

18 July 2014

OUR REF: 013

The Director General
NSW Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

ATTENTION: REBECCA SOMMER

Dear Rebecca,

**RE: MAJOR PROJECT 08_0014 – 63 LOT RESIDENTIAL SUBDIVISION, MORISSET PARK –
REQUEST TO AMEND CONDITION B9 ROAD DESIGN**

1. INTRODUCTION AND PROPOSED AMENDMENT

I refer to the above major project application (MP08_0014) (**Attachment 1**) which was approved by the Minister for Planning on 8th September 2009. The approval was for a 63 lot residential subdivision on land comprising Lot 9 DP 244002 and Lot 358 DP755242 at the corner of Morisset Park Road and Chifley Road Morisset Park (Proposed plan of subdivision at **Attachment 2**). At the time, the application was accompanied by a Traffic Review prepared by TPK and Associates Pty Ltd (refer **Attachment 3**).

Condition B9 1) of the approval relates to Road Design and is set out as follows:

1) The following shall be provided to service the subdivision:

- a. Kerb and gutter, stormwater drainage, full road width pavement including traffic facilities and paved footpaths shall be constructed along the full length of the new roads;*
- b. An AUR geometric intersection shall be constructed for Morisset Park Road and Chifley Road;*
- c. An AUR geometric intersection shall be constructed for Morisset Park Road and the New Access Road to the subdivision, including the provision of bus amenity;*
- d. The carriageway along Morisset Park Road shall be widened along the frontage of the site to 6.5 metres from the centreline of the existing road and be provided with kerb and guttering and associated drainage and footpaving; and*
- e. The carriageway along Chifley Road shall be widened along the frontage of the site to 4 metres from the centreline of the existing road and be provided with kerb and guttering and associated drainage and footpaving.*

The applicant wishes to amend b and c above from an AUR geometric intersection to a BAR (Basic Intersection Layout). In particular the following wording is proposed for b and c.

- b. A BAR intersection shall be constructed for Morisset Park Road and Chifley Road;*

- c. A BAR intersection shall be constructed for Morisset Park Road and the New Access Road to the subdivision, including the provision of bus amenity;

2. SUPPORTING INFORMATION

One of the key reference guidelines used by TPK and Associates in preparing the 2009 Traffic Review was Austroads Part 5 2005. Austroads Part 5 has now been superseded by Austroads Part 4A 2010.

Austroads Part 4A 2010, page 46 Figure 4.9 (extract attached at **Attachment 4**) shows guideline warrant graphs which are used to determine the appropriate type of intersection.

If the existing volumes shown in the 2009 TPK report and the expected impact of this development are taken into consideration, the implied intersection improvements for Morisset Park Road and the new access road remains at BAR based on the 2010 Austroads reference (i.e today's standards).

We acknowledge pursuant to Figure 4.9 the implied intersection improvements required for the Chifley Road intersection is CHRS. Notwithstanding this, TPK in their traffic analysis attributed the impact of the subject development on the Chifley intersection to be valued at 20% of the total intersection upgrade. Increase in right turns into Chifley Road as a result of the development will be minimal. Furthermore, TPK in their traffic analysis stated, *'of the total developments identified in reports referenced by TPK for this review the subject development represents around 1% of the total increase in traffic demand on the road network.'*

At full development of the peninsula area, the intersection requirement's implied by Austroads is CHR, which is substantive road works well in excess of current and near future requirements. However it would appear that based on recent developer activity in the peninsula area, changes in traffic flow between 2009 and 2014 have been minimal and the requirement for a CHR level of intersection is not currently warranted. However BAR road works are a progression toward a CHR level of intersection, hence a BAR intersection established now would contribute towards a CHR level of intersection in the future.

Of relevance about AUR's as stated under Austroads Part 4A Section 4.6 dot point 3 is, *"the AUR right turn treatment can be confused with an auxiliary lane for overtaking and should be only used in locations where the driver can appreciate the purpose of the lane. Situating such intersections near auxiliary lanes used for overtaking must be avoided."* Given the relatively close distance between the Morisset Park Road and the New Access Road and the Morisset Park Road and Chifley Road intersection an AUR at both intersections may be interpreted as an auxiliary lane for overtaking resulting in the potential for accidents.

Further, as part of the review of the area undertaken on Thursday 5th June 2014, it is noted that the 70km speed limit has been reduced to 50km around the Chifley Intersection. It would appear logical that the Department of Roads and Maritime Services (RMS) will extend the 50km speed limit along the frontage of the new urban development which is a further argument for a BAR level intersection being a suitable option.

We are of the opinion Morisset Park Road can accommodate a BAR in both locations being the Morisset Park Road and new access intersection and Morisset Park Road and Chifley Road intersection without major disruption to the existing road layout and environment. Furthermore, the BAR rural treatments are considered applicable as the frontage for these works are along the Lake Macquarie State Conservation area where the necessity for kerb and gutter will not arise.

It is relevant to note the Applicant does not dismiss the necessity to contribute to the road network ultimately required to manage additional traffic however it is submitted the construction of the intersections the subject of this S75W to a level which is well in excess of current and near future requirements should not be the stand alone accountability of this development. Furthermore it is

relevant to note TPK in their traffic analysis attributed the impact of the subject development on the Chifley intersection to be valued at 20% of the total intersection upgrade for a CHR intersection.

In light of the above we are of the opinion the requirement of intersection works to the level of a BAR would be both more equitable and appropriate for the subject intersections.

2.1 Response to Dope Request For Additional Information

In addition to the above and in response to the matters raised by Rebecca Sommer (Industry, Key Sites and Social Projects) of Department of Planning & Environment (DoPE) in an email dated 26 June 2014 we offer the following:

- ***Provision of detail of the specific differences between the AUR geometric intersection as presented in Austroads Part 5 2005 and the BAR as outlined in Austroads Part 4A 2010 to support the position that these intersections would deliver similar levels of service;***

As you are probably aware Austroads now have new standards being Austroads Part 4A 2010 these standards supersede Austroads Part 5 2005 which were the relevant provisions at the time this major project application (MP08_0014) was approved in September 2009. At this point no construction has occurred on site and we therefore now request the provisions of the new standards being Austroads Part 4A 2010 be applied to the two intersections in question. We do not consider it a matter of comparing the difference between an AUR geometric intersection as presented in Austroads Part 5 2005 and the BAR as outlined in Austroads Part 4A 2010 however we are requesting the new standards pursuant to Austroads Part 4A 2010 be applied as these are the standards which would be applied if the proposal were lodged today.

Notwithstanding the above we offer the following. The BAR provides overtake on near side capacity where right turn volumes are small; AUR was the next level up to cater for overtake on the near side as the volume of right turn increased.

It is my understanding road authorities tendered to opt for AUR as the minimum in 2009 unless there was a potential for significant volumes and CHR was required.

That AUR is the geometric layout that was required by Council when the original analysis was done (TPK 2009) but basically best practice NOW (Austroads Part 4A) gives BAR or CHR(S) or CHR as options today.

The CHR level is for larger right turn volume situations where the potential for almost constant “standing to turn right” on the through road warrants an exclusive right turn bay. Currently there is around 4 vehicles per hour (peaks) turning right into Chifley from Morisset Park Road – clearly BAR on Figure 4.9 Part 4A (**refer to attachment 4**).

The subject development is minor in comparison to the overall peninsular developments considered in the project analysis (2009) and will increase Chifley right turn in by no more than 1vph and the New Access intersection will generate no more than 1vph right turn in – again BAR is indicated on Figure 4.9 Part 4A.

Recent review of the site by the project team disclosed that conditions in terms of traffic growth from the 2009 analysis, has hardly changed.

Therefore in light of the above and pursuant to the new standards being Austroads Part 4A 2010 the capacity needs for provision of overtake right turn vehicles at both intersections will be satisfied by BAR long term at the new access and for the foreseeable future at Chifley Road.

Development contributions by other larger peninsular developments would allow Council to monitor the Chifley road intersection in terms of timing to upgrade to CHR(S) or CHR if or when required. It is relevant to note when the original analysis was done (TPK 2009) TPK advised “*it is logical to consider that the subject development had 20% accountability for any upgrade of the Morisset Park & Chifley Road intersections*”. Given the absence of new development in the peninsular area since the time of

the original analysis we are of the opinion a BAR pursuant to today's relevant standards being Austroads Part 4A 2010 will suffice for the Morisset Park & Chifley Road intersection at this stage. Should development increase in the future a BAR would not be futile as this could be extended to a CHR if and when required.

- ***Section 11a and b of the TPK report should be acknowledged in regards to the point above and detail should be presented as to how the proposed modified intersection will provide adequate capacity;***

As detailed above this S75W is requesting the subject intersections be developed in accordance with the relevant standards of today being Austroads Part 4A 2010 as no construction has commenced at this stage. Therefore we are of the opinion, if the proposed BAR meets current standards of Austroads it is logical to assume capacity is met.

Applying current Austroads Part 4A 2010 standards and if current Austroad standards are safe then the proposed BAR for the Chifley Road Morisset Park and the New access intersection is appropriate. If nothing happens in the peninsular in the future then the BAR will be adequate.

Notwithstanding this, we can build a BAR – this road widening will be part of the bigger road widening as the peninsular is developed – then a CHR can be built should this be required however it is not up to the developer to pay for this level of intersection upgrade at this stage particularly given they are only accountable for 20% of the upgrade and furthermore at this stage the level of development and minor impact of the subject development on the intersection does not warrant a CHR pursuant to Austroads Part 4A 2010 at this stage.

We believe capacity and safety are implied if you meet Austroad standards which we do.

- ***If safety is to be presented as a justification, this should be presented in further detail;***

Again if it meets Austroads standards then we believe safety is implied.

- ***The assumptions made regarding the speed limit alteration at the front of the proposed development should be confirmed with Roads and Maritime Services;***

The Roads & Maritime Services (RMS) are the approval authority for speed limits in NSW. Typically RMS is approached by the Developer (via The Project Manager) for agreement in principle to the speed limit as part of preparation of detailed design (construction standard) plans. We believe it is unproductive approaching RMS until development conditions are resolved.

RMS is also approached for "Roadworks Speed Limits" if required just prior to starting construction. Upon completion of the project RMS then review the speed limit on the adjoining road network taking into account the change in road environment.

Experience has disclosed that RMS are reluctant to "approve in principle" reduced speed limits in advance of approved DA conditions and start of project design.

Notwithstanding that fact this project will increase the intensity of urban development and given the present 50/70 change of speed limit is on the site frontage (see photo's below) it is logical to anticipate RMS will approve the extension of the 50kph speed limit to cover the extension of urban development this project will provide.

The new estate intersection is in a 50kph speed limit already; were the current change of speed limit, surprisingly retained, by RMS the only impact is on the transition lengths of the road design layout at the Chifley Rd intersection; the designs are approved by authorities prior to commencing construction so the matter is resolved at design stage.

The project teams experience with other projects has, in our opinion, concluded it is pointless to try to get RMS approval to the extension of the speed limit at this stage of the project.

Should you insist on this point proceeding further then Mr Ken Saxby at RMS Newcastle would be approached and advice of the outcome of discussion forwarded to you.



Photo 1: View east towards Morisset Park and Chifley Road Intersection



Photo 2: View west towards Morisset Park Road and New Access Intersection

- ***As the intersection treatment was raised in the submission from Council, it is recommended that outcomes of the consultation with Council on the modification be provided with the lodgement of the application.***

Lake Macquarie City council's Traffic and Transport Engineer, Mr Marc Desmond has advised verbally and via an email dated 17 July 2014 (**refer to Attachment 5**), "that following development of the subdivision that the proposed intersection configuration as a BAR is appropriate"

3. SUPPORTING DOCUMENTATION

The following documents are provided in support of the proposed modifications:

- Project Approval 08_0014 **Attachment 1**;
- Amended Proposed Plan of Subdivision in accordance with Condition B1 Design Modifications of Major Projects Application 08_0014 dated 8 September 2009 **Attachment 2**;
- Traffic Review prepared by TPK and Associates Pty Ltd dated April 2009 – **Attachment 3**;
- Austroads Part 4A 2010 Figure 4.9 Warrants for turn treatments on the major road at unsignalised intersections – **Attachment 4**;
- Council Correspondence dated 17 July 2014 – **Attachment 5**;

4. APPLICATION PROCEDURE

This proposal is prepared in support of the online Request to Modify a Major Project lodged via the Department of Planning and Infrastructure website. Details regarding the applicant, site and proposed modifications are provided in the online application form.

5. CONCLUSION

This Section 75W application seeks to change the existing approved Road Design requirements pursuant to Condition B9 (b) and (c) for Morisset Park Road, Morisset Park as detailed above. The proposed BAR road works will provide a safe intersection treatment at both the new access road and Chifley Road whilst enabling the progression towards a CHR level of intersection should the need arise in the future.

The proposed amendment will be in accordance with Austroads Part 4A 2010 which supersedes Austroads Part 5 2005 and therefore we feel appropriate to the proposed development considering no construction has commenced at this stage.

It is anticipated that the minor changes proposed will have minimal environmental impact on the surrounding locality. On this basis, it is respectfully requested that the Department of Planning and Infrastructure approved the modifications in the manner requested.

Should you require any further details please contact me.

Yours sincerely

de Witt Consulting



Fiona Wade
Senior Town Planner



ATTACHMENTS



ATTACHMENT 1

Project Approval 08_0014



11 September 2009

NSW GOVERNMENT

Department of Planning

RECEIVED
16 SEP 2009

BY:

Contact: Stuart Withington

Phone: (02) 9228 6546

Fax: (02) 9228 6540

Our Ref: 08_0014

Mr David Humphris
De Witt Consulting
PO Box 850
CHARLESTOWN NSW 2290

Dear Mr Humphris

RE: Major Project Application 08_0014 – 63 Lot Residential Subdivision, Morisset Park

I refer to the above Major Project application lodged with the Department for the above project.

I am writing to inform you that the application has been approved by the Minister for Planning, subject to conditions.

The approval is on the basis of the attached Project approval.

A copy of the endorsed plans in accordance with the approval is also attached for your information.

The Director-General's Environmental Assessment Report is available on the Department's website, under "Notices of Determination" in the "Major Project Assessments" section (www.planning.nsw.gov.au).

Please note the Project Approval operates from the date of this letter.

Yours faithfully

Alan Bright
A/Director
Coastal Assessments

Project Approval

Section 15J of the Environmental Planning and Assessment Act 1979

I, as delegate for the Minister for Planning, approve the project referred to in Schedule 1, subject to the conditions of approval in the attached Schedule 2 and the Statement of Commitments in Schedule 3.

These conditions are required to:

- Adequately mitigate the environmental impact of the development;
- Protect environmentally significant land;
- Maintain the amenity of the local area; and
- Encourage good subdivision design

SHaddad

Sam Haddad
Director-General

Sydney, 8th September 2009

SCHEDULE 1

PART A—TABLE

Application made by:	Postfox Pty Ltd.
Application made to:	Minister for Planning
Project Application Number:	08_0014
On land comprising:	Lot 9 DP 244002 and Lot 358 DP 755242 Corner of Morisset Park Road and Chifley Road, Morisset Park.
Local Government Area	Lake Macquarie City Council
For the carrying out of:	63 lot residential subdivision
Type of development:	Project Application
Determination made on:	
Date approval is liable to lapse:	5 years from the date of determination

PART B—NOTES RELATING TO THE DETERMINATION OF MP NO. 08_0014

Responsibility for other consents / agreements

The Proponent is solely responsible for ensuring that all additional consents and agreements are obtained from other authorities, as relevant.

Appeals

The Proponent has the right to appeal to the Land and Environment Court in the manner set out in the *Environmental Planning and Assessment Act 1979* and the *Environmental Planning and Assessment Regulation 2000*.

Appeals—Third Party

A third party right to appeal to this approval in the manner set out in the *Environmental Planning and Assessment Act 1979* and the *Environmental Planning and Assessment Regulation 2000*.

Legal notices

Any advice or notice to the approval authority shall be served on the Director-General.

PART C—DEFINITIONS

In this approval,

Act means the *Environmental Planning and Assessment Act 1979*.

Advisory Notes means advisory information relating to the approved development but do not form a part of this approval.

BCA means Building Code of Australia

Construction Certificate means a construction certificate for bulk earthworks or civil works unless specified otherwise.

Council means Lake Macquarie City Council

CPI means Consumer Price Index.

Department means the Department of Planning or its successors.

Director-General means the Director-General of the Department.

Environmental Assessment means the Environmental Assessment prepared by de Witt Consulting and dated November 2008, including all Appendices.

Minister means the Minister for Planning.

Project means the project as described in Condition A1 to this approval.

PCA means a Principal Certifying Authority and has the same meaning as Part 4A of the Act.

Proponent means Postfox Pty Ltd. or any party acting upon this approval.

Regulation means the *Environmental Planning and Assessment Regulation 2000*.

Response to Submissions means the Response to Submissions prepared by de Witt Consulting dated 4 May 2009 and additional information dated 14 July 2009.

Subject Site has the same meaning as the land identified in Part A of this schedule.

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SCHEDULE 2

RECOMMENDED CONDITIONS OF APPROVAL

MAJOR PROJECT NO. 08_0014

PART A—ADMINISTRATIVE CONDITIONS

A1 Project Description

Project approval is granted only to carrying out the project described in detail below:

62 residential lot and 1 drainage lot subdivision, asset protection zones, roads, footpaths, tree and vegetation removal, stormwater drainage infrastructure, intersection upgrades, construction of bus shelters, landscaping and vegetation retention and management

A2 Project in Accordance with Plans

The project will be undertaken in accordance with the Environmental Assessment, the Preferred Project Report and the following drawings:

Plan of subdivision prepared by de Witt Consulting at Appendix 3 of the Response to Submissions 4 May 2009			
Drawing No.	Revision	Name of Plan	Date
013-SUBDIV-30.04.09 Plan No.1	H	Proposed Plan of Subdivision Lot 9 DP244002 & Lot 358 DP 755242	30.04.09
Landscape Drawings prepared by Terras at Appendix 14 of the Environmental Assessment			
Drawing No.	Revision	Name of Plan	Date
L01	D	Landscape Plan- Morisset Park subdivision	05.05.08
L02	D	Entry Feature	05.05.08
L03	D	Details- Morisset Park subdivision	05.05.08
Survey Drawings prepared by Northrop for additional information to the Response to Submissions 14 July 2009			
Drawing No.	Revision	Name of Plan	Date
C02 DA	D	Concept Stormwater Management Plan	07.07.09
C03 DA	D	Details sheet	07.07.09

except for:

- (1) any modifications which are 'Exempt and Complying Development' as identified in *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* or as may be necessary for the purpose of compliance with the BCA and any Australian Standards incorporated in the BCA;
- (2) otherwise provided by the conditions of this approval.

A3 *Project in Accordance with Documents*

The project will be undertaken in accordance with the following documents:

- (1) *Environmental Assessment Report* prepared by de Witt Consulting on behalf of Postfox Pty Ltd dated November 2008;
- (2) *Response to Submissions* prepared by de Witt Consulting on behalf of Postfox Pty Ltd dated 4 May 2009; and
- (3) Additional Information prepared by de Witt Consulting on behalf of Postfox Pty Ltd dated 14 July 2009.

A4 *Inconsistency between documents*

In the event of any inconsistency between conditions of this approval, the proponent's Statement of Commitments and the drawings/documents referred to above, the conditions of this approval prevail.

A5 *Building Code of Australia*

All work must be carried out in accordance with the requirements of the *Building Code of Australia*.

PART B—PRIOR TO ISSUE OF CONSTRUCTION CERTIFICATE

Design Details and Changes

B1 *Design Modifications*

In order to ensure appropriate management of the asset protection zone benefitting Lot 4, the configuration of Lot 4 is to be extended by 10 metres in a westerly direction, so the footprint of the required outer protection zone is contained within Lot 4, increasing the lot size to 1120m² and decreasing the lot size of Lot 3 to 9260m².

A plan depicting these modifications shall be submitted to and approved by the Director prior to the issue of a Construction Certificate.

Remediation / Demolition / Earthworks

B2 *Remediation of Land*

Prior to the issue of a Construction Certificate the Proponent shall submit to the PCA a Phase 2 Contamination Assessment Report and, if required, a Remedial Action Plan and a Hazardous Materials Survey. The Remedial Action Plan must be accompanied by a statement from a site auditor accredited by the Environmental Protection Agency to issue site audit statements.

Construction Management

B3 *Construction Management Plan*

Prior to the issue of a Construction Certificate a Construction Management Plan shall be submitted to and approved by the PCA. A copy of the approved plan shall be submitted to Council. The Plan shall address, but not be limited to, the following matters where relevant:

- (1) hours of work;
- (2) contact details of site manager;
- (3) traffic and pedestrian management;

- (4) noise and vibration management;
- (5) construction waste management;
- (6) tree protection measures;
- (7) erosion and sediment control; and,
- (8) flora and fauna management.

B4 *Erosion and Sedimentation Control*

Soil erosion and sediment control measures shall be designed in accordance with the document *Managing Urban Stormwater–Soils & Construction Volume 1 (2004)* by Landcom. Details are to be submitted to the satisfaction of the PCA prior to the issue of the Construction Certificate.

B5 *Traffic & Pedestrian Management Plan*

Prior to the issue of the Construction Certificate a Traffic and Pedestrian Management Plan in accordance with AS1742 and RTA publication 'Traffic Control at Works Sites' Version 2 shall be prepared by an RTA accredited person, and shall be submitted to and approved by the PCA. Safe public access shall be provided at all times. The Plan shall address, but not be limited to, the following matters:

- (1) ingress and egress of vehicles to the site,
- (2) loading and unloading, including construction zones,
- (3) predicted traffic volumes, types and routes, and
- (4) pedestrian and traffic management methods.

The Proponent shall submit a copy of the approved plan to Council.

B6 *Stormwater Management and Drainage Works Design*

The development shall not increase the peak stormwater discharge or limits of upstream and downstream flooding for floods over the range of 1:1 years to 1:100 years. Plans and calculations for stormwater controls to achieve this standard shall be submitted prior to the issue of a Construction Certificate and the works shall be completed as part of the initial construction work in the first stage of the development. Designs shall incorporate maintenance access roads and fencing in accordance with Council's standard requirements.

Final design plans of the stormwater drainage systems within the proposed subdivision and adjoining road reserves of Morisset Park Road and Chifley Road, prepared by a suitably qualified person and in accordance with the requirements of Council shall be submitted to and approved by the Certifying Authority prior to issue of a Construction Certificate. The hydrology and hydraulic calculations shall be based on models described in the current edition of *Australian Rainfall and Runoff*.

(1) Gross Pollutant Trap

The design and construction of a Gross Pollutant Trap and Trash Rack shall be in accordance with the requirements of DCP 1 (Volume 2 – Engineering Guidelines Part 3). Provision shall be made for maintenance access roads and maintenance vehicle parking.

Satisfactory plans and calculations for such Gross Pollutant Trap and Trash Rack shall be submitted prior to the issue of a Construction Certificate.

A "Maintenance Plan" is to be included with the Construction Certificate documentation, in accordance with Council's "Stormwater Treatment Framework & Stormwater Quality Improvement Device Guidelines".

(2) Water Quality Control Facilities

A permanent Stormwater Quality Facilities shall be designed and constructed generally in accordance with the design and plans prepared by Northrop Consulting Engineers.

Plans and calculations for such Stormwater Quality Control Facilities shall be submitted for approval prior to the issue of a Construction Certificate. The plan shall also include details of the extent and location of fencing (Council shall be contacted for a copy of the standard detail of the fencing. NB this standard detail may be updated from time to time), provide details of maintenance access and details of landscaping and species for the facility and their surrounds.

A "Maintenance Plan" is to be included with the Construction Certificate documentation, in accordance with Council's "Stormwater Treatment Framework & Stormwater Quality Improvement Device Guidelines".

B7 Interallotment Drainage (Engineering Plans)

Prior to the issue of a Construction Certificate engineering plans for the development are to be provided that identify any lots that do not drain directly to Council's stormwater drainage systems. For these lots the Registered Proprietor of the land shall arrange for the provision of interallotment drainage pipelines and associated easements to drain water 2 metres wide favouring the allotments served. All stormwater shall be disposed of to either an existing formed Council drainage system or a natural watercourse. Where applicable, the Proponent shall obtain for lodgement with Council written authority from affected owners agreeing to the discharge of stormwater across their properties.

B8 Provision of Council Easements

The Proponent shall arrange for the creation of easements to drain water from the site across adjacent properties where necessary, (minimum 3 metres wide or the width of the 100 year flow path, whichever is greater), in favour of Council.

Prior to the release of a Construction Certificate for civil and drainage works on the development site written evidence shall be provided to the Council that appropriate easements for drainage have been created in order to legally drain the public roads and lots to be created within the development to the Council street drainage system outside of the development.

B9 Road Design

- 1) The following shall be provided to service the subdivision:
 - a. Kerb and gutter, stormwater drainage, full road width pavement including traffic facilities and paved footpaths shall be constructed along the full length of the new roads.
 - b. An AUR geometric intersection shall be constructed for Morisset Park Road and Chifley Road;
 - c. An AUR geometric intersection shall be constructed for Morisset Park Road and the New Access Road to the subdivision, including the provision of bus amenity;
 - d. The carriageway along Morisset Park Road shall be widened along the frontage of the site to 6.5 metres from the centreline of the existing road and be provided with kerb and guttering and associated drainage and footpaving; and
 - e. The carriageway along Chifley Road shall be widened along the frontage of the site to 4 metres from the centreline of the existing road and be provided with kerb and guttering and associated drainage and footpaving.

- 2) Roadways and Drainage Works Standards

- a. The Applicant shall arrange for all relevant works to be designed and constructed in accordance with the following publications (as amended or updated), as applicable:-
 - i. Australian Rainfall and Runoff, 1987.
 - ii. AUSTROADS Guide To Traffic Engineering Practice.
 - iii. LMCC DCP 1 (Volumes 1 and 2) and supporting guidelines.
 - iv. Roads and Traffic Authority Road Design Guide.
 - v. Roads and Traffic Authority Interim Guide To Signs and Markings.
 - vi. Managing Urban Stormwater documents (2004).by Landcom.
 - vii. The Constructed Wetlands Manual - Department of Land and Water Conservation, 1998.
 - viii. LMCC Subdivision Code
 - b. Where any inconsistency exists between these documents the Applicant shall verify in writing with Council, the relevant standard to be adopted.
- 3) Pavement Standards
- Residential road pavements shall be designed in accordance with "A Guide To The Design Of New Pavements For Light Traffic" - AUSTROADS 1998. Main and Industrial road pavements are to be designed in accordance with "Pavement Design, A Guide to the Structural Design of Road Pavements" - AUSTROADS 1992. Designs for road pavements shall be submitted to and approved by the PCA prior to road pavements being constructed. Where work is to be undertaken within a classified Main Road the pavement design shall also be submitted to the Roads and Traffic Authority for approval prior to the commencement of works.
- 4) Intersection Design
- The pavement design for the intersection shall include a geotechnical investigation to assess the capability of the existing pavement to accommodate any new turning movements. Any costs associated with rehabilitation and sealing of the existing pavement to meet the road design ESA's shall be borne by the developer. The design speed for the intersection shall be established prior to design. The general configuration for the lanes shall be a travelling lane, a cyclesafe lane/shoulder and a footpath area
- 5) Details Required Prior to Commencement
- a. Prior to the issue of a construction certificate:
 - i. detailed engineering plans and specifications (including a Design Certification Report and Checklists in accordance with the Lake Macquarie City Council Engineering Guidelines) relating to the work will require approval by the PCA. Note that for all works on existing public roads an application for a construction certificate can only be made to Lake Macquarie City Council (in accordance with Council's authority under the Roads Act).

B10 Compliance-Geotechnical Report

The Applicant shall comply with the recommendations of the Geotechnical Report by Coffey Geosciences in relation to slope stability and contamination matters. Any works proposed to be undertaken in relation to the application shall embody all the relevant recommendations of the Geotechnical Consultants.

All engineering plans shall be endorsed by and carry the original signatures of the Geotechnical Consultants (ie not photocopies). The endorsement shall state that the proposed works are in accordance with the recommendations of the Geotechnical Report, prior to the issue of a Construction Certificate.

Landscaping

B11 Landscape Plan

In order to ensure environmental sustainability, a revised landscape plan, based on the Landscape Plans prepared by Terras, incorporating the following:

- (1) The use of locally endemic native species in all landscaping undertaken for the subdivision construction; and
- (2) Any street trees to be planted shall be at least of a 75 – 100 litre pot size in accordance with Council's standard detail (or approved variation).

Details shall be submitted to and approved by the Council prior to the issue of any Construction Certificate.

B12 Vegetation Management-Lot 3

- 1) Vegetation within Lot 3, outside the Asset Protection Zone (APZ), is to be managed in perpetuity for the purpose of conservation of native vegetation and threatened species habitat. The vegetation is to be managed in accordance with a Vegetation Management Plan. The Vegetation Management Plan is to be approved by the Director prior to the construction certificate being issued. This Plan is to detail:
 - a. Measures to control feral and domestic animals;
 - b. Measures to control weeds;
 - c. Fire management measures and an ecological fire regime;
 - d. Specifications of fencing to ensure that vehicles, including trail bikes, are prevented from entering the vegetated area of Lot 3 outside the APZ;
 - e. Specifications for ongoing protection of the reserve from impacts associated with adjacent residential areas;
 - f. Ratio of nest boxes provided within Lot 3 in comparison to hollows removed from the subdivision site;
 - g. Nest box location and management;
 - h. Details of long-term monitoring and implementation;
 - i. Mapping and photographs of vegetation condition/weed cover as a baseline from which site rehabilitation/management can be measured;
 - j. Educational/Regulatory style signage; and
 - k. Gantt chart or similar clearly outlining the activity, costing and timing of vegetation management actions.
- 2) Stormwater drainage is not to be directed into the vegetation outside of the Inner Protection Area of the APZ.
- 3) Domestic animals are to be prohibited from the entering the bushland outside the APZ of Lot 3.
- 4) The northern limit of the Asset Protection Zone is to be surveyed and delineated by a registered surveyor, in accordance with the Plan of subdivision prepared by de Witt Consulting, dated 30.04.09. The boundary is to be delineated with a fence or capped 50mm diameter round galvanised pipes concreted into the ground at 5m intervals.
- 5) The Vegetation Management Plan is to be prepared by an appropriately qualified and experienced person with minimum qualifications of TAFE Certificate III in Bush Regeneration or Conservation and Land Management - Natural Area Restoration and 4 years bush regeneration experience.

- 6) A monitoring report is to be submitted to the Department annually (1 July) detailing the works undertaken in order to comply with the recommendations of the Vegetation Management Plan.

B13 Tree Removal Plan

A Tree Removal Plan is to be produced detailing each tree required to be removed either because it is dangerous or for the creation of the Roads, Footpaths, Drainage Works, Building Envelopes and Asset Protection Zones for each lot.

The Plan is to be produced by a suitably qualified arborist and shall ensure:

- 1) each tree is identified by a number, its species, its health and whether it is to be retained or removed;
- 2) retention of all trees not required to be removed either because they are dangerous or to fulfil Asset Protection Zone requirements or to accommodate building envelopes and driveways or for the provision of services; and
- 3) retention of all trees within public and road reserves, except where required to be removed for because they are dangerous or for the provision of services and construction of roads.

The Plan is to detail:

- 1) Existing site conditions (contours, vegetation, drainage etc.);
- 2) All existing and proposed infrastructure including underground services;
- 3) Approximate location and description of structures and vegetation on adjacent property;
- 4) Vegetation to be retained;
- 5) Trees identified as dangerous that require removal;
- 6) The proposed tree removal method including inspection of hollows by a suitably qualified person prior to felling;
- 7) Appropriate design and installation of nest boxes within trees on Lot 3 at a rate of 3 to one for each hollow-bearing tree required to be removed from the site. Details should be provided of methods to be used to permanently attach nest boxes at an appropriate height to suitable trees within Lot 3;
- 8) Safeguards for the protection of fauna both prior to, during and following the works, including the presence of a suitably qualified person during the entire felling operation to ensure that proper management of any affected fauna, in accordance with DECC Translocation Guidelines, can be effectively managed; and
- 9) The means of protecting trees and vegetation nominated for retention during construction of all works. All areas that are to be left undisturbed are to be cordoned off from areas of construction works.

The Tree Removal Plan is to be submitted to Council for approval prior to the issue of the Construction Certificate.

B14 Weed Control Plan

Prior to the issue of the Construction Certificate a Weed Control Plan for the entire site is to be produced by an appropriately qualified person and approved by Council. The Weed Control Plan shall detail weed management to be undertaken by the proponent across the site until 80% of all lots have been sold.

B15 Provision of Bus Bays and Bus Shelters

The developer is to provide two bus shelters. Bus shelters are required on either side of Morisset Park Road, within the road reserve, in close proximity to the site. The design and location of the bus shelters are to be to Council's satisfaction.

B16 Submit Road Names For Approval

Proposed new road names shall be submitted to Council and approved prior to the issue of a Construction Certificate.

Council cannot release the Subdivision Certificate unless the proposed public roads have been named in accordance with clause 162 of the Roads Act 1993. The Roads Act requires that the Geographical Names Board be given at least one month's notice of the proposed name(s).

PART C—PRIOR TO COMMENCEMENT OF WORKS

Notification Requirements

C1 Notice to be Given Prior to Commencement / Excavation

- 1) The Principal Certifying Authority and Council shall be given written notice, at least 48 hours prior to the commencement of excavation, shoring or underpinning works on the site for each stage of the project.
- 2) The Principal Certifying Authority is to be given a minimum of 48 hours notice prior to any critical stage inspection or any other inspection nominated by the Principal Certifying Authority via the notice under Section 81A of the *Environmental Planning and Assessment Act 1979*.

C2 Haulage Routes

The Proponent shall submit to Council, in writing, details of the proposed haulage routes to be used during construction works. These details must be submitted a minimum of seven days before the commencement of haulage operations. No haulage operations shall take place prior to the approval of the routes by Council. The haulage routes shall not be varied without the approval of Council.

The Proponent shall maintain and restore the haulage route roads, as near as possible, to their original condition.

Demolition Works

C3 Statement of Compliance with Australian Standards

The demolition work shall comply with the provisions of Australian Standard AS2601: 2001 *The Demolition of Structures*. The work plans required by AS2601: 2001 shall be accompanied by a written statement from a suitably qualified person that the proposals contained in the work plan comply with the safety requirements of the Standard. The work plans and the statement of compliance shall be submitted to the satisfaction of the PCA prior to the commencement of works.

Hazardous Materials

C4 Removal of Hazardous Materials

All hazardous materials shall be removed from the site and shall be disposed of at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of any building

works. Details demonstrating compliance with the relevant legislative requirements, particularly the method of containment and control of emission of fibres to the air, are to be submitted to the satisfaction of the PCA prior to the removal of any hazardous materials.

C5 *Site Audit*

Prior to the commencement of subdivision construction works, a Site Audit conducted by a suitably qualified person shall be undertaken to ascertain that all identified hazardous materials have been removed from the site and shall be submitted to the PCA.

Structural Works

C6 *Structural Details*

Prior to the commencement of construction at each stage of the project, the Proponent shall submit to the satisfaction of the Principal Certifying Authority structural drawings prepared and signed by a suitably qualified practising Structural Engineer that comply with:

- (1) the relevant clauses of the BCA,
- (2) the relevant project approval,
- (3) drawings and specifications comprising the Construction Certificate, and
- (4) the relevant Australian Standards listed in the BCA (Specification A1.3).

C7 *Retaining Walls*

Prior to commencement of works for any stage of the project a certificate of adequacy of design, signed by a practising Structural Engineer on all proposed retaining walls in excess of 1.2m in height, must be provided to the Principal Certifying Authority. The certificate must also address any loads or possible loads on the wall from structures adjacent to the wall and must be supported by a geotechnical assessment of the founding material.

Pollution Control

C8 *Erosion and Sediment Control*

Prior to commencement of work on the site for each stage of the project, all erosion and sedimentation control measures are to be installed and operational including the provision of a "shake down" area where required to the satisfaction of the Principal Certifying Authority.

Council's standard Erosion Control Sign as detailed in Standard Drawing No. 3403/1 shall be erected in a prominent location near the entrance to the development prior to the commencement of earthworks.

Services

C9 *Existing Services*

The Proponent shall accurately locate and identify any existing sewer main, stormwater line, watermain or other underground infrastructure within or adjacent to the site and the Principal Certifying Authority advised of its location and depth prior to commencing works for each stage of the subdivision and ensure there shall be no conflict between the proposed development and existing infrastructure prior to start of any works.

The water main that runs along the Morisset Park Road frontage shall be relocated into an appropriate location below the footpath to be constructed in this location.

Contact Details

C10 Contact Telephone Number

Prior to the commencement of the works for each stage of the project, the Proponent shall forward to the Department and Council a 24 hour telephone number to be operated for the duration of the construction works.

PART D—DURING CONSTRUCTION

Construction Management

D1 Approved Plans to be On-site

A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification shall be kept on the site at all times and shall be readily available for perusal by any officer of the Department, Council or the PCA.

D2 Site Notice

A site notice(s) shall be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to:

- 1) Details of the Builder, Principal Certifying Authority and Structural Engineer for all stages of the project;
- 2) The approved hours of work;
- 3) the name of the site/project manager, the responsible managing company (if any), its address and 24 hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and
- 4) To state that unauthorised entry to the site is not permitted.

D3 Notification to Neighbours

Written notification shall be given by the Applicant to landowners and residents who live adjacent to the proposed development or who may be affected by the proposed works. The notification should include the expected date of commencement of works and a brief description of the works.

D4 Traffic Control Standards

For the duration of work being carried out as part of this development, the Applicant shall ensure that traffic control is undertaken in accordance with the requirements of Australian Standards AS 1742 - Manual Uniform Traffic Control Services – Parts 1, 2 and 3.

Provision of Utility Services

D5 Service of Public Utilities

The Applicant shall service all lots in the subdivision with water, sewer, underground electricity and underground telephone facilities to the requirements of and by arrangements with the relevant supply authorities and company. The applicant shall liaise with AGL in relation to the future reticulation of gas in the subdivision.

D6 Installation of Service Pipes

The Applicant shall ensure that all public utility service pipes, mains and conduits are laid and/or installed in all new roads and existing roads, where work is required in existing roads, as part of the construction and drainage works associated with the Subdivision.

The Applicant shall also install conduits to cater for the installation of natural gas services to each proposed lot in conjunction with road and drainage works.

D7 *Linemarking and Signposting*

All regulatory linemarking and sign posting on Public roads shall be submitted to Council's Traffic Facilities & Road Safety Committee. The works shall not commence until approved by the Committee.

Bushfire Protection

D8 *Bushfire Protection Requirements*

- 1) At the commencement of building works and in perpetuity, asset protection zones (APZ) shall be provided in accordance with the recommendations contained within the Bushfire Threat Assessment prepared by Harper Somers O'Sullivan, ref.24818, dated November 2008 (in particular Figure 4.1 APZ's Option 2). Inner and Outer Protection Areas shall be managed as outlined in section 4.1.3 and Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's document *Standards for asset protection zones*;
- 2) Public road access and water, electricity and gas are to comply with section 4.1.3 of *Planning for Bush Fire Protection 2006*;
- 3) Landscaping is to be in accordance with Appendix 5 of *Planning for Bush Fire Protection 2006*.

D9 *Protection of Trees – Street Trees*

All street trees and native vegetation shall be protected at all times during construction. Any tree on the footpath, which is damaged or removed during construction of any stage of the project, shall be replaced, to the satisfaction of Council.

D10 *Tree Removal and Protection of Trees – On-site Trees*

All trees on the site that are not approved for removal are to be suitably protected by way of tree guards, barriers or other measures as necessary are to be provided to protect root system, trunk and branches, during construction of any stage of the project.

All trees on site that are approved for removal are to be removed in accordance with the approved Tree Removal Plan.

An application shall be made to Council in accordance with Clause 34 of Council's LMLEP 2004 for the removal of any other trees.

D11 *Salvage of Trees and Shrubs*

Trees and shrubs which are felled shall be salvaged for re-use, either in log form, or as a woodchip mulch for erosion control and/or site rehabilitation. Non-salvageable material such as roots and stumps shall be disposed of in an approved manner.

Structural Works

D12 *Setting Out of Structures*

Structures shall be set out by a registered surveyor to verify the correct position of each structure in relation to property boundaries and the approved alignment levels. The registered surveyor shall submit a plan to the PCA certifying that structural works are in accordance with the approved development application.

Site Maintenance

D13 Erosion and Sediment Control

All erosion and sediment control measures, as designed in accordance with the approved plans are to be effectively implemented and maintained at or above design capacity for the duration of the construction works for each stage of the project, and until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Areas of the site disturbed by works shall be grassed so as to prevent erosion. All disturbed areas shall be revegetated as soon as practical, and no later than the times specified in Landcom's – Managing Urban Stormwater documents (2004).

Kikuyu grass shall not be used in areas adjoining native bushland or in drainage lines or channels.

D14 Landscaping

Landscaping is to be undertaken in accordance with the approved landscape plan.

D15 Disposal of Seepage and Stormwater

Any seepage or rainwater collected on-site during construction shall not be pumped to the street stormwater system unless separate prior approval is given in writing by Council.

D16 Dust Control Measures

Adequate measures shall be taken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures must be adopted:

- (1) Physical barriers shall be erected at right angles to the prevailing wind direction or shall be placed around or over dust sources to prevent wind or activity from generating dust emissions,
- (2) Earthworks and scheduling activities shall be managed to coincide with the next stage of development to minimise the amount of time the site is left cut or exposed,
- (3) All materials shall be stored or stockpiled at the best locations,
- (4) The surface should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs,
- (5) All vehicles carrying spoil or rubble to or from the site shall at all times be covered to prevent the escape of dust or other material,
- (6) All equipment wheels shall be washed before exiting the site using manual or automated sprayers and drive-through washing bays,
- (7) Gates shall be closed between vehicle movements and shall be fitted with shade cloth, and
- (8) Cleaning of footpaths and roadways shall be carried out regularly.

Noise and Vibration

D17 Hours of Work

The hours of construction for all stages of the project, including the delivery of materials to and from the site, shall be restricted as follows:

- (1) between 7:00 am and 6:00 pm, Mondays to Fridays inclusive;
- (2) between 8:00 am and 1:00 pm, Saturdays;
- (3) no work on Sundays and public holidays.

Works may be undertaken outside these hours where:

- (4) the delivery of materials is required outside these hours by the Police or other authorities;
- (5) it is required in an emergency to avoid the loss of life, damage to property and/or to prevent environmental harm;
- (6) the work is approved through the Construction Noise and Vibration Management Plan; and
- (7) residents likely to be affected by the works are notified of the timing and duration of these works at least 48 hours prior to the commencement of the works.

D18 Construction Noise Objective

- 1) The construction noise objective for all stages of the project is to manage noise from construction activities (as measured by a $L_{A10(15\text{minute})}$ descriptor) so it does not exceed the background L_{A90} noise level by more than 5dB(A).
- 2) Background noise levels are those identified in the Environmental Assessment or otherwise identified in the approved Construction Management Plan. The Proponent shall implement all feasible noise mitigation and management measures with the aim of achieving the construction noise objective.
- 3) Any activities that have the potential for noise emissions that exceed the objective must be identified and managed in accordance with the approved Construction Management Plan.
- 4) If the noise from a construction activity is substantially tonal or impulsive in nature (as described in Chapter 4 of the NSW Industrial Noise Policy), 5dB(A) must be added to the measured construction noise level when comparing the measured noise with the construction noise objective.

D19 Construction Noise Management

For all stages of the project, the Proponent shall:

- (1) schedule rock breaking, rock hammering, sheet piling, pile driving and any similar activity only between the following hours unless otherwise approved in the Construction Management Plan:
 - (a) 9.00 am to 12.00 pm, Monday to Friday;
 - (b) 2.00 pm to 5.00 pm Monday to Friday; and
 - (c) 9.00 am to 12.00 pm, Saturday
- (2) ensure that wherever practical, and where sensitive receivers may be affected, piling activities are completed using bored piles. If driven piles are required they must only be installed where approved in the Construction Management Plan.

D20 *Vibration Criteria*

For all stages of the project, vibration resulting from construction of all stages of the project must not exceed the evaluation criteria presented in the *Environmental Noise Management – Assessing Vibration: A Technical Guide* (DEC, 2006).

D21 *Street Lighting*

The Applicant shall provide street lighting for the development to the satisfaction of Energy Australia and in accordance with the road classification. The road classification shall be determined by Council and Energy Australia.

The street lighting provided shall include any necessary upgrading of the lighting of the intersection of any new roads with existing roads.

D22 *Erection of Street Signs*

The Applicant shall supply and erect new street name signs in accordance with the requirements of Council's standard design requirements. Note that all Private Roads shall be clearly signposted to indicate that they are Private roads and not Public roads.

Heritage

D23 *Impact of Below Ground (Sub-surface) Works – Non-Aboriginal Objects*

If any archaeological relics are uncovered during the course of the work in any stage of the project, then all works shall cease immediately in that area and the NSW Heritage Office contacted. Depending on the possible significance of the relics, an archaeological assessment and an excavation permit under the NSW *Heritage Act 1977* may be required before further works can continue in that area.

D24 *Impact of Below Ground (Sub-surface) Works – Aboriginal Objects*

In the event that future works during any stage of the project disturb Aboriginal cultural materials, works at or adjacent to the material must stop immediately. Temporary fencing must be erected around the site and the material must be identified by an independent and appropriately qualified archaeological consultant. The Department of Environment and Climate Change, the Relevant Local Aboriginal Land Council (LALC) and the relevant Aboriginal community must be informed. These groups will advise on the most appropriate course of action to follow. Works must not resume at the location without the prior written consent of the Department of Environment and Climate Change, the Relevant LALC and the relevant Aboriginal community.

PART E—PRIOR TO ISSUE OF SUBDIVISION CERTIFICATE

E1 *Part 4A Certificate*

Prior to the registration of final subdivision plan in the Office of the Registrar-General, a Part 4A certificate shall be obtained under section 109D(1)(d) of the *Environmental Planning and Assessment Act 1979* for each stage of the subdivision.

E2 *Compliance Certificate*

Prior to the application for a Subdivision Certificate for the subdivision a Compliance Certificate or Certificates shall be obtained from the PCA for the following:-

- a) Compliance Certificate - Roads
- b) Compliance Certificate - Water Reticulation

- c) Compliance Certificate - Sewerage Reticulation
- d) Compliance Certificate – Drainage

E3 Public Utilities Layout

The Applicant shall submit to the PCA a utilities layout plan showing the location of mains, associated installations and service conduits prior to the issue of a Subdivision Certificate.

Earthworks

E4 Retaining Walls

All retaining walls are to be certified by a suitably qualified geotechnical/structural engineer. The certification is to be submitted with the Subdivision Certificate application for each affected staged of the subdivision and shall state that the retaining walls have been designed and constructed in accordance with AS4678-2002 Earth Retaining Structures and are structurally sound.

E5 Geotechnical Report-Filling

The Applicant shall arrange for all fill to be placed in accordance with the standards specified in Table 5.1 of AS3798 1990 "Guidelines on Earthworks for Commercial and Residential Developments".

Prior to the issue of the Subdivision Certificate, the Applicant shall submit a report from a suitably experienced Geotechnical Testing Authority confirming that all filling complies with the above minimum standard. The inspection and testing shall be at the responsibility level set out below, as defined in Appendix B of AS 3798-1990.

Fill Area	Responsibility Level
Water retaining embankments	1
Road embankments (greater than 2m high)	1
Road embankments (less than 2m high)	2*
Residential allotments	1
Industrial/Commercial allotments	1

* Level 1 may be used if desired by the applicant.

E6 Site Classification for Lots

The Application shall arrange for a suitably experienced Geotechnical Consultant to determine the site classification of each proposed lot in accordance with AS 2870-1996. The site classifications shall be provided to Council prior to the issue of the Subdivision Certificate.

Remediation

E7 Verification of Remediation Works

Upon completion of the remediation works on the site, the Proponent shall submit a detailed Site Audit Summary Report and Site Audit Statement and Validation Report to the Certifying Authority. The site audit must be prepared in accordance with the Contaminated Land Management Act 1997 and completed by a site auditor accredited by the Environmental Protection Agency to issue site audit statements. The site audit must verify that the land is suitable for the proposed uses.

E8 *Repair Damaged Council Assets*

The Applicant shall make good any damage or injury caused to a public road or associated structures including drains and kerb and gutter, caused as a consequence of the works.

E9 *No Parking Signs*

No Parking signs are to be provided along one side of all internal roads to ensure compliance with access requirements of *Planning for Bushfire Protection (2006)*.

E10 *Works as Executed Plan*

An electronic copy of the Works as Executed Plans, certified by the Consulting Civil Engineer supervising the works or the Registered Surveyor in charge and certified by the Principal Certifying Authority, shall be supplied to the Council. Where applicable a Registered Surveyor's Certificate certifying that all pipes have been laid within the easements shown on the Final Plan of Subdivision shall also be submitted. The Works as Executed Plan shall, in addition to construction details, show limits and depths of filling, locations of service conduits and street names.

Note that a works as executed plan plotted on film will only be accepted where the original engineering design was hand drawn and not drafted using CAD software.

E11 *Landscaping*

Correspondence shall be provided from a recognised Landscaping professional, that indicates that the landscaping works have been completed in accordance with the approved plan. All landscaping works shall be maintained for a period of twelve months.

The Applicant shall lodge a cash bond or Bank Guarantee with the Council for the sum of **\$50000**. The monies will be released 12 months after planting when Council is satisfied that the landscaping has established.

E12 *Dual Occupancy / Small Lot Housing*

The Applicant shall identify at least three lots within the subdivision layout that would be suitable for Dual Occupancy development (in accordance with Lake Macquarie Council LEP and DCP 1). A restrictive covenant shall be applied to the lots that restricts future development on the lots to Dual Occupancy development only.

Alternatively a number of lots may be consolidated to provide a "super" lot that is capable of containing at least six Small Lot Housing dwellings. A restrictive covenant shall be applied to limit the future development of the lot to Small Lot Housing only.

Council is to be party to release, vary or modify any restriction.

E13 *Registration of Easements / Restrictions to use / Right of carriageway*

- 1) The creation of easements for services, rights of carriageway and restrictions as to user are applicable under Section 88B of the *Conveyancing Act 1919*, including (but not limited to) the following:
 - a. Easements for sewer, water supply and drainage over all public services/infrastructure on private property.
 - b. Drainage Easements are to be placed over all subsurface drains and interallotment drainage, benefiting and burdening the property owners.
 - c. Easement for support must be created to cover all fill embankments that extend into lots if the side slopes are steeper than one (1) in three (3) and such embankments are in excess of six hundred (600)mm in height.

- 2) Any Section 88B Instrument creating restrictions as to user, rights of carriageway or easements which benefit Council shall contain a provision enabling such restrictions, easements or rights of way to be revoked, varied or modified only with the consent of Council.
- 3) In addition to the above certification, the following is to be included in a Section 88E Instrument to accompany the final plan of subdivision.
 - a. Restriction as to user on Lots 1, 2, 3, 4, 48, 57 & 58 requiring the provision and maintenance of an asset protection zone on each respective lot in accordance with the approved Plan of Subdivision prepared by de Witt Consulting, and section 4.1.3 and Appendix 5 of *Planning for Bushfire Protection* 2006 and the NSW Rural Fire Service's document *Standards for asset protection zones*.
 - b. A covenant requiring that the land on Lot 3 to the north of the asset protection zone is to be managed in perpetuity by the owner of the lot for conservation and in accordance with the approved Vegetation Management Plan.
 - c. Any boundary fence constructed over the drainage easement between Lot 9 and Lot 2 DP244002 must not obstruct stormwater flows through the easement.
- 4) The restriction is to be clearly marked on the plan of subdivision and Council is to be nominated as the sole party to vary, modify and/or extinguish the restriction.

Services

E14 Utilities –Telephone and Electricity Services

The project is to be connected to all available services (water, electricity and telephone) prior to issue of the Subdivision Certificate. Such connections, and any extension of services required to the development, are to be carried out at full cost to the Proponent.

E15 Dedication of Internal Roads

All internal roads shall be constructed by the proponent and dedicated to Council as public roads prior to issue of a Subdivision Certificate. Upon dedication and at the end of the maintenance period Council will be responsible for the on-going maintenance of the roads.

E16 Dedication of Lot as Drainage Reserve

The Applicant shall dedicate Lot 63 to Council as drainage reserve at no cost to Council. The dedication shall take place at the time of registration of the Final Plan.

E17 Survey Control Marks Interference

The Applicant shall submit a statement from a Registered Surveyor verifying that the works did not interfere with any survey control marks OR the Applicant shall submit verification that the Survey Control Branch of the Department of Lands has been advised of any marks which will be destroyed and an undertaking that the requirements of the Survey Control Branch will be complied with.

E18 Compliance Certificate for Works

The Applicant shall obtain and submit a Compliance Certificate/s to certify that all construction works and associated development have been constructed in accordance with this Development Consent, the Construction Certificate and all other standards specified in this consent.

E19 Final Plan Submission

The Applicant shall submit an application for a Subdivision Certificate accompanied by the Final Plan of Subdivision, ten (10) copies, an A3 copy if filling of any lot has taken place and the location of all buildings and/or other permanent improvements indicated on one (1) full-size print. When all conditions of the Project Approval relating to this subdivision have been satisfactorily complied with the Subdivision Certificate will be issued.

Monetary Contributions

E20 Section 94 Contributions

1) Contribution To Provision Of Services (Sec. 94)

- (a) In accordance with the provisions of Section 94 of the Environmental Planning and Assessment Act 1979 and the Lake Macquarie Section 94 Contributions Plan No. 1 – City Wide (2004) as amended, the monetary contributions in the following table shall be paid to Council for the purposes identified in that Schedule.

(b)

Contribution Fee Schedule	
Description	Fee Amount
Citywide OSA Land	\$536,504.00
Citywide RF Capital Fee	\$340, 266.00
Citywide CF West Lake Capital Fee	\$132,493.00
Citywide CF West Lake Land Fee	\$33,940.00
Citywide Management Fee	\$10,193.00
Total	\$1,053,396.00

- (b) From the date this determination is made until payment, the amounts of the contributions payable under the preceding clause will be indexed and adjusted at the close of business on:
- 14 August,
 - 14 November,
 - 14 February, and
 - 14 May
- (c) The contributions payable will be the amounts last indexed and adjusted in accordance with Clause (b) above. However, if no amount has been indexed and adjusted because the first date for indexation and adjustment has not arrived, the contributions payable shall be those in clause (a) above.
- (d) The contributions shall be paid to Council as follows:
- Development applications involving subdivision – prior to the release of the Subdivision Certificate.
 - Development applications involving building work – prior to the release of the first Construction Certificate.
 - Development applications involving both subdivision and building work – prior to the release of the Subdivision Certificate or first Construction Certificate, whichever occurs first.
 - Development applications where no Construction Certificate or Subdivision Certificate is required – prior to the release of the development consent or prior to issue of the first Certificate of Occupancy, whichever occurs first.

Consumer Price Index details are available from Council's Community Planning Department and the Australian Bureau of Statistics.

A copy of the Lake Macquarie Section 94 Contributions Plan No. 1 – City Wide (2004) is available for inspection at the Council's Administrative Building during Council's ordinary office hours.

2) Contribution To Provision Of Services (Sec. 94) - Traffic Signals

(a) In accordance with the provisions of Section 94B(2) of the Environmental Planning and Assessment Act 1979, a monetary contribution of the lesser of \$35,910 or 13.3% of the actual construction cost to upgrade the intersection of Fishery Point Road and Station Street for traffic signals. The construction costs shall include, but not be limited to, signals, and associated road works, kerb and guttering, signage, linemarking, and drainage.

(b) The contributions shall be paid to Council as follows:

- Development applications involving subdivision – prior to the release of the Subdivision Certificate.

ADVISORY NOTES

AN1 Requirements of Public Authorities for Connection to Services

The Proponent shall comply with the requirements of any public authorities (e.g. Energy Australia, Telstra Australia, AGL, etc) in regard to the connection to, relocation and/or adjustment of the services affected by the construction of the proposed structure. Any costs in the relocation, adjustment or support of services shall be the responsibility of the Proponent. Details of compliance with the requirements of any relevant public authorities are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate.

AN2 Bushfire Protection Requirements

New construction shall comply with Australian Standard AS3959-1999 '*Construction of buildings in bush-fire prone areas*'.

AN3 Mine Subsidence Board

On registration of the final subdivision plan the Mine Subsidence Board is to be notified of lot numbers and the registered DP number.

Approval of the Mine Subsidence Board is required for the erection of all improvements.

As a guide to persons intending to erect improvements on this property, the Board has adopted the following surface guidelines subject to them being erected on reinforced concrete footings and/or slabs to comply with AS 2870. The following improvements are limited to a maximum length of 30 metres.

- 1) Single or two storey timber or steel framed improvements clad with weatherboards or similar materials;
- 2) Single or two storey brick veneer improvements;
- 3) Full masonry and other types of improvements will be considered for this property under the Board's 'Graduated Guidelines for Residential Construction'. The improvements will be subject to length restriction and may require engineering design. Details of the requirements may be obtained from the Board's technical staff.

Architectural plans submitted to the Mine Subsidence Board for approval must show the location and detailing of articulation/control joints in brickwork to comply with the requirements of the Building Code of Australia and best building practices.

AN4 Compliance with Building Code of Australia

The Proponent is advised to consult with the Certifying Authority about any modifications needed to comply with the BCA prior to submitting the application for a Construction Certificate.

AN5 Structural Capability for Existing Structures

The structural capabilities of any existing structure will need to meet the requirements of the BCA and may require engaging a structural engineer.

AN6 Use of Mobile Cranes

The Proponent shall obtain all necessary permits required for the use of mobile cranes on or surrounding the site, prior to the commencement of works. In particular, the following matters shall be complied with to the satisfaction of the PCA:

- (1) For special operations including the delivery of materials, hoisting of plant and equipment and erection and dismantling of on site tower cranes which warrant the on street use of mobile cranes, permits must be obtained from Council:
 - (a) at least 48 hours prior to the works for partial road closures which, in the opinion of Council will create minimal traffic disruptions, and
 - (b) at least 4 weeks prior to the works for full road closures and partial road closures which, in the opinion of Council, will create significant traffic disruptions.
- (2) The use of mobile cranes must comply with the approved hours of construction and shall not be delivered to the site prior to 7.30am without the prior approval of Council.

AN7 Stormwater drainage works or effluent systems

A Construction Certificate for works that involve any of the following:

- (1) water supply, sewerage and stormwater drainage work (including connection of a private stormwater drain to a public stormwater drain, installation of stormwater quality control devices or erosion and sediment control works); and,
- (2) management of waste.

as defined by Section 68 of the Local Government Act, 1993 will not be issued until prior separate approval to do so has been granted by Council under Section 68 of that Act. Applications for these works must be submitted on Council's standard Section 68 application form accompanied by the required attachments and the prescribed fees.

AN8 Temporary Structures

An approval under Section 68 of the *Local Government Act 1993* must be obtained from the Council for the erection of the temporary structures. The application must be supported by a report detailing compliance with the provisions of the Building Code of Australia.

Structural certification from an appropriately qualified practicing structural engineer must be submitted to the Council with the application under Section 68 of the *Local Government Act 1993* to certify the structural adequacy of the design of the temporary structures.

AN9 Disability Discrimination Act

This application has been assessed in accordance with the *Environmental Planning and Assessment Act 1979*. No guarantee is given that the proposal complies with the *Disability Discrimination Act 1992*. The Proponent/owner is responsible to ensure compliance with this and other anti-discrimination legislation. The *Disability Discrimination Act 1992* covers disabilities not catered for in the minimum standards called up in the Building Code of Australia which references AS 1428.1 - Design for Access and Mobility. AS1428 Parts 2, 3 & 4 provides the most comprehensive technical guidance under the *Disability Discrimination Act 1992* currently available in Australia.

AN10 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* provides that a person must not take an action which has, will have, or is likely to have a significant impact on a matter of national environmental significance (NES) matter; or Commonwealth land, without an approval from the Commonwealth Environment Minister.

This application has been assessed in accordance with the New South Wales *Environmental Planning & Assessment Act, 1979*. The determination of this assessment has not involved

any assessment of the application of the Commonwealth legislation. It is the Proponent's responsibility to consult Environment Australia to determine the need or otherwise for Commonwealth approval and you should not construe this grant of approval as notification to you that the Commonwealth Act does not have application. The Commonwealth Act may have application and you should obtain advice about this matter. There are severe penalties for non-compliance with the Commonwealth legislation.

SCHEDULE 3

08_0014

62 LOT RESIDENTIAL SUBDIVISION

LOT 9 DP 244002 AND LOT 358 DP 755242

MORISSET PARK ROAD AND CHIFLEY ROAD, MORISSET PARK

STATEMENT OF COMMITMENTS

(SOURCE: PREFERRED PROJECT REPORT)



- Management of specific habitat enhancement measures such as habitat trees, artificial hollows, nest boxes, etc).
- Fauna displacement and any appropriate translocation.
- Details of long term monitoring and implementation.

13. REVISED STATEMENT OF COMMITMENTS

The proposed amendments outlined in Section 12 are minor when compared to the original project application lodged with DOP. Notwithstanding, a revised Statement of Commitments has been prepared to reflect these amendments. The amendments to the original Statement of Commitments have been highlighted in bold for ease of reference. If approval is granted under Part 3A of the EP&A Act, 1979, the proponent will commit to the following controls for the construction and operation of the proposed development.

NO.	ITEM	COMMITMENTS
1.	Scope of Development	<p>The development will be carried out substantially in accordance with the Environmental Assessment prepared by de Witt Consulting, supporting plans and reports, as amended by the following:</p> <ul style="list-style-type: none"> • Proposed Plan of Subdivision prepared by de Witt Consulting (Drawing 013-SUBDIV-3Q.04.09) • Letter from Northrop Engineers dated 4 May 2009 along with the following amended drawings [C01DA - Concept Sediment and Erosion Control Plan - Issue C; C02DA - Concept Stormwater Management Plan - Issue C; C03DA - Details Sheet - Issue C; C04DA - Road Long Sections Sheet 1 of 2 - Issue A; C05DA - Road Long Sections Sheet 2 of 2 - Issue A]. • Revised Statement of Commitments in the letter from de Witt Consulting dated 4 May 2009.
2.	General	<p>The developer will obtain and maintain the following licences, permits and approvals for the residential subdivision:</p> <ul style="list-style-type: none"> • Lake Macquarie City Council/Private Certifier – Subdivision and Construction Certificates for works associated with the subdivision. This will include engineering design plans containing, where relevant, detailed designs relating to earthworks, drainage, soil erosion, sediment control, site rehabilitation, tree clearing, site stability, roadworks, footpaths, water supply, sewerage works and landscaping. • Energy Australia – Design Certification • Hunter Water Corporation – Compliance Certificate • Telstra – Compliance Certificate • Department of Land and Property Information – Registration of Subdivision.
3.	Conveyancing	<p>Prior to the release of the Subdivision Certificate, a Section 88B Instrument will be prepared to provide for, inter alia, easements for services, Asset Protection Zones and drainage.</p>
4.	Construction	<p>Prior to the release of the Construction Certificate, the developer will prepare a Construction Management Plan addressing matters relating to education of contractors, statutory obligations, management procedures,</p>



NO.	ITEM	COMMITMENTS
		sediment controls, traffic management, flora and fauna management, environmental management procedures and waste minimisation.
5.	Infrastructure	<p>Prior to the release of the Subdivision Certificate the developer will provide underground power to each residential lot in the subdivision in accordance with the requirements of Energy Australia.</p> <p>Prior to the release of the Subdivision Certificate, the developer will provide underground telecommunications infrastructure to each lot in the subdivision in accordance with the requirements of Telstra.</p> <p>Prior to the release of the Subdivision Certificate, the developer will provide reticulated water and sewerage services to each lot in the subdivision in accordance with the requirements of Hunter Water Corporation.</p>
6.	Stormwater and Water Quality	Prior to the release of the Subdivision Certificate, stormwater management and water quality infrastructure in accordance with the Concept Stormwater Management Plan prepared by Northrop Engineers will be provided. This will include a regional detention basin, pit and pipe stormwater system and gross pollutant traps.
7.	Bushfire Protection	<p>Prior to the registration of the Final Plan of Subdivision, the recommendations of the Bushfire Threat Assessment prepared by Harper Somers O'Sullivan will be implemented including:</p> <ul style="list-style-type: none"> • A 20m APZ will be provided along the western boundary of the building envelope on Lot 3. • A 25m APZ will be provided between the proposed dwelling on Lot 3 and the vegetation to the north. • A 20m APZ will be provided between the retained vegetation on Lot 3 and the residential lots to the east. • The internal roads will be constructed in accordance with the requirements of Planning for Bushfire Protection (2006). • Future dwellings on the lots will be built in accordance with the relevant construction levels in AS3959-1999 for construction of buildings in bushfire prone areas (as shown in Figure 8.1 – Construction Levels of the Bushfire Threat Assessment prepared by Harper Somers O'Sullivan). • The development will be linked to the existing mains pressure water supply and suitable hydrants will be clearly marked and provided for the purposes of bushfire protection. • The responsibility of the maintenance of the proposed APZ's will be the individual lot owner. • Fuel management in the APZ's will be in accordance with Planning for Bushfire Protection (2006) or as specified by the NSW Rural Fire Service. • No parking signs will be provided along one side of the internal roads to ensure compliance with Section 4.1.3(1) of Planning for Bushfire Protection (2006).
8.	Soil Erosion	<ul style="list-style-type: none"> • A Sediment and Erosion Control Plan will be developed in accordance with the relevant guidelines prior to the commencement of construction. • Surface drainage for construction will be installed prior to commencement of earthworks to intercept overland flow from



NO.	ITEM	COMMITMENTS
		<p>the upslope catchment area.</p> <ul style="list-style-type: none"> • Topsoils will be stockpiled for landscaping purposes. • Any filling on the site will be placed and compacted in accordance with AS3798-1996, Guidelines on Earthworks for Commercial and Residential Development. • Any retaining walls over 1m constructed on site as part of the subdivision development will be engineer designed.
9.	Noise	Construction operations will take place in approved Council hours.
10.	Dust	<ul style="list-style-type: none"> • All loads leaving the site will be adequately covered. • Stockpiles will be maintained in a moist condition to minimise wind blown and traffic generated dust. • All roads and trafficked areas will be watered as required to minimise dust generation.
11.	Landscaping	<p>Prior to the release of the Subdivision Certificate:</p> <ul style="list-style-type: none"> • Plantings will be in accordance with a detailed Landscape Plan to be prepared in accordance with the Landscape Concept Plan already prepared by Terras Landscape Architects. The Landscape Plan will be prepared by a suitably qualified Landscape Architect. • Trees to be retained within proposed road reserves and/or within lot boundaries will be identified on a tree retention plan with the Construction Certificate application.
12.	Vegetation and Tree Management	<p>Prior to the registration of the Final Plan of Subdivision:</p> <ul style="list-style-type: none"> • Mature trees, particularly those containing hollows, will be retained wherever they can be safely retained with regard to public safety. • Where hollow bearing trees are required to be removed with the site, a qualified ecologist will identify and mark the trees prior to any vegetation clearing. Hollow bearing trees will be left standing for one night after all other vegetation is removed to allow fauna to vacate hollow. An ecologist will guide hollow bearing tree removal to ensure any fauna are recovered, with the provision of nest boxes in trees to be retained if required. • Future landscaping will utilise locally occurring flowering/fruitleg native shrubs that would provide potential foraging resources for native species.
13.	Aboriginal Heritage	The developer will ensure that if there is any evidence of Aboriginal archaeological content exposed during the construction stage, the developer and any associated contractors will stop work and notify the Aboriginal stakeholders group and Department of Environment and Climate Change.
14.	Final Plan of Subdivision	The developer will prepare the Final Plan of Subdivision and required Section 88B Instruments in accordance with the requirements of Lake Macquarie City Council and the Department of Lands (Land and Property Information).
15.	Developer Contributions	The developer will pay Section 94 Contributions to Lake Macquarie City Council in accordance with Council's Section 94 Contributions Plan and as per conditions of any development consent granted, prior to the release of the subdivision certificate.



NO.	ITEM	COMMITMENTS
16.	Roadworks	<p>Prior to the registration of the Final Plan of Subdivision the developer will undertake the following roadworks:</p> <ul style="list-style-type: none"> • The construction of an AUR geometric intersection for Morriset Park Road and Chifley Road. • The construction of an AUR geometric intersection for Morriset Park Road and the New Access Road to the subdivision, including the provision of bus amenity. • The carriageway along Morriset Park Road will be widened along the frontage of the site to 6.5 metres from the centreline of the existing road and provide kerb and guttering and associated drainage and footpaving. • The carriageway along Chifley Road will be widened along the frontage of the site to facilitate a carriageway width of 8m, along with kerb and guttering and associated drainage and footpaving.
17.	Vegetation Plan of Management	<p>Prior to the release of the Construction Certificate, a Plan of Management will be established for proposed Lot 3. This Plan of Management will be registered on title in a Section 88E Covenant under the Conveyancing Act 1919. This Plan of Management will cover the following matters.</p> <ul style="list-style-type: none"> • Weed management. • Native vegetation management. • Feral animal control. • Fire management (including asset protection zones). • Minimisation of edge effects. • Public access control. • Stormwater control. • Management of specific habitat enhancement measures such as habitat trees, artificial hollows, nest boxes, etc). • Fauna displacement and any appropriate translocation. • Details of long term monitoring and implementation.
18.	Fauna Translocation	<p>The developer will ensure that should any fauna need to be translocated then this will be undertaken pursuant to NPWS (2001) <i>Policy for the Translocation of Threatened Fauna in NSW</i>. Policy and Procedure Statement No. 9. The developer will obtain a licence under S91 of the Threatened Species Conservation Act 1994 prior to the translocation of any fauna outside the approved development approval footprint.</p>

14. CONCLUSION

We trust that the above information satisfies all outstanding matters. Please do not hesitate to contact me on (02) 4942 5441 should you have any further queries.

Yours sincerely
de WITT CONSULTING

David Humphris
DIRECTOR



ATTACHMENT 2

**Amended Proposed Plan of Subdivision in accordance with
Condition B1 Design Modifications of Major Projects Application
08_0014 dated 8 September 2009**



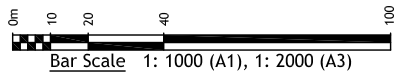
(A) EASEMENT TO DRAIN WATER AND EASEMENT FOR SERVICES 3 METRES WIDE (Z910968)
(C) PROPOSED EASEMENT TO DRAIN WATER 2 WIDE

- NOTES :**
- 1. FEATURES SHOWN TO SCALE ACCURACY.
 - 2. THIS PLAN IS SUITABLE FOR DETAILED PLANNING AND DESIGN AT THE SCALE/S STATED. THE PLAN MAY NOT BE SUITABLE FOR ANY OTHER PURPOSE OR FOR USE AT ANY OTHER SCALE/S.
 - 3. SERVICES LOCATED ONLY WHERE VISIBLE.
 - 4. THE LOCATION OF ALL UNDERGROUND SERVICES WHETHER SHOWN ON THE PLAN OR NOT, SHOULD BE PRECISELY DETERMINED BEFORE ANY CONSTRUCTION WORK COMMENCES AND MEASURES TAKEN TO PROTECT THESE SERVICES FROM DAMAGE.

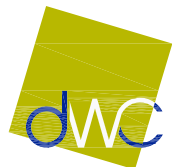
LEGEND

	DENOTES EXISTING BUILDING TO BE REMOVED		DENOTES OUTER A.P.Z.
	HYDRANT		DENOTES INNER A.P.Z.
	WATER METER		CONTOUR LINE
	STORMWATER PIT		FENCE LINE
	STOP VALVE		OVERHEAD POWER LINE
	POWER POLE		SEWER LINE
	SEWER INSPECTION PIT		TELSTRA LINE (DOMESTIC)
	SEWER MAN HOLE		DRAINAGE
	NATURAL GAS MARKER		BOUNDARY LINE
	TELSTRA PIT		EASEMENT
			TOP & TOE OF BANKS

BUILDING ENVELOPE 25 x 12 AND 20 x 15 (300m²)



THIS PLAN IS COPYRIGHT AND SHALL REMAIN THE PROPERTY OF DE WITT CONSULTING PTY LTD. THE CLIENT NAMED ON THE PLAN IS GRANTED A LICENCE TO USE THE INFORMATION, USING THE INFORMATION CONTAINED IN THIS PLAN IS PROHIBITED UNLESS WRITTEN APPROVAL IS GRANTED BY DE WITT CONSULTING PTY LTD. THE PLAN AND INFORMATION MAY ONLY BE USED FOR THE PURPOSE FOR WHICH THE PLAN WAS DESIGNED FOR.



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ABN 23 104 067 405

TITLE

PROPOSED PLAN OF SUBDIVISION
LOT 9 D.P.244002 & LOT 358 D.P.755242
L.G.A. LAKE MACQUARIE

H	30.04.09	ADD SPLAYS AND ADDITIONAL APZ
G	21/11/08	AMEND LOTS 3/4 TO 12-ADD BLD ENVELOPES
F	26/08/08	AMEND TO SHOW TREES REMOVED / RETAINED
E	10/06/08	ADDED PROPOSED EASEMENT (C)
D	29/02/08	ADDED FINAL TREE SURVEY DATA
C	19/12/2007	ADDITIONAL DETAILS - CHIFLEY RD & N.E. CORNER
B	20/02/2007	DA SUBMISSION
A	18.06.14	CHANGE LOT 3 & 4
Ed.	Date	Amendment

JOB ADDRESS:	MORISSET PARK ROAD, MORISSET PARK
CLIENT:	POSTFOX PTY. LTD.
SCALE:	1:1000 A1 1:2000 A3
SURVEY DATE:	06.2003 & 12.2007 & 02.2008
PLAN DATE:	18.06.14
DATUM:	A.H.D.
CAD REF:	013DET1

ORIGIN OF LEVELS
P.M.23966
9.927

DRAWN RS/SD/MH
SURVEYOR JL/PW/PW
CHECKED JL
APPROVED JL

DRAWING REF: 013-SUBDIV-18.06.14

PLAN No
1

JOB REF:
013

SHEET No
1 of 1



ATTACHMENT 3

**Traffic Review prepared by TPK and Associates Pty Ltd dated
April 2009**



TRAFFIC MANAGEMENT & SAFETY CONSULTANTS

10 Haig Street Belmont NSW 2280
PH. (02) 4945 5688
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Mob. 0418 419 190
E-mail: tp.keating@hunterlink.net.au

TRAFFIC REVIEW

PROPOSED RESIDENTIAL SUBDIVISION

Morisset Park Road

MORISSET PARK

April 2009

De WITT Consulting
(for The Applicant)

Lake Macquarie City Council Local Government Area

Prepared by
Terry Keating
Director
TPK & Associates Pty Ltd

R E S I D E N T I A L S U B D I V I S I O N , M O R I S S E T P A R K

TRAFFIC REVIEW

1. The Project

TPK & Associates Pty Ltd (TPK) was invited by Mr D Humphris, de Witt Consulting (for The Applicant) to join their project team to provide traffic review services for the subject project; the project is the proposed at:

Corner of Morisset Park Road & Chifley Street, Morisset Park

2. Task Description

The review was requested to focus on the following: -

- Review of matters raised by Lake Macquarie Council in their assessment of the application. (Council letters to DOP dated 30.01.09 & Feb 09)
- Review of relevant existing traffic studies.

3. Project Representative

Mr. Terry Keating, Director TPK, undertook the evaluation and preparation of the report. He has over 40 years experience in the road safety and traffic management profession, including the assessment of traffic generating developments.

4. References

The assessment and report have been provided as an outcome of reference to:

- Austroads Part 2 & 5
- AS 2890.1 & 2.
- RTA Guide to Traffic Generating Developments.
- Site Layout Plan as provided by de Witt Consulting.
- Report by Northern Transport Planning & Engineering (NTPE), 2008 supporting this project
- Report by Better Transport Futures (BTF), 2008 supporting development proposal at Trinity Point to the east of the subject location

5. Overview

The proposed residential development has been examined by Lake Macquarie City Council; council identified matters of concern that need to be addressed prior to final determination on the DA by the Department of Planning.

The NTPE, 2008 report for this development was prepared on the basis of a 72 lot subdivision; the subdivision proposal has subsequently been reduced to a 62 lot subdivision.

Representatives of de Witt Consulting (Mr D Humphris) and TPK (Mr T Keating) meet with council representatives on the 24th March 2009 to discuss the concerns of council.

Some matters were clarified at that meeting and following a detailed site and surrounding road network evaluation by TPK & de Witt Consulting on the 30th March 2009 this Traffic Review Report is considered to address all other concerns of Council.

6. Austroads Standards

Austroads Part 5, Table 6.3 provides the required SISD's for intersections. The new intersections to be formed under the project layout plan are:

- New Access Road to Morisset Park Road (west of Chifley Road intersection)
- Internal intersections within the estate

TPK has inspected the existing road environments and submits that the Desirable SISD of 149m for a 70 kph speed limit is available in both directions for the new intersection with Morisset Park Road; SISD is less as the speed limit reduces.

The internal intersections will be formed on a relatively flat terrain and hence detailed design will be able to achieve appropriate SISD for the 50kph speed limit applicable to urban zones without significant cut or fill.

This addresses concern with the location of intersections, regardless of the imposed speed limit relative to Safe Intersection Sight Distance (SISD) recommendations of Austroads Part 5. (Refer to Council's DGR 5 comments Feb 2009)

7. Speed Limit

TPK, subsequent to recently meeting with council completed a road network inspection/evaluation. Council has raised the question of the speed limit on the Morisset Park Road frontage of the subject site requesting The Applicant seek agreement from RTA to a reduction in speed limit.

The peninsular is subject to current and potential pockets of development and/or alteration to existing land use. The routes Fishery Point Road and Morisset Park Road are emerging significant traffic function routes that will need to be enhanced in terms of all traffic management initiatives on a progressive basis.

TPK submit that these two routes may not have been reviewed on a holistic basis for applicable speed limits in recent times and that rather than seek a small review for a short section it may be prudent timing for Council to liaise with RTA directly or through the council traffic committee with the view to establishing a speed limit strategy for these routes as development and traffic demand increase.

TPK has no doubt RTA would agree to a 50 or 60 speed limit on the Morisset Park Road frontage for this site but the bigger picture is the influence the function of the route has on the decision to apply a 50 or a 60kp speed limit; that is RTA's call no doubt in consultation with council not This Applicant.

Notwithstanding the above TPK submit there would be no adverse traffic capacity or road safety concerns implied were the 70kph to remain on this frontage until the RTA review was completed.

This addresses the council request for The Applicant to contact RTA with respect to a small extension of the 50kph speed limit on the Morisset Park Road frontage of this development site. (Refer to Item 18 of Council's Schedule of Issues & Council's DGR 5 comments Feb 2009)

8. Pedestrians & Cyclists (Refer to Council's comments DGR 5, Feb 2009)

The development will provide footpath amenity within and bordering the site to council requirements as dictated by the terms of development consent.

One focal point for a pedestrian/cycle link to the west is Bonnells Bay School; the school is a primary school and is some 1.5km from this subject site. TPK submit that the estate will not generate school pedestrian/cycle activity to a level that justifies having this development accountable for providing an off road link. The existing Bonnells Bay Shopping Centre and future Trinity Point recreational amenity will both be over 1 to 1.5km from this site; again pedestrian generated trips are unlikely from this development and cyclists will be required to use on road travel as no current off road strategies were disclosed by council.

To the north and east of the site existing footway amenity is a mixture of unformed and formed footway reserves; the standard is so varied that extending connectivity is not seen as a realistic requirement for this small development.

Fishery Point Road, around 1km walk to the north does have an existing off road combined pedestrian/cycle path but again it is submitted that this estate is unlikely to find the amenity an attractive option for trip planning.

Unless council has significant off road strategies in place and corridors approved for off road amenity for pedestrian and cyclists TPK consider the estate need only provide for footway amenity to council requirements with and fronting the estate and that there is no planning footprint established for this estate to consider providing in part construction towards completion of a strategy.

9. Public Transport

Morisset Bus Services provide the regular services to the peninsular; TPK held discussions with the company on the 2nd April 2009.

The current services run past the subject site on Morisset Park Road; the existing system is of the hail and ride procedure hence there are no official designated bus stops. However long term patrons in association with the bus drivers have developed congregation points around the peninsular where patrons gather.

TPK submit that as the estate will provide a new point of demand for these services and an estate this size is unlikely to be penetrated by buses hence provision of bus shelters either side of Morisset Park Road could be a condition of consent for inclusion in the detailed design for the intersection of Morisset Park Road and New Access Road to the estate.

This addresses councils request to confer with the bus service provider. (Refer to Item 23 of Council's Schedule of Issues 30.01.09 & Council's DGR 5 comments, Feb 2009)

10a. Road Network Traffic Generation (*This addresses Council's DGR 4.2 & 5 comments Feb 2009*)

TPK considered it important to ensure the quantum of increase in traffic generation in comparison to existing traffic flow and other known peninsular growth was clarified in giving consideration to this project review; the following scenarios have been summarised:

- Figures 1 & 2 show existing 2007 level traffic flows based on details contained in NTPE, 2008 and BTR, 2008.
- Figure 3 shows the am & pm peak traffic generation and distribution for the subject project.
- Figure 4 shows the am & pm peak potential traffic generation and distribution based on data in BTF, 2008 for other known developments including:
 - Trinity Point
 - 194 lot subdivision adjoining the Trinity Point proposal, construction underway when traffic counts were taken
 - 10, 60 & 55 lot subdivisions off Fishery Point Road
- Figures 5 & 6 show the am & pm peaks for the existing traffic flows 2007 plus all the identified development (in this report) traffic added.

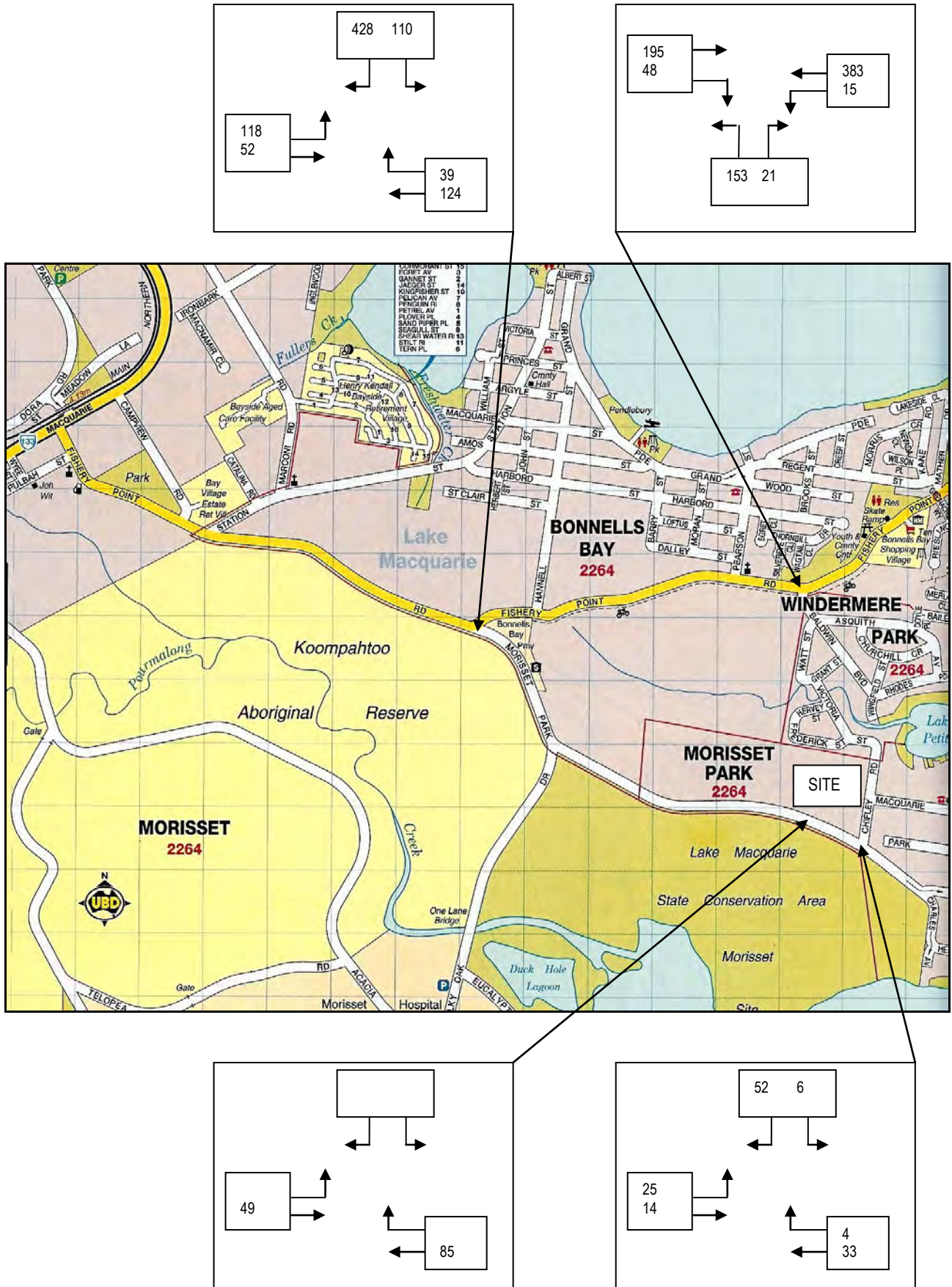


FIGURE 1 – EXISTING AM PEAK TRAFFIC FLOWS 2007

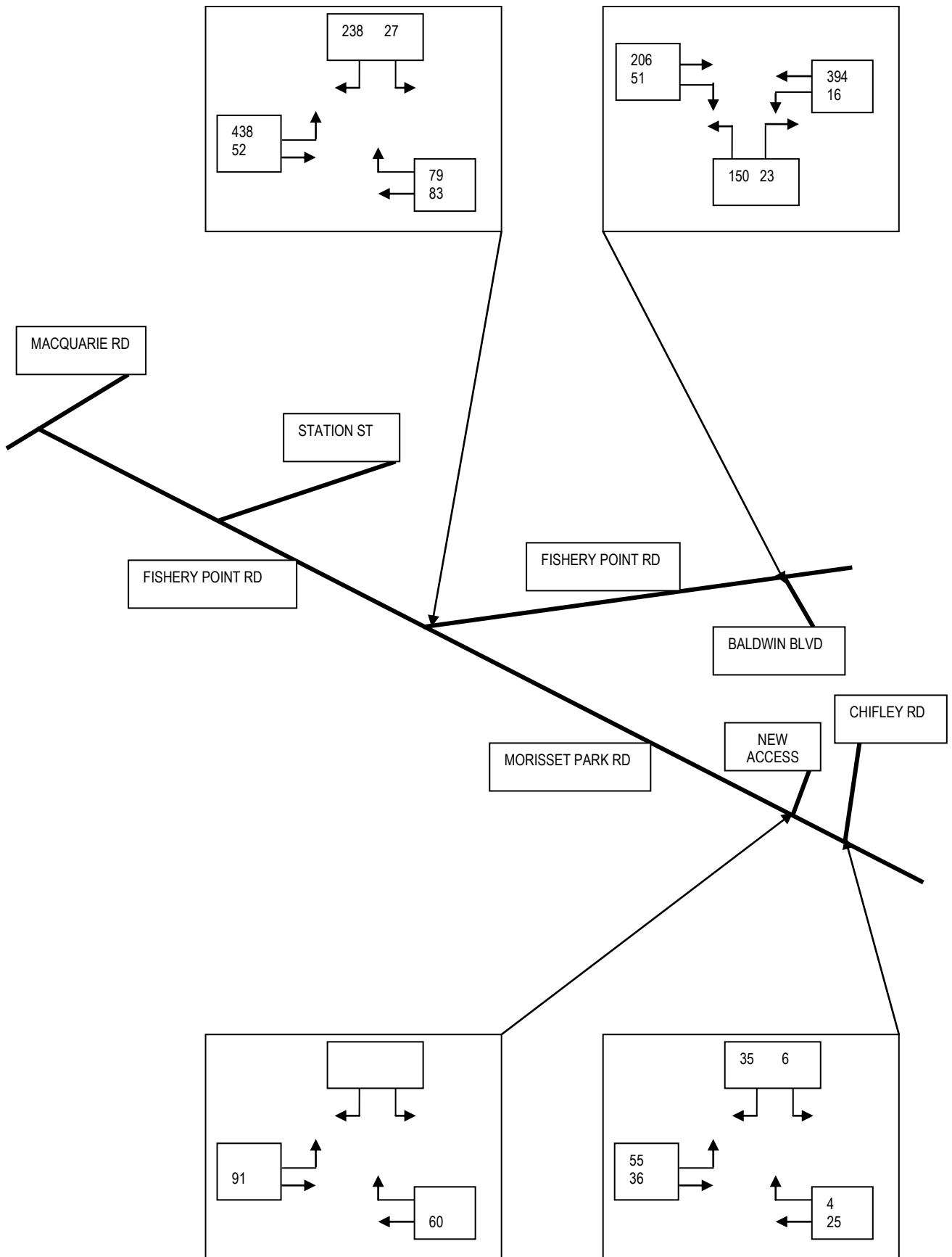


FIGURE 2 – EXISTING PM PEAK TRAFFIC FLOWS 2007

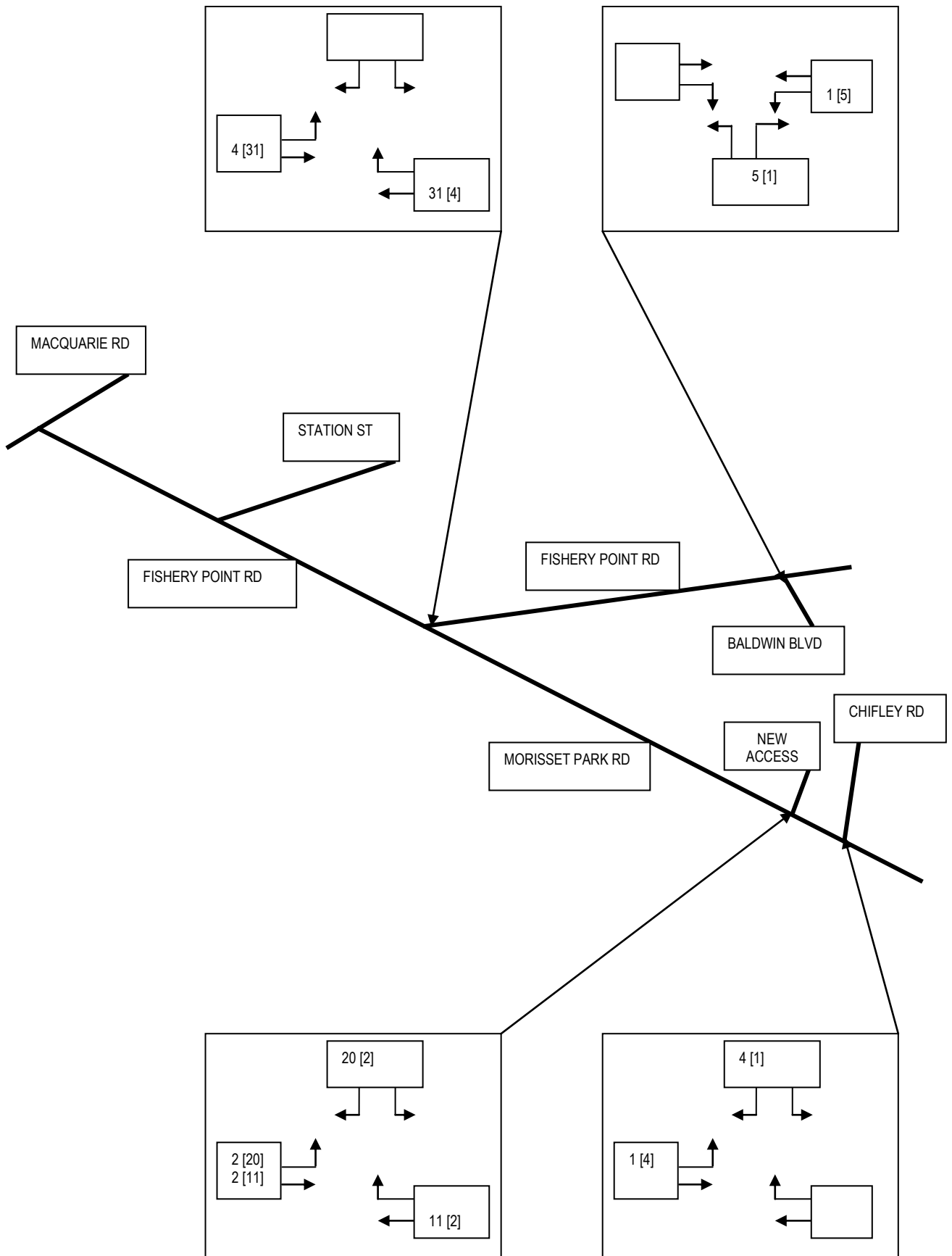


FIGURE 3 – TRAFFIC GENERATION & DISTRIBUTION SUBJECT DA (PM PEAK SHOWN IN [])

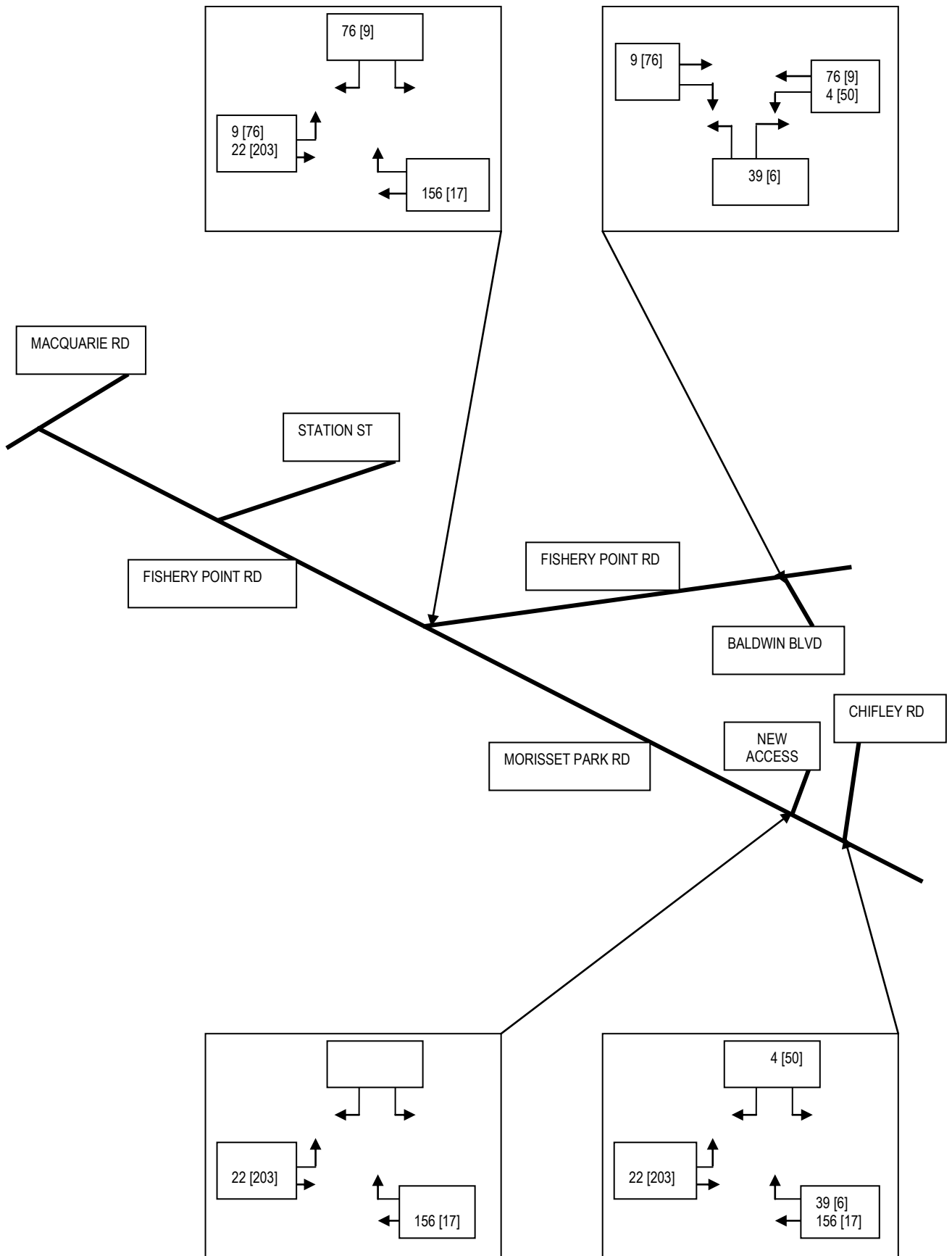


FIGURE 4 – TRAFFIC GENERATION AND DISTRIBUTION OTHER KNOWN DEVELOPMENT POTENTIAL (PM PEAK IN [])

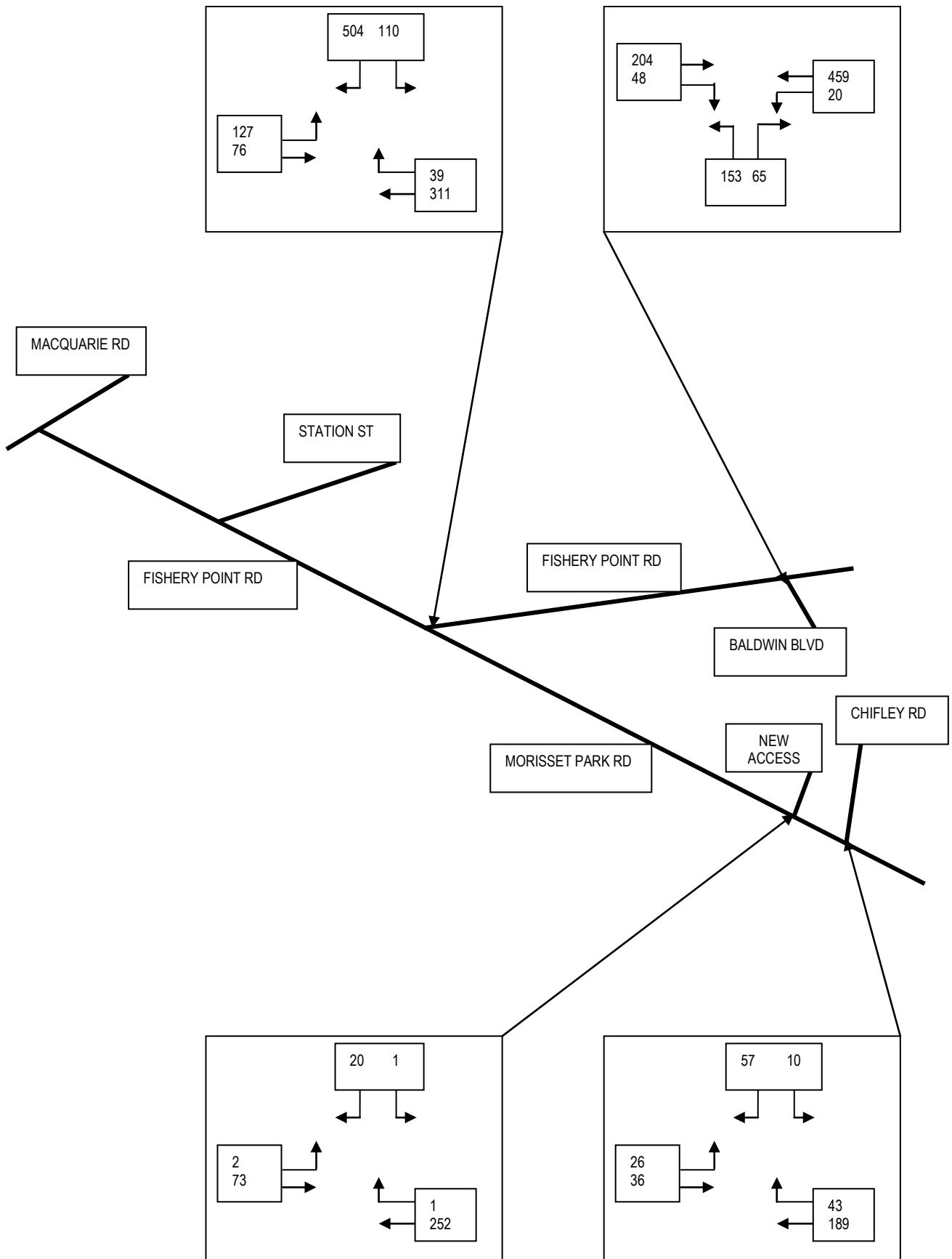


FIGURE 5 – POTENTIAL AM PEAK EXISTING PLUS ALL KNOWN DEVELOPMENT

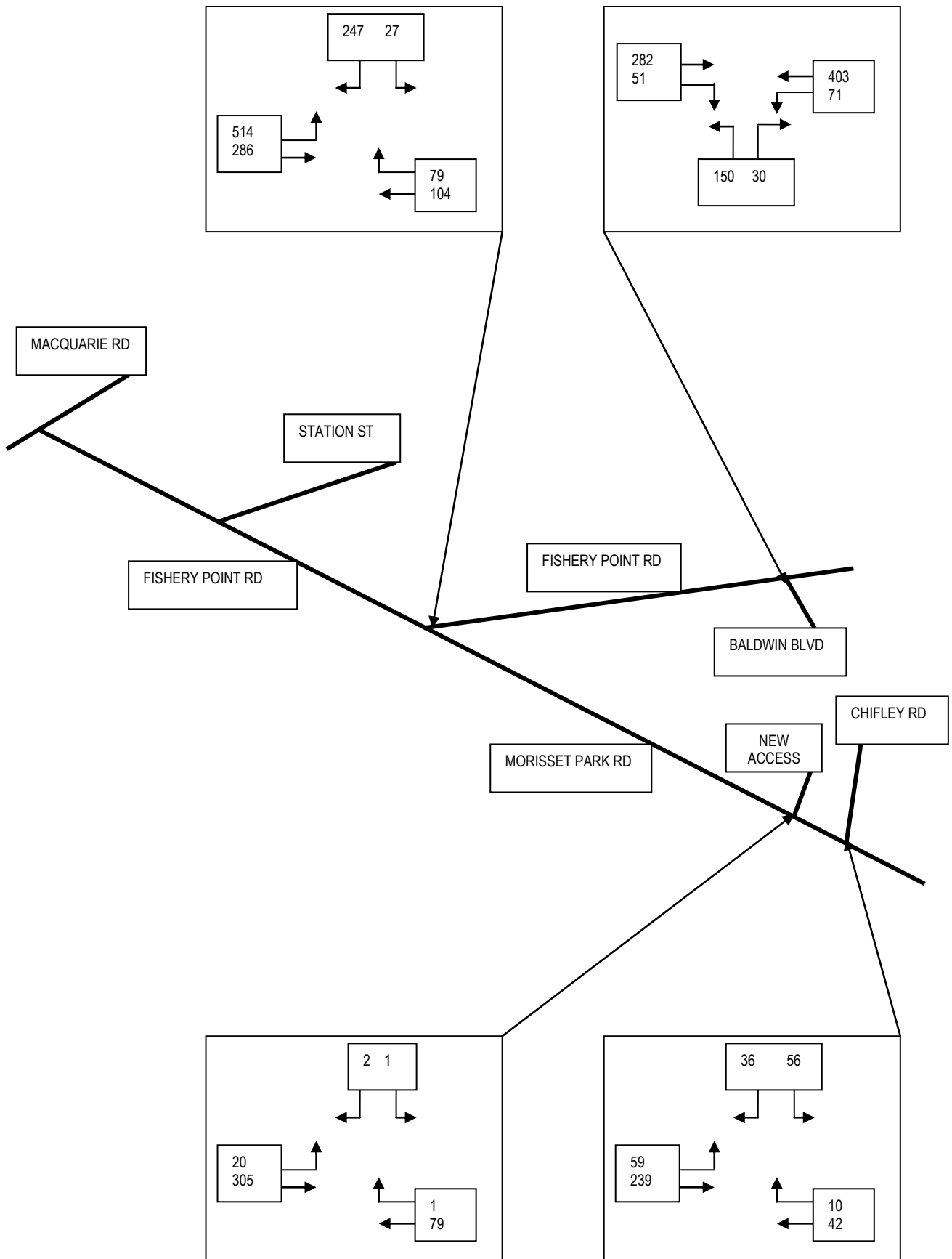


FIGURE 6 – POTENTIAL PM PEAK EXISTING PLUS ALL KNOWN DEVELOPMENT

10b. Traffic Generation Implications

Analysis of the traffic volumes offers many facts including:

- This development will increase existing traffic on Morisset Park Road at its frontage by 20%.
- Additional identified development to the east of this site will increase existing traffic on Morisset Park Road at the subject development frontage by 60%.
- This development will increase existing traffic at the Fishery Point Road & Baldwin Blvd intersection by 0.007%
- Additional identified development will increase existing traffic at the Fishery Point Road & Baldwin Blvd intersection by 0.09%.
- This development will increase existing traffic on the Morisset Park & Fishery Point Roads intersection by 0.06% and even less % at the Station Street intersection.
- Of the total developments identified in reports referenced by TPK for this review the subject development represents around 1% of the total increase in traffic demand on the road network.

Therefore it is logical to consider that the subject development had:

- An obvious accountability to construct Morisset Park Road & New Access intersection.
- 20% accountability for any upgrade of the Morisset Park & Chifley Roads intersection.
- 1% accountability for Morisset Park & Fishery Point Roads intersection.
- 1% accountability for Fishery Point Road & Baldwin Boulevard intersection upgrade and
- Given the Station Street development adds further traffic to the system this development hardly registers in terms of traffic growth/impact at the Fishery Point Road and Station Street upgrade.

The above considerations put into perspective the potential influence and/or impact of this development on the immediate and distant road network.

11. Road Network upgrades (*This addresses Council's comments DGR 4.2 & 5 Feb 2009*)

The Applicant has a settled agreement with the RTA for a contribution to the upgrade of the intersection of Macquarie and Fishery Point Road; no further comment needed in this report.

TPK has concluded from discussion with council and a review of referenced peninsular traffic studies that the following intersections will be impacted upon from either individual or accumulated peninsular development; those intersections are:

- a. Morisset Park & Chifley Roads
- b. Morisset Park & New Access Roads (at subject site)
- c. Fishery Point Road and Baldwin Boulevard
- d. Morisset Park & Fishery Point Roads
- e. Fishery Point Road and Station Street

TPK discusses each intersection in the following text:

a. Morisset Park & Chifley Roads

TPK considers that the road environment makes reference to Austroads, Part 5, and Figure 6.41 relevant to this intersection as the environment will remain semi-rural with the land opposite the subject site unlikely to be developed.

The warrant chart (Figure 6.41) indicates that an AUR type geometric layout is applicable to this intersection.

SIDRA modelling undertaken in NTPE, 2008 has already confirmed that such a layout would provide adequate intersection capacity.

An estimate of cost to upgrade the existing intersection is \$150,000 as there may be a need for power pole relocations.

b. Morisset Park & New Access Roads (at subject site)

TPK considers that the road environment makes reference to Austroads, Part 5, and Figure 6.41 relevant to this intersection as the environment will remain semi-rural with the land opposite the subject site unlikely to be developed.

The warrant chart (Figure 6.41) indicates that an AUR type geometric layout is applicable to this intersection. SIDRA modelling undertaken in NTPE, 2008 has already confirmed that such a layout would provide adequate intersection capacity.

This intersection may need to incorporate provision for bus shelters on both sides, dependant on the terms of development consent.

An estimate of cost to upgrade works over and above providing a basic BAR intersection is \$250,000 as there may be power pole relocation and retaining walls required to provide lane widths and bus amenity.

c. Fishery Point Road and Baldwin Boulevard

NTPE, 2008 modelled the intersection as part of the analysis for this development. In applying a 2% growth across all movements rather than selectively NTPE concluded that in 2018 intersection works were needed to provide intersection capacity.

The growth at this intersection would, in TPK's view be confined predominately to the through traffic as known development has little impact in terms of growth.

NTPE's modelling identified the right turn from Baldwin Boulevard as the movement impacted upon and recommended a Type C geometric upgrade. The delay to the right turn from Baldwin Boulevard will be generated by growth in the through traffic so the NTPE identified capacity issue remains valid; just the volumes may not be as high.

TPK suggests that the NTPE recommended Type C upgrade would not assist the impacted movement and perhaps NTPE were considering sea gull channelisation to reduce the number of opposing movements the right turn from Baldwin Boulevard had to give way to.

This intersection attracts traffic from a number of residential precincts and will continue to facilitate a connection between Morisset Park Road and Fishery Point Road via Chifley Road and Baldwin Boulevard, regardless of whether the connectivity is improved.

TPK, following a review of the road network surrounding this site suggests that as growth occurs both in land use and traffic this intersection would be best forward planned for upgraded to a small roundabout layout; this would be in balance with nearby intersections and extend the benefit of traffic calming whilst maintaining route capacity and efficiency, as the existing nearby roundabouts do.

An estimate of cost to upgrade is \$3 to 400,000. The subject developments increase in traffic generations in comparison to existing traffic demands is minimal (see Section 10b of this report) that the accountability for total works cannot be justified; any accountability to contribute to the upgrade is negligible in dollar terms and TPK were unable to identify any interim works of viable value.

d. Morisset Park & Fishery Point Roads

BTF, 2008 modelled for roundabout control whilst NTPE indicated a preference to signal control.

Council has advised that signal control has been adopted; TPK is unaware if this has RTA approval.

TPK as part of the review has discussed with the School Principal the potential for the Bonnells Bay Primary to remain on its current site as the school should be a major influence on the preferred intersection upgrade; the Principal has advised the plan is for long term occupancy of the site and hence further support for traffic signal control.

Currently Fishery Point Road from the east is the controlled leg of the T-Junction. With single lane approaches driver decision making on the controlled leg must be impeded, in terms of the intended direction of approaching traffic due to no lane discipline/dedication for turn movements.

TPK suggest that construction of a dedicated left turn slip lane for traffic from Morisset turn left into the eastern leg of Fishery Point Road would provide an interim upgrade for capacity and road safety.

The pavement for the lane would be incorporated into the ultimate traffic signal layout and hence would not be a waste of upgrade funds.

The cost of roadworks for suitable traffic signal operation is considered to be significant and intersection costs of \$500,000 including the traffic signals would not be unexpected. In the interim it has been estimated that the left turn slip lane could be provided for around \$80,000 subject to services.

e. Fishery Point Road and Station Street

TPK earlier in this review report demonstrated how insignificant the traffic generation increase from this development is relative to not only existing traffic flow but when taking into account existing and future traffic growth.

To consider this development in terms of a peninsular master plan again the impact is not significant but it does contribute to the overall need to upgrade the peninsular road network; the extent of the impact is the matter of influence.

TPK submits the percentage accountability could be no more than 1% when the additional traffic is added from Station Street; this would equate to around \$3,000 if the estimate remains at around \$300,000.

12. Contributing to Road Network upgrade

The applicant does not dismiss the requirement to contribute to road network upgrade; there are works that are essential to the project and then there are works that are required to manage the impact of the wider land use development of the peninsular.

TPK has provided Table 1 as a means to balance/consider the options for contribution to road network upgrade.

Agreed Intersections in the Area of Influence for this Development	Recommended works in kind roadworks schedule responding to essential and interim works	Potential scope of works under a Voluntary Agreement based on % Traffic Increase.
Morisset Park & Chifley Roads	\$150,000	\$50,000
Morisset Park & New Access Road (This Development)	\$250,000	\$250,000
Fishery Point Road & Baldwin Boulevard		\$4,000
Morisset Park & Fishery Point Roads	\$80,000 #	\$5,000
Fishery Point Road & Station Street		\$3,000

TABLE 1 – ROADWORKS SCHEDULE

The left turn lane is a safety initiative recommended by this review. It will assist driver decision making under existing traffic demand let alone any increased traffic demand; the initiative has value regardless of development.

It would seem acceptable to simply require this development to provide the works at the two frontage intersections on Morisset Park Road under “works in kind” this would ensure that an acceptable contribution is made to the overall road network upgrade.

The two intersections are estimated to cost \$400,000 which is 25% of the total road network upgrade cost estimates identified in this report. That contribution is greater than the 1% increase in traffic this development creates by comparison to the total identified traffic increases of the peninsular; TPK does acknowledge the two intersections are integral to the development and are required regardless of traffic increase percents but the point is valid in considering acceptable contributions.

13. Summation

The assessment by TPK has concluded that:

- The subject development is not a significant impact on the road network when considered in isolation or as part of an accumulated know potential increase in land use development/traffic demand.
- The development has an accountability to participate in road network upgrade and that can be facilitated by consideration to completion of selective works in kind that contribute to a council masterplan view of the peninsular road network. (Rather than a payment to council via a Voluntary Planning Agreement)
- The scope of roadworks that would be an acceptable contribution to enhanced capacity and road safety on the peninsular road network by the subject applicant, subject to the timing of all known potential development is submitted to be:
 - a. Construct an AUR geometric intersection for Morisset Park Road and Chifley Road.
 - b. Construct an AUR geometric intersection for Morisset Park Road and the New Access Road to the estate; including bus amenity.
- Whilst not submitted as a work generated by the demands of the subject development, the construction of the suggested left turn slip lane on Fishery Point Road at the Morisset Park Road intersection (for traffic from Morisset travelling east on Fishery Point Road) would assist driver decision making of the existing road network.

The last dot point above is potential interim works that TPK consider would assist the existing road network driver decision making and provide interim value as the traffic demands grow to ultimate demands; it was not seen as an essential upgrade to manage the impact of this development alone.

TPK submit that this review provides a suitable response to comments from Lake Macquarie City Council on the project and tenders a work schedule that is an acceptable contribution to road network upgrade.

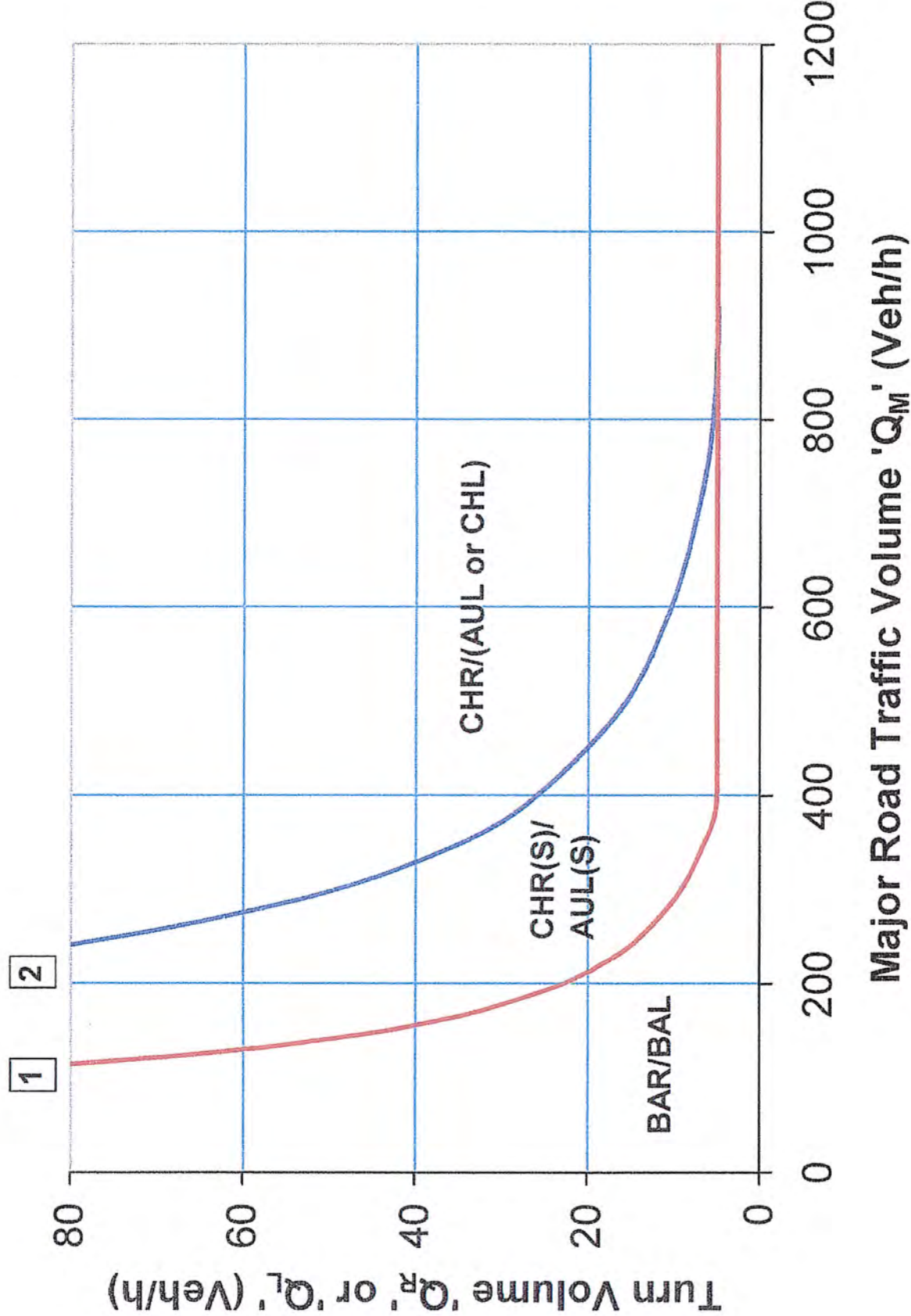
Prepared by

T Keating

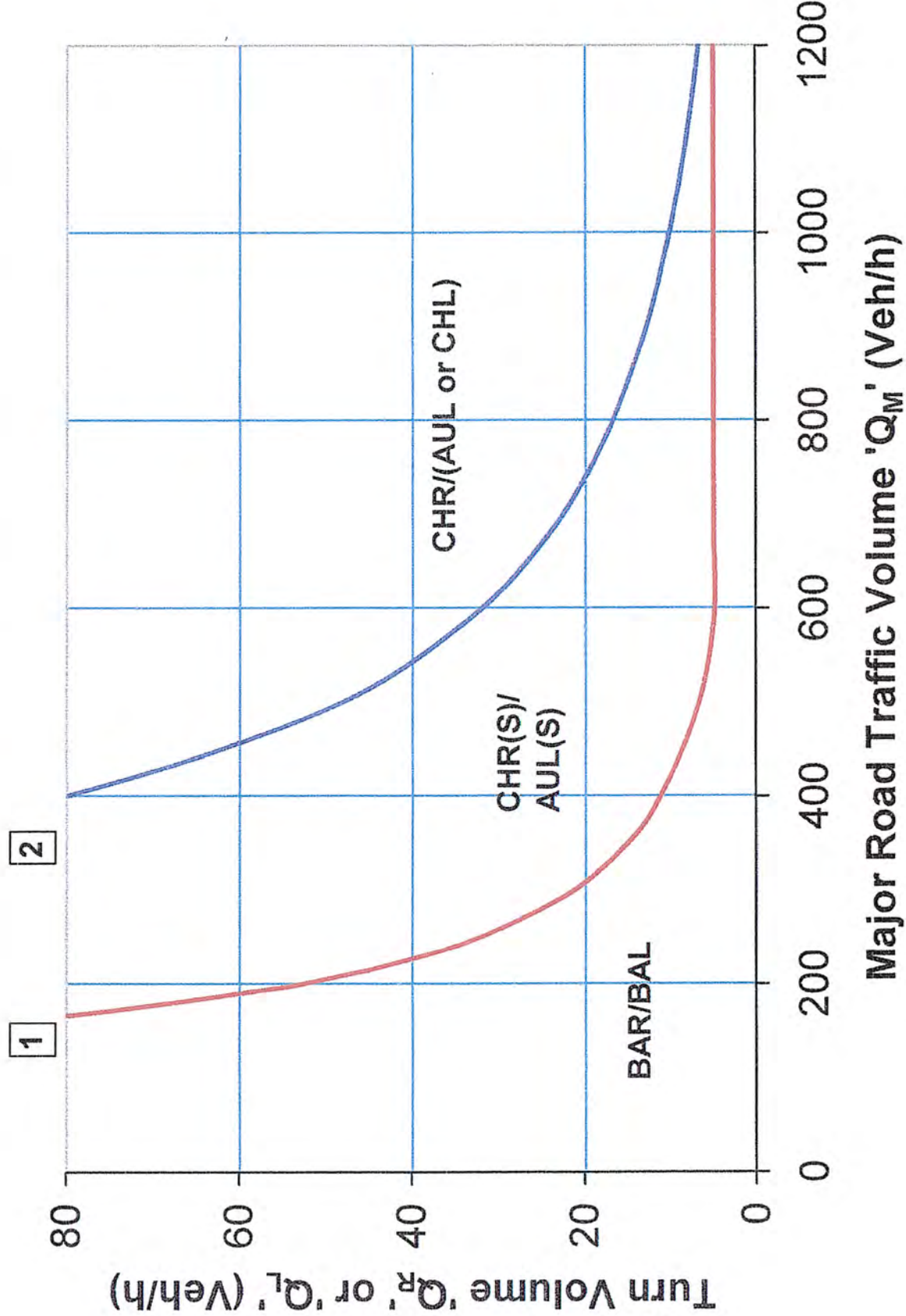
Mr. T Keating
Director, TPK & Associates

ATTACHMENT 4

Austroads Part 4A 2010 Figure 4.9 Warrants for turn treatments on the major road at unsignalised intersections



(a) Design speed ≥ 100 km/h



(b) Design speed < 100 km/h

Source: Arndt and Troutbeck (2006).

Figure 4.9: Warrants for turn treatments on the major road at unsignalised intersections



ATTACHMENT 5

**Correspondence from LMCC Traffic & Transport Engineer dated
17 July 2014**

From: Marc Desmond [mailto:mdesmond@lakemac.nsw.gov.au]

Sent: Thursday, 17 July 2014 1:46 PM

To: Fiona Wade

Cc: David Pavitt

Subject: FW: S75W - Morisset Park, Morisset

Hi Fiona,

I have reviewed the request to have a BAR at the intersection of Morisset Park Road and Chifley Road, and Morisset Park Road and the new road into the subdivision, and raise no objection to the proposal.

I consider that following development of the subdivision that the proposed intersection configuration as a BAR is appropriate. I do request that prior to the intersections being upgraded to BAR's, that the speed limit through the intersections and along the frontage of the site be reduced from 70km/h to 50km/h. The RMS has informed me that anyone over 18 can request a speed zone review, so I recommend that this be undertaken as part of the proposal.

Regards,

Marc

Marc Desmond | Traffic and Transportation Engineer

Lake Macquarie City Council

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