ENV that is to be impacted in non-certified areas, as a result of the modified Proposal.	DP&I (SLR)
3	Clarify whether all infrastructure shown on Figure 1 has been assessed, if not recommend additional survey as there is non-certified ENV and given the number of records of threatened species and endangered ecological communities in the study area	OEH
4	Suggest reclassification of the quadrat surveyed to derived native grassland, given the percentage of cover and the number of species present.	OEH
5	Clarify whether the areas of non-certified ENV to be impacted along the Chain of Ponds Carrier will be rehabilitated.	OEH
6	Request that conservation area is not disturbed with infrastructure that requires future vegetation clearing or ongoing maintenance	OEH

#	Issue raised	Submission author
7	Concern that the proposed works will have indirect impacts on vegetation in the conservation area (from compaction, weed invasion, erosion and sedimentation).	OEH
	<b>Preliminary Biodiversity Offset Strategy</b>	
8	Request that areas of ENV fragmented as a result of the Modification proposal should be included in the calculation of vegetation required to be offset.	DP&I (SLR)/ OEH
9	Request that conditions of approval require a detailed offset strategy be prepared in accordance with RBM 8 and RBM 11 of the Biodiversity Certification.	DP&I (SLR)
10	Comment that should Sydney Water be required to clear any vegetation within the conservation area as a result of the Modification Proposal, approval must be sought from OEH and DP&I (SLR), and appropriate offsets secured prior to impact.	DP&I (SLR)
	<b>Aboriginal heritage</b>	
11	Clarify why the consultants suggest that some sections of routes be relocated as there is no rationale to support such a recommendation	OEH
12	OEH endorses no further assessments be undertaken	OEH
13	Clarify which locations for SP1154 were considered in the Aboriginal Heritage Impact Assessment (AHIA) Report, and confirm whether the specific recommendations for SP1154 site in the AHIA Report adopted for SP1154.	DP&I
	<b>Water quality and hydrology</b>	
14	Request that proposed realignment C of the Chain of Ponds Carrier be located outside the riparian corridor to meet the key drivers for the project change.	DPI (NOW)
15	Clarify why a detailed assessment has not yet been undertaken to determine the appropriate creek crossing methodology	DPI (NOW)
16	The NSW Office of Water supports the setback of SP1154 outside the riparian corridor, as indicated in the MAR.	DPI (NOW)
	<b>Soils and groundwater</b>	
17	<p>DP&amp;I Fisheries noted that it is important that the risk of erosion and sedimentation of excavated sites within riparian zones be minimised by:</p> <ul style="list-style-type: none"> <li>(i) staging works to reduce expose period of excavated un-vegetated sediments</li> <li>(ii) using appropriate erosion and sediment control measures during construction, and</li> <li>(iii) stabilising and restoring excavated sites as soon as possible after construction is complete.</li> </ul>	DPI (Fisheries)

#	Issue raised	Submission author
	<b>Amenity (Visual and Noise)</b>	
18	Request details on percentage of the proposed SP1154 site to be occupied by the pumping station infrastructure, to determine how close the infrastructure will be to the nearest resident.	DP&I
	<b>Stakeholder engagement and consultation</b>	
19	Request that any impact on the state road network by the proposed modification should be provided to RMS for assessment	RMS
20	Request information on dewatering activities (pumping volumes, flow rates, water quality etc.) when available to allow NOW to assess the need for a bore licence for temporary dewatering purposes.	DPI (NOW)
21	Request that DP&I (SLR) be given the opportunity to comment on the biodiversity offset strategy, once received by the Department.	DP&I (SLR)
22	Request that OEH be removed as the contact in the event that Aboriginal Objects are located.	OEH
23	OEH's written agreement must be obtained for all conditions of approval or statements of commitment that bind the agency.	OEH
	<b>Statement of Commitments</b>	
24	No SOC has been included for a Plan of Management for the Conservation area	OEH
25	No detail of timing has been provided in the SOC that relates to the provision of suitable offsets (SOC 15). It is recommended that the offsets be secured prior to the commencement of construction.	OEH
26	OEH supports revised SOC 11-21 (Appendix C of the MAR)	OEH
27	None of the revised SOC 26 appear to adopt all the recommendations of the EA flora and fauna assessments (SOC 26). Not all recommendations are included in revised SOC 26 for example weed management measures.	DP&I
28	Request that revised SOC 25 also include reference to those mitigation measures in the EA, particularly the high and moderate PADS/sites.  Noted that SOC 35 captures the specific recommendations but it has not been adopted in the revised SOC 25s.	DP&I
29	The revised SOC 29s do not include the commitment for a vibration assessment where the activities are within 50 metres, or monitoring if vibration likely to be higher than specified	DP&I

#	Issue raised	Submission author
30	<p>Revised SOC 55 replaced SOC 30. The revised SOC does not include negotiation with affected parties.</p> <p>Noted that SOC 56 in the EA does address negotiation with affected landowners but is labelled as being removed in the revised SOC's</p>	DP&I
31	<p>Why has the 3<sup>rd</sup> standard been dropped in revised SOC 76? Request this SOC be reworded to "...in accordance with the NSW Assessing Vibration: a technical guideline."</p>	DP&I
32	<p>SOC 81 of EA has been removed and therefore there is no longer a commitment to include detail provided by DECC's 2008 submission</p>	DP&I
33	<p>SOC 100 has been removed from the revised Statements of Commitment. There is no commitment for the provision of information regarding specific human health risks associated with irrigating recycled water</p>	DP&I

## 3 Consideration of submissions

This chapter outlines the issues that were raised in submissions in response to the exhibition of the Modification Assessment Report (MAR). Each submission received was reviewed and specific concerns have been identified and categorised based on the environmental issues identified and assessed in the MAR.

The concerns raised are presented in dialogue boxes and Sydney Water's response is provided below each box. A number of issues were common to several submissions and have been grouped together with a combined response below.

### 3.1 Legislative planning framework

1. All Environmental Protection Licence requirements, including overflow limits, must be complied with at all times, in relation to the proposed changes to the configuration of the reticulation system.

Sydney Water is committed to meeting its Environmental Protection Licence requirements for the Riverstone and Rouse Hill Sewage Treatment Systems, to which the new wastewater infrastructure will connect. SOCs 4 to 6 in Table 4-1 reflect this.

### 3.2 Flora and fauna

2. Clarify the amount of ENV that is to be impacted in non-certified areas, as a result of the Modification Proposal.

The Ecological Impact Assessment identified up to 0.67 ha of non-certified vegetation to be impacted as a result of the modification proposal, subsequently as noted in the MAR, Sydney Water committed to avoiding all vegetation in the Conservation Area. This commitment reduced the area of vegetation to be impacted by the Modification Proposal, from the 0.67ha as calculated in Ecological Assessment Report to 0.4ha.

Table 4 of the MAR which lists 0.4 ha of non-certified ENV to be impacted as a result of the Modification Proposal, is updated from the Ecological Impact Assessment (Appendix E, Table E.2), as Sydney Water will not be clearing vegetation in the Conservation Area.

Of the 0.4 ha of non-certified ENV to be directly impacted by the Modification Proposal, 0.28 ha has already been offset in the existing proposal for the original alignment of First Ponds Creek Carrier. Therefore up to 0.22 ha is required to be offset to counterbalance the direct impacts to non-certified ENV as a result of the Modification Proposal.

3. Clarify whether all infrastructure shown on Figure 1 has been assessed, if not recommend additional survey as there is non-certified ENV and given the number of records of threatened species and endangered ecological communities in the study area.

Figure 1 in the Modification Assessment Report shows all infrastructure associated with modified scope of works. All pipelines have been assessed. Some of these pipelines were assessed in the

original EA, and therefore have not been assessed again in the Modification Assessment report. This included the section of Rising Main 3 along Bandon Rd and Chapman Rd as it formed part of one of the rising main alignment options from the original SP1154 site location. This section of pipeline does traverse certified and non-certified land, however no vegetation impacts were recorded in the 2007 flora and fauna assessment as it is to be built in the road corridor.

Crown St and Hamilton St drinking water pipelines were assessed in the MAR (Appendix D - Ecological Impact Assessment (see Figure D.3 and Table E.6). They were not shown on Figures 4 and 5 of the MAR, taken from the Ecological Impact Assessment report as these were additional lines assessed. However they do form part of this Modification proposal as described in Table 1 of the MAR. Sydney Water has updated Table 4 from the MAR, see Table 3-1 below, to include these drinking water pipelines as a line item. The Crown St and Hamilton St pipelines do not result in clearing of any non-certified ENV, and therefore do not impact the amount of ENV to be offset.

4. Suggest reclassification of the quadrat surveyed to derived native grassland (DNG), given the percentage of cover and the number of species present.

Cumberland Ecology's assessment methodology was adapted from Tozer (1993) who describes the vegetation communities of the Cumberland Plain and provides quantitative assessment parameters to enable a determination to be made as to whether a vegetation community conforms to a certain name. This is a widely recognised assessment method. Cumberland Ecology took Tozer's parameters for CPW and adapted it by removing the references to canopy species. The method was chosen as a quantitative approach was needed and no other guidelines were available. This assessment method is the same as that used for the NWGC 2<sup>nd</sup> release precincts project on which OEH was consulted.

Under this approach the area is not considered to be DNG despite having some native groundcover. If a different method of assessment is chosen, such as looking solely at cover abundance, then it would be reclassified. Some native CPW grasses are fairly hardy and widespread so the dominance of one or two native grass species is not necessarily indicative of DNG. Usually for DNG to be present it would need to have some species diversity as well as native cover abundance. Other methods used to assess the presence of DNG for other threatened communities such as Box Gum Woodland under the EPBC Act (again there are no quantitative methods under State legislation) also prescribe the method of having a minimum number of native herbs within a quadrat (50 x 20 in this case) in order for it to conform to Box Gum Woodland DNG. This shows that the method used in the CPW assessment is fairly well recognised.

Based on the assessment method used Sydney Water does not propose to reclassify the quadrat surveyed to DNG. Sydney Water also notes that this area in question is in certified land and any reclassification would not change the area of vegetation to be offset.

5. Clarify whether the areas of non-certified ENV to be impacted along the Chain of Ponds Carrier will be rehabilitated.

Sydney Water has committed to restoring impacted areas to pre-works condition where practical (SOC 12), identifying areas requiring post-construction rehabilitation, including riparian corridors and sites in non-certified areas identified as being in moderate condition and that form part of a larger patch of vegetation (SOC 13), and implementing post construction management plans for rehabilitation areas (SOC 14).

First Ponds Creek Carrier is generally within a riparian corridor, and the non-certified ENV to be impacted forms part of larger patches of vegetation. Therefore, areas of non-certified ENV to be impacted along the Chain of Ponds Carrier will be rehabilitated in accordance with SOCs 12-14.

6. Request that conservation area is not disturbed with infrastructure that requires vegetation clearing or ongoing maintenance

Sydney Water has designed the infrastructure through the conservation area to be maintenance free. Regular ongoing maintenance will not be required however infrequent reactive maintenance may be required over the life of the asset. Vegetation clearing would be avoided where possible, and any future maintenance would require further environmental assessment and relevant approvals prior to works occurring.

7. Concern that the proposed works will have indirect impacts on vegetation in the conservation area (from compaction, weed invasion, erosion and sedimentation).

As noted above the infrastructure within the conservation area has been designed to be maintenance free. However one maintenance hole may be required on Hobart Street. This is to assist with infrequent reactive maintenance over the life of the asset, and is required due to the change in pipe direction.

Sydney Water does not believe there will be indirect impacts on vegetation in the conservation area as a result of the works. The construction works are temporary and the SOC's outline measures to manage erosion, sedimentation and weed invasion to mitigate indirect impacts. Compaction may occur when trenches are backfilled, however this can be effectively mitigated by tilling prior to any rehabilitation.

These works will also facilitate the decommissioning of an existing wastewater pumping station adjacent to the conservation area in the future. This means the works will contribute to a positive impact as the overflows associated with the wastewater pumping station will be removed.

**Table 3-1 Potential direct impact of the Modification Proposal on Endangered Ecological Communities in the Field Assessment Area by Carrier (Table 3-1 of MAR)**

Infrastructure Component	Vegetation community	Non-certified (ha)	Certified (ha)	Total (ha)
Edmund St drinking water pipeline	Shale Gravel Transition Forest (TSC listed)	-	0.004	0.004
Wastewater lead-in mains L4-L6 (outside conservation area)	Cumberland Plain Woodland (EPBC listed)**	-	0.092	0.092
	Cumberland Plain Woodland (TSC listed – additional to above)*	0.082	0.088	0.170
Wastewater lead-in mains L7	Cumberland Plain Woodland (TSC listed)	-	0.016 <sup>#</sup>	0.016
Rising Main Pipeline 3	Shale Gravel Transition Forest (EPBC listed)**	-	0.184	0.184
	Shale Gravel Transition Forest (TSC listed- additional to above)*	-	0.005	0.005
	Cumberland Plain Woodland (TSC listed)	-	0.009	0.009
SP1154 Site	Cumberland Plain Woodland (TSC listed)	0.041	-	0.041
Chain of Ponds Carrier realignments	Cumberland Plain Woodland (TSC listed)	0.010 <sup>^</sup>	-	0.010
	River Flat Eucalypt Forest	0.269 <sup>^</sup>	-	0.269
Crown St and Hamilton St drinking water pipelines		-	0.074	0.074
	<b>Total***</b>	<b>0.40</b>	<b>0.47</b>	<b>0.87</b>

Notes: \* All EPBC Act listed Cumberland Plain Woodland (CPW) and Shale Gravel Transition Forest (SGTF) also qualify as the TSC Act listed communities. TSC Act listed communities include low condition vegetation that does not meet the condition criteria to conform to this community under the EPBC Act.

\*\*The calculated SGTF impacts include the additional clearance associated with the Crown St water main which is not included in the body of the Ecology Impact Assessment (Cumberland Ecology, Jan 2012) but is included in Appendix E to that report.

\*\*\*Total numbers rounded to two decimal places.

<sup>^</sup> The vegetation to be impacted by the Chain of Ponds Carrier Realignments has already been offset.

<sup>#</sup> Does not meet the classification of ENV.

## 3.2.1 Preliminary Biodiversity Offset Strategy

8. Request that areas of ENV fragmented as a result of the Modification proposal should be included in the calculation of vegetation required to be offset.

As outlined in section 3.2.3 of the MAR, there are a few sections on the Chain of Ponds Carrier where vegetation removal would result in patches of ENV in non-certified areas no longer meeting the minimum size criteria. The total area of these patches is 0.86 ha.

Sydney Water believes the Modification Proposal's offset strategy within the NWGC is consistent with the Biodiversity Certification Order (BCO). The BCO prescribes the agreed offset approach for projects within the Growth Centres, and by Sydney Water's interpretation does not specify offset requirements for indirect impacts. Sydney Water does not consider it appropriate to provide biodiversity offsets for indirect impacts in addition to those required by the BCO.

Sydney Water considers revegetating areas of vegetation removal is an appropriate measure to mitigate the Modification Proposal's indirect impacts of fragmentation and loss of connectivity. Revegetation will ensure that loss of connectivity and fragmentation is a temporary impact, rather than long-term.

9. Request that conditions of approval require a detailed offset strategy be prepared in accordance with RBM 8 and RBM 11 of the Biodiversity Certification.

Sydney Water has committed to offsetting vegetation impacts for non-certified ENV in accordance with the Biodiversity certification, which includes RBM 8 and 11 (SOC 15). Any need for additional conditions of approval is for DP&I to consider.

10. Request that should Sydney Water be required to clear any vegetation within the conservation area as a result of the Modification Proposal, approval must be sought from OEH and DP&I (SLR), and appropriate offsets secured prior to impact.

As stated in the MAR, the Modification Proposal does not seek approval to remove vegetation in the Conservation Area.

Sydney Water proposes to consider the required offsets of this Modification Proposal as part of the Biodiversity Offset Package for NWGC second release precincts. As outlined in Section 3.2.3 of the MAR, Sydney Water has identified the maximum impact on native vegetation based on constructing the infrastructure components that comprise the Modification Proposal. Sydney Water will be able to quantify the actual amount of vegetation to be removed once the detailed design process is completed.

Accordingly, SOC 15 commits Sydney Water to negotiating and securing the offsets in consultation with OEH and DP&I (SLR). Sydney Water has previously outlined its offsetting principles (Water related services for NWGC – second release precincts Submissions Report), which includes securing offsets prior to impact and that construction of project components requiring removal of vegetation to be offset would not commence until offsets are secured. Construction of other project components may commence provided no vegetation is being removed which requires offsetting.

### 3.3 Aboriginal heritage

11. Clarify why the consultants suggest that some sections of routes be relocated as there is no rationale to support such a recommendation.

Table 4 of the AHIA (AHMS, February 2012) lists three registered sites of low scientific significance that may be impacted by the modification proposal. Two of these sites are unlikely to still exist as they are recorded on the Windsor Rd alignment, which has been heavily disturbed and there is the potential for one Artefact Scatter (PAD) located in proximity to the Edmund St Carrier to be impacted by the infrastructure works. The consultants recommend that all sites should be avoided where possible, and if not the specific recommendations outlined in Section 7.3.1 of the AHIA should be followed.

12. OEH endorses no further assessments be undertaken.

Noted.

13. Clarify which locations for SP1154 were considered in the Aboriginal Heritage Impact Assessment (AHIA) Report, and confirm whether the specific recommendations for SP1154 site in the AHIA Report adopted for SP1154.

Four adjacent site locations on Chapman Road were considered in the AHIA report. Figure 3 shows these sites. Option A is the site closest to Windsor Rd and Option D is closest to the creek. Sydney Water balanced a number of factors when choosing the preferred location for SP1154 at Chapman Rd. This included proximity to the child care centre, residences, topography and location of creek, proximity to proposed sewerage carrier, location of ENV vegetation and heritage considerations.

Although the Aboriginal groups put in a preference to have the site further away from the creek to reduce likelihood of impacting any unidentified potential heritage items, the site inspection with the groups did not identify the site as having any heritage significance. The chosen site is Option D, which is closest to the creek, but located outside the riparian corridor, at least 75 metres from the creek.

### 3.4 Water quality and hydrology

14. Request that proposed realignment C of the Chain of Ponds Carrier be located outside the riparian corridor to meet the key drivers for the project change.

The proposed realignment C of the Chain of Ponds Carrier is a result of a further site inspection. This section of pipe has been realigned to reduce environmental risks of erosion and sedimentation on steeper unstable slopes, to the west of a farm dam. The pipe has been realigned to an existing cleared unsealed track between the dam and the creek. The vegetation shown in Figure 5 of the MAR on this alignment is generally based on the drip line of canopy species, and

minimal vegetation is expected to be cleared. If vegetation is impacted it will be offset in accordance with SOC15. Sydney Water considers this realignment meets the key drivers for project change.

15. Clarify why a detailed assessment has not yet been undertaken to determine the appropriate creek crossing methodology.

Further assessment to determine the appropriate creek crossing methodology will be undertaken as part of detailed design. It will be the responsibility of the design and construct contractor to complete these assessments to determine construction methodology and submit the results to Sydney Water for endorsement.

16. The NSW Office of Water supports the setback of SP1154 outside the riparian corridor, as indicated in the MAR.

Noted.

## 3.5 Soils and groundwater

17. DP&I Fisheries noted that it is important that the risk of erosion and sedimentation of excavated sites within riparian zones be minimised by:

- i. staging works to reduce expose period of excavated un-vegetated sediments
- ii. using appropriate erosion and sediment control measures during construction, and
- iii. stabilising and restoring excavated sites as soon as possible after construction is complete.

Noted. Sydney Water has committed to minimise the risk of erosion and sedimentation, through the implementation of relevant SOCs in Table 4-1. Works will include progressive stabilisation and restoration of pipeline corridors.

## 3.6 Amenity (Visual and Noise)

18. Request details on percentage of the proposed SP1154 site to be occupied by the pumping station infrastructure, to determine how close the infrastructure will be to the nearest resident.

The closest residence is approximately 25 metres from the proposed site fence. There will be another 10 metres between the site fence and the closest above ground infrastructure. The nearest

residences are therefore 35 metres to 70 metres away from the closest above ground building on the proposed site.

### 3.7 Stakeholder engagement and consultation

19. Request that any impact on the state road network by the proposed modification should be provided to RMS for assessment.

Sydney Water has consulted with RMS where proposed works would directly impact upon State or major roads since May 2010. This has included crossings at Garfield Road and Clarke St & Garfield Rd and Windsor Rd. Sydney Water has developed concept designs in these cases based on advice and information from RMS, and these have been forwarded to RMS for assessment. Concept designs that have the potential to directly or indirectly impact the state road network are also based on standard RMS requirements to minimise impacts on the road corridor. Consultation with RMS will continue during the detailed design.

20. Request information on dewatering activities (pumping volumes, flow rates, water quality etc.) when available to allow NOW to assess the need for a bore licence for temporary dewatering purposes.

There is the potential for dewatering activities to be undertaken during excavations for new pipelines and SP1154. Disposal of water will be managed to prevent pollution of waters. Where appropriate, erosion and sedimentation controls will be implemented in accordance with *Managing Urban Stormwater Guidelines* (Landcom 2004).

Generally, water to be discharged from dewatering activities is only anticipated in some instances after wet weather. The volume of water to be removed is expected to be low.

21. Request that DP&I (SLR) be given the opportunity to comment on the biodiversity offset strategy, once received by the Department.

Sydney Water has committed to determine appropriate offsets in consultation with DP&I (SLR) and OEH/EPA (SOC 15). Sydney Water met with DP&I and OEH/EPA in January 2012 to discuss the objectives and principles of the strategy for NWGC 2<sup>nd</sup> release precincts project. Sydney Water proposes to integrate the offset strategy for both the 2<sup>nd</sup> release precincts Project and this Modification Proposal. Consultation will continue during the detailed design and pre-construction phase of the next package of works to ensure a Biodiversity Offset Strategy/Package is approved and required offsets are secured prior to impact.

22. Request that OEH be removed as the contact in the event that Aboriginal Objects are located.

OEH has not been mentioned as a contact in SOCs 22-25 relating to indigenous heritage items. The project CEMP will detail the notification process in the event that Aboriginal Objects are located, which will be consistent with the recommendations in the AHIA (AHMS, 2011) to be done in consultation with a heritage consultant, relevant Registered Aboriginal Parties (RAPS) and/or the

relevant State Government agency as appropriate. Sydney Water will limit the notification process to a heritage consultant and relevant RAPs. The OEH AHIMS registrar will be forwarded any new information on sites, as appropriate.

23. OEH's written agreement must be obtained for all conditions of approval or statements of commitment that bind the agency.

Noted.

### 3.8 Statement of commitments

24. No SOC has been included for a Plan of Management for the Conservation area.

RBM 12 of the Biodiversity Certification requires a Plan of Management to be in place prior to any vegetation clearing in lands marked by red hatching on the certification maps. The Conservation Area is one of these areas, however Sydney Water has committed to avoiding all vegetation in this area. Therefore no Plan of Management is required.

25. No detail of timing has been provided in the SOC that relates to the provision of suitable offsets (SOC 15). It is recommended that the offsets be secured prior to the commencement of construction.

As noted in response to item 10, SOC 15 commits Sydney Water to negotiating and securing the offsets in consultation with OEH and DP&I (SLR). Sydney Water has previously outlined its offsetting principles (Water related services for NWGC – second release precincts Submissions Report), which includes securing offsets prior to impact and that construction of project components requiring removal of vegetation to be offset would not commence until offsets are secured. Construction of other project components may commence provided no vegetation is being removed which requires offsetting.

26. OEH supports revised SOC 11-21 (Appendix C of the MAR).

Noted.

27. None of the revised SOC 11-21 appear to adopt all the recommendations of the (first release) EA flora and fauna assessments (SOC 26). Not all recommendations are included in revised SOC 11-21 for example weed management measures.

Revised SOC 11 to 14 have been worded to be consistent with the SOC 11-21 for the NWGC 2<sup>nd</sup> release precincts Project. These SOC 11-21 encompass the general mitigation measures from the EA. Weed removal is included in the last dot point of revised SOC 12. Project specific measures from the EA have been retained, such as revised SOC 16 to 18.

28. Request that revised SOC 25 also include reference to those mitigation measures in the (first release) EA, particularly the high and moderate PADS/sites.

Note: SOC 35 captures the specific recommendations but it has not been adopted in the revised SOCs.

Revised SOC 22-24 encompass the specific mitigation measures for identified Aboriginal heritage sites (including moderate and high sites) from the first release EA. However these have been worded to be consistent with the SOCs for the NWGC 2<sup>nd</sup> release precincts, and are found in the latest AHIA documents from this MAR and the NWGC 2<sup>nd</sup> release EA. These revised SOCs represent best practice management and changes to legislative requirements. In addition, the methods listed in SOCs 22-25 have been endorsed by the Registered Aboriginal Parties (RAPs).

29. The revised SOCs do not include the commitment for a vibration assessment where the activities are within 50 metres, or monitoring if vibration likely to be higher than specified.

Sydney Water has committed to managing vibration in accordance with the appropriate standards and has also revised SOC 55 to include reference to *Assessing Vibration: a technical guideline* (DECC, 2006.). By following these standards and guidelines the appropriate measures including monitoring will be implemented when working in close proximity as specified to heritage buildings.

30. Revised SOC 55 replaced SOC 30. The revised SOC does not include negotiation with affected parties.

Note: SOC 56 in the EA does address negotiation with affected landowners but is labelled as being removed in the revised SOCs

The change of wording is not intended to remove the consultation requirement with affected parties. We believe revised SOCs 38, 40, 74 and 76 cover this.

SOC 43 has been removed from Table 4-1 as SOCs 40 and 43 are duplicates.

31. Why has the 3rd standard been dropped in SOC 76? Request revised SOC 56 is reworded to "...in accordance with the NSW Assessing Vibration: a technical guideline."

The revised SOCs (55 to 57) reference applicable standards for assessing vibration. Sydney Water has updated SOC 55 to include a reference to *Assessing Vibration: a technical guideline* (DECC, 2006.)

32. SOC 81 of EA has been removed and therefore there is no longer a commitment to include detail provided by DECC's 2008 submission.

The aim of removing this SOC is to align the noise and vibration SOCs for the two projects. Sydney Water believes the recommendations provided by DECC in their submission is incorporated in CoA 6.2 (b) for the Construction Noise and Vibration Management Plan.

33. The revised SOC to replace SOC 100 does not include a commitment for the provision of information regarding specific human health risks associated with irrigating recycled water.

Sydney Water removed the reference to provision of information regarding specific human health risks associated with irrigating recycled water in SOC 76 as Sydney Water revised its servicing strategy for recycled water in February 2011 and announced that reticulated recycled water was not the most cost effective way of servicing the growth centres. Sydney Water has constructed recycled water infrastructure in North Kellyville, but is not proposing to construct the proposed recycled infrastructure in Riverstone or Alex Avenue Precincts. However, as the approved project includes recycled water pipelines it has been included in SOC 76 in Table 4-1.

## 4 Statement of Commitments

The Revised Statements of Commitment for the North West Growth Centre water related services for first release precincts have been updated in response to submissions received. Table 4-1 lists the revised (final) Statement of Commitments for the Project, to replace those listed in the PPR that was approved in November 2008. The additional changes to the revised Statement of Commitments to those listed in the Modification Assessment Report are highlighted in yellow.

**Table 4-1 Statement of Commitments for North West Growth Centre (NWGC) water related services for first release precincts**

SOC #	Environmental Aspect	Project Phase
	<b>Water Quality, Hydrology and Aquatic Ecology</b>	
1	A monitoring program to assess the impacts of the Project on river health (eg. water quality, flow, fish migration, macrophytes, macroinvertebrate communities and ecotoxicity testing) would be undertaken in conjunction with NSW State Government agencies. This would complement the Integrated Water Monitoring Framework for the Hawkesbury-Nepean River. Details of the monitoring program would be determined in consultation with relevant government authorities/stakeholders (including the DECC, DWE & DPI).	Pre-Construction, Construction and Operation
2	Erosion and sedimentation control will be managed using measures developed in accordance with <i>Managing Urban Stormwater, Soils and Construction</i> (Volume 1, Landcom 2004 and Volume 2A, DECC 2008). Each creek crossing will be assessed on a case by case basis to determine potential impact. The assessment will include identification of geomorphic character, behaviour, condition and recovery potential.	Construction
3	All creek crossings by pipelines would be underbored except where underboring would cause more impacts than trenching. Appropriate sedimentation and erosion controls would be developed and implemented for underboring sites.	Construction
4	For the Rouse Hill and Riverstone wastewater systems the Project will be designed to operate within the licence requirements of no more than 12 and 14 overflow events per 10 years, respectively.	Design and Operation
5	The wastewater system will be designed and operated with the objective of having no dry weather overflows reaching waterways.	Design and Operation
6	The upgraded and amplified Riverstone STP would meet the existing conditions for bypasses during large wet weather events as detailed in the Environmental Protection Licence for the Riverstone system.	Design and Operation
7	Outlets for discharge of water would be constructed so as to minimise potential destabilisation and scouring. This would involve the construction of appropriate headwalls, dissipaters and bank stabilisation techniques.	Design and Operation

SOC #	Environmental Aspect	Project Phase
8	During the detailed design phase further consultation would be undertaken with relevant Councils and other agencies for input to the design aspects such as the integration of Water Sensitive Urban Design (WSUD) principles and the future amenity of the area.	Design
9	Sydney Water will design wastewater pipeline maintenance structures to minimise potential for floodwaters to enter wastewater pipelines. Where possible, they will be located to minimise environmental impact.	Design
10	Discharge of water from the Cudgegong Road Reservoir Site reservoirs will comply with Sydney Water's discharge protocol standard operating procedure (Sydney Water 2009c).	Operation
	<b>Terrestrial Flora and Fauna</b>	
11	<p>Detailed design will consider how impacts to native vegetation can be avoided and minimised, with a focus on non-certified areas. Where practical, this will include:</p> <ul style="list-style-type: none"> <li>• placement of pipelines along the route that results in the least impact to native vegetation and to avoid significant hollow-bearing trees</li> <li>• refinement of infrastructure site design to avoid native vegetation</li> <li>• use of construction methods that avoid and minimise impacts where appropriate (eg. underboring instead of open trenching).</li> </ul>	Design and Construction
12	<p>Management measures will be developed and implemented to minimise impacts to flora and fauna, including:</p> <ul style="list-style-type: none"> <li>• limiting the extent of the direct pipeline construction impact to a maximum width of 10 metres through native vegetation</li> <li>• protecting and physically delineating areas of native vegetation that are not to be removed</li> <li>• protecting hollow-bearing trees where practical. Where impacts cannot be avoided, Sydney Water will keep an inventory of those to be removed and implement suitable mitigation measures (eg. erection of nest boxes in adjacent habitat, and placement of the cut tree and any other fauna habitat elements in suitable adjacent habitat)</li> <li>• having an ecologist on site prior to and during native vegetation removal (to assist in delineating the 10 metre construction corridor, mark any hollow-bearing trees, check vegetation for fauna prior to removal, carry out any necessary fauna rescue and supervise vegetation removal)</li> <li>• washing down all equipment at an appropriate depot prior to commencement of native vegetation removal (to minimise weed or pathogen spread)</li> <li>• appropriate soil stockpiling, locating construction facilities and vehicle turning areas in already cleared lands where practical, removal of noxious weeds, decreasing barriers for movement of native fauna where possible, staff training, and restoring impacted areas to pre-works condition where practical.</li> </ul>	Construction

SOC #	Environmental Aspect	Project Phase
13	<p>During the detailed design phase, Sydney Water will identify areas requiring post-construction rehabilitation, with the following areas taking priority:</p> <ul style="list-style-type: none"> <li>• creek crossings and riparian corridors where native vegetation communities occur</li> <li>• sites in non-certified areas identified as being in moderate condition and that form part of a larger patch of vegetation</li> </ul>	Design
14	<p>Sydney Water will prepare and implement post-construction management plans for rehabilitation areas, including:</p> <ul style="list-style-type: none"> <li>• weeding activities and protocols for the removal of noxious weeds</li> <li>• stabilisation measures for creek beds and banks</li> <li>• natural regeneration or re-planting activities using local indigenous flora, where their use is compatible with future maintenance requirements, and with the aim of achieving the reestablishment of the natural structure of the original native vegetation</li> <li>• on-going monitoring and management activities.</li> </ul>	Post-construction
15	<p>Sydney Water will provide suitable offsets for the loss of existing native vegetation within the non-certified areas of the NWGC, in accordance with the relevant biodiversity measures in the Biodiversity Certification Order (DECC 2006). Offsets will be determined in consultation with DP&amp;I (Strategies and Land Release) and OEH.</p>	Design and pre-construction
16	<p>To minimise the impacts on the threatened species <i>Epacris purpurascens</i> var. <i>purpurascens</i> or <i>Grevillea juniperina</i> ssp. <i>Juniperina</i> the following mitigation measures would be implemented:</p> <ul style="list-style-type: none"> <li>• No works would be undertaken within 5 m of the threatened flora species.</li> <li>• Exclusion fencing would be erected around threatened flora species and maintained in place until such time as construction works are completed.</li> <li>• Manual digging would be undertaken in the vicinity of the threatened species.</li> </ul>	Construction
17	<p>Prior to commencement of construction at the Cudgegong Road Reservoir Site a detailed Flora and Fauna Management Strategy would be prepared. This strategy would incorporate the mitigation measures specified in the Species Impact Statement prepared for the site.</p>	Pre-Construction
18	<p>To mitigate the impacts on the threatened fauna at the Cudgegong Reservoir site, a strategy would be developed including:</p> <ul style="list-style-type: none"> <li>• timing of construction to ensure clearing is not undertaken in breeding, roosting and torpor times for the microchiropteran bats;</li> <li>• translocation of individual Cumberland Plain Land Snails.</li> </ul>	Construction
19	<p>When required, future repairs to sites and pipelines would be subject to further environmental assessment by Sydney Water.</p>	Operation

SOC #	Environmental Aspect	Project Phase
20	A suitably qualified ecologist will carry out a pre-clearance survey for the presence of the Green and Golden Bell Frog where potential habitat has been identified immediately before any vegetation clearance s takes place.	Pre-construction
21	Where there is potential Green and Golden Bell Frog habitat any pipes left on site where will be capped/covered overnight to prevent fauna from sheltering in them.	Construction
	<b>Indigenous Heritage</b>	
22	During detailed design and construction, Sydney Water will consider options to avoid adversely impacting identified Aboriginal objects, sites and places. Where feasible, works impacting identified objects, sites or places will not occur unless they are directly related to, and for the express purpose of, their conservation, care and maintenance.	Design and construction
23	If it is not possible to avoid impacting identified Aboriginal objects, sites or places, micro-tunnelling and/or under-boring construction techniques or similar will be considered. These techniques mainly occur beneath significant soil layers and material and/or avoid material of significance, although some disturbance associated with entry and exit points will be required.	Design and construction
24	<p>If micro-tunnelling, under-boring or similar is not possible, and for areas that may be disturbed, Sydney Water will develop appropriate mitigation measures in consultation with a heritage professional and relevant Registered Aboriginal Parties (RAPs). Mitigation measures will correlate with the extent of the proposed impact and the significance of the potentially impacted Aboriginal objects, sites and places.</p> <p>Mitigation measures may include:</p> <ul style="list-style-type: none"> <li>• for surface sites or sites with a surface expression – spatial recording, using a differential Global Positioning System (GPS) or Total Station (with sub-metre accuracy), followed by collection of the Aboriginal objects</li> <li>• for subsurface sites or sites with a subsurface expression – a program of testing and/or salvage excavations, using current archaeological practices. Archaeological monitoring may also be appropriate in certain circumstances</li> <li>• appropriately recording all cultural materials and impacts using photographs, sketches and written description before, during and after implementation of mitigation measures</li> <li>• undertaking an appropriate level of post-excavation analysis and reporting, in accordance with the general mitigation measures listed in Section 7.2 of <i>Aboriginal Heritage Impact Assessment for additional water related infrastructure for NWGC first release precincts (AHMS, 2012)</i>.</li> </ul>	Pre-construction and construction
25	General mitigation measures listed in 7.2 of the <i>AHIA (AHMS 2012)</i> will be implemented throughout the design, construction and operation of the Project, as appropriate.	Design, pre-construction, construction and operation

SOC #	Environmental Aspect	Project Phase
	<b>Non-Indigenous Heritage</b>	
26	To minimise impact on the section of Old Windsor Road at Kellyville, which is listed on the Register of the National Estate, the drinking water pipeline would be underbored where it crosses Old Windsor Road at Bella Vista.	Design and Construction
27	All construction personnel will be inducted on the potential to find previously unrecorded non-Aboriginal heritage items during the construction works.	Construction
28	In the event that non-Aboriginal heritage items not identified are discovered, work in the immediate vicinity would cease and the Sydney Water Project Environmental Representative (PER) would be informed to determine the subsequent course of action. An archaeologist may be contacted to assess the item. If the item is a relic, notification under s146 of the Heritage Act 1977 applies and the Heritage Council would be notified. Further action such as archaeological evaluation and excavation may be required prior to continuation of construction.	Construction
29	The pipelines would require maintenance during the operation of the Project. Standard operating procedures would be implemented to ensure the maintenance activities would have no impact on the items of non-Indigenous heritage.	Operation
	<b>Soils and Groundwater</b>	
30	Any groundwater encountered during construction will be pumped out of the work area into a contained area, tested and if necessary appropriately treated, prior to re-use, appropriate discharge or disposal.	Construction
31	The storage of large quantities of fuels on or around the site will generally be avoided and vehicles and equipment will be refuelled off site. Where on-site refuelling is unavoidable, mini-tankers will be used. Mini-tankers will be required to follow standard procedures and have a spill kit to minimise the risk and impact of spills.	Construction
32	Any fuels or chemicals will be stored, handled and disposed of to meet relevant standards. Bunded or contained areas and a spill kit will be provided as appropriate.	Construction and operation
33	Any areas identified as affected by soil salinity will be appropriately managed during construction, and potential impacts mitigated, including: <ul style="list-style-type: none"> <li>the use of salt resistant construction methods and materials</li> <li>no reuse of excavated saline soils for backfilling</li> <li>infrastructure, especially the pipelines, would not impact on natural surface and sub-soil drainage, and where appropriate would improve drainage</li> </ul>	Design and Construction
34	Recycled water total dissolved solids (TDS) levels would be monitored and managed at a level to minimise the risk of significant salinity impacts from irrigation.	Operation
35	A groundwater monitoring program for the Project would be developed in conjunction with other relevant stakeholders such as the DWE, and implemented by Sydney Water.	Operation

SOC #	Environmental Aspect	Project Phase
36	Recycled water users would be informed of the specific environmental and human health risks associated with irrigating with recycled water.	Operation
37	Further detailed geotechnical investigations would be carried out during the detailed design stage. Areas where electro-magnetic survey results indicated high salinity (greater than 100 dS/m) would be investigated further, prior to land development, to confirm salinity levels and associated risks.	Design
	<b>Traffic, Transport and Access</b>	
38	Impact mitigation and management measures will be implemented to address road closures, access to properties, closure (permanent or temporary) and diversions of pedestrian pathways, provisions for temporary access and re-instatement.	Pre-construction and construction
39	Road closures will be developed and implemented in consultation with the relevant road authorities (Council and/or Roads and Maritime Services (RMS)).	Pre-construction and construction
40	Where there is a potential to impact on access to private property or pedestrian pathways, property owners, the local community and councils will be informed as appropriate. Mitigation measures will include providing alternative access, reinstating access at the end of each day, and reinstating impacted areas to their original condition.	Construction and operation
41	Further assessment would be undertaken before construction commences at the Riverstone STP so that appropriate traffic management controls can be developed and incorporated into the Construction Environmental Management Plan.	Pre-Construction
42	Appropriate construction methodologies for road crossings will be developed and implemented in consultation with the relevant Council and/or the Roads and Maritime Services (RMS).	Design, Pre-Construction and Construction
43	Proposed future road widening of Schofields Road would be taken into account during the detailed design of the revised drinking water pipeline route. The pipeline route would be located appropriately so as not to interfere with future road widening works.	Design
44	RailCorp has a staged consultation and approval framework for such works and Sydney Water would meet RailCorp's requirements. Actions that would be undertaken by Sydney Water would include providing RailCorp with engineering and construction information on the rail line undercrossings (including concept and detailed designs) for their review and approval. This consultation and design finalisation process would take into consideration any future upgrades or expansion of the rail network, including the future Richmond rail line duplication works between Quakers Hill and Vineyard.	Design

SOC #	Environmental Aspect	Project Phase
45	Ongoing consultation with the Transport Construction Authority (TCA) would be undertaken regarding the construction and location of Project components relative to the proposed North West Rail Link, including where TCA is proposing to cross Windsor and Rouse Road, to determine the preferred location and design of pipelines in consideration of the costs of any future relocation requirements.	Construction
	<b>Waste Generation and Management</b>	
46	Detailed measures to manage, reduce, reuse, recycle and for disposal of construction waste would be developed and applied to the Project.	Pre-construction and Construction
47	Wherever possible, suitable excavated spoil would be reused on site for backfilling, landscaping and other uses. If suitable spoil was unable to be reused on-site, opportunities for off-site reuse would be investigated. If reuse opportunities were unable to be identified or the spoil was unsuitable for reuse due to its geotechnical or contamination characteristics, spoil would be classified according to <i>Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes</i> (DEC 1999) and disposed of at an appropriately licensed facility.	Construction
48	Soil contamination studies will be carried out prior to construction. Soils will be analysed for a broad range of potential contaminants to provide an indication of potential waste classification <i>Waste Classification Guidelines</i> (DECCW 2009a). Excavated contaminated soil will be disposed of at an appropriately licensed facility.	Design and Pre-Construction
49	All wastes generated by the construction and operation of the Project will be classified and disposed in accordance with <i>Waste Classification Guidelines</i> (DECCW 2009a).	Construction and Operation
50	Biosolids generated by Riverstone STP would continue to meet the Grade B stabilisation criteria (Sydney Water 2004) and would be 100 per cent beneficially reused as part of the Bio-Soil Program operated by Sydney Water.	Operation
	<b>Air Quality</b>	
51	Potential impacts from dust generation will be managed through typical dust suppression measures.	Construction
52	Odour management will continue to be undertaken in accordance with Sydney Water's existing procedures. Odour complaints will be registered and investigated. Engineering, operational or other odour reduction measures will be implemented where verified odour complaints are received about odours from the wastewater system.	Operation

SOC #	Environmental Aspect	Project Phase
53	Vegetation would be planted along the eastern boundary of the Riverstone STP, within land owned by Sydney Water. This vegetation would provide a buffer between the STP and other land.	Operation
	<b>Noise and Vibration</b>	
54	Physical and management measures will be used to reduce the construction noise impact on sensitive receivers. Typical physical noise mitigation measures, such as those outlined in Australian Standard 2436-1981 <i>Guide to Noise Control on Construction, Maintenance and Demolition Sites</i> , include noise control kits for plant equipment, noise screens and acoustic enclosures for stationary plant. Typical management measures include limiting noise work to less sensitive time periods, selecting low noise plant equipment and using quieter construction methods where possible.	Construction
55	Where vibration from construction activities may impact on residents, the activities will be managed in accordance with the British Standard BS 6472 – 1992, AS 2670:2-1990 and <i>Assessing Vibration: a technical guideline (DECC, 2006)</i> .	Construction
56	Where vibration from construction activities may impact on nearby structures, the activities will be managed in accordance with British Standard 7385: Part 1 – 1993 <i>Evaluation and Measurement for Vibration on Buildings</i> .	Construction
57	For historic buildings, which have a higher sensitivity to vibration, the guidelines within the German Standard DIN 4150 - Part 3 will be adhered to.	Construction
58	Additional noise attenuation would be provided on noise generating infrastructure at the Cudgegong Road Reservoir Site to reduce noise levels at residential receivers to acceptable levels.	Design
59	During the final selection of mechanical plant and equipment, appropriate noise control treatments would be chosen, including: <ul style="list-style-type: none"> <li>• installation of commercially available silencers</li> <li>• installation of acoustic screens and barriers between plant and sensitive neighbouring premises</li> <li>• installation of partially enclosed or fully enclosed acoustic enclosures around mechanical plant and pumping stations.</li> </ul>	Design
	<b>Hazards and Risks</b>	
60	All class 8 storage areas will be maintained within bunded facilities that conform with relevant standards and codes, primarily AS 1940: <i>The Storage and Handling of Combustible and Flammable Liquids and Dangerous Goods Storage Codes</i> .	Design and Operation

SOC #	Environmental Aspect	Project Phase
61	All chemical unloading areas would be capable of collecting and containing spills. All drains in the unloading area would be directed to a sump and not to stormwater.	Design and Operation
62	<p>The following studies would be completed during final design and prior to operation to assess the effectiveness of design features and safeguards in relation to the Preliminary Hazard Analysis assumptions and recommendations:</p> <ul style="list-style-type: none"> <li>• Fire Safety Study</li> <li>• Hazard and Operability Study</li> <li>• Emergency Response Planning</li> <li>• Final Hazard Analysis</li> <li>• Safety Management System assessment</li> <li>• Hazard Audit.</li> </ul>	Design and Pre-Construction
63	There is potential for contaminated firewater to flow off site at the STPs, resulting in environmental damage. To minimise the risk of this occurrence, the site first flush retention system would have capacity to contain a minimum of 10 times the capacity of the largest tank. This would ensure the firewater is retained on site in accordance with the applicable Australian Standards.	Design
64	<p>Other recommendations of the PHA that would be implemented include:</p> <ul style="list-style-type: none"> <li>• spill kits would be installed adjacent to the acid alkali storage and use areas to provide rapid response in the event of a spill during storage and handling</li> <li>• an emergency response plan would be developed for the sites, which should be developed in accordance with the requirements of “HIPAP No.1, Emergency Planning Guidelines”</li> <li>• the emergency response plan would include procedures for response to spills and a schedule for emergency response drills and training</li> <li>• review of OH&amp;S regulations would be undertaken to ensure sites are compliant with section 6A of the regulation.</li> </ul>	Operation
	<b>Energy and Greenhouse Gas Emissions</b>	
65	All vehicles, machinery and water-related infrastructure would be adequately maintained and operated to ensure efficient operation to minimise energy use and greenhouse gas emissions.	Construction and operation
	<b>Visual Amenity</b>	
66	Areas disturbed by pipeline construction will be progressively rehabilitated. Machinery will be used and stored to minimise disturbances to residents.	Construction

SOC #	Environmental Aspect	Project Phase
67	Hoardings or temporary screening would be erected to decrease visual impact of construction compounds. Good housekeeping practices would be employed on site to minimise visual impacts.	Construction
68	Screening or vegetation along the fence line would be used to obscure construction works at the WWTPs and reservoir site and further reduce the visual impact of construction.	Construction
69	At the WWTP, pumping stations and Cudgegong Road Reservoir Site existing vegetation would be maintained where possible and where appropriate additional plantings would be undertaken along site boundaries to obscure views of infrastructure from sensitive receivers. Site facilities (including fencing) would be designed to minimise visual impact.	Operation
70	Visual impact of the reservoirs, pump stations and ventilation shafts would be minimised through painting the structures dark "bush green" which has been chosen as the colour most compatible with the surrounding environment.	Operation
71	Placement of the elevated reservoir will take into consideration overshadowing, with the aim of placing it in a location that will result in the majority of winter shadow being cast back onto the reservoir site.	Design
72	A vegetation management plan and landscape plan would be prepared for each of the WWTP, pumping station and reservoir sites which would provide for the following: <ul style="list-style-type: none"> <li>• protection of existing vegetation during construction, including temporary fencing, minimising vehicle movements and preventing stockpiling under tree canopies</li> <li>• erosion control plans, where required</li> <li>• reuse of topsoil</li> <li>• recommendations for additional screen planting, including use of native and where possible endemic plant species.</li> </ul>	Design, Construction and Operation
	<b>Social Impacts</b>	
73	During construction, communities would be informed prior to the start of any works in their area and would be notified at regular intervals throughout the construction process.	Construction
74	Sydney Water will restore private properties impacted by construction or maintenance activities to pre-works condition, where practical, and subject to restrictions on building over constructed pipelines as listed in Section 6.14.3 This will be done in consultation with the landowners directly impacted by the Proposal.	Pre-construction, construction and operation

SOC #	Environmental Aspect	Project Phase
75	<p>Sydney Water would ensure that:</p> <ul style="list-style-type: none"> <li>the community and stakeholders, including Blacktown City Council, have a high level of awareness of all processes and activities associated with the Project</li> <li>timely and accurate information is provided and easily accessible</li> <li>there is a high level of responsiveness to issues and concerns raised by the community.</li> </ul>	Construction
76	<p>Communication processes outlined in the EA will be developed and implemented for the Project. These will include:</p> <ul style="list-style-type: none"> <li>opportunities for the community to provide input on mitigation measures for construction or operation</li> <li>methods to inform the community of the progress and performance of the Project and issues of interest to the community</li> <li>notification of construction activities to potentially affected local residents, councils and businesses</li> <li>processes to receive and manage complaints in accordance with the Sydney Water customer contract</li> <li>consultation with affected property owners</li> <li>induction and training of construction personnel in communication requirements</li> <li>protocols to notify stakeholders of relevant activities and any incidents should they occur</li> <li>provision of information regarding specific environmental and human health risks associated with irrigating with recycled water (if applicable)</li> </ul>	Design, Pre-Construction, Construction and Operation
	<b>Human Health</b>	
77	<p>Recycled water would be provided to meet the standard of urban non-potable reuse as defined by the <i>Natural Resource Management Ministerial Council, Environmental Protection and Heritage Council, Australian Health Ministers Conference - National Guidelines for Water Recycling: Managing Health and Environmental Risks (2006)</i>.</p>	Operation

SOC #	Environmental Aspect	Project Phase
78	<p>Prior to operation of the Project a Recycled Water Quality Management Plan (RWQMP) would be prepared based upon the risk management framework approach outlined by the <i>National Guidelines for Water Recycling – Managing Health and Environmental Risks</i> (2006) and using actual tertiary treated wastewater data from the STPs.</p> <p>Sydney Water, in consultation with the Department of Health, has initiated the development of a RWQMP for several recycled water services, including the Rouse Hill RWP. The Quakers Hill RWP would also be addressed as it becomes operational. Detailed information on each of the recycled water systems would be included; in particular, how risks to human health would be reduced and the results of validation.</p>	Operation
79	<p>Sydney Water would apply the following risk management practices to limit exposures to recycled water:</p> <ul style="list-style-type: none"> <li>• installation regulations and codes of practice that include systematic processes to reduce the probability of cross-connections</li> <li>• materials codes and regulations that easily discriminate drinking and recycled water plumbing</li> <li>• regulations that limit the legal installation and modification of plumbing systems to licensed individuals</li> <li>• education on recycled water use and the need to avoid creating cross-connections</li> <li>• opportunities to apply pressure differentials in certain situations to ensure that if cross-connections occur, they are from higher to lower quality water</li> <li>• installation of backflow prevention systems to reduce the extent of hydraulic influence from any cross-connections that do occur</li> <li>• operational checking and connection auditing.</li> </ul>	Design and Operation
	<b>Project description</b>	
88	<p>Changes to the Project outside the field assessment area will only occur:</p> <ol style="list-style-type: none"> <li>a) to reduce impacts to biodiversity, heritage or human amenity; or</li> <li>b) to avoid engineering (eg geological, topographical) constraints; and</li> <li>c) after consultation with any potentially affected landowners and relevant agencies.</li> </ol>	Design, pre-construction and construction
81	<p>On request, Sydney Water will provide details to DP&amp;I of any change to the Project and corresponding environmental assessment that demonstrates the change is consistent with the EA and has a neutral or positive outcome relative to the impacts described in the EA.</p>	Design, pre-construction and construction.

## 5 References

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Sydney Water, 2008a. *North West Growth Centre water related services for first release precincts – Environment Assessment*.

Sydney Water, 2008b. *North West Growth Centre water related services for first release precincts – Preferred Project Report*.

Sydney Water, 2009. *Discharge Protocols Standard operating procedure*.

Sydney Water, 2011, *Water related services for the North West Growth Centre – second release precincts – Environmental Assessment*.

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# Appendix A – Submissions

Submissions can also be viewed on the Major Projects Assessment Database on the Department of Planning and Infrastructure's website.

[http://majorprojects.planning.nsw.gov.au/index.pl?action=list\\_submissions&job\\_id=5301](http://majorprojects.planning.nsw.gov.au/index.pl?action=list_submissions&job_id=5301)

## Memorandum

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**To** Belinda Scott, Senior Planning Officer  
**cc.** Elizabeth Kinkade, Director Land Release  
**From** Robert Black Executive Director, Strategies and Land Release  
**Date** 30/05/2012 **File no** 11/01973

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**Subject: North West Growth Centre water related services for first release precincts – MOD 3**

### Comment

The Strategies and Land Release (SLR) team has reviewed the modification assessment report prepared by Sydney Water, with regard to the relevant biodiversity measures (RBMs) of the Growth Centres Biodiversity Certification. Please note, the comments in this Memorandum only consider impacts to vegetation within the Growth Centres.

### Existing Native Vegetation (ENV)

- The modification application includes a Modification Assessment Report (MAR) and an Ecological Impact Assessment for the amended proposal. SLR notes that there are inconsistencies between the two documents, in particular the amount of ENV in non-certified areas that will be impacted as a result of the proposal.
- The Ecological Impact Assessment indicates that 0.67 ha of ENV in non-certified areas would be directly impacted as a result of the project and would need to be offset in accordance with the RBMs outlined in the Biodiversity Conservation Order.
- However, the MAR indicates that 0.4 ha of ENV would be impacted in non-certified areas as a result of the modification. Of this, 0.28 ha was already calculated as part of the vegetation to be cleared under the approved project and included in the existing offset package. Therefore, according to the MAR only 0.12 ha of additional ENV would be impacted in non-certified areas and would need to be offset as a result of the modified proposal.
- Clarification is required regarding the amount of ENV that is to be impacted in non-certified areas, as a result of the modified proposal.
- However, for the purposes of this submission the area of impacted ENV as identified in the MAR has been used.

### Fragmentation of ENV

- SLR has had previous discussions with Sydney Water with regard to the fragmentation of ENV as a result of its projects, and has informed Sydney Water of the requirement to offset all impacts associated with a proposal.
- If a proposal results in a patch of ENV being reduced to below 0.5 ha this area can no longer be identified as ENV and counted towards the 2000 ha required to be protected under RBM 6 of the Biodiversity Certification. Therefore, these areas must also be included in the calculation of vegetation impacted by the proposal and offset accordingly.
- Existing fragmentation of ENV in the area is due to road corridors, urban development and discontinuous vegetation patches along corridors. Sydney Water considers it unlikely that the construction works would result in any significant increase in existing fragmentation and that fragmentation of ENV as a result of

construction of infrastructure would be temporary as Sydney Water has committed to restoring impacted areas, thus mitigating any long-term impacts.

- Notwithstanding, Sydney Water has identified an additional 0.86 ha of ENV in non-certified areas to be impacted due to fragmentation as a result of construction works. Figure 7 of the MAR shows the extent of indirect impacts through fragmentation of ENV in non-certified areas.
- The Department considers that the area of ENV fragmented as a result of the proposal should be included in the calculation of vegetation required to be offset.

### Offset

- Under the approved project Sydney Water secured 3.19 ha of vegetation at Riverstone WWTP prior to construction commencing for Package 1 of the project. This is 0.02 ha more than the area of ENV impacted.
- As discussed above the MAR identified 0.12 ha of ENV required to be offset as a result of the proposal.
- RBM 8 requires ENV to be offset at a rate of 1:1 for a direct offset, or at a rate of 3:1 for revegetation. Therefore, Sydney Water would be required to provide an offset of either 0.12 ha of ENV in certified areas or 0.36 ha of land to be revegetated within the Growth Centres.
- With the addition of 0.86 ha ENV impacted due to fragmentation, the total area of vegetation required to be offset is 0.98 ha. This therefore requires an offset of 0.98 ha of ENV in certified areas or 2.94 ha of land to be revegetated.
- While Sydney Water has committed to providing offsets in accordance with the Biodiversity Certification it has not identified any specific properties or areas that could be used as an appropriate offset. Therefore, it is requested that the conditions of approval require a detailed offset strategy to be prepared by Sydney Water in accordance with RBM 8 and 11 of the Biodiversity Certification, and that SLR be given the opportunity to comment on the strategy, once received by the Department.
- Providing offsets in accordance with the Biodiversity Certification will ensure compliance with the Growth Centres Strategic Assessment also. This is important in ensuring that all agencies continue to benefit from the Strategic Assessment.

### Conservation Area

- The extension of the Edmund Street drinking water pipeline is proposed to run through the conservation area, as shown on Figure 3 of the MAR. Sydney Water proposes to trench the pipeline along the road verge, and to underbore beneath vegetation and the drainage line.
- A wastewater pipeline to service the Riverstone Scheduled lands area is also proposed to run through the conservation area. Sydney Water proposes to underbore a section of the pipeline and to trench the upstream section of the pipeline and launch pit along Hobart Road, to avoid clearing any vegetation within the conservation area.
- The conservation area is identified with red hatching on the Biodiversity Certification Maps. In lands marked by red hatching, ENV must not be cleared unless in accordance with a plan of management or unless such clearance has been agreed to by OEH.
- Should Sydney Water be required to clear any vegetation within the conservation area as a result of these works approval must be sought from OEH and the Strategies and Land Release team, and the appropriate offsets secured prior to any impact occurring.

If you would like to discuss this matter further, please contact Haley Rich.

 7-6-2012

**Robert Black**  
Executive Director

Haley Rich  
98601513

Our Reference: SYD12/00626  
Your Reference: 07\_0125 MOD 3  
Contact: Pahee Sellathurai  
Telephone: 8849 2219



**Transport**  
Roads & Maritime  
Services

Team Leader Water Infrastructure Projects  
Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

**Attention: Belinda Scott**

**EXHIBITION OF MODIFICATION REQUEST FOR MODIFICATION TO WATER  
RELATED SERVICES FOR STAGE ONE PRECINCTS OF NORTH WEST GROWTH  
CENTRE**

Dear Sir/Madam,

I refer to your letter dated 22 May 2012 with regard to the abovementioned modification request, which was referred to Roads and Maritime Services (RMS) for comments.

RMS has reviewed the submitted documentation and notes that no information on the impact on the state road network by the proposed modification is included. Details of any impact on the state road network by the proposed water related services should be provided to RMS for assessment.

Any further enquires in relation to this matter can be directed to Pahee Sellathurai on 8849 2219.

Yours faithfully

Owen Hodgson  
**Senior Land Use Planner**  
**Transport Planning, Sydney Region**

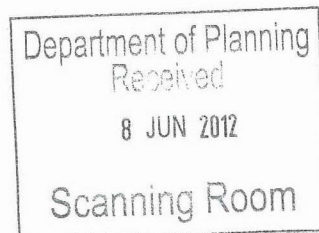
6 June 2012

Roads and Maritime Services



Our reference:  
Doc12/20872

Ms Lisa Mitchell  
Team Leader Water  
Infrastructure Projects  
Department of Planning and Infrastructure  
GPO Box 39  
Sydney NSW 2001



Dear Ms Mitchell

I refer to your letter of 22 May 2012 to the Office of Environment and Heritage seeking advice on the proposed modification to Water Related Services for stage One Precincts (07\_0125Mod3) including comments on the proposed draft conditions. The Environment Protection Authority (EPA) is now a separate agency to OEH and this letter addresses EPA issues only.

The EPA has reviewed the proposed modification and does not wish to raise any specific concerns.

More generally, in relation to the proposed changes to the configuration of the reticulation system the EPA wishes to make clear that all Environment Protection Licence requirements, including overflow limits, must be complied with at all times.

Given the recent separation of the EPA from the Office of Environment and Heritage (OEH), you are advised that the OEH may provide a separate response on the modification.

Should you wish to discuss any matters raised in this letter, please contact Ms Gillian Reffell on 9995 6813.

Yours sincerely



5-6-12

**FRANK GAROFALOW**  
Manager Metropolitan Infrastructure  
Environment Protection Authority



Office of  
Environment  
& Heritage

FILE COPY

Your reference 07\_0125 Mod 3  
Our reference: DOC12/20666  
Contact: Liz Peterson, 9995 6841

Ms Lisa Mitchell  
Team Leader Water  
Infrastructure Projects  
Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Attention: Ms Belinda Scott

Dear Ms Mitchell

I refer to your letter of 22 May 2012 inviting comments from the Office of Environment and Heritage (OEH) on the exhibition of Sydney Water's proposal for modification to Water Related Services for Stage One Precincts (07\_0125 Mod 3).

**Biodiversity**

The proposed works are located with the Growth Centres, which are subject to conditions (relevant biodiversity measures, RBMs). The modification report has been assessed in accordance with the relevant biodiversity measures to ensure the proposed works do not compromise the implementation of the biodiversity certification. One of the key measures of the biodiversity certification (RBM 6) is the protection of 2,000 hectares of existing native vegetation (ENV).

Figures 4 and 5 of the *North West Growth Centre Water Related Services for first release precincts Modification Assessment Report* (Modification Assessment Report) show the locations of proposed infrastructure and the extent of the flora and fauna surveys. However, OEH notes that Figure 1 of the report shows some sections of wastewater infrastructure in addition to those shown in Figures 4 and 5, along Hobart St, and along Bandon Road and Chapman Rd. Some sections of these proposed pipelines will impact on non-certified existing native vegetation (ENV) (e.g. along Chapman Rd). The information provided suggests these additional areas were not surveyed as part of the flora and fauna surveys. If this is the case, it is recommended that additional surveys are undertaken in these areas, given the number of records of threatened species and ecological communities in the study area.

Section 3.2.2 of the Ecology report (Appendix D) states that one 20 x 20 m quadrat survey was undertaken to determine the presence of 'derived native grassland' across the study area, and that cover/abundance data was collected in the quadrat using a modified Braun-Blanquet scale as described in Table 3.1 of the report. Section 3.2.3 of the report defined a quadrat as 'derived native grassland' if it was found to contain ten or more positive diagnostic groundcover species for Cumberland Plain Woodland. It is noted that only eight positive diagnostic groundcover species were found, therefore the report concludes that there is no derived native grassland present in the field assessment area. However, OEH considers that the quadrat data suggests that derived native grassland is present. Table A.2 of the report states that two native grasses scored a cover/abundance of '4' (i.e. 50-75% cover each), and one grass and two herbs scored a '3' (i.e. 25-50% cover each), which implies that although the diversity in the quadrat was low, the cover of native species is quite

high, which suggests that the site (and perhaps other areas of the field assessment area) contain/s derived native grassland.

Under the biodiversity certification, native vegetation is classified as ENV if it has a patch size greater than 0.5 ha. Section 3.2.3 of the Modification Assessment Report states that there are a few sections on the Chain of Ponds Carrier where vegetation removal would result in patches of ENV in non-certified areas no longer meeting the minimum size criteria of 0.5 ha. The report also states that Sydney Water will restore these directly impacted areas. However, Statement of Commitment (SoC) 13 states that not all areas of ENV will be restored, but that priority will be given to those that are in moderate condition and form part of a larger patch. OEH is unclear whether these areas along the Chain of Ponds are therefore planned to be rehabilitated. Even if they are rehabilitated, SoC 14 suggests that their rehabilitation will be compromised by ongoing maintenance (i.e. "the plants used in any natural regeneration or replanting activities will need to be compatible with future maintenance requirements"). From these statements, it appears that some conservation values will be lost from these remnants.

Areas of ENV that will be fragmented so that they no longer meet the Growth Centres Biodiversity Certification definition of ENV of having an area greater than 0.5ha can no longer be classified as ENV. To ensure that the above impacts on ENV do not compromise the requirement for the 2,000 hectares of ENV to be achieved, OEH considers the areas that will be fragmented to create smaller than 0.5 ha areas of vegetation as a result of the works need to be offset. The ENV areas to be offset should be recalculated to include the areas of ENV that will be fragmented to a size smaller than 0.5 ha.

OEH notes that the proposal includes pipelines located within the conservation area adjacent to Sydney St. The conservation area that is subject to relevant biodiversity measure (RBM) 12 of the biodiversity certification of the Growth Centres SEPP contains medium and high conservation value vegetation that was identified for conservation as part of the overall certification package. Any development within these lands is restricted and native vegetation on these lands is to be retained and protected. Over time these areas will be acquired and transferred in to public ownership. These lands are intended to be wholly managed for conservation or recreation purposes. It is therefore the preference of OEH that the area not be disturbed with infrastructure that requires clearing and ongoing maintenance.

Section 2.3 of the Modification Assessment Report states that the pipelines within the conservation area will be restricted to the road verge, and/or underboring will occur, so that no vegetation classed as RBM 12 within the conservation area will be cleared. The report also states that the bored section of the pipeline will be constructed to be maintenance-free. However, OEH is concerned that the trenched section of this pipeline along Hobart St will not be maintenance free and so rehabilitation of this area will be compromised. OEH is also concerned that the proposed works may have indirect impacts on the vegetation within the conservation area (from compaction, weed invasion, erosion and sedimentation). OEH notes that the Ecology Report recommends that a Plan of Management is prepared to manage and mitigate impacts during and post-construction, but this recommendation is not included in the Modification Assessment Report.

Section 3.2.5 of the Modification Assessment Report states that 0.12 ha of non-certified ENV will need to be offset as a results of this proposal. The report also states that the offsets required for this 0.12 ha will be incorporated into other offsets, which are being developed for the second release precincts of the NWGC and which will be negotiated and secured prior to construction. OEH supports this approach and timeframe for the offsetting proposal. Please note that the quantum of area to be offset will need to be revisited given the above comments in relation to the fragmentation of ENV.

OEH notes the SoC that relates to the provision of suitable offsets does not detail the timing of the offset being secured. OEH recommends that the offset be secured prior to the commencement of construction.

The Revised Statement of Commitments 11-21 (Appendix C) includes a number of measures to avoid or mitigate impacts on terrestrial flora and fauna. OEH supports the inclusion of these statements in any approval conditions.

**Aboriginal Cultural Heritage**

The assessment by Archaeological and Heritage Management Solutions Pty Ltd (AHMS, August 2011) has provided a description of the levels of disturbance along the proposed route of the services. The conclusion of this assessment is that there is low potential and that no further work is required. It is then unclear why the consultants suggest that some sections of the routes be relocated as there is no rationale to support such a recommendation.

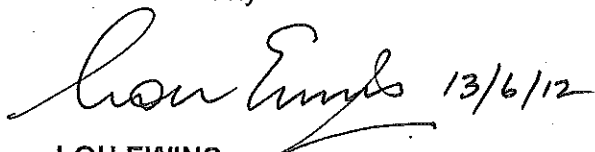
OEH endorses that no further assessments be undertaken.

The report notes that if Aboriginal objects are found then the matter should be referred to OEH. OEH does not have a role with respect to the regulation of Aboriginal objects located or harmed pursuant to Part 3A provisions of the Environmental Planning and Assessment Act. OEH does not therefore agree to be the contact in the event that Aboriginal objects are located. DoP&I should resolve the issue through appropriate conditioning of the approval. One such option could be the reburial of any objects located on site in accordance with the procedures set out in Requirement 26 of the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW.

Please note OEH's written agreement must be obtained for all conditions of approval or statement of commitments that bind the agency.

If you have any queries regarding this matter please contact Liz Peterson on 9995 6841.

Yours sincerely



**LOU EWINS**  
**Planning & Aboriginal Heritage**  
**Conservation & Regulation, Metropolitan**  
**Office of Environment and Heritage**



## Department of Primary Industries

OUT12/11622

18 JUN 2012

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

Email: Belinda.Scott@planning.nsw.gov.au

Dear Ms Scott

**Re: Request for comment on Modification 3 to approved Major Project for water-related services for Stage One Precincts, NW sector (07\_0125 Mod3)**

Reference is made to your letter dated 22 May 2012 inviting comment on the above matter from the Department of Primary Industries.

Attached is advice from the NSW Office of Water. For further enquiry on these matters please contact Janne Grose, Planning and Assessment Coordinator at the Office of Water (Penrith office) on 4729 8262 or by email at: [janne.grose@water.nsw.gov.au](mailto:janne.grose@water.nsw.gov.au).

Fisheries NSW raises no objection to the proposed amendments and changes to the Statement of Commitments but notes that it is important that the risk of erosion and sedimentation from any excavated sites within riparian zones is minimised by:

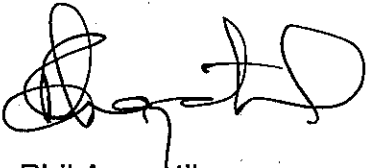
- (i) staging works to reduce the exposure period of excavated un-vegetated sediments,
- (ii) using appropriate erosion and sediment control measures during construction, and
- (iii) stabilising and restoring excavated sites as soon as possible after construction is complete.

For further enquiry on these comments please contact Carla Ganassin, Conservation Manager Fisheries NSW (Cronulla office) on 9527 8552 or by email at: [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au).

Agriculture NSW has requested that the design enables maximisation of the reuse of water by providing alternatives for on-farms irrigation supply, and that impact on agriculture land where traversed by pipelines be minimised by following the Agriculture NSW Fact Sheet *Infrastructure Proposals on Rural Lands*. This Fact Sheet can be found at: [www.dpi.nsw.gov.au/environment/landuse-planning/agriculture/infrastructure-proposals](http://www.dpi.nsw.gov.au/environment/landuse-planning/agriculture/infrastructure-proposals)

For further enquiry on these agriculture matters please contact Andrew Docking, Acting Leader Regional Services Land Use, Agriculture NSW (Richmond office) on 4588 2128 or by email at: [Andrew.Docking@dpi.nsw.gov.au](mailto:Andrew.Docking@dpi.nsw.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Phil Anquetil', with a stylized flourish at the end.

Phil Anquetil  
**Executive Director Business Services**

## ATTACHMENT A

### Comment by NSW Office of Water on Modification 3 to approved Major Project for water-related services for Stage One Precincts, NW sector (07\_0125 Mod3).

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Note that the former Department of Water and Energy provided a detailed submission dated 4 April 2008 on the Environmental Assessment for the initial application for this major project.

The NSW Office of Water (Office of Water) has reviewed the Modification Assessment Report (MAR) for the current proposal and provides the following comments:

#### **Riparian Land**

Table 2 of the MAR indicates that the key drivers for the change to the approved project are to minimise environmental impacts and address topographical constraints. The MAR notes it is proposed to realign four sections of the Chain of Ponds wastewater pipeline. There are anomalies in the MAR in respect of the proposed Alignment C. It is recommended Alignment C is located outside the riparian corridor.

Section 3.1.2 of the MAR notes the realignment of the Chain of Ponds Carrier results in no additional creek crossings compared to the approved alignment. The MAR states all creek crossings would be underbored except where underboring would cause more impacts than trenching. It is not clear why a detailed assessment has not yet been undertaken to determine the appropriate creek crossing methodology. As previously advised in the EA submission, the Office of Water recommends the underboring commences from the outer edge of the riparian corridor and that it is bored for the full width of the watercourses, core riparian zone and vegetated buffer.

The MAR discusses the location of a sewage pumping station (SP1154), and indicates that SP1154 will be located outside the riparian corridor along Killarney Chain of Ponds. The Office of Water supports such a setback.

#### **Groundwater**

Section 3.5.2 of the MAR notes groundwater will be encountered during construction but at this stage it is not possible to determine the likely volumes of groundwater that will be encountered during construction. The MAR notes approvals under sections 89 and 90 of the *Water Management Act 2000* are not required. As previously advised in the EA submission, a licence under the *Water Act 1912* may be required from the Office of Water for any dewatering activities. The Office of Water will assess the need for a bore licence for temporary dewatering purposes once more detailed information is available. If so, information will be required on the extent of any dewatering such as pumping volumes, flow rates, water quality etc.

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