

Minutes for this meeting will be confirmed at the Ordinary Meeting to be held in the Council Chambers, Council Administration Building, on 17 August 2006 commencing at 5.00pm



COFFS HARBOUR CITY COUNCIL

SUPPLEMENTARY AGENDA

(PLANNING, ENVIRONMENT & DEVELOPMENT COMMITTEE)

COUNCIL CHAMBERS

COUNCIL ADMINISTRATION BUILDING

COFF AND CASTLE STREETS, COFFS HARBOUR

20 JULY 2006

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COFFS HARBOUR CITY COUNCIL
SUPPLEMENTARY AGENDA
(PLANNING, ENVIRONMENT & DEVELOPMENT COMMITTEE)

20 JULY 2006

Mayor and Councillors

GENERAL MANAGER'S REPORT

8 HOGBIN DR EXTENSION STAGE 2 - BRIDGE DESIGN

Purpose:

To provide Council with further information on the bridge design and flooding effects.

Description of Item:

Council at its meeting held on 6 July 2006 received a report on the progress of this substantial and important project to the City.

Councillors were particularly interested and concerned with aspects of the design as it related to flooding and to the level of community consultation.

Whilst Council has adopted a motion to proceed with a conforming option for the bridge design a rescission motion was submitted and thus no action has been taken on the resolution.

In order to provide Councillors with further information on the matters raised at the last meeting and since, I have had the staff and the consultants address these issues with an overall objective of designing a bridge with no impact on estimated flood heights at 1 – 100 flood.

This information is now provided in this report.

Sustainability Assessment:

This project has been developed using sustainability principles and these have also been included in the bridge design.

Cont'd

8 Hogbin Dr Extension Stage 2 - Bridge Design ...(Cont'd)

Consultation:

Both the community and agencies have been extensively consulted through a variety of mechanisms as follows:

- a) EIS involved extensive and complete consultation.
- b) EIS - revision consulted with stakeholders impacted
- c) REF to capture legislative changes, consulted with agencies
- d) Recent consultation is as follows.

2 nd February	Local Aboriginal Lands council & Elders Group site inspection	
8 th February	Neighbourhood Forum - Southern Section	215 invited 57 attended
16 th February	Friends of Botanic Gardens	12 attended
21 st February	Neighbourhood Forum - Northern Section (Watsonia & Kingfisher Estate)	109 invited 48 attended
28 th February	Neighbourhood Forum - Northern Section (Brodie Drive & adjacent streets)	182 invited 55 attended
14 th March	Ulitarra Conservation Society	15 attended
1 st April	Friends of Coffs Creek	6 attendees
2 nd May	WIRES Regional Coordinators	12 attendees
18 th May	Local Aboriginal Lands Council & Elders Group site inspection.	
19 th May	Promenade Canoe Hire and Sales	
25 th May	Department of Primary Industry (Fisheries)	
6 th June	Government Agencies Bridge Options	Dept of Natural Resources RTA NSW Maritime Authority
15 th June	Department of Primary Industry (Fisheries) & Solitary Islands Marine Park Authority	
21 st June	Solitary Islands Marine Park Authority	

- Have liaised with Department of Environment and Conservation (NPWS & Solitary Islands Marine Park Authority). They have declined our request to formally meet. A project update including all environmental reports and issues listing has been forwarded to them.
- Ongoing email discussion and phone calls with
 - DEC/NPWS
 - DEC/EPA
 - DEC(Grafton)
- Ongoing email discussion and phone calls with Department of Lands Joe Endan & Richard Dunning (Grafton office) and Kirsten Tuckey (Coffs Harbour office)

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- Written to following groups including a project overview and an offer to provide further information
 - Coffs Harbour Triathlon Club
 - Coffs Cruisers
 - Bicycle Users Group (BUG)
 - Plywood Pirates
 - Hash House Harriers
 - Running Group (Thurs am & Tues am)
 - Ongoing letterbox drops, mailouts and onsite meetings to residents/businesses in Glenreagh & Barrie Streets, Watsonia Avenue and Brodie Drive. Liaison with adjacent residents to current works in Orara Street, Harbour and Hogbin Drive.
 - Regular phone liaison with WIRES. Most recent phone conversation 5th July.

It is not normal to consult and seek feedback on engineering design of infrastructure beyond that consultation required by an EIS process.

Related Policy and / or Precedents:

Council has designed and constructed many and varied bridges within the City.

Statutory Requirements:

As the modelling shows nil impacts, Council's legal position is unaltered from prior position.

Section 79 of the Roads Act states that a road authority MAY cause notice of proposed bridgeworks over navigable waters. The purpose of this Section is to prevent Council being sued by people who are financially disadvantaged by the construction of the bridge blocking their passage over the waterway.

The RTA advice is the EIS process and community consultation has made publicly known the details of the creek crossing and as boats can't access from the sea, no commercial businesses are upstream of the bridge and the only commercial operator on the water, the canoe hire business, has been consulted, no action needs to be taken regarding advertising.

Maritime Services advise the minimum clearance required is 2.75m under the bridge above the mean high water mark. At the centre of the creek, ie between piers 1 and 2, there is 4.80m clearance.

Issues:

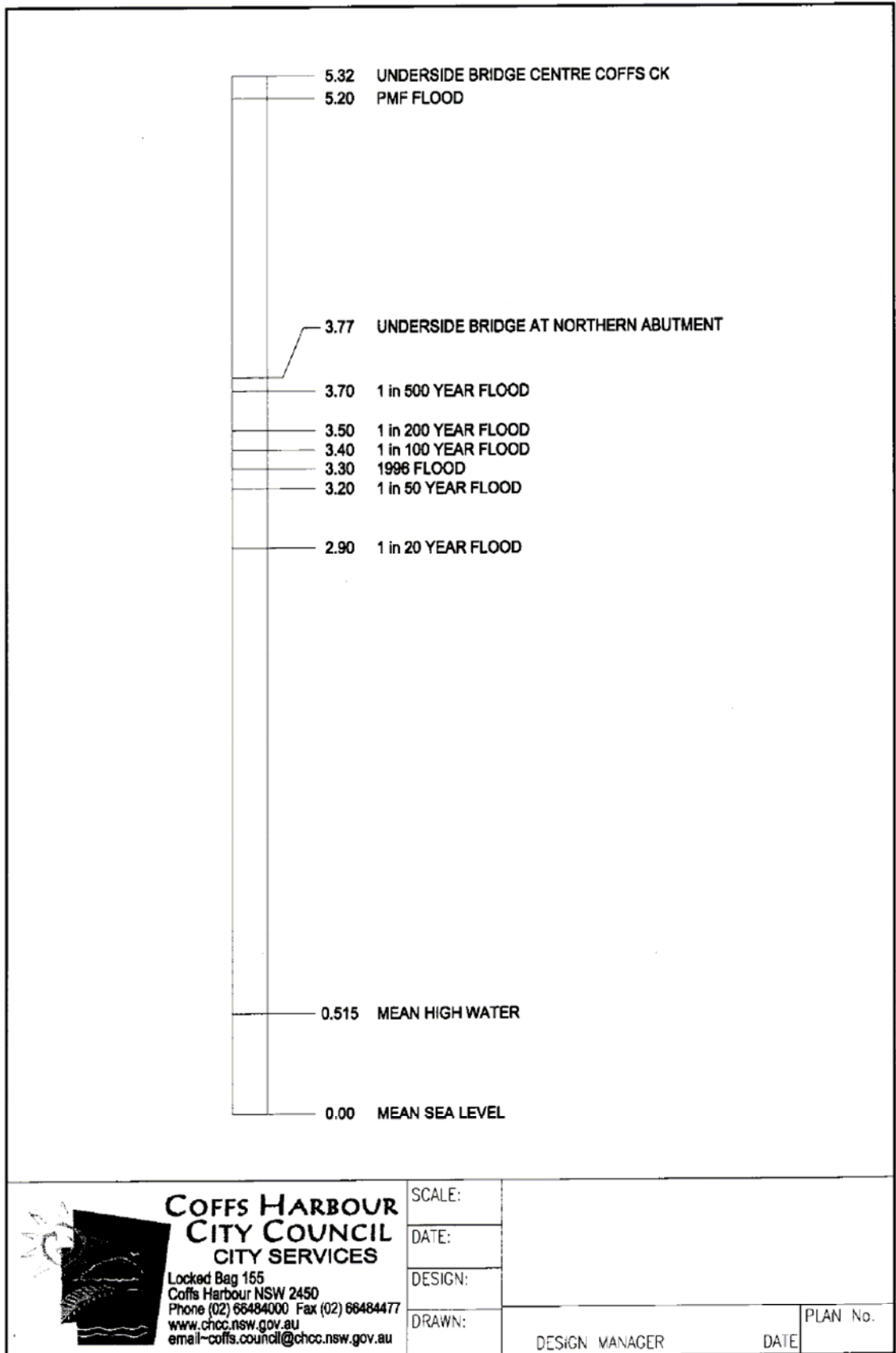
To achieve nil impacts on flood heights the following statement of facts is submitted.


1. **Proposed Bridge:** The current proposed bridge is a 5 x 26m span bridge, 130m long using standard precast deck units. Each pier configuration consists of 3 x 1200mm diameter piers. Final design of piers will incorporate scour minimisation structures and the natural surface under the bridge from pier 3 to 5 will be lowered 200mm to achieve nil flood impact.

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2. **Bridge Architecture:** The design to date is a standard concrete bridge with handrails as you would see on most other bridges. The Alliance architect is currently completing several treatment proposals to enhance the bridge appearance using patterned concrete and stainless steel shaping.
3. **Northern Bridge Approach Roadway:** A design longitudinal section of the northern approach road is attached. This shows the roadway as being 2.94m above the current natural surface at the proposed northern bridge abutment with the filled roadway extending a further 360m north. The long section also shows the 1 in 100 year flood level and the PMF flood level in relation to the bridge and the proposed roadway.
4. **Flood impacts of bridge:** The flood study of Coffs Creek used modelling prepared by consultants Webb McKeown and Associates, Water and Environmental Engineers. This company was again engaged in January 2006 to model impacts of a 130m span bridge across Hogbin Drive. Council received the results of this modelling in May 2006. Over the last week, Webb McKeown have carried out further modelling with a variety of options with different bridge configurations. All modelling has been based on methodology approved by State Government flood guidelines. These guidelines consider tidal impacts on flood levels.

Properties upstream of the proposed bridge which would be impacted in a 1 in 100 year flood even without the bridge are those in Marcia Street, Mellittas Avenue, Theo Close, Jonathan Close, Lawson Crescent, GDT Secombe Close, TAFE site, Glenreagh Street and the CBD area.



 <p>COFFS HARBOUR CITY COUNCIL CITY SERVICES Locked Bag 155 Coffs Harbour NSW 2450 Phone (02) 66484000 Fax (02) 66484477 www.chcc.nsw.gov.au email-coffs.council@chcc.nsw.gov.au</p>	SCALE:	
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		PLAN No. DATE

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1996 flood levels were recorded at 13 Mellittas Avenue 3.71 and at the western end of Theo Close 3.73. The 1 in 100 year modelled level for this area was 3.80 which shows the modelled storm and the actual storm are a good match. We don't have individual house floor levels in the Mellittas Avenue area except for No.13 which has a floor level of 3.75. This property would flood in a 1 in 100 flood, with 50mm water through the house. Other properties in the area are of a similar height and would likely be impacted.

The areas off Brodie Drive called Brolga Place and Honeyeater Way have had minimum floor levels imposed of 500mm above the 100 year flood level. The lots though may be affected by the 100 year flood.

The CBD east of the highway could also be impacted by any change in the 1 in 100 flood level, however it should be noted that stormwater drainage outlets discharging to Coffs Creek from the CBD area submerge when a 1 in 5 storm is in Coffs Creek which lessens the capacity of this system.

Modelling was carried out on various bridge configurations with the following results:

1 in 100 year flood

Chainage from Bridge	Scenario			
	1 Impact	2 Impact	3 Impact	4 Impact
3090	0.00	0.00	0.00	0.00
2890	0.00	0.00	0.00	0.00
2590	0.00	0.00	0.00	0.00
1800	0.01	0.01	0.00	0.00
1020	0.01	0.01	0.00	0.00
550	0.02	0.01	0.01	0.00
50	0.02	0.02	0.02	0.00
-50	0.00	0.00	0.00	0.00
-680	0.00	0.00	0.00	0.00
-1690	0.00	0.00	0.00	0.00

- 1 - Current Proposed Design (1200 piers)
- 2 - Scenario 1 with one additional Northern Span
- 3 - Scenario 1 with two additional Northern Spans
- 4 - Scenario 1 with embankment shaved 200mm between abutment and pier 3

Cont'd

PMF

Chainage from Bridge	Scenario	
	1	4
	Impact	Impact
2890	0.01	0.00
2590	0.01	0.00
1800	0.02	0.00
1020	0.02	0.00
550	0.03	0.01
50	0.03	0.01
-50	0.00	0.00
-680	0.00	0.00
-1690	0.00	0.00

See attached map for location of above Chainages.

In summary, the proposed 130m bridge with shaved northern embankment will produce no impact upstream in a 1 in 100 flood. Modelling shows a very small impact upstream for the PMF event.

It should also be noted that there are no impacts west of the highway for any of the scenarios modelled for a 1 in 100 flood.

- 5. Embankment Construction and Consolidation** - Geotechnical investigation of the filled roadway on the northern side of Coffs Creek has now been completed and designs verified.

The filled area will require preloading. The area from the northern abutment to 40m north will require surcharging with an additional 1m of fill for a period of 2-3 months. The filled area to the north of this section only requires preloading with the proposed fill level for a period of 2-3 months. This will not impact the construction timetable as it will be filled as a priority works, commencing in September.

The northern embankment has up to 3m depth of poor quality soils over a clay base. Settlement is expected to be 150mm-200mm and will be monitored by settlement plates. The bulk of the settlement will take place rapidly.

Fill material required from the northern abutment Ch747 to Ch1100 where fill and cut lines meet is 13,000 m³. This fill will be imported and equates to 650 truck loads.

If the embankment was to be lifted above the PMF flood, an additional 4500m³ or 225 truck loads of fill material will be required.

6. Costs

Additional 26m span	- \$750,000 - \$850,000 each
Lifting road above PMF flood (preferred option)	- \$150,000
Excavation under spans 4 and 5	- \$20,000

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8 Hogbin Dr Extension Stage 2 - Bridge Design ...(Cont'd)

7. **Emergency Access** - The Stage 2 of Hogbin Drive is above a 1 in 100 flood and would allow access north and south during such an event. Most of the emergency services are located in areas which will flood during a 1 in 100 year flood and would have impeded access to Hogbin Drive. The catchment is regarded as a small catchment, which means floods are of a short duration and afford little time to pre-plan as other centres are able to do.

A PMF flood would cover the proposed roadway by 600mm at its peak and this level of flooding would be able to be traversed by emergency vehicles.

1996 Flood Costs - The following information was compiled in relation to the economic impacts of the flood.

Summary of Insurance Claims for Coffs Harbour Storm – 23/24 November 1996

	No. of Claims Recorded	Total Claims Estimate	Average Damage per Claim	No. of Claims Declined
Domestic: (non-farm) Buildings and Contents Combined	1,290	\$8,267,885	\$6,400	164
Farm: (including domestic and commercial)	29	\$749,579	\$25,850	5
Commercial: (Retail and Industrial)	449	\$16,967,180	\$37,800	22
Motor: (including caravans)	333	\$4,826,300	\$14,500	5
Total	2,101	\$30,810,944	\$14,660	196

From the work done in producing the 'Coffs Creek Floodplain Flood Risk Management Study' the consultants estimated that the total expected flood damage in a 100 year flood is \$28,000,000. this is consistent with the above figures.

8. **Environmental** - An EIS was completed in 1996 for the Hogbin Drive project. This was reviewed in 2002. A further review was undertaken this year to ensure all relevant current legislation is being considered.

During the EIS phase a shorter span bridge was considered but to accommodate fauna passage across the road on the northern side of Coffs Creek, the bridge was lengthened to 130m. Regardless of which option is selected, the mangrove under the proposed bridge will be impacted. Mangrove seedlings have been collected and grown and will be used to replace damaged mangroves. It should be noted between 1954 and 1994 the mangrove population in Coffs Creek increased by 78%.

Designs of piers will be such to minimise erosion effects on creek bed and banks.

No lighting is proposed on the bridge however provision will be made for future light poles with conduits and light pole bases being installed. Low level lighting is proposed under the bridge to light the Coffs Creek walking path.

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Cycleways will require a minimum 2.4m head height clearance under the bridge. Excavation of the underside of the bridge on the northern side will be required to achieve this clearance and will be part of the regrading to achieve nil flood impact.

Implementation Date / Priority:

It is proposed that design now proceed to consultation using this option.

Recommendation:

1. That Council further defines it's conforming option which includes the 200ml scrape under the bridge on the northern embankment as described in this report.
2. That the government departments being Road Traffic Authority and Maritime Service Board provide in writing their comments that have been made in relation to Section 79 of the Roads Act.

Stephen Sawtell
General Manager

Attachments:

Appendix A

