

## Referral Form

### Important Note:

**Please read the [Referral Guide](#) and associated Fact Sheets (available at <http://www.deh.gov.au/epbc>) carefully. The guide and Fact Sheets will help you to complete the form correctly and ensure that your referral is in a form that can be processed. The completed form, together with the required maps and any other information you may wish to submit, should be sent to the EPBC Act Referrals Section, Approvals and Wildlife Division, Department of the Environment and Heritage, GPO Box 787, Canberra, ACT, 2601 and/or by email to [epbc.referrals@deh.gov.au](mailto:epbc.referrals@deh.gov.au) (see Referral Guide for allowable electronic formats).**

## 1. Contacts and proponent

### 1.1 Person making the referral

(Note: The term “person” can refer to an individual or a corporation)

The person making the referral can be either the person proposing to take the action, an agent acting on their behalf (eg, a consultant), or a government agency making the referral in relation to an action to be taken by another person. *(Include name, postal address, telephone, fax, email.)*

Isobel Stanley  
Principal  
Enesar Consulting Pty Ltd  
Suite 2, 31 Tower Road,  
New Town TAS 7008  
Phone: [REDACTED]  
Fax: [REDACTED]  
Email: [REDACTED]

### 1.2 Person(s) proposing to take the action

This is the person who proposes to carry out the action, or who is otherwise responsible for the action. If approval is necessary, this is the person to whom the approval will be granted, and they will be responsible for meeting any conditions of approval.

Walker Corporation – Contact: Lia Morris, State Manager Tasmania,  
PO Box 2056,  
Lower Sandy Bay TAS 7005  
Mobile: [REDACTED]  
Email: [REDACTED]

### 1.3 Person(s) who will be the proponent for the action

The proponent is responsible for preparing all documentation for the assessment process, if the action requires approval. If the proponent is the same as the person proposing to take the action, write ‘as above’. If the proponent is different from the person proposing to take the action, the signature of both is required (at Section 7.3). *(Include name(s), postal address, telephone, fax, email)*

As above

**2. Description of the proposal**

**2.1 Provide a summary description of the action (two or three sentences)**

The Proposal comprises a mixed use waterfront housing and marina development in Ralphs Bay at Lauderdale in Tasmania (refer to Figures 1 and 2). The Proposal will involve the construction of several ‘islands’ in the northern end of Ralphs Bay to accommodate approximately 500 waterfront lots with a range of housing types. The islands will be constructed from a combination of material excavated from the site and from imported material, and will be built to a minimum height of around 1.5 metres above the highest high tide level.

The Proposal may include some or all of the following proposed infrastructure: a new public waterfront with a network of public trails, parks, promenades and open spaces, a public marina, a new beach, opportunity for tourist services to stop and berth, private marina berths, new and upgraded infrastructure at Lauderdale, and the potential realignment of South Arm Road around East Marsh Lagoon and restoration of East Marsh Lagoon and surrounds. Most of the infrastructure will be available for use by the general public, as well as residents.

**2.2 Details of the location of the project area**

**Where the project is of less than 1 km<sup>2</sup> in size, provide the location as a single pair of latitude and longitude references. Latitude and longitude references should be used instead of AMG and/or digital coordinates.**

**Locality:** Lauderdale Quay, Ralphs Bay, Lauderdale, Tasmania.

**Latitude:** 42 degrees: 54 minutes: 37 seconds:

**Longitude:** 147 degrees: 28 minutes 40 seconds:

**Where the project area is greater than 1 km<sup>2</sup>, or any dimension is greater than 1 km, provide additional coordinates to enable accurate identification of the location of the project area.**

**Please provide a brief physical description of the project area, including the size of the development footprint or work area in hectares (a more detailed description is required at Part 3 of this form). The street address and cadastral description of the proposed action (if relevant) should also be provided. Identify the Local Government Area in which the development will occur, if relevant.**

The Proposal area is located off the western shore of the isthmus at Lauderdale, Tasmania.

The north-east corner of Ralphs Bay drains at low tide forming a large mudflat over 900m wide. The mudflats and the adjacent salt marsh to the south (refer to Figures 3 and 4) and over Racecourse Flats are the closest mudflat and salt marsh system to Hobart, Tasmania.

The North Area is the site of the proposed mixed use waterfront housing and marina development, while the South Area is the site of the proposed realignment of South Arm Road and the proposed restoration works on East Marsh Lagoon.

The surface area of the proposed mixed use waterfront housing and marina development (refer to Figure 3) covers an area of approximately 92 hectares of which approximately 53 hectares will be islands and the remainder will be navigable canals. It encompasses the northern portion of the Lauderdale foreshore and the tidal flats of the north-eastern arm of Ralphs Bay. The north-eastern arm of Ralphs Bay covers a total area of approximately 171 hectares (approximately 3.4% of the total Ralphs Bay area) and is located within the municipality of Clarence.

**Attach an A4/A3 size map/plan(s) showing the location and approximate boundaries of the area in which the project is to occur (this map, or a second attached map, should also show features mentioned in responses to questions in Part 3 of this referral, for example, conservation reserves, areas of remnant native vegetation, streams and roads).**

**2.3 Provide the *timeframe* in which the action is proposed to occur. Include start and finish dates where applicable.**

It is envisaged that construction of the proposed Lauderdale Quay mixed use waterfront housing and marina development would be carried out over a 7 to 10 year timeframe after approval of the proposal has been granted.

There are expected to be four major phases to the development, although the number of phases and their timing may change throughout the life of the project:

- Design and approval process (Years 1 and 2);
- Development of site works and infrastructure (Years 3 and 4);
- Development of residential lots (Years 4 to 10); and
- Decommissioning of temporary construction infrastructure (Years 4 to 10).

**2.4 Provide a *description* of the action, including *all activities* proposed to be carried out as part of the proposed action.**

The activities related to each of the phases of the development are outlined below.

**Design and Approval**

During 2004, Walker Corporation undertook a three-month community consultation program which involved a wide range of activities directed at both the local and wider community. As a direct result of the feedback from the community, the Proposal was extensively revised and the development area significantly reduced.

A current masterplan has been drawn up for the project, and the masterplan and project description will be submitted to the Resource Planning and Development Commission (RPDC) in the second half of December 2006. The current outline of the Proposal is shown in Figure 3. The Proposal includes six interconnected islands which have been oriented to maximise natural canal flushing and to minimise cross mixing of waters to the southern salt marshes.

As part of the process of submitting the project for consideration as a Project of State Significance (POSS), Walker Corporation has already commissioned a large number of studies into the project area, many of which are desk top studies which have compiled pre-existing and available information.

For the purpose of the future approval process, Walker Corporation will commission additional studies which will provide baseline information into the environmental considerations surrounding the proposed development. Several long-term studies have already begun into migratory birds and the ecology of the north-east arm of Ralphs Bay. An Integrated Impact Statement (IIS) will be compiled and issued in accordance with IIS guidelines which will be issued by the RPDC for the proposal. It is expected that the IIS will include a commitment to prepare and implement management plans such as a Construction Management Plan and an Environmental Management Plan.

**Development of Site Works, Infrastructure and Residential Lots**

- South Arm Road Realignment and Restoration of East Marsh Lagoon Habitat

It is anticipated that the proposed realignment of South Arm Road around East Marsh Lagoon and the restoration of degraded bird habitat within East Marsh Lagoon will be one of the first steps of the site works. There are several options for realignment of South Arm Road (refer to Figure 3).

- Site Works

Prior to commencement of island construction, a temporary sea wall may be constructed around the perimeter of the Proposal area to help contain any turbid water resulting from dredging and construction activities.

The process for construction of the islands will likely include the placement of a combination of rock and concrete revetments around the perimeter of each island and filling behind these revetments with reclaimed sediments. Reclaimed sediments will include sands and clays which will be excavated or dredged from between the proposed islands to help form navigable canals. It is proposed that the material forming the man-made spit will also be removed to optimise flushing of the canals. Any shortfall in reclaimed material from within the boundary of the development would need to be imported.

Imported materials will include rock to establish the perimeter sea wall and island edges, and clean capping material for placement over the bulk fill material.

Previous investigations have shown that the upper 300mm layer of sands, silts and clays in Ralphs Bay contains contaminants. Conditional upon the material properties or management methods being suitable for the purpose, it is proposed that material excavated from this upper 300mm layer also be used as fill in the island earthworks where it will be contained. If the dredged material from the upper 300mm layer cannot be used, it will be disposed of appropriately. If additional material is required as fill, it is envisaged that the excavation depth of the canals could be deepened to obtain the additional material.

A navigation channel (refer to Figure 3) will need to be excavated running approximately east-west from the south-west corner of the Proposal area. Its length and depth will be governed by a number of factors such as bathymetric surveys, current modelling, sea-level predictions to permit for safe navigation and minimisation of environmental impacts. This channel would also yield material which may be suitable to be used as fill within the islands.

Island construction will be undertaken to a height of no less than 1.5 metres above highest high tide (1.35 AHD, Australian Height Datum). The final design levels will take into account projected sea level rise, wave action, significant storm events and surge, and minimum freeboard requirements to building floor levels and critical infrastructure. The grading of island finished surface levels will also be influenced by required services infrastructure and design road geometry. The tidal range for Ralphs Bay is approximately one metre on a daily basis but the extreme tide variation is approximately 2.5 metres.

A beach will be constructed along the length of the seaward side of the westernmost island. Training walls to contain the movement of sand will be provided. The water depths in Ralphs Bay are shallow and the seabed slopes are minimal. The alignment of the beach will be close to the alignment of the edge of the existing intertidal area and resulting in minimal longshore sand movement. It is proposed to use the sand component of the material reclaimed from the bay for the new beach.

- Infrastructure Works

Infrastructure works proposed will fall under two categories, those that are an inherent part of the Proposal and those that will contribute to the integration of the development within the township and community of Lauderdale.

The infrastructure works which are inherent to the development are expected to include:

- Upgrading of South Arm Road within the Lauderdale township area;
- Construction of internal roads and bridges linking the islands;
- Upgrading of water storage capacity at existing Richardson Hill town water tank area;
- Upgrading of water mains and construction of connections to the development and individual allotments;

- Stormwater drainage modifications to fit with modifications induced by South Arm Road upgrades and development configuration;
- Stormwater infrastructure within the development;
- Construction of waste water (grey water) disposal infrastructure;
- Construction of sewerage infrastructure from the development (and individual allotments) to join up to the Rokeby Sewage Treatment Works;
- Possible external works to provide an adequate electricity supply to the development – this is dependent on the results of the analysis of the existing system by electricity provider Aurora;
- Installation of an internal underground electricity network;
- Installation of telecommunications facilities;
- Installation of navigational aids for boating around the development;
- Construction of jetties, pontoons and a public marina; and
- Construction of a public beach, public walkways, public parks, windsurfing and public amenities.

The infrastructure works proposed within the township of Lauderdale are expected to include (refer also to Figure 3):

- Upgrade of the existing community area on the eastern end of Lauderdale canal;
  - Upgrade of the existing linear parks along Lauderdale canal; and
  - Upgrade of the existing skate park at the south-western end of Lauderdale canal.
- Development of Residential Lots

The islands will be subdivided into approximately 500 waterfront lots with a range of housing types. A number of lots will have berths and some will have beach frontage.

It is proposed that plantings around residences and in park areas will consist predominantly of native plant and tree species suitable for the coastal marine environment.

### **Decommissioning of Temporary Construction Infrastructure**

It is envisaged that suitable land may be required within the township of Lauderdale for the purpose of setting up temporary construction infrastructure and laydown areas for machinery and materials.

At the completion of the works, the temporary sea wall will be removed and all temporary construction camps and laydown areas will be rehabilitated. Materials will be recycled where possible.

**2.5 Provide an *explanation of the context* in which the action is proposed to take place, including any relevant planning framework (for example, relevant management plans or State or Local Government approvals). Indicate whether, and in what way, the action is *related to other actions or proposals* that may have already occurred, are occurring, or are likely to occur, at a future date. You should also provide the name(s) of the Local Council and/or Local Government Area the action will take place in, if relevant.**

### **Local and Federal Planning Framework**

The Proposal area is situated within the jurisdiction of Clarence City Council which applies the Eastern Shore (Area 2) Planning Scheme 1986. The Council has also prepared the draft Clarence Planning Scheme 2002, which may eventually replace the 1986 Scheme.

The Eastern Shore (Area 2) Planning Scheme 1986 has not assigned any zoning to the Proposal area and has no provision for unzoned land.

The draft Clarence Planning Scheme 2002 is presently going through the approval process. The current version contains a number of provisions which could be applicable to the development proposal. It is not known in what form or when it may be approved.

It appears that amendments to either the current or the draft Schemes would be required to recognise and allow for consideration of the project.

The regulatory planning context for the proposed development is also contained in the:

- *State Coastal Policy* 1996 (TAS);
- *State Policy on Water Quality Management* 1997 (TAS);
- *State Policies and Projects Act* 1993 (TAS);
- *Land Use Planning and Approvals Act* 1993 (TAS); and
- *Historic Cultural Heritage Act* 1995 (TAS).

*National Environmental Protection Measures* are also deemed to be State Policies and will require consideration, namely with regards to ambient air quality, assessment of contaminated sites, movement of controlled waste between States and Territories, national pollutant inventory (NPI) and used packaging materials.

The Proposal has been declared a Project of State Significance (POSS) status under the *State Policies and Projects Act* 1993. As such, the Proposal will be assessed by the Resource Planning and Development Commission (RPDC) pursuant to Part 3 of the *State Policies and Projects Act* 1993. If the Commonwealth Minister decides that the Proposal is a controlled action, the assessment of the Proposal will be in accordance with the procedures in Schedule 1 of the Bilateral Agreement between Tasmania and the Commonwealth. The RPDC will assess the Proposal and make recommendations on whether the Proposal should be approved.

#### **Previous Proposals for the Site**

Earlier concepts for marina-style developments have been mooted in the past for the north-east arm of Ralphs Bay, one by Tominex, which encompassed much of the North and South areas of the water body, and another by Walker Corporation in 2004, which covered the entire North and part of the South Area of the water body. Community consultation carried out by Walker Corporation in 2004 resulted in a significant reduction in the proposed development area and a revision of many aspects of the proposal which directly addressed community concerns. The revised proposal is the subject of this referral.

#### **Future Developments near the Site**

It is understood that Clarence City Council has approved the development of around 2000 residential lots to the north of the proposed development. The area can be considered as a residential growth corridor.

Clarence City Council has also committed to providing the high density development area of Lauderdale with reticulated sewerage infrastructure, as the township currently relies solely on septic systems. Construction of this infrastructure may take place sometime between 2008 and 2011.

**2.6 If you are considering making a referral of a stage or component of a larger action, you must provide information about the larger action and details of any interdependency between the stages/components and the larger action. If appropriate, you may also provide justification as to why you believe it is reasonable for the proposed action, that is the subject of this referral, to be considered separately from the larger proposal (see the Referral Guide).**

**Section 74A of the EPBC Act provides that the Environment Minister may not accept a referred action that is a component of a larger action. If the Environment Minister does not accept the referral, he or she is not permitted to make a decision on whether the action is a controlled action. The Environment Minister may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (see also Fact Sheet).**

Not applicable.

### 3. Description of the project area and the affected area

**Note:** You must include a *map(s)/plan(s)* clearly showing the location of the action, and any relevant features referred to in 3.1. (A general location map (eg, 1:250 000 scale) and a more detailed *map/plan* showing the elements of the proposal may be appropriate. If available, an aerial photograph or other photograph of the site can be included.)

**3.1 Describe the affected area referring, as appropriate, to attached maps, plans and aerial photos. In particular, indicate on the map the location of any of the following features: World Heritage properties, National Heritage places, Ramsar wetlands, listed threatened species or communities and/or known habitat for these species or communities, listed migratory species and/or known habitat for these species, Commonwealth marine areas and Commonwealth land, listed Commonwealth Heritage places, conservation reserves/parks, and areas of remnant native vegetation.**

A local map of the Proposal area is presented in Figure 4, and includes known sightings and habitats of listed threatened and migratory species. A regional map is presented in Figure 5 and includes Ramsar wetlands, conservation areas and reserves, and other identified habitat areas for bird migratory species.

#### **World Heritage Properties**

There are no World Heritage Properties affected by this proposal.

#### **Natural Heritage Places**

No parts of the proposed site are listed in the Natural Heritage Places list.

#### **Ramsar Wetlands**

The Pitt Water/Orielton Ramsar-listed site is located approximately 12 km to the north of Proposal area (refer to Figure 5). As the development is not at the Ramsar wetland site, there will be no direct impacts of the Proposal on a Ramsar wetland. It is possible that ecological links exist between the Ramsar site and the Proposal area, and that some individual migratory waders present at the Ramsar site may use the Lauderdale site for foraging or roosting. Surveys being conducted for the IIS will clarify this possible relationship and any potential effects on the Ramsar site.

#### **EPBC Search Tool Listed Species**

A map-based search for the Proposal site was used within the DEH EPBC Act webpage. This search yielded a list of fauna and flora species under the threatened species and other matters categories. The list noted that the species or their habitat may occur within the area.

A copy of the search list is provided as Attachment 1, with an additional column labelled 'Relevance to Proposal Site'. The EPBC search tool detected a number of species (such as pelagic seabirds) that are very unlikely to frequent the site and have not been observed, hence they are not considered relevant to the proposed site; this is noted within that column. Consultation with local ecologists (fauna and flora experts) indicates that these species are not known to occur in the vicinity of the Proposal site, and should not need to be discussed further for the assessment of this Proposal. Some species listed under 'Other Matters' will be addressed during surveys to be carried out for the IIS and are not discussed further in this referral; this is noted in the table. All other species considered relevant to the Proposal site are noted in the column as 'addressed in referral' and are discussed below in the pertinent sections of the text.

#### **Listed Threatened Species or Communities and/or Known Habitats for These Species or Communities**

There have been sightings of the wedge-tailed eagle *Aquila audax fleayi* (Tasmania sub-species, listed as endangered under the EPBC Act) in close vicinity to the Proposal area, although no known nesting habitat for this species occurs there.

On the north-eastern fringe of the Proposal site, there are records of the eastern barred bandicoot *Parameles gunnii* (listed as vulnerable under the EPBC Act), while small stands of blue gum *Eucalyptus globulus* provide potential foraging habitat for the swift parrot *Lathamus discolor* (listed as endangered under the EPBC Act) (refer to Figure 4).

The Tasmanian devil *Sarcophilus harrisii* has recently been listed as vulnerable under the EPBC Act because of the facial tumour disease affecting the species. Tasmanian devils have been documented in the Lauderdale area, although there are no known sightings at the immediate Proposal site.

The spotted handfish *Brachionichthys hirsutus* (listed as endangered under the EPBC Act) has not been recorded at the Proposal site but has previously been documented near the mouth of Ralphs Bay, approximately 3.3 km southwest of the Proposal site, and at other more distant sites in the lower Derwent Estuary near the mouth of Ralphs Bay. The distribution of this species has not been included in the figures provided due to sensitivities identified by CSIRO associated with advertising the precise localities of its populations. Distributional information for Ralphs Bay and surrounding areas has been provided to the Commonwealth in the latest CSIRO spotted handfish report (Green 2005).

The southern right whale *Eubalaena australis* (listed as endangered under the EPBC Act) and humpback whale *Megaptera novaeangliae* (listed as vulnerable under the EPBC Act) do not occur at the Proposal site, but may be found in neighbouring parts of the lower Derwent Estuary between May and July each year (Green and Coughanowr 2003). No flora species listed as threatened in the EPBC Act have been identified at the proposed site.

### Listed Migratory Species and/or Known Habitat for These Species

There are 26 species of migratory birds that have been observed at or near the Proposal area. These are listed in Table 1 (note comment about the EPBC search tool above. Table 1 only includes species likely to occur or observed on or near the site). No listed migratory marine mammal species occur at the Proposal area, however, the humpback whale *Megaptera novaeangliae* visits neighbouring parts of the lower Derwent Estuary as noted above.

**Table 1. Bird species listed as Migratory under the EPBC Act, that have been observed at or near the proposed development site.**

Sources: Milledge (1968), Thomas (1968), Thomas (1969, *cited in* Higgins and Davies 1996), Wall and Harris (1978), B.O.A.T. (1982), Marsh (1982), Newman (1982, *cited in* Higgins and Davies 1996), Newman (1991), Birds Tasmania Shorebird Study Group (1994-2003), Patterson *et al.* (1994, *cited in* Higgins and Davies 1996), Lord (1995), Moverley (1995), Register of the National Estate (1996), Coulson and Coulson (1998), Park (1998), Park (2001), Wakefield (2001), The LIST (2006), Birds Tasmania Shorebird Study Group (unpub. a), Birds Tasmania Shorebird Study Group (unpub. b), P. Park (pers. comm.).

<i>Species</i>	<i>Scientific Name</i>	<i>Observations</i>
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>	Flying over the site
Great Egret	<i>Ardea alba</i>	East Marsh Lagoon.
Double-banded Plover	<i>Charadrius bicinctus</i>	Racecourse Flats; Lauderdale mudflats; Feeds on the mudflats and roosts on the spit in the North Area.
Greater Sand Plover	<i>Charadrius leschenaultii</i>	Racecourse Flats
Mongolian Plover	<i>Charadrius mongolus</i>	Racecourse Flats; Along Roches Beach; Lauderdale.
Red-capped Plover	<i>Charadrius ruficapillus</i>	Racecourse Flats; Lauderdale mudflats; Breed on the sandy foreshore in the North Area; feed on the mudflats, mainly in the North Area; roost on the spit or along the foreshore in the North Area.
Oriental Plover	<i>Charadrius veredus</i>	Racecourse Flats

<i>Species</i>	<i>Scientific Name</i>	<i>Observations</i>
American Golden Plover	<i>Pluvialis dominica</i>	Racecourse Flats No accepted records from Australia but could occur at the site as a vagrant.
Pacific Golden Plover	<i>Pluvialis fulva</i>	Racecourse Flats; South Area.
Black-winged Stilt	<i>Himantopus himantopus</i>	Lauderdale mudflats, sighted near the southern salt marsh in 2003.
Ruddy Turnstone	<i>Arenaria interpres</i>	Racecourse Flats.
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	Lauderdale.
Dunlin	<i>Calidris alpina</i>	Racecourse Flats; Lauderdale September-October 1966. Only a very rare vagrant to Australia with one acceptable record at Cairns. but could occur at the site as a vagrant.
Baird's Sandpiper	<i>Calidris bairdii</i>	Only a very rare vagrant to Australia. Recorded at Racecourse Flats; Lauderdale mudflats, near canal, October 1966.
Red Knot	<i>Calidris canutus</i>	Racecourse Flats.
Curlew Sandpiper	<i>Calidris ferruginea</i>	Feed on mudflats, North and South Areas; Roost on spit in North Area or along foreshore if disturbed.
Little Stint	<i>Calidris minuta</i>	The species only occurs as a vagrant to Australia and few records are well confirmed. Has been recorded at Racecourse Flats; Lauderdale.
Red-necked Stint	<i>Calidris ruficollis</i>	Lauderdale mudflats; Feeds on mudflats, North and South Areas; Roost on spit in North Area or along foreshore if disturbed.
Bar-tailed Godwit	<i>Limosa lapponica</i>	Racecourse Flats; Lauderdale mudflats; Feed on mudflats, North and South Areas; Roosts on spit in North Area or along foreshore if disturbed.
Eastern Curlew	<i>Numenius madagascariensis</i>	Racecourse Flats; Lauderdale mudflats; Feeds on mudflats, North and South Areas; Roost on spit in North Area or along foreshore if disturbed.
Whimbrel	<i>Numenius phaeopus</i>	One bird sighted on Lauderdale mudflats.
Common Greenshank	<i>Tringa nebularia</i>	Racecourse Flats; Feed and roost, especially in the South Area.

<i>Species</i>	<i>Scientific Name</i>	<i>Observations</i>
Terek Sandpiper	<i>Xenus cinereus</i>	Lauderdale mudflats; feeds on mudflats in the North and South Areas, roosts on spit in North Area or along foreshore if disturbed.
Lathams Snipe	<i>Gallinago hardwickii</i>	DEH Protected matters search tool, but not documented at the site
White-throated Needletail	<i>Hirundapus caudacutus</i>	DEH Protected matters search tool, but not documented at the site
Arctic Jaeger	<i>Stercorarius parasiticus</i>	Sighted on Lauderdale mudflats, North Area, summer 2002, rare vagrant.

There are three marine species that were detected by the EPBC search tool: the fork-tailed swift; cattle egret; and hooded plover; which have not been documented at the site. However, it is possible they do occur and this will be addressed in the IIS.

### **Commonwealth Marine Areas**

There are no Commonwealth marine areas affected by this proposal.

### **Commonwealth Land**

There is no Commonwealth land affected by this proposal.

### **Listed Commonwealth Heritage Places**

There are no Commonwealth Heritage Places affected by this proposal.

### **Conservation Reserves and Parks**

#### Ralphs Bay Conservation Area

The original Conservation Area was first reserved in 1982 and is labelled as an IUCN Category V conservation area, i.e. it is classified as a 'protected landscape'.

The boundaries of the Ralphs Bay Conservation Area will be revised under the *Ralphs Bay Conservation Area (Clarification) Act 2006* once certain provisions of the Act come into effect. Under the Act, the Conservation Area could be expanded from 7 to 171 hectares, thereby including the northern mudflats and the southern salt marshes within the area (refer to Attachment 2 and Figure 4). However, under the Act, the Resource Planning and Development Commission has the right to determine the future conservation area boundaries in the bay. This includes the power to excise approximately 90 hectares of northern mudflats for sale to Walker Corporation if the project is granted approval.

#### Other Reserves

A narrow reserve occurs parallel to the shore running southwest from Hayne's point. It is shown in Figure 4.

### **Remnant Native Vegetation**

Remnant native vegetation communities found at the proposed development site are indicated in Figure 6, based on TASVEG mapping units (The LIST 2006). A key for native vegetation mapping units that occur within, or that directly abut, the proposed site, are included with the figure. Other mapping units that border the site consist of agricultural and urban land and exotic vegetation. Small stands of *Eucalyptus globulus* dry forest occur near the northern boundary of the proposed site; these are not expected to be directly disturbed by the proposal. Succulent saline herbland occurs on the spit at the southern end of the proposed development. A range of additional salt marsh and wetland communities occur at the southern end of the bay in East Marsh Lagoon, where it is proposed to carry

out habitat restoration activities and road re-alignment works. None of the vegetation communities or known flora species in the area of the proposed development is listed as threatened under the EPBC Act.

**3.2 Provide a description of important features of the project area and the affected area and show these on the attached map, including (if relevant to the project area or affected area) information about:**

- (a) soil and vegetation characteristics;
- (b) water flows, including rivers, creeks and impoundments;
- (c) the presence of outstanding natural features, including caves;
- (d) gradient;
- (e) any buildings or other infrastructure;
- (f) any marine areas;
- (g) kinds of fauna in the area;
- (h) the current state of the environment in the area, including information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops;
- (i) known Indigenous heritage values; and
- (j) any other characteristics or important features of the receiving environment if the action is by a Commonwealth agency or may affect Commonwealth land.

The description of important features should highlight any attributes of the environment if the action is being undertaken by a Commonwealth agency or will occur on, or potentially affect, Commonwealth land. Important features may include physical, natural, cultural, indigenous or other human attributes and values (see *Principal Significance Guidelines 1.2 for Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* at <http://www.deh.gov.au/epbc>).

The Proposal area is located in a sheltered embayment within Ralphs Bay in the lower Derwent Estuary and can be divided into two main areas: a) the site of the proposed marina development at the northern end of the bay (North Area), and b) the area of proposed habitat restoration/creation works and road re-alignment at the southern end of the bay (South Area) (refer to Figure 3). Important cultural features in addition to those mapped in earlier figures have been included in Figure 3, namely drainage lines, existing public infrastructure, cadastral boundaries, stormwater outlets, and the disused landfill site. Important conservation and habitat features and information are provided in Figure 4.

**(a) Soil and Vegetation Characteristics**

The marina site consists of intertidal sand flats and adjoining subtidal soft sediment habitat on the western fringe. Previous seabed mapping and geotechnical studies indicate that this area is dominated by loose shelly sand that is up to 6 m deep in places. Sand at the proposed development site is typically fine to medium with varying shell content. Below the loose sand layer, unconsolidated sediments continue to a depth of at least 24 m and consist of moderately dense sands and stiff silts and clays, with layers of moderately dense to dense shelly material in places (Pitt and Sherry 2000). The area of proposed habitat restoration and road re-alignment works is underlain by up to 20 m of unconsolidated sands and silty sands, while clay, organic material and shell deposits occur locally and discontinuously within the sands (Cromer 2003). Acid sulphate soils have not been identified in the proposed area.

Several vegetation communities found at, or bordering, the proposed site have conservation significance in Tasmania, as documented by DPIW (2006). These include the *Eucalyptus globulus* dry forest and woodland community on the northern fringe of the site, and the saline aquatic herbland and undifferentiated wetland communities mapped in East Marsh Lagoon, the site of proposed habitat restoration activities. It is notable that the above *E. globulus* forest vegetation will not be disturbed by the project, while East Marsh Lagoon contains some native vegetation but it is currently severely

degraded (see below). Other vegetation communities in the vicinity of the proposed site include: succulent saline herblands on a spit at the southern end of the marina site and around the southern fringes of the bay; undifferentiated salt marsh communities in the area known as 'Racecourse Flats'; a narrow strip of coastal shrubland in the area separating the eastern margin of the marina site and South Arm road (Barker and North 2000), although this area is mapped as 'Agricultural, Urban and Exotic Vegetation' under the TASVEG mapping system; and a sparse intertidal patch of seagrass near the Ralphs Bay side of the causeway that separates East Marsh Lagoon from the bay. A literature review documented 84 native flora species within or directly adjacent to the proposed site, eight of which are considered in Tasmania to have conservation significance (Aqueal 2003). The same review documented 63 introduced plant species, two of which are declared weed species in Tasmania (Montpellier broom - *Genista monspessulana*; and gorse - *Ulex europaeus*), and one is listed as a weed of national significance (gorse).

#### **(b) Water Flows, Including Rivers, Creeks and Impoundments**

The proposed development site is located primarily between the mean high and mean low tidal water marks with an extension into subtidal waters along the western fringe.

There are no rivers, creeks or impoundments at the proposed site. However, there are a number of drainage lines that result in freshwater flows entering the site, while stormwater drains account for a significant portion of freshwater flows to the proposed site (refer to Figure 3). The proposed marina site is located entirely within Ralphs Bay in the lower Derwent Estuary and hence receives tidal flows in accordance with the transitional semi-diurnal/diurnal tidal regime of the estuary. Maps of simulated surface currents indicate that major flows between the estuary channel and Ralphs Bay operate in south easterly (tidal flood) and north-westerly (tidal ebb) directions (Walker and Hunter 1995). The northern section of Ralphs Bay, where the marina site is located, is therefore protected from strong tidal currents.

The alignment of the drainage depression which runs from the western end of Lauderdale Canal into Ralphs Bay is visible on aerial photography, though site surveys have shown the profile of the depression to be only very muted. The alignment is immediately adjacent to the proposed southern boundary of the development.

Tidal flushing of East Marsh Lagoon is prevented by a causeway originally constructed in the 1800s, although limited movement of tidal waters into the lagoon may occur during spring high tides. The salt marsh habitats in the vicinity of proposed habitat restoration and road re-alignment activities include natural water channels that help to maintain the salt marsh communities found there.

#### **(c) Outstanding Natural Features including Caves**

There are no caves or other outstanding natural features at the proposed site, nor any features listed as having significant geo-conservation values.

#### **(d) Gradient**

The proposed site is characterised by very flat topography: the marina site is located primarily between the mean high and mean low tidal water marks with an extension into subtidal waters along the western fringe; the road re-alignment works/habitat restoration site occurs between the mapped mean high water tidal mark and within <5 m height above that mark.

#### **(e) Buildings and other Infrastructure**

Lauderdale township, with a population of approximately 2,500, includes a commercial node on South Arm Road containing a hotel, petrol stations and retail shops, a closed landfill, a canal between Ralphs Bay and Frederick Henry Bay that has been closed off to Frederick Henry Bay, a school, a sports ground and a jetty and boat ramp (refer to Figure 3). Housing in the area ranges from shacks to more permanent residences.

There is no sewerage infrastructure in Lauderdale. Septic tanks are used to manage household and commercial sewage.

Water is supplied to Lauderdale by Hobart Water and is stored in a 100 kilolitre tank.

The main road leading through Lauderdale is South Arm Road. This road currently cuts through the South Area of salt marshes and restricts tidal flow to East Marsh Lagoon. The proponent proposes to realign this road so that the East Marsh Lagoon is reconnected with the bay on the western side of South Arm Road. This would not only provide environmental benefits, but would also improve traffic safety.

#### **(f) Marine Areas**

Refer to (b) and (d) above.

#### **(g) Fauna in the Area**

Fauna in the area includes marine invertebrate and fish species that occur on the tidal flats and in adjacent subtidal habitats, resident and migratory shorebirds that use the area for feeding, roosting and breeding, terrestrial birds and other terrestrial vertebrates and invertebrates that occur in habitats fringing the proposed site.

The intertidal sand flats support a wide range of marine invertebrate species, including bivalves, gastropods, polychaete worms, crustaceans and other less abundant taxa. Subtidal areas of Ralphs Bay also support numerous invertebrates, including native species and exotic marine pests such as the northern Pacific seastar *Asterias amurensis* and European clam *Corbula gibba* (Grannum *et al.* 1996, Ross *et al.* 2002). Surveys in Ralphs Bay have recorded 32 fish species (CSIRO, unpub., Green 2006), while the bay falls within the Derwent Estuary protected shark nursery habitat. Studies have found that juvenile schools sharks (*Galeorhinus galeus*) utilise the broader Ralphs Bay, although no shark pupping grounds have been identified there (Stevens and West 1997).

The proposed development site is an important foraging and roosting area for pied oystercatchers (*Haematopus longirostris*). The Lauderdale site is ranked 3<sup>rd</sup> out of 32 areas of international and national importance for this species in Australia (Watkins 1993). Numbers of this species feed in the area of the proposed development and roost above the high tide mark in various parts of Ralphs Bay. Only small numbers (less than 10 pairs) of pied oystercatchers breed in Ralphs Bay. These sites are above the high tide line.

In addition to shorebirds, at least 29 terrestrial bird species, six mammal species (the eastern barred bandicoot, the Tasmanian devil, the ringtail possum, the echidna, the brushtail possum and the little forest bat) and one frog species (the brown tree frog) have been recorded in the Lauderdale area and potentially occur at or near the proposed site (Aquenal 2003). Invertebrates include a range of freshwater, semi-terrestrial and terrestrial species, in addition to the marine invertebrates described above. A previous study of the Lauderdale salt marshes identified 80 invertebrate species (Marsh 1982), while two geometrid moth species found there are considered in Tasmania to have high conservation significance.

#### **(h) State of the Environment in the Area**

Both the North and South Areas of Ralphs Bay have incurred gradual degradation from human disturbance. The sediments in the area have been impacted historically by contamination from the zinc smelter and the paper mill located upstream on the Derwent River. Green and Coughanowr (2003) have confirmed that the tidal flats are moderately contaminated with heavy metals.

Previous operation of the Lauderdale canal resulted in deposition of dredging wastes north of the canal within Ralphs Bay. The artificial spit formed with the canal dredge wastes is unstable and subject to erosion, although it has been colonised by succulent saline herbland vegetation. As a result of the erosion, shore birds must increasingly compete for roosting space in this area.

The site receives discharges from a number of stormwater outlets (Sinclair Knight Merz 1998). There have been occasional events of poorly treated sewage being identified on the mudflats, a possible

result of failed septic systems on the adjacent section of coast. It is also possible that leachate from the now closed Lauderdale landfill may be impacting on the area.

In the area of proposed habitat restoration activities, the construction of a causeway across the salt marshes, dating back to the 1800s, has resulted in poor flushing and degradation of East Marsh Lagoon. Obstructions to tidal flows have resulted in unnaturally dry and hyper-saline conditions at certain times in the lagoon, whilst during high rainfall periods, the area may become waterlogged with predominantly fresh water. These highly variable conditions, combined with periodic eutrophia (Marsh 1982), preclude the survival of many plant communities that once occurred in the area of the lagoon and have favoured the establishment of weed species. The salt marsh flats located on Racecourse Flats, in the vicinity of proposed road works, have also been damaged as a result of historical agricultural use, the now closed Lauderdale landfill and by recreational activities.

The numbers of exotic and domestic species, such as rats, cats, dogs and horses have increased apace with the increase in residential development at the Lauderdale area. Breeding birds in the area are very susceptible to general disturbance and to impacts from domestic species, since eggs may be eaten or trampled, incubating birds attacked or young flightless birds predated upon (Newman 1991).

The above factors have led to a reduction in the areal extent of healthy salt marsh habitat, an increase in weed infestations and likely reductions in bird breeding success.

#### **(i) Known Indigenous Heritage Values**

A desktop survey was carried out by Sainty (2005) for the purpose of identifying any previously recorded Aboriginal sites within the surrounding area of the proposed development.

The report notes that the area of the proposed site and areas surrounding it were used regularly by Aborigines prior to European settlement. Aborigines have a continued physical and spiritual connection to the area, as with numerous other areas along the Derwent River.

Review of the Tasmanian Aboriginal Site Index (TASI) at the Aboriginal Heritage Office of the Department of Parks, Tourism, Heritage and the Arts showed that there have been no sites recorded within the proposed development area.

Sainty (2005) recommended that an on-ground Aboriginal cultural heritage survey be completed prior to works commencing and that thorough consultation be also undertaken with the Aboriginal community.

#### **(j) Any Other Characteristics or Important Features of the Receiving Environment if the Action is by a Commonwealth Agency or May Affect Commonwealth Land**

Not applicable as action is not by a Commonwealth Agency and will not affect Commonwealth Land.

### **3.3 What is the *tenure* of the project area (for example is it freehold, leasehold or some other tenure)? If practicable, show on the attached map.**

The development area is currently Crown Land. . The Crown will sell Walker Corporation the land necessary for the development subject to the proposal receiving all the necessary State and Commonwealth approvals. The Conservation Area (refer to Figure 4) is Crown Land and is managed under the *National Parks and Reserves Management Act 2002*.

### **3.4 What are the current and/or proposed *land uses* for the project area?**

The mudflats and salt marshes currently provide habitat for a range of species including migratory birds. Some recreational activity is centred on these areas, principally fishing (mostly flathead and flounder). Windsurfers are also known to use the area. The area forms part of the coastal foreshore of Lauderdale.

No other future proposed land uses, for the project area, are understood to exist beyond those of this proposal.

The foreshore area that will be required for access to the development currently forms the verge of South Arm Road. It is proposed that a short access roads constructed across the existing verge would join South Arm Road and the development. The portion of the mudflats which would be included in the development would be replaced by interconnected islands, separated by navigable canals fringed by rock walls, linear parks, walkways, jetties and a new beach. Most of the open areas will be accessible to the public and will become part of the public foreshore amenities of Lauderdale.

## 4. Nature and extent of the likely impacts of the action

### 4.1 Describe, as relevant to your project, the nature and extent of *likely impacts* on the following matters of national environmental significance protected by the EPBC Act:

- (a) the world heritage values of a declared World Heritage property; or
- (b) the heritage values of a listed National Heritage place; or
- (c) the ecological character of a declared Ramsar wetland; or
- (d) the members of a listed threatened species (except a conservation-dependent species) or any threatened ecological community, or their habitat, or
- (e) the members of a listed migratory species or their habitat; or
- (f) the environment in part of the Commonwealth marine area.

#### (a) The World Heritage Values of a Declared World Heritage Property

No impact.

#### (b) The heritage values of a listed National Heritage place

No impact.

#### (c) The Ecological Character of a Declared Ramsar Wetland

No direct impact.

#### (d) The Members of a Listed Threatened Species (Except a Conservation-Dependent Species) or any Threatened Ecological Community, or their Habitat

##### Swift Parrot *Lathamus discolor*

The swift parrot *Lathamus discolor* is a nectivorous summer visitor that relies primarily on a range of eucalypt species, especially tall gums such as blue gum (*Eucalyptus globulus*) during the breeding season. Barker and North (2000) identified the small remnant blue gum stand, located adjacent to the northern boundary of the proposed development area, to be foraging habitat for the swift parrot. They suggested that while the remnant is relatively small, examples of this scale scattered through the region contribute a significant forage resource in their sum. As this proposal commits to protecting this stand of blue gum, it is unlikely that the proposal will result in any loss of foraging habitat. The only potential risk to swift parrots from the proposal is collisions with windows and fences in the development, but strategies can be used to minimise the risk of collision. There will be no impact to the breeding population of the species as the closest they breed to this site is Mount Rumney (Ray Brereton, Swift Parrot Recovery Team, pers. comm.) Mount Rumney is located approximately 6 kilometres north-north-west from the proposed site (refer to Figure 1).

##### Wedge-tailed Eagle *Aquila audax fleayi*

The Tasmanian sub-species of the wedge-tailed Eagle *Aquila audax fleayi* has been sighted at Lauderdale (P. Park, pers. comm.), but there are none nesting in the vicinity of the proposed site, and it is unlikely that they would forage in this area. Given that there are no nests, nesting habitat or likely foraging habitat at the proposed site, it is very unlikely there would be any impact to this sub-species from the proposal.

Eastern Barred Bandicoot *Perameles gunnii* and Tasmanian devil *Sarcophilus harrisii*

While the eastern barred bandicoot *Perameles gunnii* has been recorded in the Lauderdale area, this species is unlikely to utilise habitats that will be affected by the proposed development. Similarly, the Tasmanian devil *Sarcophilus harrisii* has not been recorded from the Lauderdale area in recent times and is unlikely to find suitable habitat at the proposed site. Hence no impact on these species is anticipated.

Spotted Handfish *Brachionichthys hirsutus*

The spotted handfish *Brachionichthys hirsutus* has not been recorded at the proposed site and occurs in subtidal as opposed to intertidal habitats; hence reclamation of intertidal mudflats during construction of the marina development will not result in a direct loss of habitat for this species. The nearest known population is located approximately 3.3 km south west of the actual development, although detailed surveys for spotted handfish in areas closer to the development have not been conducted.

There are a number of processes during construction and operation of the development that are potentially threatening to the handfish and require further investigation and mitigation planning. These include: the potential during construction for increased water turbidity, reduced water oxygenation, heavy metals re-suspension and sediment re-settlement in areas adjacent to the proposed site; and the potential during operation for sediment deposition in handfish habitat due to altered coastal processes, increased numbers of exotic marine pests such as the northern Pacific seastar *Asterias amurensis*, disturbance caused by increased boating activity and reduced water quality as a result of the marina's operation. It is likely that the above activities will have some impact on the handfish or its habitat, however the extent of this impact cannot be determined at this stage. It is likely that threats can be reduced through appropriate mitigation measures, however both potential impacts and mitigation strategies require more detailed investigation during the compilation of the IIS.

Southern right whale *Eubalaena australis* and humpback whale *Megaptera novaeangliae*

The southern right whale *Eubalaena australis* and humpback whale *Megaptera novaeangliae* may occur seasonally in neighbouring parts of the lower Derwent Estuary, however Ralphs Bay does not provide habitat for these species and no impact upon them is anticipated.

**(e) The Members of a Listed Migratory Species or their Habitat**

Refer to comments on threatened species (section (d) above) in relation to the humpback whale *Megaptera novaeangliae*.

Table 2 (Attachment 3) lists the number of migratory bird species observed on or near the proposed development site, their major breeding areas, and the proportion of the population present at the proposed site and summarises the significance and potential impacts to each species.

Of the 26 species of migratory birds listed in Tables 1 and 2, 5 species have been observed as either residents of the site or regular users in substantial numbers:

- Double-banded Plover
- Red-capped Plover
- Red-necked Stint
- Bar-tailed Godwit
- Eastern Curlew

There is the potential for an impact to the populations of these five species from the Proposal. Detailed discussions regarding these 5 species are provided in Attachment 4. All five species are expected to incur direct impacts due to a loss of, or indirect impacts to, their feeding and roosting habitats. In addition to acting as a feeding and foraging site for all five species, the site is also used as a breeding area by a small number of red-capped plovers.

Of the remaining 21 species, 19 have either not been observed directly on the proposed site (only in surrounding areas), are rare sightings or only irregularly observed, or have been observed in very low numbers. Therefore, assessing these species individually indicates that there will not be a significant impact to the status or populations of these species.

These 19 species are listed below:

White-bellied Sea-eagle	Pacific Golden Plover	Curlew Sandpiper
Great Egret	Black-winged Stint	Red Knot
Greater sand Plover	Ruddy Turnstone	Little Stint
Mongolian Plover	Sharp-tailed Sandpiper	Whimbrel
Oriental Plover	Dunlin	Greenshank
American Golden Plover	Baird's Sandpiper	Terek Sandpiper
Arctic Jaeger		

The remaining 2 species have not been documented as having been observed at the proposed development site, although they were reported using the DEH Protected Matters Tool (DEH 2005). These species are the Latham's Snipe and White-throated Needletail. The former's preferred habitat of wet grasslands and forb flats does not occur at the site and the latter would only occur as foraging flocks feeding overhead. Given that these 2 species are unlikely to occur at the proposed site, there will be no impact to them.

#### Cumulative impact

As described above, of the 26 migratory species using this site, only 5 use it on a regular basis or in reasonable numbers and hence the proposal is likely to impact on these. However, the Proposal will remove half of the mudflat habitat and will therefore affect nearby roosting areas, so any species that have previously used this site will no longer be able to do so.

#### **(g) The Environment in Part of the Commonwealth Marine Area**

No impact.

#### **4.2 Describe, as relevant to your project, the nature and extent of likely impacts on the environment for the following category of proposed actions (in addition to the specific matters addressed above in 4.1):**

- (a) a nuclear action; or
- (b) an action by the Commonwealth or by a Commonwealth agency; or
- (c) an action that will be taken on Commonwealth land or that may affect Commonwealth land; or
- (d) an action taken by the Commonwealth or by a Commonwealth agency that may affect a listed Commonwealth Heritage place or a place listed on the Register of the National Estate.

None of the above categories is applicable to the proposal.

## 5. Measures aimed at avoiding or reducing significant impacts on matters protected under the EPBC Act

5.1 Describe any specific measures proposed as part of the action to avoid or lessen significant impacts on matters protected under the EPBC Act. Include a timeframe or workplan for implementation of any relevant measures.

**Examples of relevant measures may include the timing of works to avoid critical periods for listed species, avoidance of habitat important for listed species from direct and indirect impacts, application of specific design measures to avoid or reduce impacts, or adoption of specific work practices to reduce or avoid impacts (see Referral Guide, Fact Sheet and 'Particular Manner' Guideline at <http://www.deh.gov.au/epbc>).**

No specific mitigation measures are proposed for the eastern barred bandicoot *Parameles gunnii*, the Tasmanian devil *Sarcophilus harrisii*, the wedge-tailed eagle *Aquila audax fleayi*, the southern right whale *Eubalaena australis* or the humpback whale *Megaptera novaeangliae* since no likely impacts have been identified for these species or their habitat.

Mitigation measures are recommended to prevent collisions of the swift parrot *Lathamus discolor* with buildings at the proposed development site. Designs to minimise the risk of collisions will be incorporated into the buildings.

The assessment in Section 4.1 indicates there is likely to be an impact to individuals of double-banded plovers, red-capped plovers, red-necked stints, bar-tailed godwits and eastern curlews using the site due to the loss of habitat in this part of their home range. As noted in Section 4.1, while the numbers of birds using the site do not represent significant proportions of the Australian populations of these birds, it is reasonable to conclude that the individuals present at Lauderdale may be lost from the population but further studies are required to confirm the potential impact.

There will be environmental positives of the proposal from actions to restore the mudflats and salt marsh at East Marsh Lagoon, however, there will still be a net loss of foraging and roosting habitat that will impact on the species listed above. It will be difficult to replace the lost habitat for these species, but further investigations into such initiatives will be carried out as part of the IIS.

Therefore, it is proposed that compensatory actions be undertaken at an appropriate alternative site such as the nearby Pitt Water – Orielton Ramsar site. That site, for instance, is severely degraded and by undertaking actions that improve the quality of the habitat, it is possible that the size of populations at that site may be increased. A suite of suggested actions to improve the quality of this, or another appropriate site could include management of the gull populations and management of anthropogenic impacts. These will be detailed in the IIS.

Various mitigation measures will be adopted to reduce impacts on the spotted handfish and its habitat. Measures proposed at this stage are listed below, while further measures will be assessed during compilation of the IIS:

- Techniques to minimise sediment re-suspension and dispersion from the proposed development site;
- Measures to prevent modification of coastal processes in the broader bay and to prevent modifications of patterns of sediment erosion and deposition;
- Measures to minimise water degradation both during construction and during operation. During construction, this will involve the above measures to prevent sediment dispersion and associated increases in turbidity, as well as protocols for preventing other construction wastes from entering the bay. During operation, appropriate measures for managing sewage, stormwater, boat waste and other general waste will be applied to prevent wastes entering the bay and compromising water quality;

- Measures to minimise colonisation of new structures by marine pests and prevent increased populations of these pest species in adjacent parts of the bay; and
- Measures to minimise disturbance through boating. This will involve collaborations with marine authorities to position navigation channels away from key handfish habitats and determine any other necessary protocols for minimising disturbance of these areas.

**5.2 Describe any consultations undertaken with Indigenous stakeholders regarding the action, if relevant. Identify relevant stakeholders and the status of consultations at the time of referral.**

During 2004, Walker Corporation undertook a three month community consultation program which involved a wide range of activities directed at both the local and wider community. Preliminary desk-top investigations have been carried out by Sainty (2005), and are summarised in Section 3.2 (i). No Aboriginal-specific consultation has yet been carried out but this is expected to be instigated in early 2007 after liaising with the Tasmanian Aboriginal Land and Sea Council (TALSC).

## 6. Information sources

### 6.1 List relevant references

**You should also attach a copy of any relevant reports or documents that support the arguments and conclusions made in this referral. For example, any flora and fauna surveys or desktop investigations should be provided.**

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## **6.2 For information given in sections 3 and 4 of this referral, please indicate:**

- (a) the source of the information; and
- (b) how recent the information is; and
- (c) how the reliability of the information was tested; and
- (d) any uncertainties in the information.

### **a) Source of the information**

Information has been obtained from a wide range of sources, including scientific journal articles prepared by research agencies, environmental consultant reports, unpublished wader counts compiled by Birds Tasmania, published wader counts, unpublished CSIRO data and reports, State Government information resources and databases, the State of the Derwent Report and honours theses.

### **b) How recent the information is**

Previous consultant reports relating specifically to this development date between 2000 and 2003, while other relevant consultant reports date between 1995 and 2000. The State of the Derwent report referred to is the most recent version available, dating to 2003, while the most recent data available were also accessed from State Government databases and CSIRO handfish reports (2006). The majority of information on shorebirds dates between 1994 and 2003, although certain references relating to occasional sightings of rare species or providing contextual information on bird habitats and communities in the area date to as early as 1968. The latter information sources have been included to provide comprehensive information on potential shorebird species at the proposed development site. Other information on fish species and marine pests in the area were compiled in the 1990s, while the more detailed investigations of salt marsh communities were conducted in the 1980s.

### **(c) How the reliability of the information was tested**

The majority of the information sourced has been compiled by environmental scientists and other suitably qualified professionals and has been peer reviewed either by scientific journal editorial committees or internal review groups at research agencies and Government departments. Consultant reports compiled in relation to the proposal utilised the most up to date information available and involved considerable liaison with authors of documents sourced in order to confirm the reliability of

information. A significant proportion of the shorebird information sourced has been compiled by field naturalists who operated in a volunteer capacity to compile wader count data. These data, collected by members of Birds Tasmania, is considered reliable and constitutes a long-term data set. Bird watchers have been regularly monitoring waterbirds in south eastern Tasmania since 1966, with the Lauderdale mudflats having been surveyed every summer since 1973 and every winter since 1980, and these data have been used, along with published accounts prior to these times, for the assessment of impacts. Questions remain about the interchange of individuals of migratory species between lagoons and studies will be conducted in the IIS to address this.

**(d) Any uncertainties in the information.**

There are no known uncertainties associated with the information sources utilised, however existing ecological data are in many cases insufficient for the purpose of assessing the impact of the proposed development and will therefore need to be supplemented through the collection of additional data.

## 7. Signatures and Declarations

**Section 489 of the EPBC Act states that the provision of false or misleading information is an offence punishable on conviction by imprisonment and fine.**

### 7.1. Signature of person making the referral -

I, **Isobel Stanley**, (*full name*), declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature



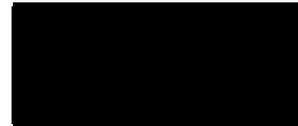
Date 12 December 2006

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### 7.2. Signature of person proposing to take the action

I, **Lia Morris**, (*full name*), declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature



Date 12 December 2006

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### 7.3. Declaration of person nominated as proponent in Section 1.3, if different from person proposing to take the action

I, \_\_\_\_\_ (*full name*), being (or agent acting on behalf of) the person nominated in Section 1.3 of this referral form as the nominated proponent agree to be designated as the proponent for the action described above if it is decided that the action requires approval under Part 9 of the EPBC Act.

Signature

Date

Signature of person proposing to take the action

Date

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**Fill in Section 7.4 if you believe that the proposal is not likely to have a significant impact on matters protected by the EPBC Act and that the proposal is therefore not a controlled action. Fill in Section 7.5 if you believe that the proposal is likely to have a significant impact on a protected matter and that the proposal is therefore a controlled action. (Note: This Section must be completed in *all cases* except where the referral is made by a State or Territory or a Commonwealth agency in relation to an action to be taken by another person.)**

**7.4. If you think your proposed action is not likely to have a significant impact on any of the matters listed in the table below, then you should select and complete the following statement and you should not mark any of the boxes in the table below.**

I .....(full name), being the person making this referral and the person proposing to take the action (or agent acting on behalf of the person) believe that the action described in this referral **is not a controlled action.**

**Briefly provide reasons why you believe your proposed action is not a controlled action:**  
(Note: For an explanation of the term “controlled action”, see the Referral Guide.)

**OR**

**7.5. If you think that your proposed action is likely to have a significant impact on any of the matters listed in the table below, then you should select and complete the following statement. You must then mark ‘Yes’ against those matters on which you think it will have a significant impact, in the table below.**

I, **Isobel Stanley**, (full name), being the person making this referral and the person proposing to take the action (or agent acting on behalf of the person) believe that the action described in this referral **is a controlled action because of the following provisions of the Act:**

<b>Significant Impact Likely</b>	<b>Controlling Provision</b>
	<b>World Heritage property</b> (Sections 12 and 15A - significant impacts on the values of a World Heritage property)
	<b>National Heritage places</b> (Sections 15B and 15C – significant impacts on the values of a National Heritage place)
	<b>Ramsar Wetland</b> (Sections 16 and 17B - significant impacts on the ecological character of a Ramsar wetland)
✓	<b>Threatened species or ecological communities</b> (Section 18 and Section 18A - significant impacts on a listed threatened species or a listed threatened ecological community)
✓	<b>Migratory species</b> (Sections 20 and 20A - significant impacts on a listed migratory species)

	<p><b>Nuclear action</b> (Sections 21 and 22A - nuclear actions)</p>
	<p><b>Commonwealth marine area</b> (Sections 23, 24 and 24A - actions relating to the Commonwealth marine area and fishing in coastal waters managed by the Commonwealth)</p>
	<p><b>Commonwealth land</b> (Sections 26 and 27A - actions relating to Commonwealth land)</p>
	<p><b>Commonwealth action</b> (Section 28 - actions by the Commonwealth having a significant impact on the environment)</p>

**Briefly provide reasons why you believe your proposed action is a controlled action:**  
(Note: For an explanation of the term “controlled action”, see the Referral Guide.)

It is likely that there will be some impact on the endangered spotted handfish *Brachionichthys hirsutus* or its habitat, although the extent of this impact cannot be ascertained until further studies are conducted. A detailed assessment of potential impacts on this species, in addition to the development of appropriate measures that can be adopted to mitigate these impacts, will be conducted during preparation of the IIS. Potential risks to the swift parrot *Lathamus discolor* from collisions with windows and fences in the development were also recognised. These risks and associated management strategies require further assessment during the compilation of the IIS.

There will be a direct loss of foraging and/or roosting habitat for a number of migratory waders, with arguably the most important losses being to double-banded plovers, red-caped plovers, pacific golden plovers, red-necked stints, and to a lesser extent, curlew sandpipers, bar-tailed godwits and eastern curlews. There is a chance that individuals of these species that are displaced from the proposed development site will be accommodated at surrounding lagoons, but further studies are required to determine if this is possible. A detailed assessment of the significance of these losses and the exploration of compensatory mechanisms is required for these species (also refer to Section 5.1 paragraph 5).

If the person making this referral is, or is representing, a *small business* ( a business having fewer than 20 employees), please provide an estimate of the time taken to complete this form.

***Please Include***

- The time spent reading the instructions, working on the questions and obtaining the information; and
- The time spent by all employees in collecting and providing this information.

hours          minutes

END OF FORM

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## **FIGURES**

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**ATTACHMENT 1**

**List of Species from EPBC Search Tool for Ralphs Bay**

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**ATTACHMENT 2**

**Ralphs Bay Conservation Area (Clarification) Bill 2006  
and  
Amendment to page 7**

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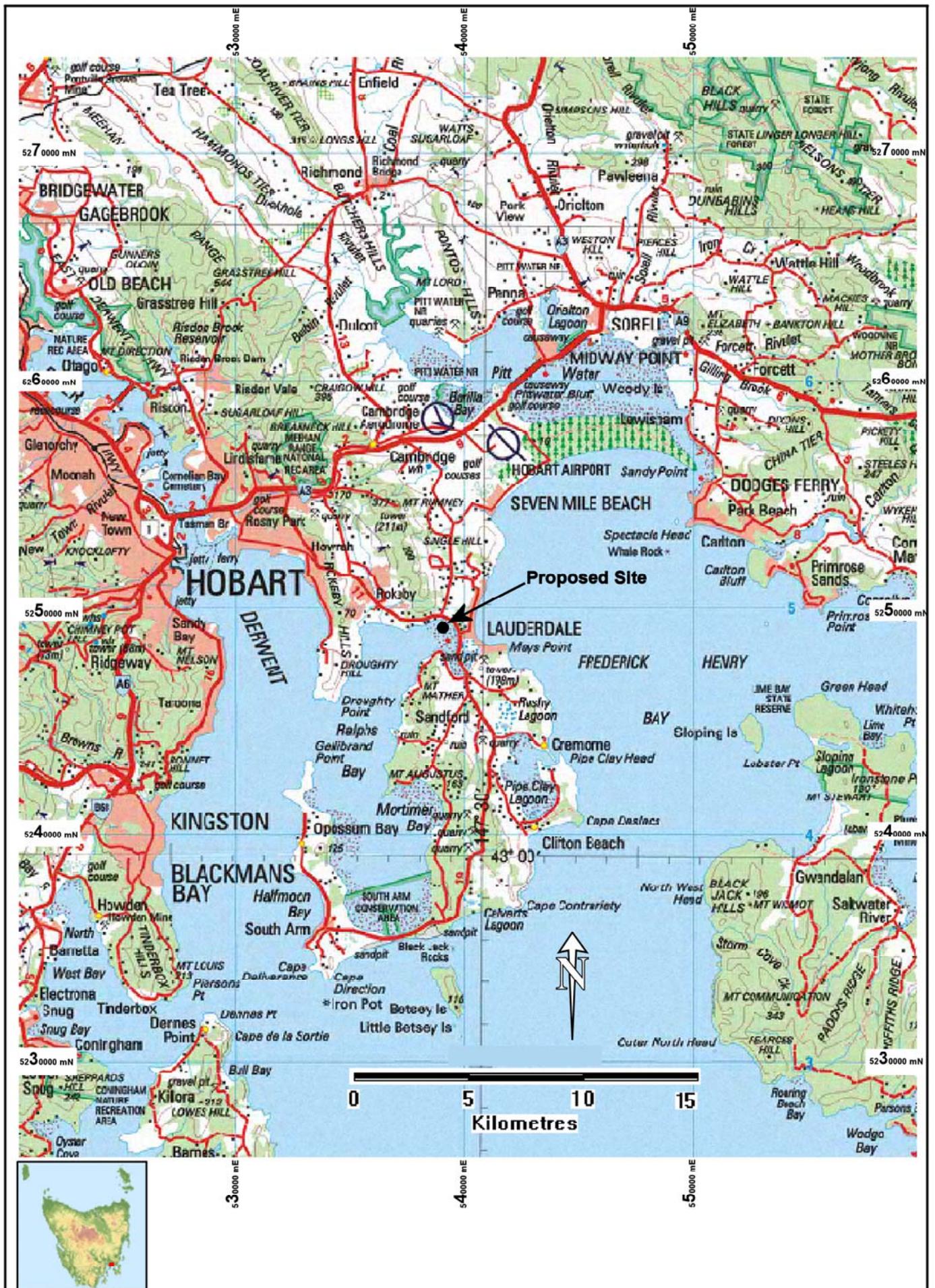
**ATTACHMENT 3**

**Table 2 – Summary of Potential Impacts to Migratory Bird Species at  
Proposed Development Site**

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## **ATTACHMENT 4**

### **Discussion on Five Potentially Impacted Wader and Migratory Bird Species**



EPBC Referral for Lauderdale Quay Development, Lauderdale, Tasmania

Figure 1 - Regional Location Map

December 2006



EPBC Referral for Lauderdale  
Quay Development,  
Lauderdale, Tasmania

Figure 2 - Regional Aerial Photo Location

December 2006



- Proposed Development Area
- Proposed Development Boundary
- Cadastral Parcels
- Drainage Lines and Water Bodies
- Stormwater Outlets

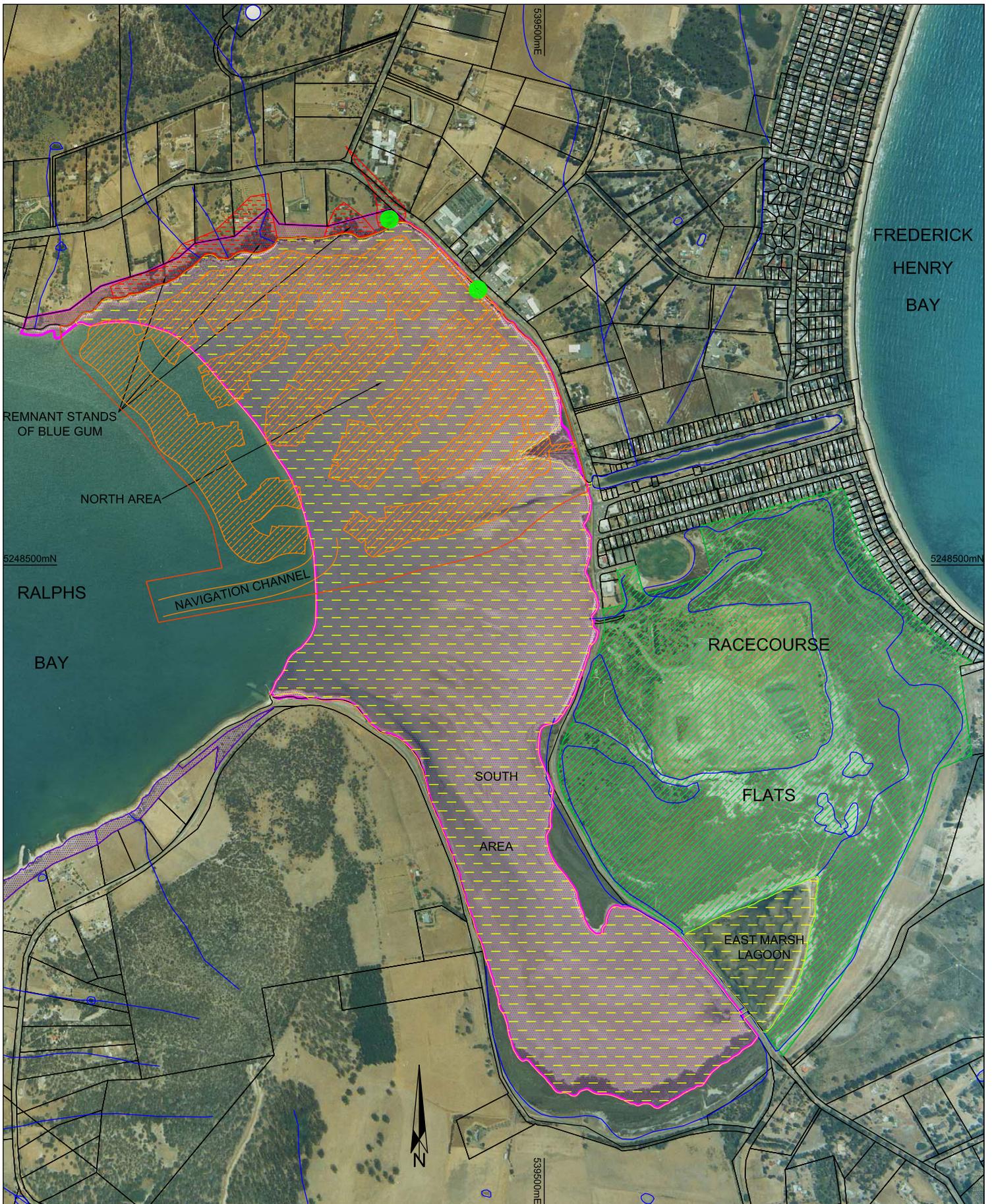
- Upgrade existing Skate Park
  - Upgrade existing Linear Parks
  - Upgrade existing Community Area
- 0 100 200 400 600
- Scale (metres)

- Upgrade portion of existing South Arm Rd
- Remove portion of existing South Arm Rd
- Option 1 - South Arm Rd Realignment
- Option 2 - South Arm Rd Realignment

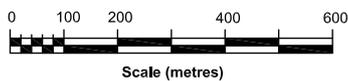
EPBC Referral for Lauderdale Quay Development, Lauderdale, Tasmania

Figure 3 - Development Proposal

December 2006



- Proposed Development Area
- Threatened and Migratory Species Habitat Areas
- Racecourse Flats
- Swift Parrot - foraging habitat
- Proposed Conservation Area
- Reserves



- Cadastral Parcels
- Drainage Lines
- Proposed Development Boundary
- Eastern Barred Bandicoot records

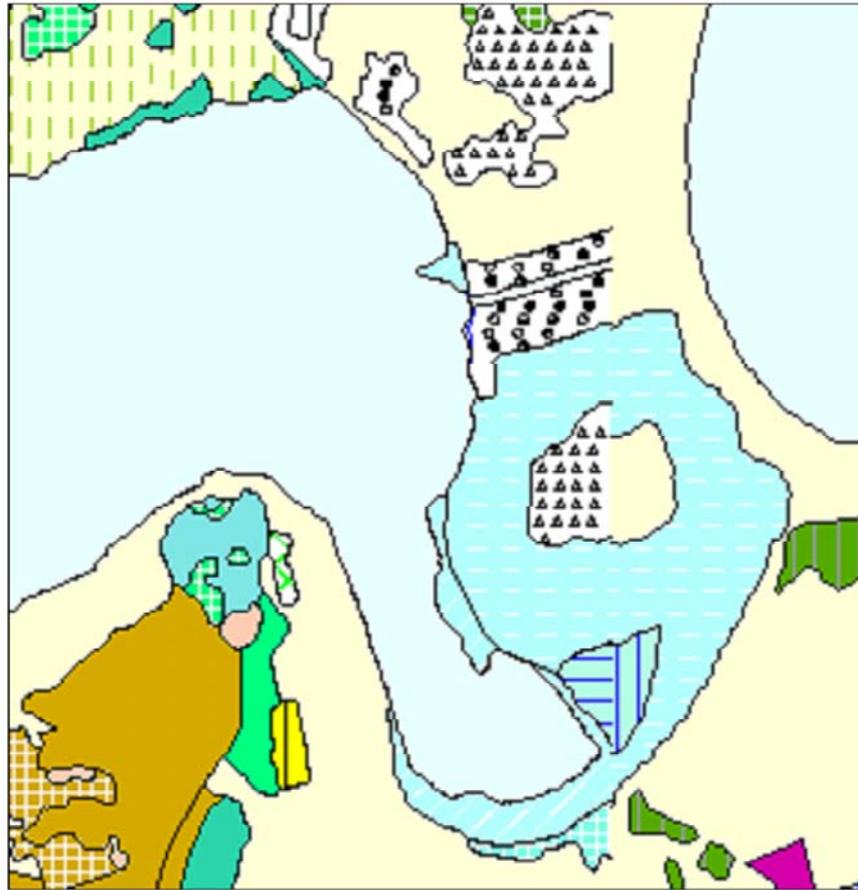


-  Pitt Water Orielton Ramsar Site
-  Migratory Bird Habitat
-  Reserves
-  Proposed Conservation Area

EPBC Referral for Lauderdale  
Quay Development,  
Lauderdale, Tasmania

Figure 5 - Regional Features of Significance

December 2006



	TASVEG Code	Vegetation Community	Vegetation Group
	DGL	<i>Eucalyptus globulus</i> dry forest and woodland	Dry eucalypt forest and woodland
	AUS	Salt marsh (undifferentiated)	Salt marsh and wetland
	ASS	Succulent saline herbland	Salt marsh and wetland
	AHS	Saline aquatic herbland	Salt marsh and wetland
	AWU	Wetland (undifferentiated)	Salt marsh and wetland

NOTE: TASVEG mapping units at Lauderdale, as contained within The LIST (2006), including a legend for native vegetation communities found within or directly bordering the proposed development site.