

4 Godwin Beach

4.1 Council Controlled Areas and Current Condition

Council controlled land and shoreline types within the Godwin Beach study area are indicated in Figure 4-2. The beach unit is within a declared Conservation Park Zone and the waters offshore are part of a National Marine Park Zone with significant seagrass beds. A small section of Council controlled road reserve is located at the southern extent of the study area (north of the Bayside Drive community). There is limited access to this location and no significant built assets.

The Godwin Beach community is located at the northern extent of the beach unit. The foreshore area stretching along The Esplanade is protected by a sloped concrete seawall with signs of previous repair works (refer Figure 4-1a). A number of stormwater outlets that extend across the beach are having a minor “groyne-like” effect with sand accumulation on their up drift (northern) side (refer Figure 4-1b). A small pocket of identified shorebird habitat is located within the intertidal area toward the western end of the foreshore area (refer Appendix A).

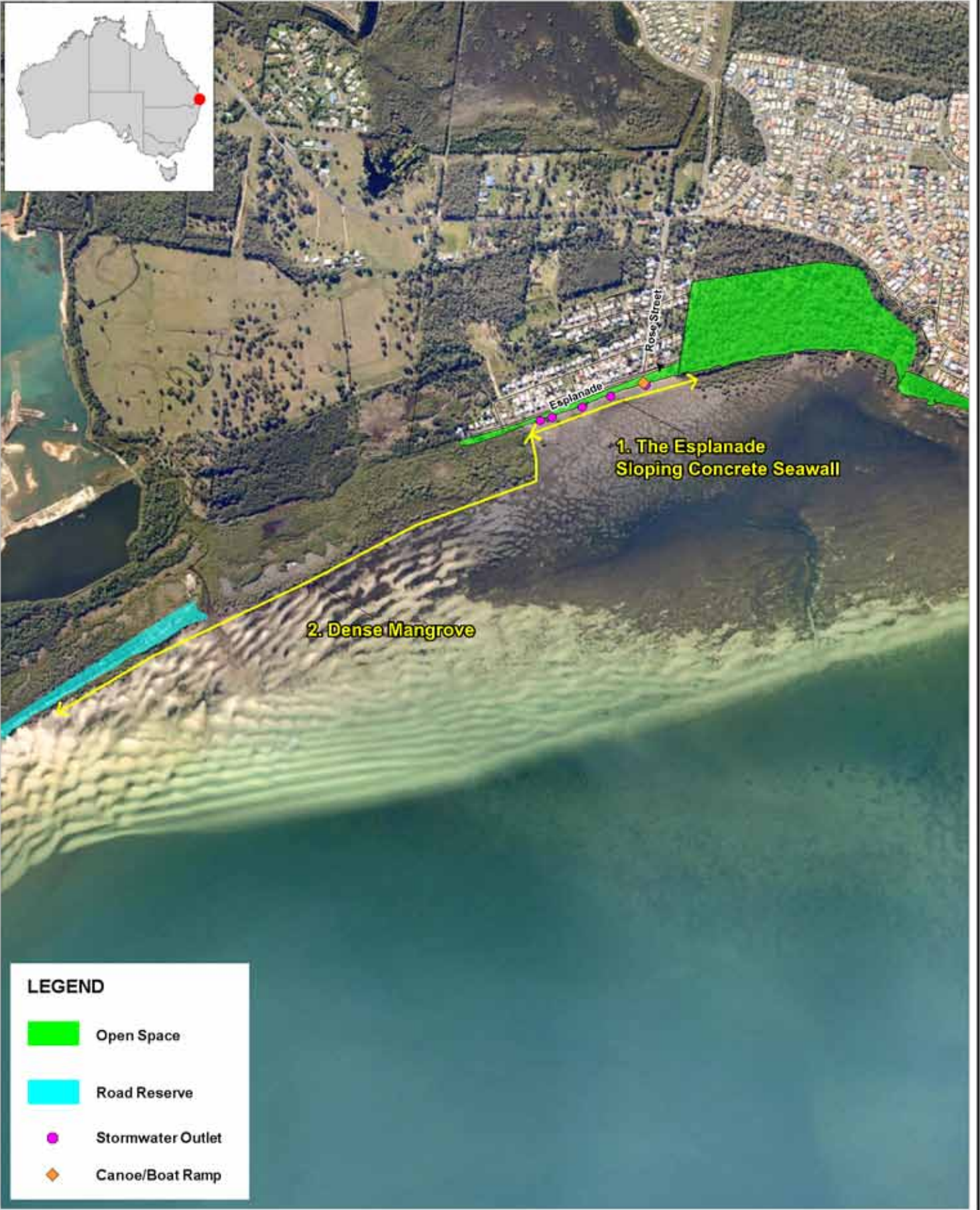
The foreshore area provides the local community with social and recreational opportunities. The low lying foreshore is likely to be prone to storm tide inundation however no obvious signs of recent seawall overtopping or significant foreshore erosion were evident during site visits in 2013/14. Wave energy reaching the shoreline is expected to be low with sheltering from offshore swell provided by the southern tip of Bribie Island. The tidal flat extending approximately 1km offshore also acts to limit the growth of locally-generated wind waves.



Figure 4-1 Example Shoreline Condition throughout Godwin Beach Study Area: a) Sloped Concrete Seawall; b) Stormwater Drainage Pipe

4.1.1 Shoreline Vegetation

The shoreline vegetation throughout the southern section of the beach unit is characterised by a dense mangrove community dominated by *Avicennia marina*. Along the remainder of the Godwin Beach (i.e. fronting most of the residential extent), shoreline vegetation is limited to mown grass along the landward side of the existing seawall, with some isolated large trees (typically pines and eucalypts).



LEGEND

- Open Space
- Road Reserve
- Stormwater Outlet
- Canoe/Boat Ramp

Title:
Godwin Beach Beach Unit - Council Controlled Shoreline Areas and Current Condition

Figure:
4-2

Rev:
A

BMT WBM endeavours to ensure that the information provided in this map is correct at the time of publication. BMT WBM does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.



4.2 Shoreline Management Approaches Considered

All generic management options described in the Stage 1 report (refer Chapter 3) have been considered for the Godwin Beach shoreline and are summarised in Table 4-1. Through assessment of existing assets and the values associated with the Godwin Beach study area the following options were shortlisted:

- Maintain Status Quo;
- Seawall; and
- Mangrove and Coastal Vegetation Management.

Table 4-1 Godwin Beach Shoreline Management Options Assessment

Generic Options	Advantages	Disadvantages	Comments
1. Maintain Status Quo	a) No additional capital cost (part of routine maintenance)	a) Potential loss of foreshore amenity and risk to public safety b) Ongoing maintenance commitment	Shoreline not immediately threatened, potentially suitable approach in the short term
2. Planned Retreat	a) Mitigates the immediate shoreline erosion problem b) Shoreline can respond naturally to erosion events	a) Loss of public land with significant social value	No significant assets under immediate threat
3. Shoreline Nourishment	a) Maintains beach amenity	a) High capital and maintenance costs, requires ongoing commitment	Unlikely to significantly mitigate erosion pressure or overtopping during storm events
4. Seawall	a) Provide effective erosion control b) Provide direct property protection	a) Decreased beach amenity and beach lowering during extreme events b) High capital and maintenance cost	Upgrade to be considered within 10 year planning period; structural assessment to establish condition of existing seawall

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Generic Options	Advantages	Disadvantages	Comments
5. Groyne	a) Maintains local shoreline by increasing width of beach	a) Reduces sediment supply to downdrift locations b) High visual impact	Interception of littoral drift would need to be mitigated by beach nourishment to avoid undesirable impacts at downdrift locations
6. Offshore Breakwaters or Submerged Reef	a) Dissipate wave energy during severe events	a) High capital and maintenance cost b) Significant design challenges and uncertainty	Not likely to be effective due to existing wide tidal flats
7. Mangrove and Coastal Vegetation Management	a) Improve existing buffer to foreshore erosion associated with overtopping	a) Ongoing commitment	Intended to stabilise foreshore; appropriate foreshore landscaping included as part of seawall upgrade

4.3 Proposed Management Strategy

The sloping seawall that protects the Godwin Beach community foreshore is in a fair condition. While no major assets or values appear to be under immediate threat, this seawall may require upgrade within a 10 year period (to be confirmed through a structural integrity assessment). In the interim, vegetation and landscaping of the foreshore area could be undertaken to enhance social and environmental values. Long term opportunities for the Godwin Beach open space could be explored through an Open Space Master Plan.

4.3.1 Vegetation Management Considerations

The primary vegetation management consideration, of direct relevance to shoreline protection, for Godwin Beach, is the maintenance of healthy, viable mangrove community where this vegetation type is currently established. This will ensure the shoreline throughout the southern section of the Godwin Beach Beach Unit remains resilient to erosion in the short to medium term, and that the shoreline and its vegetative constituents can adapt effectively to longer term sea level rise. Given the sparseness of vegetation elsewhere in this beach unit, the public foreshore atop of the existing seawall would benefit from some landscaping and vegetation enhancement effort. However, such works in this vicinity would largely contribute to improving the aesthetic and ecological value of the public foreshore, rather than provide significant benefit to shoreline erosion management.



4.3.2 Summary

Council may wish to commence planning for an upgrade of the Godwin Beach seawall. The initial task would involve having the structural integrity of seawall assessed to determine the expected design life of the structure in its existing condition. This assessment may be considered in conjunction with the proposed Open Space Master Planning for the area.

Dense mangrove habitat either side of the Godwin Beach community provides indirect benefit to the Godwin Beach foreshore. While enhanced management of these areas is not required at this time, periodic inspection of the mangrove communities will ensure any health issues are identified and rectified at an early stage.

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Table 4-2 Godwin Beach Shoreline Management Summary

Shoreline Section Number	Existing Condition	Proposed Management Strategy
<p>1. The Esplanade – approx. 560m</p> 	<ul style="list-style-type: none"> • Sloping concrete seawall in fair condition • Narrow sandy beach with wide tidal flat offshore • Low lying foreshore vulnerable to storm tide inundation 	<ul style="list-style-type: none"> • Maintain status quo • Inspect foreshore following severe storm events • Consider revegetation and landscaping to stabilise foreshore area • Plan to upgrade seawall within 10 year period
<p>2. South of The Esplanade – approx. 1700m</p> 	<ul style="list-style-type: none"> • Dense mangrove community • Wide tidal flat offshore 	<ul style="list-style-type: none"> • Maintain status quo

4.4 Cost Estimate

The cost to complete the proposed Godwin Beach Open Space Master Plan, including a structural integrity assessment of the existing seawall, is estimated to be \$50,000 in 2014. This work would identify opportunities to enhance the foreshore open space and the need for major capital works.

If required, the additional capital cost associated with the proposed 500m seawall upgrade at Godwin Beach is approximately \$3,000,000 in 2014. This estimate assumed a new structure is required and is based on a pre-cast concrete stepped seawall design, corresponding to \$6,000/meter for detailed design, approval, construction and foreshore rehabilitation costs.

The proposed inspection of mangrove habitat may be undertaken by Council or community groups, ideally in conjunction with a coordinated mangrove monitoring program such as Mangrove Watch (information provided in Appendix A).

4.5 Approvals Plan

The approvals plan for the Godwin Beach study area considers the following:

- Approvals required under *SPA* and relevant government agencies; and
- Marine park permit requirements.

Approvals under the *Sustainable Planning Act 2009*

The upgrading of the Esplanade seawall will require a development permit under *SPA* for prescribed tidal works. The works will need to demonstrate compliance with the prescribed tidal works IDAS code in Schedule 4A of the *CPMR*.

Government agencies with an interest in these applications are:

- MBRC Planning Division;
- DSDIP, in regards to compliance with SPIs and the SDAP;
- DEHP, in regards to coastal management; and
- MSQ/RHM, in regards to impacts to navigation in a coastal management district.

Moreton Bay Marine Park permit requirements

As the Moreton Bay Marine Park covers all tidal land and waters in this beach unit, redevelopment of the seawall will also require a marine park permit under the *MPA*. The permit application would need to demonstrate the consistency of the development with the objects for the conservation park zone, as listed under the *Marine Parks Regulation 2006 (MPR)* Schedule 1, s4. These are:

- To provide for the conservation of the areas of the marine park within the zone; and
- Subject to this objective, to provide opportunities for reasonable use and enjoyment, including, for example, limited extractive use, of the areas.

An application for a marine park permit is considered by the Department of National Parks, Recreation, Sport and Racing (DNPRSR).