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**Title** Engineering Services Special Report Re: Flood Damage Repairs  
January 2011 Event

**To** P. A. Berting, CHIEF EXECUTIVE OFFICER

**File No** 10/7/1, 26/3/5

**Date** 1st February 2011

**Prepared by** G. Cook, DIRECTOR ENGINEERING SERVICES

**Responsible Director** G. Cook, DIRECTOR ENGINEERING SERVICES

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**Summary/Purpose**

This report has been prepared to outline to Council the approach that is planned in order to ensure the early repair of Council infrastructure for the damage that has occurred during the extended flooding that occurred up to January 2011.

**Declaration of Material Personal Interest/Conflict of Interest**

Council staff have used the Preferred Supplier arrangements to hire equipment from Dalby Machinery Centre. The Director of that business is the Brother in-law of the Director of Engineering Services.

**Officer's Recommendation**

That this Report be noted

**Justification**

N/A

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**Link to Corporate Plan**

SA6 – Infrastructure

Plan, design and construct regional infrastructure relating to roads, footpaths, bridges, buildings, recreational facilities and associated works.

**Report**

Extensive flooding in the Western Downs Region has caused major damage to Councils infrastructure over the last four (4) months. These events have caused further damage to the Storms and Flooding February to March 2010 event that has led the Department to direct us to roll all restoration works from that event into the one submission for the latest event.

While this is an obvious outcome due to such a large flooding event, the outcome is that the Council may now not receive payment for the Day Labour component as promised for the February to March 2010 damage as previously approved.

The Department has indicated that the Day Labour component of both the Emergent Works and Restoration work will currently not be paid to Council. This has led to rethinking how we deliver the repairs to flood damage as any contract work will be fully subsidised.

## **ROAD NETWORK**

On top of these changes, Council currently has a very full construction program due to pressures from the CSG industry and Main Roads. For instance, the current Works Program in the Dalby District has basically every project all or in part externally funded works. Engineering were looking at using contractors to meet this peak of externally funded works but given the quantum of flood damage to the network and the changed rules it would seem logical to use these contract resources to carry out flood damage repairs to the Council infrastructure and use the Council workforce on Main Roads flood damage and other externally funded projects

The main issue facing Council is that it is competing for any external contract resources against the CSG industry and other Councils. The damage for this event is basically State-wide so most Councils will be looking to supplement their workforce in some regard.

Given the fact that we were investigating the use of contractors to help deliver on our Capital program we were able to move fairly quickly to establish external resources to help with the Emergent Works currently underway around the region.

Prior to allowing these and other Council resources to start any repair works, Council staff have been busy scheduling and photographing the network to ensure that the Flood Restoration submission does not miss any work that should reasonably attract flood damage subsidy.

Current arrangements for contract resources for Emergent Repairs in the various areas are as follows

### **Dalby District**

Ostwald Bros	-	Two (2) crews
JP Contracting	-	One (1) crew
Watpac	-	One (1) crew including a large Road Stabiliser
Roadtek	-	Bunya Mts Road, Jandowae Rd, Cecil Plains Rd, Part Bunya H'way

Various Preferred Suppliers have been used to provide dry and wet hire to supplement the existing workforce. They have been concentrating on Main Roads where the Day Labour component is not an issue.

### **Tara District**

Bruhl's	-	Two (2) crews
Moffat's	-	One (1) crew

### **Chinchilla District**

QGC	-	Providing former Council staff to help scheduling and inspection works
Watpac	-	One (1) crew including a large Road Stabiliser is starting next week
East Coast Pipelines	-	One (1) crew (Origin Contractor)
Donpon Earthmoving	-	One (1) crew

### **Miles District**

Kerwicks Earthmoving	-	One (1) crew (Western South Western area)
Rob Karez	-	One (1) crew (North of Miles)
T and W Earthmoving	-	One (1) crew (Condamine area)

## Wandoan

- Ostwald Bros - One (1) crew (South West corner, Pine Hills Road area)
- Mike Jones Earthmoving- One (1) crew (West of Wandoan)
- Moffats Earthmoving - One (1) crew
- JK Backhoe Hire - Resources to supplement existing workforce

## Flood Damage Restoration Submission

Consideration was given to using any number of the Engineering Services providers to complete the whole restoration submission for Council but this would have led to delays in the Councils ability to start the Emergent Works by at least one (1) month. Given we currently only have two (2) months to complete any emergent works repairs, it seemed logical to get things going using our own staff even though their wages component may not be paid.

This work is continuing and will result in the need to prepare substantial submission documentation. To this end I have investigated the need for external help to collate the information provided by the Councils own staff as per Council recommendation at its meeting on 24th January 2011.

When assessing what was best for our operation for the preparation of the Submission for Restoration Works, it seemed easier to supplement our existing structure with extra resources rather than set up a stand alone operation. Given the fact that Council staff had already scheduled a fair proportion of the network, the best option was to assess what could be added to allow the timely presentation of the Councils Flood Damage submission.

The use of LGIS was investigated but the basis of the arrangement was that Council pay a \$30,000 fee in order to access an arrangement with Aurecon. This company has also been chosen by Main Roads to carry out similar work in the Darling Downs Region for the Department. They have subcontracted Harrison Group from Toowoomba to provide the resources for the project. Harrison Group have indicated that their resources will be very stretched in providing what they already have and could not help with us over the next few months..

The LGIS fee is doing nothing more than allowing access to a Preferred Supplier arrangement with Aurecon and they would obviously seek out another supplier if needed. However it is recommended that we choose those resources that will dovetail into our own structure and provide the best value via our own Preferred Supplier arrangements already in place. This will most likely provide maximum subsidy and an earlier completion of our submission

In assessing the need for the amount of support required it should be noted that the size the road network has not increased due to the magnitude of the flood event. While there will be more in the submission to be collated, the scheduling work is the same as was required during previous events. The extra real need will come when the restoration works are approved and that timing will depend on the time taken for approval.

With this in mind it is recommended that a full time resource at a Technical Officer level is required, with the part time support of an experienced Engineer to ensure that submission is being prepared correctly under proper supervision. This should achieve an early completion and maximise the final claim for submission works.

While there are many offers to provide services, Brandon and Associates do have an experienced Engineer in Mark Pomerence available for one (1) day per week. He is acquainted with the area and is well known with the Council Engineering staff and would be perfect for the job. Brandon's also has a junior Engineer on a full time basis which could provide the backbone of the support we need to prepare the submission for the Restoration Works. She has been providing this support at Roma and for the preparation of the Restoration Submission she would seem ideal for the collation work.

All costs associated with the provision of this support can be recovered as part of our final submission but the existing Preferred Supplier arrangements do offer reasonable rates and the local company has in the past and continues to provide excellent service in the field.

## **Flood Damage Restoration Works**

At the time the restoration works are approved and the work is commenced is the time that our existing structure will need the most support. As the work will largely be carried out by contract resources, there will be a genuine need for field inspector roles. As the Council's own resources are likely to be carrying out contract works for others, there will be a need to provide full time Project Management of the works to ensure that maximum value is achieved for Council.

It is expected the Scott Pomerence of Brandon's will become available at the time this will occur. Scott was acting in the role of Director of Engineering Services for Tara Shire Council prior to amalgamation and is currently acting as Group Manager Works for Council, so he is ideal for this role.

I have approached several companies and individuals for Technical Officer / Field Inspector staff. I hope to confirm that a former Main Roads Foreman, Ken Jones, will be available early next week. The timing of this likely appointment will depend on the timing of final submission approval however he may be used on Marble Street Dalby which requires some major works under Emergent Works.

The need to field inspection and supervision will be assessed as we progress but this approach should allow completion of our own contract works and early completion of the flood damage repairs to the road network.

## **WATER SUPPLY**

The flood had a huge impact on several water supplies in the region. Dalby, Warra, Chinchilla and Condamine were the worst affected.

### **Dalby**

The plant was inundated on two (2) occasions which was unexpected. There was a failed valve on the overflow for the Clear Water Storage under the plant that caused the second inundation. The overflow leads to a drainage system that drains to the river. The failure of the valve allowed to backflow up the overflow and get into the storage. The issue will be resolved along with a number of other minor problems during the next few months.

Since the floods there have been several dramas that have led to further delays to full operation of the plant.

The river plant was operational until the one (1) operational river pump failed due to blockage from mud and sediment. That problem was resolved on Australia day but led to the large storage reaching as low as 30%. The river plant has now been on line since but is not producing as much water as possible due to the dirty nature of the raw feed water. While operational, the plant is not fully repaired as the plant is being manually operated. That will be repaired over the coming months. The river plant can produce up to approximately 2.0MI per 8 hour shift. While the storages were low the plant was operated for a double shift to build the reserve available.

Reverse Osmosis Plant No 1 (RO1) has been operational since being brought back online following inundation. The plant provides a base water production of between 2.0MI per day.

RO2 is now operational and has the capacity to double the output from RO1 but there have been issues with the Bore Mains feeding from the bore fields. That issue has been resolved early this week. This has allowed water from some of the upper Condamine Alluvium to be fed directly into the clear water storage.

The only outstanding issue is the failure of Bore 10 which would allow enough water for the operation to RO2. That was delayed due to the soft ground around the bore location. That issue is being resolved Tuesday which will allow a new submersible pump to be installed by Wednesday (2nd February).

As soon as Bore 10 is operational all portions of the plant can be called on to produce water. Staff have been working double shifts with the river plant to ensure the clear water storage is full. This will allow them to take various portions offline in order to carry out permanent repairs over the next couple

of months, without affecting the supply of the town. Once Bore 10 is operational and is proven reliable it is recommended that the Water Restriction level be lowered back to Level 3, which was the level prior to the flood event.

### **Warra**

The Warra plant is back online and operational. The Boil Water alert raised at Chinchilla did affect Warra as water was being delivered from the Chinchilla plant while the Warra plant was not operational. The Boil Water Alert remains in place for Warra as testing has yet to show three (3) clear days of water in specification.

### **Chinchilla**

The Chinchilla plant was not affected by the floods however the dirty flood water did cause issues with the operation of the plant. There was also a large amount of main breaks that created huge problems for staff and these have been largely resolved.

The network at Chinchilla is tested regularly at various locations for quality and one of those testing points is the treated water coming back to the Treatment Plant from the town network that supplies domestic water for the operators at the plant. A routine test in this treated water during the flood was found to have low Chlorine and was positive with E. coli. The cause of the low chlorine was that the flood water was high in nutrients, which burns up the residual chlorine in the treated water after regular testing. Further testing of the network found that there was low or no residual chlorine in the network.

This automatically triggers a boiled water alert from the Health Department that must remain until at least three (3) day of testing shows that the chlorine levels are returned and E. coli is not present. At this stage the Health Department, through the Office of Water Supply Regulator, gives approval for the removal of the Boil Water alert. The removal of that Boil Water Alert was clearly premature as only one test was carried out and the information to the District Disaster Committee should have been to wait for further testing. Luckily no issues were reported but it is strongly recommended that in future proper process is followed as potentially this could have been disastrous.

### **Condamine**

The feed pumps to the water plant were inundated and caused problems at Condamine. The pump that was used to supply the sports oval was temporarily used to supply the treatment plant. This pump could not cope and has been replaced with a temporary arrangement until a permanent solution is put in place. Parsons Brinckerhoff kindly offered to provide Council with one (1) week of pro bono Engineering Consultancy which was used, among other things to investigate the upgrade of the Condamine system. The sizing and style of pump is being reviewed and when installed will provide a higher flood immunity and more reliability in the system.

## **PARKS AND GARDENS**

Parks and Gardens were affected like other community assets in the various towns and while the Works area has concentrated on the basic infrastructure to ensure people can get back to business, this area is also important to the community.

Staff has gone through all of the areas and highlighted where and what needs to be done to repair any damage to the Parks and Gardens. Such things as replanting and refurbishing inundated gardens, cleaning play equipment, softfall replacement and scour repair will be carried out.

Because the Works areas are heavily committed to road repairs we are looking at hiring casual labour to supplement the existing workforce to ensure that Parks and Gardens are repaired and maintained to a standard acceptable to the community. On top of this the Chinchilla area in particular has the Melon Festival due which will require extra work to ensure the town is look tidy.

## **Budget & Financial Aspects**

The flood damage work on all infrastructure, except Water and Sewerage, will be covered by Councils Emergent Works claim and any approved Flood Restoration works. The Council will have to fund the first portion up to the trigger level for the event. This was set at \$177,000 however it appears this will be increased to \$208,000 due to the number of events that are being rolled into one (1) event. This is still to be confirmed however appears likely.

The Flood Emergent Work will have a severe affect on Council current capital and operational budget. The full impact is yet to be analysed but that will be addressed at the next budget review. The Flood Restoration repairs work will likely fall into the 2011/12 financial year and appropriate budget allocation will be made at that time

## **Organisational Considerations**

The proposed changes will have no long term impact on the Council Organisational structure.

### Consultation (Internal/External)

The information provided has been presented by Engineering staff in the Works and Utilities areas. As this report was produced for Councils information only limited consultation occurred with other Directorates.

### Legal Implications

N/A

### Policy Implications

N/A

### Workplace Health and Safety Implications

N/A

### Asset Management

N/A

## **Conclusion**

The impact from the continuous rain and flooding events will have a huge impact on our ability to deliver budgeted works in all areas of Engineering.

The main issues that Council should be raising with other levels of Government are as follows:

1. Flood Damage currently excludes Water and Sewerage facilities. In areas such as the Western Downs where the is service provided to the community at a subsidised rate, these facilities should be covered by Flood Damage funding as with other important public infrastructure.
2. The sheer size of the event and the damage caused will make it difficult to complete any Emergent repairs in the normal two (2) month period allowed. This should be extended to allow Council time to complete these repairs or anything not completed will need to wait until the Restoration Submission is approved. This would cause unacceptable delays in repairing some damage.

3. Given the size and geographical location of this event, the Council will find it difficult to access contractors to carry out these repair works. On top of these, the previously given guarantee that Western Downs would receive the day labour component for the February to March 2010 event now will be rolled into the current event. As such Council should lobby to again receive full payment, including day labour costs, for all repair works carried out by Council staff

