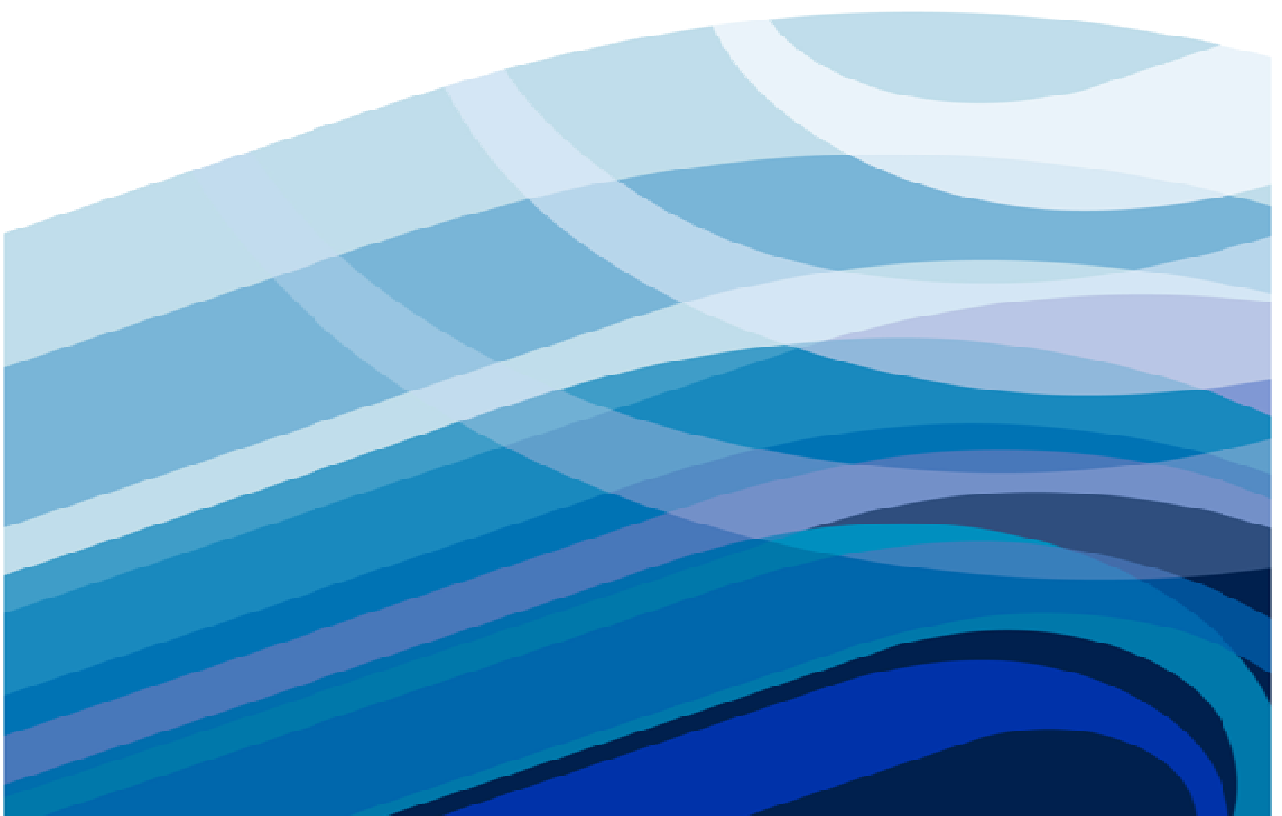




Southern Sources Integration Assets - Strategic Environmental Assessment Response to Submissions

**FINAL
July 2010**





DOCUMENT RECORD

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EXECUTIVE SUMMARY

The Strategic Environmental Assessment (SEA) report for the Southern Sources Integration Assets Project was available to the public to view and make comment on during the formal public review period from the 12th October 2009 to the 21st December 2009.

Consultation with the public and stakeholders was undertaken throughout the formal public review period via the following avenues:

- Letters and copies of the document sent directly to stakeholders;
- Letters sent to landowners informing them about the public review period, public information sessions, where to obtain a copy of the document, and how to make a submission;
- Advertisements in local and state newspapers;
- Three public information sessions attended by the project team and members of the public;
- Meetings with Shire representatives; and
- Meetings and correspondence with specific landowners and interested parties.

There were twelve submissions received via the formal EPA process during the public review period. Three of these submissions were to state that the relevant department/agency felt that the Water Corporation had adequately addressed their concerns and no further comments were required. The main topics discussed in the remaining seven submissions were:

- Justification for chosen route alignments;
- Minimisation of clearing and determination of offsets;
- Dewatering objectives during construction;
- Social Issues; and
- Process of derived proposals.

This document is a response to the formal submissions received during that period and discusses each of these topics, and any others that were raised in the submissions.

1 BACKGROUND AND OVERVIEW

1.1 Environmental Assessment Process

The Southern Sources Integration Assets (SSIA) project was referred to the Environmental Protection Authority (EPA) of WA, to determine level of assessment, in August 2006. The project was set at Strategic Environmental Assessment (SEA) Level of Assessment in November 2006. No appeals were received on the LOA. The Environmental Scoping Document (ESD) for the SSIA project was prepared and released publicly in June 2007 for a period of two weeks. The submissions received during this period were addressed and an outline of the submissions and responses were included as an appendix to the SEA document. The SEA document was submitted to the EPA in July 2009 and released for public comment on the 12th October 2009. The SEA formal public review period closed on the 21st December 2009.

1.2 Public Consultation

Consultation with the public and stakeholders was undertaken throughout the formal public review period.

1.2.1 Letters and Copies to Stakeholders

Letters accompanying copies of the document were sent to the relevant stakeholders as per the list provided by the EPASU assessing officer. Stakeholders identified during the ESD phase were also included in the mailing list.

1.2.2 Letters to Landowners

Letters were sent to landowners on the 12th October advising them that the formal public review period for the SSIA SEA had commenced. The letter outlined the duration of the public review period, where they could obtain a copy of the document and the dates, times and venues of the public information sessions. The letter was accompanied by an informative brochure, FAQs about the project, and a flyer on how to make a submission.

1.2.3 Newspaper Advertisements

The release of the SEA for public review was advertised in the West Australian on Monday the 12th of October. Advertisements of the release of the SEA for public review were also placed in the following local newspapers:

- Comment News;
- Examiner Newspaper;
- Weekend / Kwinana Courier;
- Rockingham Sound Telegraph.

The advertisement included information regarding the proposed public information sessions.

1.2.4 Public Information Sessions

Three public information sessions were held during the public review period. Project team members made themselves available to provide information to the public, discuss the document, provide maps and answer any questions. They were held on the following dates:

- 4th November – Serpentine-Jarrahdale Community Recreation Centre;
- 11th November – Mundijong Pavilion; and
- 2nd December – Serpentine-Jarrahdale Community Recreation Centre.

Most of the attendees to these events generally wanted more information about the project and how it would impact them/their property. Attendees were invited to take a DVD copy of the document and also were provided with flyers on how to make a submission.

1.2.5 Shire Briefing

The Shire of Serpentine-Jarrahdale is the shire within which the majority of the project area falls. The Shire Council was briefed by Brian Robertson on Tuesday, 3 November 2009.

1.3 Purpose of Document

This report has been prepared to meet the requirement under Section 9.2 of the EPA's Gazetted Administration Procedures. *"The proponent will be required by the Authority to provide a written response to issues raised during the public review. This is an opportunity for the proponent to clarify or review and modify aspects of the proposal to address environmental issues and to meet the Authority's environmental objectives."* (EPA, 2002).

2 SUBMISSIONS AND RESPONSES

There were twelve formal submissions received in total. Three of these submissions stated that the relevant department/agency felt that the Water Corporation had adequately addressed their concerns and no further comments were required. These submissions are outlined below in Table 1.

Our Ref#	Submission on Behalf of	Summary of Comments
A	DEC – Grant Lamb	“The Water Corporation’s Southern Sources Integration Assets (SSIA) strategic environmental assessment attempts to provide for a forward planning approach to secure corridors of land throughout south metropolitan suburbs of Perth, for future installation of water and wastewater pipelines and associated infrastructure. The Department has been involved in draft iterations of this assessment and is satisfied that the Water Corporation has adequately addressed DEC’s concerns. In that regard, the Department considers that the assessment documentation adequately addresses the Department’s requirements, and provides no further comment.”
B	DIA	“Please be advised that DIA has no comment as the proponent is compliant with the provisions of the Aboriginal Heritage Act 1972 (AHA). Consultative surveys are complete and unavoidable impacts have undergone mitigative redesign. Notices seeking Ministers consent under section 18 of the AHA will be submitted as required.”
C	Western Power	“No issues to raise. Western Power has no comment or concerns regarding the Southern Source Integrated Assets Pipeline Corridor.”

Table 1. Submissions – DEC, DIA and Western Power

The remaining submissions are responded to separately in the following sections.

2.1 Submission 1 – Landowner 1 (Anonymous)

Table 2 outlines the submission was received from an anonymous landowner, and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
1	<p>The landowner’s main issue is the crossing of the railroad and Wright road twice between Summerfield road and Mundijong road. The landowner suggests the pipeline should take an alternate route, specifically continuing on the west side of the rail corridor between Summerfield and Mundijong roads. The landowner believes this would be a more economically and socially beneficial alignment based on the following reasons they have outlined:</p> <ol style="list-style-type: none"> 1. Less landholders to deal with; 2. Less engineering work as it would not have to cross rail infrastructure or major roads (Wright Road in this section) and all the social interference this would cause; 3. The pipeline route would be straight which would mean less ongoing maintenance in future; 3. Less suburban interaction, there is and will be in the future plenty more suburbia on the eastern side of Wright road than on the western side of Wright road in this area; 3. There will be a lot more social issues and interaction by placing the corridor along the eastern side of the rail corridor proposed route; 4. There will be a much larger exposure to public safety because it has to cross twice major public infrastructure; 5. There are the same environmental issued on both sides of the rail corridor in this section of the proposed corridor. 6. I believe the proposed route should be rejected because it is the least favoured route for all the stakeholders in its current location in the section between Summerfield and Mundijong roads. It should be place somewhere on the western side of the railway line. 	<p>The alignment of the pipeline along the western side of the railroad reserve adjacent to Wright Road, Mardella, was ruled out due to environmental and social constraints. Along the western side is a large area of remnant vegetation (Figure 1), which is within the buffer of a Conservation Category Wetland, and extends for a length of approximately 500m directly adjacent to the rail reserve. This vegetation provides an ecological linkage for fauna movement. Also on the western side are two residential premises that are less than 10m from the boundary of a vegetation community mapped as bush forever which is directly adjacent to the rail reserve. If the pipeline were to go on the western side it would need to go around these two houses and as such would dissect the property. This would also increase short term construction costs and the long term operational costs due to additional friction losses.</p> <p>All constraints including environmental, social, infrastructure and engineering were taken into consideration during the route selection process.</p> <p>The infrastructure and environmental constraints on the Western Side of the rail reserve outweighed the engineering constraints of doing the two crossings, which will be thrust bored and cause minimal inconvenience to road users.</p> <p>The road crossings will be thrust bored, so there will be negligible danger to road users. Public Safety will be managed in accordance with a Public Safety Management plan that will be prepared at the time of derived proposals. Locating services within the rail reserve is not tolerated for reasons of safety to operations personnel and risk of damage to track infrastructure.</p>

Table 2. Submission 1 – Landowner 1 (Anonymous)

2.2 Submission 2 – Shire of Serpentine Jarrahdale

Table 3 outlines the submission received from the Shire of Serpentine-Jarrahdale, and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
2	<p>Overall specific requirements coming out of the Serpentine Jarrahdale Shire’s submission will apply as follows:</p> <ol style="list-style-type: none"> 1. All attempts are to be made to minimise any clearing trees or vegetation due to the high biodiversity value of the majority of the vegetation possibly being affected. The majority of vegetation possibly to be affected is important and protected under either under State or local government policy (See Environmentally Significant Areas and the SJ’s Draft Biodiversity Planning Local Planning Policy). 2. Alignments should minimise any impact visually including going under creek lines where no indigenous people’s opposition occurs. Where tree removal occurs, the SJ Draft Revegetation Local Planning Policy exists to include an offset of up to 10 to 1 replacement which could be made up of a combination of scrubs and trees. 3. Any crossing of the pipeline through any vegetated verge will need to be tunnelled underneath the ground to clear and have no impact on verge vegetation. 4. Land is to be secured from landowners in preference to either local government or Main Roads road verges and all excavations and filling following burying pipes will need to re instating to the original condition including soil profile, fencing and pasture. 	<ol style="list-style-type: none"> 1. During the first preliminary design phase, and subsequent corridor refinement and re-alignment, all efforts have been made to avoid areas of native vegetation, specifically along areas of conservation significance including TECs along Soldiers and Patterson roads and all Bush Forever sites. The Water Corporation has also made a commitment to tunnel-boring, under identified areas with known TECs and DRF populations (see section 3.7 of the SEA Document), to minimise vegetation clearing, and corridor minimising from 100m to 30m at crossings of wetlands of conservation significance to minimise impact to the Wetland and associated vegetation. 2. Members of the local native title claimant groups have requested that the pipeline be suspended above the water at the crossing of Wungong and Cardup brooks. Where there are no Aboriginal Heritage constraints the Water Corporation will install the pipelines using open trenching technique and the pipeline will remain underground. Offsets will be determined at the derived proposal stage when the actual area of vegetation to be cleared for each individual pipeline component will be known. Offsets will be determined in accordance with the Water Corporations proposed Environmental Offsets Guideline. A table identifying the proposed ratio’s for offset of vegetation dependant upon assessed condition (based on the Keighery scale) is detailed below (Section 2.3 Table 5). 3. The Water Corporation has committed to tunnel-boring under some crossings of native vegetation contained within Bush Forever Sites, specifically along the Mundijong Road alignment, and under all identified areas with known TECs and DRF populations. This commitment is discussed throughout the SEA document, and is outlined in Executive Summary Table 2 on a route-by-route basis. 4. The Water Corporation’s preference is to purchase the corridors from the landowners, and have the corridors reserved in the MRS for public utilities/water supply purposes. Where possible the land will be available for use by the original land owner or for conjunctive use, such as drainage swales through subdivided

5. A fence line will be erected through the private property development area and removed without any evidence of its ever existing for the short duration of the pipeline burial.

6. Alignments are to include Mundijong Road, Wright Road with preferred north south alignment being along the Future Tonkin Highway Extension only. The preferred west east connection from Tonkin Highway will be along the centre of Abernethy Road and along the Edge of the rail reserve going north.

7. The Mundijong Road Alignment will need to avoid the revegetated areas along any subdivided areas such as the Webb Road Subdivision.

8. Careful design consideration will be required along Abernethy Road where any necessary access points for maintenance will need to be considered in terms of adequate setbacks from areas of vegetation.

9. From Abernethy Road northwards the Rail Reserve and adjacent road Reserve along George Road should be used to minimise impact to the Byford Entry Statement Locality Area. Some offset should be negotiated for this area of disturbance crossing Thomas Road.

10. The other possible north south alignment corridors are not supported such as Soldiers Road, due to possible vegetation loss and traffic management considerations.

11. Follow up monitoring is to occur reinstatement for 5 years after instalment.

land.

5. As specified in the Construction Environmental Management Framework (in the “Land Clearing and Trench Management” Plan), prior to clearing on each lot, the construction corridor in agricultural land will be fenced where there is a risk of livestock (cattle or sheep) entering the open trench. The fence will be a 5 strand wire fence strained with posts and will be connected to the existing fences in each lot. The fence will be electrified where the existing fences in the lot are electrified, with strand heights at 200mm (earthed), 400mm (earthed), 600mm (electrified), 800mm (earthed) and 1000mm (electrified) above ground level.

6. Once the EPA has determined which of the corridors are environmentally acceptable the project will then go back into a planning phase to determine which routes will be required for the long term development of the IWSS. The Corporation supports the north-south route along Tonkin Highway and the east-west connection along the centre of Abernethy Road.

7. Where revegetated areas along proposed routes cannot be avoided, in order to maximise preservation of remnant vegetation, these areas will be offset by revegetating an equivalent area adjacent to the proposed corridor.

8. Access for maintenance will be considered during the design phase.

9. The rail reserve is reserved for PTA assets. Offsets will be as per agreement with EPA. Routes utilised will be those with acceptable environmental impacts.

10. The north south alignment along Soldiers Road, Mundijong, runs directly adjacent to the areas of native vegetation and the Water Corporation has committed to installing the pipeline within the previously developed areas of the road reserve (i.e. footpaths, road shoulder and sealed areas). No vegetation in the Bush Forever site along Soldiers and Patterson Roads will be cleared.

11. There is to be a three year monitoring period for weed management and a 5 year monitoring period for all native vegetation rehabilitation and revegetation works. The growth success of rehabilitation works on agricultural land will be monitored for a period of one full spring following seeding and fertilising.

<p>12. Attention to detail will be required particularly with the two crossings under verge vegetation on the Bush Forever Site scientific reference area which includes critically endangered threatened ecological communities protected under the EPBC Act on Mundijong Road.</p> <p>13. The Wright Road corridor is also critical in that it needs to be aligned to not impact on any important vegetation and where tunnelling should occur to keep disturbance at an absolute minimum.</p>	<p>12. The pipeline will be tunnel bored beneath the TECs to avoid disturbance due to the final pipeline alignment. The TECs intersected by this route are SCP20b and SCP03a. It is noted that SCP03a is also a Commonwealth listed TEC. DRF species <i>Verticordia plumosa</i> var. <i>pleiobotrya</i> is also located at one of the crossings of Mundijong Road. The tunnel boring will not impact on the root system of this species. At the time of the derived proposals, site specific construction environmental management plans will be developed.</p> <p>13. The Water Corporation has committed to tunnel-boring underneath vegetation at the crossings of Wright Road. The alignment directly adjacent to the Road and Rail Reserve was chosen to minimise disturbance to native vegetation.</p>
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Table 3. Submission 2 – Shire of Serpentine-Jarrahdale

2.3 Submission 3 – Department of Planning

Table 4 outlines the submission received from the Department of Planning (DoP), and the Water Corporation's response.

Our Ref#	Summary of Comments	Response
3	<p>The Department of Planning previously commented on the Draft Environmental Scoping Document report, and made a number of recommendations in May 2007. The department considers that the Draft SEAR has addressed the previous concerns and responded to all recommendations sufficiently.</p> <p>The Appendices attached to the report are considered adequate.</p> <p>The SEAR indicates that approximately 8.5 hectares of bushland within seven Bush Forever areas are proposed to be cleared for this project. The use of trenchless technology to avoid impact on Bush Forever areas with high conservation significance is supported.</p> <p>The Department supports the preparation and implementation of Fauna Management Plans and Vegetation and Flora Management Plans as detailed in chapter 4 as part of the management strategies to protect the</p>	<p>Fauna management is included within the Land Clearing and Trench management Plan within the CEMF. These management plans will be updated and completed at the time of the derived proposals and made site-specific. At sites where there are particular issues relating to potential Carnaby's Cockatoo habitat, the management plans will cover this issue in depth and advice on these management plans will be sought from the DEC.</p>

<p>environmental values in the project area It is recommended that the Fauna Management Plans should address the protection of the Carnaby's Black Cockatoo where the remnant vegetation to be cleared is considered suitable habitat for the Cockatoo.</p> <p>It is noted in Chapter 5 (pg 2) that the Water Corporation proposes to offset any clearing at the Tamworth Hill Reservoir Site (up to 4.5 ha) by transferring Lots 1-6 Henderson Road and Lots 21-25 Lorimar Road, Munster to the department of planning at a ratio of 1.6:1 This land is then to be vested in the Conservation Commission of WA under the CALM Act 1984 for the purpose of conservation A maximum of 8.38 hectares is proposed to be transferred as an offset.</p> <p>It also states in Chapter 5 (pg 2) that 'clearing of areas other than at Tamworth Hill will be considered for offset in accordance with the 'Water Corporation Guidelines for Sustainability Assessment' and will be agreed on this basis at the time of submission of derived proposals'. Approximately 4 hectares of native vegetation within a number of Bush Forever areas have not been mitigated by the above proposed transfer of land, and this should occur in accordance with EPA Position Statement No 9 It is recommended that the Water Corporation liaise with the Department of Planning and the Department of Environment and Conservation regarding the further offsets required.</p>	<p>Offsets will be determined at the derived proposal stage, when the actual area of vegetation to be cleared for each individual pipeline component will be known. An offsets package will be prepared using the Water Corporation's Environmental Offsets Guideline (see table 5 below for offsets ratios) and in accordance with the EPA's Position Statement 9 and Guidance Statement 19. The DEC and DoP will be consulted throughout the process.</p>
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Table 4. Submission 3 – Department of Planning

The Water Corporation's Offsets Guideline proposes that environmental offsets for individual projects be provided on the basis of the quality of the vegetation being cleared using the Keighery Vegetation Condition Scale (Keighery, 1994) as tabulated below. Offsets provided in accordance with the Water Corporation's Offsets Guideline will also align with the Environment Protection Authority's Position Statement 9 and Guidance Statement 19.

Impact Level (Approach)	Condition ¹	Recommended Environmental Offset Ratio
Low (Preferred)	Completely Degraded	1:1
Low (Acceptable)	Degraded	
Medium (Negotiable)	Good	1:2
Medium (Not Desirable)	Very Good	
High (Not Desirable)	Excellent	1:3
Very High (Not Desirable)	Pristine	1:4

Table 5. Water Corporation Offsets Guideline – Recommended Offsets Ratios

¹ Adapted from Keighery Vegetation Condition Scale (Keighery 1994).

2.4 Submission 4 – Department of Water

Table 6 outlines the submission received from the Department of Water (DoW), and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
4	<p>The Department of Water (DoW) has reviewed the aforementioned document and wishes to provide the following advice:</p> <p>Construction Environmental Management System - Dewatering The Construction Environmental Management System (CEMS) correctly states that the Water Corporation will not require a licence under the Rights in Water Irrigation Act 1914 to conduct dewatering due to exemptions under the Water Agencies (Powers) Act 1984 However, with regard to the disposal of dewatered effluent the DoW recommends the following: Section 7.4 Management Actions - Dewatering to a Watercourse The Serpentine River, Peel Main Drain, and southern portion of the Birrega Drain are prescribed waterways under the Waterways Conservation Act 1976 The disposal of water into these waterways will be required to be licensed by the DoW under this legislation; Table 7.2 - Dewatering Discharge Objectives Turbidity has not been considered within the proposed water quality objectives for dewatered effluent Discharge to waterways should not result in an increase in turbidity over 10% of existing baseline conditions.</p>	<p>If at the time of the derived proposals it is determined unavoidable that the dewatering water be released into any of the prescribed waterways a licence will be sought from DoW. It is, however, Water Corporation’s aim to avoid dewatering to watercourses where possible.</p> <p>This condition, and others based on site-specific requirements, will be included in the CEMS prepared at the time of derived proposals.</p>

Table 6. Submission 4 – Department of Water

2.5 Submission 5 – Main Roads WA

Table 7 outlines the submission received from Main Roads WA, and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
5	<p>With reference to the recent Water Corporation newsletter titled "Southern Sources Integration Assets", Main Roads has reviewed the proposed likely corridors and would like to provide the following comments:</p> <p>1. Main Roads are responsible for the state network which includes in this area Tonkin Highway, Thomas Road from Rockingham Road to Tonkin Highway and South Western Highway In recent discussion with the Department of Planning, it has been suggested that Mundijong Road may become a "Primary Regional Road in the Metropolitan Region Scheme For your information, I have enclosed A3 copies of the current planning design concepts for Tonkin Highway, South Western Highway and Mundijong Road that supports the MRS With regards to Thomas Road, the ultimate planning design concept can be obtained from the Department of Planning.</p> <p>2. Due to the significant size of these proposed Water Corporation services, Main Roads would recommend that no longitudinal services be location within the current planned road reservation for roads under control of Main Roads including Mundijong Road. However, Main Roads would support a separate service corridor being located adjacent to the planned road reservations.</p> <p>3. Where access will be required to any part of the road reservation under control of the Commissioner of Main Roads, a site specific approval to enter the State road corridor including the road verge, must be obtained from the Main Roads. In addition, appropriate traffic management plans must be prepared and put into effect to ensure adequate levels of safety are maintained. Where it is necessary to remove or modify any traffic signs or road markings, Main Roads' Manager Metropolitan Traffic Operations (Mr Craig Wooldridge on 93234252) must be informed prior to commencement of works and reinstatement costs are to be met by the proponent or its contractors.</p>	<p>1. The Water Corporation appreciates the information provided by Main Roads in relation to the future developments of Mundijong Road. The Water Corporation has taken this into account and believes that the corridor alignments are unlikely to be impacted by these changes.</p> <p>2. Most of the proposed routes reflect the comments of Main Roads WA, and are aligned adjacent to the road reserves. This comment raises the longer term issue of consistent planning in developing corridors for both providers.</p> <p>3. Water Corporation will seek the appropriate approvals, regarding access, from Main Roads prior to construction. Traffic Management Plans will be prepared, specific to each construction location, at the time of preparation of the derived proposals. Water Corporation will liaise with Main Roads on their requirements at the time of design and construction of individual project components.</p>

Table 7. Submission 5 – Main Roads WA

2.6 Submission 6 – Landowner 2 (Anonymous)

Table 8 outlines the submission received from an anonymous landowner, and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
6	<p>We wish to submit the strongest objection against the planned pipeline route(s) passing through our property along both Mundijong and Kargotich Roads.</p> <p>1. Our land, that is proposed to be utilized, is prime and productive farmland and has been so for 100 years. It lays adjacent to a road and rail reserve along Mundijong Road which although labeled "bush foreve? is primarily scrub,. The pipeline could be laid within this reserve to then revert to its existing re-growth without the need to invade freehold land.</p> <p>1.1 A local nursery has propagated endemic local plant species to ensure their continuity and these could be replanted onto the reserve following the pipeline installation thus conserving the types.</p> <p>1.2 A cleanup of the reserve could be utilized to remove the years of induced weed species that are prolific throughout the re-growth.</p> <p>2. Within the proposed corridor, on our land, is the site of one of Mundijong's original farmhouses being the residence of the Hummerston family. Remains of the residence in the form of brickwork, foundations and household artefacts are present together with planted trees, garden bulbs and a well, confirming this location as having historic value</p> <p>2.1 The well, having been in existence for 100 years, is critical to our farm operation as it is the source of stock water for every paddock on our 135 acre farm</p> <p>3. With the planned road widening and your proposed pipeline corridor, we stand to lose approximately 40,000 square metres from our Mundijong Road frontage being worth \$900,000 on today's values.</p>	<p>Bush Forever protection areas are identified and classified by the Department of Planning WA (DoP). The Water Corporation accepts the DoP's classification of this area as Bush Forever and as such, works toward preserving and enhancing this native vegetation.</p> <p>The vegetation within the particular bush forever reserve in question, i.e. on the south side of Mundijong road at this location, is made up of the following two communities:</p> <p>Community S3: Open Scrub of occasional Casuarina obesa over Melaleuca viminea subsp. Viminea and Melaleuca lateriflora over Meeboldina cana in inundated brown clay loams. This community has been identified as equivalent to the TEC SCP09 – “Dense shrublands on clay flats” which is currently listed as ‘Vulnerable’ by the DEC.</p> <p>Community HS1: Tall Open Shrubland of occasional fringing Corymbia calophylla over Melaleuca uncinata, Melaleuca raphiophylla and Actinostrobilus pyramidalis over Verticordia plumosa var pleiobotrya (DRF) and Regelia ciliata with occasional Hakea marginata over *Babiana angustifolia, *Eragrostis curvula and Schoenus curvifolius on damp brown clay loam. Verticordia plumosa var Pleiobotrya is listed as Declared Rare Flora in WA.</p> <p>Both of these communities have been mapped as Good- Degraded condition and are considered to be potential habitat for fauna species of state and commonwealth significance and are therefore of high conservation significance.</p> <p>The productive farmland will be restored to its former capability following construction of the pipeline, and will be accessible to the landholders for that use following completion of the works. The property owners will only lose productive capacity of their land for the duration of the construction period. Landowners will only be limited from planting trees or constructing building</p>

<p>4. Should the corridor along Kargotich Road also be taken up, we would also lose another 24,000 square metres thus reducing our property value by a further \$500,000.</p> <p>5. The total area equates to 6.4 hectares of lost productive farmland</p> <p>5.1 This corridor includes productive clover pasture utilized for hay production as part of our annual farm income together with pasture for cattle grazing.</p> <p>5.2 With planned corridors on two road frontages restrictions will be placed on both access and future values when subdivision into 4.5 hectare lots progress. Potential buyers would be deterred with negative affect weighing on land values.</p> <p>6 The land values stated are only the direct losses incurred and do not take into account the indirect effects these excised portions would have when subdivision into 4.5 hectare lots occurs.</p> <p>7 For the Kargotich Road proposed corridor our land is zoned "Farmlet" and includes natural stands of Casuarina trees whereas the land to the western side of the road is zoned "Rural" and is treeless therefore being far less effected by the planned corridor.</p> <p>In Summary: Our main concern is that our productive freehold farmland may be resumed to our detriment when an adjacent dormant, weed infested, unused, scrubland corridor exists which could accommodate the pipeline and then revert to its former scrub re-growth and therefore "bush forever" without disturbing our farmland This corridor formerly included an active rail line and has re grown to its present state demonstrating that re-growth would occur once the pipeline was laid.</p>	<p>above the pipeline.</p> <p>The Water Corporation will protect the site of possible historical value where practicable. The final pipeline alignment will take into account the impact to this site and the integrity of the well will be preserved or if unavoidable replaced at Water Corporations expense.</p> <p>The Water Corporation will arrange independent property valuations, the outcome which will be discussed with the landowners. The valuers will consider the impact the procurement of the corridor will have on the utilisation of your land together with the market value of that land.</p> <p>The trees that remain on the property are a mix of introduced species and two native species Casuarina obesa and Melaleuca raphiophylla. Although native, they are degraded vegetation remnants consisting of only native mature trees or shrubs over pasture weeds and horticultural grasses (predominantly *Ehrharta calycina, *Ehrharta longiflora, *Euphorbia terracina, *Briza maxima and *Lolium rigidum).</p>
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Table 8. Submission 6 – Landowner 2 (Anonymous)

2.7 Submission 7 – Landowner 3 (Anonymous)

Table 9 outlines the submission from an anonymous landowner, and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
7	<p>1. Our understanding is that the project “will be implemented progressively between now and 2050, with each stage (choice of alignment, section of pipelines and associated infrastructure) subjected to an assessment as a Derived Proposal under the Environmental Protection Act, 1986 relevant to the proposed works and alignment chosen at that time”. From this statement I assume that more detailed environmental impact assessments will follow. We would hope these assessments would be expected to provide information on site specific issues such as to why the decision not to follow the railway alignment west of Wright Road was made.</p> <p>2. One key factor that does not appear to be discussed is the justification for the location of the Summerville PRV (which I assume to be Pressure Reduction Valve). This is the southern ‘end point’ of the system. It therefore influences most if not all pipeline route options. The SEA should discuss the advantages and disadvantages of this location along with others that could potentially serve the same function. Without such an assessment of alternatives the SEA is arguably deficient. (Refer Section 3, Appendix C)</p> <p>3. The SEA does contain a detailed description of how the pipeline routes were developed (Appendix C). The use of constraints mapping techniques is a standard approach however what is not explained well is how the actual routes themselves were derived (Section 3.3 and 3.5, Appendix C) and how the options were evaluated (‘Evaluation of Options’ Appendix C, Section 4.3).</p> <p>The example given and the Planning Balance Sheet do not provide enough</p>	<p>The alignment of the pipeline along the western side of the railroad reserve adjacent to Wright Road, Mardella, was ruled out due to environmental and social constraints. Along the western side is a large area of remnant vegetation which extends for a length of approximately 500m directly adjacent to the rail reserve. Also on the western side are two residential premises that are less than 10m from the boundary of vegetation mapped as bush forever which is directly adjacent to the rail reserve. If the pipeline were to go on the western side it would need to go around these two houses and as such would dissect the property.</p> <p>The SEA process establishes overall environmental approval for the routes as a whole. The derived proposals, for each portion, will then look at the detail of each route specifically. New alternatives will not be able to be considered within this process as the proposal may then not meet the requirements of a "derived proposal".</p> <p>2. The Summerfield PRV is a key existing asset/location at which point the SSIA works would link into existing IWSS infrastructure delivering water from southern water sources. It is located at the confluence of the Serpentine and Dandalup Trunk Main systems.</p> <p>3. The SEA process involves assessment of the environmental acceptability of route options determined through the MCA process (which is included as an appendix to the SEA document). The initial routes that went through the MCA process were determined by the location of existing key infrastructure of the Integrated Water Supply Scheme (IWSS). These three system points are - Tamworth Hill Reservoir, Mitchell Street PRV, and the Summerfield Road PRV. Due to rapid development through the area, and with a view to align with other infrastructure corridors where possible (i.e. road/rail), there were limited route</p>

<p>information to validate the preferred options described in the SEA. The derivation of the Performance Curves should also include more detail. Therefore would you please explain this to us in detail?</p> <p>4. The SEA (main document) does not appear to address social issues (other than passing references to noise, dust and traffic), notwithstanding that fact that social criteria are included in the Multi Criteria Assessment.</p>	<p>options able to be considered. The evaluation of these routes was then undertaken by identifying all relevant criteria against which the routes will be assessed, weighting the criteria (in consultation with working groups and stakeholder workshops) and rating the routes by overall performance against the criteria.</p> <p>The planning balance sheet was intended to summarise the evaluation of each route against each of the identified criteria, and was used as a tool to develop the performance curves for each set of route options.</p> <p>The identification of the highest performing route and/or site option cannot be done by inspection alone, due to the large number of criteria involved, the mix of quantitative and qualitative criteria and the different weightings applying to each. However, by summing the weighted scores for each criterion a total score for each option can be determined, which enables ranking of options by their total score. Furthermore, the criteria weightings and ratings can be transformed into performance numbers which cover a range of uncertainty. This uncertainty can be expressed as a 'level of confidence' covering the range 0 - 100%. For example, at the 100% confidence level, a rating of "fair" can be assigned a performance score of 0.5. For confidence levels less than 100%, the performance rating can be assumed to follow a normal distribution curve. Thus, at the 50% confidence level, a rating of "fair" could have a range of performance scores between 0.4 - 0.6, while at the 0% confidence level, the score for a rating of "fair" could be as low as 0.3 or as high as 0.7. This is akin to performing a sensitivity analysis. Performance numbers for the weightings and ratings shown in the planning balance sheet were determined from a normal distribution. The aggregate performance of each option was then determined and the results shown graphically in the form of a performance curve.</p> <p>4. The SEA by nature is an assessment of environmental impacts, and whilst some social issues have been included for completeness, they have not been the focus of this document.</p>
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Table 9. Submission 7 – Landowner 3 (Anonymous)

2.8 Submission 8 – City of Armadale

Table 10 outlines the submission received from the City of Armadale and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
8	<p>1. Erosion and sediment has not been addressed within the document as a potential environmental factor associated with the project. The risk of erosion and sedimentation on the Wungong River should be assessed and addressed, with management and mitigation measures being undertaken along all Routes to ensure this impact adequately addressed. (Chapter 4 Section 17 Summary of Environmental factors and Management)</p>	<p>1. If at the time of the derived proposals it is determined unavoidable that the dewatering water be released into any of the prescribed waterways a licence will be sought from DoW. It is, however, Water Corporation’s aim to avoid dewatering to watercourses where possible. This condition, and others based on site-specific requirements, will be included in the CEMS prepared at the time of derived proposals.</p>
	<p>2. The plan details the offsets associated with clearing at Tamworth Hill Reservoir Site, however it is unclear if the Water Corporation will be offsetting for any vegetation impacts associated with Conservation Category Wetlands, Resource Enhancement Wetlands, Threatened Communities and Species, Bush Forever Sites, or the destruction of habitat of threatened fauna. Any offsets should also be discussed with the relevant Local Authority to ensure the most suitable outcome for all parties can be found (Chapter 5 Environmental Offsets).</p>	<p>2. Offsets will be determined at the derived proposal stage, when the actual area of vegetation to be cleared for each individual pipeline component will be known. An offsets package will be prepared using the Water Corporation’s Environmental Offsets Guideline (see table 5 below for offsets ratios) and in accordance with the EPA’s Position Statement 9 and Guidance Statement 19. The DEC and DoP will be consulted throughout the process.</p>
	<p>3. The proposed location of Route E appears to extend into a small portion of, and run adjacent to, Bush Forever Site 264. This should be identified in the document and tunnel boring techniques should be used at this site (Table 2 Executive Summary “Bush Forever”).</p>	<p>3. The Water Corporation has committed to tunnel-boring in specified areas of Bush Forever, Heddles Complexes and in areas identified as containing known TECs and DRF populations. This commitment is discussed throughout the SEA document, and is outlined in Executive Summary Table 2 on a route-by-route basis.</p>
	<p>4. The City of Armadale should be notified in advance of any works occurring along Route E around Fletcher Park and its associated Threatened Ecological Community and Bush Forever site, and given the opportunity to discuss these works at the time (Chapter 4 Section 7).</p>	<p>4. The Water Corporation recognises that community and stakeholder involvement is an important aspect of the SSIA project and as such a Communications Strategy has been developed. The objectives of the Communications Strategy adopted and include strategies to engage key stakeholders and the public regarding the staging, progress and address any concerns that may arise from the SSIA project.</p>
	<p>5. Water Corporation recently undertook extensive excavation works for the Wungong Trunk Main, which extended under the railway reserve and down Mitchell Street, Wungong. This project involved the removal of a number of <i>Xanthorrhoea preissii</i> and <i>Corymbia callophylla</i> individuals. It is suggested that to reduce the potential impact of more infrastructure works</p>	<p>5. The SSIA project will be adjacent to the Wungong Trunk Main.</p>

	<p>on the area, where possible, the existing infrastructure be used.</p>	
	<p>6. Route 1 The following relates to information provided in Table 2 of the Executive Summary:</p> <ul style="list-style-type: none"> • “Bush Forever” – the document states that “No Bush Forever Sites are intersected by this proposal route”, however, the proposed route as indicated on Figure 3.5 is directly adjacent to Bush Forever Site 344 and 345. The potential impacts of this Route and the Bush Forever Sites should be documented and it should be noted that these sites will not be impacted on during the proposed works. • “State Listed Fauna” – the Department of Environment of Conservation Threatened and Priority Fauna database lists two species of Threatened Fauna under the Wildlife Conservation Act along Route 1. These have not been identified in the document and the location of these species and habitat requirements should be considered during the project. • “EPP Lakes” – an Environmental Protection Policy (EPP) lake occurs adjacent to Nicholson Road between Oxley Road and Rowley Road, Forrestdale, that has not been identified in the document. It appears that the alignment of Route 1 is adjacent to this EPP Lake (and Conservation Category Wetland). This should be noted and management and mitigation measures should be implemented to ensure there are no impacts on any EPP Lakes along any of the Routes. <i>(Information found: Register areas for Lakes, EPP 19192 Swan Coastal Plain Environmental protection Policy, Environmental protection Authority & Geomorphic Wetlands, Swan Coastal Plain, Department of Environment and Conservation).</i> 	<p>6. The SEA process establishes overall environmental approval for the routes as a whole. Once the EPA has determined which of the corridors are environmentally acceptable the project will then go back into a planning phase to determine which routes will be required for the long term development of the IWSS. The derived proposals, for each portion, will then look at the detail of each route specifically.</p> <p>The Water Corporation has committed to tunnel-boring in specified areas of Bush Forever, Heddles Complexes and in areas identified as containing known TECs and DRF populations.</p> <p>The Water Corporation seeks to protect the environmental values and functions of wetlands in the project area and to protect, sustain and, where possible, restore the biological diversity of wetland habitats through sound management.</p> <p>Where avoidance of impacts is not possible, the Water Corporation will use management techniques to minimise or mitigate the effects during construction.</p>
	<p>7. Route 5 The following relates to information provided in Table 2 of the Executive Summary:</p> <ul style="list-style-type: none"> • “Aboriginal heritage” – the registered Aboriginal heritage Site 397 (South-East Corridor 08) has not been identified in the Plan. Route 5 appears to directly dissect this site. This site should be identified in the plan and appropriate steps taken under the Aboriginal Heritage Act 1972 relating to works around this site. <i>(Information accessed 1 December 2009 Register of Aboriginal Sites Aboriginal heritage Inquiry System Department of Indigenous Affairs).</i> 	<p>7. The Water Corporation has received the following comments from the Department of Indigenous Affairs (DIA) : “Please be advised that DIA has no comment as the proponent is compliant with the provisions of the Aboriginal Heritage Act 1972 (AHA). Consultative surveys are complete and unavoidable impacts have undergone mitigative redesign. Notices seeking Ministers consent under section 18 of the AHA will be submitted as required.”</p>

	<ul style="list-style-type: none"> The northern most point of Route 5 appears to border onto a Conservation Category Wetland (CCW) (UFI 15431) and would extend into the buffer for this wetland. The CCW and remnant vegetation should be avoided and management and mitigation measures should be implemented if this route is anticipated to impact on these assets. 	<p>The Water Corporation seeks to protect the environmental values and functions of wetlands in the project area and to protect, sustain and, where possible, restore the biological diversity of wetland habitats through sound management.</p> <p>Where avoidance of impacts is not possible, the Water Corporation will use management techniques to minimise or mitigate the effects during construction.</p>
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Table 10. Submission 8 – City of Armadale

2.9 Submission 9 – City of Rockingham

Table 11 outlines the submission received from the City of Rockingham and the Water Corporation’s response.

Our Ref#	Summary of Comments	Response
9	<p>1. City of Rockingham agree in principle with the intent and direction of the SSIA project and particularly supports the following:</p> <ul style="list-style-type: none"> The proposed site as environmental offset for any clearing undertaken at Tamworth Hill in the gazetted Bush Forever Site 356 (section 3, chapter 5) The use of tunnel boring techniques to avoid TEC SCP20b at Eighty Road (section 2.2.4), (section 3.2.4). <p>2. The City of Rockingham seeks that the proponent:</p> <ul style="list-style-type: none"> Clearly defines the difference between the proposed corridors, Zig Zag Road and Eighty Road (Section 3.1.4, Table 4.6). the provided map does not clearly distinguish between the two; and Be required to manage the proposed environmental offset site for the next 10 years, which includes both weed control and protection from fire, as proposed by the report prepared by Woodman Environmental Consultants (SEA report, Appendix G). 	<p>The SEA process establishes overall environmental approval for the routes as a whole. Once the EPA has determined which of the corridors are environmentally acceptable the project will then go back into a planning phase to determine which routes will be required for the long term development of the IWSS. The derived proposals, for each portion, will then look at the detail of each route specifically.</p> <p>Offsets will be determined at the derived proposal stage, when the actual area of vegetation to be cleared for each individual pipeline component will be known. An offsets package will be prepared using the Water Corporation’s Environmental Offsets Guideline (see table 5 below for offsets ratios) and in accordance with the EPA’s Position Statement 9 and Guidance Statement 19. The DEC and DoP will be consulted throughout the process.</p>

Table 11. Submission 9 – City of Rockingham

3 SUMMARY

The formal public review period for the SSIA SEA closed on the 21st December 2009. During the 10 week period the EPA received twelve formal submissions.

The Water Corporation feels that the submissions received have been adequately addressed by this document and that any proposed inclusions or modifications to specific environmental management aspects will be addressed at the time of derived proposals on a site-by-site basis. The Water Corporation does not see that any of the routes should be altered as a result of the submissions received as the route options currently included in the project are based on a rigorous assessment process that has been completed to result in the best environmental outcomes.

4 REFERENCES

Environmental Protection Authority, 2002. *Environmental Impact Assessment (Part IV Division 1) Administrative Procedures 2002*. Perth, WA.