



## Environmental Protection Authority

### **Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the *Environmental Protection Act 1986*.**

**EPA REFERRAL  
FORM  
PROPONENT**

#### **PURPOSE OF THIS FORM**

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) of the EP Act by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

#### **CHECKLIST**

Before you submit this form, please check that you have:

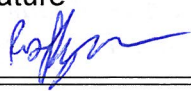
	Yes	No
Completed all the questions in Part A (essential).	✓	
Completed all applicable questions in Part B.	✓	
Included Attachment 1 – location maps.	✓	
Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable).	✓	
Included Attachment 3 – confidential information (if applicable).		
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but excluding confidential information.	✓	

Following a review of the information presented in this form, please consider the following question (a response is optional).

Do you consider the proposal requires formal environmental impact assessment?		
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not sure
If yes, what level of assessment? <b><u>Strategic Environmental Assessment</u></b>		
<input type="checkbox"/> Assessment on Proponent Information	<input type="checkbox"/> Public Environmental Review	

**PROPONENT DECLARATION** (to be completed by the proponent)

I, Rebecca Flynn declare that I am authorised on behalf of Water Corporation (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 	Name Rebecca Flynn
Position Acting Manager EIA and Approvals	Company Water Corporation
Date 12/09/2013	

## PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of Part A must be completed for this document to be treated as a referral)

### 1 PROPONENT AND PROPOSAL INFORMATION

#### 1.1 Proponent

Name	Water Corporation
Joint Venture parties (if applicable)	N/A
Australian Company Number (if applicable)	28 003 434 917
Postal Address (where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)	PO Box 100 Leederville WA 6902
Key proponent contact for the proposal: <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>	Bree Atkinson 629 Newcastle St Leederville WA 6007  PO Box 100 Leederville W.A. 6902  Ph: (08) 9420 2893 <a href="mailto:Bree.Atkinson@watercorporation.com.au">Bree.Atkinson@watercorporation.com.au</a>
Consultant for the proposal (if applicable): <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>	Jamie Shaw GPO Box B59 Perth 6849 6208 0199 <a href="mailto:Jamie.shaw@aecom.com">Jamie.shaw@aecom.com</a>

#### 1.2 Proposal

Title	Perth Northern Pipeline Corridors - Strategic Proposal
Description	<p><b>Background</b></p> <p>The Water Corporation is the principal supplier of water, wastewater and drainage services in Western Australia to hundreds of thousands of homes, businesses and farms, as well as providing bulk water to farms for irrigation. In order to maintain this service to the people of Western Australia, the Water Corporation has a long term planning horizon of up to 50 years. Within this planning horizon the Water Corporation has identified the need for a dedicated transfer main to the north of Perth that will be incorporated into the Integrated Water Supply Scheme (IWSS).</p> <p>Currently bulk water transfer in the northern suburbs of Perth is conducted through the residential supply network. Water is transferred between reservoirs by pumping water through the residential supply network as there is currently only a limited transfer main system in operation. This is adequate for the present, but with increasing growth and diversification of water supply, the continued use of the residential supply network in the future will lead to unacceptable water pressure delivered to customers. A dedicated main will transfer water between reservoirs on an as required basis outside of the residential supply network.</p>

The Water Corporation is endeavouring to secure a pipeline corridor between Forrestfield and Lancelin to enable the construction of transfer mains between assets in order to maintain an appropriate level of service to customers. The corridor may also be utilised for other Water Corporation services in the future, including wastewater and re-use.

Under advice from the OEPA, “lateral” pipeline corridors have been included in the proposal to connect the three corridors. These laterals will provide flexibility for the pipeline to change between corridors, depending on project requirements or external factors preventing construction of a particular section or derived proposal in the future.

The Water Corporation is seeking approval for three corridors however only one of these, or a combination of sections, will be selected and utilised.

The long term planning horizon is particularly relevant to this project in terms of the Water Corporation identifying available corridors in a region that is undergoing rapid development, including urbanisation.

It is essential that a preferred corridor for this transfer main, together with alternatives, is formalised by due process to inform landowners who will be affected and secure reasonable access to the land. The Water Corporation considers that formal referral to the EPA is the appropriate initiation of this process.

The proposed corridor will be incorporated into the future planning for expansion of the IWSS. Construction of the pipeline will likely occur in stages between 2015-2065.

### **Objectives**

The Perth Northern Pipeline Corridors – Strategic Proposal (PNPC-SP) project will:

- Identify and investigate corridor alternatives from Forrestfield to Lancelin which could be used for future water services.
- Identify the potential environmental impacts associated with installing and operating water services within the selected corridor to enable environmentally acceptable planning.
- Minimise environmental, engineering and social constraints through forward planning.
- Obtain the environmental approvals required to secure future use of this corridor.
- Ensure that environmental approvals can be obtained for each derived proposal in a timely and efficient manner.

### **Current Project Status**

The Water Corporation has identified three corridor options (Attachment 1 – Figure 1) from Forrestfield to Lancelin through a process that involved an opportunities and constraints analysis, followed by a weighted Multi Criteria Analysis (MCA) process (Attachment 2). Identifying three corridors provides the EPA with the opportunity to consider alternatives and provide advice on the acceptability of a particular corridor or derived proposal. It also enables flexibility in the event of environmental, engineering or social constraints. The pipeline corridor will comprise a combination of derived proposals, completed in stages over the construction horizon. Water Corporation is currently

seeking Strategic Environmental Approval of all three corridors and laterals in order that it can select a combination of sections that provide the best fit for future, as yet undefined, needs. This will be determined incrementally over the 50 year planning horizon.

The three routes identified by the route selection process and the MCA provide the basis of an environmental assessment and impact review.

A number of environmental assessments have been carried out in 2012 and 2013. These include:

- Level 1 flora and fauna survey
- Targeted flora survey
- Contamination risk assessment
- Wetland assessment

### **Pipeline Corridors**

Each of the three routes identified is approximately 180-200 km in length. The optimal width of each corridor is 100 m (where possible), within which a 30-50 m wide construction corridor will be required. Each corridor starts at the Forrestfield Reservoir site and terminates south of the Lancelin townsite.

### **Derived Proposals**

Derived proposals will comprise of the construction and operation of:

- water pipelines primarily, but may also include wastewater and re-use pipelines in the asset corridor if they prove suitable,
- creation of an asset corridor of up to 100 m in width,
- regulation valves,
- access tracks,
- fencing and signage, and
- associated infrastructure.

Derived proposals will consist of the construction and operation of stages of the Perth Northern Pipeline Corridors - Strategic Proposal. Ultimately, only one corridor will be utilised. This may involve a combination of sections of any or all of the proposed corridors assessed in this proposal.

The derived proposals are listed in Table 1 below and are shown at Attachment 1, Figure 2. Each derived proposal is a stage of one of the routes identified in the route selection report. These derived proposals may be referred singly or as multiple stages within a single derived proposal.

**Table 1: Derived proposals for the PNPC - SP\_project.**

Derived Proposal	Base Route	Stage
A	Route 1A/1B	Route A1/A2 from Roe Highway, Maida Vale to Reid Highway, Caversham
B	Route 1	Forrestfield Reservoir to Kalamunda Road, Maida Vale
C	Route 1	Kalamunda Road, Maida Vale to Clayton Street, Bellevue
D	Route 1	Clayton Street, Bellevue to Middle Swan Road, Caversham
E	Route 1	Middle Swan Road, Caversham to Lord Street, Ellenbrook
F	Route 1	Lord Street, Ellenbrook to Wattle Avenue, Neerabup
G	Route 1	Wattle Avenue, Neerabup to Frog Road, Yanchep (Lateral 3)
H	Route 1	Frog Road, Yanchep to Tuart Rise, Gabbadah

I	Route 1	Tuart Rise, Gabbadah to Bennies Road, Karakin
J	Route 1	Bennies Road, Karakin to Lancelin
K	Route 2	Forrestfield Reservoir to Greenmount Reservoir
L	Route 2	Greenmount Reservoir to West Swan Road, Caversham
M	Route 2	West Swan Road, Caversham to Gngangara Road, Ellenbrook
N	Route 2	Gngangara Road, Ellenbrook to Neaves Road, Pinjar
O	Route 2	Neaves Road, Pinjar to High Hill Road, Pinjar
P	Route 2	High Hill Road, Pinjar to Midlander Road, Gabbadah
Q	Route 2	Midlander Road, Gabbadah to Bennies Road, Karakin
R	Route 2	Bennies Road, Karakin to Lancelin
S	Route 3	Forrestfield Reservoir to Greenmount Reservoir
T	Route 3	Greenmount Reservoir to Neaves Road, Bullsbrook
U	Route 3	Neaves Road, Bullsbrook to Timaru Road, Muchea
V	Route 3	Timaru Road, Muchea to Cowalla Road, Neergabby
W	Route 3	Cowalla Road, Neergabby to Lancelin
L1	Lateral 1	Greenmount Reservoir to Military Road, Bellevue
L2	Lateral 2	Railway Parade, Bullsbrook to Hopkins Road, Neerabup
L3	Lateral 3	Timaru Road, Muchea to Aqua Road, Yanchep
L4	Lateral 4	Cowalla Road, Neergabby to Indian Ocean Drive, Gabbadah
Extent (area) of proposed ground disturbance.		Approximately 600 ha of ground disturbance (based on 200 km pipeline with a 30-50 m construction width)
Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).		2015-2065
Details of any staging of the proposal.		Details of staging/derived proposals have been described above.
Is the proposal a strategic proposal?		Yes
Is the proponent requesting a declaration that the proposal is a derived proposal? If so, provide the following information on the strategic assessment within which the referred proposal was identified: <ul style="list-style-type: none"> <li>• title of the strategic assessment; and</li> <li>• Ministerial Statement number.</li> </ul>		No
Please indicate whether, and in what way, the proposal is related to other proposals in the region.		The bulk water transfer system will connect potential and actual water sources and reservoirs between Forrestfield and Lancelin.
Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to access the land?		No, Water Corporation does not own all of the land.  All private properties will be issued with Notices of Entry when access is required to conduct environmental studies, pursuant to section 71 of the <i>Water Agencies (Powers) Act, 1984</i> .
What is the current land use on the property, and the extent (area in hectares) of the property?		The land use is varied. Generally land use is rural, forestry or unallocated crown land. However, the proposed corridors also traverse

	urban, urban deferred, industrial, rail and road land uses.
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### 1.3 Location

<p>Name of the Shire in which the proposal is located.</p>	<p>City of Joondalup  City of Belmont  City of Stirling  Shire of Kalamunda  Shire of Mundaring  City of Swan  City of Wanneroo  Shire of Chittering  Shire of Gingin</p>
<p>For urban areas:</p> <ul style="list-style-type: none"> <li>• street address;</li> <li>• lot number;</li> <li>• suburb; and</li> <li>• nearest road intersection.</li> </ul>	<p>See Attachment 1</p>
<p>For remote localities:</p> <ul style="list-style-type: none"> <li>• nearest town; and</li> <li>• distance and direction from that town to the proposal site.</li> </ul>	
<p>Electronic copy of spatial data - GIS or CAD, geo-referenced and conforming to the following parameters:</p> <ul style="list-style-type: none"> <li>• GIS: polygons representing all activities and named;</li> <li>• CAD: simple closed polygons representing all activities and named;</li> <li>• datum: GDA94;</li> <li>• projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);</li> <li>• format: Arcview shapefile, Arcinfo coverages, Microstation or AutoCAD.</li> </ul>	<p>Enclosed: <b>Yes</b></p>



## 1.4 Confidential Information

Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential?	<b>No</b>
If yes, is confidential information attached as a separate document in hard copy?	N/A

## 1.5 Government Approvals

Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.		<b>No</b> Easements will be established where necessary.	
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, please complete the table below.		<b>Yes</b>	
Agency/Authority	Approval required	Application lodged Yes / No	Agency/Local Authority contact(s) for proposal
Local Government Authorities	Development Applications.	No	-
Department of Aboriginal Affairs	Section 18 consent under the <i>Aboriginal Heritage Act 1972</i> .	No	-
Department of Water	Bed and banks permit.	No	James Mackintosh (DoW)  Don Cummins, Swan Avon Regional Manager (DoW)
Swan River Trust	Approval under the <i>Swan and Canning Rivers Management Act 2006</i> .	No	Paul Stephens, Manager Statutory Planning (SRT)
Department of Parks and Wildlife (DPaW)	Development approval for works on DPaW land.  Approval to access DPaW land.	No	Michael Roberts, Swan Coastal District (DPaW)  Grant Lamb, Environmental management Branch (DPaW)
Department of Sustainability, Environment, Water, Population and Communities	Approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>	No	Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)

## PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

### 2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, by answering the questions contained in Sections 2.1-2.11:

- 2.1 flora and vegetation;
- 2.2 fauna;
- 2.3 rivers, creeks, wetlands and estuaries;
- 2.4 significant areas and/ or land features;
- 2.5 coastal zone areas;
- 2.6 marine areas and biota;
- 2.7 water supply and drainage catchments;
- 2.8 pollution;
- 2.9 greenhouse gas emissions;
- 2.10 contamination; and
- 2.11 social surroundings.

These features should be shown on the site plan, where appropriate.

For all information, please indicate:

- (a) the source of the information; and
- (b) the currency of the information.

#### 2.1 Flora and Vegetation

2.1.1 Do you propose to clear any native flora and vegetation as a part of this proposal?

[A proposal to clear native vegetation may require a clearing permit under Part V of the EP Act (Environmental Protection (Clearing of Native Vegetation) Regulations 2004)]. Please contact the Department of Environment and Conservation (DEC) for more information.

- (please tick)     Yes            **If yes**, complete the rest of this section.  
                          No                **If no**, go to the next section

2.1.2 How much vegetation are you proposing to clear (in hectares)?

Up to 600 ha of vegetation may potentially be impacted during construction.

2.1.3 Have you submitted an application to clear native vegetation to the DEC (unless you are exempt from such a requirement)?

- Yes                 No            **If yes**, on what date and to which office was the application submitted of the DEC?

2.1.4 Are you aware of any recent flora surveys carried out over the area to be disturbed by this proposal?

Yes

No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

A Level 1 flora survey, as per the EPA's Guidance Statement 51, is being conducted by AECOM Australia Pty Ltd. This survey is yet to be finalised and will form part of the final assessment documentation.

2.1.5 Has a search of DEC records for known occurrences of rare or priority flora or threatened ecological communities been conducted for the site?

Yes

No

If you are proposing to clear native vegetation for any part of your proposal, a search of DEC records of known occurrences of rare or priority flora and threatened ecological communities will be required. Please contact DEC for more information.

DEC's database searches for rare or priority flora species, threatened ecological communities (TEC) and priority ecological communities (PEC) are listed in Table 2 and Table 3 below.

**Table 2:** Rare or priority flora species listed in DEC's records as potentially occurring within the proposal area.

Species Name	Common Name	State Conservation Status <sup>1.</sup>	EPBC Status <sup>2.</sup>
<i>Acacia anomala</i>	Grass Wattle, Chittering Grass Wattle	T	VU
<i>Acacia aphylla</i>	Leafless Rock Wattle	T	VU
<i>Acacia benthamii</i>		P 2	
<i>Acacia drummondii</i> subsp. <i>affinis</i>		P 3	
<i>Acacia oncinophylla</i> subsp. <i>oncinophylla</i>		P 3	
<i>Acacia ridleyana</i>		P 3	
<i>Amanita carneiphylla</i>		P 2	
<i>Anigozanthos humilis</i> subsp. <i>chrysanthus</i>	Golden Catspaw	P 4	
<i>Anthocercis gracilis</i>	Slender Tailflower	T	VU
<i>Banksia dallanneyi</i> subsp. <i>pollostata</i>		P 3	
<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>		P 3	
<i>Bolboschoenus medianus</i>		P 1	
<i>Byblis gigantea</i>		P 3	
<i>Calectasia</i> sp. Pinjar (C. Tauss 557)		P 1	
<i>Calothamnus accedens</i>		P 4	Extinct
<i>Calothamnus rupestris</i>		P 4	
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	Swamp Starflower	T	EN
<i>Carex tereticaulis</i>		P 1	
<i>Chamaescilla gibsonii</i>		P 3	
<i>Conospermum undulatum</i>	Wavy-leaved Smokebush	T	VU
<i>Conostylis bracteata</i>		P 3	
<i>Conostylis pauciflora</i> subsp. <i>euryrhipis</i>		P 4	

Species Name	Common Name	State Conservation Status <sup>1.</sup>	EPBC Status <sup>2.</sup>
<i>Conostylis pauciflora</i> subsp. <i>pauciflora</i>		P 4	
<i>Cyanicula ixiooides</i> subsp. <i>ixiooides</i>		P 4	
<i>Cyathochaeta teretifolia</i>		P 3	
<i>Darwinia apiculata</i>	Scarp Darwinia	T	EN
<i>Darwinia foetida</i>	Muchea Bell	T	CE
<i>Darwinia pimelioides</i>		P 4	
<i>Diplolaena andrewsii</i>		T	
<i>Dodonaea hackettiana</i>		P 4	
<i>Eleocharis keigheryi</i>	Keighery's Eleocharis	T	VU
<i>Eryngium subdecumbens</i>		P 3	
<i>Eucalyptus argutifolia</i>	Yanchep Mallee, Wabling Hill Mallee	T	VU
<i>Eucalyptus x mundijongensis</i>		P 1	
<i>Grevillea curviloba</i> subsp. <i>curviloba</i>	Curved-leaf Grevillea	T	EN
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	Narrow curved-leaf Grevillea	T	EN
<i>Grevillea evanescens</i>		P 1	
<i>Grevillea manglesii</i> subsp. <i>dissectifolia</i>		P 3	
<i>Haemodorum loratum</i>		P 3	
<i>Halgania corymbosa</i>		P 3	
<i>Hibbertia spicata</i> subsp. <i>leptotheca</i>		P 3	
<i>Hydrocotyle lemnooides</i>		P 4	
<i>Hydrocotyle striata</i>		P 1	
<i>Hypocalymma</i> sp. <i>Cataby</i> (G.J. Keighery 5151)		P 2	
<i>Isopogon drummondii</i>		P 3	
<i>Isotropis cuneifolia</i> subsp. <i>glabra</i>		P 2	
<i>Jacksonia sericea</i>		P 4	
<i>Lasiopetalum bracteatum</i>		P 4	
<i>Lepyrodia curvescens</i>		P 2	
<i>Leucopogon</i> sp. <i>Yanchep</i> (M. Hislop 1986)		P 3	
<i>Leucopogon squarrosus</i> subsp. <i>trigynus</i>		P 2	
<i>Meionectes tenuifolia</i>		P 3	
<i>Ornduffia submersa</i>		P 4	
<i>Persoonia sulcata</i>		P 4	
<i>Phyllangium palustre</i>		P 2	
<i>Pithocarpa corymbulosa</i>		P 3	
<i>Schoenus capillifolius</i>		P 3	
<i>Schoenus griffinianus</i>		P 3	
<i>Schoenus</i> sp. <i>Bullsbrook</i> (J.J. Alford 915)		P 2	
<i>Senecio gilbertii</i>		P 1	
<i>Senecio leucoglossus</i>		P 4	
<i>Stenanthemum sublineare</i>		P 2	
<i>Stylidium longitubum</i>		P 3	
<i>Stylidium maritimum</i>		P 3	
<i>Stylidium striatum</i>		P 4	
<i>Templetonia drummondii</i>		P 4	
<i>Tetrateca pilifera</i>		P 3	
<i>Tetrateca</i> sp. <i>Granite</i> (S. Patrick SP1224)		P 3	
<i>Thelymitra magnifica</i>		P 1	
<i>Thelymitra stellata</i>	Star Sun-orchid	T	EN
<i>Thelymitra variegata</i>		P 3	
<i>Thysanotus anceps</i>		P 3	
<i>Thysanotus glaucus</i>		P 4	
<i>Thysanotus isantherus</i>		P 3	
<i>Trichocline</i> sp. <i>Treeton</i> (B.J. Keighery & N. Gibson 564)		P 2	

Species Name	Common Name	State Conservation Status <sup>1.</sup>	EPBC Status <sup>2.</sup>
<i>Trithuria occidentalis</i>	Swan Hydatella	T	EN
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>		P 4	

1. State Conservation Status: 'T' = Threatened Flora (Schedule 1); 'P1' = Priority 1 flora; 'P2' = Priority 2 flora; 'P3' = Priority 3 flora; 'P4' = Priority 4 flora

2. EPBC Act Status: 'CE' = Critically Endangered; 'EN' = Endangered; 'VU' = Vulnerable

**Table 3:** TEC's and PEC's that potentially occur within the proposal area.

Community Identifier	Community Name	Category of Threat and criteria under WA criteria	EPBC Status
SCP20b	Banksia attenuata and/or Eucalyptus marginata woodlands of the eastern side of the Swan Coastal Plain	EN	
SCP20a	Banksia attenuata woodland over species rich dense shrublands	EN	
SCP22	Banksia ilicifolia woodlands	P 3	
Central Granite Shrublands (Com 5, Markey)	Central Northern Darling Scarp Granite Shrubland Community	P 4	
Mound Springs SCP	Communities of Tumulus Springs (Organic Mound Springs, Swan Coastal Plain)	CR	EN
SCP3a	Eucalyptus calophylla - Kingia australis woodlands on heavy soils, Swan Coastal Plain	CR	EN
SCP3c	Eucalyptus calophylla - Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain	CR	EN
SCP15	Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain	VU	
SCP07	Herb rich saline shrublands in clay pans	VU	
SCP08	Herb rich shrublands in clay pans	VU	
SCP21c	Low lying Banksia attenuata woodlands or shrublands	P 3	
Limestone ridges (SCP 26a)	Melaleuca huegelii - Melaleuca acerosa (currently M. systema) shrublands on limestone ridges (Gibson et al. 1994 type 26a)	EN	
SCP24	Northern Spearwood shrublands and woodlands	P 3	
NTHIRON	Perth to Gingin Ironstone Association	CR	EN
SCP20c	Shrublands and woodlands of the eastern side of the Swan Coastal Plain	CR	EN
Muchea Limestone	Shrublands and woodlands on Muchea Limestone	EN	EN
SCP25	Southern Eucalyptus gomphocephala-Agonis flexuosa woodlands	P 3	
SCP23b	Swan Coastal Plain Banksia attenuata - Banksia menziesii woodlands	P 3	

'CR'= Critically Endangered; 'EN'= Endangered; 'VU' = Vulnerable; 'P 4' = Priority 4; 'P 3' = Priority 3

2.1.6 Are there any known occurrences of rare or priority flora or threatened ecological communities on the site?

✓ Yes

No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

Two threatened species and four priority species have been identified from the flora surveys conducted in 2012. The species found in the Level 1 survey are:

*Conospermum undulatum* (Threatened)  
*Grevillea curviloba* subsp. *curviloba* (Threatened)  
*Thryptomene* sp. Lancelin (M.E. Trudgen 140000) (Priority 2)  
*Conostylis bracteata* (Priority 3)  
*Conostylis pauciflora* subsp. *euryrhipis* (Priority 4)  
*Dodoniaea hackettiana* (Priority 4)

A targeted flora survey will be conducted by AECOM Australia Pty Ltd.

2.1.7 If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

Yes

No

**If yes**, please indicate which Bush Forever Site is affected (site number and name of site where appropriate).

Numerous Bush Forever sites occur within the current project area or are adjacent to this proposal.

Bush Forever sites that may be impacted or are adjacent to the proposal include:

466; 316; 213; 481; 45; 215; 306; 302; 216; 123; 200; 304; 192; 195; 399; 196; 300; 301; 400; 100; 406; 396; 127; 128; 381; 410; 409; 411; 1; 290; 130; 293; 446; 324; 471; 327; 463; 193; 462; 448; 459; 461; 398 and 380.

No contact with the Bush Forever Office of the Department of Planning has been initiated yet, but consultation will occur during the environmental impact assessment phase.

2.1.8 What is the condition of the vegetation at the site?

Vegetation condition varies from Excellent to Completely Degraded.

## 2.2 Fauna

2.2.1 Do you expect that any fauna or fauna habitat will be impacted by the proposal?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

2.2.2 Describe the nature and extent of the expected impact.

There are two types of impact on fauna expected from this proposal:

1. Loss of fauna habitat, through the clearing of native vegetation
2. Fauna mortality as a direct result of construction activities.

The extent of fauna habitat that may be impacted is directly proportional to the area of clearing required. The proposed area of clearing is < 600 ha.

Management during construction will minimise the risk of fauna mortality and injury from construction activities.

2.2.3 Are you aware of any recent fauna surveys carried out over the area to be disturbed by this proposal?

Yes

No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

A Level 1 fauna survey, in accordance with the EPA's Guidance Statement 56, was conducted by AECOM Australia Pty Ltd in spring 2012. A black cockatoo breeding habitat desktop assessment was undertaken in July 2013. These reports are currently being finalised and will form part of the environmental assessment.

2.2.4 Has a search of DEC records for known occurrences of Specially Protected (threatened) fauna been conducted for the site?

Yes

No (please tick)

A search of DEC's threatened fauna database was conducted and the results are shown in Table 4.

**Table 4:** Results of DEC threatened fauna database search.

NAME	Common Name	State Conservation Status <sup>1.</sup>	EPBC Status <sup>2.</sup>	CLASS
<i>Anous tenuirostris subsp. melanops</i>	Australian Lesser Noddy	T	VU, Ma	BIRD
<i>Botaurus poiciloptilus</i>	Australasian Bittern	T	EN	BIRD
<i>Calyptorhynchus banksii subsp. naso</i>	Forest Red-tailed Black-Cockatoo	T	VU	BIRD
<i>Calyptorhynchus baudinii</i>	Baudin's Cockatoo (long-billed black-cockatoo)	T	VU	BIRD
<i>Calyptorhynchus latirostris</i>	Carnaby's Cockatoo (short-billed black-cockatoo)	T	EN	BIRD
<i>Diomedea chlororhynchos</i>	Yellow-nosed Albatross	T	Ma; Mi	BIRD
<i>Diomedea chrysostoma</i>	Grey-headed Albatross	T	EN; Ma; Mi	BIRD
<i>Diomedea melanophris subsp. melanophris</i>	Black-browed Albatross	T	VU; Ma; Mi	BIRD
<i>Macronectes giganteus</i>	Southern Giant Petrel	T	EN; Ma; Mi	BIRD
<i>Malurus leucopterus subsp. edouardi</i>	Barrow Is. White-winged Fairy-wren	T	VU	BIRD
<i>Procellaria aequinoctialis subsp. aequinoctialis</i>	White-chinned Petrel	T	Mi	BIRD
<i>Sterna nereis subsp. nereis</i>	Fairy Tern	T	VU	BIRD
<i>Thalassarche cauta</i>	Shy Albatross	T	VU; Ma; Mi	BIRD
<i>Thalassarche chlororhynchos</i>	Atlantic Yellow-nosed Albatross	T	Ma; Mi	BIRD
<i>Falco peregrinus</i>	Peregrine Falcon	S		BIRD

<b>NAME</b>	<b>Common Name</b>	<b>State Conservation Status <sup>1.</sup></b>	<b>EPBC Status <sup>2.</sup></b>	<b>CLASS</b>
<i>Falco peregrinus subsp. macropus</i>	Australian Peregrine Falcon	S		BIRD
<i>Actitis hypoleucos</i>	Common Sandpiper	IA	Ma; Mi	BIRD
<i>Anous stolidus</i>	Common Noddy	IA	Ma; Mi	BIRD
<i>Apus pacificus</i>	Fork-tailed Swift	IA	Ma; Mi	BIRD
<i>Ardea ibis</i>	Cattle Egret	IA	Ma; Mi	BIRD
<i>Ardea modesta</i>	Eastern Great Egret	IA	Ma; Mi	BIRD
<i>Arenaria interpres</i>	Ruddy Turnstone	IA	Ma; Mi	BIRD
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	IA	Ma; Mi	BIRD
<i>Calidris alba</i>	Sanderling	IA	Ma; Mi	BIRD
<i>Calidris ferruginea</i>	Curlew Sandpiper	IA	Ma; Mi	BIRD
<i>Calidris melanotos</i>	Pectoral Sandpiper	IA	Ma; Mi	BIRD
<i>Calidris ruficollis</i>	Red-necked Stint	IA	Ma; Mi	BIRD
<i>Calidris subminuta</i>	Long-toed Stint	IA	Ma; Mi	BIRD
<i>Charadrius mongolus</i>	Lesser Sand Plover	IA	Ma; Mi	BIRD
<i>Charadrius veredus</i>	Oriental Plover	IA	Ma; Mi	BIRD
<i>Chlidonias leucopterus</i>	White-winged Black Tern	IA	Ma; Mi	BIRD
<i>Egretta sacra</i>	Eastern Reef Egret, Eastern Reef Heron	IA	Ma; Mi	BIRD
<i>Glareola maldivarum</i>	Oriental Pratincole	IA	Ma; Mi	BIRD
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	IA	Ma; Mi	BIRD
<i>Limosa lapponica</i>	Bar-tailed Godwit	IA	Ma; Mi	BIRD
<i>Merops ornatus</i>	Rainbow Bee-eater	IA	Ma; Mi	BIRD
<i>Numenius minutus</i>	Little Curlew	IA	Ma; Mi	BIRD
<i>Oceanites oceanicus</i>	Wilson's Storm Petrel	IA	Ma; Mi	BIRD
<i>Onychoprion anaethetus</i>	Bridled Tern	IA	Ma; Mi	BIRD
<i>Philomachus pugnax</i>	Ruff	IA	Ma; Mi	BIRD
<i>Plegadis falcinellus</i>	Glossy Ibis	IA	Ma; Mi	BIRD
<i>Pluvialis squatarola</i>	Grey Plover	IA	Ma; Mi	BIRD
<i>Puffinus carneipes</i>	Fleshy-footed Shearwater	IA	Ma; Mi	BIRD
<i>Puffinus pacificus</i>	Wedge-tailed Shearwater	IA	Ma; Mi	BIRD
<i>Sterna caspia</i>	Caspian Tern	IA	Ma; Mi	BIRD
<i>Sterna dougallii subsp. gracilis</i>	Roseate Tern	IA	Ma; Mi	BIRD
<i>Tringa glareola</i>	Wood Sandpiper	IA	Ma; Mi	BIRD
<i>Tringa nebularia</i>	Common Greenshank	IA	Ma; Mi	BIRD
<i>Tringa stagnatilis</i>	Marsh Sandpiper	IA	Ma; Mi	BIRD
<i>Xenus cinereus</i>	Terek Sandpiper	IA	Ma; Mi	BIRD
<i>Ardeotis australis</i>	Australian Bustard	4		BIRD
<i>Burhinus grallarius</i>	Bush Stone-curlew	4		BIRD
<i>Charadrius rubricollis</i>	Hooded Plover	4	Ma	BIRD
<i>Falcunculus frontatus subsp. leucogaster</i>	Western Shrike-tit, Crested Shrike-tit	4		BIRD
<i>Ixobrychus minutus</i>	Little Bittern	4		BIRD
<i>Ixobrychus minutus subsp. dubius</i>	Australian Little Bittern	4		BIRD



<b>NAME</b>	<b>Common Name</b>	<b>State Conservation Status <sup>1.</sup></b>	<b>EPBC Status <sup>2.</sup></b>	<b>CLASS</b>
<i>Ixobrychus flavicollis subsp. australis</i>	Australian Black Bittern	3		BIRD
<i>Tyto novaehollandiae subsp. novaehollandiae</i>	Masked Owl (southern subsp)	3		BIRD
<i>Galaxiella nigrostriata</i>	Black-stripe Minnow	3		FISH
<i>Idiosoma nigrum</i>	Shield-backed Trapdoor Spider	T		INVERT
<i>Leioproctus douglasiellus</i>	bee	T		INVERT
<i>Synemon gratiosa</i>	Graceful Sunmoth	P4		INVERT
<i>Westralunio carteri</i>	Carter's Freshwater Mussel	4		INVERT
<i>Austrosaga spinifer</i>	cricket	3		INVERT
<i>Hylaeus globuliferus</i>	bee	3		INVERT
<i>Leioproctus contrarius</i>	bee	3		INVERT
<i>Bothriembryon perobesus</i>	land snail	1		INVERT
<i>Bettongia penicillata subsp. ogilbyi</i>	Woylie, Brush-tailed Bettong	T	EN	MAMMAL
<i>Dasyurus geoffroii</i>	Chuditch, Western Quoll	T	VU	MAMMAL
<i>Eubalaena australis</i>	Southern Right Whale	T	EN; C; Mi	MAMMAL
<i>Macrotis lagotis</i>	Bilby	T	VU	MAMMAL
<i>Megaptera novaeangliae</i>	Humpback Whale	T	VU; C; Mi	MAMMAL
<i>Petrogale lateralis subsp. lateralis</i>	Black-flanked Rock-wallaby, Black-footed Rock-wallaby	T	VU	MAMMAL
<i>Phascogale tapoatafa subsp. tapoatafa</i>	Southern Brush-tailed Phascogale, Wambenger	T		MAMMAL
<i>Pseudocheirus occidentalis</i>	Western Ringtail Possum	T	VU	MAMMAL
<i>Neophoca cinerea</i>	Australian Sea Lion	S	VU; Ma	MAMMAL
<i>Isoodon obesulus subsp. fusciventer</i>	Quenda, Southern Brown Bandicoot	5		MAMMAL
<i>Macropus eugenii subsp. derbianus</i>	Tammar Wallaby (WA subsp)	5		MAMMAL
<i>Hydromys chrysogaster</i>	Water-rat	4		MAMMAL
<i>Macropus irma</i>	Western Brush Wallaby	4		MAMMAL
<i>Physeter macrocephalus</i>	Sperm Whale	4	C; Mi	MAMMAL
<i>Caretta caretta</i>	Loggerhead Turtle	T	EN; Ma; Mi	REPTILE
<i>Chelonia mydas</i>	Green Turtle	T	VU; Ma; Mi	REPTILE
<i>Ctenotus lanceolini</i>	Lancelin Island Skink	T	VU	REPTILE
<i>Dermochelys coriacea</i>	Leatherback Turtle	T	EN; Ma; Mi	REPTILE
<i>Natator depressus</i>	Flatback Turtle	T	VU; Ma; Mi	REPTILE
<i>Pogona minor subsp. minima</i>	Dwarf Bearded Dragon (Houtman Abrolhos Is.)	T		REPTILE
<i>Pseudemydura umbrina</i>	Western Swamp Turtle, tortoise	T	CE	REPTILE
<i>Morelia spilota subsp. imbricata</i>	Carpet Python	S		REPTILE
<i>Ctenotus delli</i>	Darling Range Heath Ctenotus, skink	4		REPTILE
<i>Neelaps calonotos</i>	Black-striped Snake	3		REPTILE

1. State Conservation Status: 'T' = Threatened Fauna (Schedule 1); 'S' = Other specially protected fauna (Schedule 3); 'IA' = Birds protected under an international agreement; '1' = Priority 1 fauna; '2' = Priority 2 fauna; '3' = Priority 3 fauna; '4' = Priority 4 fauna; '5' = Priority 5 fauna  
2. EPBC Act Status: 'CE' = Critically Endangered; 'EN' = Endangered; 'VU' = Vulnerable; 'C' = Cetacean; 'Ma' = Marine; 'Mi' = Migratory

2.2.5 Are there any known occurrences of Specially Protected (threatened) fauna on the site?

Yes

No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

The proposal is likely to impact black cockatoo habitat. See Table 4.

## 2.3 Rivers, Creeks, Wetlands and Estuaries

2.3.1 Will the development occur within 200 metres of a river, creek, wetland or estuary?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

2.3.2 Will the development result in the clearing of vegetation within the 200 metre zone?

Yes

No

**If yes**, please describe the extent of the expected impact.

All three proposed corridors will cross several major east-west watercourses between Forrestfield and Lancelin. Major crossings include:

- Swan River
- Moore River
- Gingin Brook
- Helena River

Each corridor may potentially impact a number of wetlands other than the major watercourses. There is scope to avoid or minimise the impact on these other wetlands.

Ideally all river and creek crossings will occur at existing crossings or will be direction drilled under the watercourse. Further refinement of the alignment of each corridor may be possible to avoid or minimise impacts on other wetlands.

2.3.3 Will the development result in the filling or excavation of a river, creek, wetland or estuary?

Yes

No

**If yes**, please describe the extent of the expected impact.

The extent of the expected impact is not yet known. Rivers and major water courses will be crossed at existing crossing sites where possible. Lakes and wetlands will be avoided where possible and construction techniques will be employed to ensure minimal disturbance to rivers, creeks, wetlands and estuaries.

2.3.4 Will the development result in the impoundment of a river, creek, wetland or estuary?

Yes       No      **If yes**, please describe the extent of the expected impact.

2.3.5 Will the development result in draining to a river, creek, wetland or estuary?

Yes       No      **If yes**, please describe the extent of the expected impact.

2.3.6 Are you aware if the proposal will impact on a river, creek, wetland or estuary (or its buffer) within one of the following categories? (please tick)

Conservation Category Wetland	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Perth's Bush Forever site	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
The management area as defined in s4(1) of the <i>Swan and Canning Rivers Management Act 2006</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Unsure

## 2.4 Significant Areas and/ or Land Features

2.4.1 Is the proposed development located within or adjacent to an existing or proposed National Park or Nature Reserve?

Yes       No      **If yes**, please provide details.

The proposal is adjacent to Beelu National Park and Greenmount National Park, due to the proximity of other Water Corporation infrastructure (Forrestfield Reservoir and Greenmount Reservoir).

One of the proposed routes (Route 1) is adjacent to a proposed extension to Yanchep National Park.

2.4.2 Are you aware of any Environmentally Sensitive Areas (as declared by the Minister under section 51B of the EP Act) that will be impacted by the proposed development?

Yes       No      **If yes**, please provide details.

The three proposed alignments traverse a number of Environmentally Sensitive Areas including:

- Gngangara-Moore River State Forest
- Gngangara Underground Water Pollution Control Area
- Bush Forever sites as listed above in section 2.1.7
- Significant wetlands as listed in section 2.3.2
- Buffers for TECs and Threatened Flora

2.4.3 Are you aware of any significant natural land features (e.g. caves, ranges etc) that will be impacted by the proposed development?

Yes

No

**If yes**, please provide details.

## 2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

2.5.1 Will the development occur within 300 metres of a coastal area?

- (please tick)       Yes      **If yes**, complete the rest of this section.  
                          No      **If no**, go to the next section.

The termination point of the pipeline in Lancelin is at least 300m from the coast.

2.5.2 What is the expected setback of the development from the high tide level and from the primary dune?

2.5.3 Will the development impact on coastal areas with significant landforms including beach ridge plain, cusped headland, coastal dunes or karst?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.5.4 Is the development likely to impact on mangroves?

- Yes       No      **If yes**, please describe the extent of the expected impact.

## 2.6 Marine Areas and Biota

2.6.1 Is the development likely to impact on an area of sensitive benthic communities, such as seagrasses, coral reefs or mangroves?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.6.2 Is the development likely to impact on marine conservation reserves or areas recommended for reservation (as described in *A Representative Marine Reserve System for Western Australia*, CALM, 1994)?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.6.3 Is the development likely to impact on marine areas used extensively for recreation or for commercial fishing activities?

- Yes       No      **If yes**, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).

## 2.7 Water Supply and Drainage Catchments

2.7.1 Are you in a proclaimed or proposed groundwater or surface water protection area?

(You may need to contact the Department of Water (DoW) for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes       No      **If yes**, please describe what category of area.

Proclaimed groundwater protection areas:

- Perth
- Wanneroo
- Mirrabooka
- Swan
- Yanchep
- Gngangara
- Gingin

Proclaimed surface water protection areas:

- Swan River System
- Moore River and certain tributaries
- Gingin Brook Catchment Area

2.7.2 Are you in an existing or proposed Underground Water Supply and Pollution Control area?

(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes       No      **If yes**, please describe what category of area.

Gngangara Underground Water Pollution Control Area

2.7.3 Are you in a Public Drinking Water Supply Area (PDWSA)?

(You may need to contact the DoW for more information or refer to the DoW website. A proposal to clear vegetation within a PDWSA requires approval from DoW.)

Yes       No      **If yes**, please describe what category of area.

Gngangara Underground Water Pollution Control Area – Priority 1, Priority 2 and Priority 3 PDWSA

Woodridge Water Reserve – Priority 3 PDWSA

Ledge Point Water Reserve – Priority 1 PDWSA

Seaview Park Water Reserve – Priority 2 PDWSA

2.7.4 Is there sufficient water available for the proposal?

(Please consult with the DoW as to whether approvals are required to source water as you propose. Where necessary, please provide a letter of intent from the DoW)

Yes       No      (please tick)

2.7.5 Will the proposal require drainage of the land?

Yes       No      **If yes**, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.

Dewatering may be required during construction in some areas.

2.7.6 Is there a water requirement for the construction and/ or operation of this proposal?

(please tick)       Yes      **If yes**, complete the rest of this section.

No      **If no**, go to the next section.

2.7.7 What is the water requirement for the construction and operation of this proposal, in kilolitres per year?

Water will be required during construction for dust control and other construction activities. The amount required for construction is not known.

No water is required for operation of the proposal.

2.7.8 What is the proposed source of water for the proposal? (e.g. dam, bore, surface water etc.)

Water source for construction of the proposal is to be determined.

## 2.8 Pollution

2.8.1 Is there likely to be any discharge of pollutants from this development, such as noise, vibration, gaseous emissions, dust, liquid effluent, solid waste or other pollutants?

(please tick)       Yes      **If yes**, complete the rest of this section.  
 No      **If no**, go to the next section.

2.8.2 Is the proposal a prescribed premise, under the Environmental Protection Regulations 1987?

(Refer to the EPA's *General Guide for Referral of Proposals to the EPA under section 38(1) of the EP Act 1986* for more information)

Yes      ✓ No      **If yes**, please describe what category of prescribed premise.

2.8.3 Will the proposal result in gaseous emissions to air?

✓ Yes      No      **If yes**, please briefly describe.

Exhaust emissions from construction machinery are expected during construction.

2.8.4 Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?

Yes       No      **If yes**, please briefly describe.

2.8.5 Will the proposal result in liquid effluent discharge?

Yes       No      **If yes**, please briefly describe the nature, concentrations and receiving environment.

Any liquid effluent is likely to be the result of dewatering discharge and pressure testing discharge and will be managed to ensure there will be no harm to receiving environment.

2.8.6 If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?

Yes       No      **If yes**, please describe.

2.8.7 Will the proposal produce or result in solid wastes?

Yes       No      **If yes**, please briefly describe the nature, concentrations and disposal location/ method.



Solid waste will be produced during construction. Most of the solid waste produced will be inert fill from the excavation for the pipeline.

Acid sulfate soils (ASS) may be encountered during construction. ASS will be managed and disposed of in accordance with Department of Environment Regulation (DER) guidelines.

2.8.8 Will the proposal result in significant off-site noise emissions?

Yes       No      **If yes**, please briefly describe.

2.8.9 Will the development be subject to the Environmental Protection (Noise) Regulations 1997?

Yes       No      **If yes**, has any analysis been carried out to demonstrate that the proposal will comply with the Regulations?

Please attach the analysis.

The development will be subject to the *Environmental Protection (Noise) Regulations 1997* during construction only. Construction noise will be managed in accordance with regulation 13 of the noise regulations. There will be no noise impacts during operation.

2.8.10 Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other "sensitive premises" such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)?

Yes       No      **If yes**, please describe and provide the distance to residences and other "sensitive premises".

During construction the proposal has the potential to generate off-site dust impacts. There will be no on-going pollutant generation during operation.

2.8.11 If the proposal has a residential component or involves "sensitive premises", is it located near a land use that may discharge a pollutant?

Yes       No       Not Applicable

**If yes**, please describe and provide the distance to the potential pollution source

## 2.9 Greenhouse Gas Emissions

2.9.1 Is this proposal likely to result in substantial greenhouse gas emissions (greater than 100 000 tonnes per annum of carbon dioxide equivalent emissions)?

Yes       No      **If yes**, please provide an estimate of the annual gross emissions in absolute and in carbon dioxide equivalent figures.

2.9.2 Further, if yes, please describe proposed measures to minimise emissions, and any sink enhancement actions proposed to offset emissions.

## 2.10 Contamination

2.10.1 Has the property on which the proposal is to be located been used in the past for activities which may have caused soil or groundwater contamination?

Yes       No       Unsure      **If yes**, please describe.

Some properties and locations have the potential to be contaminated.

2.10.2 Has any assessment been done for soil or groundwater contamination on the site?

Yes       No      **If yes**, please describe.

A high level contaminated site risk assessment has been conducted to determine areas that have a high risk of contamination. This report will be included in the SEA Document.

Prior to any construction works, geotechnical investigations will be undertaken and an Acid Sulfate Soils management plan produced.

2.10.3 Has the site been registered as a contaminated site under the *Contaminated Sites Act 2003*? (on finalisation of the CS Regulations and proclamation of the CS Act)

Yes       No      **If yes**, please describe.

Some parts of the proposal area are contaminated.

## 2.11 Social Surroundings

2.11.1 Is the proposal on a property which contains or is near a site of Aboriginal ethnographic or archaeological significance that may be disturbed?

Yes       No       Unsure      **If yes**, please describe.

The Swan River, Helena River, Moore River and Gingin Brook are all known, registered Aboriginal sites. A list of known registered Aboriginal heritage sites that may be impacted is included in Table

**Table 5:** List of registered Aboriginal Heritage sites that may be impacted by the construction of a water transfer pipeline. Note this list is not exhaustive.

Site Id	Site Name	Site Type	Site Status
3983	Helena Creek	Artefacts/Scatter	Registered
3986	Elders Paddock North	Artefacts/Scatter	Registered
15072	Bernley Drive 01	Artefacts/Scatter	Registered
17838	Yagan Skirmish Area	Modified Tree/Historical	Registered

Site Id	Site Name	Site Type	Site Status
20142	Guilford Gaol & Courthouse precinct	Artefacts/Scatter/Mythological/Historical	Registered
25023	Poison Gully Creek	Information not supplied	Registered
3662	Marriott Park, Boya	Artefacts/Scatter	Registered
3663	Helena Vale Racecourse	Artefacts/Scatter	Registered
3670	Watsonia Road, Maidavale	Artefacts/Scatter	Registered
3692	Bennett Brook	Mythological	Registered
3700	Whitemans Brick Hill Camp	Information not supplied	Registered
3720	Blackadder and Woodbridge	Mythological	Registered
3758	Helena River	Ceremonial, Mythological	Registered
3759	Jane Brook	Mythological	Registered
3768	Bishop Road Camp	Information not supplied	Registered
3840	Bennett Brook Camp area	Ceremonial/Mythological/Skeletal material/Burial/Man made structure/fish trap/Artefacts/Scatter/Historical	Registered
3902	Deudonne Farm	Artefacts/Scatter	Registered
3904	Scott Street	Artefacts/Scatter	Registered
3905	Larwood Paddock	Artefacts/Scatter	Registered
551	Lord Street 1	Ceremonial	Registered
552	Lord Street 2	Ceremonial/Mythological	Registered
640	Susannah Brook	Mythological	Registered
752	High Wycombe	Artefacts/Scatter	Registered
3169	Gnangara Lake	Artefacts/Scatter	Registered
3492	Green Bullfrog Dreaming	Mythological/Skeletal material/Burial/Artefacts/Scatter	Registered
3536	Swan River	Mythological	Registered
3543	Bushmead rifle range	Ceremonial/Mythological	Registered
3564	Jane Brook North	Artefacts/Scatter	Registered
3608	Bridge Camps	Information not supplied	Registered
3617	Stirling Square	Artefacts/Scatter	Registered
3622	Turtle Swamp	Information not supplied	Registered
3548	Moore River	Skeletal Material/Burial/Man made structure	Registered
20008	Gingin Brook waggyl site	Mythological/Historical	Registered
21620	Chandala Brook	Mythological	Registered

2.11.2 Is the proposal on a property which contains or is near a site of high public interest (e.g. a major recreation area or natural scenic feature)?

Yes       No      **If yes, please describe.**

2.11.3 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area?

Yes       No      **If yes, please describe.**

### 3. PROPOSED MANAGEMENT

#### 3.1 Principles of Environmental Protection

3.1.1 Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA website)

- |  |   |                             |
|--|---|-----------------------------|
| 1. The precautionary principle.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. The principle of intergenerational equity.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. The principle of the conservation of biological diversity and ecological integrity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Principles relating to improved valuation, pricing and incentive mechanisms.        | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. The principle of waste minimisation.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

3.1.2 Is the proposal consistent with the EPA's Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements (available on the EPA website)?

- Yes       No

#### 3.2 Consultation

3.2.1 Has public consultation taken place (such as with other government agencies, community groups or neighbours), or is it intended that consultation shall take place?

- Yes       No      **If yes**, please list those consulted and attach comments or summarise response on a separate sheet.

The Water Corporation has developed a communications and engagement strategy to inform, gain the support for and understanding from stakeholders, regulators and the community regarding the need for the Perth Northern Pipeline Corridors - Strategic Proposal project and the need to upgrade the Corporation's bulk water transfer system and water distribution network north of Perth.

Stakeholders include local governments, government agencies and authorities, community groups and local residents along the three proposed pipeline routes.

Consultation began in 2012 and the community and stakeholders were informed about the project through

- a series of 6 open houses throughout September and October 2012.
- stakeholder letters offering one-on-one stakeholder briefings to – MPs, local governments and indigenous groups.
- supporting information on the website, advertising in local community papers, information sheets and display material.

- media releases.

Consultation will continue throughout the environmental assessment process. There will be regular website updates as required. Once the level of assessment has been set, another round of public consultation will be held, similar to the open houses held in 2012.