

## Shoalhaven Natural Resource & Floodplain Management Committee

**Meeting Date:** Thursday, 23 November, 2017  
**Location:** Ulladulla Civic Centre, Princes Highway, Ulladulla  
**Time:** 4.00pm

**Please note:** Council's Code of Meeting Practice permits the electronic recording and broadcast of the proceedings of meetings of the Council which are open to the public. Your attendance at this meeting is taken as consent to the possibility that your image and/or voice may be recorded and broadcast to the public.

### Agenda

1. **Election of Chairperson**
2. **Apologies**
3. **Confirmation of Minutes**
  - Shoalhaven Natural Resource & Floodplain Management Committee -  
7 September 2017 ..... 1
4. **Declarations of Interest**
5. **Reports**
  - SN17.21 Updates on the Shoalhaven River and St Georges Basin Floodplain  
Risk Management Study & Plan and Shoalhaven River Levee Flood  
Damage Restoration 2017 project..... 8
  - SN17.22 Flood Mitigation Projects – Flood Information Sign Project ..... 13
  - SN17.23 Currarong Coastal Erosion Remediation  
Detailed Design Progress Report November 2017 ..... 15
  - SN17.24 Shoalhaven Dredging Survey Report ..... 24
6. **General Business**

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**Membership**

Clr Findley – Chairperson  
All Councillors  
General Manager or nominee

**Community representatives:-**

David McCorkell  
Duncan Marshall  
Ian Stewart  
Dr Michael Brungs  
Dirk Treloar  
Annie Boutland  
Helen Moody  
David Reynolds  
Kaye Milsom  
Brett Stevenson  
Chris Grounds  
Mike Clear  
Paul Beckett  
Robyn Flack  
Peter Hanson

**Government Agency representatives:-**

Jerrinja LALC  
Ulladulla LALC  
NPWS  
SRCMA  
OEH  
RMS  
DPI Fisheries  
Local Lands Service  
Crown Lands  
NSW Office of Water  
Jervis Bay Marine Park Authority  
SES

Quorum – Three (3) provided that a minimum of one Councillor and two community representatives are present.

**Objective**

To foster sustainable management of Shoalhaven's natural resources including floodplains, coast and estuaries.

**Role of Committee**

1. Provide overall guidance for the management of natural resource management including floodplain management, estuary management and coastal zone management in accordance with Federal, State and Local Government Policy and Legislative instruments;
2. Advise Council on natural resource management including floodplain management, estuary management and coastal zone management matters;
3. Formulate agreed vision, goals, objectives, and targets sought from the Natural Resource Management Plans;
4. Facilitate the preparation of Natural Resources Management Plans;

5. Provides input into the identification of management options for Natural Resources Management Plans;
6. Facilitate broad community consultation;
7. Monitor State and Federal Government natural resource management direction and advises Council on appropriate response;
8. Monitor advances in knowledge and science of natural resource management issues (such as sea level rise and climate change) and integrate this knowledge in new Natural Resource Management Plans as well as in the review of existing Plans; and
9. Make recommendations for Council consideration.

## MINUTES OF THE SHOALHAVEN NATURAL RESOURCE & FLOODPLAIN MANAGEMENT COMMITTEE

**Meeting Date:** Thursday, 7 September 2017  
**Location:** Sussex Inlet Community Centre, Thompson St, Sussex Inlet  
**Time:** 4.05 pm

The following members were present:

Clr Amanda Findley - Chairperson  
Clr Kaye Gartner  
Clr Mark Kitchener  
Clr John Levett  
Clr Patricia White  
Mr Duncan Marshall  
Dr Michael Brungs  
Mr Dirk Treloar  
Ms Helen Moody  
Mr David Reynolds  
Mr Brett Stevenson  
Mr Chris Grounds  
Mr Mike Clear  
Mr Paul Beckett  
Mr Peter Hanson  
Ms Robyn Flack  
Mr Bill McInnes  
Mr Ian Borrowdale  
Mr Danny Wiecek  
Mr Matt Carr  
Mr Jillian Reynolds  
Mr Jason Carson  
Mr Phil Costello - Director, Planning Environment and Development (General Manager's nominee)

Others present:

Ms Kelie Clarke - Environmental Services Manager  
Alasdair Stratton – Natural Resources & Floodplain Unit Manager  
Jessica Rippon – Executive Manager, Communications  
Coralie Bell – Section Manager, Tourism  
Ray Massie – Coast & Estuaries Officer  
Janice Natt – President, Safe Navigation Action Group

Clr Findley acknowledged the Traditional Owners of the land by paying respect to Elders past and present.

## Apologies / Leave of Absence

An apology was received from Cllr Cheyne, David McCorkell, Ian Stewart, Annie Boutland, Kaye Milsom, John Murtagh, Allan Lugg, Ian Stewart and David Zerafa.

## Confirmation of the Minutes

### RESOLVED (By consent)

That the Minutes of the Shoalhaven Natural Resource & Floodplain Management Committee held on Tuesday 06 June 2017 be confirmed.

CARRIED

## PRESENTATIONS

Robyn Flack provided a PowerPoint presentation on behalf of the Shoalhaven Heads Estuary Task Force. Robyn advised that the Task Force is seeking the support and assistance of the Shoalhaven Natural Resources and Floodplain Management Committee with regard to protecting Shoalhaven Heads from flood, erosion events and sea level rise by relocating the sand within the basin to protect the river bank and meet the recreation, tourism and boating needs of the community.

The Committee discussed the information provided by Robyn later in the meeting under Item SN17.17.

### **SN17.12 Coralie Bell - Tourism Manager - Sustainable Tourism Model**

**HPERM Ref:  
D17/287525**

Coralie Bell, Tourism Manager, provided the Committee with an update regarding the Sustainable Tourism Model currently being drafted, noting the four cornerstones of sustainable tourism, community, environment, economy and customer.

The issue of the importance of National Parks in tourism and was raised. Coralie assured the Committee that Tourism is working on building relationships with the National Parks and Wildlife Service (NPWS) and confirmed that NPWS has a representative member on Council's Shoalhaven Tourism Advisory Group.

The Committee agreed that balance and sustainability is important and discussed:

- Sustainable growth and balance with economic growth
- Pets on beaches
- Threat to shorebirds
- Unspoilt campaign
- Caravanning and camping
- Promotion of tourism in the Shoalhaven for the "off" season, for instance, food and wine and inland touring

Coralie spoke about the interactive reporting tool "Dashboard", which is currently under development, noting that when it is at the draft stage it will come back to the Committee for feedback. Coralie suggested that the Committee view the Tourism Optimisation Management (TOMM) Model used by Kangaroo Island <http://www.tourkangarooisland.com.au/tourism->

### optimisation-management

The following members expressed an interest in providing feedback on Council's Sustainable Tourism Model:

- David Reynolds
- Brett Stevenson
- Mike Clear
- Chris Grounds
- Jason Carson
- Clr Levett
- Dirk Treloar
- Paul Beckett
- Helen Moody
- Matt Carr

#### **SN17.13 Jessica Rippon - Communications Executive Manager - Integrated Strategic Plan**

**HPERM Ref:  
D17/287536**

Jessica Rippon, Communications Executive Manager, provided an overview of Council's Integrated Strategic Plan (ISP) and spoke about how the environment fits into the long term planning for Council. The ISP can be viewed on Council's website <http://shoalhaven.nsw.gov.au/My-Council/Integrated-Strategic-Plan>

Jessica spoke about the ISP key priorities and key indicators.

Kelie Clarke noted that Council is seeking to embed the environmental strategies into its Strategic Plan, so the environment is a consideration in everything it does.

The issue of loss of habitat and impingement of urban development was raised. Clr Gartner spoke about the purpose of Council's Sustainable Futures Committee including its focus on efficiency measures, environmentally sustainable living and business.

## **REPORTS**

#### **SN17.14 Crown Land Management Act 2016**

**HPERM Ref:  
D17/240505**

The issue of the South Pacific Heathland Reserve Trust was raised by Helen Moody and Clr Findley suggested that the Trust may wish to write to the relevant Minister requesting that the trust stays in trust and David Reynolds may wish to write an individual letter to the Minister.

#### **Recommendation (Item to be determined under delegated authority)**

That the Shoalhaven Natural Resource and Floodplain Management Committee receive the report for information.

#### **RESOLVED** (Clr White / Helen Moody)

That:

1. The Shoalhaven Natural Resource and Floodplain Management Committee receive the report regarding the Crown Management Act 2016 for information.
2. Any further updates be reported to the Shoalhaven Natural Resource and Floodplain Management Committee.

CARRIED

**SN17.15 Consideration of a possible additional membership for an Oyster Farmer/Primary Industry Producer**

**HPERM Ref:  
D17/216648**

Members discussed the issue and it was suggested if the SNRFMC needed input from a special interest group they could be invited to address the Committee.

**Recommendation**

That the Committee adopt the report for information and not recommend to Council an increase in membership.

**RESOLVED** (Chris Grounds / David Reynolds)

That the Shoalhaven Natural Resources & Floodplain Management Committee:

1. Adopt the report for information.
2. Not recommend to Council an increase in membership.
3. Invite special interest group/s to address the Committee should specific knowledge or input be required.

CARRIED

**SN17.16 Update on preparation of the Scoping Study for Council's Coastal Management Plan**

**HPERM Ref:  
D17/248599**

Kelie Clarke advised that the Scoping Study will not be placed on public exhibition, and will go to Council for adoption. Once the Study has been adopted a consultant will be engaged.

Kelie asked the Committee to nominate three (3) community members to participate in a working group with staff to assist in the development and preparation of the Scoping Study for Council's Coastal Management Plan.

Chris Grounds, Brett Stevenson and Dirk Treloar volunteered to participate in the working group.

The draft document can be made available to interested members of the committee and the draft Scoping Study will be reported back to the Committee for information.

**Recommendation**

The Committee nominate three (3) community members to participate in a working group with staff to assist in the development and preparation of Scoping Study for Council's Coastal Management Plan as required by the NSW Government's Stage 2 Coastal Reforms.

**RESOLVED** (By consent)

The Shoalhaven Natural Resource & Floodplain Management Committee nominates Chris Grounds, Brett Stevenson and Dirk Treloar to participate in a working group with staff to assist in the development and preparation of Scoping Study for Council's Coastal Management Plan as required by the NSW Government's Stage 2 Coastal Reforms.

CARRIED

## ADDENDUM REPORTS

### **SN17.17 Robyn Flack - Shoalhaven Heads Estuary Taskforce Presentation**

**HPERM Ref:  
D17/289719**

NSW Grant funding applications and Shoalhaven Heads Estuary Taskforce River Road Stormwater and Erosion Control project has been shortlisted for a formal grant application with the NSW Department of Premier and Cabinet.

Council has looked at the storm water drains and the engineering team that undertook the investigation advised that the drains could not be removed but could be consolidated and improved. \$300,000 will be committed for the upgrade of stormwater drains. It has been identified that rock riventment work needs to be done and a grant application has been lodged for these costs to be covered. Other work included in the grant application is for restoration of the foreshore.

Concerns were raised by Robyn Flack with regard to moving the stormwater drains and discussion followed.

Kelie reassured Robyn that Council will continue to work with the community to deliver a good outcome for Shoalhaven Heads that looks good and addresses the environmental problems.

### **RESOLVED** (Clr White / Robyn Flack)

That the Shoalhaven Heads Community Forum continue to work with Council staff on the overall project of the grant application

CARRIED

### **SN17.18 University of Wollongong - Coastal hazard assessment based on sediment budgeting, Southern NSW - ARC Research Partnership Grant Application**

**HPERM Ref:  
D17/260528**

Clr Levett left at 5.29 pm

Kelie Clarke spoke about the requirements of the reforms. The research project is partnering with the Office of Environment and Heritage and University of Wollongong. This is a pilot project.

### **Recommendation**

That Council commit to providing \$5,000 per year over three (3) years (2017/18, 2018/19 & 2019/20) from Council's coast and estuaries program (15931) to the University of Wollongong towards the Coastal hazard assessment based on sediment budgeting, southern NSW project, if the grant application is successful

### **Recommendation** (By consent)

That Council commit to providing \$5,000 per year over three (3) years (2017/18, 2018/19 & 2019/20) from Council's coast and estuaries program (15931) to the University of Wollongong towards the Coastal hazard assessment based on sediment budgeting, southern NSW project, if the grant application is successful.

CARRIED



**SN17.19 Announcement of 2017/18 and 2018/19 Coast and Estuary Program Grant Funding Opportunities - Seeking feedback from SNR&FC****HPERM Ref:  
D17/275098**

Alasdair Stratton, Natural Resources & Floodplain Unit Manager, asked the Committee for their input regarding selection and prioritisation of potential grant projects, noting that 2 or 3 applications would be submitted.

The Committee provided input on the selection and identified three priorities for potential grant application projects.

**Recommendation (Item to be determined under delegated authority)**

Receive the report for information and provide input on the selection and prioritisation of potential grant application projects.

**RESOLVED** (By consent)

That the Shoalhaven Natural Resource & Floodplain Management Committee:

1. Receive the report for information
2. Identify the following three (3) priorities for potential grant application projects
  - Mollymook Foreshore Emergency Works
  - Remediation Action Plan – Broughton Creek Floodplain
  - Nature Assisted Beach Enhancement (NAB) for the Shoalhaven's 40 Beach Compartments

CARRIED

**OTHER BUSINESS****SN17.20 Additional Item: Developing a strategic approach and associated planning for management, conservation and protection of the natural environment**

Duncan Marshall submitted an additional agenda item on behalf of Ian Stewart and the following was tabled for the Committee's consideration.

**Background:** At the last Committee meeting a motion in relation to Council developing a strategic approach and associated planning for the management, conservation and protection of the natural environment was unanimously carried with only one dissenting view. It will be important for this Committee to be advised of the progress being made in developing and implementing such a strategic approach.

Committee members will then be able to make an ongoing contribution to help inform, shape, monitor and review this strategy, especially in relation to the high level vision, values, principles, goals and priorities.

Council's current strategic approach includes the tourism promotion view that high levels of sustained growth and development are both desirable and feasible. This appears to be at odds with what the community stated unequivocally during the recent consultation and also what is actually sustainable before the area changes dramatically and the natural environment and sensitive ecosystems are damaged.

There is mounting evidence that increasing numbers of visitors and residents are changing this once relatively 'unspoilt' area. It is also clear that development pressure is encroaching on areas that are sensitive to human impacts, such as Narrawallee / Mollymook and Vincentia / Jervis Bay, where significant areas of the natural environment have been and are continuing to be bulldozed

and transformed into suburban residential areas and commercial precincts.

At the very least the implications of these current strategic directions should be considered carefully by this Committee as an important part of our role and responsibility.

In view of these current strategic directions all activity for increasing tourism numbers should take account of the implications of this for impacted areas. So that ratepayers are not bearing the burden, all tourism developments should be required to establish a business case which includes a contribution of funds for required infrastructure, maintenance and compliance costs to preserve our natural environment.

One related matter is also pressing. It is the responsibility of NPWS to manage areas under their direct control. Council however has a shared responsibility, for the impact of their contentious dog walking policy for example, for what they are encouraging (through the very active 'pet friendly' / 'unspoiled Shoalhaven' tourism promotions) and directing (through signage) dog owners to access vulnerable, unspoiled beach environments and ecosystems. At the very least there is an urgent need for information and awareness raising, regulation and compliance controls to manage the increasing impacts of human activity in sensitive areas such as Conjola / Narrawallee. Ideally this should be aligned and jointly undertaken by Council and NPWS.

**RESOLVED** (By consent)

1. The following motions submitted by Ian Stewart be considered by Staff and reported back to the Shoalhaven Natural Resource & Floodplain Management Committee:
  - a. Strategic approach progress - the Committee be regularly advised of the progress being made in developing and implementing Council's strategic approach to managing the natural environment so that committee members are able to make an ongoing contribution to help inform, shape, monitor and review this strategy, especially in relation to the high level vision, values, principles, goals and priorities.
  - b. Evaluating development impacts
    - i. Implications of the current strategic directions on the natural environment, especially in relation to tourism and residential development impacts, should be considered carefully by this Committee as an important part of our role and responsibility.
    - ii. All tourism developments should be required to establish a business case which includes a contribution of funds for required infrastructure, maintenance and compliance costs to preserve our natural environment
  - c. Practical collaborative management of impacts - Shared responsibility with NPWS for information and awareness raising, regulation and compliance controls to manage the increasing impacts of human activity, such as dog walking in sensitive natural environments, should be aligned and jointly undertaken.
2. Ian Stewart and other relevant Committee members to be invited to a meeting so that Staff can brief members further on Council's strategic approach.

CARRIED

There being no further business, the meeting concluded, the time being 6.25 pm.

Clr Amanda Findley  
CHAIRPERSON

## **SN17.21 Updates on the Shoalhaven River and St Georges Basin Floodplain Risk Management Study & Plan and Shoalhaven River Levee Flood Damage Restoration 2017 project**

**HPERM Ref:** D17/348457

**Group:** Planning Environment & Development Group  
**Section:** Environmental Services

**Attachments:** 1. Shoalhaven River Levee August 2015 and June 2016 Flood Damage sites including Levee Audit Defect sites [↓](#)

### **Purpose / Summary**

The purpose of this report is to inform the Committee about the updates on Shoalhaven River and St Georges Basin Floodplain Risk Management Study & Plan and Shoalhaven River Levee Flood Damage Restoration 2017 projects.

### **Recommendation (Item to be determined under delegated authority)**

That Committee receive the report for information.

### **Options**

1. The committee receive the report for information.

Implications: Nil.

2. The Committee could choose to provide an alternative recommendation for future consideration by Council.

Implications: Unknown

### **Background**

#### Flood Levee Restoration Project 2017:

Shoalhaven City Council has commenced a project to repair damaged sections of the Shoalhaven River Levees. This work will repair damage that occurred during the August 2015 flood, June 2016 flood and levee audit defects (levee audit done by Royal Haskoning Pty Ltd in May 2015). See attachment 1 for the defect locations.

Council subsequently went out to tender in March/April 2017 and again in July 2017 seeking tenders for the restoration works. No complying tenders were received and as a result of the request process.

The lack of complying tenders was obviously a concern to Council and reflective of marketplace conditions experienced at this time. Council's project team, including Public Works Advisory Project Management team, undertook a review of the project with a view to breaking it down into components that may be more attractive to prospective tenderers.

As a result the following actions were undertaken;

- Four tender packages were created from the initial single tender, as per Council resolution dated 27 June 2017.
- A detailed survey of the levee was undertaken to give a greater level of detail of the damage to the levee and give Council further insight into the work required, particularly in regard to volumes of fill and levee heights,
- Council contacted several flood affected councils and relevant state agencies to find out suitable contractors to create a targeted contractor panel. Based on the search, Council created a targeted panel of 25 contractors that includes the local contractors that are experienced in carrying out such works .
- Council received the pre-approval letter from NPWS to conduct repair works at their property at Comerong Island. Council is pursuing Crownlands license to get the license prior to engage a contractor.
- Council resolved on 27 June 2017 that the 'contract document and any other associated documents be executed on behalf of the Council in accordance with Cl 165 of the Local Government Regulation by the General Manager (Director of Planning, Environment and Development)'. This approach will save time by avoiding council meeting delays.

Having regard to the delays as outlined above Council has lodged an application for an extension of time in regard to the Natural Disaster Relief Authority (NDRA) grant funding, such extension would take the project deadline to 30/06/2019. Council also submitted revised NDRA claims for August 2015 and June 2016 flood damages, to cover additional expenditures having regard to the Review of Environmental Factors. The outcomes of both the revised claims are pending.

Finally, Council released two tenders on 19 October with a closing date on 16 November 2017 to repair levees at the highest priority sites at Terara and Comerong Island. It is hoped that a suitably qualified contractor can be engaged by December 2017. A separate tender package for the levee at Numbaa is expected to be released later in November 2017 followed by the engagement of a contractor by Feb/March 2018. The remaining levee sites that have time restrictions in it will be released by April 2018 followed by a contractor engagement in June 2018.

#### Floodplain Risk Management Study and Plan – Lower Shoalhaven River and St Georges Basin:

Council called Tenders for the Lower Shoalhaven River Floodplain Risk Management Study & Plan and the St Georges Basin Floodplain Risk Management Study & Plan on 16 May 2017, which closed at 10:00 am on 8 June 2017. Council received three (3) tenders at the time of closing.

Council resolved to select Cardno as the preferred tenderer. In addition, Council resolved to allocate the additional Council contribution and seek the maximum allowable increase of 30% grant funding from NSW Office of Environment and Heritage (OEH) to allow commencement of the Lower Shoalhaven River Floodplain Risk Management Study & Plan and the St Georges Basin Floodplain Risk Management Study & Plan tender.

Council received additional funding allocation from NSW OEH, increasing funding by 50% of the original grant amount. Council would be required to cater for the remaining shortfall as resolved above.

An amended workplan has been submitted to NSW OEH and approved, and Council now has commenced engaging Cardno to undertake both the Lower Shoalhaven River Floodplain Risk Management Study & Plan and the St Georges Basin Floodplain Risk Management Study & Plan.

## **Community Engagement**

### Flood Levee Restoration Project 2017:

Council's floodplain engineers and property unit officers have visited private properties and met with property owners to discuss access and levee repair works to be conducted on their properties. Council received 21 signed Deeds from the damaged levee affected private property owners and is negotiating to get the remaining 2 Deeds of Agreement signed by the relevant property owners.

### Floodplain Risk Management Study and Plan – Lower Shoalhaven River and St Georges Basin:

Advancing Council's long-term floodplain management program ensures that economic, social and environmental factors relating to the management of floodplains within the Shoalhaven are considered, documented and implemented in Council's planning programs and policies.

## **Policy Implications**

### Flood Levee Restoration Project 2017:

Council manages levees in the Lower Shoalhaven River area, which are identified in Council's Asset Management Plan for Flood Mitigation Structures'.

## **Financial Implications**

### Floodplain Risk Management Study and Plan – Lower Shoalhaven River and St Georges Basin:

Funding for the Lower Shoalhaven River and St Georges Basin Floodplain Risk Management Study and Plan has been provided for under the NSW State Government 'Floodplain Management Program' on a 2:1 basis. Council's matching 1/3 contribution comes from the existing general Floodplain Management Program budget.

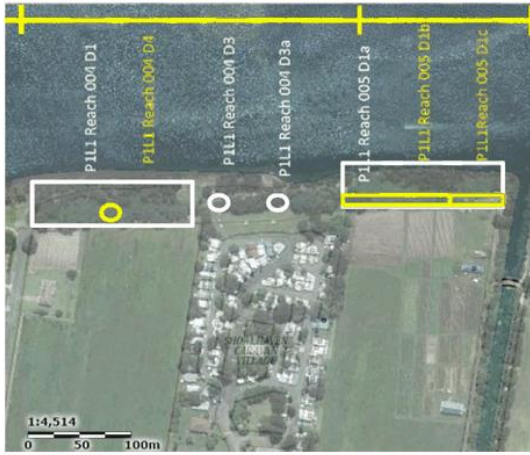
An additional Council contribution is required to complete both studies and plans. Council resolved to fund the short fall (MIN17.635C).

The project is for the provision of consultancy works and will not have any direct or immediate implications on Council's assets. The studies will be undertaken by consultants who will be managed by staff from the Natural Resources and Floodplain Unit of Council.

## **Risk Implications**

### Flood Levee Restoration Project 2017:

Council resolved to undertake all flood levee restoration works to repair 2015 and 2016 flood damage including high priority levee audit defects, while waiting for the revised NDRA outcomes. There is no guarantee that Council's revised NDRA grant funding claims will be successful.







## SN17.22 Flood Mitigation Projects – Flood Information Sign Project

**HPERM Ref:** D17/352147

**Group:** Planning Environment & Development Group  
**Section:** Environmental Services

### Purpose / Summary

The purpose of this report is to inform Committee about the updates in relation to Council minute D15/314859 - part h) - Council install flood level signage from previous floods in public locations.

### Recommendation (Item to be determined under delegated authority)

That the Committee endorse the proposed locations of historical flood level signage.

### Options

1. The committee supports the recommendation

Implications: Nil

2. The Committee could choose to provide an alternative recommendation for future consideration by Council.

Implications: Unknown

### Background

Council minute D15/314859 - part h) - Council resolved in the above minute to place flood information signs highlighting the height/water level of previous floods in various public places in flood effected areas of the Shoalhaven. It is recommended that the signs be installed at the following locations:

- Nowra;
- Shoalhaven Heads;
- Terara;
- Greenwell Point;
- Erowal Bay;
- Sanctuary Point;
- Basin View;
- Sussex Inlet;
- Lake Conjola;
- Burrill Lake;
- Lake Tabourie



The project will involve investigation and identification of locations, the design of the flood signs unique to each location. Flood studies and Floodplain Risk Management Studies are available to assist with historical flood information.

The intention of this project is not to install flood gauge markers for roads, or explain flood escape routes, as this is the responsibility of the NSW State Emergency Service (SES) as the response agency. Rather it is a flood awareness raising exercise.

The current status is that potential locations have been selected via desktop analysis and physical inspection of these sites will occur in the near future.

### **Community Engagement**

When the locations have been established and concept sign design(s) have been prepared, consultation will need to be undertaken with the following stakeholders:

- Shoalhaven Natural Resources and Floodplain Committee;
- Local CCB's;
- Schools;
- Relevant Council staff.
- SES

An education program will be established for the community after the completion of the project.

### **Financial Implications**

The project is fully funded under the Flood Programme Budget and a dedicated project officer within Council has been assigned to complete this project by the end of this financial year (2017/18).

## SN17.23 Currarong Coastal Erosion Remediation Detailed Design Progress Report November 2017

**HPERM Ref:** D17/361283

**Group:** Planning Environment & Development Group  
**Section:** Environmental Services

**Attachments:**

1. Warrain Crescent - Beach Access Ramp Sections [↓](#)
2. Warrain Crescent - Beach Access Ramp Plan [↓](#)
3. Warrain Crescent - Beach Nourishment Plan [↓](#)
4. Report - Durability of Wagners Composite Fibre Technologies [↓](#)

### Purpose / Summary

Advise committee that Royal Haskoning DHV have substantially progressed detailed design work including design for early replacement of a western beach access lost in the 2016 storm.

### Recommendation

That Council:

1. Undertake detailed design, review of environmental factors (REF) and seek necessary permits and approvals for the Currarong Coastal Erosion Remediation project; and
2. Include community and government agency consultation during the detailed design and REF process; and
3. Place the final detailed design and REF on public exhibition and report back to Council the outcome of the exhibition; and
4. Once necessary permits and approvals are obtained and Council has resolved to commence construction, complete the erosion remediation project construction including design amendments for the western beach access mound.
5. Should the necessary permits and approvals be obtained, construct a temporary access (Warrain Crescent Beach Access Ramp Plan, Drawing #PA1506/MA/1021, Royal HaskoningDHV) at Warrain Crescent, as soon as possible whilst continuing with the detailed design process for the remediation project.

### Options

1. As recommended. Complete detailed design and review of environmental factors (REF) as scheduled and seek necessary approvals to undertake coastal management works at Currarong. Should the necessary permits and approvals be obtained to allow the construction of a temporary access at Warrain Crescent, these works should be completed as soon as possible whilst completing the detailed design for the overall remediation project

Implications: Works carried out as programmed.

2. Alternative recommendation.

Implications: Potential for increased time and cost.

### **Background**

Community concerns remain that the timeline to progress the project and replace a beach access mound and interim access provisions by Christmas 2017 will not be met. The complexity of the task is significant, with a high likelihood the requirement to undertake a cost benefit analysis (CBA) to assess coastal management options at Currarong in accordance with the new Draft NSW Coastal Management Manual will be triggered. This will depend upon the final cost estimate for the proposed work. This process would introduce a new delay. A CBA is currently being worked through to assess coastal management options at South Mollymook.

The draft Manual which sets out the requirements for a CBA can be viewed at <http://www.environment.nsw.gov.au/resources/coasts/150805-cost-benefit-analysis.pdf>

Royal HaskoningDHV has recently completed predesign investigations, which are included in the first preliminary draft of the Currarong Coastal Erosion Protection Report. This report is still in draft form and more details will need to be added following internal and external consultation. The Review of Environmental Factors (REF) is due to commence in November. The principle obstacle to rapidly progress works remains the Aboriginal artefacts in the beach face at Warrain Crescent and Beecroft Avenue portions. The Aboriginal Cultural Heritage Assessment Report (ACHAR) and Aboriginal Heritage Impact Permit (AHIP) applications are complete and have been submitted to NSW government. The REF will consider the environmental impacts on the estuary aquatic and terrestrial flora and fauna.

A design review has been requested by Council staff to direct the construction access along the disturbed land portion east of the creek boat ramp, where the entrance spit was built in the late 1960's. This will allow construction impact to be removed from the tidal creek. It will also provide improved material stockpile access to contractors and eventually beach access to licenced beach haul fishermen and access for maintenance operations importantly minimising impact on the Marine Park Authority estuary.

### **Community Engagement**

Council has engaged the Currarong community with full and frank discussion in December 2016 with the outcome endorsing Council to proceed to detailed design for the single groyne sand nourishment at Warrain Crescent, and rock armour for the Beecroft Avenue portion. This discussion included the key State Government Agencies involved in the project.

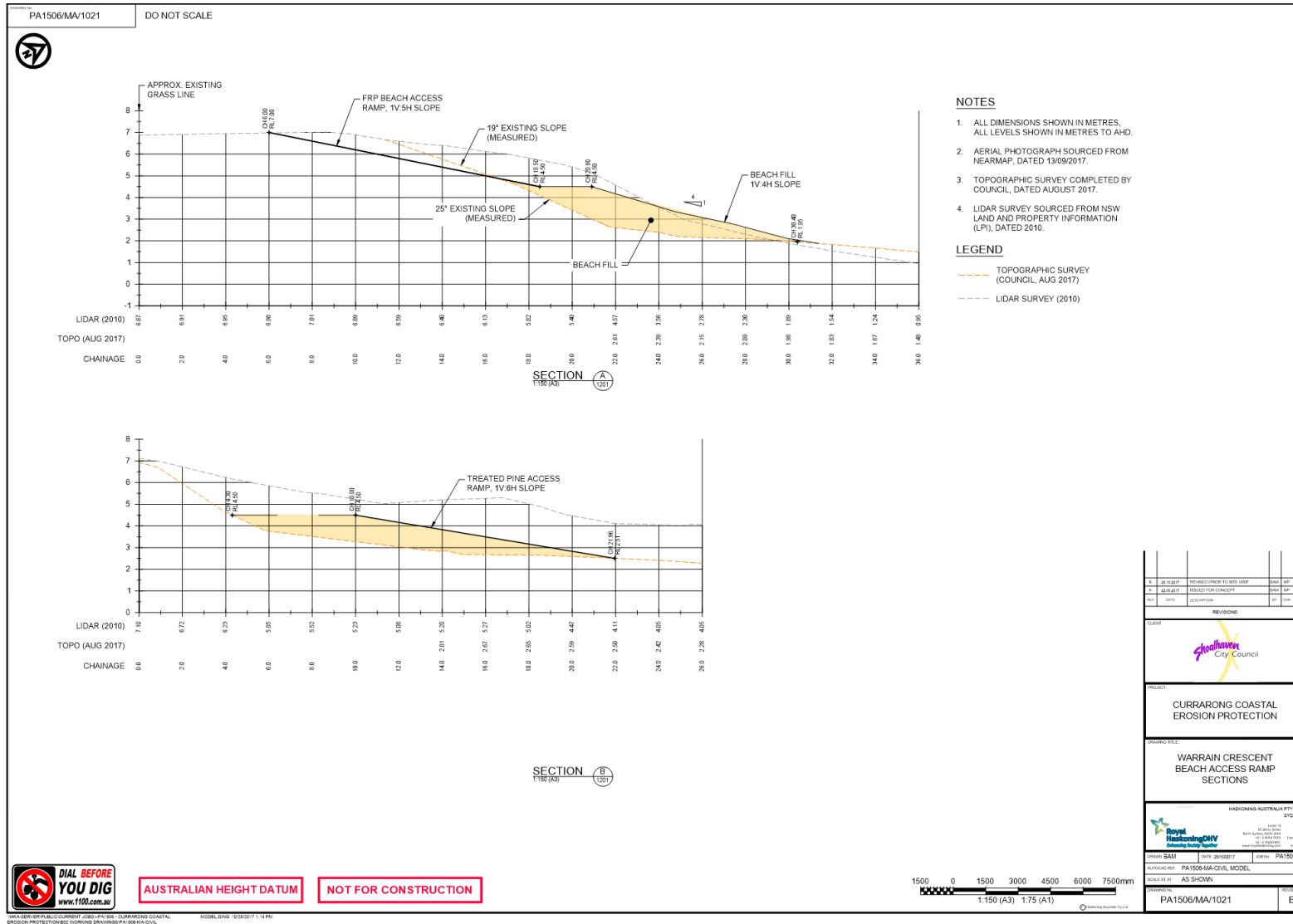
A project Risk Assessment will be undertaken on completion of a Draft REF and Draft detailed design drawings with the Currarong CCB in November 2017, to ensure community agreement with the major project elements and No Regrets agreement to proceed to construction.

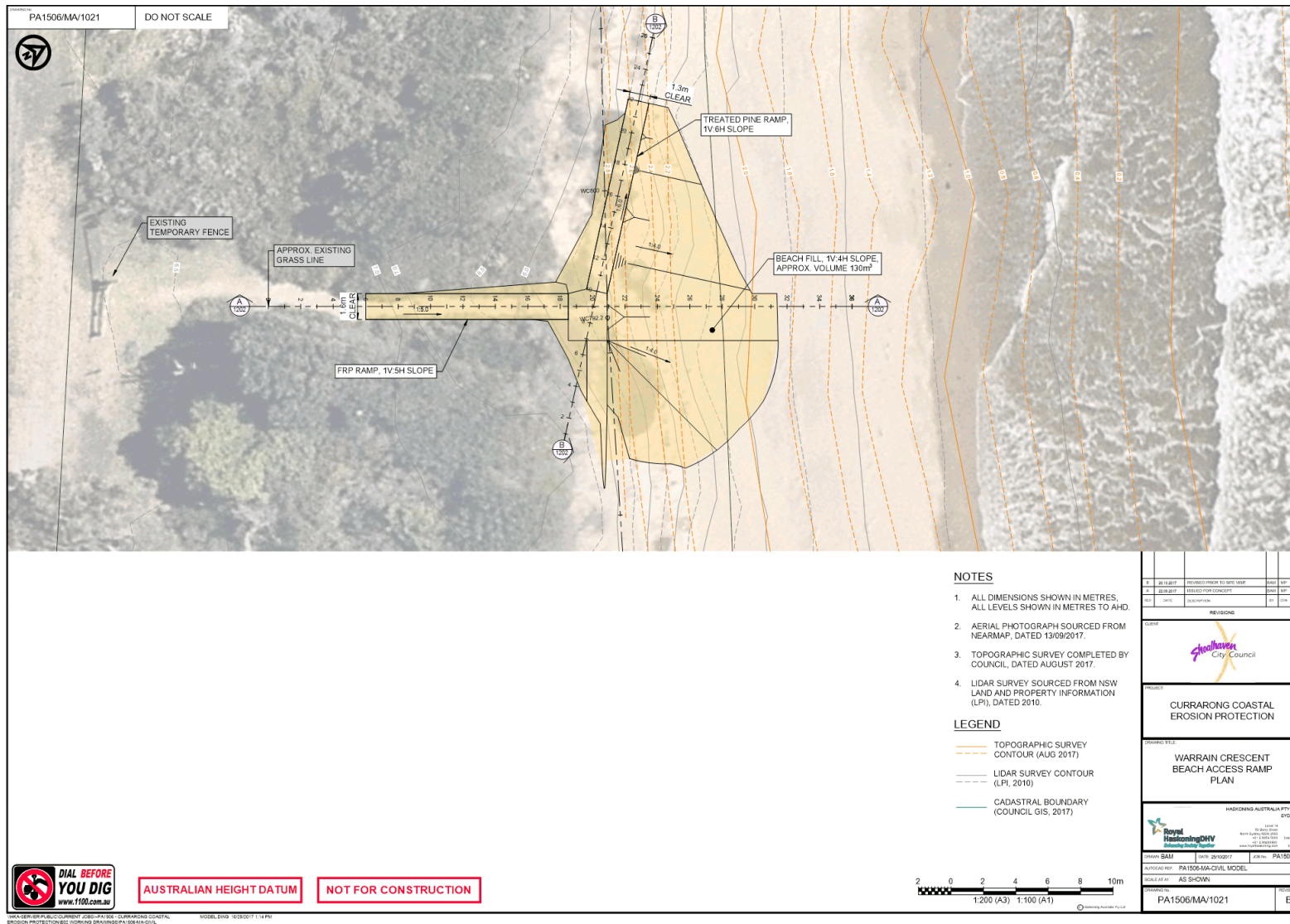
### **Financial Implications**

Project delay is a likely consequence that needs consideration as the Coastal Reserve Fund has a \$400,000 commitment for this financial year, which may not be drawn from until approvals are gained in early 2018 at best.

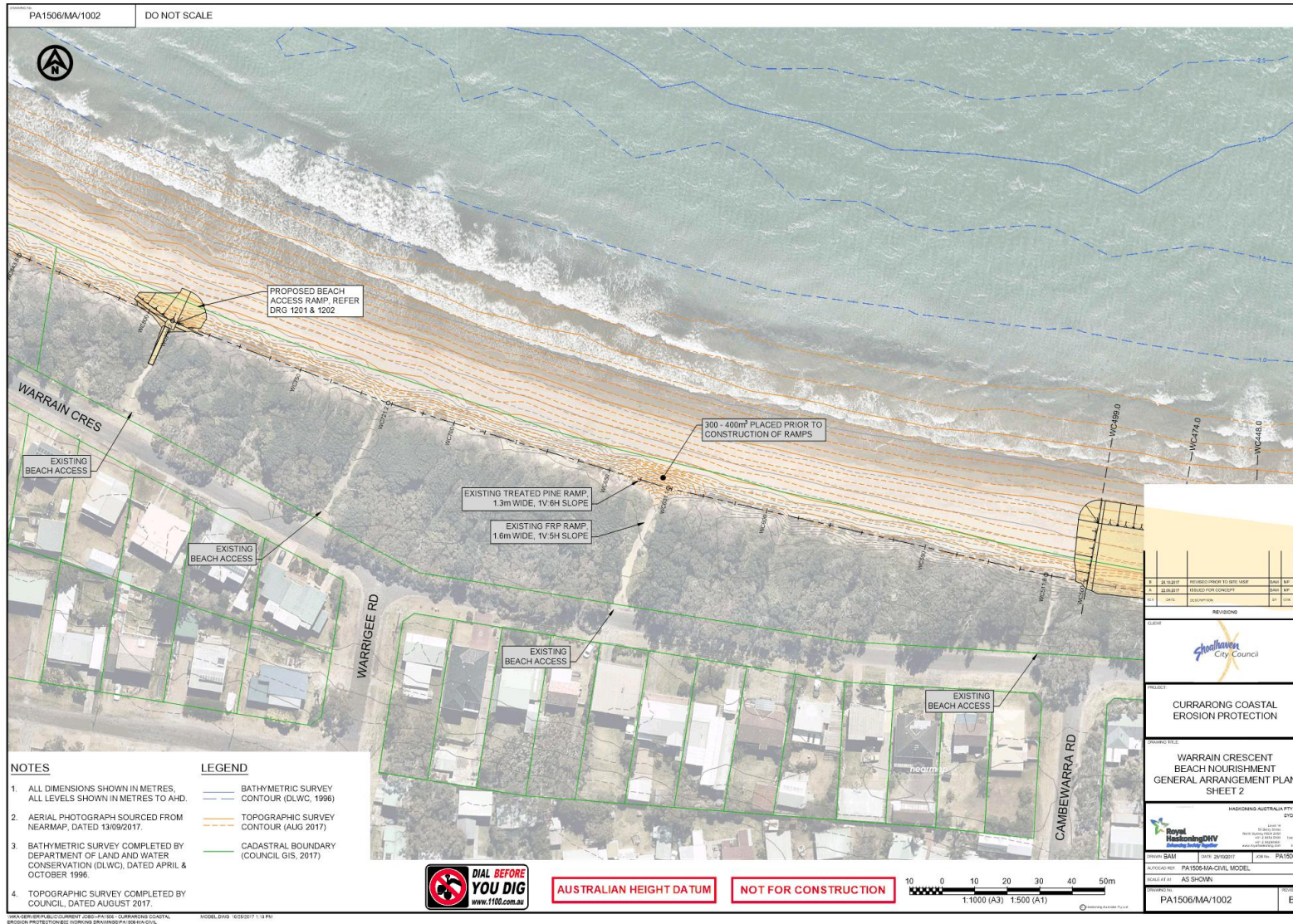
### **Risk Implications**

Project risks will be assessed during the detailed design process due to commence in November 2017.











**WAGNERS**

- ▶ CONSTRUCTION MATERIAL
- ▶ MINING SERVICES
- ▶ CEMENT & FLYASH
- ▶ REINFORCING STEEL
- ▶ COMPOSITE FIBRE TECHNOLOGIES

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ISO 9001  
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19 August 2014

Mr Ray Massie  
C/- Shoalhaven City Council  
NOWRA NSW

Dear Ray,

**RE: Durability of Wagners CFT**



Further to our recent discussions and your request this letter serves to provide an outline of the information supporting 100 year design life for Composite Fibre structural beams as manufactured by Wagners Composite Fibre Technologies

**DESIGN LIFE AND DURABILITY OF WAGNERS CFT**

We have been working hard on putting together a meaningful response for you on this topic with some scientific backup.

The information following has been compiled from data obtained from projects and technical research both internationally and in Australia. Wagners is considered a leader in the field of Composites engineering and has worked closely with Australian Govt. Research Institutions to ensure that the information contained is both relevant and reliable.





In brief, our engineers can confirm that we are designing in accordance with a 100 year design life. As we discussed, Wagners has been working on putting together a document that outlines not only what codes we design in accordance with, but a scientific basis for stating a 100 year design life.

We have 2 PhD qualified Engineers and 1 PhD qualified Chemist working on the project, along with utilising input from the USQ Centre of Excellence in Fibre Composites. Like you, we are not entirely happy with how long this has taken to put together and we obviously have not been able to get this to you in the timeframe you were looking for.

Below is a quick summary of how Wagners currently substantiates a 100 year design life:

Wagners design in accordance with either the Eurocomp Design Code (European) or the ASCE Pre-Standard for Load and Resistance Factor Design of Pultruded Fiber Reinforced Polymer Structures (American Society of Civil Engineers – ASCE). Both Documents refer Service life in different ways. Going forward Wagners aims to utilise a slightly modified ASCE Prestandard approach.

#### **ASCE Pre-Standard**

Section 1.3.4 – Durability and Environmental effects

Materials shall be selected in design so that structural components and systems can tolerate long term environmental effects during the service life of the structure if they are not protected against such effects. The following Factors shall be considered:

- Performance Criteria for the structure
- Intended service life of the structure
- Expected environmental conditions, including the likelihood of exposure to alkalis or organic solvents
- Protective measures; and
- Feasibility of Maintenance during service.

I will address the above dot points 1 by 1:

#### ***Performance Criteria for the structure –***

This is generally provided by the Loading code (i.e. AS5100 for bridges, 1170 for wind etc.) We factor loads to ensure a 100 year design event is allowed for. Additionally we limit stress in members at sustained loads to prevent fatigue and creep. Note Section 2.8 details fatigue design parameters. Intended Service Life – This is set at 100 years as a benchmark for all bridge structures, or as set by a client.

#### ***Expected Environmental Conditions –***

This can be a project by project proposition, but generally we are providing to Brisbane City Council pedestrian infrastructure in or near waterways. This makes them subject to UV, Salt Water, alkali (in the proximity to concrete) and thermal cycling.

#### ***UV –***

We will employ 'protective measures' in the form of a fluoropolymer paint system for Newcastle Council Projects. We have had these paint systems in a QUV test machine with UVB lamps for 22,000 hours and they still retain gloss and colour fastness. We basically use this paint system to provide





our clients with a range of colours to suit their pallets **but also to 'block' UV from the surface of our FRP sections. This paint comes with a 40 year time to first maintenance expectation, after which an inspection regime is recommended.**

**Salt Water –**

The ASCE Prestandard requires a composite fibre element to retain 85% of its strength after 1000 hours of immersion in Distilled Water. Wagners has performed this test for both Distilled and Salt water for in excess of 3300 hours (i.e. 20 weeks duration) and has had no loss of strength.

**Alkali –**

Wagners uses the Derakane family of resins which has long published data on resistance to a range of chemical environments.

[http://www.ashland.com/Ashland/Static/Documents/APM/Derakane\\_Chem\\_Guide.pdf](http://www.ashland.com/Ashland/Static/Documents/APM/Derakane_Chem_Guide.pdf)

For a reference point – Calcium Hydroxide represents the alkaline environment of concrete and the guide states that a working temperature of 100 degrees C is achievable – which far exceeds working temperatures in an alkaline environment that we expect our structures to come into contact with, let alone as a working temperature.

Thermal Cycling – The ASCE standard requires 100 accelerated cycles of freezing and thawing, and again a maximum loss of strength of 15%. Wagners has cycled coupons in a more vigorous test, in that we did not only apply freeze thaw but also elevated temperature. We applied the following cycling to coupons which were tested in flexure:

- 3 hours at room temp
- 3 hours at 60 degrees C (in oven)
- 3 hours at room temp
- 15 hours in Freezer (overnight)

This was repeated over a 13 week period (approx. 1000 hrs. in the freezer) and again no loss of strength was observed.

**In summary –**

Wagners has performed environmental testing to satisfy ourselves of the capacity of our product to withstand environmental effects. In the case of UV we have performed our own UV testing with a UVB lamp (much more aggressive than a UVA lamp) to validate paint suppliers claims. We have performed temperature and acid/alkali and distilled/salt water testing in accordance with recognised international standards.

**The conclusion that we have reached to date is that a 100 year design life is achievable.**

Our current works look to perform further testing and investigate the appropriateness of extrapolation of results to correlate with a design life in years. Our Project is leading the world in the definition of design life and establishment of test and analysis procedures for FRP materials.

Our current focus has been on the use of Arrhenius (a measure of the rate of chemical degradation to quantify a service life) and Time Temperature Superposition (TTS) techniques to provide a basis for durability for extended periods. Additionally reviews and inspections of approximately 100 of our structures will be undertaken – which have had up to 12 years of exposure.



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**COATINGS AND MAINTENANCE**

I am advised by our engineering team:

No paint is simply not an option with glass fibre products.

Although we include UV inhibitors in the product there is still a requirement for the surface to be protected.

It is equivalent to not treating the surface of steel or timber in that it will be subject to surface degradation and loss of strength without an adequate protective layer. It is important to remember that the Wagners CFT will NOT rot or corrode and that the only likely cost in future will be an inspection regime.

Our new fluoropolymer paint comes with a 40 year “time to first inspection”. Which in effect means it is expected to still be in excellent condition for longer than that period.

This protective coating will provide not only a very effective protective layer to the composite members but will also provide a superior surface finish than the unpainted members.

We trust the foregoing satisfies your request for definition and confirmation of design life for Wagners Composite Fibre materials. If there is anything further you need assistance with please do not hesitate to call me at the number below

Yours sincerely,

**Tony Gates | Sales Consultant, New South Wales**



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## SN17.24 Shoalhaven Dredging Survey Report

**HPERM Ref:** D17/382332

**Group:** Planning Environment & Development Group  
**Section:** Environmental Services

**Attachments:** 1. Conjola Community Association - Dredging Analysis Submission (under separate cover) ⇒  
2. Summary of Dredging Survey Results - September 2017 (under separate cover) ⇒

### Purpose / Summary

As per the resolution of the Shoalhaven Natural Resources and Floodplain Management Committee SN17.6 on 6 June 2017 the Committee is provided with a this report on the positive and negative feedback from the community on dredging at Sussex Inlet and Lake Conjola.

### Recommendation (Item to be determined under delegated authority)

That the SNRFM Committee receive the report on the community feedback survey on the dredging program at Sussex Inlet and Lake Conjola for information.

### Options

1. The Committee receive the report on dredging survey for information

Implications: Nil

2. The Committee decide on other recommendation

Implications: Depend on the recommendation

### Background

At the Shoalhaven Natural Resources and Floodplain Management Committee meeting of 6 June 2017 a report was provided on the results of the post-dredging monitoring at Currumbene Creek, Sussex Inlet and Lake Conjola as part of the NSW Crown Lands licensing condition requirements. The report gave an overview of dredging program and provided data on the changes to the dredging channels in the 6 months post dredging at Sussex Inlet and Lake Conjola.

Part 2 of the Committee's resolution required the following:

*A further report be provided to the Committee collating positive and negative feedback about the dredging program from the communities where the dredging took place.*

Following this, Council undertook a community survey via the "Get Involved" website to get feedback on the social, environmental and economic impact of the dredging on the communities of Sussex Inlet and Lake Conjola.

The survey was undertaken from 15 August 2017 to 13 September 2017 and asked participants to register and nominate if they lived or regularly visited either Sussex Inlet and/or Lake Conjola, which then took them to questions specifically related to each estuary. The online survey was a series of multiple choice questions as follows, asking participants to choose from **strongly agree, agree, I don't know, disagree** or **strongly disagree** and **blank**:

1. Has dredging at .....been environmentally positive?
2. Has dredging at .....been socially positive?
3. Has dredging at.....been economically positive?

A general feedback section was included relating to the dredging at both Lake Conjola and Sussex Inlet, which participants could provide further information.

The survey webpage had 464 views and 216 visits, the majority of surveys were completed in the first week, as shown below in Figure 1.

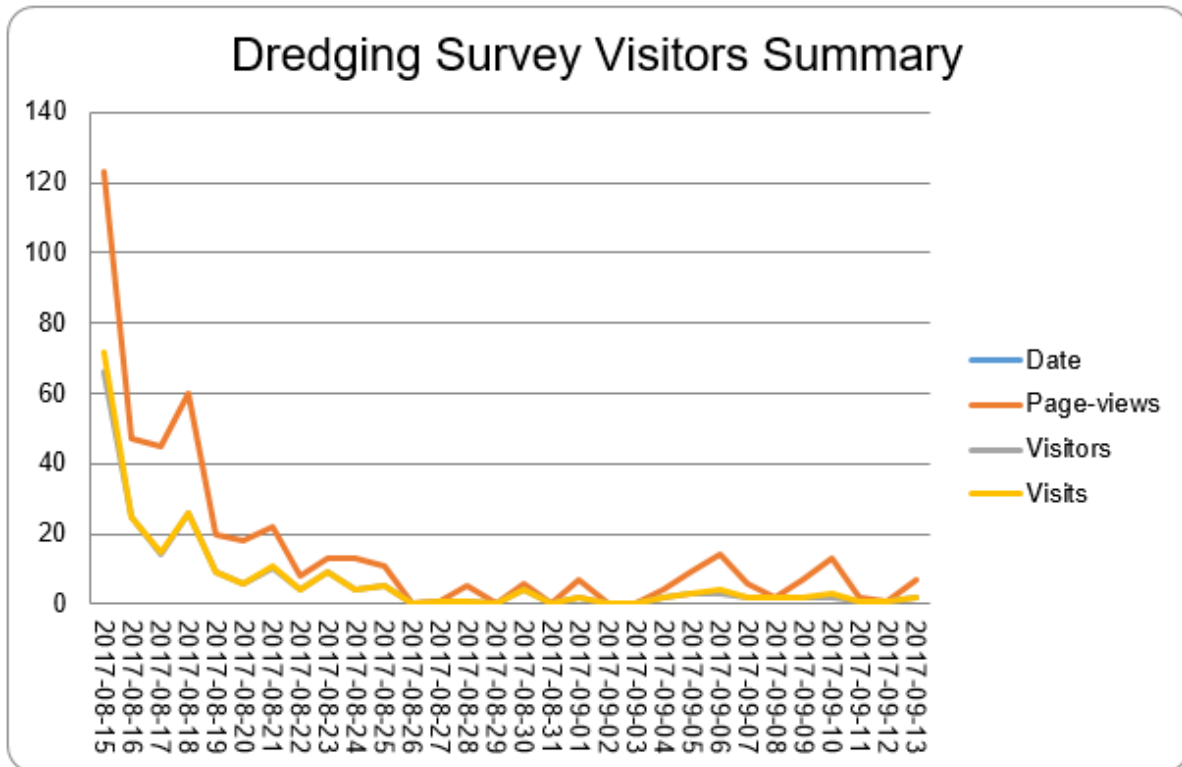


Figure 1 – Summary of Visitors/Page Views for Dredging Survey

Lake Conjola Surveys Results

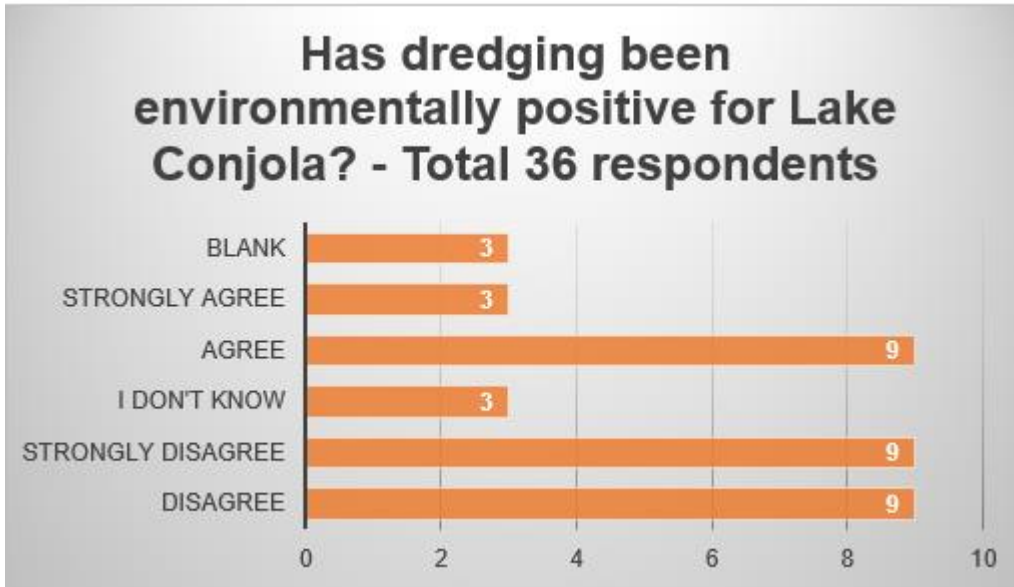


Figure 2 – Results of survey on environmental impacts of dredging – Lake Conjola

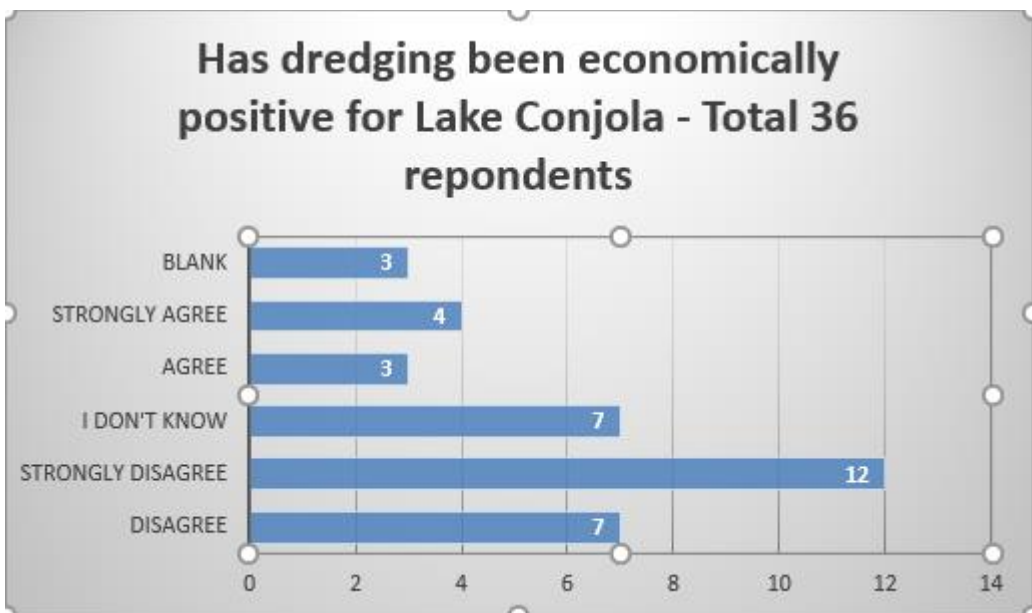


Figure 3 - Results of survey on economic impacts of dredging – Lake Conjola

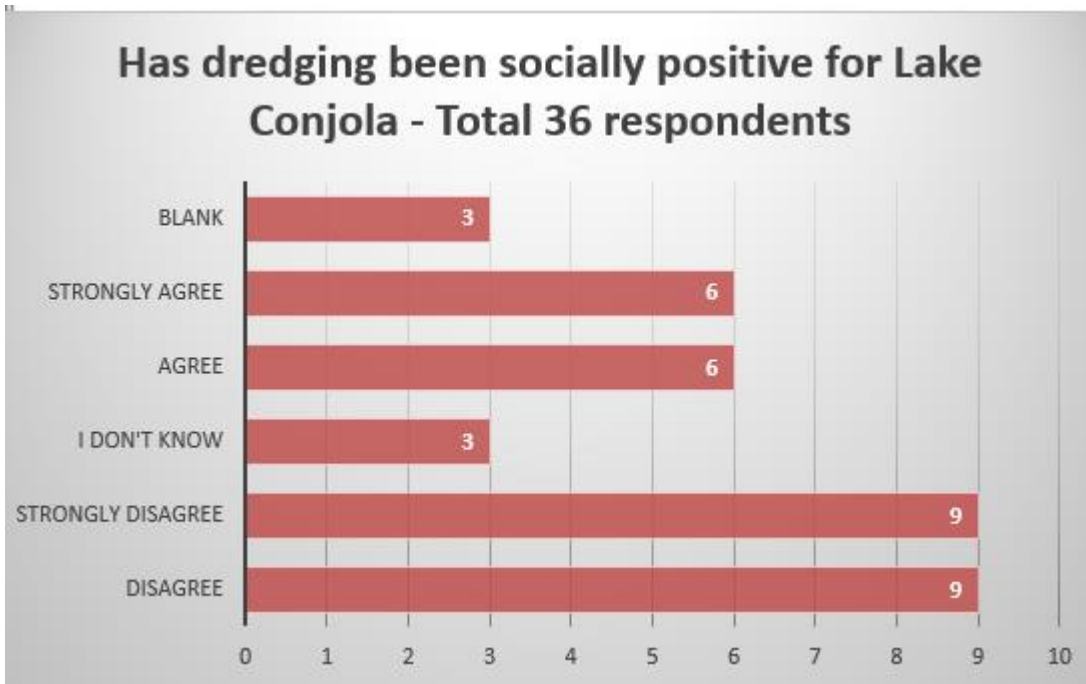


Figure 4 - Results of survey on social impacts of dredging – Lake Conjola

**Sussex Inlet Survey Results**

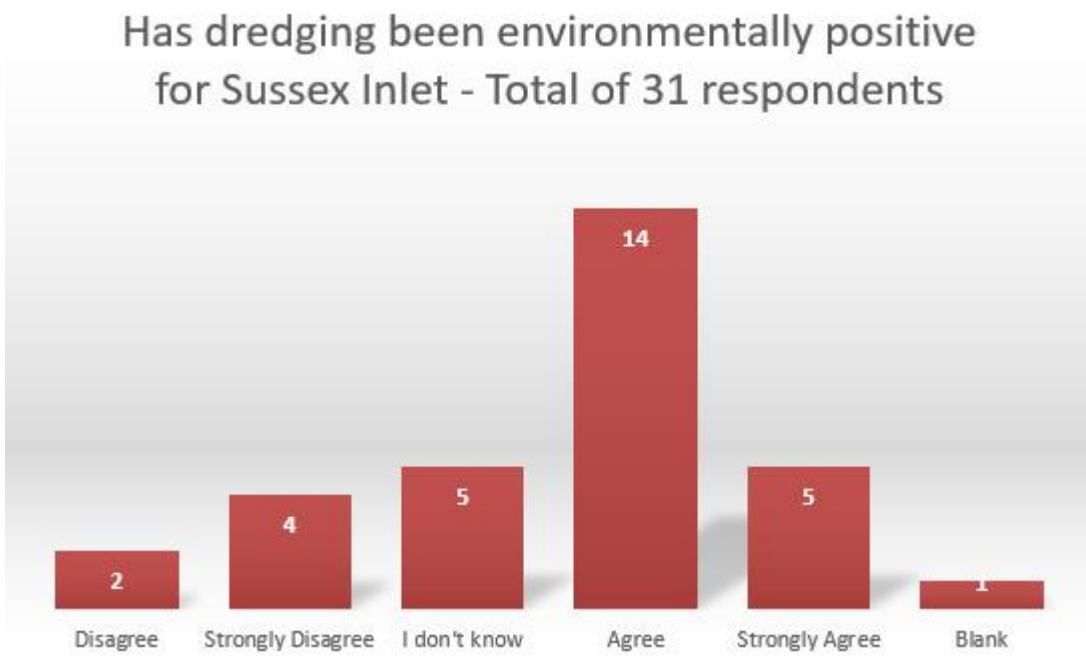


Figure 5 – Results of survey on environmental impacts of dredging – Sussex Inlet

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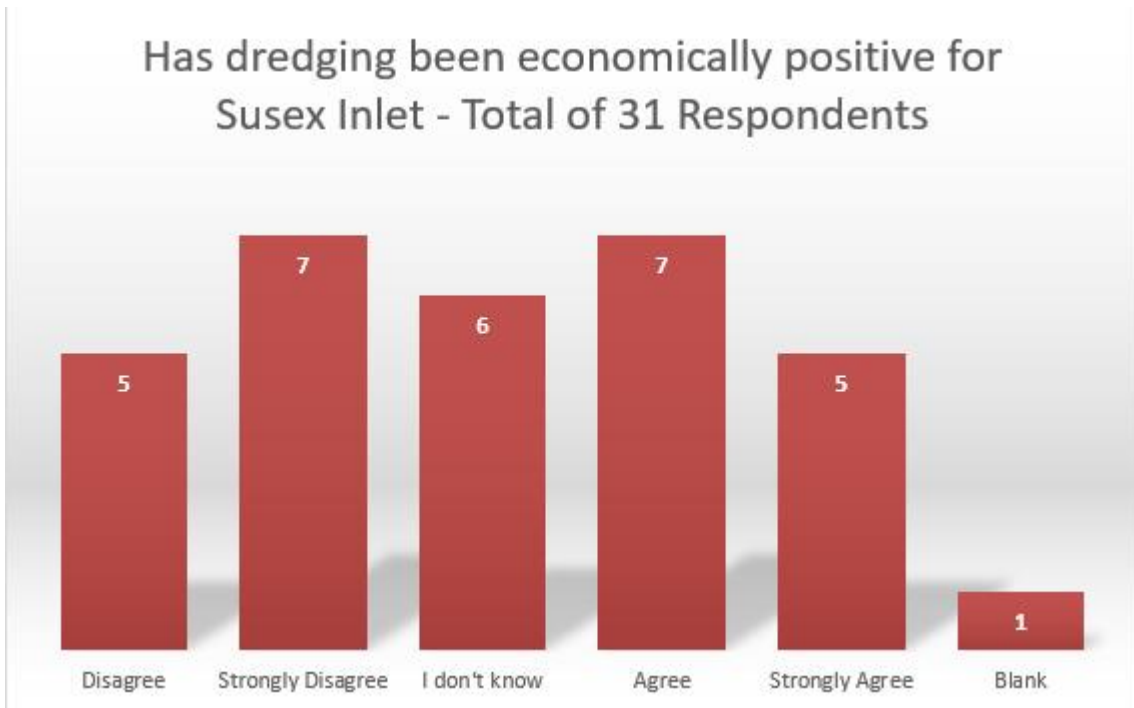


Figure 6 – Results of survey on economic impacts of dredging – Sussex Inlet

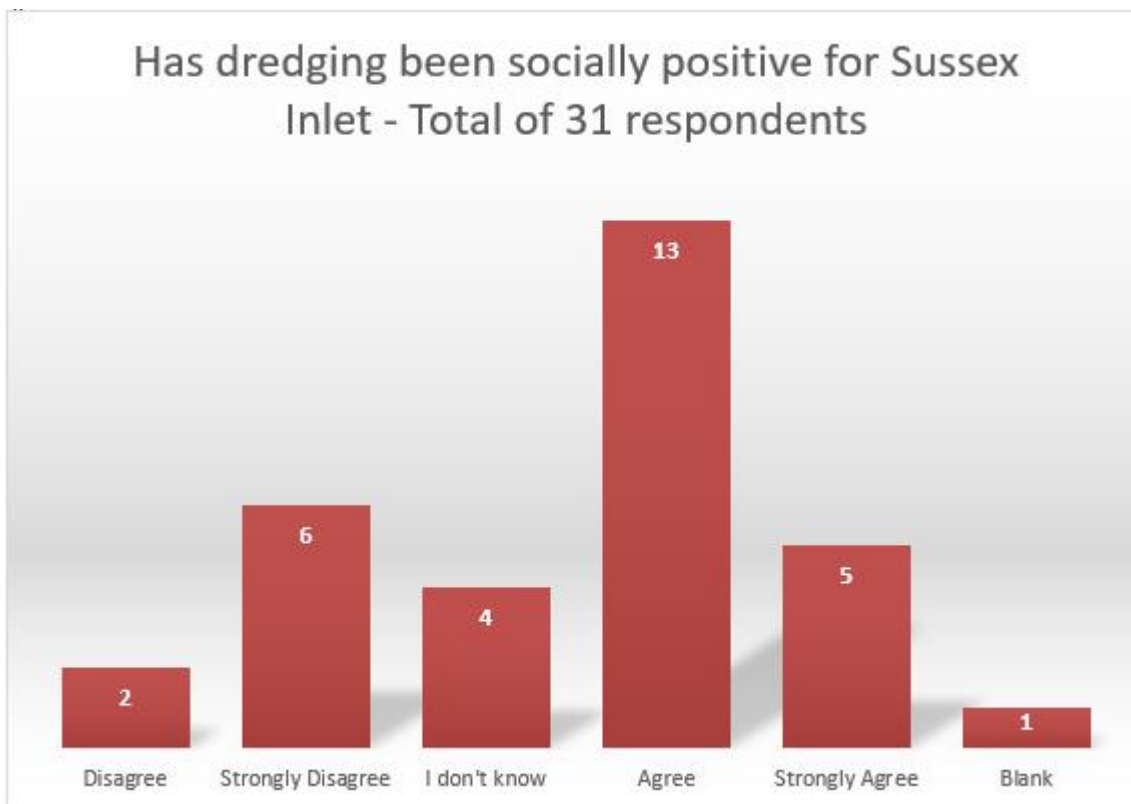


Figure 7 – Results of survey on social impacts of dredging – Sussex Inlet

SN17.24

Survey respondents also provided general feedback to the survey at both Sussex Inlet and Lake Conjola, these are provided in the attached summary spreadsheet. Additionally to the on-site survey results two formal submission were received as follows:

1. Critical Review, Analysis & Assessment of Lake Conjola Dredging Activity - Lake Conjola Community Association, August 2017.
2. Dredging of Shoalhaven ICOLI's – Lake Conjola, National Parks Association – Milton Electorate.

Copies of both these submissions are attached to the report.

### **Community Engagement**

The survey was distributed to Council's Consultative Bodies, Natural Resource & Floodplain Committee, Frontline News subscribers, Sussex Inlet Marine Rescue, Sussex Inlet Navigation Action Group and also via a media release, Council Facebook and in the Council Neighbourhood Newsletter.

### **Policy Implications**

The results of the survey can be used to provide input into the development of coastal management programs and any dredging programs that Council may consider in the future.

### **Financial Implications**

The survey had little financial implications, other than staff time required to develop the survey and review results. However, the feedback from the survey should be considered when accessing the economic impact of dredging on Council resources.

### **Risk Implications**

Results of survey should be considered when assessing the environmental, economic and social risk implications of future dredging programs.