

GYMPIE REGIONAL COUNCIL

Crab Creek Erosion Remediation Design Case Study

Summary

Crab Creek at Tin Can Bay is a popular fishing spot and boat launching area. This well-used recreational area also has a playground, amenities building, BBQ's and all-weather picnic area that is frequented by locals and tourists alike. The Crab Creek boat ramp has significant historical value as one of the original dedicated launch points providing a vital link between Tin Can Bay and Rainbow Beach by pioneering men and women before overland tracks were established.

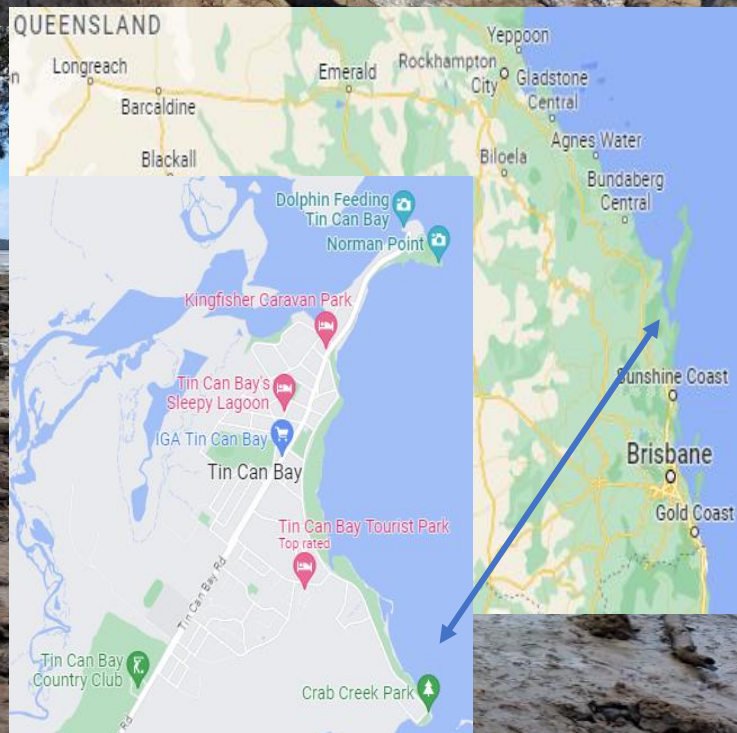
The south-eastern bank of Crab Creek recreational area has incurred severe erosion and undercutting resulting in loss of foreshore and vegetation. The vegetation at the site contains advanced eucalypt species, which are threatened with ongoing bank scouring and undercutting causing the trees to become dislodged and fail. Marine species are limited along the foreshore area due to erosive forces limiting marine plant recruitment

Project Overview

The scope of works for the Project Design phase included Project Initiation, Options Review, Environmental Constraints, Design Constraints and Detailed Design, and finally, Environment and Development Approvals.

This design project aimed to produce a design for Council to implement that will halt erosion and undercutting at Crab Creek, protect impacted mature trees and surrounding infrastructure while preserving ecosystem functions and services provided to the local community.

The options analysis considered a variety of solutions, nature based and engineered structures, with the engineered solution being considered the most appropriate and effective to mitigate the erosion impacts on this section of our erosion prone coastline and foreshore areas.



Benefits of Design for Project Delivery

Drivers

Council and community are aware of the potential and actual impacts from erosion along the Crab Creek shoreline. Understanding coastal and other process' which impact on our coastline, is as important in knowing the solutions needed to mitigate those process and protect our natural environment.

Council's coastal hazard adaption strategy (CHAS) for the Tin Can Bay area identified adaption actions focussed on mitigating expanding tidal area inundation and storm tide inundation risk are needed. Design informs future works.

Benefits

Design work has assessed and considered appropriate design options. These will provide a basis for community consultations and support cost estimation and budget allocation for physical project works.

The design work supports proposed development work which protect natural assets and community infrastructure assets.

The local environment will be further protected through retention of terrestrial species protection and allow for recruitment of marine plant species to further support nature-based protections along the foreshore area.

Engagement Activities

Gympie Council engaged the services of Royal Haskoning DHV to undertake specialist coastal engineering and design aspects of the Design Project. RHDHV held workshops and meetings regularly to ensure project scope and issues are identified and resolved.

Council also undertook internal engagement with local Councillor, to discuss design and Communications Plan developed for the Construction Phase of works for Crab Creek.

RHSDV lead pre-lodgement discussions with regulators to assure project scope and deliverables will be approved.

The benefits of these activities provided additional and alternative support and to better inform community during the construction phase.

Process / Guidance

Council acknowledges the support of LGAQ for their QCoast2100 Program, funding and FP4 workshops to assist Council undertaking QCoast 2100 Project Works.

The Design Phase was an investigative process aimed to provide guidance and direction to the construction phase, including Government Approvals.

The submission of the required Approvals marks the end of the Design Phase and pending further State Government Funding and finalising required approvals, indicates the construction phase activities, required to put into effect, the intent of the design for erosion Remediation and Crab Creek.

Problems / Challenges

Through undertaking this erosion design project, a variety of challenges presented themselves, and relate to general project management practices and process, specifically;

- Project delays and scope creep.
- Requirement for early communications for approval activities (internal & external).
- Staging chronologically, milestone deliverables
- Providing environmental assessment or impacts prior to receiving final design limits ability to factor in construction impacts and appropriate mitigation measures.

Considering a more robust project management framework and process as part of funding and project planning would better mitigate problems/challenges. Supported by appropriate time and resources spent on assessment and planning project milestones and working with internal; stakeholders would further reduce likelihood of problems / challenges. Solutions include;

- Ensure project staff have project management skills and/or training;
- Proposed works are collaboratively agreed prior to commencing works or receiving funding.
- Ensure allocation of human resources are adequate for the project scope of works.
- Develop more detailed project planning and scheduling tools to track and improve project performance .

The challenges for this project were addressed by spending additional time and resources on rectifying areas needing amendment or additional effort, and higher level of communications.

Outcomes / Conclusions

- The primary design project objective and outcome was the suitable design for erosion control in the tidal area, supported by the submission for approval for construction works within the tidal zone.
- In light of challenges faced, the key lessons learnt will be to consider more adequate chronology and timeframes for milestone activities.
- Council's next step is to take design and approvals through to community consultation and construction phases.

Project Partners & Stakeholders

The Design Project is an initiating phase project for a broader Construction Project to remediate the erosion occurring along our unique foreshore environment. The design phase included consultation with;

- Gympie Regional Council Design, Infrastructure and Open Spaces Teams
- Royal Haskoning DHV
- QLD State Approvals Referral Agency
- Department of Environment and Science
- Department of Agriculture and Fisheries
- Tin Can Bay Progress Association Representative and
- Gympie Regional Council - Division 1 Councillor Jess Milne.

The Communications Plan developed as part of the design phase includes more extensive community and stakeholder engagement throughout pre-construction, construction and post construction phases of the Crab Creek Project. Those communications will include Council, Community, Business and Tourism representatives.



For more information

Please contact us

Gympie Regional Council

Phone: 1300 307 800

Email: Environment@gympie.qld.gov.au