GLADSTONE
REGIONAL COUNCIL

WORKS AND TRAFFIC COMMITTEE

A G E N D A

11 April 2017

Commencing immediately after the Commercial Services Committee Meeting

**Held at the Council Chambers - Civic Centre,
101 Goondoon Street, Gladstone**

Please note: These minutes are to be read in conjunction with the preceding General Meeting Minutes.

Terms of Reference

Committee is primarily responsible for overseeing policy and performance in the following areas of Council operation:-

- Road Construction and Maintenance
- Drainage Operations
- Public Car Parks
- Street Sweeping
- Footpath Management
- Design Services
- Traffic Management (via Traffic Environment Advisory Committee).

Committee members are all Councillors.

By virtue of section 12(3)(g) of the *Local Government Act 2009,* the Mayor is a (ex-officio) member of the committee.

Cr Masters is the Chair of the committee.

A quorum be a simply majority of members.

The Committee meet in the first instance of the second Tuesday of each month commencing immediately after the Commercial Services Committee Meeting in the Council Chambers and the committee be authorised to determine its future meeting times and frequency.

Committee Administrator is the Director Engineering Services.

Appointment of Committees

Section 264 of the *Local Government Regulation 2012* as follows:-

(1)A local government may -

(a) appoint, from its councillors, standing committees or special committees; and

(b) appoint advisory committees.

(2)Two or more local governments may appoint, from their councillors, a joint standing committee.

Closed Meetings

Section 275 of the *Local Government Regulation 2012* as follows:-

(1)A local government or committee may resolve that a meeting be closed to the public if its councillors or members consider it necessary to close the meeting to discuss -

(a) the appointment, dismissal or discipline of employees; or

(b) industrial matters affecting employees; or

(c) the local government's budget; or

(d) rating concessions; or

(e) contracts proposed to be made by it; or

(f) starting or defending legal proceedings involving the local government; or

(g) any action to be taken by the local government under the Planning Act, including deciding applications made to it under that Act; or

(h) other business for which a public discussion would be likely to prejudice the interests of the local government or someone else, or enable a person to gain a financial advantage.

Committee Members

Cr Masters - Chair
Mayor Burnett
Cr Bush
Cr Churchill
Cr Goodluck
Cr Hansen
Cr O'Grady
Cr Sobhanian
Cr Trevor

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WTC/1. OPENING AND APOLOGIES

WTC/2. DISCLOSURE OF INTEREST

WTC/3. CONFIRMATION OF MINUTES

WTC/3.1. CONFIRMATION OF MINUTES FOR 14 MARCH 2017

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: CM7.2

Purpose:

Confirmation of the minutes of the Works and Traffic Committee held on 14 March 2017.

Officer's Recommendation:

That the minutes of the Works and Traffic Committee of Council held on 14 March 2017 be confirmed.

Attachments:

1. Minutes of the Works and Traffic Committee of Council held on 14 March 2017.

Tabled Items:

1. Nil.

Report Prepared by: PA Director Engineering Services

WTC/4. DEPUTATIONS

Nil.

WTC/5. OFFICERS' REPORTS

WTC/5.1. ADELAIDE STREET CUSTOMER REQUEST

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD1.8

Purpose:

The purpose of this report is to allow Council to consider improvement of the road and the roadside environment at Adelaide Street, South Gladstone.

Officer's Recommendation:

That Council:-

1. Periodically maintain and monitor the vegetation within the central median on Adelaide Street, Gladstone;
2. Include within Councils 2018/19 Long Term Financial Plan a project to design and construct an ARC type or equivalent panel fence on top of the retaining wall on Adelaide Street as per attached drawing 16-066-001 (Rev 1.1) at an estimated cost of $ 65,000;
3. Maintain the current width of the Adelaide Street north bound lane as is and monitor street parking;
4. Maintain the current arrangement of the Adelaide Street southern road grade transition as is between the westbound and northbound lane; and
5. Monitor the condition of the Adelaide Street retaining wall and include within Councils Long Term Financial Plan a project to design and replace this retaining wall at end of life.

Background:

On 25 November 2016, the residents of Adelaide Street, South Gladstone expressed their concerns regarding safety and parking issues and requested consideration be given to the overall improvement of Adelaide Street.

The concerns expressed by the residents of Adelaide Street are as follows:-

a. Heavily vegetated central median which is in an unmaintained state with concerns that severe weather may cause uprooting of tall trees;
b. Rocks and debris falling from the central median into the southbound lane of the road surface causing safety concerns for motorists;
c. Currently, the northbound lane is not wide enough to accommodate on street parking; and
d. The steep gradient between the southbound lane and northbound lane make it difficult for both small and large vehicles to maneuver.

Adelaide Street is a grade separated road where the southbound lane is lower than the northbound lane. There is an existing block retaining wall in between the central median and the southbound lane. Refer Figure 1 below for aerial view.

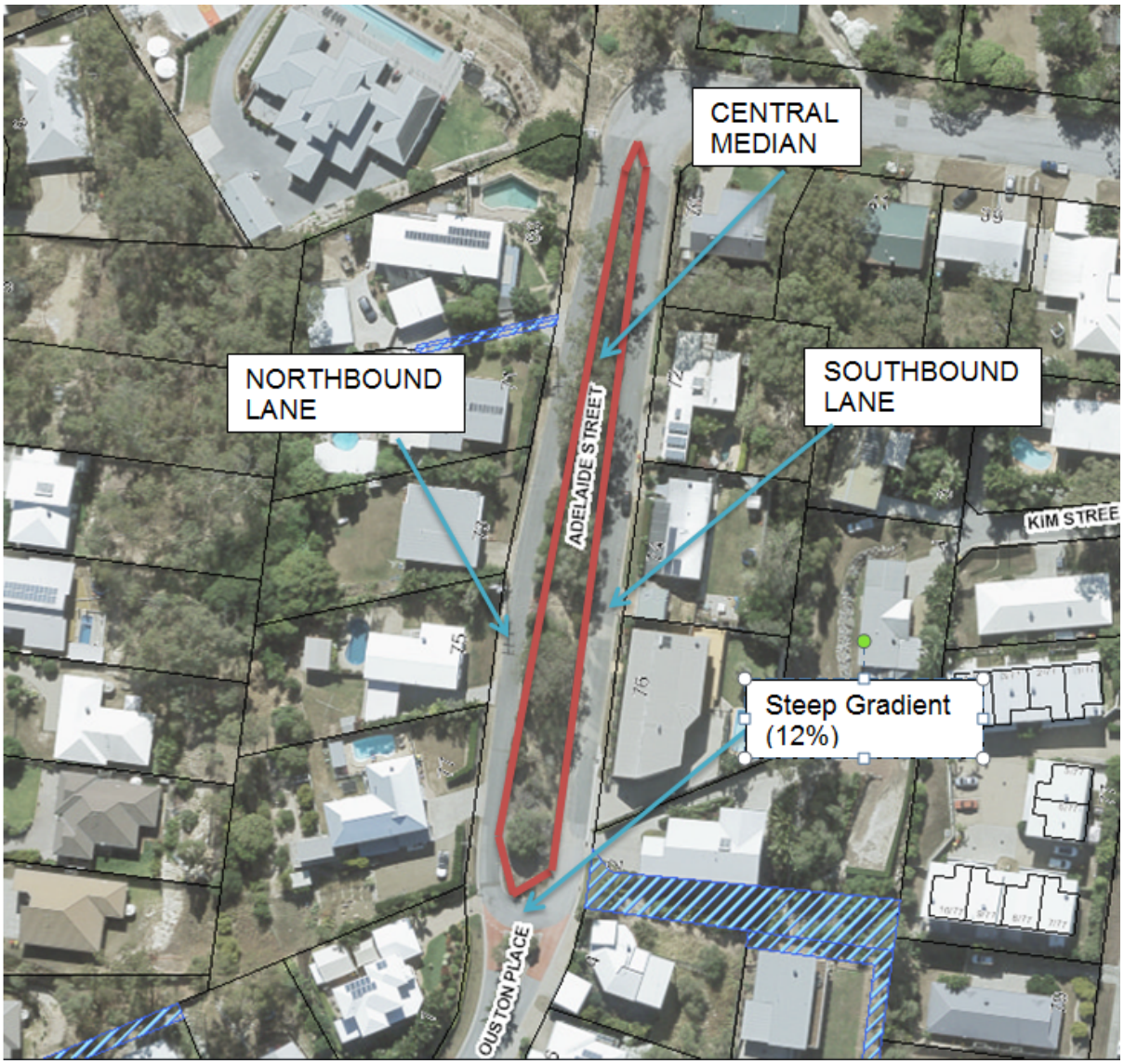


Figure 1: Aerial View of Adelaide Street

A search of Geocortex (Council's GIS mapping system) has shown that Adelaide street falls under the Steep Land overlay of Council's Planning Scheme. Under current requirements of the Steep Land overlay, a number of specific assessment criteria need to be met before any development work can take place in the area. The assessment criteria according to Table 8.2.12.3.1 of the Planning Scheme is:-

"2. Paths, driveways and roads:-
b. are constructed to an appropriate standard to minimize landslide impacts.

6. Development incorporates measures to minimize the landslide risk level by:
a. avoiding works on the steepest parts of the land, and
b. retaining existing vegetation. "

Consideration:

Council's Technical Service have carried out an investigation to find a solution to the above mentioned concerns raised by the residents of Adelaide Street. The following options are considered to resolve the concerns:-

A. **Heavy Vegetation issue**

Option 1 – Remove all vegetation from the central median.

Allocate $25,000 in Council's 2017-18 Parks operational budget to remove all vegetation from the central median in order to eliminate the risk of the trees been compromised by severe weather.

Advantage

- This will address the safety concern raised by the residents regarding the chance of the tall trees falling during severe weather.

Disadvantage

- This is against the Council's Planning Scheme (Steep Land overlay) as it will expose the ground and increase the chance of erosion and landslide; and
- Financial outlay for removal of vegetation.

This is not the preferred option.

Option 2 – Maintain and monitor the vegetation of the central median periodically

Include the central median of Adelaide Street, South Gladstone in to Council's Parks and Gardens maintenance program to manage and monitor vegetation control of the median strip. Make a determination for tree removal or any further action after a period of vegetation management and monitoring.

Advantage

- No vegetation is removed in accordance with the Council's Planning Scheme (Steep Land overlay); and
- This will provide safety for motorists and nearby resident of the southbound lane of Adelaide Street during severe weather.

Disadvantage

- Financial outlay for maintenance of the vegetation.

This is the preferred option.

Option 3 – Do nothing

This is not the preferred option as there is risk involved if the vegetation is left in its unmaintained state.

B. **Rocks and debris falling from the central median**

Option 1 – Install an ARC type or equivalent panel Fence on top of the existing block retaining wall

Install an ARC type or equivalent panel fence on top of the retaining wall as per attached drawing 16-066-001 (Rev 1.1) at an estimated cost of $ 65,000 to be funded from 2018/19 long term financial plan. Refer Attachment 1.

Design scope to consider a shear pin be provided at the lower fixing point of the panel to the post to provide a weak point enabling panel to open once sufficient loading is applied, this will ensure the load behind the fence "rocks/debris" does not damage the structural integrity of the fence.

Advantage

- This will prevent rocks and debris falling on the southbound lane and create a safe environment for the motorists;
- Addresses customer request; and
- Enables ease of access to remove fallen rocks from behind the fence.

Disadvantage

- Financial outlay to construct the fence.

This is the preferred option as it addresses the customer request and ensures safety for motorists.

Option 2- Do Nothing

No cost associated with this option.

Advantage

- No additional cost to Council.

Disadvantage

- If no measure is taken, the falling rocks and debris will create a safety hazard for motorists travelling along the southbound lane of Adelaide Street.

This is not the preferred option.

C. **On street parking at Northbound lane**

Option 1 – Widen the Northbound Lane to accommodate on street parking

Widen the northbound lane by 1m to accommodate on street parking. Current width of the northbound lane is 4.5m. The length of the road widening is 145m with the estimated cost for the work at $160,000.

Advantage

- Widening the road will allow for on street parking; and
- Address customer request.

Disadvantage

- The widening will take the road very close to the edge of the steep slope, creating a potential risk of landslide and is against Council's Planning Scheme; and

- There are services along the road which will be affected by the widening and may require realignment which will increase the estimated cost of the road widening.

This is not the preferred option.

Option 2 – Do nothing

Maintain the current width of the road as is and monitor street parking on the northbound lane.

Advantage

- No further potential risk of landslide; and
- No additional cost to Council.

Disadvantage

- Does not address customer request.

This is the preferred option as this will ensure no further potential risk of landslide and no additional cost to Council.

D. Steep Gradient between Westbound and Northbound lanes at southern most transition

Option 1 - Do nothing

Maintain the current steep road grade as is between the westbound and northbound lane.

Adelaide Street is a well-established street with existing infrastructure including footpath, driveways, storm water and utility services. Any changes to the existing road grade will inevitably affect existing infrastructure and public utility services.

Advantage

- Further problems regarding changing the adjacent infrastructures can be avoided.
- No additional cost to Council.

Disadvantage

- Does not address customer request.

Communication and Consultation (Internal/External):

Local residents and Manager Road Services

Legal Environmental and Policy Implications:

Gladstone Regional Council Planning Scheme Steep Land Overlay

Financial and Resource Implications:

A. Option 1 - $25,000 to remove all vegetation, Option 2 - will require Councils Parks and Environment section include a maintenance budget to maintain the central median and Option 3 – no cost associated.
B. Option 1 - $65,000to install chain wire fence. Option 2 – No cost associated.
C. Option 1 - $180,000 to widen the Northbound Lane. Option 2- No cost associated.
D. Option 1 – No cost associated.

Commentary:

The existing block retaining wall on southbound lane is currently in a fair condition and the nature of soil it is retaining is firm and stable. It is anticipated that the retaining wall will reach end of useful life in approximately 10 to 15 years. Therefore, it is recommended that Council monitor the condition of the block retaining wall and include a project within its Long Term Financial Plan to design and replace the wall.

Summary:

Due to the nature of the terrain, not all the requests made by the residents of Adelaide Street could be addressed. The preferred options presented in the report include:-

- Maintain and monitor the vegetation of the central median periodically;
- Install an ARC type or equivalent panel fence on top of the retaining wall as per attached drawing 16-066-001 (Rev 1.1);
- Maintain the current width of the road as is and monitor street parking on the northbound lane;
- Maintain the current steep road grade as is between the westbound and northbound lane; and
- Monitor retaining wall condition and include within Councils Long Term Financial Plan a project to design and replace the retaining wall at end of life.

Attachments:

1. Adelaide Street Fence on Retaining Wall Drawing No. 16-066-001 (Rev 1.1)

Tabled Items:

Nil.

Report Prepared by: Engineer Design

WTC/5.2. STREET LIGHTING ON PITTSBAY CRESCENT BOYNE ISLAND

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD1.9

Purpose:

The purpose of this report is to allow Council to consider the installation of street lighting on Pittsbay Crescent, Boyne Island to comply with Australian Standards and to improve the general safety of this area.

Officer's Recommendation:

To address the current substandard lighting along Pittsbay Crescent, Boyne Island and to improve the general safety in the area, that Council:-

Allocate $20,000 to undertake a detailed lighting and electrical design to provide street lighting on Pittsbay Crescent, Boyne Island that complies with Australian Standards and to improve the general safety of this area, in Council's 2018/19 long term financial plan.

Background:

The Boyne Island Tannum Sands (BITS) Local School Transport Safety Action Group meet on a regular basis to discuss traffic, transport and safety issues around the schools in the BITS catchment area. The group is made up of representatives from Queensland Police, Department of Transport and Main Roads (DTMR), School Principals, Council's Engineering Services and Councillors. At it's last meeting, held on Monday 20 February 2017, the Principal of Boyne Island State School raised a safety concern regarding the absence of streetlights in Pittsbay Crescent, Boyne Island.

The Principal advised that the school runs after-school evening events (approximately 17) on the premises each year. These events attract a number of participants including visiting guests, parents, students and school staff, who access the school using the Pittsbay Crescent access point. These annual evening school events include:-

- 2 x School Discos;
- 6 x Parent teacher interview evenings;
- 2 x Open Nights;
- 2 x Sports Evening and Awards Nights;
- 2 x Concerts;
- 1 x Graduation Ceremony; and
- 2 x Wakakirri events.

It's been reported by the Principal that the absence of street lighting on Pittsbay Crescent creates a number of safety concerns including trip hazards, and fear from, predominately female participants, when walking through dark public spaces with the concern that *"someone might be lurking in the shadows while they walk back to their cars"*.

Council Officers carried out a street lighting audit on 6 March 2017 and the following was identified:-

- Absence of lighting along the school frontage; and
- Level of lighting along Pittsbay Crescent not up to current Australian Standards.

To ensure the street lighting complies with current Australian Standards, a P2 or P4 lighting category must be adopted.

- P2 lighting category have an additional requirement for lighting in the vertical plain to allow for clear recognition of facial features and is required in areas where crime is a problem. In this area, crime wasn't the factor for consideration of street lights.

- P4 is the minimum standard and will provide sufficient lighting for activities in Pittsbay Crescent. This category means that 7 streetlights at a spacing of approximately 24m will be installed. Mounting height is 6m.

Consideration:

Option 1: Do Nothing as per drawing 17-027-600 (Rev1.1) - Attachment 1

Advantage:
- No cost involved

Disadvantages:
- Existing lighting does not comply with AS1158 lighting standards
- As the request involves a security concern, further concerns for safety could be questioned by residents/ school staff.

This is not the preferred option as the current street lighting on Pittsbay Crescent does not comply with Australian Standards AS1158. It also does not address the safety and security concerns of the customer.

Option 2: Install lighting to P4 Australian Standard category as per drawing 17-027-601 (Rev1.1) - Attachment 2

To address the current substandard lighting along Pittsbay Crescent, Boyne Island and to improve the general safety in the area, that Council:-

1. Endorse Concept Drawing No. 17-027-601 (Rev1.1) as the preferred street lighting upgrade;
2. Engage consultants to undertake a detailed lighting and electrical design in accordance with Concept Drawing No. 17-027-601 (Rev1.1) to a meet current Australian Standards (AS1158 Lighting Standards); and
3. Allocate $20,000 for this design project in Council's 2018/19 long term financial plan.

This option lights the school frontage to a P4 Standard including seven (7) light poles with a maximum spacing of just over 24m between poles. Note – this option does not include any light from the future car park in the area. This standard of lighting only lights the road way and only considers horizontal lighting components.

Consider the design phase in future 2018/19 budget bids.

Total cost for the design is estimated at approximately $20,000

Advantage:

- Addresses the safety concerns of the school;
- Ensures the section of road meets current AS1158 standards; and
- Improve pedestrian lighting within the area.

Disadvantages:

- Design and construction costs borne by Council;
- Lighting infrastructure maintenance costs for Council; and
- Increase of lighting infrastructure within road reserve, which may impact other services.

Option 3: Install lighting to P2 Australian Standard category as per drawing 17-027-602 (Rev1.1) - Attachment 3

To address the current substandard lighting along Pittsbay Crescent, Boyne Island and to improve the general safety in the area, that Council:-

1. Endorse Concept Drawing No. 17-027-602 (Rev1.1) as the preferred street lighting upgrade.
2. Engage consultants to undertake a detailed lighting and electrical design in accordance with Concept Drawing No. 17-027-602 (Rev1.1) to a meet current Australian Standards (AS1158 Lighting Standards).
3. Allocate $30,000 for this design project in Council's 2018/19 long term financial plan.

This option lights the school frontage to a P2 standard including ten (10) light poles with a maximum spacing of just over 19m between poles. Note – this option does not include any light from the future car park in the area.

This option includes extra lighting to comply with level P2 standard. Pedestrian safety requires a higher lighting standard. Note – this option will need a more thorough design to ensure it complies as it also involves a vertical lighting component so it's easy to recognise and describe faces.

Consider both design and construction phases in future 2017/18 budget bids.

Total Design Cost is estimated at approximately $30,000.

Advantage:

- Addresses the safety concerns of the school;
- Ensures the section of road meets current AS1158 standards;
- Improve pedestrian lighting within the area; and
- Improve pedestrian safety within the area.

Disadvantages:

- Design and construction costs borne by Council;
- Lighting infrastructure maintenance costs for Council; and

- Increase of lighting infrastructure within road reserve, which may impact other services.

Communication and Consultation (Internal/External):

The concern was raised by the School Principal at a BITS meeting on 20 February 2017 where it was discussed between Boyne Island State School, Tannum Sands State High School, Gladstone Regional Council and the Department of Transport and Main Roads.

Council's Technical Service Design team undertook the street lighting audit with associated recommendations.

Legal Environmental and Policy Implications:

By doing nothing Council does not conform to its adopted Road Hierarchy Policy 2009 or AS1158 Lighting Standards.

Financial and Resource Implications:

The recommended Option 2 requires funding through Council's 2018/19 Capital Works Program for Design of a P4 Lighting Category. Total dollar figure would be approximately $20,000 for design.

The second phase will be the Construction of the lights which will be budgeted for in the 19/20 Financial year.

In addition, costs would need to be included within Council's long term financial plan for maintenance, depreciation and upgrade or replacement.

Commentary:

Due to the nature of this request, the option to do nothing could cause safety concerns for the community and lead to a back lash for Council.

Summary:

Refer to "Officers recommendation".

Attachments:

1. Drawing 17-027-600 (Rev1.1) Option 1 Existing Lighting Layout
2. Drawing 17-027-601 (Rev1.1) Option 2 Lighting Category P4
3. Drawing 17-027-602 (Rev1.1) Option 3 Lighting Category P2

Tabled Items:

Nil.

Report Prepared by:
Senior Engineer Design and Investigations

WTC/5.3. ADOPTION OF GLADSTONE REGIONAL STRATEGIC TRANSPORT MODEL

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD8.1

Purpose:

The purpose of this report is to allow Council to consider adopting the Gladstone Regional Transport Model Final Report dated 25 February 2016 and to allocate funds into its long term financial plan for future revisions.

Note: Whilst the naming of the report has inadvertently omitted the word "strategic", the report has been prepared in relation to the Gladstone Regional Strategic Transport Model.

Officer's Recommendation:

That Council:-

1. Adopt the Gladstone Regional Transport Model Final Report dated 25 February 2016 as the base document and modelling file to provide guidance when making predictions about the impact of potential transport infrastructure projects in Gladstone;
2. Allocate $165,000 in its Long Term Financial Plan for 2010/21 financial year and every five years thereafter to ensure the model is adequately reviewed and the data is in line with the Department of Transport and Main Roads Regional Transport Model and Planning Scheme / Local Government Infrastructure Plan (LGIP) reviews; and
3. Note that annual minor reviews will be undertaken within approved allocated budgets to assess the impacts of current and future development applications.

Background:

The Gladstone Regional Strategic Transport Model (GRSTM) was originally prepared by Department of Transport and Main Roads (DTMR) in 2012 (Attachment 1). The work undertaken by DTMR, including the development, calibration and validation of the model was provided to Gladstone Regional Council (GRC) as a final draft for consideration. The modelling incorporates various studies and data including Gladstone Household Travel Survey 2010 (HTS), ABS Census data (2006) and was fundamentally based on the DTMR network.

GRC sought to develop on top of this model framework in order to monitor and forecast the transport system usage and performance, including Council roads, within the region. Through strategic modelling, outputs are able to provide relevant, accurate, accessible and credible transport data and forecasts. The model is used internally by Council Officers to interrogate the data and output information and understand the transport characteristics of the region, thus support the planning and development of infrastructure and services.

The GRSTM can provide guidance, subject to the limitations described below, when making predictions about the impact of potential transport infrastructure projects within the Gladstone region. The model will be most valuable when used as a tool to compare a

number of model scenarios (i.e. additional link roads). The model is not be able to give precise traffic volumes, however relative correlations/assessments can be used to help inform the merits of a potential project or to compare between alternative projects.

Limitations of strategic models can be classified into three (3) broad groups:-

1. **Scale Limitations**: Strategic models cannot model or provide insight into transport questions that are of a smaller scale than the model. For example, GRSTM does not include driveways or car parks and therefore cannot be used for car park studies.
2. **Accuracy of the Input Assumptions**: Strategic models cannot provide forecasts that are more accurate than the data being relied upon. For example, the number of home-based work trips travelling to a particular zone is dependent on the number of jobs in that zone. Inaccuracies in the estimates of employment data will necessarily be passed through to the trip attraction model and hence total vehicle demand.
3. **Estimation of Real-World Behaviour**: The mathematical relationships used by the model to estimate real-world behaviours are essentially simplifications of complex real-world phenomena and are calibrated to a relatively small sample of observations. This qualification should be considered when interpreting and extrapolating model results.

As strategic model networks are essentially a simplification of real-world infrastructure, with nodes (zones, road intersections, or points where changes in characteristics occur) connected by links (higher order collector roads, transit and walk segments), detailed analysis of intersection operation is not possible. Therefore, if detailed intersection operation analysis is required, it will need to be reviewed separately.

The original model created by DTMR was based on the 2006 census data. The current dataset for 2010 and 2014 scenarios have been validated and built in-line to the 2014 population estimates and 2011 Census data. The employment data used was interpolated between 2010 and 2016 GRSTM V1 forecasts and coupled with the data sets undertaken for the New Auckland Connectivity Study, which is consistent with Australia Government Department of Employment small area labour force data for 2015.

Licensing agreement complications arose during the hand over process between DTMR and GRC. A final license agreement was required between the two parties, which was completed in June 2014 (Attachment 2).

GRC engaged AECOM on the 24 April 2015 to review, update and enhance the GRSTM supplied by DTMR for GRC. The model review found the existing version of the GRSTM (V1) was not at the standard required for a regional transport model and did not meet the needs of GRC, as the zone system did not adequately account for emerging communities, different modes of transport could not be reviewed separately and the interface was not user friendly.

A number of enhancements were carried out to produce an updated version of the GRSTM (V3.0), these included improving the usability of the model and incorporating the following:-

- Gladstone Regional broader network (incorporating collector roads and above in accordance with the Roads Hierarchy Policy);
- Disaggregation of the original model into smaller zones for a more accurate set of data;
- Public Transport network;
- Mode Choice Model: the ability to include cycling, shift worker shuttle buses etc.;
- Feedback loop of assignment model costs; and

- Integration of the Freight Movement Model (FMM) into Cube.

This updated version (Attachment 3) was validated against traffic observations from 2010 and was used to produce traffic forecasts for 2021, 2031 and a post 2031 model year. Additionally, as a sensitivity analysis, GRSTM V3.0 was used to produce traffic for a 2014 land-use scenario, which correlated well with actual traffic counts in the region. The updated version of the GRSTM provides a more user friendly interface and outputs are more to a standard suitable for use by GRC, as opposed to the original version supplied by DTMR. GRSTM V3.0 also incorporates the 2014 identified Transport Network Schedule of Works (SOW) projects which are in line with LGIP.

On the completion of the report, the findings provided traffic forecasts for the years 2021, 2031 and 2031+ based on the GRSTM V3.0 and reveals that the Gladstone Network in general would have sufficient capacity with the inclusions of identified LGIP projects being completed accordingly.

Consideration:

The reliability and robustness of GRSTM and its forecasts would benefit from a program of ongoing maintenance and improvement. Transport networks, policies and forecasts are continually changing in response to economic changes as well as the needs of the community within the region.

Strategic transport models such as the GRSTM require periodic reviews and updates to ensure that the model inputs remain valid and the future assumptions remain realistic. In the case of the GRSTM V1, the model was developed in 2012, however it was not adequately tested or used by either GRC or DTMR at the time.

Council Officers recognise the need for model updates to ensure that the current GRSTM reflects the latest LGIP. Furthermore, a review of the model and its inputs would provide confidence to GRC that the model would be able to provide sensible forecasts.

It is proposed that GRC undertake major reviews of the GRSTM every five (5) years incorporating DTMR updated transport models and data in line with Planning Scheme / LGIP reviews. Council Officers are recommended to undertake annual reviews, incorporating minor data inputs/updates.

Associated improvements and actions include:-

- Refine the base data accordingly with the latest Census data and update future forecasts to ensure a better model and provide more accurate projections;
- Update the road network to incorporate future changes, as necessary, in line with Planning Scheme / LGIP amendments;
- Update the latest land use and employment data, when it becomes available;
- Incorporate the regional bus network updates once DTMR - Translink Division have provided them to GRC;
- Incorporate a Pedestrian and Cycling Master Plan (PCMP) Cycle Strategy and update accordingly;
- Consult with Industries within the region to seek information regarding their shift work schedules and their travel arrangements (E.g. the use of charted buses to transport their workers to and from site); and
- Establish and maintain modelling software training for internal staff to undertake minor amendments to the GRSTM as required.

Communication and Consultation (Internal/External):

- Department of Transport and Main Roads (DTMR)
- AECOM (Consultants)

Correspondence to DTMR includes license and agreements in order to allow GRC to use their modelling data and documentation.

Legal Environmental and Policy Implications:

Nil.

Financial and Resource Implications:

A major review of the model is recommended every five (5) years with the next review due in 2012. The cost of each major review is estimated at $165,000.00 in Consultants fees to review, update and enhancement the model.

Annual minor reviews are carried out internally within allocated approved budgets. Internal staff training costs will be allocated within the relevant section financial budgets.

Commentary:

Nil.

Summary:

Nil.

Attachments:

1. Gladstone Regional Strategic Transport Model, Draft Report - DTMR - June 2012
2. License Agreement (Transport Model) - DTMR - 13 June 2014
3. Gladstone Regional Transport Model, Final Report (Rev C) - AECOM - 25 February 2016

Tabled Items:

Nil.

Report Prepared by: Engineer - Development

WTC/5.4. TRAFFIC ENVIRONMENT ADVISORY COMMITTEE (TEAC) MEETING - 2 MARCH 2017

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD4.4

Purpose:

The purpose of this report is to allow Council to review the minutes and consider the major recommendation identified at the Traffic Environment Advisory Committee (TEAC) meeting held on the 2 March 2017.

Officer's Recommendation:

That Council:-

1. Note the TEAC Minutes from the meeting held on 2 March 2017.
2. Adopt the following TEAC major item recommendation:-

   To improve community transport infrastructure and formalise an existing bus stop on Awoonga Dam Road, Benaraby, Council:-

   a. Install a shelter at an existing bus set down area on Awoonga Dam Road (near Swagman Drive intersection) as per Drawing No. 16-036-001 (Rev 1.1) at an estimated cost of $55,000; and
   b. Include this project within Council's long term financial plan for consideration in the budget deliberations:-
      - 2018/2019 – Design phase.
      - 2019/2020 - Construction phase.

Background:

The 2 March 2017 TEAC agenda (including all the TEAC reports) was electronically distributed to all Councilors and TEAC members on the 24 February 2017.

The minutes from the TEAC meeting (Attachment 1 – Confidential) were adopted on the 10 March 2017.

Consideration:

There was one (1) major recommendation from the TEAC meeting for Council to consider and the TEAC report this item is included in Attachment 2 (Confidential), for Councilors convenience.

TEAC Item Number - T.1.17.6.3

Purpose of this report - Is to allow Council to consider formalising an existing bus set down area on Awoonga Dam Road (near Swagman Drive, Benaraby intersection) and improving its use with the installation of a bus shelter.

TEAC Recommendation - To improve community transport infrastructure and formalise an existing bus stop on Awoonga Dam Road, Benaraby, Council:-

1. Install a shelter at an existing bus set down area on Awoonga Dam Road (near Swagman Drive intersection) as per Drawing No. 16-036-001 (Rev 1.1) at an estimated cost of $55,000; and
2. Include this project within Council's long term financial plan for consideration in the budget deliberations:-
    - 2018/2019 – Design phase.
    - 2019/2020 - Construction phase.

Communication and Consultation (Internal/External):

Refer to TEAC report (Attachment 2) Confidential.

Legal Environmental and Policy Implications:

Refer to TEAC report (Attachment 2) Confidential.

Financial and Resource Implications:

Refer to TEAC report (Attachment 2) Confidential.

Commentary:

Nil.

Summary:

Nil.

Attachments:

1. TEAC Minutes – 2 March 2017 (CONFIDENTIAL)
2. TEAC Report - T.1.17.6.3 - Awoonga Dam Road - Corner Swagman Drive - Request for Bus Shelter (CONFIDENTIAL)

Tabled Items:

Nil.

Report Prepared by: Technical Officer

WTC/5.5. TECHNICAL SERVICES 3RD QUARTERLY REPORT

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: FM6.1

Purpose:

The purpose of this report is to update the Councillors on the status of the 2016-2017 Technical Services Capital and Operational budgets and the status of various projects and activities within the Department.

Officer's Recommendation:

That the Technical Services Quarterly Briefing Report – 3rd Quarter 2016/2017 be received for information.

Background:

This is a regular information report that will be submitted at the end of each financial year quarter in time for Council to consider its Budget Quarterly Review, i.e:

First Quarter	Jul, Aug, Sep	Works & Traffic Committee Meeting in November
Second Quarter	Oct, Nov, Dec	Works & Traffic Committee Meeting in February
Third Quarter	Jan, Feb, Mar	Works & Traffic Committee Meeting in April
Fourth Quarter	Apr, May, Jun	Works & Traffic Committee Meeting in July

It will provide information in order to examine the Capital and Operational Budgets and provide an update of the nominated Projects that Technical Services are undertaking in the 2016/17 year.

Consideration:

At the time of preparing this report the financial year was 75.34% completed. The following financial data has been extracted from Council's official financial database (Technology One).

Directors' Financial Overview - Technical Services Operational — % Of Year passed - 75.34%

As at end of period 9

Description		Year to Date Expenditure	Adopted Expenditure Budget	% of Adopted Budgeted Expenditure	Revised Expenditure Budget	% of Revised Budgeted Expenditure
Investigations & Design Services		1,374,329	1,809,306	76.0%	2,064,306	66.6%
Engineering Services Administration		1,482,294	2,381,939	62.2%	2,381,939	62.2%
Developments		1,441,802	3,040,464	47.4%	2,785,464	51.8%
	Sub Total	$ 4,298,425	$ 7,231,709	59.4%	$ 7,231,709	59.4%

Directors' Financial Overview - Technical Services Capital

Description		Year to Date Expenditure	Adopted Expenditure Budget	% of Adopted Budgeted Expenditure	Revised Expenditure Budget	% of Revised Budgeted Expenditure
Investigations & Design Services		845,913	1,847,042	45.8%	2,617,042	32.3%
Engineering Services Administration		0	0	0.0%	0	0.0%
Developments		0	0	0.0%	0	0.0%
	Sub Total	$ 845,913	$ 1,847,042	45.8%	$ 2,617,042	32.3%

Operating Business Units

Design & Investigations Services

The Design Business Unit is tracking at 66.6% overall progress in terms of revised operating expenditure.

The progress of key operational projects within the Design & Investigations unit includes:-

Pedestrian & Cycle Strategy	• Second draft received and reviewed. Final draft is expected from consultant by the 22 October 2016. A report will be brought to Council in due course.

Other minor operational projects run and managed on a provisional basis by the Design and Investigation unit include:-

- Speed Limit Reviews / Road Safety Audits;
- Non-Capital Miscellaneous Land Dealings; and
- Black Spot Funding.

Engineering Services Administration

The Engineering Services Administration Unit is tracking at 62.2% overall progress in terms of revised operating expenditure.

Council is currently in the process of implementing improved asset management practices utilising Assetic MyData and MyPredictor software. The new system will allow Council to model asset infrastructure including remaining life and proposed treatments to optimise the life cycle cost of assets.

The system was made "live" in Council prior to Christmas and Technical Services is working with Asset owners to improve their asset management practices utilising the software. The current focus is ensuring that Council meets its legislative reporting targets and enters all required information for projects completed as part of this year's budget.

Council has begun working with MyPredictor model results for Roads networks. These models identify proposed work programs to inform Council's budgetary allowances and level of service discussions. Over the coming months MyPredictor models will be built and refined

for other networks. The identified projects from the roads models are being "Ground-truthed" including recently completed Falling Weight Deflectometer Testing and Pavement Investigations. Key asset management staff have recently received training in thbe MyPredictor Software

Asset Management is currently reviewing both the Asset Management Policy and Strategy as well as a number of supporting Corporate Standards.

Development Services

The Development Services Unit is tracking at 51.8% overall progress in terms of revised operating expenditure.

The progress of key operational projects within the Development unit include:-

Gladstone Region Urban Stormwater Management Plan (GRUSMP)	Manager Technical Services will co-ordinate the implementation of the Strategy (developed as part of phase 4 of the GRUSMP project) and provide Council with regular updates as required. The GRUSMP project includes: • *Develop an implementation strategy for the action plan - Complete* • *Establish performance review and improvement programs* • *Undertake water quality monitoring and review.* Improvement plans and monitoring are being initiated.
Regional Traffic Model	GATS model has been updated and is now under internal review. A report will be brought to Council in June 2017.
Intersection Surveys	Intersection Surveys have been completed for 2016/2017. Counts were carried out for a total of 64 intersections. Results will be added into the IPP where necessary.
CBD Carpark Strategy	Council officers are currently finalising a report that will go back to Council in June 2017 to identify strategic parking locations within the CBD (Works and Traffic Committee).
Agnes Water Flood Study	Council officers are currently preparing a report that will go back to Council in May 2017 to amend the previous Council Resolution. Also, during the significant rainfall event in March, data was collected that will be utilised in calibrating the model in 17/18 subject to budget allocations.
Auckland Creek Flood Study	Council officers are currently preparing a report that will

	go back to Council in May 2017 to amend the previous Council Resolution. Also, during the significant rainfall event in March, data was collected that will be utilised in calibrating the model in 17/18 subject to budget allocations.
Calliope River Flood Study	Council officers are currently preparing a report that will go back to Council in May 2017 to amend the previous Council Resolution. Also, during the significant rainfall event in March, data was collected that will be utilised in calibrating the model in 17/18 subject to budget allocations.
Baffle Creek Flood Study	Officers are currently preparing a tender to issue for the revised flood modelling of Baffle Creek. Anticipated tender issue date is mid April 2017
LGIP	The Minister provided preliminary comments. Council officers have made the requested changes and resubmitted to the Minister for the State Review. Council is awaiting Minister's approval to proceed to public notification.

Capital Business Unit

Design & Investigations Services

The Design & Investigation Unit is tracking at 32.3% overall progress in terms of revised capital expenditure. This is largely contributed by land resumptions currently still under negotiations for the Hoddinott Bridge project.

The progress and financial status of the Design and Investigation unit's capital projects are as follows:-

Project Description	Status
Hoddinott Bridge/ Pioneer Drive	• Negotiations with landowners in Pioneer Drive and Dennis Street are continuing.
Design for Glenlyon Road 4 Lanes	• For construction drawings have been completed, excluding service relocations which will be investigated and designed when funding and timeframe commitments have been agreed.
1770 Marina Precinct	• New possible location of Rangers Hut site is Water Treatment Plant on Springs Road, Agnes Water. • Meeting with NPSR arranged for the 27/04/17 to discuss. • Detailed design of carpark progressing.
Corridor Linkage - Agnes to	• Report presented to 19 July 2016 Works &

Baffle	Traffic Committee Meeting. • Correspondence has been sent to relevant State Ministers, Government Representatives & Tourism/ Community bodies at Agnes Water & Baffle Creek. • Monies have been allocated in Long Term Financial Plan. • Strategy for inland route is being developed and will be presented to Council in due course.
Red Rover Road/Don Young - 4 Lanes	• Concept design complete for review and discussion prior to commencing preliminary design.
Round Hill Road to Captain Cook Road Second Arterial Route	• Currently in negotiations with land holders to secure land for the new road corridor.

Operational Plan

Operational Plan Measure	Current Status of "Target"	Comments
Month-end percentage of Properly Made Checks completed, from lodgement for Operational Works applications, within the statutory timeframe measured in business days *Target 100%*	All months (where applicable) were Completed Within Target	• January - 100% • February - NIL • March - NIL No new applications were received for the month of January, February or March, therefore no Properly Made Checks were completed for the months of February and March.
Month-end percentage of Information Requests issued for Operational Works applications within the statutory timeframe measured in business days (of an application being considered Properly Made) or the timeframe agreed to by the applicant *Target 100%*	All months (where applicable) were Completed Within Target	• January - NIL • February - 100% • March - 100% No applications were considered Properly Made within the January period, therefore no Information Requests were issued during this time.
Month-end percentage of Decisions made for Operational Works applications within the statutory timeframe measured in business days (excluding modified/negotiated decisions), or the timeframe agreed to by the applicant *Target 100%*	All months (where applicable) were Completed Within Target	• January - 100% • February - NIL • March - 100% No Decisions were made for the month of February.

Year-end percentage of Council approved capital projects commenced in 2016/17 (excluding those projects that Council agrees to defer) *Target - 100%*	Progressing	• Technical Services has 7 Capital Projects. • 6 Projects commenced in the 16/17 Year.
Year-end percentage of capital budget expended in 2016/17 (excluding those projects that Council agrees to defer) *Target - 70%*	Progressing	As at the production of this report, the revised Technical Services Capital budget was 32.3% expended.
Percentage per quarter for which each outstanding charge identified has commenced the formal recovery process within 28 days as at 31 August 2016 and 28 February 2017 *Target - 100%*	Completed Within Target	• The formal recovery process due to commence by 28 February 2017 has commenced
Annual review of Local Government Infrastructure Plan (LGIP) and Internal Project Planning (IPP) amended as required *Target - 30 June 2017*	Progressing	• Proposed LGIP has been resubmitted to the State Minister for the first review, seeking approval to move to public notification • Anticipated completion of mid 2017.
Percentage per quarter of customer service requests initially received by Technical Services responded to within 10 business days of lodgement *Target - 100%*	Completed Within Target	100% of Customer Service Requests initially received by Technical Services were responded to within 10 business days of lodgement

Other Activities

The following are projects Technical Services staff are undertaking for other sections of Engineering Services:-

- Project Management:-
    - Detail Design - Harvey Road.
    - Detail Design - Kirkwood Road/Dixon Drive and Kirkwood Road/Forest Springs Drive Intersections.
    - Concept Design - Agnes Water Transfer Station Upgrade.
- Marten Street – Establish a drainage easement.
- Arthurs Park – Establish a drainage easement.
- Chapman Street – Establish a drainage easement.
- Line Marking – Region Wide.
- Asphalt overlays and bitumen reseal preparation works – Region Wide.

- Transport Upgrade for Agriculture to Gladstone Ports (Beef Roads):-
    - Identifying existing assets on state-controlled and Council controlled roads;
    - Identifying upgrades required to existing assets on state-controlled and Council controlled roads for Road Train suitability; and
    - Cost estimate to be prepared.

Infrastructure Agreements -

The following Infrastructure Agreements have been prepared or are in the process of being drafted/negotiated:-

The Summit – Provision of Trunk Infrastructure	Draft prepared. In negotiation with Applicant.
Goldfields Estate - Provision of Trunk Infrastructure	Fully executed.
Stokeston Pty Ltd – Payment by Instalments	Signed. Invoice issued for monthly payments of outstanding infrastructure charges.
David & Karen Tindal – Payment by Instalments	Signed. Invoice issued for monthly payments of outstanding infrastructure charge.
Economic Development Queensland – Intersection Construction	Draft prepared. In negotiation with Applicant.
KJ Jones & SA Mason – Provision of Infrastructure (Friswell Road)	Draft prepared. Inactive as Applicant has lodged conversion application. Council refused the conversion application on 9 February 2017.
Trinity College – Provision of Infrastructure	Draft prepared. In negotiation with Applicant.
Trinity College – Infrastructure Charges	Draft prepared. In negotiation with Applicant.
Deed of Variation – Discovery Christian College – Footpath construction	Fully executed. Footpath works are under construction
Deed of Variation – Kenmi Holdings – Johnson Street construction	Prepared and forwarded to Applicant for signing.

Infrastructure Charge Audit -

- First Audit – August 2015
    - 20 identified as outstanding
    - All have been finalised.
- Second Audit – February 2016
    - 6 identified as outstanding
    - All have been finalised.
- Third Audit – August 2016
    - 6 identified as outstanding
    - 1 remains outstanding at the time of writing this report.
- Fourth Audit – February 2017
    - Commenced

Compliance Matters -

The following are Compliance Issues that Technical Services are currently actioning:-

Agnes Street, South Gladstone	• Liaising with MRH Lawyers to lodge application with Planning & Environment Court.
Southern Cross Close, Telina	• Operational Works application has been approved, subject to conditions.

Funding Applications - 2016/2017 Financial Year

Technical Services is coordinating the lodgement of Funding Applications for the Engineering Directorate. The following applications have been submitted in the 2016/17 financial year:-

Name of Funding	Project	Cost of Project	Subsidy Applied	Status
Heavy Vehicle Safety & Productivity Program	Red Rover Road	$1,250,000	$625,000	Unsuccessful
National Stronger Regions Fund	Boyne/Tannum Strategic Link Road	$32,500,000	$10,000,000	Unsuccessful
Building our Regions - Round 2	A01 Sewer Pump Station Upgrade	$6,406,000	$2,000,000	Successful
Building our Regions - Round 2	French & Marten Street Flood Mitigation Works - Agnes Street Detention Ponds	$532,000	$266,000	Unsuccessful
Building our Regions - Round 2	Agnes Water Waste Transfer Station	$1,709,000	$707,000	Unsuccessful
Building our Regions - Round 2	Concrete Floodway - East End Road Bracewell	$510,000	$255,000	Unsuccessful
Building our Regions - Round 2	French & Marten Street Flood Mitigation Works - Drainage Improvement	$528,000	$264,000	Unsuccessful
Building our Regions - Round 2	Neill Creek Road Floodway	$578,000	$289,000	Unsuccessful
Building our Regions - Round 2	New Kirkwood Reservoir	$3,600,000	$1,500,000	Successful

Building our Regions - Round 2	Replace Potable Water Line - QAL/ Boyne Smelter	$925,000	$462,500	Unsuccessful
Building our Regions - Round 2	S01 Sewer Pump Station Upgrade	$2,675,000	$1,500,000	Unsuccessful
Local Government Grants & Subsidies Program	Pedestrian Access/Linkage Mt Larcom – Construct a rock lined swale & two pedestrian bridges	$50,000	$25,000	Unsuccessful
Local Government Grants & Subsidies Program	Agnes WWTP Inlet Works Upgrade	$400,000	$200,000	Successful
Local Government Grants & Subsidies Program	Redevelopment of Lions Park	$3,318,716	$497,807	Unsuccessful
Local Government Grants & Subsidies Program	Clinton Reservoir Trunk Delivery Main	$1,890,000	$283,500	Successful
Community Resilience Fund	Concrete line drainage channel – French Street	$220,000	$88,000	Unsuccessful
Community Resilience Fund	Concrete line drainage channel – Marten Street	$300,000	$150,000	Unsuccessful
Community Resilience Fund	Floodway upgrade & renewal – Neil Creek Rd	$300,000	$150,000	Unsuccessful
Community Resilience Fund	Floodway upgrade – Mount Stowe Road	$360,000	$144,000	Unsuccessful
Community Resilience Fund	New Concrete Causeway – Oyster Creek Road	$275,000	$137,500	Unsuccessful
Local Government Grants & Subsidies Program	Sewer Pump Station S01 Emergency Storage	$802,000	$273,320	Unsuccessful
Cycle Network Local Government Grants 2017-2018	Expression of Interest – Special Infrastructure Project –	100% funding available		Under Assessment

	Kirkwood Road			
Cycle Network Local Government Grants 2017-2018	Kirkwood Road Stage 1 – Dawson Highway to Kakadu Way	100% funding	Cost of project to be determined by the State.	Under Assessment
Cycle Network Local Government Grants 2017-2018	Kirkwood Road – Stage 2 – Kakadu Way to Dixon Drive	100% funding	Cost of project to be determined by the State.	Under Assessment
Cycle Network Local Government Grants 2017-2018	Don Young Drive/Red Rover Road – Stage 1 – Dawson Highway to Col Brown Avenue	100% funding	Cost of project to be determined by the State.	Under Assessment
Cycle Network Local Government Grants 2017-2018	Don Young Drive/Red Rover Road – Stage 2 – Col Brown Avenue to Meegan Road	100% funding	Cost of project to be determined by the State.	Under Assessment
Works for Queensland	Lions Park	$3,318,716	$3,318,716	Successful
Works for Queensland	Tom Jeffery Park	$981,000	$981,000	Successful
Works for Queensland	Accelerated Gravel Program	$1,490,284	$1,490,284	Successful
Works for Queensland	Mt Larcom Park	$210,000	$210,000	Successful
Works for Queensland	Harvey Road	$2,000,000	$2,000,000	Under Assessment
Works for Queensland	Tannum Sands State School Indented Bus Bay – Waratah Crescent	$250,000	$250,000	Under Assessment
Building Better Regions Round 1	Springs Road water main, Agnes Water	$1,100,000	$495,000	Under Assessment
Building our Regions – Round 3	Gladstone Waste Water Treatment Plant – Sludge Handling & Dewatering	$7,609,000	$3,043,600	Detailed application being prepared, to be submitted by 7/4/17.
Building our Regions – Round 3	Patterson 2 Water Reservoir	$5,100,000	$2,040,000	Detailed application being prepared, to be submitted by 7/4/17.
Building our	Agnes Water	$1,396,000	$586,320	Detailed

Regions – Round 3	Waste Transfer Station			application being prepared, to be submitted by 7/4/17.
Building our Regions – Round 3	Boyne Island Carpark	$500,000	$250,000	Detailed application being prepared, to be submitted by 7/4/17.
Smart Cities & Suburbs	Smart Carparking – Goondoon Street/ Entertainment Centre	-	-	Investigations occurring into project. Funding round opens 2nd quarter 2017.

So far in the 2016/2017 financial year Council has applied for over $34.5 million of funding. This funding was sought for projects with a total value in excess of $83.1 million.
To date $9,983,500 of $34.5 million has been approved.

The following is the status of projects that were successful in receiving funding in previous financial years.

Name of Funding	**Project**	**Cost of Project**	**Subsidy Applied**	**Status**
Building our Regions - Round 1	Miriam Vale Water Treatment Plant	$3,180,967	$1,590,484	Proof of Performance Testing (PoPT) is in progress. Expenditure and commitments to date $2.73m
Community Resilience Fund	Callide Crescent - Stormwater	$450,000	$180,000	Project completed.
Community Resilience Fund	Mangrove Place - Stormwater	$60,000	$24,000	Project under construction.
Community Resilience Fund	Wood Street - Stormwater	$220,000	$88,000	Project under construction.
Community Resilience Fund	Cedarvale Road - Stormwater	$467,000	$186,800	Project completed.
Bridges Renewal Program	NRG Balloon Loop Bridge	$500,000	$250,000	Project commenced.
Cycle Network Local Government Grants Program	Glenlyon from Tank to Derby Streets	$40,000	$20,000	Project completed.
Cycle Network Local	Agnes-1770 Link extension	$40,000	$20,000	Design in final stages.

Government Grants Program				
Cycle Network Local Government Grants Program	Glenlyon from Breslin to Philip Street	$581,244	$290,622	Construction commenced.
Scenic Lookout Restoration Fund	Bishops Road - Auckland Hill Lookout	$200,000	$100,000	Works underway. Expenditure and commitments to date are $18,065
Scenic Lookout Restoration Fund	Boles Street	$110,000	$50,000	Works underway. Expenditure and commitments to date are $38,851
Black Spot Program	Install right turn lanterns - Breslin to Boles	$104,000	$104,000	Works Underway. Expenditure and commitments to date $110,371
Total		**$5,953,211**	**$2,903,906**	

Staff Vacancies - update

Position	Status
Technical Officer (10378)	Complete. Technical Officer has been appointed.
Engineering Officer (10770)	Interviews completed through external recruitment. Letter of offer being sent to successful applicant
Administration Officer (10071)	Advertised externally. Recruitment process to commence once advertising period has finalised.
Co-op Engineering Student (10903)	To be advertised in April 2017
Co-op Engineering Student (10825)	To be advertised in April 2017
Co-op Engineering Student (10975)	To be advertised in April 2017

Communication and Consultation (Internal/External):

Nil.

Legal Environmental and Policy Implications:

Nil.

Financial and Resource Implications:

Budget Revisions

Nil.

Commentary:

Nil.

Summary:

Nil.

Attachments:

1. Technical Services 2016-2017 Budget allocation paper.
2. Technical Services Capital Works Financial Review – March 2017.

Tabled Items:

Nil.

Report Prepared by: Manager Technical Services

WTC/5.6. TENDER 166-17 - STORMWATER DRAINAGE RELINING

Responsible Officer: Director Engineering Services

Council Meeting Date: 11 April 2017

File Ref: PE8.3

Purpose:

The purpose of this report is to allow Council to consider the Officer's recommendation in relation to Tender 166-17 – Stormwater Pipe Relining.

Officer's Recommendation:

That Council:-

1. Endorse the Tender Panel's assessment and resolve to accept the Tender from Interflow Pty Ltd for the amount of $195,577.41 exclusive of GST, as per their submission to Tender 166-17 – Stormwater Pipe Relining.
2. As the Contract Principal, authorise the Chief Executive Officer to appoint a Principal's Representative to execute the appropriate contract documents on Council's behalf.

Background:

The stormwater drainage system is an essential part of Council's urban infrastructure, as it reduces the damage caused by flooding by redistributing the water away from the surface. When it rains, some water naturally seeps into the ground; the rest makes its way (via the drainage system) into rivers and creeks. The Gladstone Regional Council manages a stormwater system within its urban areas totaling approximately 300km in length, and is made up of various structure types and sizes.

In order to effectively maintain the stormwater drainage network, closed circuit television (CCTV) investigation of the network is conducted on a regular, annual basis with the assets given a structural assessment rating from 1 to 5, where 1 is very good (near new condition with no defects, pipe is fully serviceable) and 5 is very poor (stormwater pipe length has failed or is about to fail or has stopped working, the asset is unserviceable, rehabilitation or renewal is required immediately or within 12 months). Councils annual budget allocation for this inspection results in the entire urban stormwater network being assessed approximately every 15 years.

Those assets that result in a condition score of 4 or 5 are placed on a refurbishment list which forms the scope for the Stormwater Drainage Relining Works.

Tender 166-17 was advertised and published in The Observer and on Council's Tenders webpage on the 16 February 2017 and closed on the 23 March 2017. A pre-tender briefing meeting and site inspection were held on 23 February 2017.

One conforming tender was received by the closing date and time, from the company listed in Table 1.

Table 1 – Tenders Received

No	Tenderer	Tendered Price (Ex GST)
1	Interflow Pty Ltd	$195,577.41

Consideration:

The tender was considered to be conforming.

Interflow Pty Ltd is acknowledged as an industry leader in relining of both stormwater and sewer pipes and has successfully and satisfactorily completed quality work for Gladstone Regional Council and various other Councils and public utilities in recent times.

The quoted price was well within budget expectations, based on internal estimates prepared using known rates.

Communication and Consultation (Internal/External):

Pre Tender Communication:-
A mandatory pre-tender briefing meeting and site inspections were held on 23 February 2017, where Tenderers were given the chance to investigate some indicative sites and ask questions relating to the project and contract documents. These questions were recorded on the day and issued as a Notice to Tenderers. There were a total of 5 companies represented on the day.

Notices to Tenderers (NTT) were also issued to clarify a number of questions raised by tenderers during the tender period. A summary of NTTs is provided below:-

- Notice to Tenderers 1: Mandatory pre-tender briefing meeting and site inspection minutes including formal responses to questions raised at the briefing.
- Notice to Tenderers 2: Extension of tender closing date.
- Notice to Tenderers 3: Clarification relating to scope of works and date of practical completion.

Legal Environmental and Policy Implications:

Under the Local Government Act, Finance Standard, and Council's new Procurement Corporate Standard, Council must invite Tenders before making a contract for the carrying out of work, or the supply of goods or services, involving a cost of more than $200,000. This is to ensure enforcement of certain principles including open and effective competition and value for money, which considers advancement of Council priorities including WH & S issues, fitness for purpose, technical issues, quality, service and support, and cost related factors.

Financial and Resource Implications:

The project will be funded through DRC0089 - Urban Drainage (Renew / Repair / Replace) as a result of CCTV Inspection Program). The current 2016-2017 budget allocation for this project is $350,000
Table 2 outlines the revised budget and anticipated cost breakdown for the project.

Table 2 – Budgeted Figures

Item	Value
Expenditure to date	$14,579.00
Contract Value	$195,577.41
Contingency (15%)	$29,336.61
Project management (15%)	$29,336.61
Total Cost	**$268,829.63**
Budget Allocation	$350,000.00

Commentary:

Local Content
The local content assessment is based on information provided under "Section 2.2 Schedule of Particulars", and the nominated list under "Section 11 Register of Tenderer's Subcontractor and Suppliers" of tenderer submission.

Table 3 – Local Content Summary

Item Description	***Interflow Pty Ltd***
Tender Price	$195,577.41
2.2 Schedule of Particulars	
Head office address	254 Toongabbie Road, Girraween, NSW, 2145
Branch office address in Gladstone Region (If applicable)	Local office is located at 40 Piper Street Caboolture, QLD, 4510
How long has your business been established in the Gladstone Region?	Caboolture depot was established 19th July 2001 – 15 years
Percentage of tender Price sourced from the Gladstone Region.	18%*
Number of full time employees from Gladstone Region?	0
11 Register of Tenderer's Subcontractors and Suppliers	
Approximate value of suppliers and subcontractors sourced locally from Gladstone Region	$36,167

* Note that these values have been calculated by GRC on review of the submissions.

Summary:

Nil.

Attachments:

1. Tender 166-17 Tender Evaluation (CONFIDENTIAL)

Tabled Items:

Nil.

Report Prepared by: Technical Officer – Road Services

WTC/5.7. ACCELERATED GRAVEL ROAD SEAL PROGRAM

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD10.3

Purpose:

The purpose of this report is to seek Council's endorsement of the Accelerated Gravel Road Seal Program and advise of successful rural road sealing funding.

Officer's Recommendation:

That Council adopt the following roads to be sealed through the State Government Work For Queensland program, through Councils Accelerated Gravel Road Seal initiative.

Road	Length (km)	Estimated Cost
Tableland Road, Calliope	2.4	$639,912
Murray Road, Calliope	1.53	$520,000
Glenlyon Road, O'Connell	1.7	$330,372
	TOTAL	**$1,490,284**

That Council include the following list of roads within its Long Term Financial Plan for consideration in future budget deliberations, targeting an annual expenditure of $500,000.

Road	Length (km)	Estimated Cost
Battery Road, Burua	0.08	$10,000
Toowell Road, O'Connell	0.11	$20,790
Hourigan Creek Road, Raglan	0.3	$49,680
Darts Creek Road, Darts Creek	0.4	$75,600
Taylor Lane, Machine Creek	0.38	$73,416
Popenia Road, Darts Creek	1.5	$289,800
Daisy Dell Road, Bororen	1.3	$382,473
Blackmans Gap Road, Boyne Valley	1.5	$300,000
Cross Road, Euleilah	3.1	$400,000
Murphy's Road, Captain Creek	1.0	$120,000
John Clifford Way, Lowmead	2.0	$300,000
Dillon Road, Captain Creek	2.3	$250,000
Baldaw Road, Captain Creek	1.3	$150,000
Muller Road, Baffle Creek	2.2	$250,000
Bootmaker Drive, Round Hill	-	$280,000
Bunker Road, Round Hill	0.3	$50,000

Gehrke Road, Burua	0.23	$44,436
Talaba Road, Calliope	1.2	$231,840

Background:

Council currently has $500,000 allocated annually within its Long Term Financial Plan to seal roads that are due for gravel re-sheeting. This is an initiative to improve access and reduce dust concerns for rural residents who reside nearby to the gravel road, and includes roads of higher traffic volumes.

Council recently secured $1.49 million funding under the State Government Work For Queensland program. This funding has been identified for use to implement an accelerated gravel road seal program and is conditioned to be completed by November 2017. Road Services proposes the following roads in **Table 1** to be included in the State Government Work For Queensland gravel road accelerated seal program.

Table 1. Roads nominated for Accelerated Gravel Seal under W4Q Funding

Road	Length (km)	Estimated Cost
Tableland Road, Calliope	2.4	$639,912
Murray Road, Calliope	1.53	$520,000
Glenlyon Road, O'Connell	1.7	$330,372
	TOTAL	**$1,490,284**

Road Services developed a Cost Benefit Analysis calculator for Road Projects. It became evident that due to the nature of works (sealing rural roads with low traffic compared to urban centres), the economic benefits do not exceed the capital costs.

Consideration:

It was not expected that Cost Benefit Analysis would prove positive for these works due to the low daily traffic of rural roads not providing a large enough economic benefit to reduced fatalities, accidents and material costs. However it is recommended that Council proceed with the works as the following benefits will be achieved for rural residents and Council:

1. Reduced routine maintenance costs
2. Reduce dust nuisance resulting in health benefits to nearby dwelling occupants
3. Reduced CSR's and administration time responding to gravel road complaints
4. Increased travel safety
5. Reduced wear and tear on vehicles, resulting in greater economic benefit to the residents and environment

It is worth noting however that point 4 above is based on motorists obeying road rules and advanced advisory signage because a sealed road will in most circumstances increase travel speeds, and when considering this program does not necessarily improve road geometry, motorists are advised of curves and recommended speeds via advanced warning signage.

Other roads identified as being suitable for an accelerated seal program are list in **Table 2**:

Table 2. Roads nominated for Accelerated Gravel Seal in LTFP

Road	Length (km)	Estimated Cost
Battery Road, Burua	0.08	$10,000
Toowell Road, O'Connell	0.11	$20,790
Hourigan Creek Road, Raglan	0.3	$49,680
Darts Creek Road, Darts Creek	0.4	$75,600
Taylor Lane, Machine Creek	0.38	$73,416
Popenia Road, Darts Creek	1.5	$289,800
Daisy Dell Road, Bororen	1.3	$382,473
Blackmans Gap Road, Boyne Valley	1.5	$300,000
Cross Road, Euleilah	3.1	$400,000
Murphy's Road, Captain Creek	1.0	$120,000
John Clifford Way, Lowmead	2.0	$300,000
Dillon Road, Captain Creek	2.3	$250,000
Baldaw Road, Captain Creek	1.3	$150,000
Muller Road, Baffle Creek	2.2	$250,000
Bootmaker Drive, Round Hill		$280,000
Bunker Road, Round Hill	0.3	$50,000
Gehrke Road, Burua	0.23	$44,436
Talaba Road, Calliope	1.2	$231,840

It is recommended that the remaining roads identified in Table 2 as suitable for seal are to be included in Councils Long Term Financial Plan for consideration in future budget deliberations, targeting an annual expenditure of $500,000. Council currently has a Project within the LTFP ES-PB1294 which captures this initiative.

Communication and Consultation (Internal/External):

The list of roads to be upgraded was determined through consultation with Road Services Coordinators regarding roads that undergo regular routine repairs or receive regular customer service requests for upgrades. Roads that are considered isolated from other gravel roads were also considered, as benefits existed in not having to regularly establish maintenance grading teams to these sites, and therefore see's a reduction in travel establishment costs.

Legal Environmental and Policy Implications:

Council is bound legally to the Queensland Government to complete the works detailed in the State Government Work For Queensland funding application.

Financial and Resource Implications:

Road Services will need to mobilize works crews to complete the gravel seal acceleration program by November 2017, delaying other works.

Commentary:

When considering and applying the Cost Benefit Analysis calculator for Road Projects it is evident that sealing gravel roads through this program does not realise the economic benefits compared to the capital costs. However it is acknowledged that lifestyle and rural community benefits are gained by these seal programs. It is therefore at the discretion of Council through its budget deliberations as to whether funding is made available for such initiatives over future years.

Road Services will continue to analyse its gravel road network and apply the Cost Benefit Anaylsis, as well as DTMR'S Sealing of Unsealed Roads with Low Traffic "Technical Note 118". This ongoing assessment may trigger additional roads to be included within Councils Long Term Financial Plan for Council consideration during upcoming budget deliberations

Summary:

Nil.

Attachments:

1. DTMR's Technical Note 118 "Sealing of Unsealed Roads with Low Traffic"

Tabled Items:

Nil.

Report Prepared by: Engineer Road Services

WTC/5.8. YOUNG ST BRIDGE LOAD ASSESSMENT OUTCOMES

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD3.2

Purpose:

The purpose of this report is to seek Council endorsement of the management of Young Street – North Coast Rail Line bridge, and to inform Council of bridge management considerations for similar bridges on Council's Heavy Vehicle routes.

Officer's Recommendation:

That Council:-

1. Accept a reduced factor of safety for the Young Street – North Coast Rail Line Bridge, limiting access to a vehicle of mass no greater than G1 Semi Trailer 42.5 tonnes; and
2. Install a regulatory sign on the bridge approaches restricting the axle load limits to that of a G1 Semi Trailer at a travel speed of no greater than 10km/h.

Background:

There are two (2) bridges on Young Street, the North Coast Rail Line Bridge and Barney Point Coal Facility Bridge, built around 1975 which service access to the Barney Point community (location map in Attachment 1).

The Young Street bridges underwent significant repairs in 2016 to increase their longevity and durability. Due to the condition of the structures, Council will need to perform regular inspections, and routine maintenance to maximise the life of these structures.

An engineering consultant was engaged to perform a load assessment on both of the Young Street bridges after repair, in accordance with *AS5100.7 Rating of Existing Bridges* and DTMR's *Tier 1 Bridge Heavy Load Assessment Criteria.* The results from the assessment determined that at existing speed limit (60km/h), the North Coast Rail Line Bridge was only rated to an MS18 vehicle.

The MS18 vehicle is not a standard heavy vehicle and does not exist on our roadways today, hence placing a load limit on the structure for such a vehicle would not be effective. A copy of the MS18 vehicle axle configuration and loading is given in Attachment 2. To express this load rating in a modern equivalent vehicle, it would be 65% of the axle loading and configuration of a G1 Semi-trailer (Attachment 2). The limitation with this, is that G1 Semi's aren't manufactured with reduced axle loading, and the scenario of limiting the bridge to axle limits 65% of a G1 Semi is impractical.

The consultant performed an options analysis to determine load capacity outcomes of the Young Street – North Coast Rail Line Bridge should the speed of the assessment vehicle (G1 Semi-trailer) be lowered (Attachment 3). The factor of safety used in load assessments

is 2.0. The assessment vehicle travelling at 60km/h over the bridge would lower the factor of safety from 2.0 to 1.4. Alternatively, the assessment vehicle travelling at 10km/h would only lower the factor of safety to 1.8.

Table 1. Revised Factors of Safety for Young Street G1 Semi Loading

Speed Limit	AS Recommended Factor of Safety	Revised Factor of Safety
Unchanged (> 10km/h)	2.0	1.4
< 10km/h	2.0	1.8

Council is still waiting for the final report for the Young Street - Barney Point Coal Facility Bridge however, verbal confirmation from the engineering consultants indicated the bridge is in better condition than the North Coast Rail Line Bridge. Despite this, the Barney Point Coal Facility Bridge may need similar management actions to the North Coast Rail Line Bridge.

Council also has a number of aging bridges on it's Heavy Vehicle & B-Double Road Network that are designed to the MS18 vehicle loading standard. These bridges are as follows:-

- Red Rover Road – NRG Balloon Loop Bridge;
- Landing Road – Boat Creek Bridge; and
- QAL Access Road Bridge.

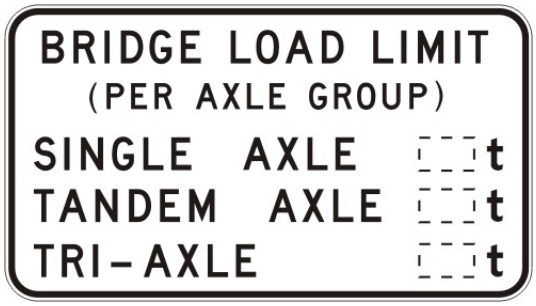
Council has proposed to perform further analysis of these structures in the 2017/18 financial year. It is likely that the outcomes for the Young Street Bridge will be similar to those for vehicles on the Heavy Vehicle network. The Heavy Vehicle network may need to be managed differently to achieve industry and community expected levels of service.

During the 2017-18 financial year, Council is undertaking detailed analysis of its high risk structures as determined by risk analysis of bridge condition data. The purpose of this detailed analysis is to determine all possible management actions that meet Council's target levels of service and community and industry expectations, while ensuring that capital bridge expenditure is beneficial in achieving positive community outcomes.

Consideration:

In determining a course of action, Council has the following options to consider:-

Option 1	Place a Load Limit Regulatory Sign on the bridge and effectively cease heavy vehicle movements that exceed the weight of the MS18 assessment vehicle. This will mean any vehicle over General Mass Limits (4.5 tonne) will not be able to legally access the bridge. On the heavy vehicle network and routes, this would cripple industry freight movements.
Option 2	Strengthen the bridge to achieve a higher load rating. This is not always possible with old structures, as the concrete has an ultimate strength in which it will fail, even if external added reinforcement or strengthening will not.
Option 3	Accept a lower factor of safety of 1.8 and allow access to a G1 Semi Trailer over the Young Street Bridge. To adopt this, it is recommended

	that Council place a regulatory sign on the bridge approaches limiting axle loading and configuration to that of G1 Semi Trailer, along with reducing the speed limit for these vehicles. The speed limit will not be reduced for general mass limit vehicles (under 4.5 tonne). 
Option 4	Replace the structure with a modern concrete bridge. The cost of replacing this structure is estimated at between $2-$3 million due to crossing the rail corridor. It is recommended that the structure is taken to end of useful asset life and not replaced early to maximise efficient expenditure of capital budget.
Option 5	Co-fund bridge asset upgrades with industry. Due to Young Street not falling on the heavy vehicle network, this outcome will be impractical. However, this scenario should be investigated for the Red Rover Road, Landing Road and QAL Access Road bridges.
Option 6	Do nothing. The structure will undergo regular routine inspections and will likely need regular routine maintenance to maintain serviceability. The remaining life of the structure is estimated to be between 5 and 15 years.

Communication and Consultation (Internal/External):

Consultation has been undertaken with GHD Consulting Engineers to perform a load assessment of the Young Street bridge structures. A post-completion meeting was undertaken to understand the recommendations and conclusions drawn by GHD.

Legal Environmental and Policy Implications:

It is a requirement in the Local Government Act 2009 for Council to have asset management plans in financial systems. As the Asset Manager, it is Council's responsibility to effectively manage the bridge asset group.

Financial and Resource Implications:

The outcomes of the bridge investigations will dictate expenditure or savings in the Long Term Financial Plan.

Commentary:

For the Young Street – North Coast Rail Line Bridge, it is recommended that accepting a reduced factor of safety is a sufficient interim measure to manage the bridge until reaching the end of their useful asset life. The scenario will be different for the heavy vehicle network bridges, in which case limiting vehicle access will be disruptive to industry productivity. It is

recommended that discussions be commenced with industry to co-fund the upgrade of these bridges, as the productivity and improvements to freight will be economically beneficial to industry.

Summary:

Nil.

Attachments:

1. Young Street Bridge Location Map
2. Vehicle Axle Loadings and Configurations
3. GHD Young Street Bridge Load Assessment

Tabled Items:

Nil.

Report Prepared by: Road Services Engineer

WTC/5.9. LONG TERM FINANCIAL PLAN BRIDGE MANAGEMENT STRATEGY

Responsible Officer: Director Engineering Services

Council Meeting Date: 11 April 2017

File Ref: TT5.1

Purpose:

The purpose of this report is to advise Council of the direction that Road Services is proposing to implement the management of Council's bridge assets.

Officer's Recommendation:

Allocate the following budgets to Council's Long Term Financial Plan for the management of Council's bridge assets (Attachment 1 – Adopted Bridge LTFP Overview Report):-

- Modify the timing of Project Bid ES-PB312 - Three Mile Creek Bridge - Bindaree Road, Miriam Vale:-

Financial Year	17/18	18/19	19/20 (to be determined)
Notes	Investigation	Design (if required)	Depending on priority, may be pushed out to later financial years.
LTFP Budget	$65,000	$70,000	$1,000,000

- Advise of purpose of expenditure for Project Bid ES-PB798 – Boat Creek Bridge - Landing Road, Yarwun:-

Financial Year	17/18	18/19	19/20
Notes	Investigation	Design (if required)	Depending on priority, may be pushed out to later financial years (Good candidate for funding applications once investigation complete).
LTFP Budget	$40,000	$70,000	$1,000,000

- Advise of purpose of expenditure for Project Bid ES-PB1304 - North Coast Rail Line Bridge - QAL Access Road:-

Financial Year	17/18	18/19	20/21 (to be determined)
Notes	Investigation	Design (if required)	Recommendation to see bridge to end of useful life as it only services QAL and not other residents directly (Good candidate for funding applications once investigation complete).
LTFP Budget	$85,000	$70,000	$1,000,000

- Advise of purpose of expenditure for Project Bid ES-PB1285 - Red Rover Road (NRG Loop):-

Financial Year	17/18	18/19	19/20 (to be determined)
Notes	Investigation	Design (if	Recommendation to see bridge to end of

		required)	useful life as it only services QAL and not other residents directly (Good candidate for funding applications once investigation complete).
LTFP Budget	$40,000	$70,000	$1,000,000

- Advise of purpose of expenditure for Project Bid ES-PB313 - Reedbed Road, Bororen:-

Financial Year	17/18
Notes	Construction
LTFP Budget	$450,000

- Advise of purpose of expenditure for Project Bid ES-PB342 - Baffle Creek Crossing Bridge - Gorge Road, Lowmead:-

Financial Year	17/18	20/21
Notes	Investigation and design	Construction
LTFP Budget	$150,000	$930,000

- Advise of purpose of expenditure for Project Bid ES-PB804 - Awoonga Dam Road, Benaraby (Little Oaky Creek Crossing):-

Financial Year	17/18	18/19 (to be determined)
Notes	Investigation	Construction
LTFP Budget	$45,000	$250,000

Background:

Gladstone Regional Council has a number of aging bridge assets designed for vehicles and loadings, that no longer satisfy current bridge design loading requirements. The terminology "bridge" also captures large multi celled pipe culverts, box culverts and bebo arches.
Road Services have developed a *Draft Bridge Asset Management Plan* that details management actions for Council's Bridge Assets. This draft bridge asset management is being finalised and is proposed to be tabled for Council consideration in May 2017.
The responsibilities and duties that Council needs to perform under the Bridge Asset Management Plan are:-

1. Decide what Level of Service the Council road network will provide the community and industry;
2. Ensure Council has all necessary bridge data;
3. Investigate and assess all options for bridge renewal, repair or replacement;
4. Make confident decisions on what heavy vehicles can safely access the road network, taking into account:-
    a. Bridge/road condition
    b. Structural capacity/ load assessment
    c. Excess dimension vehicles and proximity/ clearances to roadside infrastructure
    d. Public safety;
5. Continually review the conditions of the road and bridge assets; and
6. Action maintenance, repairs and renewals of bridge assets based on the Level of Service requirements.

Under the Bridge Asset Management Plan, a minimum data-set on each structure must be obtained. This data-set incorporates enough information for structure identification and structural information. To obtain this minimum data-set, inspections must be completed by a qualified Bridge Inspector.

Table 1. Overview of Inspected Bridge Structures details Council's current position with condition data on inspected bridges. Council currently has no Level 2 Condition Inspection data on 118 major culverts and pedestrian bridges. Road Services has allocated sufficient funds in its operational budget to gather the minimum data-set required on the remaining uninspected structures and to re-inspect structures that are due for inspection.

Table 1. Overview of GRC Inspected Bridge Structures

Structure Type	Number	Inspected	Uninspected
Timber road bridges	12	12	0
Steel/concrete road bridges	34	34	0
Culverts	94	2	92
Pedestrian Bridges	28	2	26
Total	**168**	**50**	**118**

Upon completion of these inspections, Council will have all necessary data to begin managing the bridge asset class effectively. This data will allow Council to make informed decisions regarding high priority assets, as it will ensure all assets are included in risk assessments and maintenance prioritisation of the bridge asset class.
An ongoing operational budget is required to upkeep regular bridge condition data. Depending on bridge condition, bridges need to be inspected every three (3) to five (5) years. The estimated operational budget requirements for these inspections are:-

Table 2. Forecasted operation budget for bridge inspections

Average annual number of bridges inspected	40	$100,000
Average annual number of bridges requiring detailed engineering inspection	2	$50,000
	TOTAL	**$150,000**

Road Services has utilised the existing bridge data to provide Council with a forecasted outlook of required bridge condition and expenditure.

Table 3. Current Bridge Defect Statistics

Number of total known bridge components	2091
Number of total known bridge defects	482
Average defects per bridge	8.31
Number of uninspected bridges	118
Number of bridges due for inspection in 17/18	150
Forecasted additional number of defects	980.60
Total expected defects	1463
[1]Estimated cost of known bridge defects	$659,023.00
Average defect cost	$1,367.30
Forecasted additional defect costs	$1,340,774.38
[1]**Total expected defect costs**	**$1,999,797.38**

[1]This cost does not include site establishment, project planning documentation, contractors cost, overheads and contingency which would need to be factored in to all repair projects.

Table 4.Expected Bridge Unit Rate Replacement Cost

Rail Corridor Bridge	estimated $15,000/m^2
Regular Road Bridge	$6000-$7000/m^2

Assuming an average bridge area of 250m^2 (25m x 10m), and assuming replacement cost is $7000 per square meter, an average project cost can be determined.

Table 5. Average Bridge Replacement Cost

Rail Corridor Bridge	$3,750,000
Regular Road Bridge	$1,750,000

Assuming the known bridge dimensions on file, and assuming replacement cost is $7000 per square meter, the total replacement cost of bridges could be:-

Table 6. Total Bridge Asset Replacement Cost

Structure Type	Number	m^2 (known)	Current Replacement Cost ($)
Timber road bridges	12	1261.50	$8,830,500
Steel/concrete road bridges	34	14,120.30	$98,842,100
Culverts	94	2,856.50	$19,995,500
Pedestrian Bridges	28	1,201.50	$8,410,500
Total	**169**	**18,828.30**	[1]**$136,078,600**

[1]This cost isn't using the expected higher meter squared rate for rail bridges.

The observation can be made that Council will have significant future costs in prioritising and repairing bridge defects or replacing bridge structures. Proper analysis of all the options for bridge management will be essential for Council to be able to distinguish between necessary capital expenditure, and circumstances where options such as reducing the factors of safety or using regulatory signage are more beneficial for the community. It is essential that thorough investigation is completed to ensure bridge expenditure is prioritised based on risk and an accurate Long Term Financial Plan is developed.

Road Services Engineer used the current bridge data-set to perform a risk analysis on the known condition of its bridges. The risk analysis was only completed on the 50 bridges with existing data, noting priorities may change depending on the condition of the 118 uninspected structures. The top 5 priority bridges in the Gladstone Region are detailed in **Table 7**.

Table 7. Top 5 High Risk Bridge Structures

Priority	Asset No.	Road	Bridge Name	Risk Score	Design Code	B-Double / HML Route	Adjusted Score
1	31566	Bindaree Road, Miriam Vale	6 Mile Creek Bridge	25.03	MS18		25.03
2	157937	Landing Road, Yarwun	Boat Creek Crossing	11.91	MS18	✓	11.91
3	31547	QAL Access Road, South	North Coast	10.70	MS18	✓	10.70

		Gladstone	Railway				
4	31537	Red Rover Road, Callemondah	NRG Balloon Loop Railway	10.67	MS18	✓	10.67
5	31552	Goondoon Street, Gladstone	North Coast Railway	11.33	T44		10.20

This analysis highlighted significant issues with bridges on Council's Heavy Vehicle network, in particular bridges designed to the MS18 design standard.

Consideration:

Road Services propose to properly investigate high risk structures, to ensure capital expenditure is spent effectively to achieve Council's Level's of Service expectations. Once high risk structures are investigated and prioritised, resources can be delegated to building a long term bridge management strategy. Road Services proposes to use the requested investigation budgetary allocations to provide Council with the following information's to make informed decisions on bridge management:-

- Load assessment of each structure (some are already complete or in the process of being complete);
- Alternate loading options (i.e. if all vehicles are slowed to 10km/h, how much more load capacity can the bridge achieve);
- What additional load capacity can be achieved if Council accepts a revised factor of safety outside of the Australian Standard;
- What is the equivalent standard vehicle, axle spacing's and axle loads that the bridge can handle at both normal speed and a lowered speed;
- Can the bridge be strengthened, what load rating can be achieved with strengthening, and approximate cost of strengthening;
- What is the consequence to the community and industry if a load limit is placed on the bridge;
- What is the cost of replacing the bridge; and
- Is there an acceptable alternative replacement treatment (e.g. demolish the bridge and construct a low level causeway with a reduced flood immunity).

The resulting information from these investigations will then be used to assess bridge management actions against Levels of Service in the Bridge Asset Management Plan, and report to Council with recommendations to manage the structure.

Investigation into these structures will assist in strengthening cases for funding applications, which should see an increase in successful funding applications to assist Council in funding Bridge renewals and maintenance.

Communication and Consultation (Internal/External):

To come to the conclusions drawn in this report, a variety of Communication and Consultation has occurred. Communication and consultation has included:-

- Understanding DTMR Heavy Vehicle Load Assessments;
- Work with Engineering Consultants to get useful outcomes from Bridge Load Assessments;
- Understanding of Heavy Vehicle Routes and Assessment Process;

- Understanding the design class and condition of bridge assets on Council's Road Network;
- Understanding of AS5100 Bridge Design; and
- Understanding Level 2 Condition Inspection data and DTMR risk management and risk assessment to prioritise maintenance to bridge structures.

Legal Environmental and Policy Implications:

It is a requirement of the Local Government Act 2009 for Council to have asset management plans in financial systems. As the Asset Manager, it is Council's responsibility to effectively manage the bridge asset group.

Financial and Resource Implications:

The Long Term Financial Plan expenditure will largely depend on the outcomes of the bridge investigations and Council's decisions on how to manage individual bridges. Once all bridge condition data is obtained, accurate figures can be determined.

This may cause some volatility in the Bridge's and Jetties Long Term Financial Plan as new data becomes available.

Annual reviews of the Bridge Asset Management Plan will set the forecasted budget and actions required to manage bridge assets.

Commentary:

Nil.

Summary:

It should be noted that the actions proposed in this Strategy document closely align with the costs adopted in the Long Term plan.

Attachments:

1. Adopted Bridge LTFP Overview Report
2. ES-PB312 - Three Mile Creek Bridge
3. ES-PB798 - Boat Creek Bridge - Landing Road Yarwun
4. ES-PB1304 - North Coast Rail Line Bridge - QAL Access Road
5. ES-PB655 - Red Rover Road - NRG Balloon Loop
6. ES-PB313 - Reedbed Road Culvert Replacement
7. ES-PB342 - Baffle Creek Bridge, Gorge Road Lowmead
8. ES-PB804 - Awoonga Dam Road - Little Oaky Creek Crossing

Tabled Items:

Nil.

Report Prepared by: Engineer – Road Services

WTC/5.10. ROAD SERVICES CAPITAL REPORT MARCH 2017

Responsible Officer: Director Engineering Services

Committee Meeting Date: 11 April 2017

File Ref: RD1.8

Purpose:

The purpose of this report is to update Councillors on the status of the 2016-2017 Road Services Capital and Operational budgets and works program, in particular covering the noteworthy issues from the previous month and the plans for the coming month. The report provides a basis to discuss the performance of the Department (including staff, consultants, contractors and customer feedback).

This is an information only report, and is not provided for the purpose of Council exercising its powers as a Local Government.

Officer's Recommendation:

That the Road Services Monthly Briefing Report – March 2017 be received for information.

Background:

This is a regular monthly information report. The material in each report builds on previous reports and thus each month is only intended to present new information. Should a detailed analysis of an issue or project be required this will be the subject of a specific report, and more than likely a specific resolution of the Council.

Capital Business Units are examined at the end of each month and reported at the first Committee Meeting in the following month.

Operational Business Units are examined at the end of each financial year quarter, i.e.

First Quarter	**Jul, Aug, Sep**	**Reported at the first Works & Traffic Committee Meeting in October**
Second Quarter	Oct, Nov, Dec	Reported at the first Works & Traffic Committee Meeting in January
Third Quarter	Jan, Feb, March	Reported at the first Works & Traffic Committee Meeting in April
Fourth Quarter	Apr, May, Jun	Reported at the first Works & Traffic Committee Meeting in July

At the time of preparing this report the financial year was 75.34% completed. The following financial data has been extracted from Council's official financial database (Technology One):

Directors' Financial Overview - Roads Operational % Of Year passed - 75.34%

As at end of period 9

Description	*Year to Date Expenditure*	*Adopted Expenditure Budget*	*% of Adopted Budgeted Expenditure*	*Revised Expenditure Budget*	*% of Revised Budgeted Expenditure*
Bridges, Jetty's & Boatramps	110,792	365,441	30.3%	365,441	30.3%
Footpath Management	235,460	357,865	65.8%	357,865	65.8%
Rural & Urban Road Maintenance (excl Flood)	6,442,000	10,267,370	62.7%	10,272,215	62.7%
LG Public Car Parks	21,108	83,000	25.4%	83,000	25.4%
Street Lighting	928,524	1,500,000	61.9%	1,500,000	61.9%
Traffic Lights Maintenance	122,949	127,000	96.8%	127,000	96.8%
Stormwater	1,766,230	2,280,379	77.5%	2,280,379	77.5%
Street Sweeping	394,626	665,000	59.3%	665,000	59.3%
Sub Total	$ 10,021,688	$ 15,646,055	64.1%	$ 15,650,900	64.0%
- Flood Repairs (Emergent)	-182	0			
Grand Total	$ 10,021,506	$ 15,646,055		$ 15,650,900	

Directors' Financial Overview - Roads Capital

Description	*Year to Date Expenditure*	*Adopted Expenditure Budget*	*% of Adopted Budgeted Expenditure*	*Revised Expenditure Budget*	*% of Revised Budgeted Expenditure*
Bridges, Jetty's & Boatramps	1,368,780	2,555,000	53.6%	2,748,000	49.8%
Footpath Management	1,289,294	1,611,380	80.0%	1,965,124	65.6%
Roads Program - Capital (excl Flood)	12,276,103	17,192,600	71.4%	18,537,142	66.2%
- Flood Repairs	*4,219,216*	*11,039,382*	38.2%	*11,213,808*	*37.6%*
LG Public Car Parks	0	0	0.0%	0	0.0%
Street Lighting	214	35,000	0.6%	35,000	0.6%
Traffic Lights Maintenance	66,499	100,000	66.5%	100,000	66.5%
Stormwater	688,931	2,108,000	32.7%	2,258,799	30.5%
Sub Total	$ 19,909,037	$ 34,641,362	57.5%	$ 36,857,873	54.0%

Directors' Financial Overview - Roads Recoverable

Description	*Year to Date Expenditure*	*Adopted Expenditure Budget*	*% of Adopted Budgeted Expenditure*	*Revised Expenditure Budget*	*% of Revised Budgeted Expenditure*
Recoverable Works - Roads	1,466,001	1,400,000	104.7%	3,921,149	37.4%

Consideration:

Operational Business Unit Summary

Operational Business Units are tracking close to or within pro rata with the exception to Traffic Lights Maintenance, as expenditure is intermittent and unpredictable in nature.

Business Unit	Comment
Bridges, Jetty's & Boat Ramps	Expenditure is tracking below pro-rata at **30.3%** and is forecast to remain within allocation.
Footpath Management	Expenditure is tracking below pro-rata at **65.8%** and is forecast to remain within allocation.
Rural & Urban Roads Maintenance (excluding flood damage)	Expenditure is tracking below pro-rata at **62.7%** and is forecast to remain within allocation.
LG Public Car Parks	Expenditure is tracking below pro-rata at **25.4%** and is forecast to remain within allocation.

Street Lighting	Expenditure is tracking below pro-rata at **61.9%** and is forecast to remain within allocation.
Traffic Lights Maintenance	Expenditure is tracking above pro-rata at **96.8%** and will be closely monitored for the remainder of the financial year, however a portion of traffic light maintenance can be reactive due to unforeseen circumstances.
Stormwater	Expenditure is tracking close to pro-rata at **77.5%** and is forecast to remain within allocation.
Street Sweeping	Expenditure is tracking below pro-rata at **59.3%** and is forecast to remain within allocation.

Capital Business Units

For Councillors' convenience a copy of the adopted Capital Projects are provided in "Attachment 1". The current financial timing status of the Capital Projects is provided in "Attachment 2".

Technology One provides information on invoices received from contractors and suppliers as well as committed costs (i.e. value of contracts or purchase orders issued to contractors and suppliers which have not yet been invoiced to Council). The above Financial Overview table provides details on amounts invoiced to Council. Attachment 2 provides details on actual expenditure plus committed costs.

Based on invoices received to date, 61.2% of the allocated budget (excluding flood damage) has been spent. Based on invoiced amounts and including committed costs 75% of the allocated budget (excluding flood damage) has been either spent or committed. This places Road Services actual Capital position ahead of pro rata.

Capital Business Unit Summary

At the time of producing this report the Roads Capital Budget had completed 58 projects out of 118 (excluding flood damage). This sees 60 projects currently under construction or in the preconstruction planning phase. It is worth recognising though, that a number of projects have reached physical completion however, are awaiting final invoicing before the projects can be reported as complete.

Bridges Jetty's and Boat Ramps – The final bridge tender has now been awarded. This is a design and construct project with design to take approximately 10 weeks. This will see construction commence early in the 2017-2018 financial year. This leaves one (1) investigate and design project, that is also progressing.

Footpaths – Non-completed projects are in various stages of pre-construction and/or construction, with all works progressing over the coming months. There are no forecast concerns in delivering this program at this time.

Roads Capital – Non-completed projects were in various stages of pre-construction and/or construction before the recent weather event. Due to Cyclone Debbie and the subsequent response efforts required, a number of projects are now on hold. Officers will gain a better understanding of our ability to deliver the entire Roads Capital program in the coming month.

Street Lighting – One (1) capital project resides within this Business Unit, that being the installation of a street light at the pedestrian crossing on Captain Cook Drive, adjacent to the Service Station in Agnes Water. The foundations for the light pole were identified as conflicting with a previously non-recorded stormwater asset, which has resulted in the need to marginally relocate the pedestrian crossing position. From a design compliance perspective, this has now been resolved enabling the project to proceed. The project can now be programmed and it is hoped that Ergon can complete the works this financial year.

The vast majority of the Street Light budget allocation is for electricity supply invoicing for the regions street lights.

Traffic Lights – Capital program completed.

Stormwater – Non-completed projects were in various stages of our pre-construction phase prior to Cyclone Debbie. Officers will gain a better understanding of our ability to deliver the entire Stormwater Capital program in the coming month.

LG Public Car Parks – Nil Capital projects are associated with this Business Unit.

Status	Description
Projects nominated as Completed February	
RDC0396 – Red Rover Road Reconstruction and Widening	Project completed over budget as previously forecasted and reported by approximately $19,000. Over expenditure will be reconciled by project savings from completed capital projects and will be reported accordingly.
RDC0474 - Chapman Drive Reconstruction and Traffic Light Installation at Ballantine Street	Project completed under budget by approximately $724,000. Additional funds of $300,000 were requested in July 2016 to allow for late invoicing, however invoices met the accrual deadline and were posted to the 2015/16 financial year.
RDC0540 – Tableland Road Betterment Works	Project completed under NDRRA Flood Betterment Program.
RDC0541 – Mount Larcom Bracewell Road Betterment Works	Project completed under NDRRA Flood Betterment Program.
RDC0542 – Davis Road Betterment Works	Project completed under NDRRA Flood Betterment Program.
RDC0543 – Gentle Annie Road Betterment Works	Project completed under NDRRA Flood Betterment Program.
RDC0544 – Bindawalla Road Betterment Works	Project completed under NDRRA Flood Betterment Program.
RDC0546 – Cattle Creek Road Betterment Works	Project completed under NDRRA Flood Betterment Program.

RDC0587 – Gladstone Benaraby Service Road (South of Dalrymple Drive) Pavement reconstruction	Project completed under budget by approximately $19,000. Underspend can be utilised to reconcile overspends on other Capital Projects and will be reported accordingly.
RDC0611 – Round Hill Road Rural Bus Set Down	Project completed over budget by $36,000 as previously reported. Over expenditure will be reconciled by project savings from completed capital projects and will be reported accordingly.
RDC0615 – Streeter Drive Rural Bus Set Down	Project completed over budget by $12,500 as previously reported. Over expenditure will be reconciled by project savings from completed capital projects and will be reported accordingly.
RDC0603 – Murphy Road Gravel Resheet	Project completed under budget by approximately $33,000. Underspend can be utilised to reconcile overspends on other Capital Projects and will be reported accordingly.
RDC0560 - Ballantyne Road Gravel Resheet	Project completed under budget by approximately $35,000. Underspend can be utilised to reconcile overspends on other Capital Projects and will be reported accordingly.
RDC00565 – Bootmaker Drive Gravel Resheet	Project completed under budget by approximately $121,000 due to reduced project scope. Underspend can be utilised to reconcile overspends on other Capital Projects and will be reported accordingly.
RFC0099 – Archer Street Footpath Design Only	Project completed over budget by $21,000 . Over expenditure will be reconciled by project savings from completed capital projects and will be reported accordingly.
RDC0570 – Clifton Road Gravel Resheet	Project completed over budget by approximately $9,000. Underspend can be utilised to reconcile overspends on other Capital Projects and will be reported accordingly.
RDC0575 – Davis Road Gravel Resheet	Project completed under budget by approximately $101,000 due to reduced project scope. Underspend can be utilised to reconcile overspends on other Capital Projects and will be reported accordingly.
Projects nominated as <u>Defer March</u> (i.e. unable to substantially start this financial year)	
Nil.	
Projects nominated as <u>Carry Over or "Partial Defer" March</u> (i.e. started but unable to finish this financial year, Carry over to 2017-2018)	

Nil.	
Projects nominated as <u>Overspend March</u> (not yet complete but forecast to be overspent by 10% or more)	
Nil.	

<u>Operational Plan Update</u>

Operational Plan Measure	Current Status of "Target"	Comments
Local Roads of Regional Significance "LRRS" network level safety assessment **Target – 30 June 2017**	On Track	At the Regional Roads and Transport Group (RRTG) meeting held 16 November 2016, Officers were made aware of a State initiative that will see the assessment of our Local Roads of Regional Significance completed via an AusRap "Australian Road Assessment Program" Safety Assessment Project, which will likely see the phase one project 100% funded by the State Government. The phase one project will include road condition survey and video data collection of our LRRS network. This work is proposed to be completed by 30 June 2017. Phase two of the project will likely be 50% funded by the State Government and include assessment and translation of this data into a priority program to target safety improvements to the nominated sites. The stage two project will not proceed until the 2017-2018 financial year. In anticipation of receiving this funding the project is currently on hold until further advice from the Regional Roads and Transport Group.
Investigate and adopt fit for purpose floodway renewal options considering constructability, environmental	On Track	Officers are in the process of investigating the desired outcomes in relation to upgrading/renewing of existing floodways. Consideration is given to

requirements and suitability for Road Hierarchy **Target – 30 June 2017**		Council's Road Hierarchy, environmental obligations and stream classifications. These factors significantly influence the type of structure required to be built and the associated costs. The final result will realise a standard to be implemented within Capricorn Municipal Development Guidelines "CMDG". Future floodway upgrade/renewals will be considered in accordance with this standard.
Investigate and adopt a fit for purpose Low Cost Seal strategy considering DTMR Sealing of Unsealed Roads with Low Traffic (Technical Note 118) **Target – 30 June 2017**	On Track	A list of roads and road segments has been finalised and will now be considered for possible inclusion as a "Low Trafficked Road Seal Solution". Assessment of each road or segment is being conducted for suitability in accordance with the Department of Transport and Main Roads "Technical Note 118 Sealing of Unsealed Roads with Low Traffic". Roads or road segments deemed viable for an Accelerated Gravel Road Seal program will be costed and reported to Council for consideration and inclusion into Council's Long Term Financial Plan.
Percentage per quarter of Customer Service Requests initially received by Road Services responded to within 10 business days of lodgement. **Target - 100%**	On Track	Roads Services remain committed to Council's Customer Service Charter and continually monitor progress. Currently all customers have been responded to within the set timeframes.

Communication and Consultation (Internal/External):

Queensland Reconstruction Authority (QRA) liaison representative and GRC Manger Road Services (30 March 2017) "Activate" application for NDRRA flood assistance due to the effects of ex Tropical Cyclone "Debbie" named event.

Legal Environmental and Policy Implications:

Nil.

Financial and Resource Implications:

"Attachment 2" summarises budget savings and over expenditures for completed projects.

At the end of March, the balance of completed capital projects is as follows and equates to an underspend of $1,082,573.

Capital Projects	$	+1,082,573
Flood Projects	$	-
Total Capital Under / (Over)	**$**	**+1,082,573**

Budget Revisions

Nil.

Commentary:

RDC0311 Butler Street Yarwun Provide Drainage Easement

Officers have been trying for over 18 months to reach an agreement with the owners of 54 Butler Street, Yarwun to establish this drainage easement. The project originated at the request of the owners however, the couples circumstances have since changed and they are not responsive to Council's requests to facilitate the project. The terms were to be by mutual agreement between Council and the owners in establishing the easement for which Council will then maintain the stormwater flow path. Council allocated $20,000 in its 2016-2017 budget to facilitate survey and legal expenses.

Officers will continue to try and establish contact with the owners however, may result in Council forcing the easement establishment, or placing the project on hold until the owners are willing to correspond with Council. The later, resulting in Council retain its $20,000 allocation, to be utilised for alternative projects however, retaining this project within its Long Term Financial Plan.

Wood Street / Young Street Flood Gates

Officers observed the function capacity of the Young Street culverts during the Cyclone Debbie weather event on Thursday, 30 March 2017. During this time the tide was forecast at 2.65 metres at 8:00am and 4.1 metres at 10:15am. The rain intensity was similar over this time however may have fluctuated marginally.

- Photo indicating the water height at the Young Street culverts at 8:00am (Attachment 3)
- Photo indicating the water height at Wood Street at 8:05am (Attachment 4)
- Photo indicating the water height at the Young Street culverts at 10:10am (Attachment 5)
- Photo indicating the water height at Wood street at 10:15am (Attachment 6)

The tide rose 1.45m during this time however, photos indicate approximately 0.5m rise in the water height at the Young Street culverts. There appears to have been at least a 1m rise in water height at Wood Street at the same time. It is therefore the officers opinion that the proposed Flood Gates for Young Street would have little to no effect in mitigating the flooding experienced in Wood Street. The increased water level in Wood Street at 10:15am is likely to be caused by restriction through the culverts under the rail line to Barney Point.

With this live evidence, officers are concerned that installing the Flood Gates to the Young Street culvert may in fact worsen the flooding by restricting movement through the culvert.

Officers have submitted our application for approval to:

- The Department of Agriculture and Fisheries (DAF)
- Department of Infrastructure, Local Government and Planning (DILGP)
- Environment Heritage and protection (EHP)

Officers have been advised that a Mangrove offset condition maybe applied by the departments and may result in a fee of $120,000.

Implementation of Gates and Grid Policy

Officers have revised the letter content which was distributed to owners seeking acceptance and ownership of grids located on Councils road network. The content of the letter was workshopped with a few property owners recently who initially expressed concerns, and included William Wilson, Paulette Lindley and Cedric Creed. At the conclusion of these discussions, the main concern that remained with these property owners was their ability to cover the Public Liability of the grid under their insurer. Councils Technical Officer Compliance worked through this matter and made contact with a number of insurance companies who stated they do cover Public Liability of grids located on Councils road networks, owned by other entities other than Council. This information has been relayed to the property owners and from all reports the owners are now satisfied. Road Services have since reissued letters to suspected owners of grids in an effort to identify the owners and implement Councils Policy.

To date officers have identified 339 grids on our road network, with approximately 140 property owners accepting ownership. Approximately 10 grids have been removed after owners stated that they were no longer required.

2017 Cyclone Debbie

Crews continue to undertake works under the NDRRA Emergent Works activity, this enables teams to undertake necessary temporary repairs to make the road safe for commuters. This Emergent Work period lasts for 60 days, at which time all additional works are to be considered Restoration. Council's trigger point to become eligible for Cyclone Debbie funding is to have expended $502,000.The Federal Government have advised Councils that once the trigger point has been reached all reasonable costs incurred by Council will be reimbursed, subject to QRA approval and well documented and justified evidence that expenditure was related to the event.

Officers believe at this point the total repair cost could exceed $25 million however this will become more clear as all damage is collated in the coming weeks. Cyclone Oswald's restoration value was approximately $74 million. Cyclone Marcia's event totalled approximately $9.5 million.

Evidence to date suggests that river, creek and stream heights were similar or larger to the Cyclone Oswald event in 2013 however, did not remain elevated for the same time period. From initial assessments, it appears that the good work completed over the past few years through Councils improved maintenance grading practices, previous flood restoration works and a number of Betterment funded improvements, have seen the network hold up well, considering the scale of this event.

Road Services will prepare tender documents in order to seek external Procurement/ Construction/Management (PCM) assistance from suitably experienced consultants. This is essential so that Council gathers data and coordinates repair efforts in a manner that will facilitate funding reimbursement from QRA. This approach has worked successfully for past cyclone events, and is required from an overall resourcing perspective. The PCM costs are reimbursable.

Given the Federal Governments commitment to reimbursing Councils for restoration works, officers will now assess how best to deliver the Restoration Program. The scale of the restoration is too large for Council to undertake all works, considering our resource pool and our ongoing commitment to Operational and Capital works. Officers believe there maybe

opportunity to combine the restoration effort by a mix of Council day labour and contractors and the coordination of this restoration program be managed by Council staff.

2015 Flood Restoration Status

Cardno were appointed as Council's Procurement and Construction Manager for the Cyclone Marcia event (2015 Betterment). Golding Contractors were awarded the restoration contract and these works have now been completed. Note: Some minor REPA works that Golding Contractors were unable to commence and complete due to flooded causeways, is now in Miriam Vale Plant Hire (MVPH) scope (so that the acquittal process from previous contracts can proceed).

The betterment contract was awarded to Miriam Vale Plant Hire and due to recent wet weather and the effects of Cyclone Debbie the works are now forecast for completion during April. It is noted that flood waters are still up in many areas and the true effects of the Cyclone are not yet apparent. The awarded contract sum for betterment works was below the initial forecast estimates by approximately $420,000. Following regular project update meetings with the Queensland Reconstruction Authority "QRA" Council were requested to identify additional works that can be targeted using savings generated from elsewhere within QRA activities. The additional targeted betterment of assets damaged during the Cyclone Marcia event.

In December 2016 QRA approved additional betterment work on Popenia Road ($218k) and four (4) sites on Marsh Road ($198k), with the overall betterment value still to remain within the initial estimated value. QRA also approved ($186k) of betterment on Bindawalla Road along with ($20k) in REPA funding.

Design for the Popenia Road floodway betterment has been finalised, with Miriam Vale Plant Hire awarded a variation in December 2016. Culverts for this site have been installed, with approach works yet to complete. The effects from Cyclone Debbie were unknown at the time of writing this report.

On request from QRA, two additional betterment floodway projects were submitted (10 November 2016) and included $168,467 for Dalga Road and $144,000 for Collinwood Lane. Officers anticipated a response from QRA in January 2017, but to date no advice has been received. Now that most work along Norton Road has been completed (as at 21 March 2017), QRA have indicated that it is possible that they may award additional works.

If the QRA provides approvals for additional betterment works submissions, it is the intent to continue awarding works to Miriam Vale Plant Hire as a variation to their original contract. (This is in line with advice from Council's Chief Financial Officer to Senior Engineer Projects 1 December 2016).

Dependant on whether, the QRA approves addition betterment sites from recent submissions there is the potential for Council's 10% contribution to increase beyond the existing identified budget. It is noted that Council had provided $75,000 for causeway repairs on Marsh Road within the 16/17 financial years budget. This work has been covered by the betterment scope. Therefore, this budget is available to fund Council's 10% contribution for an additional $750,000 worth of aggregate projects, should any be approved by the QRA.

The QRA requested further betterment submissions, which were submitted on 18 January 2017. These are currently under review by the QRA (direct costs of each submission listed

below). As at 7 March 2017, the QRA were yet to advise on the status of any of the below submissions:-

- Gentle Annie Road Ch 5.8 (68.16) - $117,045
- Ambrose Bracewell Road Ch 4.7 (69.16) - $ 66,166
- Raglan Station Road Ch 12 (67.16) - $ 85,513
- Nichols Road - 2 locations (66.16) - $ 28,380
- Cedarvale Road Ch 8.5 (53.16) - $ 94,917
- Popenia Road Ch 5.5 (62.16) - $ 167,367

Final Reporting to QRA
Batch 1 (50.15) - Golding Contract
Form 9 (Progress Report), Form 10 (Final Reporting Checklist), Form 11 (Signed Value for Money Report) were finalised and sent to QRA 22 February 2017.

Batch 2 (51.15) - Golding Contract
Assurance Audit yet to be completed with QRA (unlikely to change the result below)
Cost Recovery 99.74% in $3.250M
10% payment authorised by QRA 14 March 2017 and paid to Council – amount being $311,436.16

Batch 3 (52.15) - Golding Contract.
Cost Recovery 99.48% in $3.148M
10% payment now due to Council – being $314,816.00

Both remaining payments above were forecast to be made to Council during March 2017.

Cyclone Debbie Impact
The Cyclone Marcia Betterment Works were within two weeks of completion prior to Cyclone Debbie. Initial investigations revealed the betterment sites that were completed held up reasonably well, however a couple of the sites on Norton Road, which were not completed have sustained additional damage. Officers will work with QRA to finalise the work at these sites when access and conditions allow.

The effects from Cyclone Debbie are becoming known on the Norton Rd sites (5 No.). The bridge at Ch1.0km has debris with minor surface damage, however any effect to the substructure and piling will have to be inspected by divers at a later stage. Ch 6.4km and 6.6km are generally ok with some damage to approaches. Ch 7.5km has a lot of damage to the exit approach and river rock now embedded within the culvert cells. Ch 9.5km has severe damage to both the approach and departure (over 300m of existing road has been destroyed), along with substantial rock ingress to the culverts. At an early estimate, approximately two (2) weeks additional work will be required by the Contractor to restore the Norton Road sites to "pre-flood" status. Miriam Vale Plant Hire have indicated they will lodge an insurance claim.

The current betterment works are progressing, the below table provides a summary of works completed and works in progress:

Road name	Locality	Proposed works	Start Construction Date	End Construction Date	% Completed (as of end of January 2017)
Norton Road (5 sites)	Boyne Valley	a. CH 0.95 - Main works complete - Finished guardrail in February.	20/12/16	21/02/17	100%
		b. CH 6.40 - Construction of new concrete floodway and batter protection. Base slab and culverts installed in Jan, Wings and headwall in Feb. Earthworks and approaches commenced in March. Affected by "Cyclone Debbie" will now extend into April.	11/1/17	29/03/17 **Affected by Cyclone Debbie**	90%
		c. CH 6.60 - Construction of new concrete floodway and batter protection. Wings and headwall in Feb. Earthworks and approaches commenced in March. Affected by "Cyclone Debbie" will now extend into April.	10/1/17	29/03/17 **Affected by Cyclone Debbie**	90%
		d. CH 7.46 - Construction of new concrete floodway and batter protection. Culverts installed Jan, Wings and headwall in Feb. Earthworks and approaches commenced in March. Affected by "Cyclone Debbie" will now extend into April.	30/1/17	31/3/17 **Affected by Cyclone Debbie**	95%
		e. CH 9.44 - Construction of new concrete floodway and batter protection. Hard Rock present, Culvert array shifted, redesigned Feb, Base	30/1/17	4/04/17 **Affected by Cyclone Debbie**	80%

		Slab & Culverts in March. Affected by "Cyclone Debbie" will now extend into April.			
Popenia Culvert Realign	Popenia Rd - Mt Larcom	a. CH 2.88 - Realignment of Culvert structure and approaches. Stabilised approaches, shotcrete batters, Signage etc affected by "Cyclone Debbie" will now extend into April.	15/2/17	15/04/17 **Affected by Cyclone Debbie**	70%
Mt Larcom Bracewell Road (2 sites)	Ambrose - Bracewell	a. Ch 8.2 – Construction of a new concrete slab and concrete batter protection on both approaches to culvert crossing. Main work complete. Pavement, AC early April and linemarking mid April.	7/12/16	15/4/16	90%
Davis Road (1 site)	East End	Construction of a new concrete floodway with scour protection in lieu of seal floodway at Ch1.815. Main work complete, Pavement, Stabilise in March, Seal in April.	30/11/16	3/4/16	95%
Tableland Road (6 sites)	Wooderson/ Diglum	a. CH 1.92 - Construction of new concrete slab and concrete batter on both approaches to bridge to prevent road washout. Complete. Roadbase in Mar. Seal in early April.	14/11/16	3/4/17	95%
		b. CH 8.10 - Construction of new concrete batter on the downstream side of the road and around culvert outlet to prevent road washout. Minor pavement and seal in March.	30/11/16	17/3/17	100%
		c. CH8.45 - Construction of new concrete slab and concrete batter on the departure side of	24/10/16	15/4/17	95%

		the floodway to prevent road washout. lines in April.			
		d. CH29.5 - Extend existing concrete floodway on both approaches. Allowance for topping slab over existing floodway.	28/10/16	20/12/16	100%
		e. CH34.579 – Construction of new concrete floodway.	27/10/16	20/12/16	100%
		f. CH41.6-41.7 - Installation of 120m length of rock protection on steep slope drains and batter.	12/10/16	14/10/16	100%
Bindawalla Road (3 sites)	Diglum	Construct new floodways across creeks/ gullies at: Work now complete.	4/11/16	20/12/16	100%
Gentle Annie Road, Ambrose (1 site only)	Ambrose	(CH8.0) Seal and concrete batter protection to protect against road washout when flood water overtops road. Main work in December/Jan, sealing to happen early April.	28/11/16	3/4/17	95%
Cattle Creek Road	Raglan	Construct new floodways across creeks/gullies at CH 9.5 Pavement/Stabilisation works complete.	2/12/16	23/12/16	100%

Harvey Road Upgrade

The public consultation meeting, held on the 21 March 2017 at the Clinton State School was well received. Councils proposed Traffic Light solution, located at the southern Pedestrian Crossing was well received and favoured by all attendees. Officers continue to finalise the design with the view to release the Stage 2 tender in April 2017. Forecast estimates for the project however, have increased now that detailed design is available. The project is now forecast to total $4.7 million and will therefore require a $3.3 million budget allocation in 2017/18 financial year. This sees a total increase of $1.7 million dollars from previous estimates.

Tender Progress
Current status of tenders to be released for the remaining 2016/17 financial year include:-

Tender	Status
Procurement and Construction Management "Harvey Road"	Tender currently released # 175-17. Closes 13 April 2017.
Procurement and Construction Management "Cyclone Debbie"	Tender currently being collated with the view to release in April 2017. This will see the appointment of a contractor to manage the Restoration component of the Cyclone Debbie recovery.
Harvey Road, Clinton – Upgrade "Stage 1" NB: The work done Dec16 / Jan 17 is described as "Early Works"	Stage 1 designs are being finalised with the intention to release the Stage 2 Tender in April 2017.
Stormwater culvert inspection and clean program	Tender currently released.

Summary:

Capital Works programmed to commence or continue in the month of March include:-

RDC0490	Harvey Road Reconstruction
RDC0396	Red Rover Road Renewal
RFC0089	Archer Street Footpath
RFC0104	Dawson Hwy Footpath renewal Stocklands to Farr Street
DRC0088	Ubobo drainage design to alleviate flooding
Various	Cyclone Marcia Flood Event (Betterment)
Various	Cyclone Debbie Flood Event (Emergent Works)
DRC0089	Urban Drainage (Renew / Repair / Replace)
DRC0087	South Gladstone Stormwater Renewal
DRC0076	Wood Street - Flood Mitigation flood gate installation to Young Street culverts
DRC0082	Gully Pit Renewal / Replacement Program
DRC0069	Marten Street - Establish drainage easement and concept designs
RDC0500	Lucke Road/Aplin Road - Establish road reserves
DRC0080	Cross Road Drainage (install new) Various Locations
RDC0370	Red Rover Road Bridge Remedial Works
RDC0454	Matthew Flinders Bridge gantry construction
RDC0551	Gentle Annie Road (Four Mile Creek Bridge) Remedial Works
RDC0552	Glenlyon Road (Moura Short Railway Bridge) Remedial Works
RDC0485	Flinders Street - Bus Stop
RDC0605	Norton Road Gravel Resheet
RDC0311	Butler Street - Establish drainage easement (#54)
RDC0554	Raglan Station Road (Fire Creek Bridge) Remedial Works
DRC0064	Beach Houses Estate Modify Intake Structure
RDC0558	Asphalt Overlays Program
RFC0098	Discovery Coast Christen College Footpath Round Hill Road
RDC0547	Auckland Point Scenic Lookout Upgrade
RDC0586	Gladstone-Benaraby Road Service Road (North of Dalrymple Drive) Pavement reconstruction and Kerb Renewal
RDC0587	Gladstone-Benaraby Road Service Road (South of Dalrymple Drive) Pavement reconstruction and kerb Renewal

RDC0548	Round Hill Scenic Lookout Upgrade
DRC0078	Arthurs Park Drainage Easement and Associated Infrastructure
RFC0075	Springs Road Footpath
RDC0617	Various TEAC Resolutions
RFC0105	Glenlyon Road Cycleway (Derby Street to Philip Street) eastern side
RFC0101	Boowan Court to Red Rover Road Footpath renewal "asphalt"

Attachments:

1. Road Services 2016-2017 Budget allocation paper
2. Roads Capital Works Financial Review – March 2017
3. Photo – Young Street culverts 8am
4. Photo – Wood Street 8:05am
5. Photo – Young Street culverts 10:10am
6. Photo – Wood Street 10:15am

Tabled Items:

Nil.

Report Prepared by: Manager Road Services

WTC/6. URGENT BUSINESS

Nil.

WTC/7. NOTICE OF MOTION

Nil.

WTC/8. CONFIDENTIAL ITEMS

Nil.

WTC/9. MEETING CLOSE

ATTACHMENTS