



INFRASTRUCTURE COMMITTEE MEETING

AGENDA

5 FEBRUARY 2014

Your attendance is required at a meeting of the Infrastructure Committee to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 5 February 2014 commencing at 12:30pm for transaction of the enclosed business.

A handwritten signature in black ink, appearing to be "C. R.", is written over a horizontal line.

CHIEF EXECUTIVE OFFICER
30 January 2014

Next Meeting Date: 05.03.14

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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1 OPENING

2 PRESENT

Members Present:

Councillor A P Williams (Chairperson)
The Mayor, Councillor M F Strelow
Councillor C E Smith
Councillor G A Belz
Councillor S J Schwarten
Councillor N K Fisher

In Attendance:

Mr E Pardon – Chief Executive Officer
Mr R Holmes – General Manager Regional Services

3 APOLOGIES AND LEAVE OF ABSENCE

4 CONFIRMATION OF MINUTES

Minutes of the Infrastructure Committee held 20 November 2013

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

6.1 BUSINESS OUTSTANDING TABLE FOR INFRASTRUCTURE COMMITTEE

File No: 10097
Attachments: 1. Business Outstanding Table
Responsible Officer: Evan Pardon - Chief Executive Officer
Author: Evan Pardon - Chief Executive Officer

SUMMARY

The Business Outstanding table is used as a tool to monitor outstanding items resolved at previous Council or Committee Meetings. The current Business Outstanding table for the Infrastructure Committee is presented for Councillors' information.

OFFICER'S RECOMMENDATION

THAT the Business Outstanding Table for the Infrastructure Committee be received.

BUSINESS OUTSTANDING TABLE FOR INFRASTRUCTURE COMMITTEE

Business Outstanding Table

Meeting Date: 5 February 2014

Attachment No: 1

Date	Report Title	Resolution	Responsible Officer	Due Date	Notes
09 February 2011	Rockhampton Region Unsealed Road Gravel Resource Review	THAT Council resolve to enter the properties detailed in this resolution in accordance with Section 36 of the Acquisition of Land Act 1967 with a view to resuming land for quarry purposes from any of those properties identified as being suitable for quarry sites.	Russell Collins	19/12/2012	Remaining pits in CRRC will need to be addressed by Russell Collins
04 July 2012	Diplock Street LATM Scheme	THAT community consultation be undertaken based on the two alternative conceptual treatments in the MRCagney Report in accordance with Council's Local Area Traffic Management Policy	Martin Crow	19/12/2012	Survey results compiled and a briefing session held with Councillors Williams and Fisher on Monday 2 December 2013 and a plan of action to take the results of the survey forward agreed upon.
15 September 2012	Rockhampton Region Unsealed Road Gravel Resource Review	THAT the Committee approve for Council Officers to approach the owners of property containing sites identified in Attachments 1 and 2, as possible sources of suitable gravel with the intent of requesting permission to enter the land to investigate and conduct testing to either confirm or dismiss the assumption the land contains suitable quality gravel, in sufficient quantity, to satisfy gravel requirements for the surrounding road network for at least a 5 year period.	Russell Collins	19/12/2012	Remaining pits in CRRC will need to be addressed by Russell Collins
06 March 2013	Cooper Street Rail Bridge	THAT Council make contact with the adjoining property owners to seek their support and assistance in having the road reserve closed adjacent to the bridge and that Queensland Rail be advised accordingly.	Martin Crow	20/03/2013	Follow up telephone call to Teys 5 November 2013 but no response from Teys representative. Follow up letter sent 11 November 2013 requesting Teys' support for road closure.
08 May 2013	Vallis Street - Proposed Traffic and Parking changes	THAT the matter of proposed traffic and parking changes in Vallis Street, North Rockhampton lay on the table pending community consultation and return to the Infrastructure Committee Meeting in July 2013.	Martin Crow	22/05/2013	No response from IGA Management to date.

Date	Report Title	Resolution	Responsible Officer	Due Date	Notes
08 May 2013	Ownership of Gracemere Industrial Area Overpass	<p>THAT the Council:</p> <ol style="list-style-type: none"> 1. Agree in principle to the Gracemere Industrial Access Project asset handover as proposed by Transport and Main Roads; 2. Request a formal handover process be developed with Council Officers to ensure that relevant assets and their ownership are identified and that all relevant as-constructed asset data and valuations are provided; 3. Request that all contractual obligations relating to defect rectification are either pursued or carried out by TMR whilst these obligations exist; and 4. Acknowledge that the Somerset Road and Malchi open level rail crossings will be permanently closed once the overpass is open to traffic. 	Martin Crow	30/09/2013	Certificate of Practical Completion was issued by TMR on 24/5/13 at which time the defects liability period of 3 months commenced. Ownership of the roads would have nominally passed to Council on 24/8/2013. Further correspondence has been sent to TMR on 16/12/13 seeking advice on the completion of certain agreed handover tasks.
21 August 2013	High Street Bridge Repairs	THAT Council resolves to fund maintenance works on the High Street Bridge at Moores Creek in the 2013/2014 Financial Year and that funding be allocated from the 2013/2014 Capital Works Budget by making budget amendments as per the table.	Russell Collins	4/09/2013	
21 August 2013	Pedestrian Safety Accessing Lawrie Street	That correspondence be forwarded to the Department Transport and Main Roads highlighting the ongoing concerns of the community in respect of pedestrian safety when accessing the commercial area of Lawrie Street when coming from the opposite side of the road and requesting that they reopen public discussions on this matter.	Robert Holmes	25/09/2013	Response received from DTMR indicating that it will continue to monitor the situation.

Date	Report Title	Resolution	Responsible Officer	Due Date	Notes
21 August 2013	East Street Parking Concept Design Rockhampton	<p>THAT:</p> <ol style="list-style-type: none"> 1. The supportive feedback from the affected properties be noted; 2. The proposed changes to East Street be approved for detailed design and construction; 3. Subject to final design and costing, funding for the proposed parking and traffic changes in East Street be accommodated within existing 2013/14 Budget allocations if possible and should this not be possible, funding options for the project to be presented to Council for further consideration; 4. Local Laws be informed of the alleged practice of rotating cars in East Street between Archer and Fitzroy Streets; 5. The feasibility and warrants for a pedestrian crossing in Quay Street, slightly north of Royal Lane be assessed. 	Martin Crow	1/12/2013	Detailed design scheduled to commence early January 2014.
16 October 2013	Price Avenue Median Parking	<ol style="list-style-type: none"> 1. THAT the parking and access development conditions in relation to businesses located on Price Avenue be further investigated and enforced as necessary. 2. THAT business owners located on Price Avenue be advised that parking on the centre median strip is illegal and vehicles found parking in that area could be subject to an infringement notice. 	Martin Crow	30/10/2013	Correspondence has been sent to business owners advising them of Council's resolution.

Date	Report Title	Resolution	Responsible Officer	Due Date	Notes
16 October 2013	Stack Street Floodway Investigation	<ol style="list-style-type: none"> 1. THAT Stage 1 of the Stack Street Floodway program be listed for consideration in the 2014/15 capital budget. 2. THAT Council secure appropriate drainage easements between Stack Street and Pilkington Street to enable Stage 1 of the Stack Street Floodway Program to proceed. 3. THAT Stages 2 to 4 of the Stack Street Floodway program be included in the Future Works Capital Program. 	Martin Crow	30/10/2013	
16 October 2013	Calliungal Lane, Mount Morgan - Proposed Removal from Council's Road Register	THAT Council approve the cessation of maintenance of Calliungal Lane and the removal of it from Council's road register for the reasons identified in the body of this report and the affected property owners be advised accordingly.	Russell Collins	30/10/2013	
20 November 2013	Bloxsom Park Stormwater Drainage	<ol style="list-style-type: none"> 1. THAT property owners be required to arrange for the complete removal of the encroaching fences in the drainage flow path in Bloxsom Park. 2. THAT the repair, reinstatement or upgrade of the rock lining and rock barriers in Bloxsom Park be considered in the 2014/15 budget. 3. THAT the repair, reinstatement or upgrade of the contour banks in Bloxsom Park be considered in the 2014/15 budget. 4. THAT Council consult with property owners regarding the acquisition of Drainage Easements across each relevant property to provide permanent protection to the drainage flow path. 	Martin Crow	04/12/2013	Correspondence sent to property owners requiring them to remove the encroaching fences by 31 January 2014.

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 OFFICERS' REPORTS

8.1 PROPOSED CBD BUS STOP UPGRADE

File No: 237

Attachments:

1. Presentation by Transport and Main Roads
2. Preliminary Layout for Bus Stop

Responsible Officer: Robert Holmes - General Manager Regional Services

Author: Russell Collins - Operations Manager Urban Operations

SUMMARY

Translink the public transport section of Transport and Main Roads has reviewed the operations of the bus services that use the main bus stops in Bolsover Street outside the Police Station, Kern Arcade and Denham Street outside the Leichhardt Hotel to determine the most cost effective and user friendly way to provide a public transport to service the CBD area.

OFFICER'S RECOMMENDATION

THAT Council approve in principle the proposed location for a centralised bus station on both sides of Bolsover Street outside the Police Station and the Choice Bottleshop to allow for consultation with the adjacent property owners and for Translink to confirm that funding has been allocated to this project.

COMMENTARY

In reviewing the needs for public transport access for the Central Business District (CBD) of Rockhampton, Translink is trying to achieve the goals of providing a bus station that is readily identifiable as a major public transport node, that provides efficiencies that will enable savings to be reinvested in providing better and more user friendly transport services for the Rockhampton Region. If these goals can be achieved and more people are attracted to using public transport to access the CBD, it will have benefits of increasing business opportunities and reducing the parking requirements for the area.

To achieve the above goals, Translink has investigated four options to improve public transport access into and out of the CBD of Rockhampton to cater for the future growth of the Rockhampton Region. The four options are:-

1. Add an additional bus bay to the existing two bus bays outside the Police Station and create three bus bays outside the Choice Bottleshop car park.
2. Create three bus bays opposite the existing Kern Arcade bus stop and delete the bus stop outside the Police Station.
3. Use the existing Bolsover Street bus stops outside the Police Station and the Kern Arcade and delete the Denham Street bus stop outside the Leichhardt Hotel.
4. Create two new bus bays outside the Choice Bottleshop car park and maintain the use of the bus stops outside the Police Station and the Kern Arcade.

Option 1

This is Translink's preferred option as it will lower future operational costs of the network by reducing the annual distance travelled by 13,000 kilometres per year and combines all stops into an identifiable area that is located centrally in the CBD and close to the Police Station. It also allows for future expansion of services into the growth areas of Gracemere and Parkhurst.

Other than the loss of four car parks, the addition of an extra bus bay outside the Police Station should not cause any major concern.

The proposed new bus stop outside of 170/174 Bolsover Street (Choice Bottleshop and Leichhardt Hotel) and 162 Bolsover Street will result in the loss of 18 car parks and the facility may attract vagrants to the shelters overnight. It is possible that these property owners will object to the bus stop being created along their street frontages.

In the CBD area there is no opportunity to provide a bus station area that is completely located in one area that identifies it as a major transport destination without an impact on commercial property. The location of Option 1 has the least impact, as the Choice Bottleshop has off street parking. The loss of 22 car parks has partially been offset by the removal of bus stops in East Street just north of Fitzroy Street; William Street between East Street and East Lane; and the removal of the bus stop in Denham Street if this proposal goes ahead.

Part of this proposal is that the existing bus stop outside the Kern Arcade will not be required as a bus stop. Although the construction of the existing area was totally funded by the State Government, the general public will see it as Council wasting money on the facility unless an alternate use can be found. The area is accessible with direct under cover access to East Street through the Kern Arcade. One possible use is to relocate the Denham Street Taxi Rank to the existing bus stop area.

Option 2

While this option combines all the CBD stops into an identifiable area that is located centrally in the CBD, it does not provide for any operational savings for Translink as in Option 1, due to the increased travel distance of 13,000 kilometres per year.

The proposed new bus stop outside of the old TAFE College building will result in the loss of 20 car parks and the facility may attract vagrants to the shelters overnight. Prior to the disposal of the TAFE College this site would have had the least impact on commercial property. As the site is now in private ownership with planning approval for a boutique motel that relies on the available on street parking, it is no longer a preferred site.

Part of this proposal is that the existing bus stop outside the Police Station will not be required as a bus stop. Although the construction of the existing area was totally funded by the State Government, the general public will see it as Council wasting money on the facility unless an alternate use can be found. Possible uses are to return the area to public parking or parking for Police vehicles.

Option 3

To revert back to the two bus stop locations outside the Police Station and the Kern Arcade without the Denham Street bus stop will increase operational costs by adding an additional 15,000 kilometres per year resulting in reduced services to cover the additional expenditure. It will also create capacity problems at the Kern Arcade which will cause delays and prevent further expansion into growth areas such as Gracemere and Parkhurst.

This option does not identify a central transport node within the CBD.

Option 4

This option is very close to Option 1 in that it still reduces parking outside of 170/174 Bolsover Street (Choice Bottleshop and the Leichhardt Hotel) but does not achieve the aims of reducing the distance between bus stops and is not an identifiable transport node. Translink considers this option as an interim measure until Option 1 can be achieved.

BACKGROUND

In 2010 Queensland Transport funded the construction of five saw tooth bus bays in Bolsover Street, three in front of the Kern Arcade Car Park and two outside the Rockhampton Police Station. The Saw Tooth arrangement allowed for buses to depart whenever they were ready, whereas the previous nose to tail arrangement meant that buses had to wait for the lead bus to depart before they could move off. With the existing arrangement, passengers transferring from country services to city services are required to walk over 200 metres to make the connection.

Translink has since determined that it is more cost effective to have bus stops on both sides of Bolsover Street as it reduces the distance that buses need to travel when travelling from the south side to the north side of Rockhampton. As a result Translink then started using the bus stop outside the Denham Street frontage of the Leichhardt Hotel. Almost from the time that this change was made Council has received complaints and requests for the bus stop to be provided with seating and other improvements.

The Denham Street bus stop has been in existence since the Leichhardt Hotel was built and its main use was to provide parking for tourist buses that were staying overnight at the hotel. The location is not suitable for a high usage bus stop as it only provides for one bus bay, has steep crossfalls on the footpath and road shoulder, and is directly outside of a hotel.

The bus stops outside the Kern Arcade and the former bus stop at the north eastern corner of Fitzroy Street and East Street both have problems with being attractive areas for vagrants to congregate at night time. These areas are high maintenance areas that need cleaning on a daily basis. It is for this reason that seating has not been provided for the Denham Street bus stop.

PREVIOUS DECISIONS

There are no related previous decisions.

BUDGET IMPLICATIONS

There are no capital budget implications for Council as Transport and Main Roads have indicated that they will fully fund the design and construction of any new bus stop. There will be ongoing operational costs for Council to maintain the facility after it is constructed.

LEGISLATIVE CONTEXT

There are no legislative consequences arising from this report.

LEGAL IMPLICATIONS

There are no known legal implications that arise from this report.

STAFFING IMPLICATIONS

There are no staffing implications arising from this report.

RISK ASSESSMENT

The main risk for this project is providing on street space for the bus station without unduly affecting the value of commercial land in the CBD.

CORPORATE/OPERATIONAL PLAN

This proposal supports the provision of infrastructure for public transport to service the needs of the community.

CONCLUSION

Option 1 is the best long term option that will lower future operational costs of the public transport network and allow for future expansion into developing areas such as Gracemere and Parkhurst while combining all stops into an identifiable area that is located centrally in the CBD.

PROPOSED CBD BUS STOP UPGRADE

Presentation by Transport and Main Roads

Meeting Date: 5 February 2014

Attachment No: 1

Department of Transport and Main Roads

Rockhampton CBD Bus Stops

Rockhampton Regional Council
Tuesday 8 October

Alan Hawkes – TMR TransLink
Alec Tattersall – TMR TransLink

Coleen Williams – TMR TransLink
Russell Collins – Rockhampton RC

Great state. Great opportunity.



Agenda

- Background to existing situation
- Issues being experienced
- Options developed to resolve issues
- Preferred option
- Way forward
- Site visit

Background

- 2010 - Queensland Transport engaged Rockhampton Regional Council (RRC) to construct two new premium bus stops on the southbound side of Bolsover Street
 - Kern Arcade – Sunbus
 - Police Station – Youngs
 - Total construction cost \$655,011.00
 - TMR contribution \$646,485.40.
- January 2013 - Sunbus service change addressed on-time running and incorporated school services into urban services
 - The service change required both northbound and southbound CBD stops – solution for northbound was Denham Street
- Using Denham St stop has created issues from Council, customers etc as well as highlighting a need to resolve the future stopping pattern in CBD

Network Strategy (1)

- Rockhampton Sunbus network is a 'Base Plus' network. This category in the TMR Network Categorisation system provides it with good accessibility to key destinations, particularly for those with high transport need, adequate service frequency and well matched origins and destinations
- The Gracemere/Yeppoon Youngs network is a 'Base' network. This category in the TMR Network Categorisation system provides it with good accessibility to key destinations, particularly for those with high transport need, appropriate level of service to meet social transit objectives and well matched origins and destinations

Network Strategy (2)

- As Rockhampton grows and changes, so too will its bus networks. Their maturation leads to more requirements for infrastructure
- The requirement for a northbound stop in the CBD is consistent with the operation of almost all bus networks as it will create a more legible network for customers and provides operational efficiencies
- The (draft) Fitzroy Public Transport Service Plan outlines the need for a northbound stop in Rockhampton CBD to provide more efficient operations
- A northbound stop will enable more efficient operations and the reinvestment of service kms and hours into growth areas such as Gracemere

Current Arrangement



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Denham Street Bus Stop Issues

- No seating or shelter provided
- Not compliant with disability standards
- Insufficient capacity with just one space
- Road camber
- Compliance cost problematic

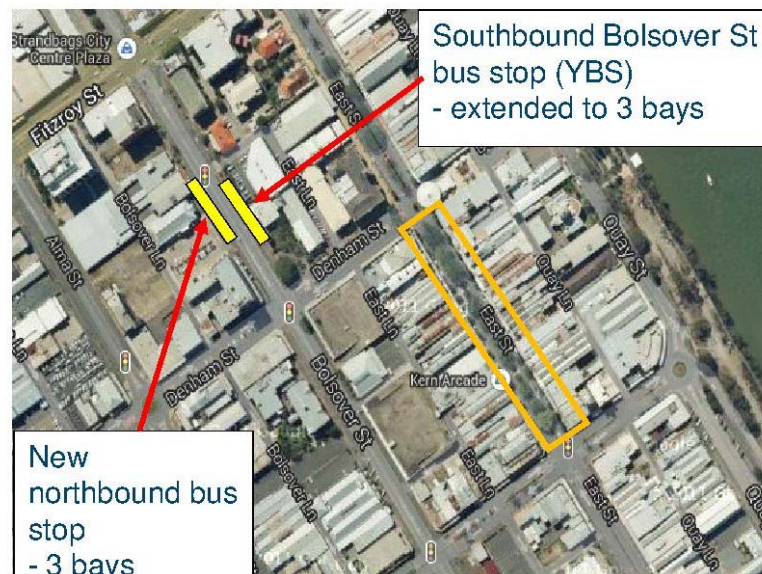


Stop Analysis Process

- TransLink Division Network Management collated feedback on potential options from:
 - TransLink Division Regional Operations
 - TransLink Division Infrastructure
 - Rockhampton Regional Council
- Feedback was entered into a multi criteria analysis grouped by:
 - Operational cost
 - Infrastructure cost
 - Passenger amenity / safety
 - General amenity / commercial concerns
 - Capacity / future growth
 - Contracts
 - Road network

Option One

- Expand the existing Young's Bus Service bus stop to three bays, implement a new paired bus stop for northbound services opposite, and decommission Kern Arcade bus stop (Sunbus)



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- Total bus capacity:**
 - 6 bays
 - 3 new northbound
 - 1 new southbound
 - 2 existing southbound
- Service change:**
 - Minor operational impacts but integration of operations for the first time

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Strengths

- Lower operational costs
- Meets objectives of an integrated network
- Potential for an estimated saving of 13,000 km/year to YBS network
- More efficient operations could see reinvestment in growth areas such as Gracemere and Yeppoon
- Increased network legibility for customers
- Stops directly outside police station
- Would be in keeping with stop/station form used across QLD/Australia
- Situated between CBD major shopping precincts

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Weaknesses

- New paired stop, a significant cost to design & construct
- Perception of impacts to commercial business frontages and reduction of on street parking
- Redundant Sunbus bus stop would be seen as wasted investment
- Concerns over traffic implications on this section of Bolsover St

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Option Two

- Implement a new paired northbound bus stop opposite the Kern Arcade bus stop (southbound Sunbus) and decommission Young's Bus Service bus stop



- Total bus capacity:**
 - 6 bays
 - 3 new northbound
 - 3 existing southbound
- Service change:**
 - Major operational impacts.

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Strengths

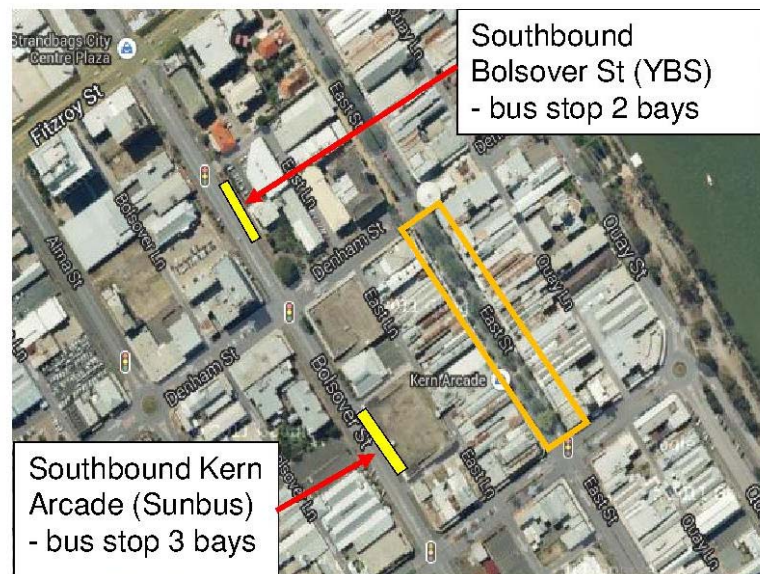
- Increased network legibility
- Close access to the old main street (East Street) via undercover walkway through Kern Arcade
- Would be in keeping with stop/station form used across QLD/Australia

Weaknesses

- Increased operational costs estimated at 13,000 km/year
- Due to lack of additional operational funding the additional costs may have to be found from a loss of service in the network
- New stop in front of the former TAFE site, recently subject to a DA to be used as a boutique motel, which would not support loss of parking
- Redundant Young's bus stop would mean 'wasted investment'
- Significant service change required

Option Three

- Use existing southbound Bolsover Street bus stops and remove current Denham Street bus stop



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- **Total bus capacity:**
 - o 5 bays
 - 5 existing southbound
- **Service change:**
 - o Major operational impacts

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Strengths

- Low infrastructure cost
- Mitigate public perception of wasting money by retaining both southbound bus stops
- No additional infrastructure works required
- Direct undercover access to East St shopping precinct (Sunbus passengers only)
- Confines vagrant problem to area away from commercial businesses

Weaknesses (cntd)

- Doesn't facilitate extension of service into growth areas such as Gracemere

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Weaknesses

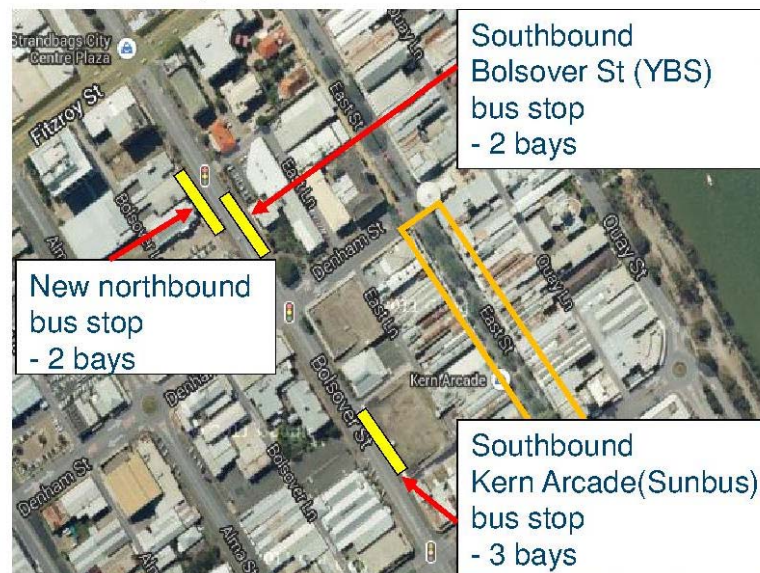
- Illegible network of stops, does not meet best practice or TransLink aim of integration
- Increased operational costs to Sunbus network - estimated to increase by 15,000 km/yr to maintain existing services
- To revert network to pre 2013 change would result in a loss of service
- Capacity issues at Kern Arcade stops
- Long walk between bus stops to interchange between Youngs and Sunbus services
- Significant service change required
- Doesn't meet draft PTSP requirements of a northbound and southbound stop

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Option Four

- Install new bus stop (2 bays) in front of First Choice bottle shop opposite Young's Bolsover St bus stop for use by Sunbus northbound services. Continue to use existing Bolsover St and Kern Arcade southbound bus stops



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- **Total bus capacity:**
 - o 7 bays
 - 2 new northbound
 - 5 existing southbound
- **Service change:**
 - o No service changes necessary to network however customer information work required.

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Strengths

- Mitigate public perception of wasting money by retaining both southbound bus stops
- No change in current operational cost
- Possible low cost option for two bay nose to tail operational bus stop
- No service change required only customer communication.
- Could act as temporary solution to resolve current Denham Street issues
- Additional capacity allows for future growth

Weaknesses

- No benefit for Youngs bus network for future service improvements unless 3 bays are provided
- Long walk between stops to interchange between Young's Bus Service and Sunbus and within Sunbus network
- Possible impacts to commercial business frontages
- Reduction of on street parking
- Maintains illegible network and provides the most complicated passenger outcome

Summary of Options

- **Option 1:** TMR preferred long term solution. Creates a more legible network, opportunity for extra Youngs services through saving in operational kilometres
- **Option 2:** Not considered a feasible option due to extra service kilometres and bus stop outside propose boutique hotel not conditioned as part of DA
- **Option 3:** Significant ongoing network costs in both travel time and monetary. Not considered feasible due to ongoing costs
- **Option 4:** Preferred interim solution. No operational costs, possible low infrastructure cost, with seating/shelter installed

Way Forward

Interim

- Seeking Council support for option 4 to relocate existing Denham Street stop to Bolsover Street

Long term

- Seeking Council support for preferred long term option by early November
- Project will then be recommended to go into Passenger Transport Infrastructure Program for:
 - Pre-feasibility analysis in 2013/14; and depending on the outcome either
 - Detailed feasibility or Design and construct in 2014/15

Option 1 and 4 footprint



- **Yellow**
 - Two bay bus stop with independent operation (reduction of 7.5m for nose to tail)
- **Red**
 - Three bay lead stop or nose to tail operation

PROPOSED CBD BUS STOP UPGRADE

Preliminary Layout for Bus Stop

Meeting Date: 5 February 2014

Attachment No: 2



8.2 MCLEOD PARK STORMWATER CATCHMENT INVESTIGATION**File No:** 5783**Attachments:**

1. McLeod Park Catchment Plan
2. Network Augmentation Plans

Responsible Officer: Robert Holmes - General Manager Regional Services**Author:** Martin Crow - Strategic Manager Engineering Services

SUMMARY

A stormwater drainage investigation has recently been completed for a catchment area feeding into the McLeod Park detention basin in Berserker.

OFFICER'S RECOMMENDATION

1. THAT stages 1 to 3 of the McLeod Park Catchment stormwater drainage program be listed for consideration in the in the Future Works Capital Program.
2. THAT drainage easement be progressively secured over Council's existing piped and overland flow drainage infrastructure networks as budgetary allocations permit.

COMMENTARY

Council engaged engineering consultants Brock & Associates to undertake an investigation of the outfall arrangements for the McLeod Park detention basin. The objective of this investigation was to identify options to resolve the flooding issues experienced on Dean Street and Rodboro Street during significant local rainfall events. During the course of this investigation it was determined that a review of drainage mechanisms within the catchment leading to McLeod park was also warranted.

Modelling was undertaken of the existing systems which highlighted a number of issues. These included:-

- Inadequate extent of piped drainage systems to limit surface flows during Q5 events.
- Large catchment sizes with significant flow lengths to reach the first inlet pit.
- Potential inadequate capacity of road drainage to convey runoff from a Q100 storm event without exceeding the depth-velocity limit.
- Encroachment into private property during Q100 (and possibly lesser ARI) storm events at various locations throughout the network.
- Inadequate capacity within the existing trunk mains to allow more surface flows to be diverted underground.

A number of drainage upgrades have been identified for the purpose of limiting overland flow through private property and reducing inundation of roads, particularly at the Dean Street and Rodboro Street Intersection.

The most significant augmentation involves diverting a portion of the flow from near the top of the catchment through a new trunk main along Leamington Street to Moores Creek. This diversion removes significant flows from the Hearn Street cul-de-sac and reduces overland flows downstream of Talbot Street. Together with additional pipes in Hook Street and Donnollon Street, this trunk system predominantly removes overland flow through private property between Simpson and Wooster Streets and between High Street and Edington Street and reduces overland flow through private properties between Edington Street and Elphinstone Street.

Modelling of the McLeod Park detention basin indicates that it has sufficient capacity to accommodate the drainage from the catchment for the short duration (60 to 90 mins) storms; however, experiences capacity issues with less intense but longer duration events when the whole of the catchment is contributing. The critical storm duration for McLeod Park was

found to be 540 minutes. In these lower intensity but longer duration storm events the basin fills and overtops the Rodboro Street and Dean Street Intersection. The investigation has revealed that this overtopping can be best controlled by providing additional piped outlet capacity under the intersection feeding into an engineered channel through Council property to culverts under Water Street.

Although not noted in the consultant's report, significant portions of the existing drainage systems and overland flow paths pass through privately owned freehold property. As works progress, drainage easements should be taken out to protect Council's interests in maintaining these drainage paths into the future. Initially this should be applied to the natural channel between Water Street and Frenchman's Creek.

The proposed solution and recommended staged approach is as follows –

1. Leamington Street Trunk Main (\$2,850,000);
2. McLeod park Outlet Culvert and Channel (\$400,000)
3. Donnollan – Hook Street (\$540,000)

Each of the stages as they are implemented will see improvements in stormwater management throughout the catchment. It may be possible to stage the Leamington Street Trunk Main works for budgetary purposes; however, the benefits are not realised until the project is complete.

BACKGROUND

For many years flash flooding issues have been experienced at various locations within the stormwater catchment that leads to McLeod Park. The catchment is not well serviced by drainage pipework resulting in considerable sheet flow of stormwater through private property and concentrated flow along the roads. There is also a significant portion of the existing Council drainage system that passes through private property and remains unprotected by drainage easements.

BUDGET IMPLICATIONS

The stormwater strategy to resolve issues in this catchment has been estimated to cost \$3,790,000. This solution can be staged over a number of financial years and hence implementation of the strategy will be subject to capital budget deliberations.

RISK ASSESSMENT

Stormwater crossing Dean Street may present a road safety issue for motorists using this Urban Arterial road route. Stormwater escaping Council's drainage systems and impacting of private properties may give rise to liability and insurance issues.

CORPORATE/OPERATIONAL PLAN

Consult on, advocate, plan, deliver and maintain the range of urban and rural public infrastructure appropriate to the region's needs, both present and future.

CONCLUSION

Stormwater investigations have been completed for a catchment area impacting on McLeod Park in Berserker. The investigations have identified the need for improvements to the existing drainage systems to mitigate flash flooding problems throughout the catchment. The proposed solution can be delivered in stages over a number of financial years as funds allow.

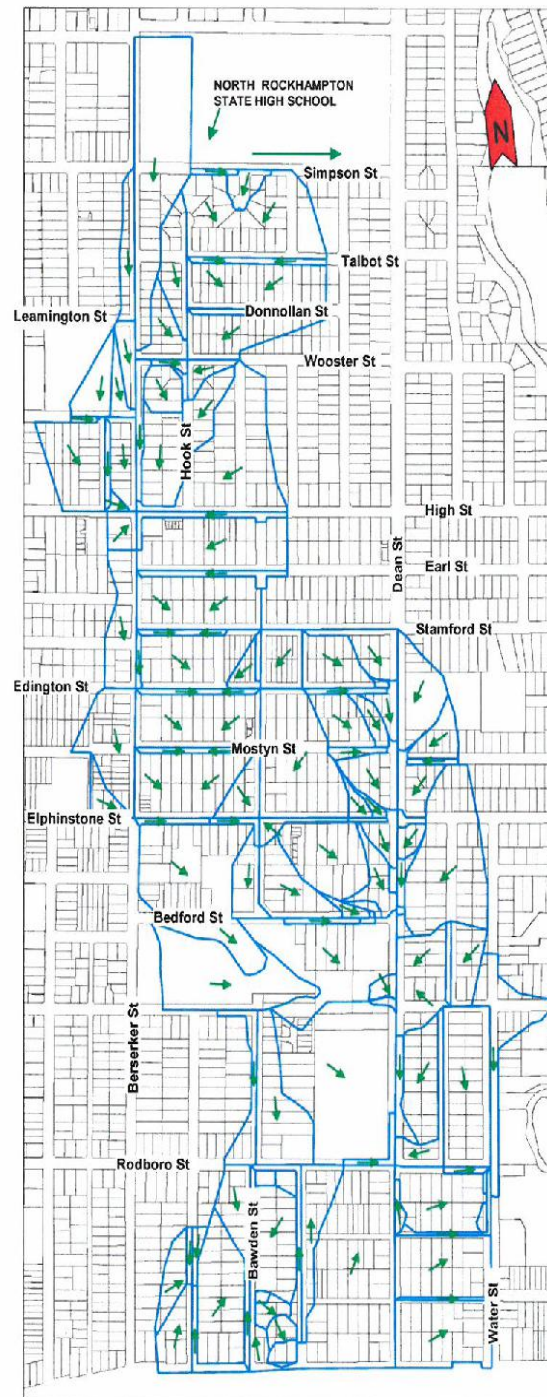
MCLEOD PARK STORMWATER CATCHMENT INVESTIGATION

McLeod Park Catchment Plan

Meeting Date: 5 February 2014

Attachment No: 1

Brock & Associates Pty Ltd

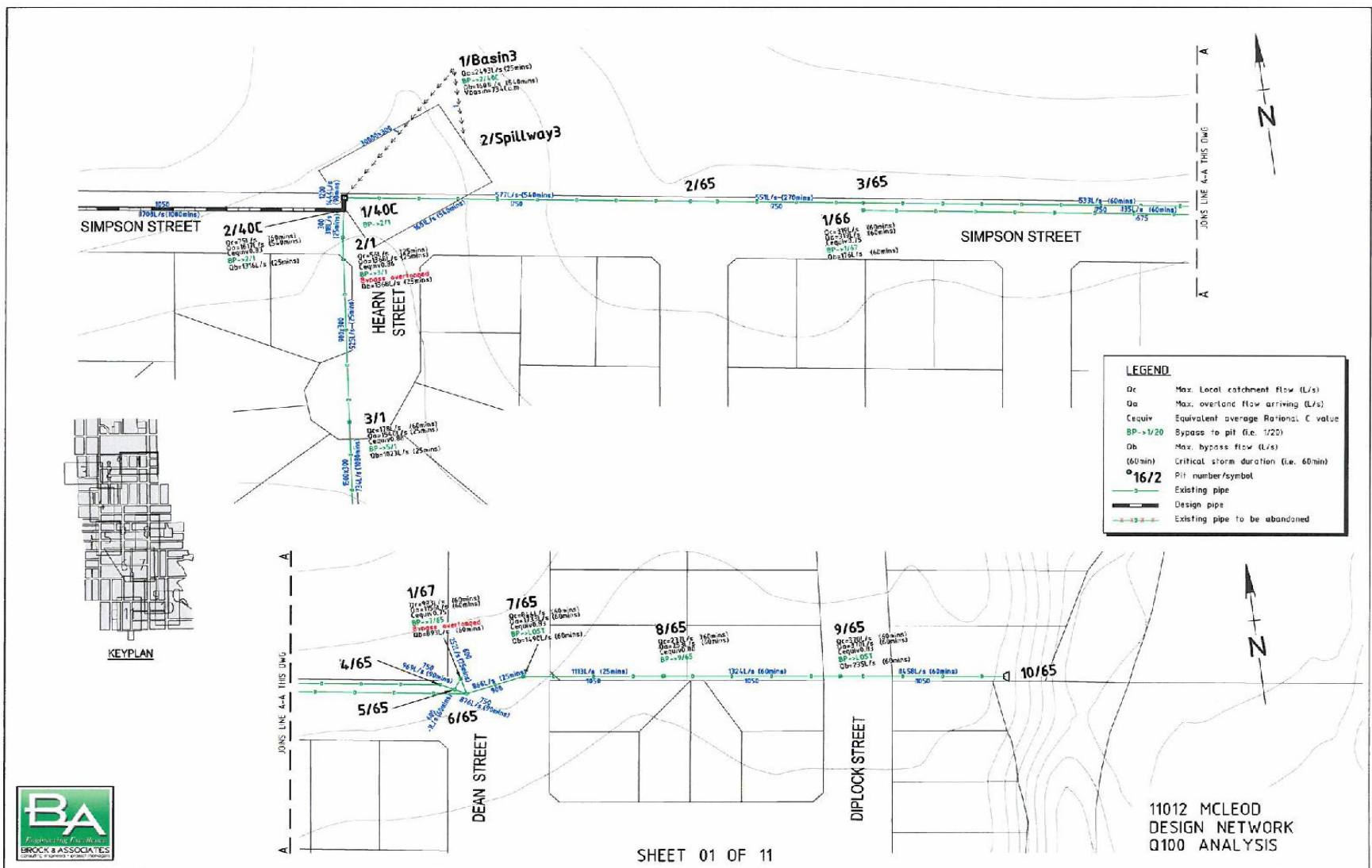
Figure 2.1 Catchment Plan

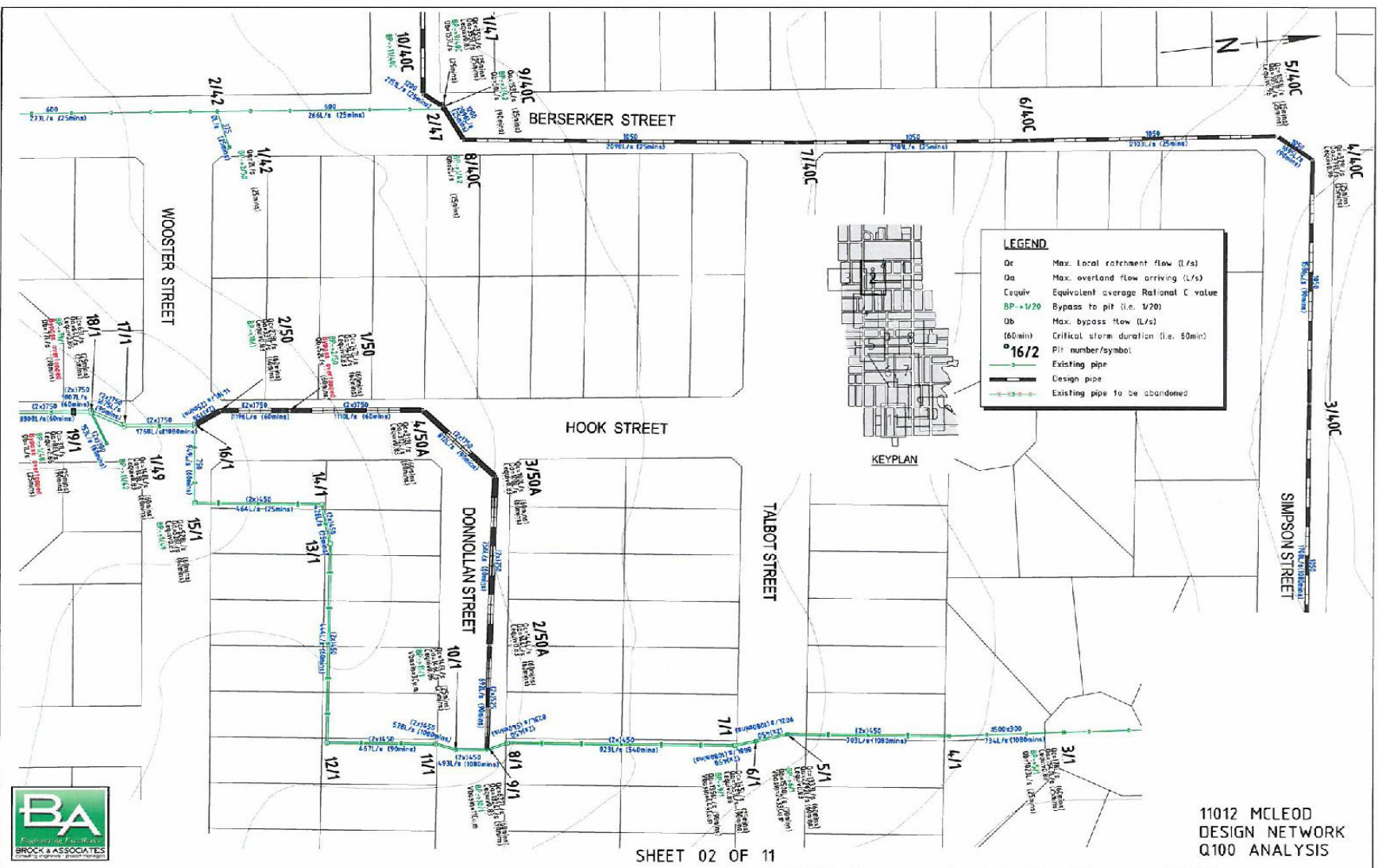
MCLEOD PARK STORMWATER CATCHMENT INVESTIGATION

Network Augmentation Plans

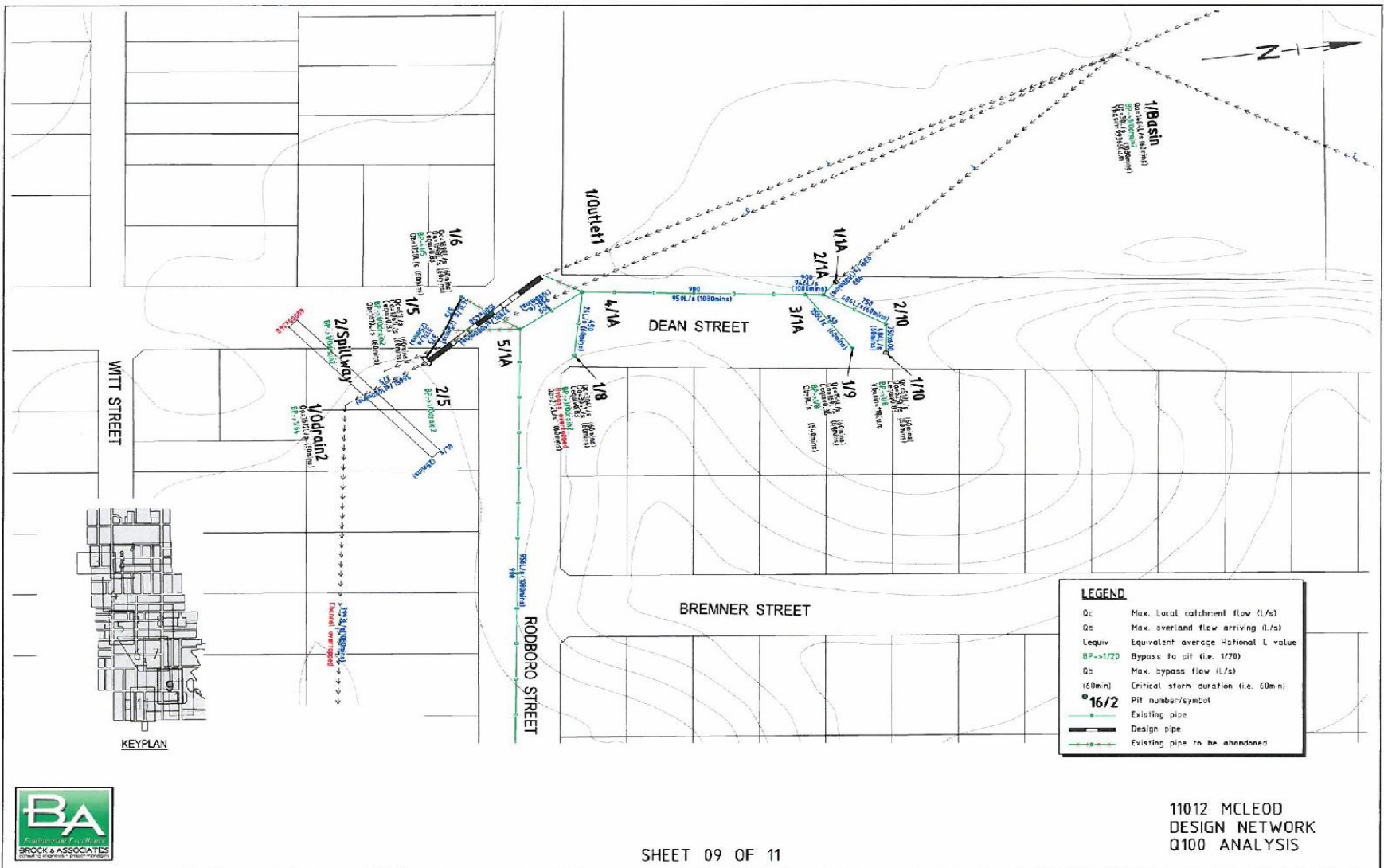
Meeting Date: 5 February 2014

Attachment No: 2









9 STRATEGIC REPORTS

Nil

10 NOTICES OF MOTION

Nil

11 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting

12 CLOSURE OF MEETING