



2015

COUNCIL BUSINESS PAPERS

Ordinary Meeting

18 FEBRUARY 2015

ATTACHMENT **6.2.3**

► Attach 1-5: DA0164/2015 Oriental Hotel





NOTES

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION.
CONTRACT DOCUMENTS SHALL BE REFERRED TO FOR HEAD DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.

ABBREVIATIONS

- AL ALUMINIUM
- AS ASBESTOS
- AT ALUMINIUM THERMALLY BRANCHED
- BR BRICK
- CC CORRUGATED METAL
- CB CONCRETE BLOCK
- CD CONCRETE DECK
- CF CONCRETE FINISH
- CG CONCRETE GRAB
- CH CONCRETE HANDRAIL
- CI CONCRETE INSET
- CL CONCRETE LINING
- CM CONCRETE MASONRY
- CP CONCRETE PAVING
- CR CONCRETE REINFORCED
- CS CONCRETE SLAB
- CT CONCRETE TIE
- DA DOWNPIPE
- DB DOWNPIPE BRACKET
- DC DOWNPIPE CAP
- DE DOWNPIPE END
- DF DOWNPIPE FLASHING
- DR DOWNPIPE RAIN
- EA EXISTING ALUMINIUM WINDOW
- EB EXISTING BAGGED BRICKWORK
- EC EXISTING CONCRETE BLOCKWORK
- ED EXISTING CORRUGATED METAL
- EE EXISTING CONCRETE
- EF EXISTING CONCRETE FINISH
- EG EXISTING CONCRETE GRAB
- EH EXISTING CONCRETE HANDRAIL
- EI EXISTING CONCRETE INSET
- EJ EXISTING CONCRETE LINING
- EK EXISTING CONCRETE MASONRY
- EL EXISTING CONCRETE PAVING
- EM EXISTING CONCRETE REINFORCED
- EN EXISTING CONCRETE SLAB
- EO EXISTING CONCRETE TIE
- EP EXISTING CONCRETE DOWNPIPE
- EQ EXISTING DOWNPIPE
- ER EXISTING DOWNPIPE BRACKET
- ES EXISTING DOWNPIPE CAP
- ET EXISTING DOWNPIPE END
- EU EXISTING DOWNPIPE FLASHING
- EV EXISTING DOWNPIPE RAIN
- EX EXISTING
- FA FIBRE CEMENT SHEET
- FB FIBRE CEMENT BOARD
- FC FIBRE CEMENT CONCRETE
- FD FIBRE CEMENT CONCRETE FINISH
- FE FIBRE CEMENT CONCRETE GRAB
- FF FIBRE CEMENT CONCRETE HANDRAIL
- FG FIBRE CEMENT CONCRETE INSET
- FH FIBRE CEMENT CONCRETE LINING
- FI FIBRE CEMENT CONCRETE MASONRY
- FJ FIBRE CEMENT CONCRETE PAVING
- FK FIBRE CEMENT CONCRETE REINFORCED
- FL FIBRE CEMENT CONCRETE SLAB
- FM FIBRE CEMENT CONCRETE TIE
- FN FIBRE CEMENT CONCRETE DOWNPIPE
- FO FIBRE CEMENT CONCRETE DOWNPIPE BRACKET
- FP FIBRE CEMENT CONCRETE DOWNPIPE CAP
- FQ FIBRE CEMENT CONCRETE DOWNPIPE END
- FR FIBRE CEMENT CONCRETE DOWNPIPE FLASHING
- FS FIBRE CEMENT CONCRETE DOWNPIPE RAIN
- FT FIBRE CEMENT CONCRETE DOWNPIPE
- FX FIBRE CEMENT CONCRETE
- GA GLASS ANGLE
- GB GLASS BLOCK
- GC GLASS CURTAIN WALL
- GD GLASS DOOR
- GE GLASS END WALL
- GF GLASS FINISH
- GG GLASS GRAB
- GH GLASS HANDRAIL
- GI GLASS INSET
- GJ GLASS LINING
- GK GLASS MASONRY
- GL GLASS PAVING
- GM GLASS REINFORCED
- GN GLASS SLAB
- GO GLASS TIE
- GP GLASS DOWNPIPE
- GQ GLASS DOWNPIPE BRACKET
- GR GLASS DOWNPIPE CAP
- GS GLASS DOWNPIPE END
- GT GLASS DOWNPIPE FLASHING
- GU GLASS DOWNPIPE RAIN
- GV GLASS DOWNPIPE
- GX GLASS
- HA HANDRAIL
- HB HANDRAIL BRACKET
- HC HANDRAIL CAP
- HD HANDRAIL END
- HE HANDRAIL FLASHING
- HF HANDRAIL RAIN
- HG HANDRAIL
- HH HANDRAIL
- HI HANDRAIL
- HJ HANDRAIL
- HK HANDRAIL
- HL HANDRAIL
- HM HANDRAIL
- HN HANDRAIL
- HO HANDRAIL
- HP HANDRAIL
- HQ HANDRAIL
- HR HANDRAIL
- HS HANDRAIL
- HT HANDRAIL
- HX HANDRAIL
- IA INSULATION
- IB INSULATION BOARD
- IC INSULATION CONCRETE
- ID INSULATION CONCRETE FINISH
- IE INSULATION CONCRETE GRAB
- IF INSULATION CONCRETE HANDRAIL
- IG INSULATION CONCRETE INSET
- IH INSULATION CONCRETE LINING
- II INSULATION CONCRETE MASONRY
- IJ INSULATION CONCRETE PAVING
- IK INSULATION CONCRETE REINFORCED
- IL INSULATION CONCRETE SLAB
- IM INSULATION CONCRETE TIE
- IN INSULATION CONCRETE DOWNPIPE
- IO INSULATION CONCRETE DOWNPIPE BRACKET
- IP INSULATION CONCRETE DOWNPIPE CAP
- IQ INSULATION CONCRETE DOWNPIPE END
- IR INSULATION CONCRETE DOWNPIPE FLASHING
- IS INSULATION CONCRETE DOWNPIPE RAIN
- IT INSULATION CONCRETE DOWNPIPE
- IX INSULATION CONCRETE
- JA JOINT
- JB JOINT BRACKET
- JC JOINT CAP
- JD JOINT END
- JE JOINT FLASHING
- JF JOINT RAIN
- JG JOINT
- JH JOINT
- JI JOINT
- JJ JOINT
- JK JOINT
- JL JOINT
- JM JOINT
- JN JOINT
- JO JOINT
- JP JOINT
- JQ JOINT
- JR JOINT
- JS JOINT
- JT JOINT
- JX JOINT
- KA KEEL
- KB KEEL BRACKET
- KC KEEL CAP
- KD KEEL END
- KE KEEL FLASHING
- KF KEEL RAIN
- KG KEEL
- KH KEEL
- KI KEEL
- KJ KEEL
- KK KEEL
- KL KEEL
- KM KEEL
- KN KEEL
- KO KEEL
- KP KEEL
- KQ KEEL
- KR KEEL
- KS KEEL
- KT KEEL
- KX KEEL
- LA LAMINATE
- LB LAMINATE BOARD
- LC LAMINATE CONCRETE
- LD LAMINATE CONCRETE FINISH
- LE LAMINATE CONCRETE GRAB
- LF LAMINATE CONCRETE HANDRAIL
- LG LAMINATE CONCRETE INSET
- LH LAMINATE CONCRETE LINING
- LI LAMINATE CONCRETE MASONRY
- LJ LAMINATE CONCRETE PAVING
- LK LAMINATE CONCRETE REINFORCED
- LL LAMINATE CONCRETE SLAB
- LM LAMINATE CONCRETE TIE
- LN LAMINATE CONCRETE DOWNPIPE
- LO LAMINATE CONCRETE DOWNPIPE BRACKET
- LP LAMINATE CONCRETE DOWNPIPE CAP
- LQ LAMINATE CONCRETE DOWNPIPE END
- LR LAMINATE CONCRETE DOWNPIPE FLASHING
- LS LAMINATE CONCRETE DOWNPIPE RAIN
- LT LAMINATE CONCRETE DOWNPIPE
- LX LAMINATE CONCRETE
- MA MASONRY
- MB MASONRY BOARD
- MC MASONRY CONCRETE
- MD MASONRY CONCRETE FINISH
- ME MASONRY CONCRETE GRAB
- MF MASONRY CONCRETE HANDRAIL
- MG MASONRY CONCRETE INSET
- MH MASONRY CONCRETE LINING
- MI MASONRY CONCRETE MASONRY
- MJ MASONRY CONCRETE PAVING
- MK MASONRY CONCRETE REINFORCED
- ML MASONRY CONCRETE SLAB
- MM MASONRY CONCRETE TIE
- MN MASONRY CONCRETE DOWNPIPE
- MO MASONRY CONCRETE DOWNPIPE BRACKET
- MP MASONRY CONCRETE DOWNPIPE CAP
- MQ MASONRY CONCRETE DOWNPIPE END
- MR MASONRY CONCRETE DOWNPIPE FLASHING
- MS MASONRY CONCRETE DOWNPIPE RAIN
- MT MASONRY CONCRETE DOWNPIPE
- MX MASONRY CONCRETE
- NA NAIL ANCHOR
- NB NAIL ANCHOR BRACKET
- NC NAIL ANCHOR CAP
- ND NAIL ANCHOR END
- NE NAIL ANCHOR FLASHING
- NF NAIL ANCHOR RAIN
- NG NAIL ANCHOR
- NH NAIL ANCHOR
- NI NAIL ANCHOR
- NJ NAIL ANCHOR
- NK NAIL ANCHOR
- NL NAIL ANCHOR
- NM NAIL ANCHOR
- NN NAIL ANCHOR
- NO NAIL ANCHOR
- NP NAIL ANCHOR
- NQ NAIL ANCHOR
- NR NAIL ANCHOR
- NS NAIL ANCHOR
- NT NAIL ANCHOR
- NX NAIL ANCHOR
- OA OPERABLE ALUMINIUM WINDOW
- OB OPERABLE BAGGED BRICKWORK
- OC OPERABLE CONCRETE BLOCKWORK
- OD OPERABLE CORRUGATED METAL
- OE OPERABLE CONCRETE
- OF OPERABLE CONCRETE FINISH
- OG OPERABLE CONCRETE GRAB
- OH OPERABLE CONCRETE HANDRAIL
- OI OPERABLE CONCRETE INSET
- OJ OPERABLE CONCRETE LINING
- OK OPERABLE CONCRETE MASONRY
- OL OPERABLE CONCRETE PAVING
- OM OPERABLE CONCRETE REINFORCED
- ON OPERABLE CONCRETE SLAB
- OO OPERABLE CONCRETE TIE
- OP OPERABLE CONCRETE DOWNPIPE
- OQ OPERABLE CONCRETE DOWNPIPE BRACKET
- OR OPERABLE CONCRETE DOWNPIPE CAP
- OS OPERABLE CONCRETE DOWNPIPE END
- OT OPERABLE CONCRETE DOWNPIPE FLASHING
- OU OPERABLE CONCRETE DOWNPIPE RAIN
- OV OPERABLE CONCRETE DOWNPIPE
- OX OPERABLE CONCRETE
- PA PAPER
- PB PAPER BRACKET
- PC PAPER CAP
- PD PAPER END
- PE PAPER FLASHING
- PF PAPER RAIN
- PG PAPER
- PH PAPER
- PI PAPER
- PJ PAPER
- PK PAPER
- PL PAPER
- PM PAPER
- PN PAPER
- PO PAPER
- PP PAPER
- PQ PAPER
- PR PAPER
- PS PAPER
- PT PAPER
- PX PAPER
- QA QUALITY ASSURANCE
- QB QUALITY ASSURANCE BOARD
- QC QUALITY ASSURANCE CONCRETE
- QD QUALITY ASSURANCE CONCRETE FINISH
- QE QUALITY ASSURANCE CONCRETE GRAB
- QF QUALITY ASSURANCE CONCRETE HANDRAIL
- QG QUALITY ASSURANCE CONCRETE INSET
- QH QUALITY ASSURANCE CONCRETE LINING
- QI QUALITY ASSURANCE CONCRETE MASONRY
- QJ QUALITY ASSURANCE CONCRETE PAVING
- QK QUALITY ASSURANCE CONCRETE REINFORCED
- QL QUALITY ASSURANCE CONCRETE SLAB
- QM QUALITY ASSURANCE CONCRETE TIE
- QN QUALITY ASSURANCE CONCRETE DOWNPIPE
- QO QUALITY ASSURANCE CONCRETE DOWNPIPE BRACKET
- QP QUALITY ASSURANCE CONCRETE DOWNPIPE CAP
- QQ QUALITY ASSURANCE CONCRETE DOWNPIPE END
- QR QUALITY ASSURANCE CONCRETE DOWNPIPE FLASHING
- QS QUALITY ASSURANCE CONCRETE DOWNPIPE RAIN
- QT QUALITY ASSURANCE CONCRETE DOWNPIPE
- QX QUALITY ASSURANCE CONCRETE
- RA REINFORCED ALUMINIUM WINDOW
- RB REINFORCED BAGGED BRICKWORK
- RC REINFORCED CONCRETE BLOCKWORK
- RD REINFORCED CORRUGATED METAL
- RE REINFORCED CONCRETE
- RF REINFORCED CONCRETE FINISH
- RG REINFORCED CONCRETE GRAB
- RH REINFORCED CONCRETE HANDRAIL
- RI REINFORCED CONCRETE INSET
- RJ REINFORCED CONCRETE LINING
- RK REINFORCED CONCRETE MASONRY
- RL REINFORCED CONCRETE PAVING
- RM REINFORCED CONCRETE REINFORCED
- RN REINFORCED CONCRETE SLAB
- RO REINFORCED CONCRETE TIE
- RP REINFORCED CONCRETE DOWNPIPE
- RQ REINFORCED CONCRETE DOWNPIPE BRACKET
- RS REINFORCED CONCRETE DOWNPIPE CAP
- RT REINFORCED CONCRETE DOWNPIPE END
- RU REINFORCED CONCRETE DOWNPIPE FLASHING
- RV REINFORCED CONCRETE DOWNPIPE RAIN
- RU REINFORCED CONCRETE DOWNPIPE
- RX REINFORCED CONCRETE
- SA STAINLESS ALUMINIUM WINDOW
- SB STAINLESS BAGGED BRICKWORK
- SC STAINLESS CONCRETE BLOCKWORK
- SD STAINLESS CORRUGATED METAL
- SE STAINLESS CONCRETE
- SF STAINLESS CONCRETE FINISH
- SG STAINLESS CONCRETE GRAB
- SH STAINLESS CONCRETE HANDRAIL
- SI STAINLESS CONCRETE INSET
- SJ STAINLESS CONCRETE LINING
- SK STAINLESS CONCRETE MASONRY
- SL STAINLESS CONCRETE PAVING
- SM STAINLESS CONCRETE REINFORCED
- SN STAINLESS CONCRETE SLAB
- SO STAINLESS CONCRETE TIE
- SP STAINLESS CONCRETE DOWNPIPE
- SQ STAINLESS CONCRETE DOWNPIPE BRACKET
- SR STAINLESS CONCRETE DOWNPIPE CAP
- SS STAINLESS CONCRETE DOWNPIPE END
- ST STAINLESS CONCRETE DOWNPIPE FLASHING
- SV STAINLESS CONCRETE DOWNPIPE RAIN
- ST STAINLESS CONCRETE DOWNPIPE
- SX STAINLESS CONCRETE
- TA THERMALLY BRANCHED ALUMINIUM WINDOW
- TB THERMALLY BRANCHED BAGGED BRICKWORK
- TC THERMALLY BRANCHED CONCRETE BLOCKWORK
- TD THERMALLY BRANCHED CORRUGATED METAL
- TE THERMALLY BRANCHED CONCRETE
- TF THERMALLY BRANCHED CONCRETE FINISH
- TG THERMALLY BRANCHED CONCRETE GRAB
- TH THERMALLY BRANCHED CONCRETE HANDRAIL
- TI THERMALLY BRANCHED CONCRETE INSET
- TJ THERMALLY BRANCHED CONCRETE LINING
- TK THERMALLY BRANCHED CONCRETE MASONRY
- TL THERMALLY BRANCHED CONCRETE PAVING
- TM THERMALLY BRANCHED CONCRETE REINFORCED
- TN THERMALLY BRANCHED CONCRETE SLAB
- TO THERMALLY BRANCHED CONCRETE TIE
- TP THERMALLY BRANCHED CONCRETE DOWNPIPE
- TQ THERMALLY BRANCHED CONCRETE DOWNPIPE BRACKET
- TR THERMALLY BRANCHED CONCRETE DOWNPIPE CAP
- TS THERMALLY BRANCHED CONCRETE DOWNPIPE END
- TU THERMALLY BRANCHED CONCRETE DOWNPIPE FLASHING
- TV THERMALLY BRANCHED CONCRETE DOWNPIPE RAIN
- TU THERMALLY BRANCHED CONCRETE DOWNPIPE
- TX THERMALLY BRANCHED CONCRETE
- UA UNFINISHED ALUMINIUM WINDOW
- UB UNFINISHED BAGGED BRICKWORK
- UC UNFINISHED CONCRETE BLOCKWORK
- UD UNFINISHED CORRUGATED METAL
- UE UNFINISHED CONCRETE
- UF UNFINISHED CONCRETE FINISH
- UG UNFINISHED CONCRETE GRAB
- UH UNFINISHED CONCRETE HANDRAIL
- UI UNFINISHED CONCRETE INSET
- UJ UNFINISHED CONCRETE LINING
- UK UNFINISHED CONCRETE MASONRY
- UL UNFINISHED CONCRETE PAVING
- UM UNFINISHED CONCRETE REINFORCED
- UN UNFINISHED CONCRETE SLAB
- UO UNFINISHED CONCRETE TIE
- UP UNFINISHED CONCRETE DOWNPIPE
- UQ UNFINISHED CONCRETE DOWNPIPE BRACKET
- UR UNFINISHED CONCRETE DOWNPIPE CAP
- US UNFINISHED CONCRETE DOWNPIPE END
- UT UNFINISHED CONCRETE DOWNPIPE FLASHING
- UV UNFINISHED CONCRETE DOWNPIPE RAIN
- UT UNFINISHED CONCRETE DOWNPIPE
- UX UNFINISHED CONCRETE
- VA VENTILATED ALUMINIUM WINDOW
- VB VENTILATED BAGGED BRICKWORK
- VC VENTILATED CONCRETE BLOCKWORK
- VD VENTILATED CORRUGATED METAL
- VE VENTILATED CONCRETE
- VF VENTILATED CONCRETE FINISH
- VG VENTILATED CONCRETE GRAB
- VH VENTILATED CONCRETE HANDRAIL
- VI VENTILATED CONCRETE INSET
- VJ VENTILATED CONCRETE LINING
- VK VENTILATED CONCRETE MASONRY
- VL VENTILATED CONCRETE PAVING
- VM VENTILATED CONCRETE REINFORCED
- VN VENTILATED CONCRETE SLAB
- VO VENTILATED CONCRETE TIE
- VP VENTILATED CONCRETE DOWNPIPE
- VQ VENTILATED CONCRETE DOWNPIPE BRACKET
- VR VENTILATED CONCRETE DOWNPIPE CAP
- VS VENTILATED CONCRETE DOWNPIPE END
- VT VENTILATED CONCRETE DOWNPIPE FLASHING
- VV VENTILATED CONCRETE DOWNPIPE RAIN
- VU VENTILATED CONCRETE DOWNPIPE
- VX VENTILATED CONCRETE
- WA WALL
- WB WALL BRACKET
- WC WALL CAP
- WD WALL END
- WE WALL FLASHING
- WF WALL RAIN
- WG WALL
- WH WALL
- WI WALL
- WJ WALL
- WK WALL
- WL WALL
- WM WALL
- WN WALL
- WO WALL
- WP WALL
- WQ WALL
- WR WALL
- WS WALL
- WT WALL
- WX WALL
- XA EXISTING ALUMINIUM WINDOW
- XB EXISTING BAGGED BRICKWORK
- XC EXISTING CONCRETE BLOCKWORK
- XD EXISTING CORRUGATED METAL
- XE EXISTING CONCRETE
- XF EXISTING CONCRETE FINISH
- XG EXISTING CONCRETE GRAB
- XH EXISTING CONCRETE HANDRAIL
- XI EXISTING CONCRETE INSET
- XJ EXISTING CONCRETE LINING
- XK EXISTING CONCRETE MASONRY
- XL EXISTING CONCRETE PAVING
- XM EXISTING CONCRETE REINFORCED
- XN EXISTING CONCRETE SLAB
- XO EXISTING CONCRETE TIE
- XP EXISTING CONCRETE DOWNPIPE
- XQ EXISTING CONCRETE DOWNPIPE BRACKET
- XR EXISTING CONCRETE DOWNPIPE CAP
- XS EXISTING CONCRETE DOWNPIPE END
- XT EXISTING CONCRETE DOWNPIPE FLASHING
- XU EXISTING CONCRETE DOWNPIPE RAIN
- XU EXISTING CONCRETE DOWNPIPE
- XX EXISTING CONCRETE
- YA YOUNG ALUMINIUM WINDOW
- YB YOUNG BAGGED BRICKWORK
- YC YOUNG CONCRETE BLOCKWORK
- YD YOUNG CORRUGATED METAL
- YE YOUNG CONCRETE
- YF YOUNG CONCRETE FINISH
- YG YOUNG CONCRETE GRAB
- YH YOUNG CONCRETE HANDRAIL
- YI YOUNG CONCRETE INSET
- YJ YOUNG CONCRETE LINING
- YK YOUNG CONCRETE MASONRY
- YL YOUNG CONCRETE PAVING
- YM YOUNG CONCRETE REINFORCED
- YN YOUNG CONCRETE SLAB
- YO YOUNG CONCRETE TIE
- YP YOUNG CONCRETE DOWNPIPE
- YQ YOUNG CONCRETE DOWNPIPE BRACKET
- YR YOUNG CONCRETE DOWNPIPE CAP
- YS YOUNG CONCRETE DOWNPIPE END
- YT YOUNG CONCRETE DOWNPIPE FLASHING
- YV YOUNG CONCRETE DOWNPIPE RAIN
- YU YOUNG CONCRETE DOWNPIPE
- YX YOUNG CONCRETE
- ZA ZINC ALUMINIUM WINDOW
- ZB ZINC BAGGED BRICKWORK
- ZC ZINC CONCRETE BLOCKWORK
- ZD ZINC CORRUGATED METAL
- ZE ZINC CONCRETE
- ZF ZINC CONCRETE FINISH
- ZG ZINC CONCRETE GRAB
- ZH ZINC CONCRETE HANDRAIL
- ZI ZINC CONCRETE INSET
- ZJ ZINC CONCRETE LINING
- ZK ZINC CONCRETE MASONRY
- ZL ZINC CONCRETE PAVING
- ZM ZINC CONCRETE REINFORCED
- ZN ZINC CONCRETE SLAB
- ZO ZINC CONCRETE TIE
- ZP ZINC CONCRETE DOWNPIPE
- ZQ ZINC CONCRETE DOWNPIPE BRACKET
- ZR ZINC CONCRETE DOWNPIPE CAP
- ZS ZINC CONCRETE DOWNPIPE END
- ZT ZINC CONCRETE DOWNPIPE FLASHING
- ZV ZINC CONCRETE DOWNPIPE RAIN
- ZU ZINC CONCRETE DOWNPIPE
- ZX ZINC CONCRETE

AUSTRALIAN STANDARDS

- AS 1170 BALUSTRADE LOADING
- AS 1530 LIGHT TUBES
- AS 1564 LIGHT TUBES
- AS 1564-1999 LIGHT TUBES
- AS 1564-2000 LIGHT TUBES
- AS 1564-2001 LIGHT TUBES
- AS 1564-2002 LIGHT TUBES
- AS 1564-2003 LIGHT TUBES
- AS 1564-2004 LIGHT TUBES
- AS 1564-2005 LIGHT TUBES
- AS 1564-2006 LIGHT TUBES
- AS 1564-2007 LIGHT TUBES
- AS 1564-2008 LIGHT TUBES
- AS 1564-2009 LIGHT TUBES
- AS 1564-2010 LIGHT TUBES
- AS 1564-2011 LIGHT TUBES
- AS 1564-2012 LIGHT TUBES
- AS 1564-2013 LIGHT TUBES
- AS 1564-2014 LIGHT TUBES
- AS 1564-2015 LIGHT TUBES
- AS 1564-2016 LIGHT TUBES
- AS 1564-2017 LIGHT TUBES
- AS 1564-2018 LIGHT TUBES
- AS 1564-2019 LIGHT TUBES
- AS 1564-2020 LIGHT TUBES
- AS 1564-2021 LIGHT TUBES
- AS 1564-2022 LIGHT TUBES
- AS 1564-2023 LIGHT TUBES
- AS 1564-2024 LIGHT TUBES
- AS 1564-2025 LIGHT TUBES
- AS 1564-2026 LIGHT TUBES
- AS 1564-2027 LIGHT TUBES
- AS 1564-2028 LIGHT TUBES
- AS 1564-2029 LIGHT TUBES
- AS 1564-2030 LIGHT TUBES
- AS 1564-2031 LIGHT TUBES
- AS 1564-2032 LIGHT TUBES
- AS 1564-2033 LIGHT TUBES
- AS 1564-2034 LIGHT TUBES
- AS 1564-2035 LIGHT TUBES
- AS 1564-2036 LIGHT TUBES
- AS 1564-2037 LIGHT TUBES
- AS 1564-2038 LIGHT TUBES
- AS 1564-2039 LIGHT TUBES
- AS 1564-2040 LIGHT TUBES
- AS 1564-2041 LIGHT TUBES
- AS 1564-2042 LIGHT TUBES
- AS 1564-2043 LIGHT TUBES
- AS 1564-2044 LIGHT TUBES
- AS 1564-2045 LIGHT TUBES
- AS 1564-2046 LIGHT TUBES
- AS 1564-2047 LIGHT TUBES
- AS 1564-2048 LIGHT TUBES
- AS 1564-2049 LIGHT TUBES
- AS 1564-2050 LIGHT TUBES
- AS 1564-2051 LIGHT TUBES
- AS 1564-2052 LIGHT TUBES
- AS 1564-2053 LIGHT TUBES
- AS 1564-2054 LIGHT TUBES
- AS 1564-2055 LIGHT TUBES
- AS 1564-2056 LIGHT TUBES
- AS 1564-2057 LIGHT TUBES
- AS 1564-2058 LIGHT TUBES
- AS 1564-2059 LIGHT TUBES
- AS 1564-2060 LIGHT TUBES
- AS 1564-2061 LIGHT TUBES
- AS 1564-2062 LIGHT TUBES
- AS 1564-2063 LIGHT TUBES
- AS 1564-2064 LIGHT TUBES
- AS 1564-2065 LIGHT TUBES
- AS 1564-2066 LIGHT TUBES
- AS 1564-2067 LIGHT TUBES
- AS 1564-2068 LIGHT TUBES
- AS 1564-2069 LIGHT TUBES
- AS 1564-2070 LIGHT TUBES
- AS 1564-2071 LIGHT TUBES
- AS 1564-2072 LIGHT TUBES
- AS 1564-2073 LIGHT TUBES
- AS 1564-2074 LIGHT TUBES
- AS 1564-2075 LIGHT TUBES
- AS 1564-2076 LIGHT TUBES
- AS 1564-2077 LIGHT TUBES
- AS 1564-2078 LIGHT TUBES
- AS 1564-2079 LIGHT TUBES
- AS 1564-2080 LIGHT TUBES
- AS 1564-2081 LIGHT TUBES
- AS 1564-2082 LIGHT TUBES
- AS 1564-2083 LIGHT TUBES
- AS 1564-2084 LIGHT TUBES
- AS 1564-2085 LIGHT TUBES
- AS 1564-2086 LIGHT TUBES
- AS 1564-2087 LIGHT TUBES
- AS 1564-2088 LIGHT TUBES
- AS 1564-2089 LIGHT TUBES
- AS 1564-2090 LIGHT TUBES
- AS 1564-2091 LIGHT TUBES
- AS 1564-2092 LIGHT TUBES
- AS 1564-2093 LIGHT TUBES
- AS 1564-2094 LIGHT TUBES
- AS 1564-2095 LIGHT TUBES
- AS 1564-2096 LIGHT TUBES
- AS 1564-2097 LIGHT TUBES
- AS 1564-2098 LIGHT TUBES
- AS 1564-2099 LIGHT TUBES
- AS 1564-2100 LIGHT TUBES

ENERGY EFFICIENCY NOTES

- 1. PROVIDE MINIMUM INSULATION TO CEILING AND FLOORING.
- 2. PROVIDE MINIMUM R4 INSULATION FOR TIMBER FRAMED WALLS INCLUDING BRICK VENEER.
- 3. PROVIDE SEALS FOR ALL EXTERNAL WINDOWS & DOORS.
- 4. NEW HOT WATER HEATERS SHALL BE A MINIMUM OF 3.5 STAR ENERGY RATING.

GENERAL NOTES

- UNLESS OTHERWISE NOTED OR DIRECTED OTHERWISE, ALL WORK SHALL COMPLY WITH, BUT NOT LIMITED TO, THE FOLLOWING STANDARDS:
- UNLESS OTHERWISE NOTED, ALL RESIDENTIAL PROJECTS SHALL INCORPORATE THE FOLLOWING:
- 1. PROVIDE MINIMUM INSULATION TO CEILING AND FLOORING.
- 2. PROVIDE MINIMUM R4 INSULATION FOR TIMBER FRAMED WALLS INCLUDING BRICK VENEER.
- 3. PROVIDE SEALS FOR ALL EXTERNAL WINDOWS & DOORS.
- 4. NEW HOT WATER HEATERS SHALL BE A MINIMUM OF 3.5 STAR ENERGY RATING.

FOR APPROVAL

NOTE: PROPOSED STRUCTURE IN BLUE. PLANS NOT BY SURVEY. ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION.

AMENDMENTS

DATE	GENERAL REVISION	ISSUE
1.12.14	AMENDMENTS TO MORTIMER STREET FACADE	B
	REVISIONS TO CARPARK ACCESS GATE, RE DESIGN OF FEMALE WC AND DISABLE ACCESS TOILET.	C
	20.01.14 AMENDMENTS TO STAIRCASE DIMENSIONS, ADDITION OF DRY BAR TO FIRST FLOOR OF PROPOSED ADDITION, RECONFIGURATION OF FEMALE AND DISABLED AMENITIES.	

TITLE

GROUND FLOOR AND SITE PLAN

PROJECT

THE ORIENTAL HOTEL

LOCATION

6 LEWIS STREET MUDGEEO
LOTT 1 & 2 DP732911

CLIENT

D - C KENNEDY

SCALE

1:100 @ A1 DATE JAN 15

DRAWN

FS APPROVED N/A

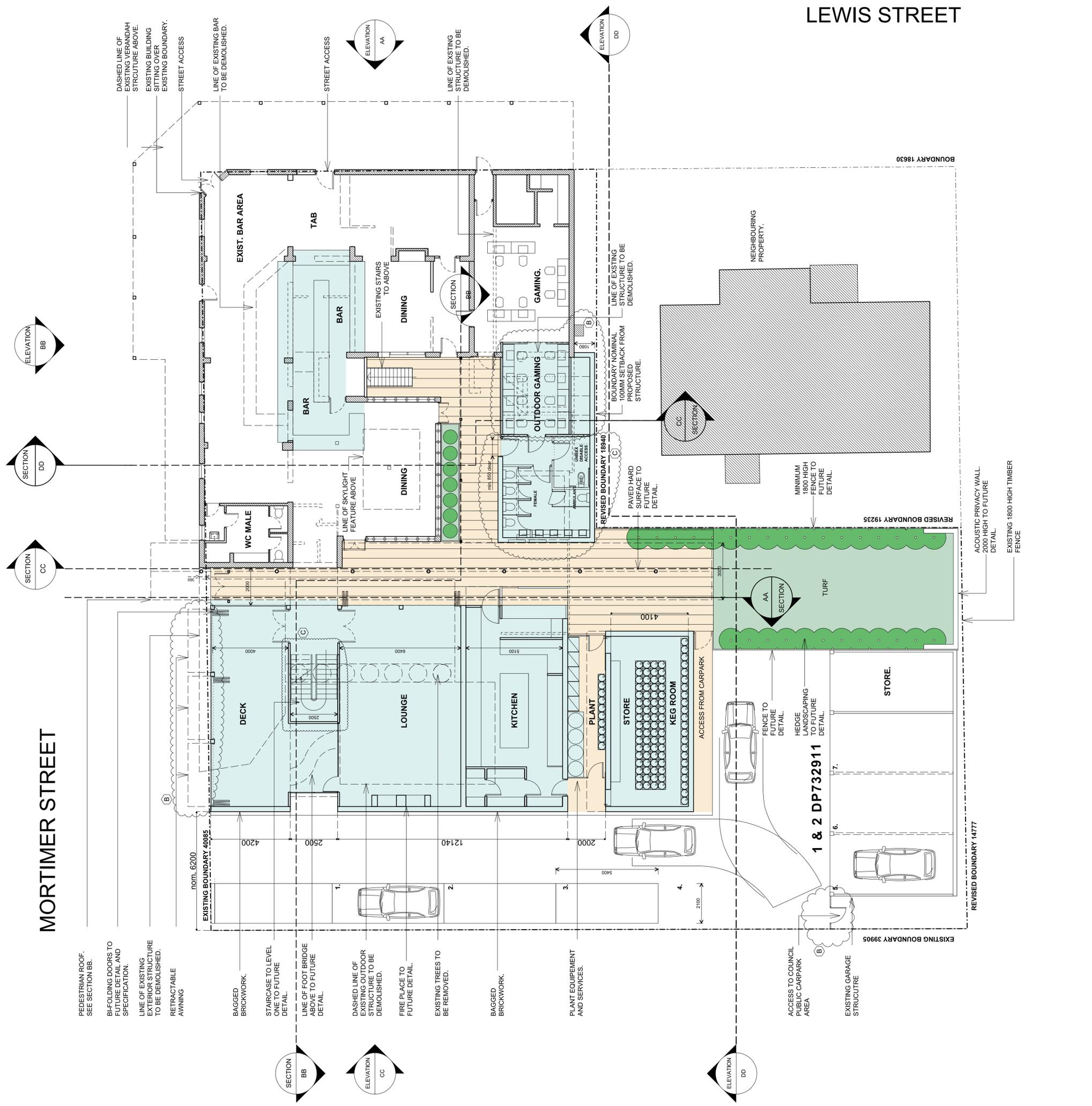
PROJECT NO

711

DRAWING NO

DA1201 ISSUE NO C

LEWIS STREET



General Manager

Mid Western Regional Council

Subject DA : 0164/2015 Oriental Tavern

Dear Sir,

My name is Harvey Tindall, I am the manager of the Horatio Motel and Suites.

I have served as past Secretary and President of the Chamber of Commerce

We have been operating the motel for the last 8years and have come to rely as others do, on quality eateries in Mudgee both for us as residents, but more importantly for our business, as recommendation for our guests.

It has come to our notice that the Oriental Tavern is proposing improvements to their facilities, the aim being to provide an even better dining and social environment for guests.

“The Ori” for us continues to be at the top of the list for advising our guests on a casual, secure and friendly venue with great food and value for dollar.

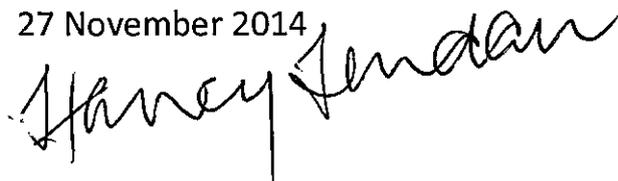
It is with the above in mind that we would like to support the intent of the management of The Oriental, to follow through with the improvements currently before Council.

The intended improvements not only add amenity for the clients of the tavern but continue to breathe life into the social fabric of our town.

Regards

Harvey Tindall

27 November 2014

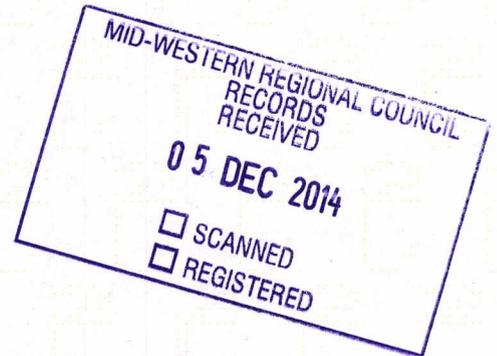


100a Church Street
MUDGEE 2850
Phone: 02 63721822
Fax: 02 63724776

Home & Office Electronics

4th December 2014

The General Manager,
Mid-Western Regional Council,
PO Box 156,
Mudgee NSW 2850



Attention: Mr Drew Roberts

Copy to: Mr Gary Bruce

Re DA 0164/2015 – Alterations and additions to the Oriental Tavern Hotel, Mudgee

Dear Sir,

As an owner of real estate and a business in the CBD, and as a concerned citizen of Mudgee, I wish to raise some objections to DA 0164/2015.

Aspects of the development have the potential to cause considerable unwelcome noise and disturbance in the area surrounding the Oriental and indeed the whole CBD. Mudgee business and accommodation venues benefit considerably from tourists and visitors who come here to enjoy the beauty and tranquillity of our environment. Neither our visitors nor our local residents want to be annoyed by uncontrolled noise, rowdy behaviour, vile language and street fights.

To mitigate some community concerns over this DA some forms of noise abatement and security patrols in the streets around the site would be an appropriate regulation to protect Mudgee's reputation as a premium tourist destination and a great place to live.

May I suggest the following provisions be included in the DA it is approved:

- 1) All external windows and doors to be double-glazed with 8 to 10 mm safety glass.
- 2) All external doors acoustic rated with air seal gaskets fitted to door jams.
- 3) All bar and entertainment areas to have acoustic damping on walls and ceilings.
- 4) Oriental Tavern's management be required to employ security street patrols.

Yours faithfully,
Home & Office Electronics


Darryl Adams

Brad Cam

4 December 2014

The General Manager
Mid-Western Regional Council
PO Box 156
Mudgee NSW 2850

Attn: Mr Drew Roberts

Dear Sirs

MID-WESTERN REGIONAL COUNCIL
RECEIVED

05 DEC 2014

MID-WESTERN REGIONAL COUNCIL
RECORDS
RECEIVED

05 DEC 2014

SCANNED
 REGISTERED

cc: Mr Gary Bruce

Re: DA 0164/2015 – Alterations and additions to The Oriental Tavern Hotel, Mudgee

Further to our recent correspondence, as the proprietor of the Ningana Motel, which is directly opposite the Oriental Tavern Hotel (the Tavern), we wish to lodge an objection to the above Development Application (the DA). This proposal:

- Increases effective floor area for patrons by approximately 300sq.m, **increasing capacity** from 150 people **to over 500** people
- Provides for a large expanse of doors and windows at both street and first floor levels opening onto Mortimer Street, with **no acoustic assessment or management plan** to control noise
- Omits many other basic details such as fully dimensioned plans and class of building, and whether the building is to be used for entertainment.

The existing activities of the Tavern, lack of noise containment and anti-social behaviour affects over 100 people residing/sleeping within 5 – 45 metres of the premises.

Aside from long-standing existing issues associated with the operation of the Tavern, **there is insufficient and inadequate information to be able to determine the full extent of impacts of this proposal under s79C of the Environmental Planning and Assessment Act.** Council cannot determine this application without understanding the full impacts, and we **request that this proposal be rejected** any amended or subsequent DA be re-advertised/notified addressing the following issues:

NOISE IMPACTS

We are very concerned that the proposed expansion of the Tavern will exacerbate noise impacts to occupants within the Ningana Motel and will not resolve underlying social issues associated with its use towards midnight. The proposal seeks to significantly expand the floor area of the Tavern with additional area for patrons within the existing building and construction of a new two-storey expansion to the rear.

The potential **impacts of additional patrons have not been adequately addressed** in this DA, with the only reference in the Statement of Environmental Effects (SEE, page 5) being the following **ambiguous statement**:

"It can be argued that the capacity of the proposal will not in fact represent a greater impact in numbers of people to the site but a very much improved amenity and contribution to its precinct and to Mudgee"

Development Consent DA0453/2008, which we do not believe we were notified of, limits the patrons to 150 people. It is not clear from the plans submitted with DA0164/2015 the capacity provided by this proposal, however we estimate an additional usable floor area for patrons of

around 300 sq.m would be created. Adopting the National Construction Code (NCC) Table D1.13 *Area Per Person According To Use*, this would suggest **capacity could be increased three fold** to around 500 people based on its use as bar.

The proposed two-storey expansion significantly extends beyond the footprint of the existing alfresco dining area, and would only be separated from the adjoining terraces (part of the Ningana Motel) by a driveway of unspecified width. The full width of the northern elevation of the proposed expansion (at both ground and first floor levels) proposes bi-fold doors. This would result in noise from occupants of the proposed deck and verandah spilling out across Mortimer Street and impacting on the Ningana Motel and terraces. The plans indicate "*bi-folding doors to future detail and specification*", and the SEE states, "*...the openings are able to be closed by acoustically glazed doors to contain any noise*". **No such details of the proposed acoustic treatment or operational management controls are provided.**

There is insufficient evidence in this DA to assess the noise impact to ascertain whether the proposal will comply with NSW EPA guidelines that restrict noise to a maximum of 5dB(A) above background levels, or whether the proposal would comply with Office of Liquor, Gaming and Racing (OLGR) noise guidelines.

At a minimum, it is requested that Council require as part of any amended DA a **report prepared by an acoustic consultant** certified by the Association of Australian Acoustical Consultants (AAAC) which provides a **complete noise impact assessment (including noise logs) and which demonstrates how the OLGR conditions will be met.**

This report must be available with the public exhibition of an amended/ subsequent DA, and the report should be **peer reviewed** by another AAAC certified consultant.

Specifically, **we would seek a condition on any amended/subsequent DA that any operable (i.e. openable) doors or windows on both levels be closed at 10 pm nightly.** If any part of the premises is to be used for live entertainment be it recorded or amplified, all windows and doors should remain closed. We are unable to get co-operation on controlling current noise levels and the suggestion that we can rely on management in the new building to control the operable new openings to reduce noise as they think fit or determine is totally unacceptable. In addition, **any approval should be limited initially for a 6 month trial period** to be further confirmed that the noise conditions are met in practice.

SOCIAL AND ECONOMIC IMPACTS

Council and Mudgee businesses contribute and invest large sums of money to promote tourism to the area. On numerous occasions we find people have been attracted to the area, enjoy it during the day, however then become very disappointed with the anti-social behaviour and noise that emanates from the Oriental Hotel without any apparent policing controls being applied or attempts to curb problems in response to complaints. This is impacting on the reputation of the whole town.

Whilst the Tavern is claimed to be "family friendly" there is a "**dark side**" to this business that has to be addressed. This is clearly evident by the **anti-social behaviour**, intoxication, urination, fighting, foul language, throwing of items on car roofs parked on properties, regularly occurring from 9.30pm when some patrons leave the premises making way for new arrivals. These problems are specific to the subject hotel and evidence can be provided. **Numerous complaints have been registered with the police.**

Following our consultation with the OLGR, we request **a condition on any amended/ subsequent DA that at least one uniformed Security Guard be employed** to patrol the Tavern grounds, exits, footpath and Council car park to ensure there is no disturbance and patrons leave in an orderly and quiet manner from the vicinity and adjoining properties. The OLGR have suggested the Security Guard be employed from 6pm until the last person leaves the

premises. In addition, the licensee should be required to maintain a Complaints and Incidents Register.

DUE PROCESS

There is a clear conflict of interest with Mayor Desmond Kennedy being the owner of the Tavern and his daughter Emma Kennedy being the licensee. Accordingly, we suggest this is a situation where **an independent assessment panel should determine any amended/subsequent DA.**

We request Council confirm how it proposes to address all of the above concerns, and for there to be sufficient time for Council and affected land and business owners to understand the full impacts of any amended/subsequent DA.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Phillip Matchett', with a long horizontal stroke extending to the right.

Phillip Matchett
Proprietor, Ningana Motel



Cathrobe Pty Ltd
2 Glenroy Place,
MIDDLE DURAL 2158

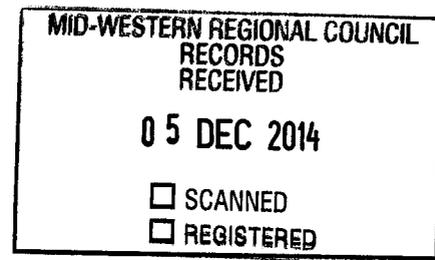
Mid-Western Regional Council.
The General Manager,
Market Street,
MUDGEES NSW 2850

4th December, 2014

Dear Sir,

RE: DA 0164/2015

**ALTERATIONS AND ADDITIONS TO THE ORIENTAL TAVERN HOTEL,
MUDGEES**



We are the registered proprietors of the terrace houses located at 63-69 Mortimer Street, Mudgees that adjoin the existing Oriental Tavern Hotel. We have expressed our concerns to Council in the past about excessive noise and anti social behaviour emanating from the hotel premises but have felt our concerns have not been addressed satisfactorily in the past.

We are not concerned about most aspects of the proposed development of the hotel as we believe that on the whole, developments in a country town are a positive for the town. We do however wish to ensure that the Council imposes certain conditions on **this** development and as importantly that these conditions are enforced by the use of security personnel and by frequent improptu council inspections – something that has not happened in the past. It is all very well for the council to list numerous conditions on a Development Approval however these conditions mean nothing if the community cannot be guaranteed that the Council will enforce them.

The areas of concern for us are:

- The impact of increasing the patrons from 150 to 500. This will have a huge effect on the noise emanating both from the venue and from the surrounding streets as patrons come and go. Someone needs to ensure that the patrons are kept quiet as they leave out of respect for neighbouring residents. It is very bad now but can only get to an impossible level with the increased patronage unless someone controls the street behaviour.
- Street parking and parking in the car spaces in the adjoining council car park. Does the proprietor of the hotel pay for the privilege of having access

to a Council car park and if so how much? The increased patronage must be reflected in an increase in the parking spaces required.

- The placement of air-conditioning units. If these units are placed on the driveway between our properties it would cause a great disturbance to our end cottage and we wish this to be checked before final plans are approved and if necessary moved to an alternate position.
- Soundproof fencing to be erected on the boundary between the Hotel and our property.
- Can you please advise what special attention is being given to this development in relation to the heritage aspects of the hotel buildings?
- The Bi-fold doors in the new building, whilst probably a good noise barrier when closed will cause significant noise to funnel out into the street when opened. We would insist that to protect the neighbourhood these doors must be closed by 10p.m. each evening.
- Are the streets surrounding the development alcohol and smoke free zones and if not this should be implemented as there needs to be strict guidelines that can be enforced if needs be.
- Is there a management plan in place for the running of the hotel and if not could this again be implemented as there is a significant conflict of interest.
- Conflict of interest – as the proprietor of the hotel is also the mayor and his daughter is the current licensee we feel that there is a definite conflict of interest. We would suggest it is imperative in this and in all similar situations (of which there are many) where there is an obvious conflict of interest that the matter be outsourced to an independent assessment panel to determine any development approvals and modifications/amendments.

As you would be aware a week would not go by where ourselves and the motel opposite do not receive a number of complaints from our respective tenants for noise and anti social behaviour emanating from the hotel and the surrounding streets as the hotel patrons come and go. We do not wish to stop progress in Mudgee but we do wish to be able to live without repeated anti-social behaviour and excessive noise in our very special town. We need Council to ensure that the conditions imposed on this development are strictly enforced or we are wasting our time making these suggestions.

It is the responsibility of the owners of a hotel to be responsible for the quiet and good order of the neighbourhood and we are simply asking Council to deal with this matter in a responsible manner and ensure the surrounding local businesses are not disadvantaged.

Yours faithfully

Jeffery and Barbara Churchill

cc Gary Bruce – Mid Western Regional Council

Anne Baker

From: council@midwestern.nsw.gov.au
Sent: Friday, 5 December 2014 3:46 PM
To: Council
Subject: Submission E-Form

todaysdate: 05/12/2014

developmentapplicationnumber: DA0164/2015

proposeddevelopment: Proposed Commercial Alterations and Additions The Oriental Hotel 1 732911 Lewis Street Mudgee

yournameandaddress: The Mudgee Pty Ltd

49- 51 Church Street

Mudgee NSW 2850

reasonsforsubmission: This submission is made on behalf of the Proprietors of the Mudgee Hotel.

Based on the limited information submitted as part of the Development Application it is difficult to determine the impacts from the proposal. In particular, we would seek clarification from Council/the applicant prior to a proper consideration of the proposal as follows:

- A proper assessment of car parking generated by the development and in accordance with Council's carparking policies.
- There appears to be no description or discussion on loading/servicing vehicles and how this will be managed.
- The supporting documentation simply states that the development would not generate more patrons but it is replacing existing "temporary" structures. Did Council require additional parking to cater for the temporary structures and how does this proposal address those conditions?

Regards

The Mudgee Pty Ltd

49- 51 Church Street

Mudgee NSW 2850

politicaldonationsrequirements: Yes

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Anne Baker

From: council@midwestern.nsw.gov.au
Sent: Friday, 5 December 2014 4:09 PM
To: Council
Subject: Submission E-Form

todaysdate: 05/12/2014

developmentapplicationnumber: DA0164/2015

proposeddevelopment: RENOVATIONS TO THE ORIENTAL HOTEL - LEWIS ST MUDGEE

yournameandaddress: GREG HEATON

C/- THE MUDGEE

CHURCH ST

MUDGEE NSW

reasonsforsubmission: OBJECTION ON THE GROUNDS OF PARKING.

SEEKING FURTHER EXPLANATION OF WHAT IS PROPOSED TO OVERCOME THE EXCESSIVE STRESS WHICH WILL BE PLACED ON EXISTING COUNCIL PARKING SPACES AND WHAT COMPENSATION WILL BE PROVIDED TO COUNCIL FOR THE INCREASE IN PATRONAGE WHICH WILL RESULT IF THE APPLICATION IS APPROVED.

politicaldonationsrequirements: Yes

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Anne Baker

From: Greer/Brasseur <sugar.gum@bigpond.com>
Sent: Thursday, 18 December 2014 3:29 PM
To: Drew Roberts
Cc: Council
Subject: Comment on DA 0164/2015 (Oriental Hotel DA)

Hi Drew:

Thanks for taking the time to talk to me this afternoon about my submission on DA 0164/2015 (Oriental Hotel extension DA) made earlier via the submission window on the MWRC's website. I understand that another submission made using this same facility was also not received by the council. I also understand this present submission will still be considered in evaluating the DA.

My original and still current concern with the proposal is that while the noise emanating from development will be confined by the E, S and W sides of the venue, the noise will be concentrated out through the N side onto the street and motel opposite when the sliding doors are open. I think the resulting increased noise level is unfair to the motel owners and their patrons. In our discussion this afternoon, you indicated this was a recognized problem and that measures were being put in place to mitigate it. I trust these mitigating measures will be made a condition of the DA approval.

I might also add while the architect's submission showing a mature tree in front of the old section of the Oriental Hotel was probably "window dressing," if two or three evergreen trees were to be planted in the street along the north side of the Hotel, it would not only enhance the aesthetics of the street, but also provide shade to walkers and parkers and, most importantly, help to further cut the noise emanating from the new section. An ideal species for such a planting is the native Brush Box, *Lophostemon convertus*, two fine examples of which are growing on either side of the street opposite the Presbyterian Church at 105 Mortimer St.

Thank you for discussing the DA and the problems with submissions about it with me this afternoon. I much appreciate your time and interest.

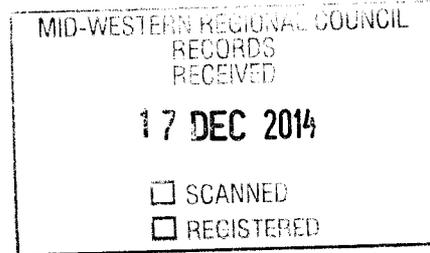
Sincerely,

Allen Greer
4 George St
Mudgee, NSW 2850

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Cathrobe Pty Ltd
2 Glenroy Place,
MIDDLE DURAL 2158

The General Manager
Mid-Western Regional Council
Market Street
MUDGEE NSW 2850



Cc Mr Gary Bruce
Mr Drew Roberts

16th December, 2014

Dear Sir,

RE: DA 0164/2015
ALTERATIONS AND ADDITIONS TO THE ORIENTAL TAVERN HOTEL,
MUDGEE

Further to our letter outlining our objections and suggestions dated 4th December, 2014, we would like to have the following comments noted:

1. We would ask Council to ensure that trucks do not make deliveries to the hotel via the Council car park as they block the rear access for cars entering or departing from at least 2 of our terrace houses.
2. We need further reassurance that the air-conditioning units will be placed in a location that will not have any visual or noise impact on our adjoining terrace houses.
3. The management of the hotel should ensure that their staff refrain from hosing cigarette butts, empty cigarette packets and items of rubbish from the front of the hotel down to the frontages of our terrace houses. We have attached photographic evidence showing the rubbish that is found at the front of our adjoining property on a regular basis and it is extremely unpleasant.
4. We request that a 2.5 metre in lieu of a 2 metre acoustic barrier be positioned on the boundary between the hotel and 63 Mortimer Street due to the varying levels. Further immediate acoustic evaluation is still required.
5. We are extremely concerned that there have only been 15 car space financial contributions requested for a probable 500 patrons. It has been noted that at recent peaks 22 - 25 car spaces have been utilized by hotel patrons in the council carpark relative to 140 current approved patrons. The determination of the number of

individual financial contributions should be increased for the benefit of the community.

6. We emphasise that the management plan should conform with general condition 46 and be broadened to ensure appropriate signage is on display to request patrons leaving the premises (all exiting onto Mortimer Street) keep noise level to a minimum particularly at the close of business. We would suggest that it would be appropriate for this plan to be submitted to Council and the Mudgee Police and the approved plan be incorporated into the liquor license for the premises. Again we would submit that it is appropriate for a security guard to be on duty to protect the surrounding properties from loud and obnoxious behaviour.

Yours faithfully

Per 

Jeffrey and Barbara Churchill

Mr Brad Cam
General Manager
Mid Western Regional Council
PO Box 156
Mudgee
NSW
2850



Phillip Matchett
Proprietor
Ningana Motel
76 Mortimer Street
Mudgee
NSW
2850

Copy

5th January 2015

CC: Mr Gary Bruce
Mr Drew Roberts

Dear Sirs,

RE. DA 0164/2015 – The Oriental Hotel

It would be appreciated if you would confirm receipt of our letter dated 17th December 2014.

Would council please confirm what approach will be taken regarding any revised documentation received from the applicant as we reiterate our concerns regarding acoustics and restate –

As per our letter of objection, before this matter is determined it is requested that Council require as part of any amended DA a report prepared by an acoustic consultant certified by the Association of Australian Acoustical Consultants (AAAC) which provides a complete noise impact assessment (including noise logs) and which demonstrates how the OLGR conditions will be met.

It is not adequate to condition this prior to the construction certificate - how can the true impacts of increased capacity be ascertained without a proper acoustic assessment indicating if and how compliance could be achieved

This report must be available with the public exhibition of an amended/ subsequent DA, and the report should be **peer reviewed** by another AAAC certified consultant.

Yours sincerely

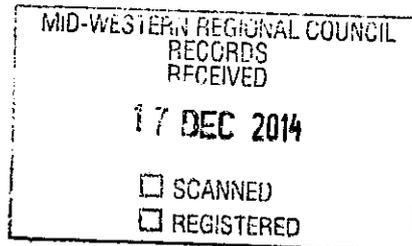


Phillip Matchett
Proprietor
Ningana Motel

Mr Brad Cam
General Manager
Mid Western Regional Council
PO Box 156
Mudgee
NSW
2850

Phillip Matchett
Proprietor
Ningana Motel
76 Mortimer Street
Mudgee
NSW
2850

17th December 2014



CC: Mr Gary Bruce
Mr Drew Roberts

Dear Sirs,

RE. DA 0164/2015 – The Oriental Hotel

We refer you to recommendations by PKA Acoustic consulting in the attached letter:

Council must defer this matter as there is insufficient information to determine whether the noise impacts could be attenuated to the required standards.

As per our letter of objection, before this matter is determined it is requested that Council require as part of any amended DA a report prepared by an acoustic consultant certified by the Association of Australian Acoustical Consultants (AAAC) which provides a complete noise impact assessment (including noise logs) and which demonstrates how the OLGR conditions will be met.

It is not adequate to condition this prior to the construction certificate - how can the true impacts of increased capacity be ascertained without a proper acoustic assessment indicating if and how compliance could be achieved

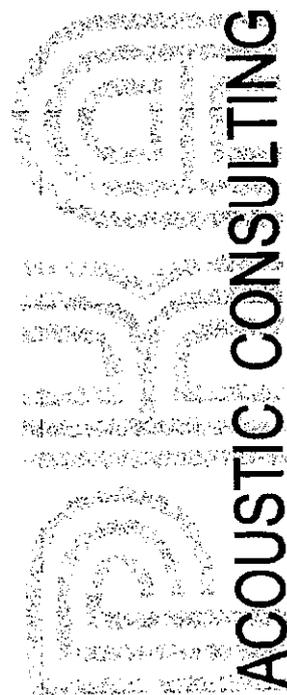
This report must be available with the public exhibition of an amended/ subsequent DA, and the report should be **peer reviewed** by another AAAC certified consultant.

Yours sincerely

Phillip Matchett
Proprietor
Ningana Motel

15 December 2014

Mr Phillip Matchett
Ningana Motel
76 Mortimer Street
MUDGEE NSW 2850



Dear Phillip

Re: Development Application – Oriental Hotel

I note your concern as to the proposed alterations and additions to the Oriental Hotel, Mudgee. I have reviewed the proposed Development Application 164/2015 concerning these alterations and additions which will be discussed at the Council meeting on the 17th of this month.

The Council has issued a number of acoustic conditions prior to the issue of a Construction Certificate for these works. It is clear that the intent is to provide appropriate protection for all concerned. However the conditions to be met only partially deal with the matter and may ultimately be used as a loop hole to provide a less than satisfactory outcome for all receivers who could be affected by this development.

Reference is made to acoustic treatment to minimise noise levels to a maximum of 5 dB above background noise levels. This is only part of the OLGR (Office of Liquor Gaming and Racing) conditions necessary to achieve a satisfactory acoustic outcome for a proposed development or activity under their control.

- The + 5 dB refers to the octave bands from 31.5 Hz to 8,000 Hz prior to midnight.
- After midnight the exceedance shall not be more than 0 dB for all the octave bands from 31.5 to 8,000 Hz. This covers external areas affected by the operation of the premises in question.
- After midnight the sound from the licensed premises shall be inaudible in any habitable rooms of an affected premises.

It is also noted that reference is made to the installation of a 2 metre high acoustic barriers as part of the development conditions. There is a danger with this condition as the problem may be said to be resolved if the acoustic barrier is installed. However, the acoustic barrier may not achieve the OLGR conditions listed above. Perhaps the Council needs to indicate that the acoustic barriers are considered as a minimum treatment in the process of achieving the OLGR requirements.

Reference is also made to the operable bi-folding doors achieving what we understand should comply with all the OLGR acoustic conditions. In terms of acoustic performance this may be a significant requirement therefore the question is raised whether such a door system is available and affordable within the budget for the proposed additions.



Page 2

I think that it is very important that the Council clearly outlines the acoustic requirements of the OLGR in respect to this development.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Peter Knowland'.

Peter Knowland

Principal

PKA Acoustic Consulting pka.com.au

0428 588 420 02 9460 6824 peterk@pka.com.au
12 / 401 Pacific Highway Artarmon NSW 2064 PO Box 345 Lane Cove 1595

Disclaimer applicable to all PKA recommendations within this correspondence

We stress that the advice given herein is for acoustic purposes only, and that the qualified personnel should be consulted with regard to compliance in disciplines other than in acoustics. All materials and recommendations have been determined only on the basis of their acoustic value. No consideration has been given to any other purpose or function. Separate advice must be sought for other issues including but not limited to, fire safety, structural and loading requirements, pressure drop, aesthetic value and for compatibility with any non acoustic requirements.

Anne Baker

From: Jacquelyn Perring on behalf of Council
Sent: Friday, 5 December 2014 4:02 PM
To: Council
Subject: FW: DA0164/2015 Proposed Commercial Alterations and Additions 1 732911 Lewis Street Mudgee

Jackie Perring
Records Officer/Assistant
Mid-Western Regional Council
t 02 6378 2850
f 02 6378 2815 | e council@midwestern.nsw.gov.au
a 86 Market Street | PO Box 156 Mudgee NSW 2850

From: Peter Andrews [<mailto:peter.andrews@paadesign.com.au>]
Sent: Friday, 5 December 2014 3:56 PM
To: Council
Subject: DA0164/2015 Proposed Commercial Alterations and Additions 1 732911 Lewis Street Mudgee

Dear Sir / Madam,

We tried to lodge a submission using Council's website and did not get a response and therefore are sending a separate submission as follows regarding the above development application.

This submission is made on behalf of the Proprietors of the Mudgee Hotel.

Based on the limited information submitted as part of the Development Application it is difficult to determine the impacts from the proposal. In particular, we would seek

clarification from Council/the applicant prior to a proper consideration of the proposal as follows:

- A proper assessment of car parking generated by the development and in accordance with Council's carparking policies.
- There appears to be no description or discussion on loading/servicing vehicles and how this will be managed.
- The supporting documentation simply states that the development would not generate more patrons but it is replacing existing "temporary" structures. Did Council require additional parking to cater for the temporary structures and how does this

proposal address those conditions.

We would also respectfully request that Council keep our personal information private in relation to this submission.

We have met the political donation requirements.

Could you please advise that you have received this submission.

Regards

Peter Andrews on behalf of the proprietors

The Mudgee Pty Ltd

49- 51 Church Street

Mudgee NSW 2850

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Trim D/2014/435542

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DR:KB:DA0164/2015

MID-WESTERN REGIONAL COUNCIL
RECEIVED
18 DEC 2014
CUSTOMER SERVICE CENTRE

Mudgee Police Station
94 Market St
MUDGEE NSW 2850

MID-WESTERN REGIONAL COUNCIL
RECORDS
RECEIVED
10 DEC 2014
 SCANNED
 REGISTERED

Dear Sir/Madam

DEVELOPMENT APPLICATION DA0164/2015 – PROPOSED COMMERCIAL ALTERATIONS & 2 STOREY ADDITIONS @ ORIENTAL TAVERN 6 LEWIS STREET MUDGEE NSW 2850

Council has received a development application of the abovementioned proposal.

Public exhibition is required for this development and the period will expire on 5 December 2014. Should you wish to make any comments with respect to the proposal, please do so in writing.

Should you have any enquiries in relation to this matter please contact Drew Roberts at Council's Planning and Development Department.

Yours faithfully

**SARAH ARMSTRONG
SENIOR TOWN PLANNER
DEVELOPMENT**

MUDGEE LAC
- 3 DEC 2014
RECEIVED

*CPO + Licensing officer have arranged meeting with Garry Bruce on Tuesday the 11th of December regarding Police concerns.
I.S. Green Sgt 4/12/14.*

*Received 4 Dec 2014.
Refer immediately to Licensing officer for a thn.*

*J. Boon
ASUP
4.12.14.*

ISSUE:

Development application DA0164/2015 – Proposed Commercial alterations and two storey additions at the Oriental Tavern 6 Lewis street Mudgee NSW 2850.

BACKGROUND:

A copy of the development application was received in this office on the 3 December 2014.

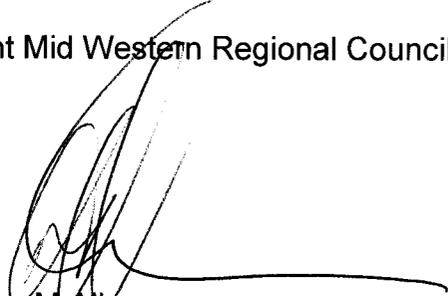
COMMENT:

From perusing the document and attached plans, police have a number of concerns in relation to the proposal. These concerns are based around security, noise and possible antisocial incidents occurring in the immediate vicinity of the Hotel. These concerns that Police have are;

1. Access to Lewis street allowing possible antisocial and noise incidents occurring in a mainly residential area of the Mudgee CBD. Police would propose that patrons should be encouraged to exit the Hotel via the main Mortimer street exit. This Mortimer street entry/exit point is contained within the Commercial area of the CBD. This would diminish an increase in noise complaints received.
2. Police have concerns over an entry/exit door at the southeast portion of the Hotel which will provide immediate access to the new Gaming Area. This door is currently used as an exit/entrance for the kitchen. Police have concerns that there would be no supervision on who enters and exits the new Gaming area of the Hotel. Immediate access to the Gaming area shouldn't be available from the street area. This door should be permanently locked to prevent access to the gaming area from Lewis street.
3. To minimise the risk of noise complaints, all external windows and doors should be closed and secured by 10pm each night. Further, the new extension should have acoustic treated windows installed to minimise noise for local residents.
4. CCTV should be installed to cover all areas of the Hotel, both internal and external, especially all doorways and footpaths in the immediate area of the Hotel. CCTV and adequate lighting should also be installed to cover the carparks on the western and south western sides of the Hotel.
5. The access gates to the western and south western carparks should be installed with locks to prevent access by unauthorised patrons. This will prevent patrons from gathering in these areas and will provide security for staff, or other guests, who have vehicles parked in the carpark.

RECOMMENDATION:

That Police concerns be raised at the relevant Mid Western Regional Council meeting.



M. Allen
Mudgee Police Station
63728524

1. Crime Coordinator, Mudgee LAC

Noted. Outlined concerns to be raised are supported.

*J.S. Green Sgt
9/12/14*

2. Crime Manager, Mudgee LAC

Noted - concerns outlined are supported

*[Signature]
S. J. Whitaker,
Det. Insp
9/12/14*

3. Commander, Mudgee LAC

Noted. Concerns as outlined.

*[Signature]
J. BOON
2/SUP
10.12.14*

4. Gary BRUCE, Mid Western Regional Council



PROPOSED ALTERATIONS & ADDITIONS

TRAFFIC IMPACT ASSESSMENT

ATTACHMENT 5

Oriental Tavern Hotel, 6 Lewis Street Mudgee

Final Issue: A – 3rd February 2015



**Address: Shop 7, 720 Old Princes Highway Sutherland NSW 2232
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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

ALTERATIONS & ADDITIONS TO EXISTING LICENSED PREMISES
ORIENTAL TAVERN HOTEL, 6 LEWIS STREET, MUDGEE
NSW 2850

Prepared for: Oriental Tavern Hotel

Job reference: 2014/377

Final issue: A- 3rd February 2015

Status	Issue	Prepared By	Checked By	Date
Draft	A	HC	CM	3 rd February 2015
Final	A	HC	CM	3 rd February 2015

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1 INTRODUCTION

McLaren Traffic Engineering was commissioned by *Snell Architects* on behalf of the *Oriental Tavern Hotel, Mudgee* to provide traffic impact assessment of the proposed alterations and additions to the existing licensed premises.

The alterations and additions will seek to replace temporary structures within the dining and function spaces to permanent structures to create additional dining and function space by building a first floor addition. Furthermore, the proposal seeks to replace the existing kitchen and cool room structures with new facilities. Generally, majority of the modifications will result in an enlarged “back of house” facilities and circulation corridors in order to bring the hotel up to current standard.

In addition to the internal alterations, modified on-site parking is proposed accessed from Mortimer Street. A total of seven (7) car parking spaces are proposed. Currently, the Hotel provides 4 enclosed garages and 3 informal car spaces.

1.1 State Environmental Planning Policy (Infrastructure) 2007

The proposed development does not qualify as a development with relevant size or capacity under Clause 104 of the SEPP (Infrastructure) 2007. Accordingly, formal referral to the Roads and Maritime Services (RMS) is not necessary and Mid-Western Regional Council officers can determine this proposal accordingly.

2 EXISTING CONDITIONS

2.1 Site Description

The subject site benefits from two road frontages, being Lewis Street along its eastern boundary and Mortimer Street along its northern boundary. The site is on the corner of the 4 way intersection of Mortimer Street & Lewis Street.

The site currently provides vehicular access from Mortimer Street along the Hotels western property boundary.

The site is situated within the town centre of Mudgee and benefits from an abundant supply of publicly available on-street and off-street car parking. The abundant and available public car parking not only exists within the public streets but also within publicly available off-street parking at both the Target car park and Coles supermarket car park. The Target car park is immediately adjacent to the development with direct pedestrian access at the south western corner of the Hotel. The Coles supermarket car park is located within Mortimer Street within easy walk of the Hotel. Small specialty retail shops are also located nearby within the town centre.

It is understood that the Hotel have an arrangement with Target that allows staff and customers to park in the rear part of the Target car park. Further it is understood that the Hotel has financed the installation of security cameras within the Target car park.

2.2 Road Hierarchy

Mortimer Street has the following characteristics within close proximity to the site:

- CBD Road (as identified by Mid-Western Regional Council)
- Approximately 22m in width facilitating two (2) through lanes, and angled (60* degrees rear to kerb) kerbside parking
- Signposted 50km/h reducing to 40km/h during school zone hours
- Pedestrian footpath on both sides of the street

Lews Street has the following characteristics within close proximity to the site:

- Sub-arterial road (as identified by Mid-Western Regional Council)
- Approximately 22m in width facilitating two (2) through lanes, and angled (60* degrees rear to kerb) kerbside parking
- Signposted 50km/h reducing to 40km/h during school zone hours
- Pedestrian footpaths on both sides of the street

3 SCALE OF DEVELOPMENT

3.1 Proposed Development

As shown in **Annexure A**, the proposed alterations and additions to the existing premises consists of the following:

1. Generally, the 1st level lounge and verandah can be considered as new public floor area of approximately 60m² and 40m² respectively.
2. The modifications on the ground level will result in a poker machine area of approximately 23m² being removed and replaced with dining area.
3. A new indoor / outdoor gaming room provided in replace of the existing kitchen, approximately 44m² of new public floor area is provided. This however represents a net increase of 21m² in gaming floor area due to the existing gaming room of 23m².
4. The refurbished outdoor deck will replace the existing deck with negligible change in floor area. The new lounge will replace the alfresco dining area whilst the new kitchen and toilets will also replace the alfresco dining with increases to circulation spaces. As a result, a net loss of 69m² in public floor area is experienced.
5. A new outdoor seating area, adjacent to the existing garages, is proposed. This area is some 23.2m² in floor area.

In summary, approximately 100m² of new floor area is provided on level 1 whilst approximately 46m² of floor area is lost between the alfresco area and dining area (point 2 & 4 above). There is an increase in gaming area of approximately 21m² and outdoor seating of 23.2m².

Whilst there are improvements to the Kitchen / B.O.H areas, there will be no increase in staff employed, with current staff levels remaining. It is reiterated that the increased Kitchen / B.O.H / circulation areas are required in order to comply current standards.

4 PARKING ASSESSMENT

4.1 Council Parking Requirement

Reference is made to Mid-Western Regional Council DCP 2013, Part 5 which states the following:

Pub

Within the Commercial Core B3 Zone, car parking study required.

All other areas, 1 space per 5m² of public / licensed area plus

2 spaces per 3 guest rooms plus

2 spaces per 3 employees

The site is within the B3 Zone and hence the parking requirement is to be based on a car parking study and not the prescribed parking rates.

Reference is made to Council's recent assessment of the application, whereby it was noted that the alterations and additions resulted in an increase of 250m². Council, by way of comparison, have applied the 1 space per 5m² rate to the 250m² of additional floor area to yield 50 spaces. Council further identifies changes in driver behaviour and drink driving penalties as well as discounts applied by other Councils (up to 70%) to establish a likely demand of 15 vehicles.

Taking the same approach as Council, however with only an increase of 98.2m² (100m² + 23m² + 21m² - 69m² + 23.2m² = 98.2m²) results in 20 car spaces, reducing to 6 car spaces based on driver behaviour, drink driving penalties and other Council rates.

The proposed formalised provision of seven (7) car parking spaces (i.e. 3 garage and 4 at grade / linemarked compliant parking spaces) results in a net on-site improvement of three (3) formal car parking spaces. Therefore the actual shortfall in parking based upon Council approach would reduce to three (3) spaces.

Generally car parking rates as prescribed by Council's are based on the rate developed by the RMS in the 1970's prior to RBT and driver education campaigns. Accordingly, these rates no longer strictly apply such that consideration needs to be given to the actual car parking demand of licensed premises within the town centre precinct. This is inherently identified by Council's DCP request for a traffic study.

4.2 Parking Surveys

In view of the fact that Council's car parking rate of 1 space per 5m² no longer strictly applies (given that these rates were derived prior to RBT laws), parking surveys were conducted on Saturday 17th, Friday 23rd and Saturday 24th January 2015. The surveys were conducted from 5:00pm to 10:00pm to coincide with the peak patronage times of the Hotel. Friday and Saturday evenings after 5:00pm are the

peak trade times for this Hotel (as with other licensed premises) which has been confirmed from bar sales figures)

The parking survey identified an availability of 342 car parking spaces within the surveyed region identified in **Annexure B**. The recorded utilised parking within the surveyed area is summarised in **Table 1**.

TABLE 1: CAR PARKING & HOTEL PATRONAGE SURVEY

	Count 1 (Saturday 17 th January)		Count 2 (Friday 23 rd January)		Count 3 (Saturday 24 th January)	
	Hotel Peak Time	5:00pm	Hotel Peak Time	5:00pm	Hotel Peak Time	5:00pm
Peak Parking Occupancy	99 @ 8:00pm	80	90 @ 7:00pm	156	107 @ 8pm	77
Parking availability	243	262	252	186	235	265
Oriental Hotel Customer Patronage	131	21	106	18	162	40
Oriental Hotel Staff Number	13	6	13	6	13	6

It is evident that there is a significant amount of kerbside parking within the surveyed area in close proximity to the site. This is largely due to the peak period for the Hotel outside of commercial office business hours and retail peak periods such that the availability of kerbside parking increases after 5:00pm.

4.3 Patron Surveys

Patronage surveys were conducted on Saturday 17th, Friday 23rd and Saturday 24th January 2015 to establish current usage of respective areas of the Hotel, including gaming, dining, lounge and outdoor areas.

TABLE 2: HEAD COUNT 1

Area	Saturday 17 th January 2015 (Count 1)					
	5pm	6pm	7pm	8pm	9pm	10pm
Main Bar / TAB	15	32	22	11	25	30
Indoor Gaming	0	1	-	0	0	3
Indoor Dining	-	15	20	30	14	12
Outdoor Dining (Umbrellas)	-	8	30	50	30	9
Outdoor Dining (Timber Deck)	6	1	10	20	25	9
Tent	0	0	0	20	10	0
Total	21	57	82	131	104	63

TABLE 3: HEAD COUNT 2

Area	Friday 23 rd January 2015 (Count 2)					
	5pm	6pm	7pm	8pm	9pm	10pm
Main Bar / TAB	13	32	34	24	26	23
Indoor Gaming	1	0	0	0	2	2
Indoor Dining	0	3	8	10	6	3
Outdoor Dining (Umbrellas)	0	7	36	30	17	2
Outdoor Dining (Timber Deck)	0	6	15	4	0	13
Tent	4	11	13	15	20	15
Black Marque	0	0	0	0	0	0
Total	18	59	106	83	71	58

TABLE 4: HEAD COUNT 3

Area	Saturday 24 th January 2015 (Count 3)					
	5pm	6pm	7pm	8pm	9pm	10pm
Main Bar / TAB	25	28	31	31	29	20
Indoor Gaming	2	4	2	4	8	1
Indoor Dining	9	0	13	22	19	5
Outdoor Dining (Umbrellas)	0	0	19	33	23	9
Outdoor Dining (Timber Deck)	4	10	16	14	2	13
Tent	0	0	13	23	13	10
Black Marque	0	0	31	35	27	13
Total	40	42	125	162	121	71

As shown in **Tables 2 – 4**, the peak time for the Hotel is typically 7:00-9:00pm where the highest patronage was recorded. The peak head counts were 131, 106 & 162 respectively for Count 1, 2 & 3.

4.4 Car Parking Regression Analysis

The RMS Guide also notes for assessments of licensed premises that *off-street car must be provided to satisfy the average maximum demand. Research has indicated that the demand for parking varies substantially depending on the type of club and cannot readily be related to building floor areas or to the membership. The determination of the number of parking spaces required is therefore based on the characteristics of the proposed development. Comparisons must be drawn with similar clubs.*

McLaren Traffic Engineering has been involved in numerous assessments for licensed premises and found a correlation between bar sales for peak times and patronage i.e. generally, increases in bar sales indicates increases in patronage.

Generally car parking rates as prescribed by Council's are based on the rate developed by the RMS in the 1970's prior to RBT and driver education campaigns. Accordingly, these rates no longer strictly apply such that consideration needs to be given to the actual car parking demand of licensed premises within the town centre precinct. This is inherently identified by Council's DCP request for a traffic study.

For the assessment, a full year (52 week) bar sales figures have been collected for Fridays & Saturdays including the three survey days. Linear regression has been utilised to establish the average maximum demand as per RMS requirements. The plotted data points and graph are attached in **Annexure D** for reference.

This assessment removes outliers (points 104, 90 & 74) due to either above normal bar sales (reflecting Anzac Day, public holidays and long weekends etc). The average maximum is then based on data points 1-104 excluding the aforementioned entries as they reflect a consistent trend. The average maximum is identified as point 52 which relate to a patron figure of 153 persons as the average maximum, or 50th percentile. Counts 1, 2 & 3 are indicative of the 37th, 103 & 61st percentile respectively.

It should be noted that the regression analysis identifies a maximum of 400 persons attending on Anzac Day. We have been advised that the maximum number of patrons that can be accommodated is 480 whilst the number of patrons according to BCA calculations is 498. It is therefore considered that the regression analysis is accurate and can be relied upon. Further, it should be noted that the R squared value that arises from the linear regression analysis is 0.97 which represents a very close fit of the data points which is superior to the usual threshold of 0.80 for the R squared value.

Given the increase in floor area's is specific to certain area types i.e. dining and gaming, the patron count has been separated in **Tables 5 – 9** in order to analyse the usable areas which will increase / decrease under the proposal.

The surveys of the existing gaming area will be used to establish future occupation of the proposed gaming area. The survey of the lounge / bar area will be used to establish the future occupation of the upstairs lounge / verandah area. The increase in indoor dining will be based on the existing indoor dining and bar area whilst and the outdoor grass seating area will be based on the alfresco area surveys

The net increase and decrease in specific floor areas is summarised below:

1. Existing indoor (Zone 3) = 50m². Additional indoor dining of 23m² is 50% increase.
2. Existing Ground floor bar / lounge (Zone 1) = 87.3m². Additional Level 1 lounge of 100m² is approximately 214% increase
3. Existing Gaming (Zone 2) = 23m². Additional gaming of 21m² is approximately 191% increase
4. Existing Alfresco Area (Zone 5), Deck (Zone 4) & Tent (Zone 7) = 247.15m². Loss of 69m² is approximately 28% less
5. Existing Alfresco / Deck (Zone 4 & 5) = 187.15m². Additional turf area is approximately 12% increase.

Therefore it is expected that the usage of these areas will linearly increase based on the existing usage.

TABLE 5: GROUND FLOOR INDOOR DINING PATRONAGE

	Time	Peak of Total Count	Main Bar (Zone 1)
Count 1	8pm	131	30 23%
Count 2	7pm	106	10 9%
Count 3	8pm	162	22 14%
Average Patrons in Area	-	-	15%
	Patrons	Expected Existing Dining (Zone 3)	Future Additional Indoor Dining
Average Maximum 50th Percentile Patronage	153	23 (i.e. 15%)	+12

TABLE 6: LEVEL 1 LOUNGE & VERANDAH PATRONAGE

	Time	Peak of Total Count	Main Bar (Zone 1)
Count 1	8pm	131	11 8%
Count 2	7pm	106	34 32%
Count 3	8pm	162	31 19%
Average Patrons in Area	-	-	20%
	Patrons	Expected Existing Main Bar (Zone 1)	Future Additional Level 1 Lounge / Deck
Average Maximum 50th Percentile Patronage	153	31 (i.e. 20%)	+35

TABLE 7: GROUND FLOOR GAMING PATRONAGE

	Time	Peak of Total Count	GAMING (Zone 2)
Count 1	8pm	131	0 0%
Count 2	7pm	106	0 0%
Count 3	8pm	162	4 2
Average Patrons in Area	-	-	1%
	Patrons	Expected Existing Gaming (Zone 2)	Future Additional Gaming
Average Maximum 50th Percentile Patronage	153	2 (i.e. 1%)	+4

TABLE 8: GROUND FLOOR ALFRESCO PATRONAGE

	Time	Peak of Total Count	GAMING (Zone 2)
Count 1	8pm	131	90 69%
Count 2	7pm	106	64 60%
Count 3	8pm	162	105 65%
Average Patrons in Area	-	-	65%
	Patrons	Expected Existing Outdoor Area	Future Additional Outdoor Alfresco
Average Maximum 50th Percentile Patronage	153	99 (i.e. 65%)	-28

TABLE 9: GROUND FLOOR TURF AREA PATRONAGE

	Time	Peak of Total Count	GAMING (Zone 2)
Count 1	8pm	131	90 69%
Count 2	7pm	106	64 60%
Count 3	8pm	162	105 65%
Average Patrons in Area	-	-	65%
	Patrons	Expected Existing Outdoor Area	Future Additional Grassed Seating
Average Maximum 50th Percentile Patronage	153	99 (i.e. 65%)	+11

Based on **Tables 5 – 9**, the additional patronage is anticipated to be 34 persons (12 + 35 + 4 – 28 + 11 = 34). *McLaren Traffic Engineering's* experience and surveys of numerous licensed premises as well as the subject hotel has observed that the car driver percentage is approximately 30% during the peak attendance time (i.e. 7:00-

8:00pm). Therefore, of the additional 34 patrons anticipated under the average maximum demand, 10 patrons are likely to drive a private vehicle to the licensed premises.

Referring to the car parking surveys undertaken in Section 4.2, there is capacity for a minimum of 186 vehicles (at 5:00pm) within close proximity to the site. The abundance of available car parking will absorb the anticipated 10 vehicles with minimal impact, such that the availability of parking is reduced by 5% resulting in at least 176 spaces remaining available. This minor decrease is considered negligible and is unlikely to be noticeable by surrounding businesses (who would otherwise be closed at the peak Hotel patronage time of 7:00-8:00pm).

Therefore, given the abundance of available spare parking and minor increase in parking demand, the onerous parking contribution is considered unnecessary as there is no competing parking demand during the peak Hotel patronage time of 7:00-8:00pm and there remains a significant amount of parking available to all users within the area, which is a sustainable outcome.

4.5 Servicing & Loading

Given the relatively low increase in additional floor space, it is not expected that servicing and loading requirements will alter from the current operation.

4.6 Car Park Design & Compliance

The on-site enclosed garages exist and are not proposed to be modified. The line-marked parallel parking spaces are 2.1m in width and 6.0m in width which is considered adequate for the site and compliant with relevant standards of AS2890.1:2004.

5 TRAFFIC ASSESSMENT

The likely increase in traffic, associated with the demand for an additional ten (10) car parking spaces, in close proximity to the Hotel is likely to only result in a peak hour generation of 10 vehicles (either entering or leaving the town centre) due to the fact that the average duration of stay of patrons at the Hotel is at least 2 – 3 hours. This is relatively low when considering the surrounding road network and the patronage peak of the licensed premises (7:00-8:00pm) outside of typical commuter (4:00-6:00pm) periods.

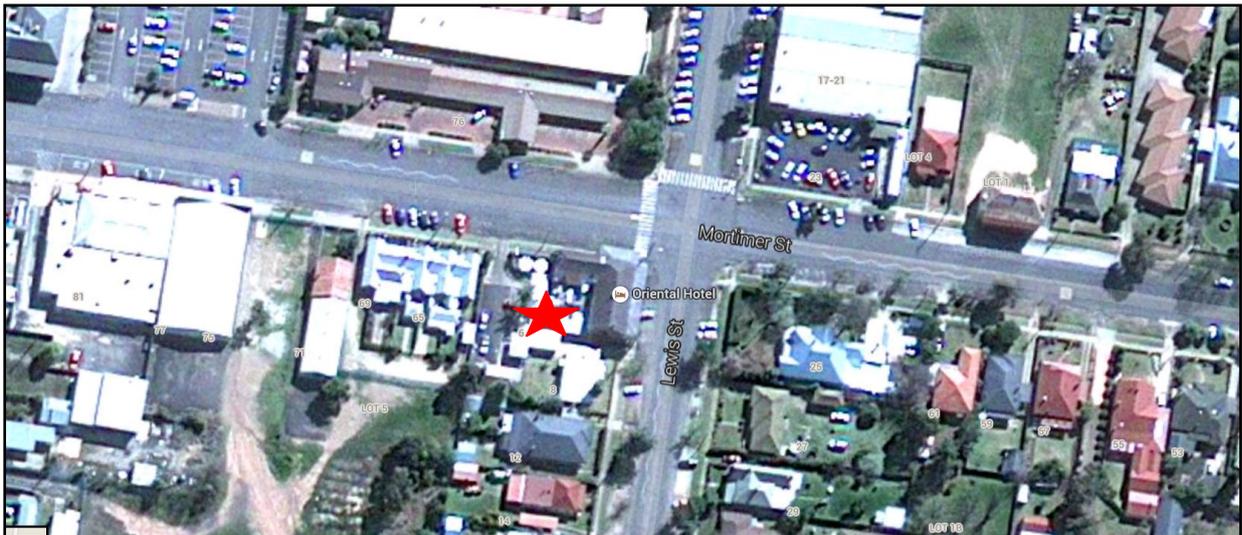
The additional trips associated with this demand will not be readily noticeable nor will it adversely affect the surrounding intersection performances. Furthermore there will be no adverse impact in terms of nearby residential amenity considerations, as per RMS guidelines.

6 CONCLUSION

In view of the foregoing, the subject proposal (as depicted in **Annexure A**) is fully supportable in terms of its traffic and parking impacts.

The on-site car park satisfies design requirements as per AS2890.1:2004 & AS2890.6:2009 where applicable.

The linear regression conducted indicates an increased car parking demand for 10 customer spaces, whilst the Council's adopted approach would reduce to 6 spaces. However in light of the significant supply of publicly available on-street and off-street parking within the town centre it is inappropriate (and unsustainable) for the Hotel to contribute for further additional car parking by S94 Contributions.



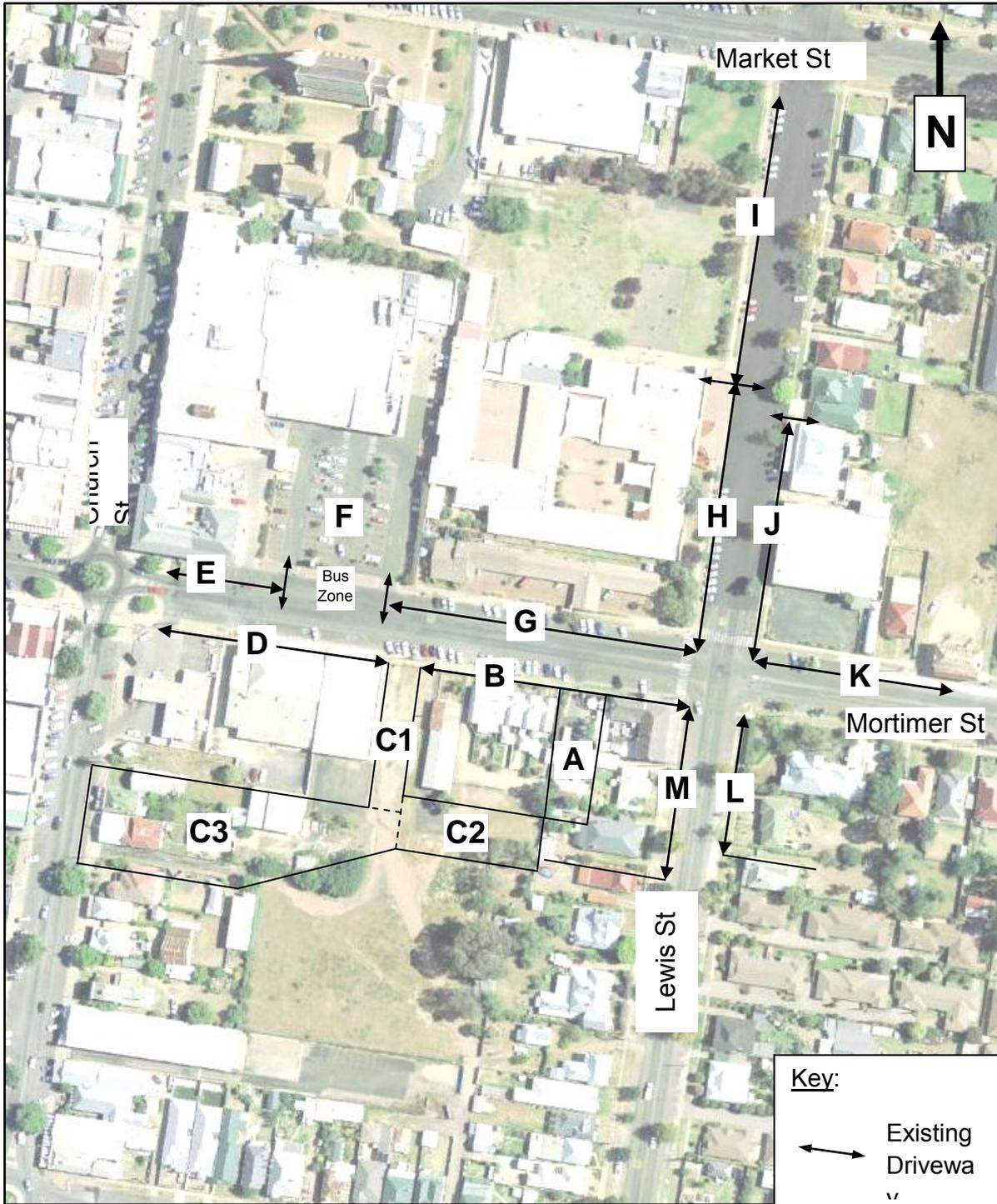
★ Site Location

ORIENTAL HOTEL, MUDGEE

FIGURE 1: AERIAL SITE LOCATION
PREPARED FOR: ORIENTAL HOTEL, MUDGEE
BY: M ^C LAREN TRAFFIC ENGINEERING

ANNEXURE A: PROPSOED PLANS

ANNEXURE B: CAR PARKING SURVEYS (Sheet 1 of 6)



ANNEXURE B: CAR PARKING SURVEYS (Sheet 2 of 6)

Restriction Types

U = Unrestricted

2P60 = 2HR 60° angle rear-to-kerb
8:30am – 6:00pm Mon-Fri
8:30am – 12:30pm Sat

2P = 2HR
8:30am – 6:30pm Mon-Fri
8:30am – 12:30pm Sat

U60 = Unrestricted 60° rear-to-kerb

ANNEXURE B: CAR PARKING SURVEYS (Sheet 3 of 6)

PARKING

Zone	Capacity	Restriction	5pm	6pm	7pm	8pm	9pm	10pm	Sun 18 th 8am
A (on-site)	3*	U	1	1	2	3	2	1	2
B	22	2P60	7	10	12	14	9	3	2
C1	24	U (Target)	2	3	1	0	0	0	0
C2	40	U (Target)	8	11	19	20	18	9	6
C3	43	U (Target)	2	3	2	1	1	1	1
D	21	2P60	3	3	6 + 3 taxis	1 + 5 taxis	1 + 1 taxis	1 + 2 taxis	1
E	7	2P60	2	1	4	6	0	1	3
F (Coles)	96	2P	43	38	28	26	12	5	14
G	16	2P60	1	3	5	7	7	2	3
H	13	U60	0	1	2	2	2	1	0
I	21**	U60	2	2	2	2	2	2	2
J	18	2P60	1	1	1	1	1	1	0
K	7	U	2	3	3	3	3	3	3
L	4	U	1	1	1	5	5	4	1
M	7	U	5	5	4	8	7	5	2
Total	342	-	80	83	92 + 3 taxis	99 + 5 taxis	70 + 1 taxis	39 + 2 taxis	40

* Excludes the four enclosed garages

** Excludes parking that could occur in bus zone (8:30-9:30am and 3-4pm, school days) after these hours

ANNEXURE B: CAR PARKING SURVEYS (Sheet 4 of 6)

Friday 23rd Jan, 2015

2014/377

PARKING

Zone	Capacity	Restriction	5pm	6pm	7pm	8pm	9pm	10pm
A (on-site)	3*	U	Nil	1	Nil	Nil	Nil	Nil
B	22	2P60	7	13	8	7	6	4
C1	24	U (Target)	10	4	2	Nil	Nil	Nil
C2	40	U (Target)	13	15	17	14	10	7
C3	43	U (Target)	29	8	2	1	1	1
D	21	2P60	10	4	1	3	1	0
E	7	2P60	4	5	6	7	0	6
F (Coles)	96	2P	68	52	36	31	24	7
G	16	2P60	4	6	9	8	6	3
H	13	U60	2	2	0	0	0	0
I	21**	U60	3	2	3	3	3	3
J	18	2P60	1	0	0	0	0	0
K	7	U	0	0	0	0	0	0
L	4	U	2	2	2	2	3	3
M	7	U	3	5	4	3	4	4
Total	342	-	156	115	90	75	75	24

*

*NOTE COLES CLOSES @ 10pm.

ANNEXURE B: CAR PARKING SURVEYS (Sheet 5 of 6)

Friday 23rd Jan, 2015
 SATURDAY 24th JAN 15.

2014/377

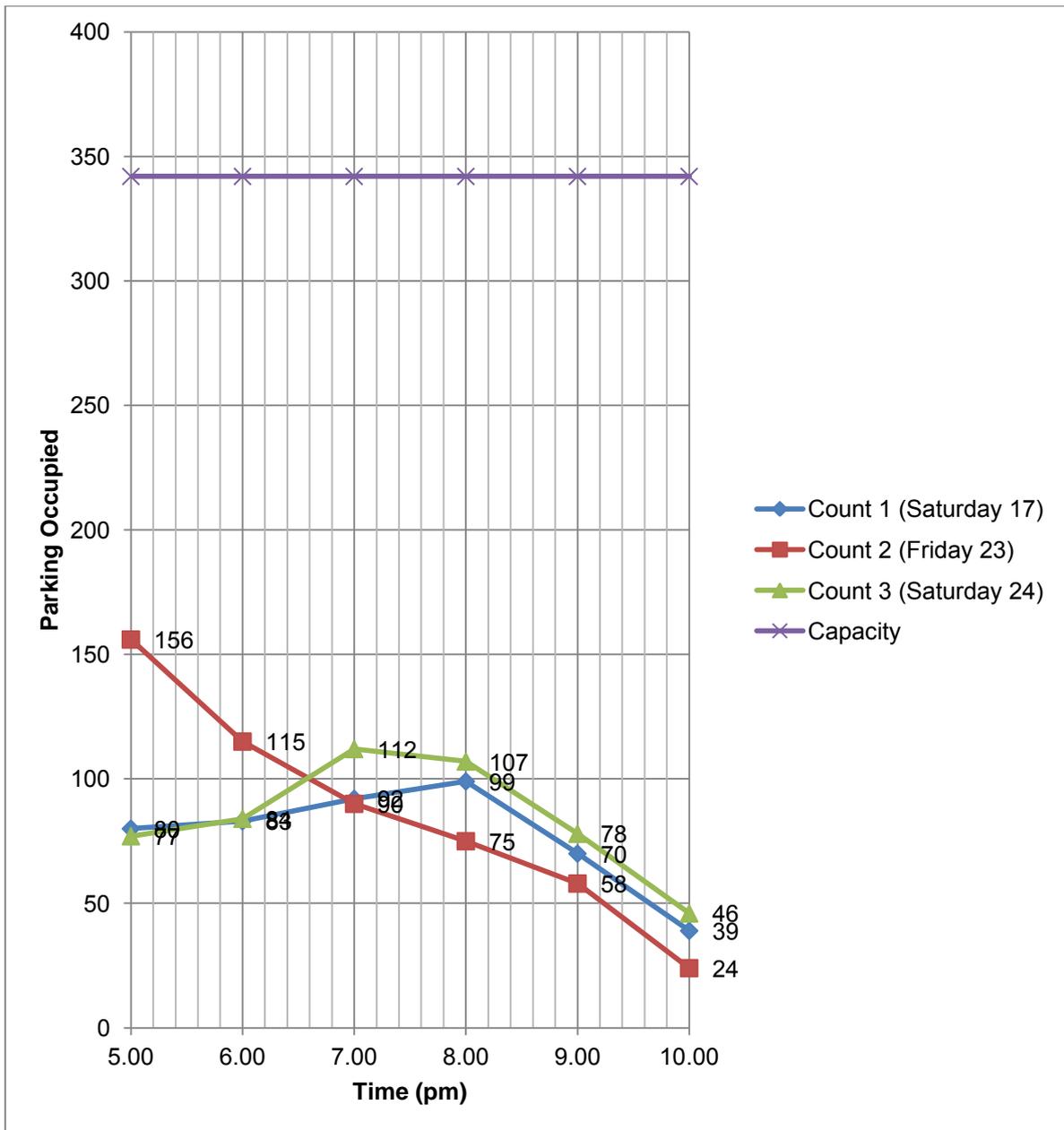
PARKING

Zone	Capacity	Restriction	5pm	6pm	7pm	8pm	9pm	10pm
A (on-site)	3*	U	2	1	1	1	1	NIL
B	22	2P60	10	12	17	18	16	12
C1	24	U (Target)	6	2	1	4	2	NIL
C2	40	U (Target)	6	10	20	19	22	14
C3	43	U (Target)	1	NIL	NIL	NIL	NIL	NIL
D	21	2P60	1	3	4	3	NIL	NIL
E	7	2P60	4	1	6	3	1	3
F (Coles)	96	2P	29	35	39	31	15	1
G	16	2P60	5	10	9	11	7	7
H	13	U60	NIL	2	3	4	3	1
I	21**	U60	1	NIL	3	3	NIL	NIL
J	18	2P60	2	1	1	1	2	1
K	7	U	2	1	1	1	1	1
L	4	U	2	1	2	3	3	2
M	7	U	6	5	5	5	5	4
Total	342	-	77	84	112	107	78	46

* Note

* COLES Closes @ 10pm

ANNEXURE B: CAR PARKING SURVEYS (Sheet 6 of 6)



ANNEXURE C: PATRON COUNT

PATRONAGE – 17th January 2015 Count 1

Area	Capacity	5pm	6pm	7pm	8pm	9pm	10pm
Main Bar / TAB		15	32	22	11	25	30
Indoor Gaming		0	1	-	0	0	3
Indoor Dining		-	15	20	30	14	12
Outdoor Dining (Umbrellas)		-	8	30	50	30	9
Outdoor Dining (Timber Deck)		6	1	10	20	25	9
Tent		0	0	0	20	10	0
Total		21	57	82	131	104	63

ANNEXURE C: PATRON COUNT

Friday 23rd Jan, 2015

2014/377

PATRONAGE

Area	Capacity	5pm	6pm	7pm	8pm	9pm	10p m
Main Bar / TAB ZONE 1.	60	13	32	34	24	26	23
Indoor Gaming ZONE 2.	10	1	0	0	0	2	2
Indoor Dining ZONE 3.	50	NIL.	3	8	10	6	3
Outdoor Dining (Umbrellas) ZONE 5.	128	4	11	13	15	20	15
Outdoor Dining (Timber Deck) ZONE 4	32.	NIL.	6	15	4	0	13.
Tent ZONE 5		NIL.	7	36	30	17	2.
Total							
ZONE 7. BACK MARQUE	34	NIL	NIL	NIL	NIL	NIL	NIL.
TOTAL		314.					

ANNEXURE C: PATRON COUNT

~~Friday 23rd~~ Jan, 2015

2014/377

SATURDAY 24th JAN

PATRONAGE

Area	Capacity	5pm	6pm	7pm	8pm	9pm	10p m
Main Bar / TAB ZONE 1	60	25	28	31	31	29	20
Indoor Gaming ZONE 2.	10	2	4	2	4	8	1
Indoor Dining ZONE 3.	50	9	NIL	13	22	19	5
Outdoor Dining (Umbrellas) ZONE 5.	128.	NIL	14	13	23	13	10
Outdoor Dining (Timber Deck) ZONE 4.	32	4	10	16	14	2	13
Tent ZONE 5		NIL	NIL	19	33	23	9
Total							
ZONE 7. BACK MARQUEE	34	NIL	NIL	31	35	27	13

TOTAL 314.

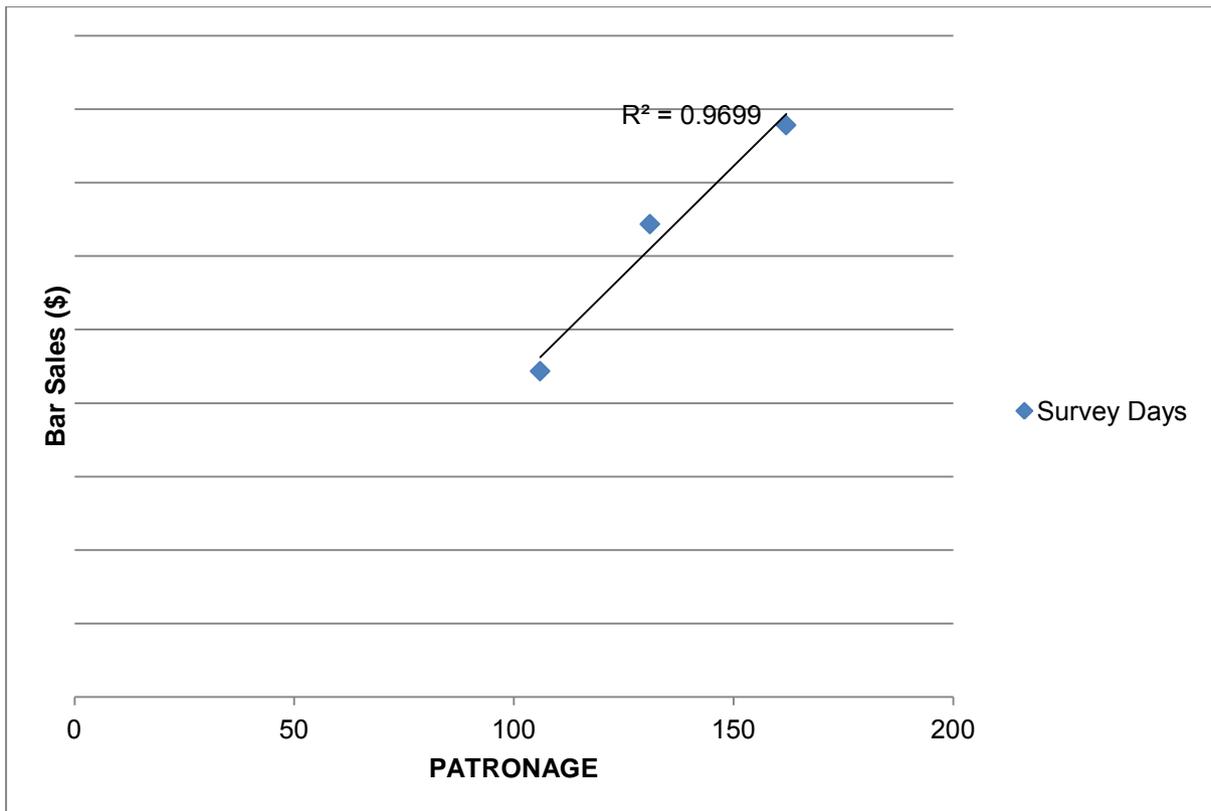
ANNEXURE D: BAR SALES REGRESSION ANALYSIS (Sheet 1 of 2)

Day	Date	Special Event	Survey	Patronage	Count	
Friday	25/04/2014	ANZAC Day		400	104	
Saturday	4/10/2014			250	103	
Saturday	7/06/2014			245	102	
Saturday	12/07/2014	FIELD DAYS		241	101	
Saturday	1/03/2014			238	100	
Saturday	29/03/2014			237	99	
Saturday	15/02/2014	Polo in the Paddock		217	98	
Saturday	10/05/2014			216	97	
Friday	29/08/2014			210	96	
Saturday	24/05/2014			206	95	
Saturday	3/05/2014			199	94	
Saturday	31/05/2014			199	93	
Friday	5/12/2014			199	92	
Saturday	30/08/2014			198	91	
Saturday	19/04/2014	EASTER SATURDAY		198	90	
Saturday	21/06/2014			196	89	
Friday	21/03/2014			193	88	
Friday	7/02/2014			192	87	
Friday	11/04/2014			189	86	
Saturday	22/03/2014			188	85	85th
Saturday	25/10/2014			188	84	
Saturday	14/06/2014			185	83	
Saturday	26/07/2014			184	82	
Friday	23/05/2014			182	81	
Friday	17/10/2014			182	80	
Friday	20/06/2014			179	79	
Saturday	17/05/2014			174	78	
Saturday	19/07/2014			173	77	
Friday	28/03/2014			172	76	
Friday	18/04/2014	GOOD FRIDAY		172	75	
Saturday	8/02/2014			171	74	
Saturday	8/03/2014			170	73	
Saturday	23/08/2014			168	72	
Friday	14/11/2014			167	71	
Friday	4/04/2014			165	70	
Friday	11/07/2014			164	69	
Saturday	16/08/2014			164	68	
Saturday	11/10/2014			163	67	
Saturday	27/09/2014			163	66	
Friday	26/09/2014			162	65	
Friday	31/10/2014			161	64	
Saturday	1/11/2014			161	63	
Saturday	9/08/2014			159	62	
Saturday	24/01/2015		162	159	61	Count 3
Friday	7/03/2014			159	60	
Saturday	26/04/2014			158	59	
Friday	3/10/2014			157	58	
Saturday	5/07/2014			157	57	
Saturday	5/04/2014			157	56	
Friday	5/09/2014			156	55	
Saturday	13/09/2014			155	54	
Friday	28/11/2014			154	53	
Friday	21/02/2014			153	52	50th
Friday	27/06/2014			153	51	
Saturday	18/10/2014			153	50	

ANNEXURE D: BAR SALES REGRESSION ANALYSIS (Sheet 2 of 3)

Saturday	22/02/2014			153	49
Friday	9/05/2014			149	48
Saturday	6/12/2014			148	47
Saturday	12/04/2014			148	46
Friday	2/05/2014			147	45
Friday	16/05/2014			146	44
Saturday	15/03/2014			144	43
Friday	19/09/2014			143	42
Friday	19/12/2014			142	41
Saturday	2/08/2014			139	40
Friday	26/12/2014			139	39
Friday	12/12/2014			137	38
Saturday	17/01/2015	131		137	37 Count 1
Friday	8/08/2014			135	36
Friday	18/07/2014			135	35
Saturday	20/09/2014			134	34
Saturday	1/02/2014			133	33
Friday	1/08/2014			132	32
Friday	13/06/2014			131	31
Friday	25/07/2014			130	30
Saturday	8/11/2014			130	29
Friday	22/08/2014			130	28
Friday	12/09/2014			130	27
Saturday	27/12/2014			129	26
Friday	6/06/2014			129	25
Saturday	28/06/2014			129	24
Friday	24/10/2014			126	23
Friday	28/02/2014			125	22
Friday	30/05/2014			125	21
Saturday	15/11/2014			122	20
Friday	4/07/2014			121	19
Saturday	6/09/2014			116	18
Friday	10/10/2014			116	17
Saturday	29/11/2014			116	16
Friday	9/01/2015			115	15
Saturday	20/12/2014			114	14
Friday	31/01/2014			113	13
Friday	14/02/2014			108	12
Saturday	10/01/2015			106	11
Friday	2/01/2015			104	10
Friday	23/01/2015	106		103	9 Count 2
Friday	7/11/2014			102	8
Friday	14/03/2014			101	7
Saturday	13/12/2014			97	6
Friday	15/08/2014			94	5
Friday	21/11/2014			87	4
Saturday	22/11/2014			86	3
Friday	16/01/2015			82	2
Saturday	3/01/2015			73	1

ANNEXURE D: BAR SALES REGRESSION ANALYSIS (Sheet 3 of 3)



M^CLAREN TRAFFIC ENGINEERING

Address: Shop 7, 720 Old Princes Highway Sutherland NSW 2232

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Telephone: +61 2 8355 2440

Fax: +61 2 9545 1227

Web: www.mclarentraffic.com.au

Email: admin@mclarentraffic.com.au

Division of RAMTRANS Australia ABN: 45067491678

Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

5th February 2015

Ref: 2013/377.F02A.CM/hc

Mid-Western Regional Council

PO Box 156

MUDGEES NSW 2850

Attention: Drew Roberts

ORIENTAL HOTEL, MUDGEES CAR PARKING ANALYSIS RESPONSE TO COUNCIL

Dear Drew,

Reference is made to the submitted Traffic Report dated 3rd February 2015. In order to assist Council's determination of the proposed alterations and additions, the undersigned herein submits supporting methodology and calculations for the Hotel's patronage.

Methodology

1. The increase in dining floor area of 28.1m^2 (Future Zone 1 (115.4) – Existing Zone 1 (87.3) = 28.1) is compared to the existing provision of approximately 50m^2 as identified by Existing Zone 3. Therefore, the 28.1m^2 increase in floor area, to 78.1m^2 , represents an increase of an approximate factor of 1.56
2. The increase in Level 1 lounge of 108.9m^2 (Future Zone 8 (42.8) + Future Zone 9 (66.1) = 108.9) is compared to the existing ground floor bar / lounge (Existing Zone 1) area of 87.3m^2 . This is therefore an increase of an approximate factor of 2.24.
3. The increase in gaming area of 25.14m^2 (Future Zone 2 (47.9) – Existing Zone 2 (22.76) = 25.14) is compared to the existing provision of 22.76m^2 gaming area. Therefore, the increase of 25.14m^2 of gaming floor area represents an increase by an approximate factor of 2.10.
4. The decrease in Alfresco Area by approximately 66.45m^2 (Future Zone 4 & 5 (42.8 + 77.9) – Existing Zone 4 & 5 (40.65 + 146.5) = 54.25) is compared to the existing provision of 187.15m^2 provided in the existing Alfresco Area (Zone 5) & Deck (Zone 4). This decrease in floor area is by an approximate factor of 0.36. It should be noted that the Traffic Report included the 60m^2 under the tent area however this has been removed as part of this methodology.
5. The increase in of 40m^2 made by the creation of the turfed area is compared to existing provision of 187.15m^2 provided in the existing Alfresco Area (Zone 5) & Deck (Zone 4). This increase in floor area is by an approximate factor of 1.21.

Calculations

6. As shown in **Table 1**, the average number of patrons occupying the existing indoor dining (Zone 3) is 15% of the peak patronage. Therefore, based on the average maximum of 153 patrons, it is anticipated that 23 patrons would utilise the existing dining area ($153 \times 0.15 = 23$). The additional dining area is an increase of an approximate factor of 1.56, therefore resulting in a future patronage in the dining area of 36 patrons, an increase of 13.

TABLE 1: GROUND FLOOR INDOOR DINING PATRONAGE

	Time	Peak of Total Count	Dining (Zone 3)
Count 1	8pm	131	30 23%
Count 2	7pm	106	10 9%
Count 3	8pm	162	22 14%
Average Patrons in Area	-	-	15%
	Patrons	Expected Existing Dining (Zone 3)	Future Additional Indoor Dining
Average Maximum 50th Percentile Patronage	153	23 (i.e. 15%)	+13

7. As shown in **Table 2**, the average number of patrons occupying the existing indoor bar / lounge area is 25% of the peak patronage. Therefore, based on the average maximum of 153 patrons, it is anticipated that 31 patrons would utilise the existing bar / lounge area ($153 \times 0.25 = 31$). The additional Level 1 lounge area is an increase of an approximate factor of 2.14, therefore resulting in a future patronage in the downstairs bar / lounge area and Level 1 lounge area of 69 patrons, an increase of 38.

TABLE 2: LEVEL 1 LOUNGE & VERANDAH PATRONAGE

	Time	Peak of Total Count	Main Bar (Zone 1)
Count 1	8pm	131	11 8%
Count 2	7pm	106	34 32%
Count 3	8pm	162	31 19%
Average Patrons in Area	-	-	20%
	Patrons	Expected Existing Main Bar (Zone 1)	Future Additional Level 1 Lounge / Deck
Average Maximum 50th Percentile Patronage	153	31 (i.e. 20%)	+38

8. As shown in **Table 3**, the average number of patrons occupying the existing gaming area is 1% of the peak patronage. Therefore, based on the average maximum of 153 patrons, it is anticipated that

2 patrons would utilise the existing gaming area ($153 \times 0.01 = 2$). The additional gaming area is an increase of an approximate factor of 2.10, therefore resulting in a future patronage in the new gaming area of 4 patrons, an increase of 2.

TABLE 3: GROUND FLOOR GAMING PATRONAGE

	Time	Peak of Total Count	GAMING (Zone 2)
Count 1	8pm	131	0 0%
Count 2	7pm	106	0 0%
Count 3	8pm	162	4 2%
Average Patrons in Area	-	-	1%
	Patrons	Expected Existing Gaming (Zone 2)	Future Additional Gaming
Average Maximum 50th Percentile Patronage	153	2 (i.e. 1%)	+2

9. As shown in **Table 4**, the average number of patrons occupying the existing alfresco area, deck and tent is 65% of the peak patronage (whilst the floor area associated with the Tent is not considered, the number of patrons under the tent is retained as these patrons would most likely be accommodated in the Alfresco Area if the Tent was not supplied). Therefore, based on the average maximum of 153 patrons, it is anticipated that 99 patrons would utilise the existing alfresco, deck and tent area ($153 \times 0.65 = 99$). The reduction in alfresco outdoor area is by a factor of 0.36, therefore resulting in a future patronage in the outdoor alfresco area of 63 patrons, a decrease of 36.

TABLE 4: GROUND FLOOR ALFRESCO PATRONAGE

	Time	Peak of Total Count	ALFRESCO, DECK, TENT (Zone 4 & 5 + Tent)
Count 1	8pm	131	90 69%
Count 2	7pm	106	64 60%
Count 3	8pm	162	105 65%
Average Patrons in Area	-	-	65%
	Patrons	Expected Existing Outdoor Area	Future Additional Outdoor Alfresco
Average Maximum 50th Percentile Patronage	153	99 (i.e. 65%)	-36

10. As shown in **Table 9** of the Traffic Report and below, the average number of patrons occupying the existing alfresco area, deck and tent is 65% of the peak patronage. Therefore, based on the average maximum of 153 patrons, it is anticipated that 99 patrons would utilise the existing alfresco, deck and tent area ($153 \times 0.65 = 99$). The turfed area provides an increase in floor area by and approximate

factor of 1.21, therefore resulting in a future increase in patronage within the turfed area by 21 patrons, an increase of 21 as the turfed area currently does not exist.

TABLE 9: GROUND FLOOR TURF AREA PATRONAGE

	Time	Peak of Total Count	ALFRESCO, DECK, TENT (Zone 4 & 5 + Tent)
Count 1	8pm	131	90 69%
Count 2	7pm	106	64 60%
Count 3	8pm	162	105 65%
Average Patrons in Area	-	-	65%
	Patrons	Expected Existing Outdoor Area	Future Additional Grassed Seating
Average Maximum 50th Percentile Patronage	153	99 (i.e. 65%)	+21

11. Therefore, the additional patronage is expected to be 38 patrons (13 + 38 + 2 – 36 + 21 = 31). This is equivalent to 11 cars based on the 30% car driver.

Additional Discussion

The area outside of the keg room is intended to be used as circulation space for both staff to / from the keg room and kitchen as well as diners queuing to order and pick up meals and as such is not suitable for seating or for people to congregate.

Conclusion

The submitted traffic report identified a future increase of 34 patrons and 10 vehicles. This supplementary letter identifies a future increase of 38 patrons and 11 vehicles, a difference of 4 patrons and 1 vehicle from the Traffic Report. This difference is a result of an increase in the assessed turfed area and refinements to other floor areas.

Whilst the revised calculations show a demand for 11 additional cars, the conclusions within the Traffic Report remain VALID in that there is a significant supply of publicly available on-street and off-street parking within the town centre such that in the circumstances of the subject proposed alterations and additions to the Oriental Hotel it is inappropriate (and unsustainable) for the Hotel to make a contribution towards the provision of further additional car parking by way of S94 Contributions or works in kind.

Please contact the undersigned should you require further information or assistance.

Yours faithfully

M^CLAREN TRAFFIC ENGINEERING



**Craig M^CLaren
Director**

**BE Civil. Graduate Diploma (Transport Eng) MAITPM MITE [1985]
RMS Accredited Level 3 Road Safety Auditor
RMS Accredited Traffic Control Planner, Auditor & Certifier (Orange Card)**



2015

COUNCIL BUSINESS PAPERS

Ordinary Meeting 18 FEBRUARY 2015

ATTACHMENT **6.2.7**

► Request for variations to water and sewer contributions - Attach 1-2: Submissions



Admin & Gen. NSW. Gov
A2

TRENT - 69-628175

ATT:

TRENT, CORNIE & Co.
NSW. Gov. AU

In reply quote: DA 285/2005(2):JT:RG

10 April 2006

Mr L H Williams
PO Box 44
SPRINGWOOD NSW 2777

Dear Mr Williams

Development Application No. 285/2005(2) on Lots 78, 79, & 80 DP: 1083401 2-6 Madden Drive GRIFFITH

Please find *enclosed* a copy of Council's amended Notice of Determination relating to the abovementioned development on the subject land. It is important to note that in granting consent to the application to modify the Notice of Determination, Council has amended/deleted/inserted the following conditions (as shown on the amended Notice of Determination):

Amended conditions:

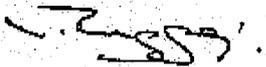
- Condition E No.8

All other conditions of development consent remain unchanged.

It is important that you carefully read and understand all conditions of development consent. To assist you in ensuring that all conditions are complied with, they have been separated into relevant sections such as "Prior to the commencement of work" and "During Construction".

For further information regarding this matter please contact Council's Development Planner, Mrs Joanne Tarbit on (02) 69628 140.

Yours sincerely


M RUGGERI
DEVELOPMENT ASSESSMENT COORDINATOR

Enc



In reply quote: DA 285/2005(2):JT:RG

**SECTION 96(2) MODIFICATION OF CONSENT
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION**

(Section 81(1)(a) & 82A Environmental Planning & Assessment Act, 1979)

Development Application No.: 285/2005(2)

Applicant(s): Mr L H Williams
PO Box 44
SPRINGWOOD NSW 2777

Description of Development: Child care centre

Property Description: Lots 78, 79, & 80 DP 1083401
2/6 Madden Drive GRIFFITH

Date of determination: 10 April 2006

Development application has been: granted consent *(subject to conditions in Attachment 'A')*

Development consent operates from: 24 August 2005

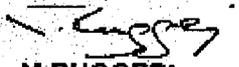
Development consent lapses on: 24 August 2010

'General terms of approval' given by: no other authorities

It is important that all conditions be carefully read and understood prior to the commencement of the development.

If you are dissatisfied with this decision, Section 97 of the Environmental Planning and Assessment Act 1970 provides you the right to appeal to the Land and Environment Court of New South Wales within twelve (12) months from the date of this notice.

For further information regarding this matter please contact Council's Development Planner, Mrs Joanne Tarbit on (02) 69628 140.


M RUGGERI
DEVELOPMENT ASSESSMENT COORDINATOR

Enc



In reply quote: DA 285/2005:JT:RG

**NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION**

(Section 81(1)(a) Environmental Planning & Assessment Act, 1979)

Development Application No.: 285/2005

Applicant(s): Mr L Williams
PO Box 44
SPRINGWOOD NSW 2777

Description of Development: Child care centre & advertising sign

Property Description: Lots: 78, 79, & 80 DP: 1083401
2-6 Madden Drive GRIFFITH

Date of determination: 24 August 2005

Development application has been: granted consent *(subject to conditions in Attachment 'A')*

Development consent operates from: 24 August 2005

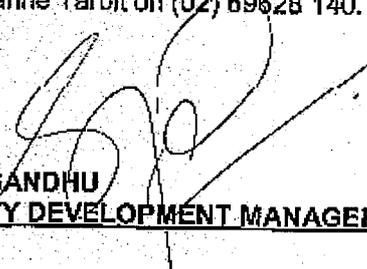
Development consent lapses on: 24 August 2010

'General terms of approval' given by: no other authorities

It is important that all conditions be carefully read and understood prior to the commencement of the development.

If you are dissatisfied with this decision, Section 97 of the Environmental Planning and Assessment Act 1979 provides you the right to appeal to the Land and Environment Court of New South Wales within twelve (12) months from the date of this notice.

For further information regarding this matter please contact Council's Development Planner, Mrs Joanne Tarbit on (02) 69628 140.


S SANDHU
CITY DEVELOPMENT MANAGER

Enc

Attachment 'A'

Part A – General Planning Conditions

(1) Approved Plans

The Development must be implemented substantially in accordance with Development Application No 285/2005 received on 22 June 2005 and the below mentioned plans and/or documents, except where amended in red on the attached plans or modified by the conditions of this consent.

Drawing No. or Document	Dated	Prepared or Drawn By	Council Approval Date
Dwg 1 of 4	20 July 2005	AH & PM	24 August 2005
Dwg 2 of 4	19 July 2005	G. K. J	24 August 2005
Dwg 3 of 4	19 July 2005	G. K. J	24 August 2005
Dwg 4 of 4	19 July 2005	G. K. J	24 August 2005
Dwg 1 of 4	19 July 2005	G. K. J	24 August 2005

(2) Lapsing of Consent

This Consent is valid for a period of five years from the date of consent. It will lapse on 24 August 2010 if the approved use of any land or construction work has not commenced prior to that date. No further extensions will be granted.

(3) Signs Approved

This consent includes consent to erect the following signs ONLY.

- One non-illuminated fascia sign located on the front building façade.

A separate application shall be lodged and approval gained for any other signs or for any changes to the approved signs (unless approval is not required by virtue of the provisions of Griffith Development Control Plan No. 22 – Exempt and Complying Development).

- (4) The landscaping area shown on the plan submitted with the application shall be landscaped and maintained to the satisfaction of Council at all times.
- (5) The signage must be maintained in good condition at all times.

- (6) This approval being for the construction of a childcare centre, consolidation of lots 78, 79 and 80 and one (1) fascia sign.
- (7) The nature strip on Council's footway is to be incorporated in the overall landscape plan and is to be maintained at the applicant's expense at all times.
- (8) A retaining edge, such as timber coping or other approved barriers, shall be erected around all landscaped areas. Garden beds are to contain soil and mulch finishes.
- (9) An underground sprinkler system to all lawns and a micro-irrigation system to shrubs, trees, etc, shall be installed at the applicant's expense. Details of the type, method of installation and location being submitted and approved by Council before commencing work.
- (10) When the business ceases operation from the subject property the approved advertising signage is to be removed prior to the ceasing of the business.
- (11) The applicant shall ensure that no nuisance emanates from the proposed activity to adjoining development or development within the locality.
- (12) The office being used in conjunction with and dependent upon the approved use carried on within the premises.
- (13) The hours of operation being confined to between 6:30 am to 6:30 pm, Mondays to Fridays inclusive as stipulated in Development Application No. 285/2005.
- (14) The subject property has been allocated a street number of 2-6 Madden Drive and this number should be prominently displayed at the street frontage of the property.
- (15) A letter box is to be provided adjacent to the street frontage to meet the requirements of Australia Post.
- (16) Any outdoor security lighting is to be so located or shielded so that no additional light is cast on adjoining land or that it will distract traffic.
- (17) Lighting, other than that required for reasonable security, shall not be used between the hours of 9.00 pm and 6.00 am on any day.
- (18) To reduce noise and ensure privacy of the future adjoining residential allotment, the fence on the south western boundary shall be constructed of colorbond or of an alternate solid screening material and have a maximum height of 1.8m.

Part B - General Building Conditions

- (1) The ground surface around the dwelling is to be graded and drained to direct surface water run-off away from the building.
Reason: Prevent Dampness
- (2) Should Council be nominated as the Principal Certifying Authority the following essential fire protection services are to be provided and maintained in accordance with the provisions of Regulation 93/94 of Environmental Planning and Assessment Regulation 2000.
 - (e) Emergency lighting (as required by Part E.4 of the BCA).
 - (h) Exit signs (as required by Part E4.5 of the BCA).
 - (p) Hose reels (as required by Part E1.4 of the BCA).
 - (q) Hydrants (as required by Part E1.3 of the BCA)
 - (u) Portable fire extinguishers (as required by Part E1.6 of the BCA).
 - (ad) A certificate or statement prepared by the designer/installer to the effect that the listed essential fire safety services under the Building Code of Australia comply with the relevant Sections and the Australian Standards, is to be submitted upon completion of the building prior to occupation.
- (3) Structural details and construction works are to be submitted to Council and were necessary detailed in a specification of works indicating compliance with relevant sections of the BCA and/or Australian Standards.
- (4) Exit travel distances are to comply with D1.14 of the Building Code of Australia.
- (5) Sanitary facilities are to be provided designated to male and female unless it can be demonstrated that the majority of employees are the same sex and not more than 2 employees of the other sex may share the toilet facilities.

Part C - General Engineering Conditions

- (1) All hard stand areas including driveway and parking areas are to be sealed in accordance with the approved plans and Council's Development Manual.
- (2) The car park is to be line marked in accordance with Australian Standard 2890.1:2004.
- (3) Car space No. 1 shall be incorporated into the landscaped area.
- (4) The connection to Council's water main being applied for separately. Where the connection is 25mm or greater to serve the needs for domestic and fire services, the application shall be supported with hydraulic calculations prepared by an appropriate consultant, including reference to a water pressure flow test of the adjacent mains.
- (5) The applicant is to be responsible for all amplification, extension and adequate provision for connection of services at their own expense. The work is to be in accordance with Council's Development Manual and relevant authorities specifications.

- (6) Entry and exit signs shall be erected at the applicant's expense within the property in a position clearly visible from Madden Drive.
- (7) Where the internal driveways fall towards the street, provision shall be made for the construction of grate drains across the driveway entrances at the boundary line of the property, as and where, stormwater from the premises may be liable to flow on to the footway of the adjacent street.
- (8) Construction of a heavy duty concrete vehicular crossing over the full width of the footway to provide effective all-weather access to the site and a nuisance-free surface over Council's footway. Width and location as per the submitted plan, layback crossing is to be installed in accordance with Council's Development Manual.
- (9) Driveway access to the lot at the kerbside being at least one (1) metre from the side boundary or where a drainage pit, electricity or other service pole is located.
- Reason: Safety
- (10) Provision of Car Parking
- A total of 19 off-street car parking spaces is to be provided within the site and located as shown on the approved plans (as amended). Car spaces are to be allocated as follows:
- 1 car space for disabled persons (must comply with Australian Standard 1428).
- The car parking spaces are to be line marked or delineated with "LIN-O-DOT" or similar marking and a placard, or marked on the ground to indicate who they belong to.
- (11) Entry and Exit of Vehicles
- All vehicles are to enter and exit the site in a forward direction.
- (12) Entry and Exit Signs
- Entry and Exit Signs are to be placed in a suitable location to the satisfaction of Council.
- (13) Damage to Council's Property
- If any damage occurs to Council's property as a result of construction works or activities associated with this consent (including concrete kerbing and guttering and footpaving), the cost of the repairs is recoverable from and must be borne by the applicant.
- It is recommended that, before works commences, an inspection be carried out and all existing defects identified, recorded and advised to Council so as to avoid future conflict.
- (14) All carparking areas being kept free for carparking and manoeuvring at all times.
- (15) The car spaces located within the blind isle at the west of the carpark (i.e. spaces 12 – 16) shall be signposted and used for employee parking only.
- (16) Line marking and directional lines must be implemented substantially in accordance with the approved plans and Australian Standard 2890.1:2004. Line marking and directional lines are to be maintained by the owner of the site for the lifetime of the development.
- (17) Parking bays and line marking shall be in accordance with AS 28890.1:2004. Line marking is to be maintained by the owner for the lifetime of the development.

Part E – Prior to the Issue of a Construction Certificate

- (1) A Fire Safety Schedule (3 copies) shall be submitted listing the current and proposed fire safety measures for the whole of the building. Details shall also be submitted regarding:
- Measures to protect persons using the building in the event of a fire.
 - Measures to facilitate the egress of persons using the building in the event of a fire.
 - Measures to restrict the spread of a fire from the building to the other building nearby.
- The schedule and floor plan (3 copies of each) showing the location of all essential measures, are to be submitted **prior to the issue of the Construction Certificate**
- (2) The facilities provided within the Before & After school care area are required to be provided with four (4) washbasins in accordance with F2.3 of The Building Code of Australia. Details are required to be submitted to Council **prior to the issue of the Construction Certificate.**
- (3) The proposed sliding exit doors for the 2-3 years and 3-4 years play rooms do not comply with the requirements of D2.19(b)(iii) of the Building Code of Australia. Details of compliance with this requirement are to be submitted to Council **prior to the issue of the Construction Certificate.**
- (4) Tactile ground surface indicators must be provided to warn people with a vision impairment that they are approaching a stairway and/or a ramp and where a path of travel meets a vehicular way adjacent to a principal public entrance. They must be Type B indicators in accordance with AS1428.1 details of the indicators location and installation with AS1428.1 are required to be submitted To Council **prior to the issue of the Construction Certificate.**
- (5) Consolidation of Lots
- The applicant is required to consolidate all separate parcels (being lots 78, 79 and 80 DP 1083401) into one allotment under one title in order to prevent future dealings in separately titled land. Evidence of the lodgement with the Land Titles Office is to be submitted to Council **prior to the issue of the Construction Certificate.** The existing 3 metre wide sewer easement shall be reflected on this plan and the section 88B instrument.
- (6) Scope of Consent
- Prior to construction of the approved development, it is necessary to obtain a Construction Certificate for building and engineering works. A Construction Certificate for building works can be issued either by Council or an appropriately qualified 'Accredited Certifier'. A separate application, complete with detailed plans and specifications, shall be submitted to Council for these Construction Certificates.

(7) S64 Local Government Act 1993 – Water Supply and Sewerage

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*. Council shall issue a certificate of compliance pursuant to S307 of this Act upon the applicant making a payment in accordance with S306 of this Act. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage and Drainage

Type of Contribution	Amount per Tenement or Lot	Number of Tenements or Lots	Total Amount to be Paid
Water Supply Headworks	\$2,929.00	3.3 ET	\$9,665.70
Sewerage Headworks	\$1,691.00	7.5 ET	\$12,682.50
Totals			\$22,348.20

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of the Construction Certificate** unless other arrangements acceptable to Council are made.

The contribution is exclusive of the fees for the connection of water services to the individual allotments. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(8) Water Allocation Transfer

The applicant is to arrange for the transfer to Council of a water allocation 4.95 ML (1.5 ML per tenement for additional 3.3 tenement/s). Documentary evidence of the transfer must be submitted to Council **prior to the issue of the Construction Certificate**. Alternatively, the applicant may make a pro-rata payment (this fee is based on market value) plus an administration fee to Council.

The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

Note: The subject Policy No. 750 – Volumetric Water Allocation is currently under review. The charges will be adjusted accordingly following the adoption of the new policy.

(9) All stormwater run off shall be directed to Council's street system for disposal. Stormwater run off shall not be permitted to flow over property boundaries onto the adjoining properties. Details (3 copies) of the method of collecting and disposal, including pits, sumps, pipelines and the like together with hydraulic design criteria being submitted to comply with Council's Development Manual and approved **prior to the issue of the Construction Certificate**.

Reason: To ensure the proper and efficient management of storm water arising from the development and to ensure that such does not adversely effect the adjoining properties.

(10) Payment of Fees

Should Council be engaged as the Principal Certifying Authority (PCA), the applicant is required to ensure that the following fees have been paid to Council prior to the commencement of work:

- (a) nomination of Council as PCA/commencement notification;
- (b) issue of a Compliance Certificate;
- (c) issue of an Occupation Certificate; and
- (d) any other relevant fees.

Part F - Prior to Commencement of Work

- (1) The structural members of the building being protected from termites by an approved method as prescribed by Australia Standard AS 3660.1. Before the commencement of work the Council is to be notified in writing of the method of protection intended to be used and after placement, a certificate is to be submitted from the installer which advises compliance with the Australian Standard and relevant manufacturers installation requirements.
- (2) To ensure signs are erected on building and demolition sites a sign shall be erected in a prominent position on any work site on which work involved in the erection or demolition of a building is being carried out:
 - (a) stating that unauthorised entry to the work site is prohibited, and
 - (b) showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside working hours.
- (3) The erection of a building in accordance with a development consent must not be commenced until detailed plans and specifications of the building have been endorsed with a Construction Certificate by:
 - (a) the consent authority, or
 - (b) an accredited certifier.
- (4) Prior to the erection of a building/structure in accordance with this development consent the person having the benefit of this development consent shall appoint a Principal Certifying Authority (PCA). Where Council is not the PCA, it shall be notified in writing no less than two (2) days prior to the commencement of work.
- (5) A combined copy of form 7, Notification of PCA/Commencement of Work; form 10, Compliance Certificate and form 12 Occupation Certificate is enclosed. This form must be completed and submitted to Council when the project is to proceed.
- (6) If any damage is occasioned to Council property, such as kerbing and guttering, footpaths and road pavement during building construction, the cost of repairs is recoverable. It is therefore requested that any damage which is obvious before construction be immediately notified to Council to avoid later conflict.
Reason: Prevent Damage
- (7) Toilet facilities are to be provided, at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out, at the rate of one toilet for every 20 persons or part of 20 persons employed at the site. The provision of toilet facilities must be completed before any other work is commenced.

- (8) All plumbing and draining to be carried out by a licensed trades person. Prior to work commencing, a permit is to be obtained from Council. All water supply, sanitary plumbing and drainage works are to comply with the relevant provisions of the Local Government (Water Services) Regulation 1999 and to Australian Standard AS 3500.
- (9) **Materials on Public Roads and Footpath Reserves**
No materials, goods or equipment shall be located outside the property boundary and/or upon the public road or footpath reserve.
- (10) **Control Measures for Dust, Noise and Erosion**
Effective dust/noise/erosion control measures are to be installed and maintained prior to, during and following the completion of construction work in order to ensure that site materials do not leave the site and/or enter Council's stormwater system, to maintain public safety/amenity.

Part G - During Construction

- (1) There being no materials, goods or equipment located outside the property boundary and/or upon the public road and footpath reserve.
- (2) Building work must be carried out in accordance with the requirements of the Building Code of Australia.
- (3) During the construction period, all builder's debris and litter shall be adequately contained within the property. The builder is to remove all builder's debris and litter on a weekly basis, and at the completion of all work.

Reason: Proper Waste Management

- (4) Fees for additional inspections shall be charged at \$80.00 per inspection.
- (5) Should Council be engaged as the Principal Certifying Authority, the following inspections are required to be carried out by Council's officers:
 - (aa) Prior to the commencement of work;
 - (a) Piers, pads or post holes prior to the placement of concrete;
 - (b) Footing trenches, with reinforcement steel in position, before concrete is poured;
 - (c) Concrete slabs, with reinforcement steel in position before concrete is poured;
 - (d) Internal/external drains (including sanitary plumbing and stackwork) prior to covering.

Note: Drainage lines and stackwork are required to be under water test during the inspection;

- (f) Wall and roof framework - including damp-proofing, water plumbing "rough-in" and floor, wall and roof construction prior to fixing any linings;
- (g) Waterproofing of wet areas;
- (h) Roofwater drainage before backfilling;

- (h) Roofwater drainage before backfilling;
- (i) Structural steelwork;
- (j) Completion of work before the building is occupied or used.

Should adequate notice not be given for cancellation of an inspection, or if works have not progressed to a stage where an inspection can be completed, a default penalty of \$80.00 per inspection shall be imposed upon the applicant by Council.

Twenty four (24) hours notice is to be given to Council's Customer Service by telephoning (02) 69628 100 to arrange for an inspection to be carried out.

- (6) The developer is required to comply with any and all requirements of the NSW WorkCover Authority.
- (7) **Storage of Goods and Trade Waste**
No goods, materials or trade waste are to be stored at any time outside the building/premises other than in the approved garbage facilities or storage facilities.

Part H - Prior To Occupation

- (1) The fire hazard properties of any material or assembly installed in the building must comply with -
 - (i) Specification C1.10; or
 - (ii) For floor materials and floor coverings, and wall and ceiling lining materials, Specification C1.10 or Specification C1.10a of the Building Code of Australia.
Manufacturers or installers certification that this has been achieved is to be submitted to Council prior to occupation of the building.
- (2) **Signage for Facilities and Car Parks**
Clear and legible signs incorporating the international symbol of access or other symbol as appropriate, in accordance with Australian Standard 1428.1 must identify each accessible sanitary facility and carpark.
- (3) **Inspections and Certificates - Final**
On completion of these conditions, the applicant shall contact Council's Customer Service Officers to arrange an inspection to be carried out and the development finalised, and appropriate Compliance, Subdivision or Occupation Certificate issued.

Other Local Government Act Approvals

In seeking development consent, the following other Local Government Act 1993 approvals have been granted under Section 68 with the attached conditions:

No other approvals sought.

9940230

01/03/13 - 30/06/13

2012/2013

2-6 Madden Drive GRIFFITH NSW 2680 LOT: 1 DP: 1092009

MR L H WILLIAMS
PO BOX 131
KURMOND NSW 2757

910 3110



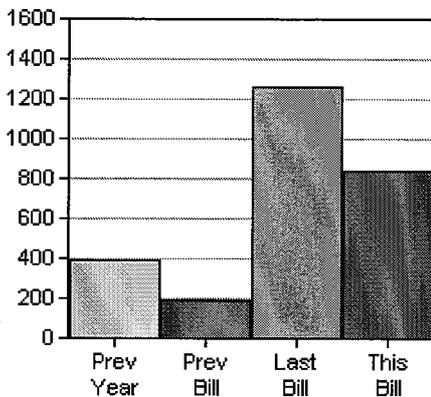
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Meter no.	Size	Non-res DF (2)	Previous Read Date	Previous Reading	Current Read Date	Current Reading	Water Usage (kL)	Previous YTD
07X066245	25	0.55	22/01/2013	4222	23/05/2013	5059	837	1454



Current Charge	Amount
Water Consumption Charge	\$929.07
Water Access Charges	\$66.00
Non-Res Sewerage Access	\$179.00
Non-Res Sewerage Treatment Charges	\$630.68
Trade Waste Admin	\$60.00
Trade Waste Treatment Charges	\$94.58
Backflow Charges	\$50.00
Balance Brought Forward	\$3.65



Council Use Only

**IMPORTANT MESSAGE - THIS NOTICE
INCLUDES PAYMENTS TO THE 5 JUNE 2013.
ALL OVERDUE CHARGES MUST BE PAID
IMMEDIATELY ON RECEIPT OF THIS NOTICE.**

DUE DATE For Payment 12/07/2013

TOTAL DUE \$2,012.98



WATER



*71 188 9103110 35



Council Use Only

NAME: MR L H WILLIAMS
ACCOUNT: 9940230
DUE DATE: 12/07/2013
AMOUNT DUE: \$2,012.98
MICR NO: 9103110

9940230

01/07/13 - 31/10/13

2013/2014

2-6 Madden Drive GRIFFITH NSW 2680 LOT: 1 DP: 1092009

MR L H WILLIAMS
PO BOX 131
KURMOND NSW 2757

910 3110



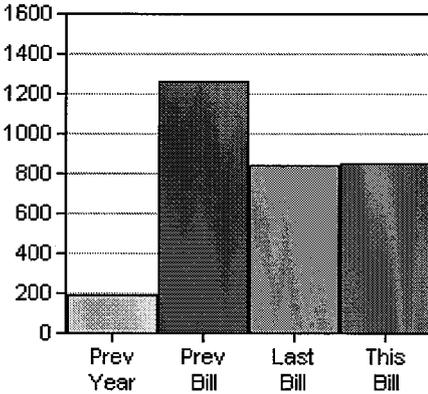
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*71 188 9103110 35

Meter no.	Size	Non-res DF (2)	Previous Read Date	Previous Reading	Current Read Date	Current Reading	Water Usage (KL)	Previous YTD
07X066245	25	0.55	23/05/2013	5059	23/09/2013	5912	853	0



Current Charge	Amount
Water Consumption Charge	\$909.60
Water Access Charges	\$67.00
Non-Res Sewerage Access	\$184.00
Non-Res Sewerage Treatment Charges	\$661.50
Trade Waste Admin	\$60.00
Trade Waste Treatment Charges	\$98.95
Backflow Charges	\$51.00
Balance Brought Forward	\$12.39



Council Use Only

IMPORTANT MESSAGE - THIS NOTICE INCLUDES PAYMENTS TO THE 11 OCTOBER 2013. ALL OVERDUE CHARGES MUST BE PAID IMMEDIATELY ON RECEIPT OF THIS NOTICE.

DUE DATE For Payment 22/11/2013

TOTAL DUE \$2,044.44

Name: MR L H WILLIAMS
Property Address: 2-6 Madden Drive GRIFFITH NSW 2680
Account No: 9940230
Amount Due: \$2,044.44
Due Date: 22/11/2013

POST billpay



*71 188 9103110 35

In person at any Post office or by phone 13 18 16, or go to www.postbillpay.com.au



Billpay Code: 9264
Ref: 9103 1103 5



Billier Code: 120543
Ref: 910 3110



Council Use Only

For methods of payment and other information, see the reverse of this notice

9940230

01/07/14 - 30/09/14

2014/2015

2-6 Madden Drive GRIFFITH NSW 2680 LOT: 1 DP: 1092009

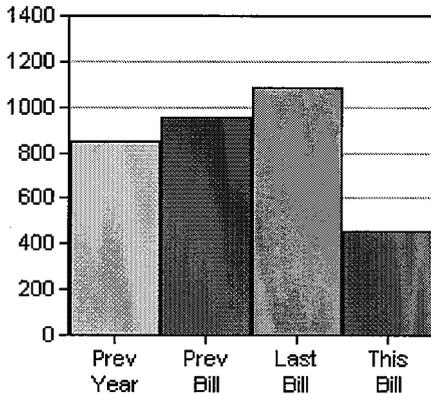
MR L H WILLIAMS
PO BOX 131
KURMOND NSW 2757

910 3110

9103 1107 0

008

Meter no.	Size	Non-res DF (2)	Previous Read Date	Previous Reading	Current Read Date	Current Reading	Water Usage (kL)	Previous YTD
07X066245	25	0.55	19/05/2014	7949	15/09/2014	8408	459	0



Current Charge	Amount
Water Consumption Charge	\$453.75
Water Access Charges	\$67.00
Non-Res Sewerage Access	\$191.00
Non-Res Sewerage Treatment Charges	\$363.53
Trade Waste Admin	\$60.00
Trade Waste Treatment Charges	\$54.62
Backflow Charges	\$51.00
Balance Brought Forward	\$3.66



Council Use Only

IMPORTANT MESSAGE - THIS NOTICE INCLUDES PAYMENTS TO THE 08 OCT 2014. ALL OVERDUE CHARGES MUST BE PAID IMMEDIATELY ON RECEIPT OF THIS NOTICE.

DUE DATE For Payment 21/11/2014

TOTAL DUE \$1,244.56

Name: MR L H WILLIAMS
Property Address: 2-6 Madden Drive GRIFFITH NSW 2680
Account No: 9940230
Amount Due: \$1,244.56
Due Date: 21/11/2014

POST billpay



*71 264 9103110 70

In person at any Post office or by phone 13 18 16, or go to www.postbillpay.com.au



Billpay Code: 9264
Ref: 9103 1107 0



Billers Code: 120543
Ref: 910 3110



Council Use Only

For methods of payment and other information, see the reverse of this notice

Original information from the client advised that meals were to be provided to the day care children (lunch) if this is required then an additional flow of 10L/Meal/day is required to be added to the above flow rate.

Therefore $10L \times (60 \text{ children} + 20 \text{ staff}) = 800L/\text{day}$

Expected daily flow rate including meal allowance = $(4270 + 800) = 5070L/\text{Day}$

Notes

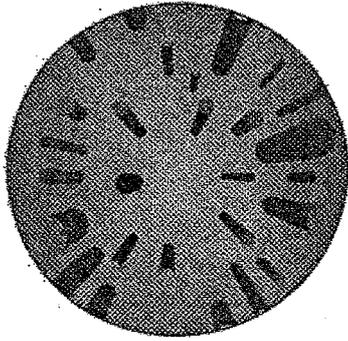
- Baby flow rates are required to be included, as original information from the client detailed that laundry services are to be included within the development for cleaning of soiled nappies etc (allowance of 20L/babie.)
- Baby numbers not included within meal flow rate calculations
- This information shall be used to determine the Waste water Disposal system as required for the proposed development. (system and methods to be selected and designed by others)
- Occupation numbers used have been provided by Springwood drafting services 6-9-04
- Water conservation tap ware and sanitary fixtures to be used within the development fit-out.

Please contact our office if you have any questions regarding this matter.

Kind Regards



Scott Harris
0411 512 887

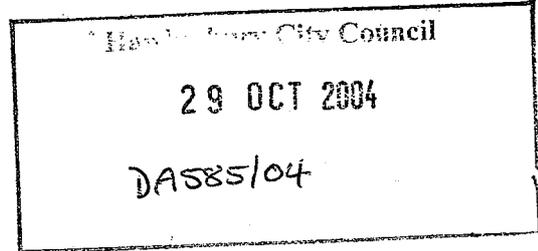


PP

**BLUE MOUNTAINS
Geological and
Environmental
Services Pty. Ltd.**

ACN 069 994 056

20 Fifth Avenue, Katoomba 2780
Phone (02) 4782 5981
Fax (02) 4782 5074



**REPORT FOR
ON-SITE EFFLUENT MANAGEMENT IN RELATION TO
THE PROPOSED EDUCATIONAL FACILITY AND
EXISTING DWELLING AT LOT A DP 350659, No. 8 NEICH
ROAD, MARAYLYA**

PREPARED FOR: SPRINGWOOD DRAFTING & CONSTRUCTION
SERVICE

SUBMITTED TO: HAWKESBURY CITY COUNCIL

REF. No. 041007
OCTOBER 2004



SCANNED

CONTENTS

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3.	SITE DESCRIPTION	5
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TABLE 1: TYPICAL EFFLUENT QUALITY FROM ECOMAX SEPTIC SYSTEMS.

TABLE 2: SUMMARY OF LAB TEST RESULTS FROM THE GEOENVIRO REPORT.

TABLE 3: CLIMATIC DATA FOR THE SITE AT MARAYLYA.

FIGURE 1: PLAN SHOWING THE LOCATION OF THE EXISTING DWELLING, PROPOSED EDUCATIONAL FACILITY, ASSOCIATED FEATURES AND THE COMPONENTS OF THE ECOMAX AMENDED SOIL MOUND SYSTEM.

1. INTRODUCTION

This report is prepared in relation to on-site effluent management for the proposed educational facility and existing dwelling at Lot A DP 350659, No. 8 Neich Road, Maraylya. The investigation was performed at the request of Mr. L. Williams of Springwood Drafting & Construction Service, as stipulated by Hawkesbury City Council. The report will be submitted to Council as part of the Development Application.

The property, which is situated in the village of Maraylya, has an area of 4256m² and contains an existing single storey dwelling, carport and associated features near the southern boundary fronting Neich Road. As shown in Figure 1, it is proposed to retain the existing features of development and provide an additional 'educational facility' with an associated car parking area and driveway. It is understood that the proposed educational facility will operate over five days per week from Monday to Friday and cater for a maximum of 104 children and 16 staff.

This report, which is prepared in accordance with the relevant criteria in Hawkesbury Development Control Plan Effluent Disposal Chapter 7 (**DCP ED Ch. 7**), utilises the following documents that have been provided in relation to the development proposal at the subject site:

1. Geotechnical and Water Balance Report by GeoEnviro Consultancy Pty Ltd from May 2003 – further referred to as 'GeoEnviro report'.
2. Hybrid Consulting Services Pty Ltd report in relation to estimates of sewage production from the existing and proposed features of development – further referred to as 'Hybrid report'.
3. Details in relation to the sizing of the components of the proposed effluent management system by the suppliers, Tech-Treat Pty Ltd – further referred to as 'Tech-Treat data'.

2. PROPOSED EFFLUENT MANAGEMENT SYSTEM AND ESTIMATE OF SEWERAGE PRODUCTION

It is understood that the dwelling is currently serviced with an absorption trench septic system for on-site effluent disposal which has been in place for many years. As part of the construction of the educational facility, it is proposed to decommission the septic system for the dwelling and replace it with a single effluent management system to cater for both features of development.

As a function of the nature of the property and development at the subject site, it is proposed to utilise the 'Ecomax sealed amended soil mound system' for on-site effluent management to cater for both the existing dwelling and proposed educational facility. Details from the Tech-Treat data indicate that the following arrangement will apply to the tanks for collection/pre-treatment of raw sewage and transferral to the amended soil mound:

- provision of a 'rescrete' septic tank for primary treatment with a baffle wall at an effective operating volume of 7200 litres – at the discretion of the Ecomax suppliers, this tank can be fitted with a 'biotube effluent filter' (i.e. a primary tank outflow filter from DCP ED Ch. 7) to reduce the amount of solids and other selected pollutants.
- an additional 'pump well' with a volume of 4500 litres to transfer the primary treated effluent to the Ecomax amended soil mound.

The location of the proposed septic tank and pump well for the Ecomax system in the northeastern part of the yard area containing the dwelling is shown in Figure 1.

It is understood that the Ecomax system provides the one of the highest level of effluent treatment currently available in the domestic and small-commercial situations ('advanced secondary' wastewater), whilst needing a relatively small area for land application due to the use of an above-ground soil mound. Whilst being known generally as a sealed amended soil mound system, results in this report are based on the characteristics and design parameters for the Ecomax system supplied only by Tech-Treat Pty Ltd (based at Castle Hill).

The Ecomax effluent management system has been Approved for use by the NSW Health Department, with systems in this State being installed for a variety of uses since about 1999. This

system was also trialled in the Lower Blue Mountains for the Water Board (for five separate dwellings). Furthermore, the Ecomax system has been in use in Western Australia in domestic situations for over ten years.

The systems have been successfully utilised in Western Australia in areas prone to surface waterlogging and elevated water tables, and on sites in close proximity to watercourses and waterbodies. Systems in NSW have also been installed in similar environmentally sensitive locations. It is understood that such a high level of treatment is achieved, particularly with respect to nitrogen and phosphorus removal, that the discharge from Ecomax systems does not pose a threat to the quality of ground waters or surface waters.

Reference to Table 1 shows the typical effluent quality from Ecomax septic systems, based on Perth long-term data after continuous testing over five years under superloaded conditions. This table is reproduced from the Ecomax brochure entitled 'Introduction to the Ecomax effluent treatment systems' (1995).

TABLE 1: TYPICAL EFFLUENT QUALITY FROM ECOMAX SEPTIC SYSTEMS

PARAMETER	FINAL CONCENTRATION	REMOVAL EFFICIENCY
Total persulphate phosphorus	0.01 – 0.05mg/L	> 99.6%
Total persulphate nitrogen	2.0 – 10.0mg/L	> 80%
Ammonia nitrogen	< 5mg/L	> 90%
BOD	< 10mg/L	> 90%
pH	7.5 - 8.5	
Faecal coliforms	0 – 500/100ml	> 99.95%
Suspended solids	< 10mg/L	> 90%

The Ecomax system consists of a conventional septic tank and dual leach drain, or soak well (i.e. 'tunnel'), which is modified by the addition of a filter bed to the leach drain. The contaminant filter bed is contained within a plastic lined structure and the filter medium physically absorbs and chemically reacts with contaminants in the wastewater, including phosphorus, nitrogen and disease causing organisms.

Effluent application is alternated between two Ecomax cells, where only one is used at a given time and rotated on a periodic basis to allow drying of the filter medium in the unused cell (usually every four to six months). The systems in NSW are typically seated about 200 - 250mm below the ground surface, or marginally more on steeper sites.

The use of Ecomax does not involve or require any above ground irrigation, but uses below ground soil absorption for disposal of excess treated effluent. Equally important is the fact that whilst Ecomax has high evapotranspiration capabilities, it does not rely upon this feature for effective treatment of the effluent. Whilst high evaporation and transpiration rates occur during many months of the year, during periods of lower rates the effluent is treated to the same levels although more will escape the cell and be absorbed by the boundary absorption areas surrounding the cells. The annual water balance calculations reflect these conditions and the consequent absorption width requirements.

Details in relation to estimates of sewage production for the proposed educational facility and existing dwelling from the Hybrid report are reproduced below:

1. 30 babies at a usage rate of 5L/person/day	=	150L/day
2. 30 children aged 2 – 3 at a usage rate of 30L/person/day (as per AS/NZ Standard 1547, 2000)	=	900L/day
3. 30 children aged 3 – 6 at a usage rate of 30L/person/day (as per AS/NZ Standard 1547, 2000)	=	900L/day
4. 16 staff at a usage rate of 30L/person/day (as per AS/NZ Standard 1547, 2000)	=	480L/day
5. 14 children (before and after care) at a calculated rate of 15L/person/day	=	210L/day
6. Allowances for waste from meal operations etc. (75 x 15L/person/day)	=	1125L/day
7. Daily expected house sewer discharge for 4 people at a usage rate of 145L/person/day (as per AS/NZ Standard 1547, 2000)	=	580L/day
Total expected daily sewerage flow	=	4345L/day.

3. SITE DESCRIPTION

The property, which is situated immediately west of the Maraylya Public School, comprises a rectangular-shaped parcel of land that has a frontage of 42.85m onto Neich Road and extends upslope in a northerly direction for a distance of 100.585m. The existing dwelling is positioned in the southern part of the property with a minimum set-back distance of 8.4m from the southern boundary fronting Neich Road (Figure 1). Furthermore, the carport is located 1.4m east of the dwelling and 8.8m from the southern boundary. It is also proposed to provide a 900mm high pool fence around the northern, eastern and western sides of the yard area containing the dwelling and carport.

The proposed educational facility is situated in the northern third of the property. There is also a proposed car parking area in the central part of the property to accommodate at least 31 vehicles with separate entry and exit driveways off Neich Road on the western and eastern sides of the dwelling respectively.

As determined by the effluent system supplier in conjunction with Springwood Drafting & Construction Service, the proposed Ecomax amended soil mound is positioned in the east to southeastern part of the property along a section of the eastern boundary (Figure 1). The Ecomax system, which is aligned longways in a north-south direction and parallel with the eastern boundary, maintains the following set-back distances from existing and proposed features on the subject site:

- 3m from the southern boundary fronting Neich Road.
- 2m from the eastern boundary.
- 1.9m from the eastern end of the educational facility building.
- 0.2m from the kerb defining the eastern side of the car parking area and exit driveway.
- 6.5m east of the carport and 13.3m east of the dwelling.

The property is located on a gentle sideslope that affords exposure to the southerly aspect. The elevation ranges from a maximum of about 28.0 – 28.4m AHD in the north to northwestern parts of the site to a minimum of 23.5m AHD in the southeastern corner adjacent to the frontage with Neich Road. As indicated by the contours in Figure 1 (at 0.5m intervals), the land containing the Ecomax system and property as a whole falls in a southerly direction towards Neich Road at a

gentle grade of approximately 1 in 16 – 30. From Section 3.3 of the GeoEnviro report, the land is predominantly cleared of trees and covered with grass.

Due to the gently sloping nature of the land on a sideslope position, it is considered that the site is not adversely affected by run-on/upslope seepage and there is no significant potential for soil erosion. Section 3.4 of the GeoEnviro report provides the following associated findings in relation to site drainage and the likelihood of flooding:

- the site is situated on gently sloping ground and appeared well drained with no obvious signs of water logging areas.
- surface runoff into the site is limited by the relatively pervious soil.
- sites which are situated above the 1 in 20 year flood level are considered to be suitable for on-site effluent disposal systems – assume subject site is therefore above the 1 in 20 year flood level and would not be likely to be affected by the inundation of flood waters.

The nearest intermittent watercourse within the drainage path of the land containing the Ecomax system is positioned at a distance of approximately 200m in a south to southeasterly direction. From this point, the intermittent watercourse trends in an easterly direction for a distance of about 1.9km before entering Cattai Creek and attaining a perennial flow.

4. SUBSURFACE PROFILE AND SOIL CHEMISTRY

Reference to the Penrith 1:100 000 scale Soil Landscape Sheet (Bannerman and Hazelton, 1990) indicates that the area containing the proposed Ecomax amended soil mound system and property as a whole is underlain by the residual 'Lucas Heights' group which occurs on gently undulating crests and ridges on plateau surfaces of the Mittagong Formation (alternating bands of shale and fine grained sandstones).

From Bannerman and Hazelton (1990), the soils of the Lucas Heights group comprise moderately deep (50 - 150cm), hardsetting Yellow Podzolic Soils and Yellow Soloths. Furthermore, general limitations of the Lucas Heights group include stony soil, low soil fertility, low available water holding capacity and strong acidity (Bannerman and Hazelton, 1990).

As part of the site investigation for the GeoEnviro report, three hand-auger holes were bored to depths ranging from 0.8 – 1.3m. Of the three holes, it is understood borehole No. 3 relates to the site of the proposed Ecomax amended soil mound. Findings from borehole No. 3, as detailed in the log in Appendix A of the GeoEnviro report, are summarised below:

- (i) **CLAYEY SANDY SILT (TOPSOIL/FILL) – assumed A1 Horizon**
 - occurs from the surface to a depth of 0.2m.
 - comprises brown, clayey sandy silt with some gravel.
 - considered to best equate with soil category 3 for ‘Loams’ from Table 4.1.1 of AS/NZ Standard 1547 (2000).

- (ii) **SILTY SANDY CLAY – assumed A2 Horizon**
 - occurs from a depth of 0.2 – 0.5m.
 - comprises medium plasticity, yellow-brown and brown, silty sandy clay with some sandstone gravel.
 - considered to best equate with soil category 4 for ‘Clay loams’ from Table 4.1.1 of AS/NZ Standard 1547 (2000).

- (iii) **GRAVELLY SILTY CLAY – assumed B Horizon**
 - occurs from 0.5m and was encountered to a depth of 0.8m.
 - comprises low plasticity, brown and red-brown, gravelly silty clay.
 - considered to best equate with soil category 4 for ‘Clay loams’ from Table 4.1.1 of AS/NZ Standard 1547 (2000).

No free groundwater was observed in borehole No. 3 to 0.8m depth. It is understood that the minimum expected depth to a consistent groundwater table below the site and area in general would be in the vicinity of at least 20m. Furthermore, from Section 3.6 of the GeoEnviro report, groundwater within the site is not expected to be at shallow depths (less than 3m) based on the results of the subsurface investigation and applied wastewater is unlikely to directly enter into the groundwater system and polluting the receiving water.

Further to the description of the subsurface profile in borehole No. 3, laboratory testing was also carried out as part of the GeoEnviro report in relation to soil chemistry and the application of treated wastewater (results in Section 4.3 and Appendix B). Note that testing was carried out on samples collected from boreholes 1 and 2 only, which are understood to be away from the actual area containing the Ecomax system. However, due to the consistency of the soil types encountered in the three hand-augers across the property, lab test results are considered to be applicable to the site of the proposed Ecomax amended soil mound. Therefore, results of the testing on the soil samples from boreholes 1 and 2 as detailed in the Table in Section 4.3 of the GeoEnviro report are reproduced below.

TABLE 2: SUMMARY OF LAB TEST RESULTS FROM THE GEOENVIRO REPORT

Sample	BH 1 [0-0.2m]	BH 2 [0-0.2m]
pH	5.1	5.5
Electrical Conductivity (uS/cm)	70	60
Exchangeable Sodium (%)	1.0	1.2
Cation Exchange Capacity (cmol ⁺ /kg)	2.5	3.2
Phosphorus Sorption Index (L/kg)	3.6	3.0

Of the results above, tests for exchangeable sodium and cation exchange capacity can be related to the 'limitations' with respect to effluent management from Table 6 of the Department of Local Government et. al. (1998). For the exchangeable sodium percentage, results in Table 2 correspond with a minor limitation. For the cation exchange capacity, results above correspond with a major limitation. Further analysis of the lab test results from the GeoEnviro report are provided below:

- the soils have low electrical conductivity, hence low concentrations of soluble salts and desirable for vegetation growth.
- the low exchangeable sodium encountered suggests low sodicity hence low potential for structural degradation of soil.
- the soils have a low cation exchange capacity and phosphorus sorption, hence limited in retention of plant nutrients and may pose some limitation to land application (of treated effluent).

5. SITING/SIZING OF THE ECOMAX SYSTEM AND DESIGN PARAMETERS

The site of the proposed Ecomax amended soil mound system in the east to southeastern part of the property, as determined by the effluent system supplier in conjunction with Springwood Drafting & Construction Service, is shown in Figure 1. The system is located in what can be deemed as the only 'usable' land area that is available for effluent management with due consideration to the relatively large design effluent volume and the position/extent of the existing and proposed features of development.

As detailed in Section 3, the Ecomax system maintains the following set-back distances from the existing and proposed features at the subject site:

1. 3m from the southern boundary fronting Neich Road.
2. 2m from the eastern boundary.
3. 1.9m from the eastern end of the educational facility building.
4. 0.2m from the kerb defining the eastern side of the car parking area and exit driveway.
5. 6.5m east of the carport and 13.3m east of the dwelling.

Due to the extent of the area covered by the features of development, the set-back distances in points 1 – 4 above are less than the 'recommended buffer distances for on-site systems' in Table 5 of Department of Local Government et. al. (1998). Whilst this is the case, the proposed Ecomax amended soil mound is strictly not included in the types of effluent systems referred to in Table 5. Nevertheless, it is considered that reduced set-back distances from the southern and eastern boundaries, the kerb defining the eastern side of the car parking area/exit driveway and the educational facility proper are appropriate due to the high level of treatment achieved in conjunction with the lined and contained nature of the Ecomax system with a defined boundary absorption area (i.e. minimal output to the surrounding environment).

Further to the set-back distances from property boundaries and man-made features, the proposed Ecomax system maintains appropriate buffer distances from intermittent and perennial watercourses that are in accordance with the guidelines in Table 5 of Department of Local Government et. al. (1998). This Table notes that, for all types of land application systems, buffer distances of 40m and 100m are required from intermittent and perennial watercourses respectively. These distances are

more than satisfied because, as detailed in Section 3, in the land fall direction from the site of the Ecomax amended soil mound there are buffers of approximately 200m from the nearest intermittent watercourse and $200\text{m} + 1.9\text{km} = 2.1\text{km}$ from the nearest perennial watercourse.

As determined by Tech-Treat Pty Ltd and shown in Figure 1, there are both 'summer' and 'winter' cells of slightly differing dimensions within the single Ecomax amended soil mound. As detailed in Section 2, effluent application is alternated between the two Ecomax cells where only one is used at a given time and rotated on a periodic basis to allow drying of the filter medium in the unused cell. Therefore, the summer cell could be used in the warmer months of the year from about mid October to mid April whilst the winter cell could be used over the remaining colder period starting from mid April and extending to mid October.

The summer cell measures 28.2m in length by 6.0m in width and the winter cell measures 31.0m in length by 6m in width. Both cells are separated by a distance of 900mm (i.e. 0.9m). Therefore the total dimensions of the Ecomax amended soil mound, including the boundary absorption area at 0.8m width around the perimeter of the system as a whole, measure $28.2\text{m} + 31.0\text{m} + 0.9\text{m} = 60.1\text{m}$ in length by 6.0m in width (i.e. 360.6m^2).

Discussions with a representative of the supplier of the Ecomax amended soil mound indicate that only Table 4.2A1 in AS/NZ Standard 1547 (2000) regarding design loading rate (**DLR**) values for trenches and beds is utilised in the design of the system as a whole. This means that the Ecomax supplier does not utilise data in Table 4.2A3 of AS/NZ Standard 1547 (2000) that relates to recommended mound DLR's for the sizing of the basal area of soil mounds – i.e. the basal area is sized independently to this Table.

Results from borehole No. 3 in the GeoEnviro report, which are provided in Section 4 and are indicative of the site containing the Ecomax system, will be utilised to assess the corresponding indicative permeability and DLR values for boundary absorption area calculations from Table 4.2A1 of AS/NZ Standard 1547 (2000). As discussed with a representative of the Ecomax supplier, the boundary absorption area will be contained at a depth that corresponds with parts of both the A2 and B horizon soils which comprise silty sandy clay and gravely silty clay respectively. Further to the descriptions of the subsurface strata in Section 4 of this report, it was noted that both

of these soil types are considered to best equate with soil category 4 in Table 4.1.1 of AS/NZ Standard 1547 (2000). For design purposes at the subject site, it is suggested that the representative DLR is the average value based on those for an assumed weak structure and high/moderate structure in soil category 4 for the percentage of highly treated effluent that would enter the boundary absorption area, i.e. 'secondary treated effluent' – see below.

- * Soil category 4 ('imperfectly drained' indicative drainage class) for a high/moderate structure; indicative permeability = 0.5 – 1.5m/day and DLR for secondary treated effluent = 30mm/day.
- * Soil category 4 for a weak structure; indicative permeability = 0.12 – 0.5m/day and DLR for secondary treated effluent = 20mm/day.
- * Average of DLR values of 30mm/day and 20mm/day = 25mm/day.

Relevant climatic data for the subject site, that can be utilised by the suppliers to assist in sizing the Ecomax amended soil mound, is sourced from Section 5.1 of the GeoEnviro report and reproduced in Table 3. Rainfall data is derived from the Windsor Bureau of Meteorology station (Fitzgerald Street) and evaporation data is derived from the station at the University of Western Sydney Hawkesbury Campus in Richmond.

When the Ecomax cells and mound are in place, it is understood that a turf cover will be required on the surface. Establishment of a vigorous grass cover will assist to control potential soil erosion and concurrently enhance the benefits of evapotranspiration of treated effluent from the Ecomax cells. Note that it is suggested to provide an ample layer of commercially supplied topsoil over the mound in order to promote the establishment of a grass cover and help form the final mound shape.

Regarding grass types, consideration should be given to use of fescue or a blend of fescue, kentucky blue and rye-grass for example (or similar), as these types provide a year round growth period and relatively high uptake of nitrogen and phosphorus compounds. Such a blend may be provided as turf, or alternately intersown with another type of turf. Note that grass on and adjacent to the Ecomax mound should be mown regularly to promote vigorous growth and cuttings harvested and removed from the area to avoid nutrient recycling. It is considered that the high quality of treated effluent from the Ecomax system, in conjunction with the grass cover to be

established and enhanced levels of evapotranspiration, will adequately account for the uptake of nitrogen and phosphorus compounds.

TABLE 3: CLIMATIC DATA FOR THE SITE AT MARAYLYA

Month	Mean Rainfall (mm)	Median Rainfall (mm)	Mean Evaporation (mm)
JANUARY	88.3	65.8	179.8
FEBRUARY	90.3	66.2	145.0
MARCH	81.4	70.4	132.9
APRIL	67.6	41.6	101.0
MAY	57.4	28.1	66.9
JUNE	60.6	34.8	57.7
JULY	49.1	30.8	69.1
AUGUST	46.2	25.2	87.9
SEPTEMBER	40.6	36.6	121.2
OCTOBER	55.0	40.6	149.4
NOVEMBER	67.2	52.7	162.9
DECEMBER	69.9	49.3	208.4

6. CONCLUSIONS

- (i) This report has been prepared in relation to on-site effluent management for the proposed educational facility and existing dwelling at Lot A DP 350659, No. 8 Neich Road, Maraylya. The property, which is situated in the village of Maraylya, has an area of 4256m² and contains an existing single storey dwelling, carport and associated features near the southern boundary fronting Neich Road.

- (ii) It is proposed to retain the existing features of development and provide an additional educational facility with an associated car parking area and driveway. It is understood that the proposed educational facility will operate over five days per week from Monday to Friday and cater for a maximum of 104 children and 16 staff.
- (iii) The dwelling is currently serviced with an absorption trench septic system for on-site effluent disposal which has been in place for many years. As part of the construction of the educational facility, it is proposed to decommission the septic system for the dwelling and replace it with a single effluent management system to cater for both features of development.
- (iv) As a function of the nature of the property and development at the subject site, it is proposed to utilise the Ecomax sealed amended soil mound system for on-site effluent management to cater for both the existing dwelling and future educational facility. Details from the Tech-Treat data indicate that there will also be a septic tank for primary treatment at an effective operating volume of 7200 litres and an additional pump well with a volume of 4500 litres to transfer the primary treated effluent to the Ecomax amended soil mound.
- (v) The proposed Ecomax amended soil mound is positioned in the east to southeastern part of the property along a section of the eastern boundary. The Ecomax system, which is aligned longways in a north-south direction and parallel with the eastern boundary, maintains set-back distances of 3m from the southern boundary fronting Neich Road, 2m from the eastern boundary, 1.9m from the eastern end of the educational facility building, 0.2m from the kerb defining the eastern side of the car parking area and exit driveway and 6.5m east of the carport and 13.3m east of the dwelling. Furthermore, there are set-back distances of 200m and 2.1km in the land fall direction from the area containing the Ecomax system and the nearest intermittent and perennial watercourses respectively.

- (vi) As determined by Tech-Treat Pty Ltd, there are both summer and winter cells of slightly differing dimensions within the single Ecomax amended soil mound. The summer cell measures 28.2m in length by 6.0m in width and the winter cell measures 31.0m in length by 6m in width. Both cells are separated by a distance of 900mm (i.e. 0.9m). Therefore the total dimensions of the Ecomax amended soil mound, including the boundary absorption area at 0.8m width around the perimeter of the system as a whole, measure 60.1m in length by 6.0m in width (i.e. 360.6m²).

Grant Austin

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Engineering Geologist

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VEROC PTY LTD T/A



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The Mayor, The General Manager, The Councillors
Mid-Western Regional Council
86 Market Street
MUDGEE NSW 2850

15 January 2015

Dear Sirs / Mesdames

This letter is a follow-up to the meeting held at 3.30pm on 22 December 2014 between Mid-Western Regional Council General Manager, Brad Cam; Manager Statutory Planning Development and Community Services, Gary Bruce; Mayor, Des Kennedy; Geoff Bartlett of First National Real Estate, and myself, Matthew Cover. During this meeting we discussed the points raised in this letter, but I reiterate those points in the interest of informing all members of the Council, and perhaps clarifying my position.

I am the owner of 26 Cox Street Rylstone containing the former St Andrew's Presbyterian Church. I have DA approval for the construction of the following six residences on the site:-

- The sympathetic conversion of the Church to a three bedroom residence
- Two traditional style three bedroom houses
- Two modern three bedroom houses
- One modern two bedroom terrace

The Kandos / Rylstone area is presently a depressed area with the imminent conclusion of mining at the Charbon Colliery coming as it does on top of the closure of another big employer in the area, Kandos Cement. Rylstone is a village of 875 people (2011 census figure) 160km north west of Sydney. Kandos, 6.46km from Rylstone has a population of 1284 people (2011 census figure). These figures will most likely be considerably reduced following the loss of mining jobs.

Although this development will require a large commitment on my part and is essentially commercial in nature, I believe the provision of new, attractive, diverse in style and cost, housing for six families, will provide the following benefits for the Rylstone area, and ultimately Mid-Western Regional Council:-

- Encouragement for the miners displaced from the Charbon Mine who have obtained work at Airlie and Bylong to live in Rylstone, the largest and best serviced town in the area. The new homes would be a boon to families who appreciate country life and wish to remain in the country.
- Incentive for retirees who wish to live in a close knit community with properties of a manageable size
- Encouragement for tree changers to move from the city to Rylstone, a town with much to offer, where living is cheaper and there is the opportunity for new ventures. These new arrivals could bring skills and expertise to add a new dimension to the historic town.
- The opportunity to further develop Kandos / Rylstone as a popular tourist destination which is very important in a town looking to provide employment for residents. Council's own Heritage Adviser

'Making precision and quality a way of life'

reported that the planned extension and alteration of the former Presbyterian Church (circa 1902) was “an exemplar in many ways”. She felt that the addition of five other buildings on the site, through careful planning, would have no impact on the view of the historic Church from Louee Street. She further stated that “the building will remain part of the historic landscape and form an item in any village heritage walk”.

- Local businesses and trades will during the construction and ongoing employment could also come about in the form of maintenance, landscaping and cleaning etc.
- The six new residences will provide six new ratepayers for Council
- Finally and probably the most important advantage provided by the development is that it will bring a lovely old stone church building, disused and neglected for some time, back to life as a family home which will be suitably maintained and cared for as part of a new housing development.

Unfortunately, these advantages to Rylstone are in danger of not happening as the Council contribution and fee amount of \$66,680 has necessitated a rethink as to whether or not this development is financial possible.

At the meeting it was agreed that the upgrade to the Louee Street frontage could be omitted from the conditions of consent along with the curbing and guttering of that same strip of road. Instead, it was agreed that storm water pits would be installed, with storm water lines to existing storm water grates. I would also ask for any further leeway on Council contributions to allow this development to proceed. I would also request some re-consideration and revision of the Water Headworks and the Sewerage Headworks charges and also request the deferment of payment of these charges until the completion of the sale of each residence.

Your consideration in this matter will be greatly appreciated.

Yours sincerely

Matthew Cover
DIRECTOR



2015

COUNCIL BUSINESS PAPERS

Ordinary Meeting

18 FEBRUARY 2015

ATTACHMENT **6.2.10**

► Delivery program 2014-2017 (six monthly)

TOWARDS 2030



Good Government



Protecting our Natural Environment



Connecting Our Region



Looking after Our Community



Building a Strong Local Economy

MID-WESTERN REGIONAL COUNCIL

Delivery Program 2014-2017 Six Monthly Progress Report – December 2014



MID-WESTERN REGIONAL COUNCIL | INTEGRATED PLANNING & REPORTING

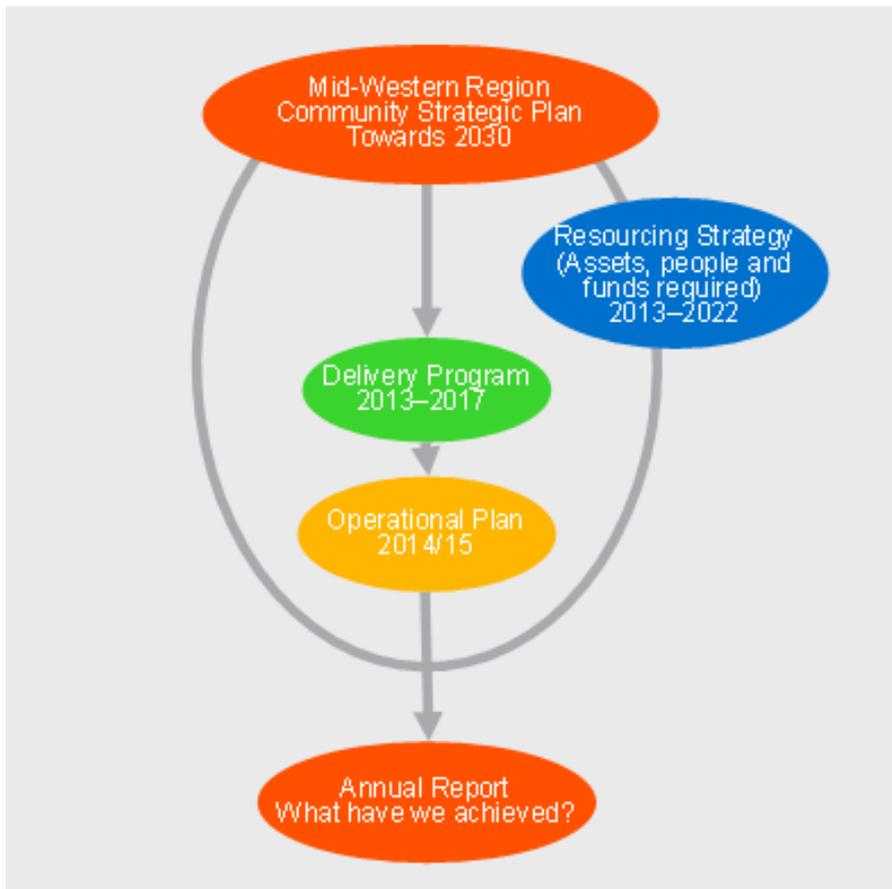


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Overview

The Mid-Western Region Community Plan *Towards 2030* is Council's highest level strategic plan. The outcomes of the plan not only determine the priorities for the region into the coming years but the services and projects Council will focus on in that time. A Resourcing Strategy including Long Term Financial Plan, Workforce Strategy and Asset Management Planning together with a Delivery Program, Operational Plan and Annual Report complete the reporting framework.



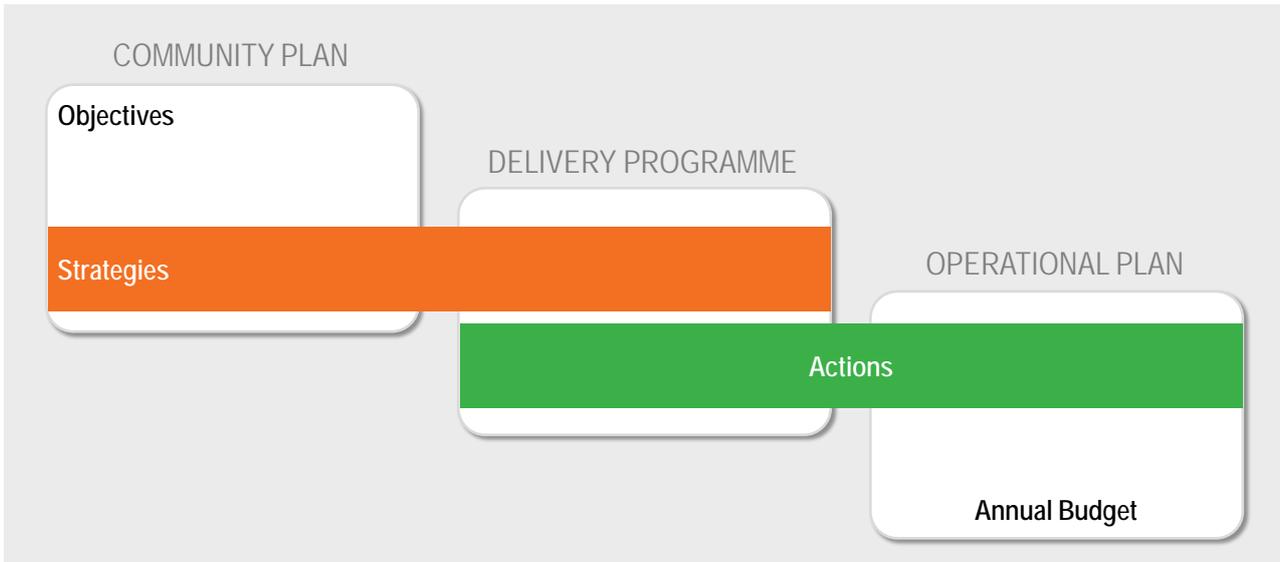
The Delivery Program details all of the principle activities Council will undertake to achieve the goals established in the Community Plan. The Operational Plan has been integrated into the Delivery Program and sets out the annual projects and activities to which Council are committed and includes detailed budgets for the projects and services identified under each theme, together with the measure and timeframe.

Council's activities identified in the Delivery Program/Operational Plan are underpinned by the Resourcing Strategy. The Resourcing Strategy includes:

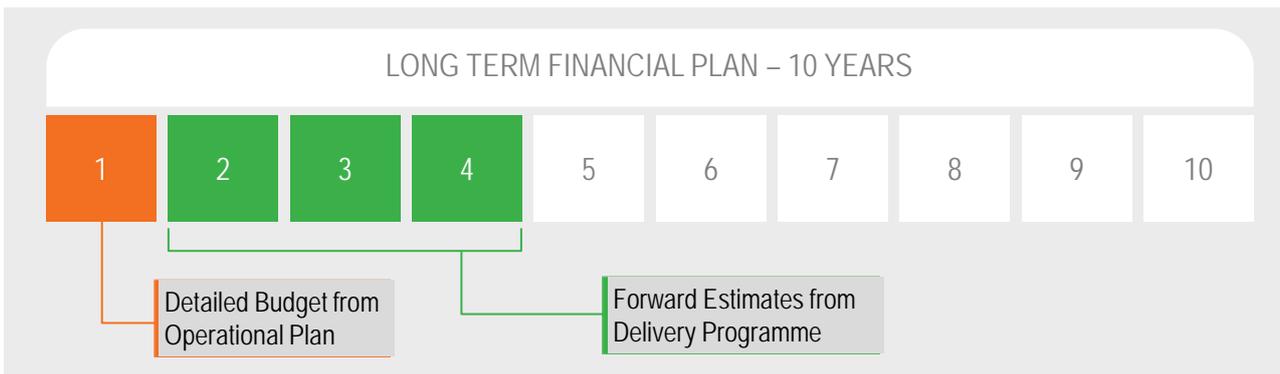
- Long Term Financial Plan (10 Years)
- Workforce Plan (4 Years)
- Asset Management Strategy (10 Years)

The role of the Resourcing Strategy is for Council to demonstrate that it can meet the commitments made in the Delivery Program/ Operational Plan.

The following diagram illustrates the relationship of the various plans in the planning framework.



The Operational Plan includes a detailed budget of the activities that are to be undertaken each year to achieve the outcomes of the Delivery Program. The relationship between the Delivery Program/Operational Plan and Long Term Financial Plan are illustrated in the diagram below.



Delivery Program and Operational Plan Structure

Council's Delivery Program and Operational Plan has been prepared in accordance with Sections 404 and 405 of the Local Government Act and details the principal activities to be undertaken by Council to implement the strategies established by the Community Plan within the resources available under the Resourcing Strategy. The plan identifies the detailed annual budget for 2014/15, and estimates for the three years after that.

The Community Plan identified a number of goals, strategies, and actions around five key themes. The Delivery Program/Operational Plan has been structured to provide the detailed activities that will be undertaken over the coming 4 years with detailed activities identified for the coming 12 months. Given the relatively small size of the organisation in comparison to the range of deliverables, there is often overlap between Directorates and Functions (Services) in the delivery of outcomes identified in the five themes in the Community Plan.

THEME	GOAL
Looking after our Community Vibrant towns and villages with a rich history, a safe and healthy community, and a strong sense of community pride – a great place for families	Goal 1.1: A safe and healthy community Goal 1.2: Vibrant towns and villages Goal 1.3: High quality sustainable development Goal 1.4: Effective and efficient delivery of infrastructure Goal 1.5: Meet the diverse needs of the community and create a sense of belonging
Activities include Community Services (aged and disabled services, youth services, family day care), Emergency Services, Town Planning, Libraries, Sporting Grounds, Parks & Gardens, and Community Centres & Public Halls	
Protecting our Natural Environment Conserving and promoting the natural beauty of our region	Goal 2.1: Protect and enhance our natural environment Goal 2.2: Provide total water cycle management Goal 2.3: Live in a clean and environmentally sustainable way
Activities include Solid Waste Management, Street Cleaning, Water Supply, Sewerage Services, Stormwater & Drainage, and Environmental Programs	
Building a Strong Local Economy A prosperous and diversified economy delivering lifestyle benefits to the community through employment, income and sustainable economic growth	Goal 3.1: A prosperous and diversified economy Goal 3.2: An attractive business and economic environment Goal 3.3: High quality sustainable development Goal 3.4: A range of rewarding and fulfilling career opportunities to attract and retain residents
Activities include Caravan Parks, Tourism & Area Promotion, Industry Development, Saleyards, Real Estate Development, and Events Management	
Connecting our Region Linking towns and villages across our region, and connecting our region to the rest of NSW	Goal 4.1: High quality road network that is safe and efficient Goal 4.2: Efficient connection of the region to major towns and cities
Activities include Local Roads (Urban and Rural) Network, Regional Roads (Urban and Rural) Network, State Roads, Bridges, Footpaths & Cycleways, and Airports	

THEME	GOAL
Good Government A strong council that is representative of the community and effective in meeting the needs of our people	Goal 5.1: Strong civic leadership Goal 5.2: Good communications and engagement Goal 5.3: An effective and efficient organisation
Activities include Governance, Corporate Support, Mid-Western Operations, Engineering, and Treasury	



Progress against Delivery Program

Looking after our Community

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Goal 1.1: A safe and healthy community				
Strategy 1.1.1 Maintain the provision of high quality, accessible community services that meet the needs of our community				
Provide comprehensive community support programs that embrace social justice, access and equity	30/06/2017	Meals on Wheels	The Meals on Wheels service in Mudgee continues to provide meals to frail, elderly and disabled residents in Mudgee. The service is supported by invaluable teams of volunteers who undertake meal delivery. On average, 110 meals are delivered each week for the six months July to December 2014, as well as Christmas hampers to all clients with the help of the Lions Club.	Ongoing
		Respite Care	Council's Respite Service consistently exceeds funding body expectations. For the six months July to December 2014, the service provided 2,418 hours respite, including to siblings through the Sibling Support Program. The service was supported by volunteer respite families within the community.	Ongoing
		Home Modification & Maintenance	Due to a vacancy for much of the six months July to December 2014, only 75.5 hours of modifications were achieved. The design of Council's Home Modification & Maintenance Service has been altered in order to improve on outputs. The new model will be monitored for any changes in the building market.	Ongoing
		Community Transport	Community Transport continues to provide a high standard of transportation assistance to disadvantaged residents, including door to door car transportation, the provision of subsidised taxi vouchers and pilot weekly bus trip to Dubbo. Specified outputs are consistently exceeded and almost 5,000 trips were recorded for the six months July to December 2014.	Ongoing
		Youth Services	Council provided encouragement, facilitation and participation with youth activities, such as The KYAK (Loft) Project, the Rylstone Family Fun Day, Youth week activities (markets flash mob and creative art competitions) as well as Youth Council Small Village initiatives (e.g., Battle of the Brains).	Ongoing
		Family Day Care	Average of 86 places offered through Family Day Care service.	Ongoing

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Provide customer focused library and information services	30/06/2017	Investigate options for better delivery of library services	There were 55,704 visits to the Mudgee Library; 2,849 visits to the Kandos Library and 2,806 visits to the Gulgong Library during the period July to December 2014.	Ongoing
		Continue to run Mobile Library Service within the Region	Mobile borrowings during the period July to December 2014 were 34% higher than the corresponding period in 2011-2012, having risen consistently over this period.	Ongoing
		Continue to run Children and Youth library programs including Pre-School Bookworms and school holiday reading program	Regular programs and school holiday sessions were delivered. Bookworms, Born to Read and Toddler Tales programs were delivered.	Ongoing
		Up to date and renew library collections	Borrowings of print and media items for the period July to December 2014 are maintained, with the borrowing of the Library's e-resources rising by 25% compared to the corresponding period in 2013-2014.	Ongoing
		Maintain Collection Policy	Collection Policy is in place and up to date	Ongoing
		Introduce a new reading Programme for 2-3 year olds	New reading program for 2-3 year olds (Toddler Tales) is in place and operating each term.	Complete
Strategy 1.1.2 Work with key partners and the community to lobby for effective health services in our Region				
Ensure commitment to construction of Gulgong MPS	30/06/2017	Work cooperatively with Western NSW Local Health District to facilitate the development of an MPS	MPS completed March 2014.	Complete
Explore funding opportunities for improved health services Work in partnership with Western Local Area Health Network to promote health projects	30/06/2017	Lobby government and industry for funding including potential upgrade of Mudgee Hospital	Meetings held with local MPs and Western Health Network identifying need for hospital upgrade.	Ongoing
		Liaise with Western NSW Local Health District and work with local Medical Services Organisations through inter-agency meetings	Council continues to auspice meetings, including Interagency in Mudgee and Rylstone on a monthly basis in order to engage with relevant medical stakeholders. Council also chairs the Mudgee Transport Working Party which liaised with Community Health in instigating funding from Transport for NSW for a pilot weekly bus to Dubbo for residents, including Community Health patients, at a subsidised cost.	Ongoing

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
		Continue to provide accommodation for Doctors in the region	Council continues to maintain a property in Rylstone for the Rylstone Doctors and has provided rental assistance in Gulgong to support doctors living in the area and providing medical services.	Ongoing
Strategy 1.1.3 Support networks, programs and facilities which promote health and wellbeing and encourage healthy lifestyles				
Provide financial assistance in accordance with Council's Financial Assistance Policy	30/06/2017	Continue financial assistance including for local and regional bodies in accordance with Financial Assistance Policy	To date, \$139,000 of financial assistance and donations have been approved for payment out of a current budget for 2014/15 of \$157,000. Council specifically funded Mudgee Chamber of Commerce, Gulgong Chamber of Commerce, Kandos Community Capers, Christmas Parties for the major towns, and Lifeskills .	Ongoing
Strategy 1.1.4 Work with key partners and the community to reduce crime, anti social behaviour and improve community safety				
Support and implement programs which aim to reduce anti-social behaviour.	30/06/2017	Continue to liaise with Police	7 recorded instances of vandalism YTD compared with 26 in 2013/14	Ongoing
		Participate in the Liquor Accord	Staff have attended each Liquor Accord meeting held in Rylstone, Mudgee and Gulgong. These meetings are held every three months.	Ongoing
		Maintain Alcohol Free Zones in Town Centres	Alcohol free zones were reinstated for a further four (4) years in Gulgong, Mudgee, Kandos and Rylstone. Approvals for variations to the zones for events like Flavours of Mudgee and Kandos Centenary have been processed in accordance with relevant legislation.	Ongoing
Maintain clean and attractive streets and public spaces where people feel safe	30/06/2017	Maintain presence of street cleaners in all town centres	All town streets are being maintained as per the street cleaning schedule using Council street sweeper and waste trolley. Additional attention is given to the CBD's prior to major events.	Ongoing
Effective animal control regulation	30/06/2017	Utilise website to actively re-home animals	For the financial year to date, 118 dogs and cats have either been returned to their owners or to new homes. Council's website continues to be a key asset in conducting this activity.	Ongoing
		Media campaign to encourage registration of dogs	Media campaigns continue in efforts to inform dog owners in the community of their responsibilities for care and control of their animals. Social media remains an important tool in communicating this message. To date the community has not succeeded in achieving a satisfactory reduction in dog control incidents and work continues on this objective.	Ongoing
		Provision of off leash areas	An off-leash dog exercise area is designated in each of the towns in the local government area.	Complete

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Goal 1.2: Vibrant towns and villages				
Strategy 1.2.1 Respect and enhance the historic character of our Region and heritage value of our towns				
Review Development Control Plan	30/06/2014	Commence the 12 month review of the DCP	Completed in December 2013.	Complete
Heritage advisory services and Heritage conservation	30/06/2017	Provide opportunities for Heritage funding through Local Assistance Program	Funding has been fully committed for Local Heritage Grants. Work is currently underway with the expectation that the work will be completed by the end of the financial year.	In Progress
Support and assist preservation of important historical sites in the Region	30/06/2017	Continue to support the Kandos Museum through covering insurance and rate costs	Council has worked closely with the newly formed Kandos Bicentennial Industrial Museum Incorporated Association to complete building works and collection assessment, prior to the intended property transfer in 2015.	In Progress
		Maintain historical sites within the region, for example Red Hill Reserve	Buildings are being maintained as per the maintenance schedule and reactive works as required.	Ongoing
Strategy 1.2.2 Manage growth pressure driven by the increase in mining operations in the Region				
Monitor employment and population growth	30/06/2017	Work with State Government to provide updated population estimates based on building statistics and employment growth	Council continues to supply data to the Department of Planning & Infrastructure for use in statistics, and continues to encourage State Government to use more relevant data for population estimates. Unfortunately, to date, State Government have continued to utilise historical data to inform population projections.	Ongoing
		Support the preparation of Central West Regional Land Use Plan	Issues paper currently being prepared with input from across the Regional. Detailed report to be presented to Council on 18 February 2015.	In Progress
Meet regularly with mining companies	30/06/2017	Quarterly meeting with mine Managers	Council is represented on each of the Mine's Community Consultative Committees. Meetings are held with mine managers on an as needs basis.	Ongoing
Strategy 1.2.3 Make available diverse, sustainable, adaptable and affordable housing options through effective land use planning				
Ongoing monitoring of land release and development	30/06/2017	Continue to review and release land for development as required	Urban Release Strategy adopted by Council on 5 November 2014	Complete
		Complete the Urban Release Strategy	The Urban Release Strategy was adopted 5 November 2014	Complete
Regular updating of the Comprehensive Land Use Strategy	30/06/2017	Complete review of Mudgee Town Structure Plan	Briefing session held with Elected Members with a report to be presented to Council in March 2015.	In Progress

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Promote Affordable Housing options within the Region	30/06/2017	Provide funding to lease emergency housing for women and children leaving family violence	In November 2014, Council hosted an Affordable Housing Workshop which was attended by, amongst others, representatives from Barnardos and Housing Plus. The workshop identified emerging issues in emergency housing and reviewed current initiatives in place.	Complete
Strategy 1.2.4 Maintain and promote the aesthetic appeal of the towns and villages within the Region				
Maintain and beautify civic open space and street access areas within towns and villages in the Region	30/06/2017	Work in partnership with the Public Art Advisory Panel and local groups to apply for grants, buy, and erect sculptures across the Region.	Continue to seek grant opportunities for Sculptures across the Region. Continue to support Sculptures in the Garden event and liaise with panel for the acquisition and placement of sculptures across the region.	Complete
Goal 1.3: Effective and efficient delivery of infrastructure				
Strategy 1.3.1 Provide infrastructure and services to cater for the current and future needs of our community				
Review asset management plans and underpin with financial strategy	30/06/2017	Review, update and develop asset management plans for each major category of infrastructure	Council adopted an updated Asset Management Strategy in April 2013. Council is now reviewing individual Asset Management Plans, with a view to having 8 plans encompassing all of Councils assets complete by June 2015.	In Progress
Manage and maintain sportsgrounds, parks, reserves and playgrounds across the Region	30/06/2017	Review and where necessary update Parks Management Plans	Plans will be reviewed 2015	In Progress
		Undertake review of public toilet facilities	The buildings asset management plan is in draft form and will include a review of public amenities.	In Progress
		Upgrades of public toilets as per the Capital Works Program 2014/15	Works on 2014/15 program jobs are in progress, with monthly reporting provided to Council as part of capex budget review.	In Progress
		Upgrade play equipment at: - Redbank Park, Mudgee - Apex Park, Mudgee - Pearl Park, Gulgong - Victoria Park, Mudgee - Norm King Park, Mudgee	Playground works completed to date for 2014/15: Gulgong Tennis Club, Dewhurst reserve, Victoria Park Mudgee, Lue Sportsground and Noyes Park Kandos	In Progress
		Upgrade the sporting facilities at Victoria Park, Mudgee including: - Lighting - Resurfacing of cycle track - New cricket pitches	Works continuing in 2015	In Progress
		Install lighting and commence restoration of stone fence in Lawson Park	Works continuing in 2015	In Progress
		Fencing number 2 field at Glen Willow	Works Completed	Complete

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Manage and maintain cemeteries throughout the Region	30/06/2017	Continue maintenance and operation of cemeteries including rural cemeteries	Ongoing maintenance works are undertaken throughout the year.	Ongoing
Manage, plan and maintain buildings and other assets across the Region	30/06/2017	Update Asset Management Plans for Buildings	The Building Asset Management Plan is currently being prepared and will be delivered in line with current asset management project.	In Progress
		Update Asset Management Plans for Plant & Airport	The asset management plan for plant is expected to be completed in April 2015 whilst airport buildings will be incorporated into the buildings asset management plan and the runways incorporated into the roads asset management plan	In Progress
		Upgrade of Community Buildings including as per the Capital Works Program 2014/15	Works continuing with monthly updates provided in capex monthly review reports.	In Progress
		Complete construction of new preschool facility	Tender for construction awarded in December 2014. Works scheduled to commence March, with completion in October 2015.	In Progress
Showground upgrades at Gulgong and Rylstone	30/06/2015	Update kiosk and kitchen facilities and other capital works at Rylstone	New bar completed. Working with the show committee on the location of a substantial storage shed and horse day yards to finalise this project.	In Progress
		Upgrade electricity supply to the Mudgee Showground	Electrical works completed in September 2014.	Complete
		Sponsor upgrades at the Gulgong Showground	Works underway	In Progress
Maintain and operate swimming pool centres across the Region	30/06/2017	Continue to provide high quality swimming pool facilities at Mudgee, Gulgong and Kandos	Pools opened and maintained as per recommended standards	Ongoing
Goal 1.4: Meet the diverse needs of the community and create a sense of belonging				
<i>Strategy 1.4.1 Support programs which strengthen the relationships between the range of community groups</i>				
Continue youth representation through the Youth Council	30/06/2017	Provide secretarial support for Youth Council	Council actively promotes and encourages Youth Council membership and youth-driven activities, such as participation in National Skate Park Day, National Youth Week and the Max Potential program.	Ongoing
Provide meaningful employment to members of the disabled community	30/06/2017	Maintain policies that support employment for people with disabilities at MWRC	Council continues to provide employment and training opportunities for a number of people with disabilities through the recycling facility and ironed out services.	Ongoing
		Continue programme at Mudgee Recycling	Disability enterprise run by Council is an ongoing business unit. This service provides employment for 36 supported workers through the recycling and ironed out businesses.	Ongoing

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Work with lead agencies to ensure adequate provision of a range of services	30/06/2014	Continue to attend inter-agency meetings	There were 2,622 participants in Healthy Communities programs during the period July to December 2014. The targeted nature of this program is proving to be a highly successful approach.	Ongoing
Promote volunteering through the community	30/06/2017	Continue to run community services programmes that encourage volunteering including Respite Care, Community Transport, and Meals on Wheels	Council actively promotes volunteering within the community for a range of services, including Community Transport, Respite Care, Meals on Wheels, Mudgee Town Hall Cinema (Rotary volunteers) and The Loft at Kandos (Barnardos volunteers) through a variety of means: Community News, radio advertising and word of mouth. Council celebrates volunteering achievements which specific events run for NSW Carers Celebrations, National Meals on Wheels Day and other events, like annual Christmas parties for the volunteers.	Ongoing
Strategy 1.4.2 Support arts and cultural development across the Region				
Arts and Cultural events promotion	30/06/2017	Support initiatives for events in the region by providing organisational and management assistance	Continue to assist event proponents both locally and outside the Region to build event capacity.	Ongoing
		Promote the use of Council facilities for significant events	Major events secured include NSW Rugby Union U15 State & Country Championships and NSW CRL 16s & 18s Championships.	Ongoing
Provision of meeting and exhibition space	30/06/2017	Make existing community buildings available at reasonable cost, and promote use and availability through the web site	Council is committed to providing reasonably costed building hire, and provides all hire information and fees on its website. There were an average of 434 community facility bookings per month for the 6 months ending Dec 2014.	Ongoing
		Promote the use of Exhibition Space provided at the new Regional Library	The popular exhibition of art work by David Hill has been on display at the Mudgee Library throughout the six months to December 2014.	Ongoing
Coordinate and facilitate cultural and arts projects throughout the Region	30/06/2017	Implement 1st year recommendations from the pARTicipate investigation	Council undertook an extensive public consultation process called pARTicipate. The results were reported to Council, and the results of investigation of site suitability will be reported to Council in 2015.	In Progress
		Continue to liaise with Cultural Development Committee, Public Art Advisory Panel, Orana Arts and local arts and cultural groups to develop cultural and artistic projects within the Region	Council continues to support the Cultural Development Committee, and the newly formed Public Art Advisory Panel in formulating a Public Art Plan	Ongoing

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
		Initiate and Arts Prize for the Mid-Western Region	The Cultural Development Committee and Public Art Advisory Panel are developing the Public Art Prize as a Wood Sculpture Symposium to be held in 2015.	Ongoing
<i>Strategy 1.4.3 Provide equitable access to a range of places and spaces for all in the community</i>				
Public facilities to be accessible	30/06/2017	On-going monitoring of existing buildings	On-going responses to works requests and proactive upgrades to buildings to ensure their continued use.	Ongoing
Coordinate the provision of local community centres and halls for community use	30/06/2017	Facilities available	Income has increased from previous years with 113 bookings (6mths) at June 2014 to 434 in Dec 2014.	Ongoing
Corporate and Community Buildings upgrades	30/06/2017	Implement recommendations and actions of Buildings Strategic Plan	Ongoing implementation of corporate and community buildings capital works program. Monthly updates provided as part of Capex Budget Review.	In Progress

Protecting our Natural Environment

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Goal 2.1: Protect and enhance our natural environment				
Strategy 2.1.1 Ensure land use planning and management enhances and protects biodiversity and natural heritage				
Include biodiversity and heritage as key components in the development application process	30/06/2017	Implement Comprehensive Development Control Plan (DCP) through the development assessment process in relation to environment protection	Review of comprehensive DCP completed in December 2013.	Complete
Manage environmental and cultural factors impacted by physical works on Council lands	30/06/2017	Continue to prepare REFs for Council works	REFs for road works are completed across the period as required.	Ongoing
		Work with local Aboriginal Groups	Council continues to engage the Aboriginal Reference Group (ARG) in the preparation of Review of Environmental Factors.	Ongoing
Strategy 2.1.2 Minimise the impact of mining and other development on the environment both natural and built				
Work with the community and government agencies to identify and address the issues and mitigate impacts associated with mining	30/06/2017	Address issues as part of Environmental Assessment	This is an ongoing program involving liaison with government departments in the assessment of integrated applications and state significant development.	Ongoing
		Represent Council on Community Consultative Committees	Council has appointed representatives to the Community Consultative Committees for Ulan, Moolarben, Wilpinjong, Charbon, Inglenook, and Kingsgate developments.	Ongoing
Drive the development of studies and strategies aimed at addressing the longer term impacts of mining	30/06/2017	Participate in the mining and resource development taskforce	A downturn in the resources sector during the period relieved development pressure. Council continues to address the impacts of the resources sector through policy including the Urban Release Strategy and amendments to the Town Structure Plans which are ongoing and reflect the outcomes of the Local Services Assessment.	Ongoing
Work with the Department of Planning in the approval process to ensure community concerns are addressed in consents	30/06/2017	Address issues as part of Environmental Assessment	Council has continually worked with the Department of Planning and Infrastructure to ensure that local concerns are recognised in the assessment of State Significant Development.	Ongoing
Strategy 2.1.3 Raise community awareness of environmental and biodiversity issues				
Deliver projects which work towards protecting biodiversity and regeneration of native environment	30/06/2017	Implement a roadside vegetation management plan	A grant of \$20000 from the CW CMA was used to provide weed control and erosion control along a high value vegetation section of Robertson Rd	Complete
		Pursue grant funding for environmental projects	Council sourced additional grant funding for management of invasive weeds, and restoration of fish habitats within the Putta Bucca Wetlands.	Complete
Support National Tree Day	30/06/2017	Facilitate National Tree Day	Completed in April 2014 with the tree giveaway initiative.	Complete

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Work with schools to promote environmental awareness amongst students	30/06/2017	Green Day	The 2014 Green Day event was held at Mudgee Showground on 11 September 2014, with Council providing in kind support, including waiver of fees, to the event.	Complete
Strategy 2.1.4 Control invasive plant and animal species				
Effective weeds management	30/06/2017	Continue to manage noxious weeds	Total property inspections year to date are 1264 with an annual target of new property inspection of 1080. The WAP target for new property inspection for 2014 is 650.	Ongoing
		Provide education through the web site	In addition to the ongoing web site education Council staff have undertaken two community education events - one at Razorback, attended by 40 people, and another at the Weeds Shed at the Mudgee Showground attended by 50 people.	Ongoing
		Undertake weed control on roadsides and Council land	Regular spraying of Council owned land is undertaken in accordance with the weeds program. 374 km of roadside noxious weeds sprayed with the bulk of the spray work to occur between January and June 2015.	Ongoing
		Continue to host the Serrated Tussock State Weeds Management Programme	Council has continued to host this project and auspice the funds received for the program. This program is due to finish in June 2015.	Ongoing
Collaborate with agencies to manage feral animals	30/06/2017	Use the web site to raise awareness of the impact of domestic pets on rural land managers	There has been a continuation of reports of dog attacks on livestock, warranting increased efforts in community awareness and all other control measures.	Ongoing
Goal 2.2: Provide total water cycle management				
Strategy 2.2.1 Identify and implement innovative water conservation and sustainable water usage management practices				
Encourage reduced water consumption through Best Practice Pricing	30/06/2017	Continue to implement water pricing with reliance on user charges	Council adopted a Water and Sewer pricing structure that complies with the requirements of NSW Office of Water Best Practice Guidelines. Water tariffs are structured such that a minimum of 75% of residential water revenue is generated via water consumption charges, with the balance from access charges. Water consumption is seasonal, and consumption this financial year is similar to the same period last year (July to December 2014).	Complete

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Implement water conservation and reuse programs	30/06/2017	Investigate options for water conservation	NSW Office of Water currently undertaking review of IWCM Evaluation Study. NSW Office of Water to provide concurrence prior to undertaking IWCM Strategy.	In Progress
Work to secure water for agriculture and urban use	30/06/2017	Continue to work with State Government to secure domestic water supply	Council continues undertaking dialogue with State Government to ensure that we are able to receive subsidies for the Rylstone/Kandos sewer scheme.	Ongoing
Promote an active role and participate in the review of the Murray Darling Basin Plan	30/06/2017	Continue to make representations	Council is represented at the Murray Darling Association by Cllr John Webb and Mr Russell Holden.	Ongoing
Strategy 2.2.2 Maintain and manage water quantity and quality				
Identify and plan future maintenance, renewals and upgrades for Council's stormwater assets	30/06/2017	Complete drainage works for the detention basin between Horatio Street and Winter Street	Redesign of basin complete and optic fibre relocated. Environmental assessment complete. Geotechnical investigation underway in readiness for issuing the Request For Tender.	In Progress
		Identify and continue urban stormwater improvement program	All requested information has been supplied to consultants. Engineers conducting site reconnaissance 12 February 2015 with a view to having complete by Financial Year end.	In Progress
		Identify and undertake culvert replacement and causeway improvement program	Culvert replacements continue at various locations. The causeway replacement program is deferred this year with the budget being used to replace a timber bridge.	In Progress
Achieve NSW Government Best Practice management of Water Supply and Sewerage	30/06/2017	Implement an Integrated Water Cycle Management Strategy	Awaiting review and concurrence of IWCM Evaluation Study by NSW Office of Water. NSW Office of Water have confirmed that review of IWCM will be completed by end of February 2015.	In Progress
		Implement a Drinking Water Management System	Implementation training undertaken for all Water Treatment Plant Operators in October and November 2014.	In Progress
		Review Strategic business Plans for Sewerage and Water Supply Services	Scheduled to review Strategic Business Plans commencing February/March 2015.	Not Started
Identify and plan future maintenance, renewals and upgrades for Council's water supply infrastructure	30/06/2017	West Mudgee water distribution extension	Draft detailed design reviewed.	In Progress
		Identify and undertake mains replacement & improvement program	2014/15 mains replacement program commenced. Gulgong system mains cleaning undertaken in January and February 2015. Completion of Asset Management Plan in early 2015 will allow longer term mains replacement scheduling.	In Progress
Strategy 2.2.3 Protect and improve catchments across the Region by supporting Catchment Management Authorities				

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Support the Central West Catchment Management and Hunter Central Rivers CMA Catchment Action Plan implementation	30/06/2017	Represent Council on Central West and Hunter CMAs	Council is represented by staff and Cllr John Webb at Central West Catchment Management Authority meetings.	Ongoing
Continue riparian rehabilitation program along waterways	30/06/2017	Continue riverbed regeneration	Additional regeneration works undertaken in Rylstone and Mudgee.	Complete
		Continue to manage Putta Bucca Wetlands	Ongoing maintenance is carried out. New management plan is being developed with key user groups that will also develop a works program for maintenance and capital works over the next few years.	Ongoing
Provide education to the community of the importance of waterways	30/06/2017	Participate in National Water Week activities	Council organised the Carp Muster event for National Water Week.	Complete
Strategy 2.2.4 Maintain and manage waste water quality to meet Environmental protection Agency (EPA) Standards				
Identify and plan future maintenance, renewals and upgrades for Council's sewerage treatment infrastructure	30/06/2017	West Mudgee sewer pump station construction	Draft detailed design reviewed.	In Progress
		Decommissioning Mudgee Sewer Treatment Plant (Putta Bucca)	Undertaking assessment for use of decommissioned plant for temporary road construction material storage. Brief prepared to seek quotations to undertake environmental assessment for long term decommissioning.	In Progress
		Identify and undertake mains replacement and improvement program	2014/15 mains replacement program commenced. Completion of Asset Management Plan in early 2015 will allow longer term mains replacement scheduling.	In Progress
Improve and develop treatment options to ensure quality of waste water meets EPA standards	30/06/2017	Sewage treatment plans for Charbon	Kandos STP discharge water quality has been increased through chemical dosing trials. At Environment Protection Licence review in March 2015, potential Charbon connection will be reviewed with EPA.	In Progress
		Continue to improve outgoing water quality at all sewage treatment plants across the Region	Currently not meeting all EPA requirements for Mudgee STP. Have commenced licence variation discussion with EPA to resolve non-compliance.	In Progress
Achieve NSW Government Best Practice Management of Water Supply and Sewerage	30/06/2017	Develop and implement Liquid Trade Waste Policy and Pricing	Currently investigating trade waste associated fees and charges for presentation to Council with proposed Liquid Trade Waste Policy.	In Progress
Goal 2.3: Live in a clean and environmentally sustainable way				
Strategy 2.3.1 Educate, promote and support the community in implementing waste minimisation strategies				

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Promote a philosophy of Reduce, Reuse, Recycle	30/06/2017	Ongoing education through website	Councils website provides up to date information on waste management practices. Council participates in regional programs that promote waste minimisation and resource recovery. Investigations and an e-waste disposal trial will be undertaken during February and promoted on the website.	Ongoing
Provide a domestic recycling and waste services for all residents through kerbside collection and rural waste transfer stations	30/06/2017	Kerbside and local recycling facilities	Current kerb-side waste and recycling services as well as rural waste transfer station recycling are being maintained.	Ongoing
Promote home composting initiatives for green waste	30/06/2017	Develop an education program through Community News	Community News promotes various waste issues. Council will be considering a report at its February meeting regarding an opportunity to participate in a regional collection contract for organics.	Ongoing
Strategy 2.3.2 Support programs that create environmental awareness and promote sustainable living				
Participate in regional procurement contracts for waste services that provided added value.	30/06/2017	Regional scrap steel, green waste processing, used motor oil, household chemical collection, e-waste	Contracts are still in place for these services except e-waste. Investigations and an e-waste disposal trial will be undertaken during February and promoted on the website.	In Progress
Participate in regional investigations for collaborative solutions to problem wastes types.	30/06/2017	Participate in NetWaste steering committee for strategic direction of the group	Manager Waste and Weeds Services is an active member of the Netwaste group and attends meetings as required.	Ongoing
Apply for available grants under the NSW Government 'Waste Less Recycle More' package	30/06/2017	Apply for grants to upgrade or introduce services to the Mid-Western community that reduces landfill tonnes and CO ₂ emissions	Applied for a community recycling grant that targets problem wastes like batteries, gas bottles and some liquids. This will allow the construction of a purpose built structure at the Mudgee waste facility if successful.	In Progress
Strategy 2.3.3 Support programs that create environmental awareness				
Build community awareness through environmental education	30/06/2017	Investigate better use of Council's website for environmental awareness	Maintenance of the environmental pages on Councils website has been carried out.	Ongoing
		Facilitate and promote community garden programs	Scoping work for this project is underway, currently obtaining community feedback.	In Progress
Implement alternative energy and sustainable technologies in physical works and service delivery	30/06/2017	Nil planned for 2014/15	Nil planned for 2014/15.	Complete

Building a Strong Local Economy

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Goal 3.1: A prosperous and diversified economy				
Strategy 3.1.1 Support the attraction and retention of a diverse range of businesses and industries including tourism				
Business expos targeting businesses that complement key local industries	30/06/2017	Presence at 2-3 conferences or events where the Region can be marketed	Participation includes LG Professionals Conference, Country Surveyors Association Conference and NSW Public Libraries Conference.	Complete
Work with business and industry groups to facilitate business development workshops for existing businesses in the region	30/06/2017	Support the Business Chambers by attendance at meetings as required	Attend meetings of business chambers as requested by committees.	Ongoing
		Investigate programs to support new business development and local entrepreneurial activities	Support and promote visits by NSW Small Biz Bus to towns in the Region.	Complete
Establish a process of capturing and monitoring relevant economic data to identify opportunities, trends and needs of local businesses	30/06/2017	Produce annual update to Economic and Business Profile booklet	Collection of relevant statistics and indicators for Jul-Dec 2014 in progress.	In Progress
Develop and strengthen partnerships with major employers in the region	30/06/2017	Conduct two Think Tank forums to encourage business leaders to participate in local economic development	Next Economic Think Tank forum to be held Feb/Mar 2015.	In Progress
Work with the community to identify economic development opportunities	30/06/2017	Be aware of new business investors coming to the Region and work with them to promote benefits	Continue to provide support and information to new business investors researching information about the Region.	Ongoing
Work with MRTI to identify target markets and promote the region	30/06/2017	Develop parameters for target markets in terms of how tourism will be developed in the Region	Council has renewed its contract with MRTI for the delivery of tourism marketing services which incorporates KPIs	Complete
Develop existing events in the region and attract new event proponents to hold major events and festivals in the region	30/06/2017	Identify opportunities to submit bids for new events and conferences and support event proponents holding or wishing to hold events in the Region	Continue to assist event proponents both locally and outside the Region to bring new events and conferences to the Region including NSW Rugby Union U15 State and Country Championships and NSW CRL 16s & 18s Championships.	Ongoing
Strategy 3.1.2 Encourage the development of a skilled and flexible workforce to satisfy local industry and business requirements				
Work with business and industry groups to identify the main skills shortage areas	30/06/2017	Conduct two Think Tank forums to encourage business leaders to participate in local economic development and provide feedback on skills issues	Next Economic Think Tank forum to be held Feb/Mar 2015.	In Progress
Encourage workers to move to the region for employment opportunities where skills shortages exist	30/06/2017	Presence at 2-3 conferences or events where the Region can be marketed	Participation includes LG Professionals Conference, Country Surveyors Association Conference and NSW Public Libraries Conference.	Complete
Goal 3.2: An attractive business and economic environment				
Strategy 3.2.1 Promote the region as a great place to live, work, invest and visit				

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Provide brand leadership, market the Region's competitive advantages and targeted marketing of investment opportunities	30/06/2017	Presence at 2-3 conferences or events where the Region can be marketed	Participation includes LG Professionals Conference, Country Surveyors Association Conference and NSW Public Libraries Conference.	Complete
Strategy 3.2.2 Provide leadership on economic development initiatives and identify resources and infrastructure required to drive investment and economic growth in the region				
Promote the development of infrastructure at the Mudgee Airport as an opportunity for business expansion in the aviation industry	30/06/2017	Review airport development strategy and promotional opportunities in the future	REHBEIN Consulting commenced project and completing draft master plan for Mudgee Airport.	In Progress
Facilitate the production of a study on investment opportunities in the local property market	30/06/2017	Provide information package regarding development opportunities in property market	Housing and development information and statistics included in Business and Economic Profile Booklet. Provide property information to investors in response to ongoing telephone enquiries.	Complete
Lobby State and Federal Government on infrastructure needs of local businesses including transport and communications linkages	30/06/2017	Continue to lobby government agencies and departments on the provision of infrastructure to meet community needs	Submitted applications to Resources for Regions program (Round 3) and National Stronger Regions Fund. Lobbying government agencies and departments on regional aviation support and bridge renewal.	Ongoing
Strategy 3.2.3 Support the expansion of essential services (education, health) to match business and industry development in the region				
Lobby State and Federal Government for expanded health and education services	30/06/2017	Continue to lobby government agencies and departments on the provision of infrastructure to meet community needs	Continue to work with Western Health Network and local MPs regarding health services and infrastructure, and the need to support regional aviation activity.	Ongoing
Work with local service providers to maintain an acceptable level of service delivery	30/06/2017	Continue to work with Western NSW Local Health District	Council auspices a number of meetings which sees it liaise with local health and medical providers, as well as social service organisations, including Mudgee and Rylstone Interagency groups, Mudgee Transport Working Party, and Home and Community Care forums. Council representatives also participates in more industry-specific forums, such as the Western Region Community Transport Forum and Western Region Food Service Forum.	Ongoing
		Work towards highlighting the deficiencies in education needs across the Region in particular Pre-School and High School	Commencement of project to develop an early childhood centre through \$1 million support from Cobbora Transition Fund.	Complete
		Participate in regional planning working group	Participation in Mining and Resource Development Taskforce which has replaced regional planning working group.	Ongoing
Strategy 3.2.4 Develop tools that simplify development processes and encourage high quality commercial and residential development				
Develop a step by step guide to assist potential investors to work through the regulatory framework	30/06/2017	Develop a guide to assist potential investors and developers to work through regulatory framework	Not commenced	Not Started

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Review plans and controls with economic impacts	30/06/2017	Continue to update and review guides, as required, to keep up with changes in legislation and the economy	Continue to monitor activities against Economic Development Strategy.	Ongoing
Goal 3.3: A range of rewarding and fulfilling career opportunities to attract and retain residents				
<i>Strategy 3.3.1 Support projects that create new jobs in the region and help to build a diverse and multi-skilled workforce</i>				
Work with lead agencies for employment to identify trends and discuss issues impacting employment	30/06/2017	Continue to work with employment agencies to identify trends and develop strategies to assist employment opportunities across the Region	Not funded in 2014/15 budget.	Not Started
Encourage local businesses to explore traineeships and apprenticeships focused on youth employment	30/06/2017	Continue to work with local businesses to promote traineeship and apprenticeship positions, including educating businesses on available government support.	Not funded in 2014/15 budget.	Not Started
<i>Strategy 3.3.2 Build strong linkages with institutions providing education, training and employment pathways in the region</i>				
Work with lead agencies for education in the region and understand their roles and responsibilities in economic development	30/06/2017	Continue to work with education providers on the provision of services to meet community needs	Continue to work with lead agencies in early childhood sector to address gaps in preschool and early childhood intervention services.	Ongoing
Pursue opportunities to develop a university outreach campus with offerings aligned to local industries	30/06/2017	Continue to monitor and identify new opportunities, as work to date has exhausted all avenues	No further action in this area since last meetings with TAFE in 2013/14. No new opportunities have arisen.	Ongoing

Connecting our Region

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Goal 4.1: High quality road network that is safe and efficient				
Strategy 4.1.1 Provide traffic management solutions that promote safer local roads and minimise traffic congestion				
Work with the RMS to improve road safety	30/06/2017	Continue to liaise with the RMS on road safety matters	Council continue to work closely with RMS to improve road safety. Council proactively apply for additional funding to improve road safety and were successful in securing Blackspot funding for three projects in 2014/15, two projects on the Goolma Road and one on the Bylong Valley Way.	Ongoing
Regulate effective and appropriate user activities on the road network	30/06/2017	Contribute to and support load limit variations and B-Double restrictions on various local roads as necessary	Council review oversize or over mass movement applications received from via the NHVR or independent companies, placing conditions or issuing travel permits.	Ongoing
		Review speed limits and traffic management	To date in 2014/15 no speed issues have been raised, however Council continue to work closely with RMS to identify and resolve traffic management and safety issues.	Ongoing
Partner with Transport NSW regarding local transport needs	30/06/2017	Continue to support the Transport Working Group	Mudgee Transport Working Party is auspiced by Council and chaired by a Community Transport representative. Its meetings are held quarterly and attended by interested stakeholders, including Community Transport clients, local bus operators and a Regional Transport Coordinator from Transport for NSW.	Ongoing
participate in relevant regional transport committees and working parties	30/06/2017	Facilitate the Local Traffic Committee	Meetings are being every month where agenda items are identified except January.	Ongoing
Strategy 4.1.2 Provide a roads network that balances asset conditions with available resources and community needs				
Annually review the Roads Asset Management Plan	30/06/2017	Continue to update data for Asset Management Plans	The Roads Asset Management Plan is currently being reviewed and revised. Associated infrastructure assets such as footpaths, bridges and causeways are being included. It will be presented to Council in March 2015.	In Progress
		Undertake review of Roads Strategic Plan	The Roads Asset Management Plan supersedes the Roads Strategic Plan.	Complete
Implement the works program in accordance with the Roads Asset Management Plan	30/06/2017	Complete Operational and Capital Expenditure Program for Roads and Bridges including Capital Works	The 2014/15 capital works program is underway. The 2015/16 capital works program is currently being developed and will be incorporated into Council's Operational Plan for 2015/16.	In Progress

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
		Manage State Roads in consultation with RMS	Council continues to maintain the state highway network with the LGA under the Routine Maintenance Council Contract. The heavy patching and reseal programs are complete and the Springfield widening project is on target to be completed by June 2015. Works will commence on Main Road 633 (Goolma Road) in April 2015 to upgrade and widen 4km from the Guntawang Road intersection. This project will continue into the 2015/16 financial year.	In Progress
		Continue ongoing maintenance of regional road network	Resources for Regions have provided funding for upgrade of the Cope Road, a 2.5 year construction program due to be completed by December 2016. The REPAIR funding was unsuccessful but significant heavy patching and reseal projects are completed, or are in progress on the Hill End Road, Wollar Road and Bvlong Valley Way.	Ongoing
		Continue reseals, rehabilitation, grading, re-sheeting of Councils local road network consistent with Roads Strategic Plan	In the first six months of 2014/15 Council has completed 22.7km of reseals, 15.7km of resheeting and 434km of grading. Rehabilitation projects completed include the Glen Alice Road and the realignment and rehabilitation project on Lue Road is nearing completion.	In Progress
		Continue to undertake upgrades of Ulan Road in accordance with the Ulan Road Strategy	The Ulan Road works are progressing on schedule.	In Progress
Pursue additional funding for upgrading of roads infrastructure	30/06/2017	Lobby for funding for roads	Successful application for \$9.5 million to Resources for Regions Round 1 for Ulan Road. Successful application for \$6.7 million to Resources for Regions Round 2 for Cope Road.	Ongoing
		Ensure that major developers pay for the impact additional development will have on road network	Council has been successful with funding of the Ulan Road Strategy and will continue to ensure that developers contribute appropriately to the impact they have on Council's road network.	Ongoing
Strategy 4.1.3 Develop and enhance walking and cycling networks across the Region				
Implement the Pathways Strategic Plan	30/06/2016	Undertake Kandos to Charbon pedestrian link and repair and reseal path from Rylstone to Kandos	Delays with approvals from Railway Authorities prevented this project from starting.	Not Started

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
		Walkways in Gulgong	Gulgong walkway project is complete from the cemetery to the intersection of Herbert Street and the Castlereagh Highway. The footpath will continue through Theresa Lane Park and along Medley Street.	In Progress
		Continue Cudgegong River pedestrian walk way to Glen Willow/Putta Bucca	The footpath works for 2014/15 are complete. This is an ongoing project and the project has been submitted for additional RMS funding next financial year.	Complete
		Construct pedestrian bridge at Bylong Bridge, Rylstone	Tenders will be called for the design and construction of this project in early 2015 following receipt of expressions of interest.	In Progress
Goal 4.2: Efficient connection of the region to major towns and cities				
Strategy 4.2.1 Develop a regional transport network, in partnership with other relevant government agencies, that grows with the needs of business and industry				
Support the continuation of commercial passenger services at Mudgee Airport	30/06/2017	Work with service provider to maintain passenger services to end from Sydney	Continue to work towards attracting a commercial passenger service following Brindabella receivership in Dec 2013. Considering options to support Fly Pelican to re-establish regular service between Mudgee and Sydney.	In Progress
		Continue maintenance and operation of Mudgee Airport	All technical inspections required by CASA completed and airport fully operational	Ongoing
Lobby for improved highway linkages along the Great Western Highway and Bells Line	30/06/2017	Continue to lobby for improved access to Western NSW from Sydney	Council is represented at the Bells Line Expressway Group by Clr Percy Thompson.	Ongoing
Strategy 4.2.2 Create a communication network that services the needs of our residents and businesses				
Pursue improved broadband and mobile coverage with Government and major service providers	30/06/2017	Continue to lobby for improved internet speeds and mobile coverage throughout the region	There has been some progress towards the rollout of NBN in this Region but was ceased at the direction of the new government. The Mayor, Deputy Mayor and General Manager have lobbied the Minister for Communications Malcolm Turnbull, throughout the year. Mudgee has been relisted for works by end of 2016.	Ongoing

Good Government

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Goal 5.1: Strong civic leadership				
Strategy 5.1.1 Provide clear strategic direction through the Community Plan, Delivery Program and Operational Plans				
Ensure actions of the Operational Plan and Delivery Program are completed on time, on budget and meets success criteria	30/06/2017	Successful delivery of 2014/15 Operational Plan	Covered in this report.	In Progress
Strategy 5.1.2 Provide accountable and transparent decision making for the community				
Conduct Open Days twice per month	30/06/2017	Continue to hold "Open Day" prior to Council Meetings	Council is trialling the conduct of one Ordinary Council meeting per month in 2015. "Open Days" will continue to be offered in conjunction with these meetings.	Ongoing
Strategy 5.1.3 Provide strong representation for the community at Regional, State and Federal levels				
Continue to lobby State and Federal Government on all matters that are of interest to the Mid-Western Region	30/06/2017	Work with the Mayor to access Local Members and Ministers on relevant issues	The Mayor and General Manager hold regular meetings with local members to highlight key issues and areas of interest in the Mid-Western Region which require attention from government.	Ongoing
		Strengthen relationships with local State and Federal members	The Mayor and General Manager hold regular meetings with local members to highlight key issues and areas of interest in the Mid-Western Region which require attention from both State and Federal government.	Ongoing
		Engage with Regional Directors of State Government	Senior members of staff are in constant contact with a number of State Government officials on a case by case basis when we require their assistance	Ongoing
Goal 5.2: Good communications and engagement				
Strategy 5.2.1 Improve communications between Council and the community and create awareness of Council's roles and responsibilities				
Publish monthly editions of Community News	30/06/2017	Monthly distribution of Community News	Community News is distributed on a monthly basis directly to 8,500 households in the Region and is also available online.	Ongoing
Provide an up to date and functional web interface	30/06/2017	Continue to update website	168,610 website page views in the six months from July to December 2014. This is an average of 28,101 page view per month.	Ongoing
Regularly report to the community in a variety of interesting ways	30/06/2017	Make full use of all media avenues, including: - social media - radio - television	Council's communications activities utilise a range of channels which includes social media, traditional print & broadcast media, targeted outreach to stakeholder groups, advertising and marketing.	Ongoing

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Operate and maintain a community works request system that provides timely and accurate information and responses	30/06/2017	Maintain Works Request System	Council maintains and operates a works request system that saw 2324 works requests received between Jul-Dec 2014, with an average of 78% being completed within the target timeframe.	Ongoing
Ensure the community has clear information about who to contact in Council	30/06/2017	Provide a customer focused website	Council maintains a complex website that received 168,610 website page views in the six months from July to December 2014, with an average of 28,101 per month.	Ongoing
Educate the community on Council's roles and responsibilities	30/06/2017	Provide access to Council's Corporate Planning Documents both through the website and Administration Centres	Council maintains a complex website that provides access to Council's corporate planning documents and received 168,610 website page views in the six months from July to December 2014. Documents were also available through the Customer Service centres in Gulgong, Mudgee and Rylstone.	Ongoing
Strategy 5.2.2 Encourage community access and participation in Council decision making				
Seek feedback on policy development and local issues	30/06/2017	Continue to plan for and conduct community engagement activities including surveys and face to face workshops	Council continues to use a range of media to seek feedback on policy development and local issues. This includes use of social media and online survey tools.	Ongoing
Provide opportunities and make it easy for the community to participate in and influence decision making	30/06/2017	Encourage attendance at Council Meetings	47 members of the public spoke at Open Day preceding each Council meeting from Jul-Dec 2014. For the six months to December 2014, a total of 1,848 individual webcast views were performed (combination of live and post-live viewing).	Ongoing
Goal 5.3: An effective and efficient organisation				
Strategy 5.3.1 Pursue excellence in service delivery				
Benchmark Council's service delivery against relevant organisations	30/06/2017	Provide Planning and Building Statistics to Department of Planning	Council met the reporting requirement for the Department of Planning Performance monitoring Review. Mid-Western continues have a high level of productivity. The performance reporting indicated the productivity levels of Mid-Western as the highest in the wider region, combined with the processing times achieved; this indicates that the development assessment function of Council is performing well.	Complete
		Local Government Reporting	A report on comparative information on NSW Councils to June 2013 will be submitted to the March 2015 Council meeting.	In Progress
Conduct bi-annual community surveys 2014 & 2016	30/06/2017	Conduct bi-annual satisfaction survey	No action required in 2014/15.	Complete

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Reflect on service provision and review work regularly	30/06/2017	Conduct quarterly all of Council Staff Updates across all work sites	All staff update meetings are held across work sites on a quarterly basis.	Ongoing
		Work with Staff towards ongoing productivity improvements	Council is subject to an inbuilt productivity gain via rate pegging, where the rate peg amount is less than the Local Government Cost Index. Council management continues to review all aspects of the business to ensure that the organisation is operating effectively and efficiently.	Ongoing
Provide a responsive customer service function	30/06/2017	Reply to all correspondence within 14 days	14,693 items of correspondence were received in the six months from July to December 2014. 96% of these are recorded as being answered within 14 days. While this is an improvement on the 91% for the 2013/14 year, the target of 100% was not met.	Ongoing
Strategy 5.3.2 Promote Council as a great place to work for talented people				
Attract, retain and develop a skilled workforce	30/06/2017	Implement a meaningful Training Program	The Training Program for FY15 is being implemented and the Program for FY16 is currently being finalised.	In Progress
		Promote our core values of Respect, Integrity and Recognition	We continue to promote the values of the Council via internal and external communications and programs such as induction and performance reviews.	Ongoing
		Continue to monitor and manage the performance of all employees to meet expectations	2014 Annual Performance Appraisals completed.	Ongoing
Provide a safe, healthy and non-discriminatory working environment	30/06/2017	Continue promotion of the Work Health and Safety Act and ensure the highest level of workplace safety	Workplace health and safety initiatives are continuing. There has been a reduction in the number of injuries and incidents.	Ongoing
		Provide a positive working environment	Insync have been engaged to complete the survey in Feb/March 2015.	In Progress
Conduct annual Employee Opinion Surveys	30/06/2017	Employee Opinion Survey 2014	Insync have been engaged to complete the survey in Feb/March 2015.	In Progress
Strategy 5.3.3 Prudently manage risks associated with all Council activities				
Monitor and review Council's policies and strategies	30/06/2017	Provide up to date Policy Register	Council has a rolling program to review its policies every two years.	Ongoing
Enhance the information systems that support delivery of Council activities	30/06/2017	Redesign website to incorporate responsive design for mobile devices	Council website is currently being redesigned, with inclusion of mobile device functionality	In Progress
Provide long term financial sustainability through sound financial management	30/06/2017	Update and Implement Long Term Financial Plan through Integrated Planning and reporting process	The Long Term Financial Plan is being updated with the 15/16 Operational Plan and 15/17 Delivery Program and is due to be complete by 30 June 2015.	In Progress

Delivery Program (4 Years)		Operational Plan (1 Year)	2014/15 Six Monthly Progress	Status
Ensure strategic and asset management plans are underpinned by sound financial strategies	30/06/2017	Maintain an up to date asset management system	Annual asset movements are being recorded to meet legislative requirements. Additionally, ongoing systems improvement work, including integration of Works Requests with Assets, integrated mapping and mobility device capability.	Ongoing
Comply with relevant accounting standards, taxation legislation and other financial reporting obligations	30/06/2017	Continue to achieve a high standard of financial management	Council received an unqualified audit report for the 2013/14 financial statements in October 2014. No material issues were identified in Management Letters. All of Council's taxation reporting obligations have been met on time to 31 December 2014.	Ongoing



2015

COUNCIL BUSINESS PAPERS

Ordinary Meeting 18 FEBRUARY 2015

ATTACHMENT **6.2.11**

► December 2014 Budget Review: Attach 1-10

*Good
Government*

QUARTERLY BUDGET
REVIEW
ATTACHMENTS,
DECEMBER 2014

6 FEBRUARY 2015



MID-WESTERN REGIONAL COUNCIL

CORPORATE DEPARTMENT

■ ■ ■ ■ ■ TOWARDS 2030



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1.1 Proposed Budget Variations

GENERAL FUND

Positive Variations		
Looking after our Community	Development Control - Recovery of legal costs (\$57.5k), partially offset by increased legal expenses (\$10k)	47,500 F
Looking after our Community	Strategic Planning - higher than anticipated income from rezoning applications (\$20k) and savings on employee costs due to extended vacancies (\$93k)	113,000 F
Looking after our Community	Development Control - savings in employee costs due to vacant positions	145,000 F
Connecting our Region	Reseal Acacia Drive - Savings on reseal	3,000 F
Connecting our Region	Reseal Gorries Lane - Savings on reseal	1,000 F
Connecting our Region	Reseal Boronia Road - Savings on reseal	9,000 F
Connecting our Region	Reseal Dabee Road - Savings on reseal	50,000 F
Connecting our Region	Reseal Narrango Road - Savings on reseal	67,000 F
Connecting our Region	Reseal Burrundulla Road - Savings on reseal	20,000 F
Connecting our Region	Reseal Queens Pinch Road - Savings on reseal	37,000 F
Connecting our Region	Reseal Rocky Waterhole Road - Savings on reseal	33,000 F
Connecting our Region	Reseal Yarrabin Road - Savings on reseal	19,500 F
Connecting our Region	Rehab Glen Alice Road - Savings on rehab	80,000 F
Connecting our Region	Reseal Wollar Road - Savings on reseal to be transferred to Stoney Creek Bridge	24,600 F
Connecting our Region	Sealed rural local roads - Rehab Lue Road Olive Farm - Final seal required	20,000 F
Good Government	Workers Compensation Premium - reduce estimated premium expense for 2014/15 to \$510k	190,000 F
Good Government	Members Expenses - Decrease plant hire charges for Mayor's vehicle - due to lower than anticipated usage	5,450 F
Good Government	Plant Operations Fund - Increase Fuel Tax Credit Claim due to claim adjustment, increased rate and fuel usage, \$61,000. Less consultant fee of \$5,700 for assistance with increasing adjustment claim following new ATO ruling.	55,300 F
Good Government	Parking Control - increased parking fines	13,000 F
Good Government	Animal Control - increase impounding fees (\$2k), animal release fees (\$2.5k), and fines (\$3.5k)	8,000 F
Protecting our Natural Environment	Trade Waste - Increase Tipping fees budget	15,000 F
Total Positive Variations		956,350
Negative Variations		
Connecting our Region	Pedestrian Mayne & Medley St, Gulgong - Council's matching contribution to RMS grant funding for kerb blisters at the intersection of Mayne and Medley Streets, Gulgong	(1,500) U
Connecting our Region	Green Gully Bridge - Overspend on bridge repairs.	(49,000) U

Connecting our Region	Unsealed Road Grading Program - Due to dry conditions the cost of grading has been above average this year. In order to meet the target kilometres additional budget is required.	(190,000)	U
Connecting our Region	Unsealed Local Rural Roads - Nullo Mountain seal extension, increase expenditure allocation as cost of sealing this difficult section of road higher than originally estimated.	(30,000)	U
Connecting our Region	Stoney Creek Bridge - Increased costs for side track construction	(24,600)	U
Connecting our Region	Sealed rural local roads - Reseal Burrundulla Road - Savings transferred to final seal and Lue Road	(20,000)	U
Looking after our Community	Development Control - reduction in anticipated development applications (\$120k) and S149 certificates (\$25k) due to reduced development in 2014/15	(145,000)	U
Looking after our Community	NSW Rural Fire Service - 2014-15 approved budget net change	(1,229)	U
Looking after our Community	Glen Willow Maintenance – Repair of windows due to building movement, and relocation of sewer pipe	(6,300)	U
Looking after our Community	Building Control - reduce estimated income for Building Construction Certificates	(140,000)	U
Good Government	Governance - Increase Memberships & Subscriptions budget to allow for Centroc membership	(8,000)	U
Good Government	<p>Restructure - <i>Employee Costs</i> Increase in employee costs due to additional resources in: Finance (\$96,200), Executive (\$29,600), Human Resources (\$7,400), Economic Development (\$44,400), Community (\$118,400), Operations (\$29,600), and Animal Control (\$26,000). Partially offset by employee cost savings in: Information Communication Technology - ICT (vacancy) (\$14,800), Revenue (\$103,600), Events (\$22,200), Governance (\$44,400). <i>Vehicle costs</i> Increase in vehicle costs for additional resources: ICT (\$5.8k), Building Administration (\$5.8k), and Animal Control (\$5.8k). <i>Staff redundancies</i> Additional employee severance due to redundancies (\$155k), offset by transfer from employee leave entitlements reserve.</p>	(184,000)	U
Looking after our Community	Mudgee Library - increased electricity costs from cinema operations	(8,020)	U
Good Government	Plant Purchases - Purchase Road Broom	(80,000)	U
Good Government	Increased depreciation for Plant and Equipment (\$232k), Buildings (\$84.3k), Other Structures (\$8k), Roads and Bridges (\$199k), Stormwater (\$9.4k), Library Books (\$12k), Reinstatement assets (\$5k) and Intangibles (\$13k). These increases are the result of additional infrastructure constructed and purchased, such as the heavy plant purchases required for the construction of Ulan and Cope Roads. Decreases have been made to Office Equipment (\$19k) and Land Improvements (\$1k) to reflect anticipated actuals for the year - NON-CASH	(543,150)	U
Looking after our Community	Ironed Out Operations - Reduce projected sales budget	(5,000)	U
Good Government	Staff Recruitment - increase recruitment costs due to higher recruitment figures this year (\$20k), partially offset by staff reimbursements (\$5k)	(15,000)	U
Connecting our Region	Ulan Road Strategy Maintenance - increase Council contribution to Ulan Road maintenance to cover indexation	(10,726)	U
Total Negative Variations		(1,461,525)	

Contra Variations			
Connecting our Region	Fairydale Lane Upgrade - reduce expected works schedule by 70%. Budget transferred to 2015/16 financial year.	(2,380,000)	C
Connecting our Region	Fairydale Lane Upgrade - Reduce transfer from S94 (\$800k) and Coborra transition funds (\$1,580k), deferred to 2015/16.	2,380,000	C
Good Government	Restructure – <i>Staff redundancies</i> Transfer from employee leave entitlements reserve.	155,000	C
Good Government	Additional employee severance due to redundancies	(155,000)	C
Building a Strong Local Economy	Property Development Saleyards Lane - reduce income from land sales. Defer sales of this development until market improves, anticipated within 12-18 months	1,100,000	C
Building a Strong Local Economy	Property Development Saleyards Lane - reduce transfer to land development reserve	(1,100,000)	C
Looking after our Community	Cultural Centre Investigation - budget rolled from last year, not required as \$50k is allocated in Art Gallery Facility project	9,609	C
Looking after our Community	Cultural Centre Investigation - transfer to reserve Capital Program	(9,609)	C
Protecting our Natural Environment	State Weed Management - Increase project allocation, revised budget for final year of funding	(152,774)	C
Protecting our Natural Environment	State Weed Management - Transfer from unspent grants	152,774	C
Looking after our Community	Billy Dunn Oval Upgrades - Community Building Partnership Fund grant income received	10,000	C
Looking after our Community	Billy Dunn Oval Upgrades - increase scope of works, grant funding for storage shed	(10,000)	C
Looking after our Community	Mudgee Showground Upgrades - Community Building Partnership Fund grant income received	10,000	C
Looking after our Community	Mudgee Showground Upgrades - increase scope of works, grant funding for heating and carpet	(10,000)	C
Looking after our Community	Rylstone Showground Capital Upgrade - additional grant income Community Building Partnership Fund	25,000	C
Looking after our Community	Rylstone Showground Capital Upgrade - decrease transfer from Capital Upgrade Reserve	(25,000)	C
Looking after our Community	Rylstone Showground Capital Upgrade - insurance reimbursement for damage to canteen	21,150	C
Looking after our Community	Rylstone Showground Capital Upgrade - increase contractors for repair work to canteen	(21,150)	C
Looking after our Community	Streetscape Capital Improvements Bellevue Estate - increase materials for tree plantings	(3,000)	C
Looking after our Community	Streetscape Capital Improvements - reduce allocation to cover spend in Bellevue Streetscape	3,000	C
Connecting our Region	Reseal Acacia Drive - Savings on reseal	19,500	C
Connecting our Region	Reseal Acacia Drive - transfer to Asset Replacement Reserve	(19,500)	C
Connecting our Region	Reseal Dabee Road - Savings on Reseal	18,000	C
Connecting our Region	Reseal Dabee Road - transfer to Asset Replacement Reserve	(18,000)	C
Good Government	Section 94 developer contributions - increase estimated S94 income for 2014/15, mostly due to prior year DA's	689,000	C
Good Government	Section 94 developer contributions - increase transfer to S94	(689,000)	C
Looking after our Community	Swimming Pool Triclub Shed - transfer from unspent grants	1,367	C

Looking after our Community	Swimming Pool Triclub Shed - return of unspent funding to Mudgee Triathlon Club. Shed finished under budget in 2013/14.	(1,367)	C
Good Government	Asset Management System upgrades - combine project costs to single code. Reduce Financial Services (\$60k), IT Software (\$54k)	122,000	C
Good Government	Asset Management System upgrades - combine project costs to single code. Allocate capital expenditure for upgrade, including transfer of contributed funds from water, sewer & waste (\$60k).	(122,000)	C
Connecting our Region	Fairydale Lane Upgrade Land Matters - transfer from S94	114,000	C
Connecting our Region	Fairydale Lane Upgrade Land Matters - costs: \$3.5k internal expenses, \$110.5k contractors and consultants	(114,000)	C
Good Government	General Insurance - incentive payment received for risk management plan (Statewide Mutual)	38,000	C
Good Government	General Insurance - reduce general insurance claim reimbursements (public liability)	(38,000)	C
Good Government	Work Health and Safety - incentive payments received for physiology training and reduced workers compensation claims	30,000	C
Good Government	Work Health and Safety - increase consultants \$23k (asbestos register) and training \$7k (physiology training)	(30,000)	C
Connecting our Region	Ulan Road Capital - Increase anticipated grant and contributions for works completed in 2014/15 years	1,648,500	C
Connecting our Region	Ulan Road Capital - Increase 2014/15 budget allocations as works being completed ahead of schedule; increase mid-block \$351.2k, Wollar Rd intersection \$30.4k, Mt Pleasant Lane to Buckaroo Lane Intersection \$50k, design costs Springview Ln to midblock \$143.6k, design costs Cope Rd to UCLA Mine entrance \$17k, Wattlegrove Lane to midblock \$113.5k, design costs Wyaldra Ln to Quarry Entrance \$38.7k, Winchester crescent midblock \$200k, and Lagoons Rd intersection to Toole Rd intersection \$704.1k	(1,648,500)	C
Connecting our Region	Ulan Road Maintenance - increase contributions received for Ulan Road maintenance	579,700	C
Connecting our Region	Ulan Road Maintenance - increase maintenance works for completion 2014/15	(579,700)	C
Total Contra Variations		0	
TOTAL GENERAL FUND		(505,175)	
		<i>Non-cash variations</i>	(543,150)
		<i>Unrestricted cash variations</i>	37,975
WATER FUND			
Negative Variations			
Protecting our Natural Environment	Depreciation - Increase in Water Network depreciation. This factors in indexation of 2.8% and additional capital works, resulting in adjustments to Buildings (\$4.1k) and Water Supply Network (\$75k). NON-CASH	(79,100)	U
Total Negative Variations		(79,100)	
Contra Variations			
Protecting our Natural Environment	Section 64 developer contributions - increase estimated S64 income for 2014/15	200,000	C
Protecting our Natural Environment	Section 64 developer contributions - increase transfer to S94	(200,000)	C

Protecting our Natural Environment	Water Mains Church St South - savings due to reduced scope of work in line with completed road works. Reserve funded.	46,500	C
Protecting our Natural Environment	Water Mains Market St (Lewis to Lawson) - replacement of water mains to correspond with planned roadworks in March. Reserve funded.	(46,500)	C
Protecting our Natural Environment	Water Augmentation West Mudgee Extension - defer estimated 50% of construction costs, works will not be completed until 2015/16	485,000	C
Protecting our Natural Environment	Water Augmentation West Mudgee Extension - reduce transfer from S64, works will not be completed until 2015/16	(400,000)	C
Protecting our Natural Environment	Water Augmentation West Mudgee Extension - reduce transfer from water reserve, works will not be completed until 2015/17	(85,000)	C
Protecting our Natural Environment	Water Pump Station Capital Only - reduce budget to allocate to capital works. Reserve funded.	40,000	C
Protecting our Natural Environment	Water Pump Station Mudgee Clearwater - costs to refurbish pump. Reserve funded.	(40,000)	C
Total Contra Variations		0	
TOTAL WATER FUND		(79,100)	
		<i>Non-cash variations</i>	(79,100)
		<i>Unrestricted cash variations</i>	0
SEWER FUND			
Negative Variations			
Protecting our Natural Environment	Depreciation - Increase Sewerage Network depreciation. This is a non-cash entry. Commissioning of the Mudgee Sewer Treatment Plant and Putta Bucca Pump Station are responsible for the majority of the above movement, made up of adjustments to Roads (\$58k) and Sewerage Network (\$449k). The increase also factors in indexation of 2.8%. NON-CASH	(507,000)	U
Total Negative Variations		(507,000)	
Contra Variations			
Protecting our Natural Environment	Section 64 developer contributions - increase estimated S64 income for 2014/15	72,500	C
Protecting our Natural Environment	Section 64 developer contributions - increase transfer to S94	(72,500)	C
Protecting our Natural Environment	Sewer Pump Station Caerleon - defer estimated 50% of construction costs, works will not be completed until 2015/16	162,200	C
Protecting our Natural Environment	Sewer Pump Station Caerleon - reduce transfer from sewer reserve, works will not be completed until 2015/16	(162,200)	C
Protecting our Natural Environment	Sewer Mains Rising Main Caerleon - defer estimated 50% of construction costs, works will not be completed until 2015/16	413,200	C
Protecting our Natural Environment	Sewer Mains Rising Main Caerleon - reduce transfer from sewer reserve, works will not be completed until 2015/16	(250,000)	C
Protecting our Natural Environment	Sewer Mains Rising Main Caerleon - reduce transfer from S64, works will not be completed until 2015/17	(163,200)	C
Total Contra Variations		0	
TOTAL SEWER FUND		(507,000)	

Non-cash variations **(507,000)**
Unrestricted cash variations **0**

WASTE FUND**Negative Variations**

Protecting our Natural Environment	Depreciation Adjustment with increases to Plant and Equipment (\$6k), Buildings (\$1k), Other Structures (\$10k) to allow for additional capital purchases from the prior year. Decreases made to Land Improvements (\$9k) and Reinstatement Assets (45k). NON-CASH	(37,000)	U
Protecting our Natural Environment	Mudgee Recycling - Reduce scrap metal income due to commodity price decrease (\$15k) and increases plant hire due to unavailability of hook lift truck	(21,700)	U
Protecting our Natural Environment	Waste General Operations - Additional water cart costs and temporary hire of hook lift truck	(41,500)	U
Protecting our Natural Environment	Waste Transfer Station Operations - Additional costs for the temporary hire of hook lift truck	(33,500)	U
Protecting our Natural Environment	Waste Street Park Bins - Increase Overtime wages required to cover extended leave	(6,300)	U
Total Negative Variations		(140,000)	

Contra Variations

Protecting our Natural Environment	Waste Street Park Bins - Additional wages required for park and street bin waste collection	(22,350)	C
Protecting our Natural Environment	Waste General Operations - Savings in ordinary wages and oncosts	22,350	C
Total Contra Variations		0	

TOTAL WASTE FUND

(140,000)
Non-cash variations **(37,000)**
Unrestricted cash variations **(103,000)**

SALEYARDS FUND**Positive Variations****Total Positive Variations****0****Negative Variations**

Building a Strong Local Economy	Depreciation - minor adjustment to Other Structures for \$800 for additional fencing purchased last financial year. NON-CASH	(800)	
Total Negative Variations		(800)	

Contra Variations

Building a Strong Local Economy	Saleyards Cattle Crush - new cattle crush required	(11,000)	C
Building a Strong Local Economy	Saleyards Cattle Crush - Transfer from Livestock Reserve	11,000	C
Total Contra Variations		0	

TOTAL SALEYARDS FUND

(800)
Non-cash variations **(800)**

Code

U - Unfavourable

F - Favourable

C - Contra

1.2 Reserves

Council's Original 2014/15 Operational Plan estimated a decrease in Reserves of \$0.874 million. Since then an additional \$3.426 million of transfers from reserves have been approved. In this quarterly budget review transfers from reserves have been reduced by \$0.388 million. This is mostly due to the fact that Sewer works planned for the extension of Caerleon have been partially deferred to 2015/16. Also, in this QBR is recommended \$1.100 million reduction in transfers to reserves, as the anticipated sale of Saleyards Lane property is also deferred to 2016/17.

Estimated Reserve movements, current balances, and projected closing balances are included in the following table.

\$'000	OPENING BALANCE 1 JULY 2014	BUDGETED TRANSFERS TO	BUDGETED TRANSFERS FROM	ESTIMATED CLOSING BALANCE 30 JUNE 2015	ACTUAL CLOSING BALANCE 31 DECEMBER 2014
Internal Reserves					
Employee Leave Entitlements	2,375	175	255	2,295	2,258
Emergency	200	0	0	200	200
Land Development	753	41	433	361	544
Airport Development	-235	0	0	-235	-235
Elections	135	60	0	195	165
Plant Replacement	3,141	2,623	4,999	765	38
Asset Replacement	835	1,533	1,260	1,108	927
Capital Program	651	927	1,168	410	573
Livestock Exchange	58	15	41	32	52
State Roads Warranty	395	0	195	200	395
Rylstone Community Services	6	0	0	6	6
Kandos Museum	0	0	0	0	0
Community Plan	313	0	280	33	313
Future Fund	0	200	0	200	100
Airline Support	0	200	200	0	0
Total Internal Reserves	8,627	5,774	8,831	5,570	5,336
External Reserves					
Waste Fund	2,344	700	235	2,809	2,626
Sewer Fund	3,229	1,400	2,315	2,314	3,288
Water Fund	1,661	1,200	1,864	997	1,968
Community Services	77	0	0	77	77
Community Tenancy Scheme	64	0	0	64	64
Family Day Care	91	27	0	118	90

\$'000	OPENING BALANCE 1 JULY 2014	BUDGETED TRANSFERS TO	BUDGETED TRANSFERS FROM	ESTIMATED CLOSING BALANCE 30 JUNE 2015	ACTUAL CLOSING BALANCE 31 DECEMBER 2014
Section 355 Committees Crown Land	0	0	0	0	0
Bequest – Simpkins Park	96	0	0	96	96
Bequest – Kandos Museum	32	0	0	32	32
Community Transport Vehicle Replacement	79	0	0	79	79
Ulan Road Strategy	0	0	0	0	0
Total External Reserves	7,673	3,327	4,414	6,586	8,320
TOTAL RESERVES	16,300	9,101	13,245	12,156	13,656

1.3 Developer Contributions – Section 64, 94 and 93F

Council's Original Budget estimated a decrease in Developer Contributions of \$0.737 million to \$7.816 million. The December QBR sees a reduction in anticipated transfers from S94 by \$686k (Fairrydale Lane roadworks partially deferred to 2015/16) and S64 by \$563k (Rising sewer mains Caerleon and West Mudgee Water Extension) , and a corresponding increase in S94 (\$689k) and S64 (\$272k) income received. Actual closing balance as at 31 December reflects a high level of developer contribution income being received, following on from high growth in the previous year and also reflects the partial completion of developer contributed works half way through the financial year.

Estimated Section 64, 94 & 93F movements and current balances are as follows:

S94/64 PLAN ITEM	BUDGET OPENING BALANCE	BUDGET TRANSFERS TO	BUDGET TRANSFERS FROM	BUDGET CLOSING BALANCE	ACTUAL BALANCE 31 DECEMBER 2014
Traffic Management	1,018	310	114	1,214	1,194
Open Space	886	883	200	1,569	1457
Community Facilities	412	118	10	520	473
Administration	186	113	167	132	252
Civic Improvements	-5	0	0	-5	-5
Car Parking	235	6	0	241	235
S94A Levies	366	25	0	391	376
Drainage – 2A	10	8	258	-240	15
Total S94 Contributions	3,108	1,463	749	3,822	3,997
S64 Sewer	1,397	563	211	1,749	1,820
S64 Water	3,206	1,097	3600	703	4,087
Voluntary Planning Agreements	842	2,116	768	2,190	896
Total Developer Contributions	8,553	5,239	5,328	8,464	10,800

1.4 Loan Borrowings

Council's Original 2014/15 Operational Plan does not include any borrowings.

PROJECT	FUND	ORIGINAL BUDGET \$'000	REVISED BUDGET \$'000	PROPOSED VARIATIONS \$'000	PROPOSED BUDGET \$'000	ACTUAL YTD \$'000
Nil	NA	0	0	0	0	0
Total		0	0	0	0	0

1.5 Contracts, Legal Expenses & Consultancies

CONTRACTS > \$50,000

The following contracts with a value greater than \$50,000 were entered into during the period between 1 July to 31 December 2014.

Note that individual Panel tender appointments are not included in the table below. For example, provision of general contractor services. Council creates panels of preferred suppliers from the tender responses received. Purchases are then made from the preferred supplier lists, and purchase decisions may vary for particular works depending upon availability and location.

CONTRACTOR	PURPOSE	VALUE (\$)	START DATE	DURATION MONTHS	BUDGETED
Moduplay Commercial Systems	Playground equipment	69,000	22/08/2014	3	Y
Plumbing Worx	Install Kandos Hall Roof	52,377	13/10/2014	1	Y
Peter Whiteriff Refrigeration	Install evaporative coolers Gulgong Memorial Hall	52,596	14/10/2014	1	Y
Spero Demolition	Removal of asbestos roof	56,022	20/10/2014	1	Y
Advanced Airport Lighting Pty Ltd	Renew airport lighting and install PAPI lights	737,580	1/11/2014	6	Y
Degremont Pty Ltd	Water main cleaning - Gulgong	300,000	27/11/2014	2	Y
John Howden Concreteing	Pitts lane footpath construction	78,330	21/10/2014	3	Y
Telstra	Fixed Voice and Mobile Phone Agreement	450,000	1/10/2014	24	Y

LEGAL EXPENSES

This financial year to date, Council has incurred \$63k of legal expenses. The primary areas of expenditure are:

- Development Control – DA's

- ICAC
- Debt recovery

CONSULTANCIES

A consultant is a person or organisation engaged under contract on a temporary basis to provide recommendations or high level specialist or professional advice to assist decision making by Management. Generally, it is the advisory nature of the work that differentiates a consultant from other contractors.

This financial year to date, Council has incurred \$609k of consultancy expenses. The primary areas of expenditure are:

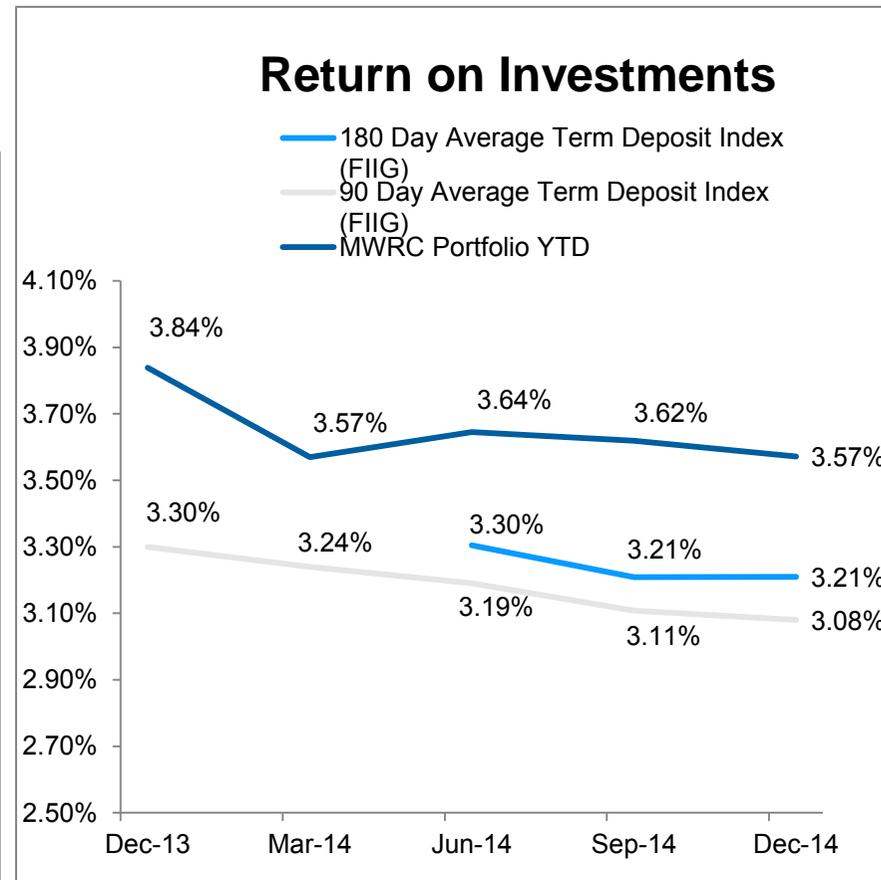
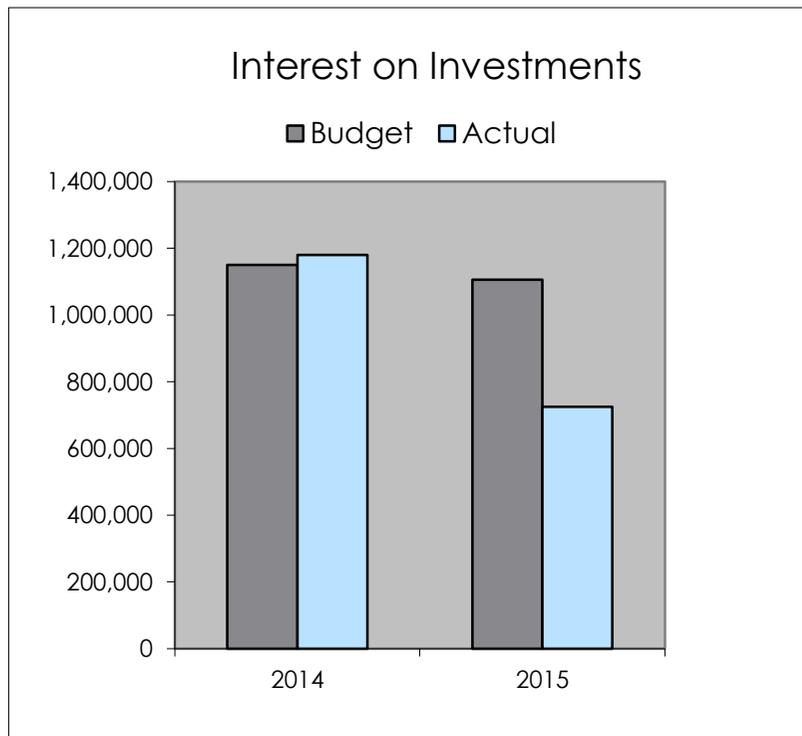
- Road Design
- Timber bridge assessments
- Asset system design
- Procurement strategy

1.6 Investment Portfolio Commentary

For the quarter ended 31 December 2014, Council's return on investment portfolio of 3.57% exceeded the benchmark rates of 3.21% (180 Day Average Term Deposit Index) and 3.08% (90 Day Average Term Deposit Index).

Deposits are currently being targeted at the 180 day term, which at present is offering the best interest rates whilst meeting Councils continual cash commitments.

The two graphs presented below demonstrate the performance of Council's portfolio for the last twelve months against the benchmarks of budgeted interest income and the 90 – 180 Day Average Term Deposit Index.



At its most recent meeting on the 4th of February the Reserve Bank of Australia (RBA) decided to lower the cash rate by 25 basis points to 2.25 per cent. In making this decision the RBA has taken into account recent information and many updated forecasts, such as weak domestic demand, decline in commodity prices, gradual rise in unemployment and declining inflation measures. Easing monetary policy is a common theme globally amongst central banks. Forecasts for global growth in 2015 envisage moderate growth.

A further factor driving the decision appears to be the strong Australian Dollar. Despite recent declines against the US Dollar, the RBA notes this has been less so against other currencies and the Australian Dollar “remains above most estimates of its fundamental value, particularly given the significant declines in key commodity prices”.

Following the RBA decision interest rates offered on Council term deposits have reduced accordingly. This will result in a reduction to Council’s interest income, however a budget variation is not required at this point due to higher than anticipated cash levels.

Looking ahead the RBA expects the cash rate reduction to support sustainable growth and inflation to be consistent with the 2–3 per cent target over the next two years.

Sources: Reserve Bank of Australia Media Release 2015-01, National Australia Bank Australian Markets Weekly – 2 February 2015, Bank of Queensland – RBA Rate Cut February 2015

1.7 Investment Portfolio Balances as at 31 December 2014

For the month ended: 31-Dec-14

Bank Accounts	Opening Balance	Receipts	Payments	Closing Balance
National Australia Bank	\$ 777,512	\$ 8,137,454	\$ 7,088,849	\$ 1,826,116

The bank balance has been reconciled to the General Ledger as at 31/12/2014

Financial Claims Scheme

- 1 Guaranteed to \$250,000
- 2 Not Covered

Investments	Type	Amount \$'000	Yield %	Maturity Date	Term	Rating	Govt Rating
National Australia Bank	At Call	760	2.80%	N/A	At Call	A-1+	1
National Australia Bank	Term Deposit	1,000	3.55%	1/04/2015	182	A-1+	2
National Australia Bank	Term Deposit	1,000	3.58%	15/04/2015	175	A-1+	2
National Australia Bank	Term Deposit	1,500	3.52%	22/04/2015	140	A-1+	2
National Australia Bank	Term Deposit	1,000	3.55%	17/06/2015	189	A-1+	2
National Australia Bank	Term Deposit	1,000	3.65%	4/02/2015	189	A-1+	2
National Australia Bank	Term Deposit	2,000	3.65%	11/03/2015	189	A-1+	2
St George Bank	Term Deposit	1,250	3.70%	28/01/2015	189	A-1+	1
St George Bank	Term Deposit	500	3.50%	6/05/2015	182	A-1+	2
St George Bank	Term Deposit	1,700	3.70%	21/01/2015	189	A-1+	2
St George Bank	Term Deposit	1,500	3.65%	11/02/2015	189	A-1+	2
St George Bank	Term Deposit	1,000	3.55%	10/06/2015	189	A-1+	2
St George Bank	Term Deposit	1,500	3.50%	18/03/2015	173	A-1+	2
St George Bank	Term Deposit	1,400	3.58%	29/04/2015	181	A-1+	2
Commonwealth Bank	Term Deposit	1,400	3.50%	7/01/2015	189	A-1+	1
Bankwest	Term Deposit	2,000	3.45%	6/05/2015	180	A-1+	1
Bankwest	Term Deposit	2,000	3.45%	13/05/2015	182	A-1+	2
Bankwest	Term Deposit	2,000	3.45%	20/05/2015	182	A-1+	2
ANZ	Term Deposit	1,000	3.56%	3/06/2015	189	A-1	1
ANZ	Term Deposit	1,300	3.56%	3/06/2015	189	A-1	2
ANZ	Term Deposit	1,700	3.53%	14/01/2015	196	A-1	2
ANZ	Term Deposit	1,000	3.59%	8/04/2015	182	A-1	2
ANZ	Term Deposit	1,000	3.68%	4/03/2015	189	A-1	2
AMP	Term Deposit	1,500	3.50%	18/02/2015	195	A-1	1
AMP	Term Deposit	1,500	3.50%	25/02/2015	202	A-1	2
ING Australia Bank	Term Deposit	1,000	3.52%	24/06/2015	189	A-2	1
ING Australia Bank	Term Deposit	1,000	3.54%	25/02/2015	189	A-2	2
Bank of Queensland	Term Deposit	2,000	3.55%	27/05/2015	189	A-2	1
Bank of Queensland	Term Deposit	1,500	3.60%	10/06/2015	189	A-2	2
Peoples Choice C/Union	Term Deposit	1,100	3.50%	25/03/2015	175	A-2	1
Members Equity Bank	Term Deposit	1,000	3.48%	22/04/2015	175	A-2	1
Total Investments		41,110					

1.8 Capital Works Program

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	% PROPOSED ANNUAL BUDGET	COMMENT
Looking after our Community								
RURAL FIRE SERVICE - CUDGEGONG HERITAGE BUILDING	135	0	135	0	135	2	1%	Land has been allocated and NSW RFS are currently designing the building.
RURAL FIRE SERVICE - WINDEYER RFS SHED	0	20	20	0	20	18	89%	Complete.
COMM. TRANSPORT- VEHICLE PURCHASE	50	0	50	0	50	23	47%	Year to date one vehicle has been replaced as per policy, it is anticipated that we will be replacing another vehicle before the end of March 2015.
GPS CEMETERY SITES	24	0	24	0	24	6	26%	Project awarded, works to commence in January/February and will continue throughout the year.
PUBLIC TOILETS - CAPITAL UPGRADES	10	0	10	0	10	0	0%	Budget only for reactive works as required.
PUBLIC TOILETS - PERCY NOTT PARK	110	7	117	0	117	0	0%	Insufficient budget allocated to complete to a satisfactory standard - additional pricing options are being sought. Several quotes for modular facilities have been obtained.
PUBLIC TOILETS - MUDGEES CEMETERY	40	0	40	0	40	0	1%	Design and quotes underway. Construction DA likely to go to February Council meeting.
PUBLIC TOILETS - LAWSON PARK TOILETS UPGRADE	6	0	6	0	6	4	73%	Completed works to repaint facilities, replace cracked tiles and construct access path through Robertson Park.
PUBLIC TOILETS - ROBERTSON PARK MUDGEES	6	0	6	0	6	5	79%	Completed works to repaint facilities, replace cracked tiles and reseal floors.
PUBLIC TOILETS - PARENTS ROOM	20	0	20	0	20	0	0%	Currently on hold, pending a review of alternate options.
LIBRARY BOOKS	83	(20)	63	0	63	47	76%	Ongoing purchase of books continues throughout the year.

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET	%	COMMENT
KANDOS MUSEUM - CAPITAL	116	(31)	85	0	85	72	85%		Complete
CULTURAL CENTRE INVESTIGATION	0	10	10	(10)	0	0	0%		Revoted budget not required 2014/15, project now being managed under "Art Gallery Facility"
COMMUNITY CENTRES - PERRY ST COMPLEX CAPITAL	35	0	35	0	35	0	0%		Project suspended pending further investigation of suitable facilities.
CAPITAL UPGRADE - GULGONG MEMORIAL	65	0	65	0	65	54	82%		Evaporative coolers installed and are now operational
CAPITAL UPGRADE - RYLSTONE HALL	25	0	25	0	25	25	101%		Works completed - Internal painting and repairs to the floor, and heating system.
CAPITAL UPGRADE - KANDOS HALL	230	0	230	0	230	167	73%		Roof removal commenced 3 November and completed on 18 November 2014. Project now completed.
CAP UPGRD-CLANDULLA FACILITIES	5	0	5	0	5	0	1%		Investigating alternative uses for the funds in the Clandulla area.
CAPITAL UPGRADE - KANDOS PRESCHOOL	5	0	5	0	5	5	93%		Works to commence first week of January. Expected completion mid January.
ANZAC PARK GULGONG ROTUNDA	3	0	3	0	3	3	107%		Complete, roof has been cleaned and painted.
RURAL HALLS UPGRADE	25	0	25	0	25	0	0%		Scope of works being finalised. Crudine Hall is in need of works. A report will be provided to Council in this regard.
MUDGEES POOL SAFETY ITEMS	45	(10)	35	0	35	27	77%		Turnstiles installed - works complete.
GULGONG POOL SAFETY ITEMS	25	7	32	0	32	24	74%		Turnstiles installed - works complete.
KANDOS POOL SAFETY ITEMS	27	13	40	0	40	31	78%		Turnstiles installed - works complete.
GULGONG POOL REPAIRS	0	50	50	0	50	42	84%		Repairs completed and scuba divers are to check for leaks in the off season 2015.
MUDGEES SHOWGROUNDS - REDEVELOPMENT	45	16	61	10	71	16	23%		Design for main arena drainage yet to be completed and further investigation required for heating the main pavilion.
GLENWILLOW SPORTS GROUND UPGRADES	40	0	40	0	40	36	91%		Complete. New fence provided around No.2 field.

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	% PROPOSED ANNUAL BUDGET	COMMENT
RYLSTONE SHOWGROUND UPGRADE	250	(38)	212	21	233	163	70%	New bar complete. Large storage shed to be constructed after the Rylstone show.
GLEN WILLOW SOCCER AMENITIES REBUILD	235	5	240	0	240	245	102%	Complete
GULGONG SHOWGROUND UPGRADE	250	0	250	0	250	154	61%	Completed works this financial year include new day yards (horses), round and holding yards (cattle), poultry shed including demolition of the old lean to, new canteen and bar facilities (old facility demolished), and toilet block. Further works include entry way patching, widening and reseal.
VICTORIA PARK - FENCING	70	0	70	0	70	0	0%	Once advice has been received from Tennis Club, quotes will be obtained and works to commence as soon as possible.
VICTORIA PARK - GRANDSTAND REPAIRS	10	0	10	0	10	8	82%	Complete.
BILLY DUNN OVAL - UPGRADES	27	0	27	10	37	0	0%	Grant funding approved during December, awaiting final advice so designs can be finalised.
VICTORIA PARK UPGRADES	500	0	500	0	500	6	1%	Finalising quotes prior to works commencing end of January 2015.
PLAYGROUND UPGRADE - GULGONG TENNIS COURTS	50	0	50	0	50	48	95%	Complete.
SAMMY'S FLAT CRICKET NETS	0	5	5	15	20	0	0%	Quotes currently being obtained, works to commence in February.
PASSIVE PARKS - LANDSCAPING IMPROVEMENTS	5	0	5	0	5	3	63%	Various minor landscaping works currently being undertaken.
RED HILL RESERVE - TOURISM DEVELOPMENT INVESTIGATION	0	499	499	0	499	130	26%	The committee has resolved the design concept for the development with the Development Application to be lodged by the 30 January 2015. The DA will be reported to Council for determination.
PLAYGROUND EQUIPMENT UPGRADE	6	0	6	0	6	3	46%	Two slides replaced. Remaining budget being used for reactive works later in the

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET	%	COMMENT
									year.
SCULPTURES ACROSS THE REGION	30	0	30	0	30	13	44%		Two sculptures chosen. Due for installation at Lawson Park late January or early February.
AVISFORD RESERVE - CAPITAL	35	2	37	0	37	0	0%		Awaiting the completion of aboriginal studies before finalising plans. Works are anticipated to commence March 2015.
DEWHURST DRIVE MUDGEES PLAYGROUND UPGRADE	40	0	40	0	40	40	100%		Complete.
NOYES PARK KANDOS PLAYGROUND UPGRADE	35	0	35	0	35	33	96%		Complete.
LAWSON PARK - LIGHTING	50	0	50	0	50	4	7%		Quotes being finalised and works to commence March 2015
LAWSON PARK - RESTORATION STONE FENCE	50	(47)	3	0	3	3	91%		Survey revealed very little movement in the wall over the last five years. No restoration works are required at this stage. Complete.
NEW PARK - MELTON ROAD	250	(50)	200	0	200	0	0%		Currently seeking quotes, works to be completed May 2015
VICTORIA PARK - RELOCATE PLAYGROUND	60	0	60	0	60	60	100%		Complete.
PLAYGROUND SHADING PROGRAM	15	0	15	0	15	13	89%		Shade Sail installed at Darton park, project complete.
LUE PLAYGROUND	0	39	39	0	39	38	97%		Complete.
PASSIVE PARKS - LAND MATTERS	180	158	338	0	338	161	48%		1. Purchase of land for Park at 8 Doug Gudgeon Drive, complete. 2. Purchase of 74 Fairydale Lane - Contract signed, deposit paid and agreed conditions to be completed before settlement occurs. Plan of subdivision to be lodged and registered. Solicitor currently chasing hold up with Essential Energy's endorsement of the plan. Estimated completion date - 2 months from lodgement of plan with LPI - 31/3/2015.

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	% PROPOSED ANNUAL BUDGET	COMMENT
ART GALLERY FACILITY	50	0	50	0	50	0	0%	Report will be presented to Council in March 2015, to decide the location of the new facility.
STREET SCAPE CAPITAL IMPROVEMENTS	16	0	16	(3)	13	0	1%	Tree works undertaken throughout the year.
STREET CAPITAL IMPROVEMENTS - ANGUS AVE	3	0	3	0	3	3	140%	Complete.
STREETSCAPE IMPROVEMENTS - BELLEVUE ESTATE	5	0	5	3	8	8	102%	Complete.
STREETSCAPE - BIN REPLACEMENT PROGRAM	12	0	12	0	12	0	0%	Recycling bins to be installed in Gulgong. Delivery is expected during January.
STREETSCAPE - RECYCLING BIN PROGRAM	10	16	26	0	26	27	104%	Forms part of the street bin replacement program for this year. Grant funded and bins to be installed as per comment above.
STREETSCAPE - TREE PLANTING RYLSTONE/KANDOS	8	0	8	0	8	3	44%	Autumn planting programmed for Mudgee and Louee Streets
Total	3,425	650	4,075	47	4,122	1,776	43%	

Protecting our Natural Environment

RURAL WASTE DEPOT UPGRADES	55	(45)	10	0	10	0	0%	Budget only.
MUDGEES WASTE DEPOT UPGRADES	30	135	165	0	165	43	26%	Fencing works completed. Investigation underway for suitable clay to line new cell through GHD. Waiting on feedback from the EPA on the ground water investigation to determine scope of works for sediment dam. Entry road to be upgraded later in the year when resources are available through roads team.
WASTE SITES REHABILITATION	100	(100)	0	0	0	0	0%	Budget only.
WTS - HOME RULE UPGRADE	0	10	10	0	10	0	0%	Replacement fencing that has been damaged or stolen. Work to commence in February.

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WASTE SITE REHAB - WINDEYER	0	50	50	0	50	0	0%		Remediation works and capping to Windeyer Waste Transfer Station. Works to commence in March
DRAINAGE CAPITAL IMPROVEMENTS	258	0	258	0	258	0	0%		Redesign underway, geotech engaged for Horatio Street Basin
CULVERT INSTALLATIONS	54	0	54	0	54	5	9%		Works ongoing.
CAUSEWAY IMPROVEMENTS	60	(60)	0	0	0	0	0%		Budget transferred to replace the timber bridge on Corricudgy Road.
ENV - PUTTA BUCCA WETLANDS CAPITAL	15	0	15	0	15	0	0%		Tree planting programmed for Autumn.
WATER NEW CONNECTIONS	132	0	132	0	132	66	50%		Provision of new connections to new development as required.
WATER AUGMENTATION - GULGONG	25	0	25	0	25	0	0%		Increase plant control including replacement of online monitoring equipment. Quotations sought. Installation to commence after commissioning of online monitoring equipment at Mudgee WTP.
WATER AUGMENTATION - MUDGEE	5,060	(5,060)	0	0	0	0	0%		Budget has been reallocated to individual water augmentation projects below.
WATER AUGMENTATION - MUDGEE HEADWORKS	0	2,540	2,540	0	2,540	5	0%		Plant upgrades to the raw water transfer system, chemical dosing, and additional filtration to cater for growth. Plant designers reviewing current plant capacity prior to proceeding to concept development.
WATER AUGMENTATION - WEST MUDGEE EXTENSION	0	970	970	(485)	485	0	0%		Extension of distribution infrastructure West Mudgee. Consultant has provided detailed designs for review. Construction will be scheduled in association with development progress. 50% deferred as works will not be completed by June 2014/15.

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WATER AUGMENTATION - ULAN RD EXTENSION	0	1,600	1,600	0	1,600	0	0	0%	Extension of distribution infrastructure for development along Ulan Rd. Design works yet to commence. Construction works to be scheduled in association with development progress.
WATER REDBANK DAM UPGRADE	0	41	41	0	41	4	10%	10%	This work is complete. Further discussions with grant funding body required.
WATER SECURITY OF RYLSTONE SUPPLY	0	6	6	0	6	1	11%	11%	This budget revoked from 2013/14. Completion of valve pit lid installation beneath dam wall during November 2014.
WATER TELEMETRY - BUDGET ONLY	20	0	20	0	20	0	2%	2%	Implementation of remote SCADA control for on-call operations. Initial trial commenced in September 2014 and will run until January 2015. Provision of digital RTUs for Mudgee Pump Stations.
WATER LOSS MANAGEMENT WORKS	26	4	30	0	30	0	1%	1%	Flow meter and data logger installation at Kandos, Charbon and Clandulla reservoirs. Installation works planned to commence after the summer period.
WATER MAINS - CAPITAL BUDGET ONLY	300	(300)	0	0	0	0	0%	0%	Budget only. Allocated as per below projects.
WATER MAINS - CHURCH ST SOUTH - MADERIA TO SPRING	0	250	250	(47)	204	200	98%	98%	Water main replacement works commenced opposite Medical Centre in September 2014. Budget variation due to reduced scope of works in line with road works. Works completed for area of road restoration works in December 2014.
WATER MAINS - MEDLEY STREET	0	70	70	0	70	0	0%	0%	Replacement of 1950's cast iron main that has failed multiple times over the last 18 months. Scheduled to commence in March 2015.
WATER MAINS - MAYNE STREET	0	18	18	0	18	0	0%	0%	Valve and main replacement in conjunction with programmed road works. Works scheduled for completion in February 2015.

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WATER MAINS - SPRING ROAD	0	120	120	0	120	0	0%	0%	Extension of water main along Spring Road to mitigate potential for low water pressure during peak periods in South Mudgee. Requested additional budget in September QBR to allow for additional length of pipework required. Works scheduled to commence April 2015.
WATER MAINS - MARKET ST (LEWIS TO LAWSON)	0	0	0	47	47	0	0%	0%	Replacement of water mains to correspond with planned roadworks in March.
WATER PUMP STATION - CAPITAL BUDGET ONLY	64	0	64	(40)	24	0	0%	0%	Budget only. It is proposed to allocate budget to following projects: Provision of 2 x pumps for existing wells in Burrundulla well field. Provision of 2 x pumps for existing well in Glen Willow well field.
WATER PUMP STATION - CLEARWATER MUDGEE	0	0	0	40	40	0	0%	0%	Pump refurbishment
WATER RESERVOIR - FLIRTATION HILL MUDGEE	0	39	39	0	39	0	0%	0%	This budget revoted from 2013/14. Works continuing. Reservoir roofing to be replaced after summer period.
RESERVOIRS - PALERMO RD MUDGEE	0	5	5	0	5	0	0%	0%	This budget revoted from 2013/14. Works continuing to seal roofing.
RAW WATER SYSTEMS RENEWALS	15	0	15	0	15	0	0%	0%	Church St reservoir refurbishments due to leaks. Quotations sought.
WATER TREATMENT WORKS - MUDGEE	0	18	18	0	18	15	83%	83%	Filter media top-up at Mudgee WTP completed October 2014.
WATER TREATMENT PLANT - GULGONG	0	6	6	0	6	3	43%	43%	Filter media top-up at Gulgong WTP completed October 2014.
WATER TREATMENT PLANT - RENEWALS	68	(24)	45	0	45	36	81%	81%	Rylstone WTP Flocculation tank has been patch sealed during August. Installation of chemical bunding at Rylstone WTP rescheduled for February 2015. Clear water pump at Mudgee WTP refurbished and reinstalled October 2014.

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WATER METERS - BULK	110	0	110	0	110	11	10%	Program to replace water meters greater than 15 years old.
SEWER NEW CONNECTIONS	46	0	46	0	46	17	37%	Provision of new connections to new development as required.
SLUDGE DEWATERING MOBILE UNIT	374	49	422	0	422	123	29%	Contract commenced June 2014 for unit to process STP sludge. Project Documentation received and approved for construction commencement (offsite). Contract scheduled to complete in April 2015.
SEWER AUGMENTATION - RYLSTONE & KANDOS	530	0	530	0	530	0	0%	Land matters. Commencement of works yet to be confirmed.
SEWER AUGMENTATION - MUDGEE	0	49	49	0	49	12	26%	Lab equipment and site works including provision of shed and boosted potable water supply scheduled to be completed December 2014. Shed and tank procured and waiting for supplier installation.
SEWER TELEMETRY	20	0	20	0	20	0	2%	Implementation of remote SCADA control for on-call operations. Initial trial commenced in September 2014 and will run until January 2015. Provision of digital RTUs for Mudgee Pump Stations.
SEWER TELEMETRY - RYLSTONE/KANDOS LINK	15	0	15	0	15	0	1%	Survey to establish line of sight for telemetry implementation at sewage pump stations. Scheduled to be completed January 2015
SEWER MAINS - CAPITAL BUDGET ONLY	361	(205)	156	0	156	0	0%	Budget only. It is proposed to allocate the remaining budget to the following projects upon further investigation: Chamber lid replacement program, Lawson Park bridge rising main replacement
SEWER MAINS RELINING	0	313	313	0	313	318	101%	Year 2 of 3 year contract for relining works were completed in July 2014.

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SEWER MAINS - MUDGEE INDUSTRIAL AREA	0	1	1	0	1	0	0%	0%	Provision of WAE drawings for Mudgee Industrial area sewerage system upgrades constructed in 2013.
SEWER MAINS - BELLEVUE TO RIFLE RANGE ROAD	0	47	47	0	47	0	0%	0%	Awaiting final works and invoicing
SEWER MAINS - RISING MAIN CAERLEON	0	826	826	(413)	413	0	0%	0%	Provision of sewer rising main for Caerleon development. Timing of works dependant on development progress. 50% deferred as works will not be completed by June 2014/15.
SEWER PUMP STATION - CAPITAL BUDGET ONLY	68	0	68	0	68	0	0%	0%	Pump renewals to be confirmed. Projects include Pump replacement Kandos Ilford Road SPS, provision of all weather access to Airport SPS. Diesel pump refurbishment, Hospital Pump Station Gulgong.
SEWER PUMP STATION - INDUSTRIAL	0	10	10	0	10	0	0%	0%	This budget revoted from 2013/14. Awaiting final WAE.
SEWER PUMP STATION - FLOW METERING	50	43	93	0	93	0	0%	0%	Commence infiltration flow monitoring program (scheduling is weather dependant). Continue 2014 flow metering program at sewage pump stations.
SEWER PUMP STATION - CAERLEON	0	324	324	(162)	162	0	0%	0%	This budget revoted from 2013/14. Timing of works in conjunction with Development progress. 50% deferred as works will not be completed by June 2014/15.
SEWER PUMP STATION - ACCESS AT AIRPORT	5	0	5	0	5	0	0%	0%	Provide all weather access to Airport SPS. After investigations into land matters complete, further budget to be transferred from Sewer Pump Station Capital Budget.
DECOMMISSION MUDGEE STP PUTTA BUCCA	150	150	300	0	300	0	0%	0%	Decommissioning of the old Mudgee sewage treatment plant. Remediation Plan to be undertaken commencing in January 2015, followed by desludging of existing lagoons that have now dried.

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SEWER TREATMENT WORKS - RENEWALS	45	0	45	0	45	0	0%		Renewals as required at the four sewage treatment plants. Dosing systems at all plants to be reviewed in 2014. Alternate chemical dosing trial to be undertaken at Mudgee STP in January 2015 aiming achieve further phosphorus reduction for reduced chemical cost.
Total	8,055	1,901	9,956	(1,060)	8,896	860	10%		

Building a Strong Local Economy

CUDGEGONG WATERS AMENITIES	157	0	157	0	157	3	2%		DA determined at December Council Meeting (17/12/14) and approval granted. Work to commence January 2015
RIVERSIDE CARAVAN PARK - POWER POLES	0	10	10	0	10	0	0%		The lessee is replacing the poles as part of the lease agreement. Work due to be completed by May 2015. Funds to be returned to asset replacement reserve.
ENTRANCE SIGNAGE - RYLSTONE/KANDOS	14	0	14	0	14	7	49%		New signs in, minor signage ordered and waiting to be installed
STREET BANNERS - GULGONG	0	9	9	0	9	0	0%		Awaiting finalisation of public competition entries before determining options to put to Council.
SALEYARDS - CAPITAL BUDGET ONLY	10	(10)	0	0	0	0	0%		Budget only. Allocated to projects below
SALEYARDS - CATTLE CRUSH	0	0	0	11	11	11	101%		Complete.
SALEYARDS - POST AND RAIL REPLACEMENT	0	10	10	0	10	3	34%		Ongoing rail and post replacements will continue
SALEYARDS - PARKING AREA ROAD WORKS	20	0	20	0	20	0	0%		Scheduled for later this year

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PROPERTY - KANDOS SURPLUS LAND BLOCKS	3	0	3	0	3	1	32%		Council resolution to sell 3/9/2014. Property on market. Advice from real estate agent is land sales in Kandos slow - may take 18 months to sell (on average only sell 2-3 blocks of vacant land per year).
PROPERTY - EX SALEYARDS STAGE I	0	75	75	0	75	49	65%		Currently seeking legal advice regarding road closure.
PROPERTY - MORTIMER ST PRECINCT	20	0	20	0	20	0	0%		Awaiting finalisation of lease renewal with tenant before work commences.
COMMERCIAL PROP - PRESCHOOL FACILITY	1,000	0	1,000	0	1,000	2	0%		Tenderer selected at December Council meeting. DA to be lodged in January. Contract negotiations to commence in January. Work expected to start in March 2015.
Total	1,224	94	1,318	11	1,329	77	6%		

Connecting our Region

URBAN RESEAL - PERRY STREET MUGDEE	90	0	90	0	90	6	7%		Heavy patching works will commence in early January with the reseal planned for February 2015.
URBAN RESEAL - FLIRTATION HILL LOOKOUT GULGONG	9	0	9	0	9	0	4%		Reseal planned for February 2015.
URBAN RESEAL - LITTLE BELMORE STREET GULGONG	15	0	15	0	15	0	3%		Reseal planned for February 2015.
URBAN RESEAL - LOWE STREET GULGONG	6	0	6	0	6	0	2%		Reseal planned for February 2015.
URBAN RESEAL - MAYNE STREET GULGONG	10	0	10	0	10	0	1%		Reseal planned for February 2015.
URBAN RESEAL - BLIGH CLOSE MUDGEE	3	0	3	0	3	0	0%		Reseal planned for February 2015.
URBAN RESEAL - BULGA STREET GULGONG	12	0	12	0	12	0	1%		Reseal planned for February 2015.
URBAN RESEAL - COOMBER STREET RYLSTONE	8	0	8	0	8	0	0%		Reseal planned for February 2015.

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URBAN RESEAL - COOYAL STREET GULGONG	7	0	7	0	7	0	2%	Reseal planned for February 2015.
URBAN RESEAL - DABEE STREET RYLSTONE	6	0	6	0	6	0	0%	Reseal planned for February 2015.
URBAN RESEAL - GLADSTONE STREET MUDGEES	79	0	79	0	79	0	0%	Reseal planned for February 2015.
URBAN RESEAL - JAMISON STREET KANDOS	17	0	17	0	17	0	0%	Reseal planned for February 2015.
URBAN RESEAL - MEALEY STREET MUDGEES	14	0	14	0	14	0	0%	Reseal planned for February 2015.
URBAN RESEAL - PHILIP CLOSE MUDGEES	5	0	5	0	5	0	0%	Reseal planned for February 2015.
URBAN RESEAL - MACQUARIE DRIVE MUDGEES	11	0	11	0	11	0	0%	Reseal planned for February 2015.
URBAN RESEAL - MULGOA WAY MUDGEES	32	0	32	0	32	0	0%	Reseal planned for February 2015.
URBAN RESEAL - ROBERTSON STREET MUDGEES	15	0	15	0	15	0	0%	Reseal planned for February 2015.
URBAN RESEAL - WOODSIDE CLOSE MUDGEES	21	0	21	0	21	0	0%	Reseal planned for February 2015.
URBAN RESEAL - LISBON ROAD MUDGEES	18	0	18	0	18	0	0%	Reseal planned for February 2015.
URBAN ROADS KERB & GUTTER CAPITAL	22	0	22	0	22	7	31%	Works progressing throughout the year
FAIRY DALE LANE UPGRADE	800	2,600	3,400	(2,380)	1,020	3	0%	The design aspect of the project has been awarded following requests for quotations and survey will commence in early January. Negotiations have started regarding the relocation of power poles. Physical Works are planed to commence in March 15, starting on Fairydale Lane and progressing onto Saleyards Lane. 70% of budget has been deferred to 2015/16, in line with expected construction timetable.

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REHAB - HENBURY AVENUE KANDOS	75	0	75	0	75	0	0%		Initial pavement investigations have been undertaken. Works are due to commence in February 2015.
REHAB - CHURCH STREET MUDGEES	417	0	417	0	417	127	30%		Works to commence in early January with the repair of the rail bridge approaches. Roadwork's will commence in mid January and the project will be practically complete by 27th January prior to school returning. The asphalt surfacing at the Maderia Street roundabout will be undertaken in conjunction with the Mayne Street asphalt project.
REHAB - MAYNE ST ASPHALT, GULGONG	155	0	155	0	155	0	0%		Works are planned for February 2015.
REHAB - LEWIS ST MUDGEES SEG 40	175	0	175	0	175	113	65%		Road pavement rehabilitation works and drainage works have been completed. The reseal will be undertaken in February with the urban reseal program.
REHAB - FARRELLY ST CLANDULLA SEG 10	20	0	20	0	20	8	39%		The road has been rehabilitated.
REHAB - MARKET ST MUDGEES SEG 20	140	0	140	0	140	14	10%		Following community consultation the project scope has been modified to reflect the community feedback. The kerb lines will remain unchanged and the road pavement will be rehabilitated in mid January with seal planned for late January.
REHAB - JACQUES/DENGAR ST KANDOS	25	0	25	0	25	1	5%		Works to commence in April 2015
REHAB - JACQUES/RODGERS ST KANDOS	25	0	25	0	25	4	18%		Works to commence in April 2015
REHAB - FIRST ST MUDGEES SEG 10	40	0	40	0	40	0	0%		Works planned for March 2015
REHAB - FITZGERALD ST RYLSTONE SEG 10	75	0	75	0	75	0	0%		Shoulder works and heavy patching planned for March 2015.
REHAB - MORTIMER ST MUDGEES SEG 60 70 80	100	0	100	0	100	21	21%		Partial pavement rehabilitation works completed. Reseal planned for February 2015.

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REHAB - CUDGEGONG RD EVANS CROSSING	220	0	220	0	220	9	4%	The design is complete. This causeway will be replaced with a bridge sized culvert with localised stream widening. Consultation is required with the property owner. Culvert units have been ordered and works will commence in late February 2015.
RESHEETING - URBAN ROADS	13	0	13	0	13	4	31%	Works ongoing.
FAIRYDALE LANE LAND MATTERS CAPITAL	0	0	0	114	114	0	0%	Separate budget allocated to cover legals, site clean up and development application fees. Funded from S94.
URBAN ROADS LAND MATTERS CAPITAL	26	0	26	0	26	4	14%	1. Engineers Road reserve - in last stages of removing unauthorised occupier. Consultation to then occur with adjoining land owners as to future of road reserve. 2. Castlereagh Highway realignment - documentation not completed from 1997 - plans now lodged with LPI. Est completion date mid-February 2015.
RURAL RESEALS - ACACIA DRIVE RYLSTONE	43	0	43	(23)	21	21	101%	Works complete
RURAL RESEALS - GORRIES LANE GOOLMA	8	0	8	(1)	7	0	0%	Works completed in early January, yet to receive invoices.
RURAL RESEALS - BORONIA ROAD RYLSTONE	20	0	20	(9)	11	11	101%	Works complete
RURAL RESEALS - DABEE ROAD RYLSTONE	2	0	2	0	2	0	0%	Works complete, awaiting invoices
RURAL RESEALS - DABEE ROAD RYLSTONE	110	0	110	(68)	42	42	101%	Works complete
RURAL RESEALS - NARRANGO ROAD RYLSTONE	130	0	130	(67)	63	64	101%	Works complete
RURAL RESEALS - BURRUNDULLA ROAD MUDGEES	96	0	96	(40)	56	39	70%	Works complete.
RURAL RESEALS - QUEENS PINCH ROAD MUDGEES	90	0	90	(37)	53	53	100%	Works complete

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RURAL RESEALS - ROCKY WATERHOLE ROAD MUDGEE	89	0	89	(33)	56	55	99%	Works complete.
RURAL RESEALS - YARRABIN ROAD	163	0	163	(20)	144	144	101%	Works complete
RURAL REHAB - LUE RD (OLIVE FARM)	0	0	0	20	20	0	0%	Final seal required
HEAVY PATCHING BUDGET	101	0	101	0	101	5	5%	Program of heavy patching works currently being developed. Works planned for April 2015.
BLACKSPOT YARRAWONGA RD SHOULDER WIDENING	0	108	108	0	108	96	88%	Works complete.
RURAL REHAB - LUE ROAD	628	0	628	0	628	382	61%	The realigned section has been completed. Works will commence early January to complete the project. Seal planned for February.
RURAL REHAB - GLEN ALICE ROAD	172	0	172	(80)	92	79	86%	Works Complete, waiting for final invoicing.
FUTURE YRS REFS - BUDGET ONLY	5	0	5	0	5	0	0%	Expended as required for planned road works.
RURAL SEALED ROAD LAND MATTERS	15	0	15	0	15	1	4%	Investigations continuing into land acquired to realign Happy Valley Road in 1997 but plan never registered - will be resolved by incorporating with Sale of Land for Unpaid Rates action (presented to Council on 17/12/2014).
RURAL SEALED REGIONAL ROAD RESEALS	595	(595)	0	0	0	0	0%	Budget only item, reallocated to individual projects.
RURAL SEALED REGIONAL ROAD REPAIR PROGRAM	400	(182)	218	0	218	0	0%	This project was unsuccessful in gaining REPAIR funding. Council's budget has been partially reallocated in September QBR.
BLACKSPOT BYLONG VALLEY WAY - GROWEE GULPH	0	29	29	0	29	0	0%	Regional rural sealed roads - Bylong Valley Way Growee Gulph, final costs from 2013/14 works now complete
BLACKSPOT COPE RD SHOULDER WIDENING	0	11	11	0	11	12	101%	Works complete.
BLACKSPOT COPE RD SHOULDER WIDENING	0	29	29	0	29	29	101%	Works complete.

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REHAB COPE ROAD UPGRADE BUDGET ONLY	2,564	(2,564)	0	0	0	0	0%		Budget only item, reallocated to individual projects.
BLACKSPOT BYLONG VALLEY WAY - STH OF KANDOS	0	250	250	0	250	63	25%		Project has commenced, completion planned for February 2015.
REHAB COPE ROAD UPGRADE - MILESTONE 1	0	1,419	1,419	0	1,419	1,375	97%		The final section of this project will commence in January, completion planned for March.
REHAB COPE ROAD UPGRADE - CONFORMING RESEALS	0	103	103	0	103	34	33%		25% of works have been completed.
REHAB COPE ROAD UPGRADE - MILESTONE 2	0	853	853	0	853	45	5%		Commencing following completion of Milestone 1, March 2015.
REHAB COPE ROAD UPGRADE - SEGMENT 3150	0	173	173	0	173	0	0%		Commencing following completion of Milestone 2, May 2015.
REHAB COPE ROAD UPGRADE - LINEMARKING	0	17	17	0	17	0	0%		Progressively being completed as reseals and rehabilitation works are completed.
PITTS LANE/ULAN RD SIGNAGE	0	15	15	0	15	7	45%		The signs have been ordered and will be installed upon receipt.
ULAN WOLLAR ROAD UPGRADES	146	0	146	0	146	0	0%		Scope to be determined, it is proposed to continue the resheeting of the unsealed section.
REG RESEALS - WOLLAR ROAD	0	401	401	(25)	377	240	64%		Current scope completed, looking to undertake additional works with remaining budget.
REG RESEALS - BYLONG VALLEY WAY RESEAL	0	180	180	0	180	0	0%		Works planned for February 2015.
REG RESEAL - HILL END ROAD RESEAL	0	199	199	0	199	153	77%		Current scope completed, looking to undertake additional works with remaining budget.
REG RESEAL - GOLLAN ROAD SEG 40 & 50	0	110	110	0	110	47	43%		Current scope completed, looking to undertake additional works with remaining budget.
RURAL SEALED REGIONAL ROAD LAND MATTERS CAPITAL	5	0	5	0	5	0	1%		Gollan Road, Goolma matters x 2, registration of plans etc.- research continuing.

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET	%	COMMENT
SEAL EXTENSION - NULLO MOUNTAIN	120	0	120	30	150	79	53%	Approximately 60% of the works have been completed with 1.2km of hill sealed. Works will resume early in the new year.	
SEAL EXTENSION - LOCHIEL LN	4	0	4	0	4	2	55%	Completed. This work was undertaken by the developer's contractor who was required to seal Lochiel Lane as part of the development conditions. Due to the contractor already being on site and therefore not incurring establishment costs, traffic control etc. it was a cheaper option than Council performing the works.	
RESHEETING - BUDGET ONLY	1,200	0	1,200	0	1,200	643	54%	The resheeting program has been temporarily scaled back due to the dry conditions and resources are currently working on capital works projects.	
UNSEALED ROADS LAND MATTERS CAPITAL	5	0	5	0	5	2	32%	Beechworth Road plan registered and titles created 30/9. Transfer of land parcel to affected property owner commenced.	
RURAL UNSEALED REGIONAL ROAD RESHEETING	52	(52)	0	0	0	0	0%	Budget reallocated on the expectation of successful application to Resources for Regions for the upgrade of Wollar Road.	
SEAL EXTENSION - WOLLAR ROAD	185	(185)	0	0	0	0	0%	Budget reallocated on the expectation of successful application to Resources for Regions for the upgrade of Wollar Road.	
GREEN GULLY BRIDGE	0	50	50	49	99	106	107%	The repair works to the bridge have been completed and all load and speed restrictions have been lifted. It is proposed that additional budget to cover the cost be allocated in December QBR.	
BUTTER FACTORY BRIDGE	0	50	50	0	50	59	118%	The side track has been constructed for heavy vehicles to bypass the bridge. Restrictions remain in place.	

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	% PROPOSED ANNUAL BUDGET	COMMENT
CORICUDGY ROAD BRIDGE - REPAIR	0	60	60	0	60	1	2%	The design is being undertaken to replace the old timber bridge with a concrete structure. Once the design is received the approvals can be sought from DPI Fisheries.
STONEY CREEK BRIDGE	0	52	52	25	76	76	100%	The side track has been constructed for heavy vehicles to bypass the bridge. Restrictions remain in place. It is proposed that additional budget to cover the costs be allocated in Dec QBR.
ULAN ROAD STRATEGY - CAPITAL BUDGET ONLY	3,297	(3,297)	0	0	0	4	0%	Budget Only Item, cost to be reallocated.
ULAN ROAD - MIDBLOCK 19.999 TO 22.215	0	295	295	351	646	481	74%	Works have been completed, but some remedial works are planned to rectify pavement ride quality. Budget adjustments proposed in December QBR.
ULAN ROAD - WOLLAR RD INTERSECTION	0	765	765	30	795	378	48%	The large culvert extension works are in progress and the road pavement on the off line section is complete. We are waiting on culvert units to complete the tie in on Wollar Rd. Earthworks will commence on the Ulan Road section in January.
ULAN ROAD - MT PLEASANT LN TO BUCKAROO LN	0	350	350	50	400	46	11%	Final design underway. Negotiating property boundary issues.
ULAN ROAD - SPRINGVIEW LN TO MIDBLOCK 13.478	0	0	0	144	144	139	97%	Design practically complete. Property boundary issues to address.
ULAN ROAD - COPE RD TO UCML MINE ENTRANCE	0	0	0	17	17	13	75%	Design underway.
ULAN ROAD - WATTLEGROVE LN TO MIDBLOCK 19.999	0	0	0	114	114	97	86%	Design underway.
ULAN ROAD - WYALDRA LN TO QUARRY ENTRANCE 27.783	0	0	0	39	39	29	76%	Preliminary design received and reviewed.
ULAN ROAD - WINCHESTER CRES TO MIDBLOCK 31.106	0	0	0	200	200	68	34%	Design underway.

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET	%	COMMENT
ULAN ROAD - LAGOONS RD TO TOOLE RD	0	1,413	1,413	704	2,117	620	29%		Works progressing from Lagoon Road 1km towards Toole Road. Seal planned for this section late January before continuing construction towards Toole Road.
FOOTWAYS - CAPITAL BUDGET ONLY	247	(48)	199	0	199	16	8%		The first stage of community consultation for the PAMP has been completed and the footpath audits have been done. This information is being reviewed and projects identified and prioritised prior to the draft PAMP being submitted to Council. The Capital footpath projects will be determined during this process and constructed in the latter part of the year.
FOOTWAYS - BUS SHELTERS	2	46	48	0	48	0	0%		Currently waiting on quotations for bus shelters.
PEDESTRIAN - KANDOS TO CLANDULLA	100	0	100	0	100	0	0%		This project is subject to ARTC Approvals.
PEDESTRIAN - CHARBON PEDESTRIAN BRIDGE	99	0	99	0	99	0	0%		This project is subject to ARTC Approvals.
PEDESTRIAN - GLEN WILLOW WALKWAY	50	102	152	0	152	99	65%		Completed.
GULGONG WALKWAY	100	0	100	0	100	50	50%		Works have commenced.
PEDESTRIAN - RYLSTONE PEDESTRIAN BRIDGE	200	(50)	150	0	150	5	3%		Expressions of Interest have been received. Preparing tender documents for a 'clip on' type footbridge onto the existing road bridge structure.
CYCLEWAY - RYLSTONE TO KANDOS RESEAL	50	0	50	0	50	0	0%		This project is currently under review as the location of the future water main is likely to be located underneath the cycleway which means that the cycleway will be damaged during it's installation.
CYCLEWAY - PITTS LANE	0	103	103	0	103	92	90%		Footpath works complete.
PEDESTRIAN - MELTON PARK	0	35	35	0	35	0	0%		Works to be in conjunction with playground, it is anticipated that this will commence March 2015

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET	%	COMMENT
PEDESTRIAN - MAYNE & MEDLEY ST GULGONG	0	0	0	3	3	0	0%		Two kerb blisters at intersection
AIRPORT EXTEND TAXIWAY	0	140	140	0	140	154	110%		Main works complete - awaiting sealing.
AIRPORT - APPROACH LIGHTS	0	650	650	0	650	154	24%		Part of the required materials have been delivered and works are to commence in January.
AIRPORT - AIRCRAFT PARKING	0	340	340	0	340	224	66%		Main works complete - awaiting sealing.
AIRPORT - CARPARKING FACILITIES	0	95	95	0	95	28	30%		These works scheduled for the third quarter depending upon the weather
AIRPORT - TERMINAL EXTENSION	0	300	300	0	300	0	0%		The draft design is due to Council in January.
AIRPORT - CAPITAL UPGRADES	2,000	(1,785)	215	0	215	70	33%		The remainder of works will be completed over the next six months.
AIRPORT - REALIGN AIRPORT ENTRY	0	180	180	0	180	0	0%		Scheduled for the third quarter of 2014/15
AIRPORT - BACKUP POWER	0	80	80	0	80	3	3%		These works will be completed in February 2015
STREET LIGHTS - HERBERT & MAYNE INT	20	0	20	0	20	0	0%		Lighting design and approval process is underway but has been delayed, we anticipate that the construction phase will commence in February 2015.
Total	15,820	2,845	18,665	(893)	17,772	7,070	40%		

Good Government

AUSTRALIA DAY BOARDS	3	0	3	0	3	0	0%		Reviewing proposals for boards and awaiting samples.
MUDGEE ADMINISTRATION BUILDING UPGRADE	50	0	50	0	50	40	80%		Works now complete. Further review of staff layout required, before any additional works can be completed.
GULGONG ADMIN BUILDING	90	0	90	0	90	2	2%		Currently waiting for funding determination in February 2015 to cover some costs. Quotes obtained. Work expected to commence Feb 2015

\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET	%	COMMENT
MUDGEE TOURIST OFFICE	20	0	20	0	20	13	65%		Works complete. New lighting and carpet installed.
CAPITAL UPGRADE - MWRC DEPOT	0	43	43	0	43	41	96%		Works complete.
CAPITAL UPGRADE - RYLSTONE DEPOT	5	0	5	0	5	0	9%		A community plan proposal will be put forth to roll over funds into next financial year to replace damaged toilet facilities in 15/16.
WEEDS CARPARK CAPITAL UPGRADE	20	(20)	0	0	0	0	0%		Budget reallocated to Capital Upgrade - MWRC Depot, to better manage total project works.
TELEPHONE SYSTEM - VOIP	200	0	200	0	200	81	41%		Tender process underway. Applications received and will be evaluated by the panel in the coming month.
OFFSITE RECORDS STORAGE	30	0	30	0	30	0	0%		Clean up of Rylstone records being completed so amount of storage and requirements can be determined.
IT NETWORK UPGRADES	0	0	0	0	0	38	0%		Mostly completed. Admin to operations still in process
IT CORPORATE SOFTWARE	15	88	103	(54)	49	16	32%		Corporate Software Enhanced Network Antivirus system implemented; options for IPRF solution currently being reviewed by staff.
IT - EMAIL ARCHIVE SOLUTION	20	0	20	0	20	16	81%		Complete.
IT - WEBCASTING EQUIPMENT COUNCIL CHAMBERS	0	6	6	0	6	5	93%		Complete.
ASSET MANAGEMENT SYSTEM UPGRADES	0	0	0	62	62	75	121%		Consultant and software for asset management system improvements. This budget includes \$60k internal funding (netted), total budget \$122k.
PLANT PURCHASES	3,670	1,625	5,295	80	5,375	4,326	80%		The majority of heavy plant has been ordered and all new plant should be received by April 2015
RYLSTONE DEPOT CAPITAL WORKS	0	3	3	0	3	3	101%		Storage container.
Total	4,123	1,745	5,867	88	5,955	4,658	78%		

	ORIGINAL ANNUAL BUDGET \$'000	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	PROPOSED VARIATIONS	PROPOSED ANNUAL BUDGET	ACTUAL YTD	PROPOSED ANNUAL BUDGET %
Total Capital Works Program	32,647	7,235	39,882	(1,807)	38,074	14,441	38%
Capital Funding							
Capital Grants & Contributions	(10,129)	(3,229)	(13,358)	(114)	(13,471)	(4,293)	32%
External Restrictions							
S94 Developer Contributions - General	(1,060)	(208)	(1,268)	686	(582)	(10)	2%
S64 Developer Contributions - Water Fund	(4,000)	0	(4,000)	400	(3,600)	(1)	0%
S64 Developer Contributions - Sewer Fund	0	(374)	(374)	163	(210)	(1)	0%
S93F Developer Contributions	(712)	0	(712)	0	(712)	(43)	6%
Specific Purpose Unexpended Grants	(48)	(152)	(200)	(1)	(202)	(105)	52%
Specific Purpose Unexpended Grants - Water	0	(43)	(43)	0	(43)	0	0%
Reserves - Water	(1,688)	(261)	(1,949)	85	(1,864)	(293)	16%
Reserves - Sewerage Services	(1,618)	(1,110)	(2,727)	412	(2,315)	(344)	15%
Reserves - Domestic Waste Management	(185)	(50)	(235)	0	(235)	(68)	29%
Other - Water	(132)	0	(132)	0	(132)	(66)	50%
Other - Sewerage Services	(46)	0	(46)	0	(46)	(17)	37%
Other - Waste Management	0	0	0	0	0	0	0%
Internal Restrictions							0%
Reserves - Plant & Vehicle Replacement	(3,361)	(1,638)	(4,999)	0	(4,999)	(4,515)	90%
Reserves - Asset Replacement	(1,426)	147	(1,279)	38	(1,241)	(689)	56%
Reserves - Capital Program	(988)	(200)	(1,188)	20	(1,168)	(542)	46%
Reserves - Land Development	(200)	(233)	(433)	0	(433)	(210)	48%
Reserves - Saleyards	(30)	0	(30)	(11)	(41)	(14)	34%
Income from Sale of Assets							
General Purpose Revenue	(7,024)	115	(6,909)	130	(6,779)	(3,231)	48%
Total Capital Funding	(32,647)	(7,235)	(39,882)	1,807	(38,074)	(14,441)	38%

1.9 Consolidated Income Statement and Balance Sheet

CONSOLIDATED INCOME STATEMENT

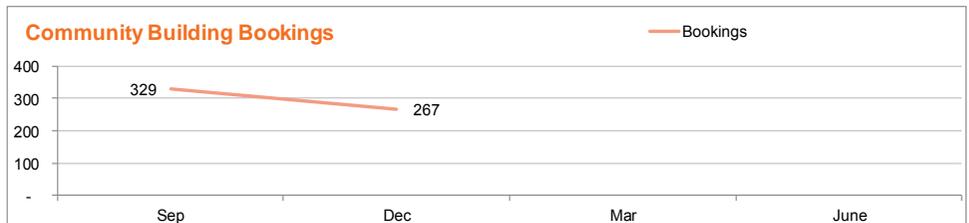
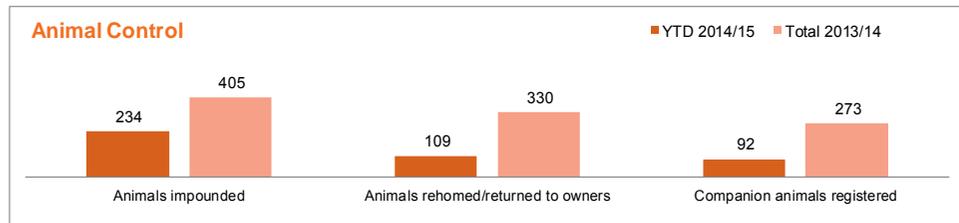
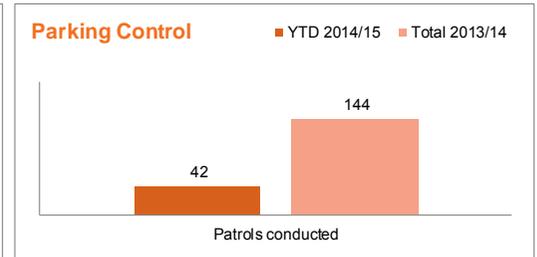
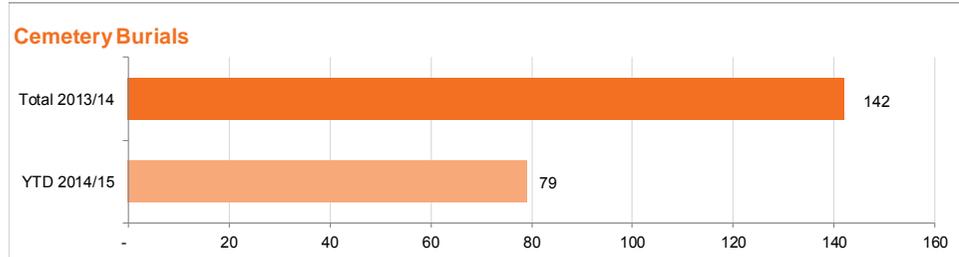
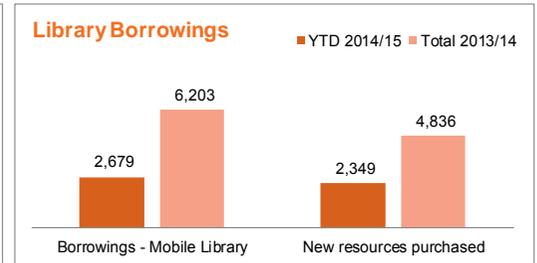
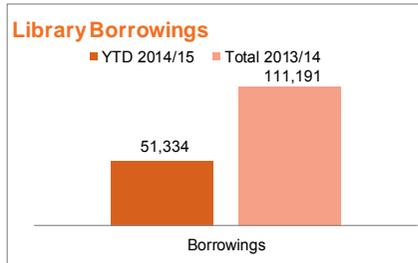
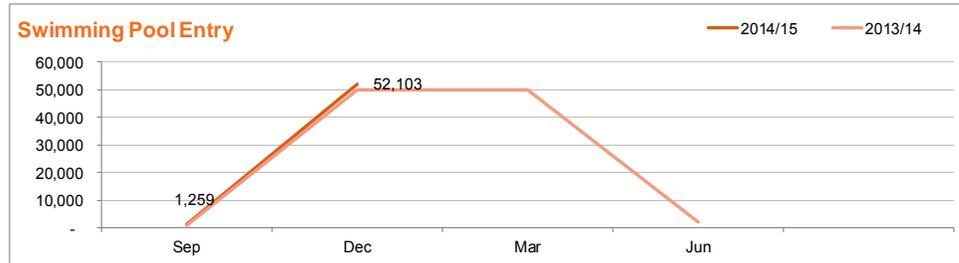
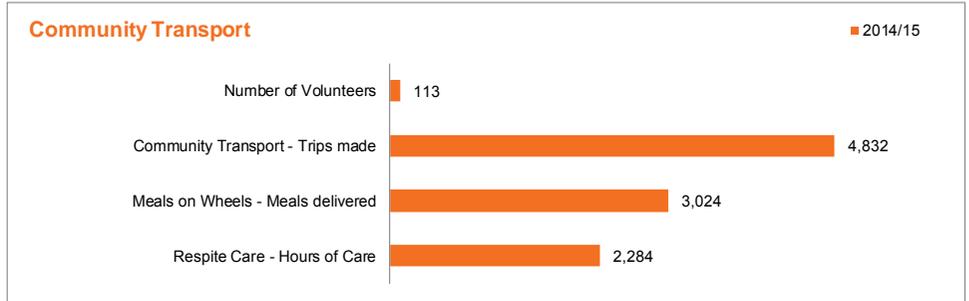
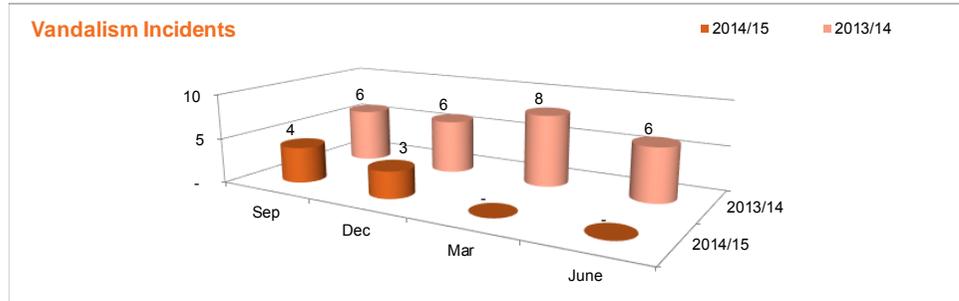
\$'000	ORIGINAL ANNUAL BUDGET	APPROVED VARIATIONS	REVISED ANNUAL BUDGET	ACTUAL YTD	% REVISED BUDGET	PROPOSED VARIATIONS	PROJECTED ANNUAL BUDGET	% PROJECTED ANNUAL BUDGET
Income Statement - CONSOLIDATED								
INCOME								
Rates & Annual Charges	(25,755)	0	(25,755)	(25,594)	99%	0	(25,755)	99%
User Charges & Fees	(12,047)	(15)	(12,062)	(8,101)	67%	261	(11,801)	69%
Interest & Investment Revenue	(1,208)	0	(1,208)	(568)	47%	0	(1,208)	47%
Other Revenues	(2,354)	0	(2,354)	(1,484)	63%	(58)	(2,412)	62%
Grants & Contributions Operating	(12,068)	91	(11,977)	(7,642)	64%	(638)	(12,615)	61%
Grants & Contributions Capital	(14,815)	(3,229)	(18,044)	(6,124)	34%	(784)	(18,828)	33%
Gain on Disposal of Assets	(1,441)	13	(1,428)	(13)	1%	1,100	(328)	4%
Total Income	(69,688)	(3,140)	(72,828)	(49,526)	68%	(119)	(72,947)	68%
EXPENDITURE								
Employee Benefits & Oncosts	21,545	2	21,547	11,160	52%	100	21,647	52%
Borrowing Costs	1,303	0	1,303	428	33%	0	1,303	33%
Materials & Contracts	9,885	971	10,856	6,735	62%	505	11,361	59%
Depreciation & Amortisation	15,116	0	15,116	8,069	53%	1,167	16,283	50%
Other Expenses	5,929	320	6,249	4,099	66%	25	6,274	65%
Loss on Disposal of Assets	0	0	0	0	0%	0	0	
Total Expenditure	53,778	1,293	55,071	30,491	55%	1,797	56,868	54%
Net Result	(15,910)	(1,847)	(17,757)	(19,035)		1,678	(16,079)	
Net Result before Capital Items	(1,095)	1,382	287	(12,911)		2,462	2,749	

CONSOLIDATED BALANCE SHEET

Balance Sheet		
\$'000	ACTUAL YTD	ACTUAL 30 JUNE 2014
ASSETS		
<i>Current Assets</i>		
Cash & Cash Equivalents	41,914	9,894
Investments	0	30,550
Receivables	13,551	7,035
Inventories	1,190	1,154
Other	0	11
Total Current Assets	56,655	48,644
<i>Non-Current Assets</i>		
Investments	0	0
Receivables	120	120
Inventories	152	0
Infrastructure, Property, Plant & Equipment	559,400	553,246
Intangible Assets	352	430
Other	0	0
Total Non-Current Assets	560,024	553,796
TOTAL ASSETS	616,679	602,440
LIABILITIES		
<i>Current Liabilities</i>		
Payables	2,279	6,422
Borrowings	676	1,333
Provisions	5,544	5,562
Total Current Liabilities	8,499	13,317
<i>Non-Current Liabilities</i>		
Borrowings	19,168	19,168
Provisions	1,493	1,470
Total Non-Current Liabilities	20,661	20,638
Total LIABILITIES	29,160	33,955
Net Assets	587,519	568,485
EQUITY		
Retained Earnings	345,159	325,931
Revaluation Reserves	242,360	242,554
Total Equity	587,519	568,485

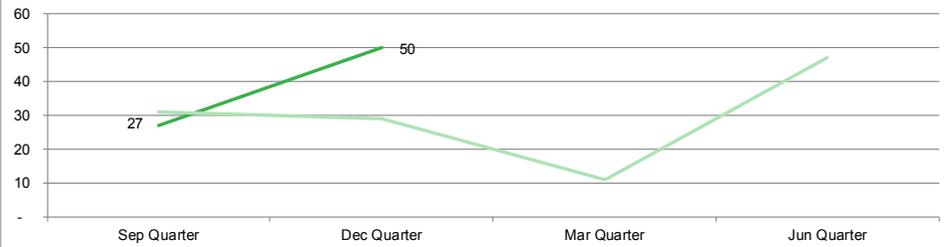
1.10 Key Performance Indicators

LOOKING AFTER OUR COMMUNITY

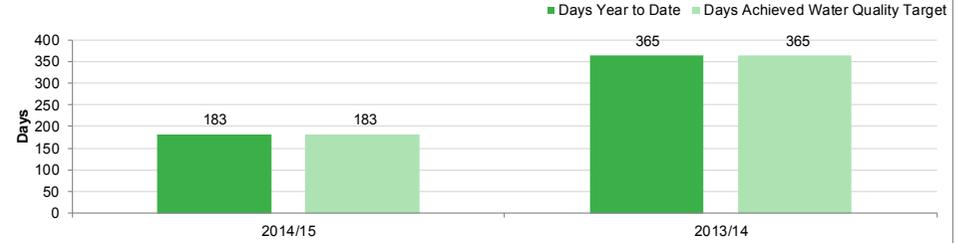


PROTECTING OUR NATURAL ENVIRONMENT

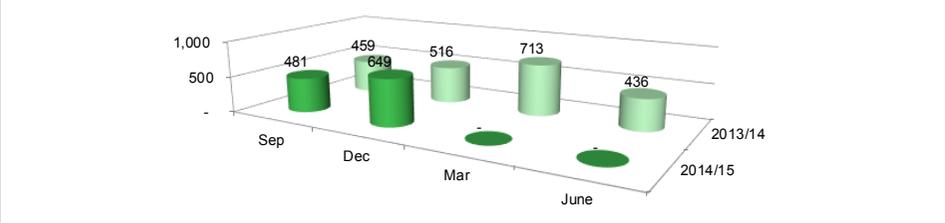
Broken Water Mains



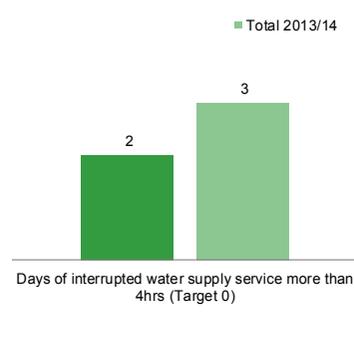
Days Achieved Water Quality Targets (Target all days)



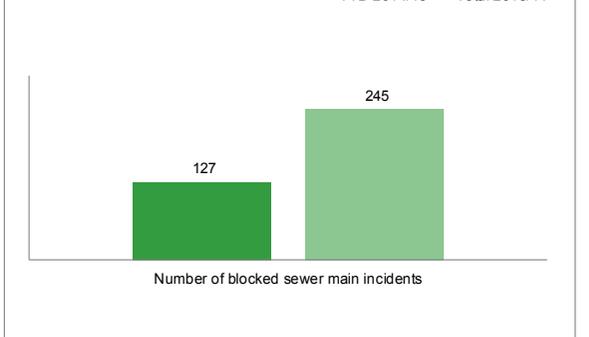
Water Consumption - Quarterly (000's kL)



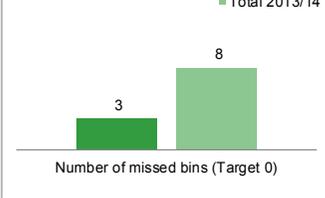
Water Supply



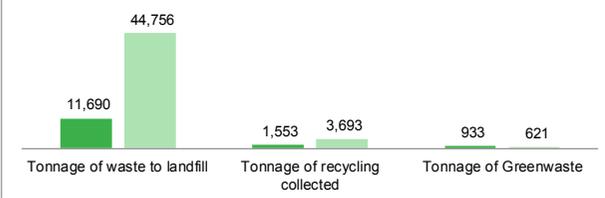
Sewer Mains



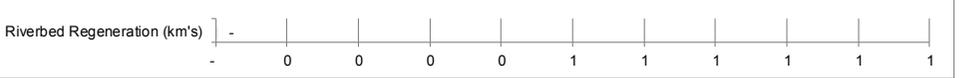
Missed Bins



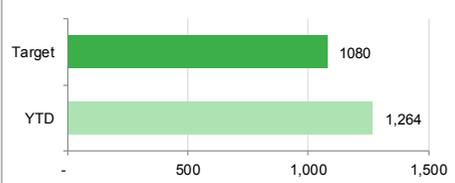
Solid Waste Management



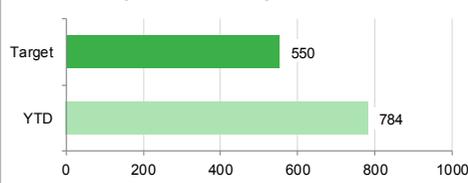
Catchment Management



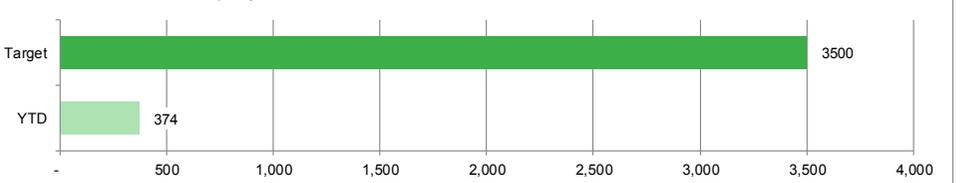
Weeds Properties Inspected



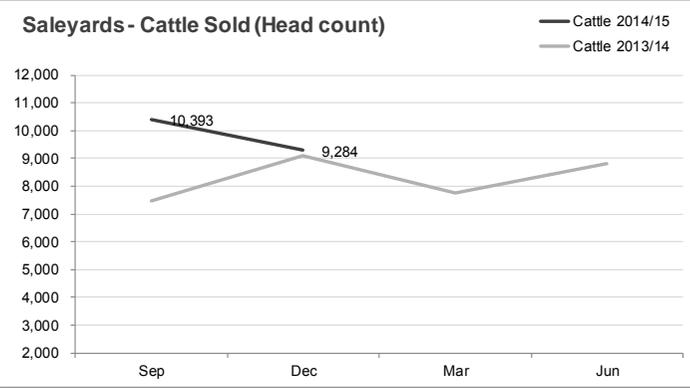
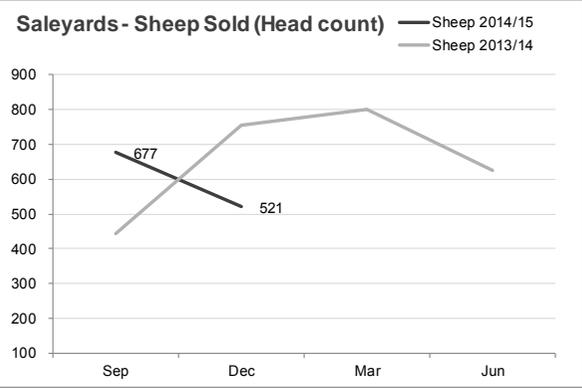
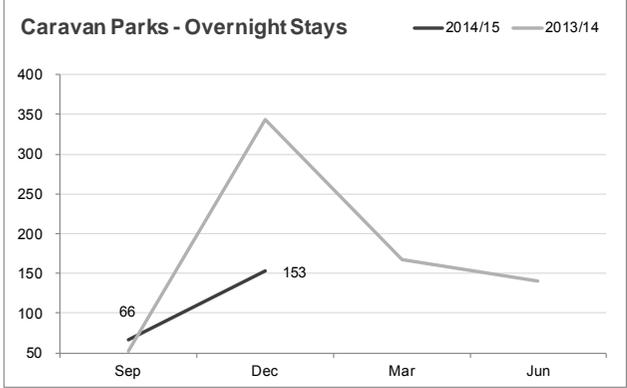
Weeds Properties Re-inspected



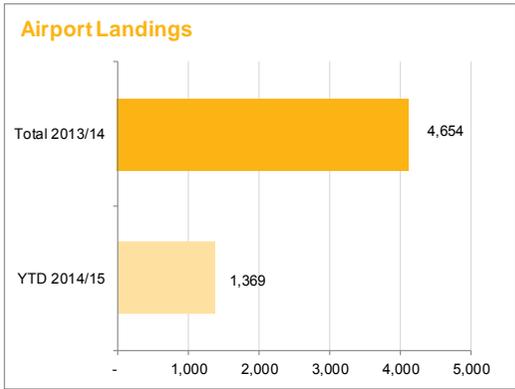
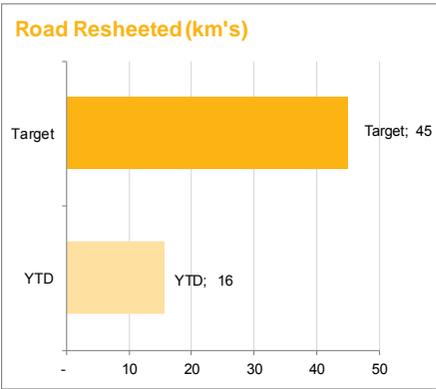
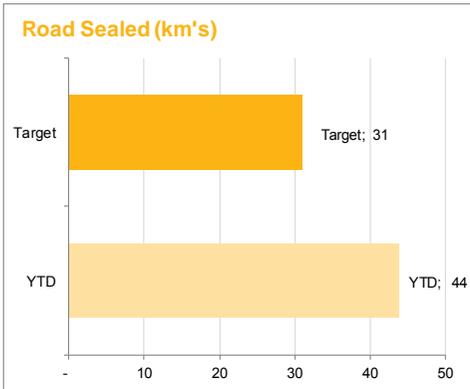
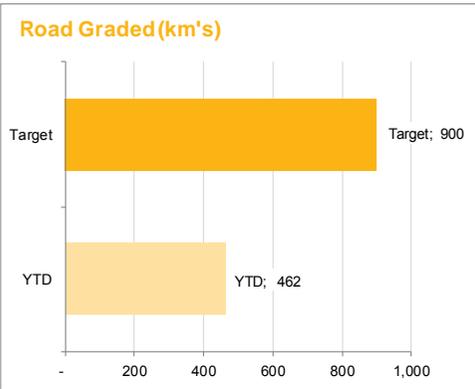
Weeds Kilometres Sprayed



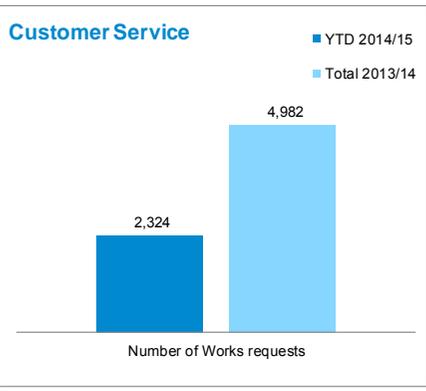
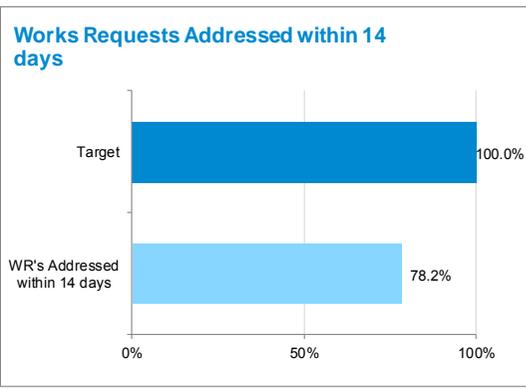
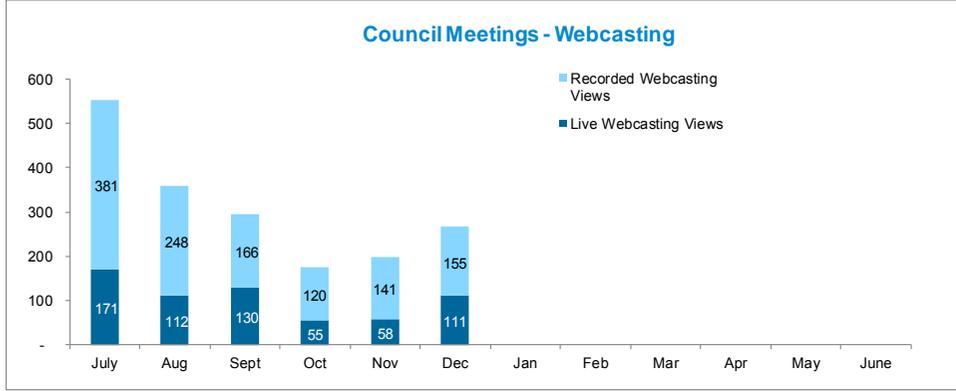
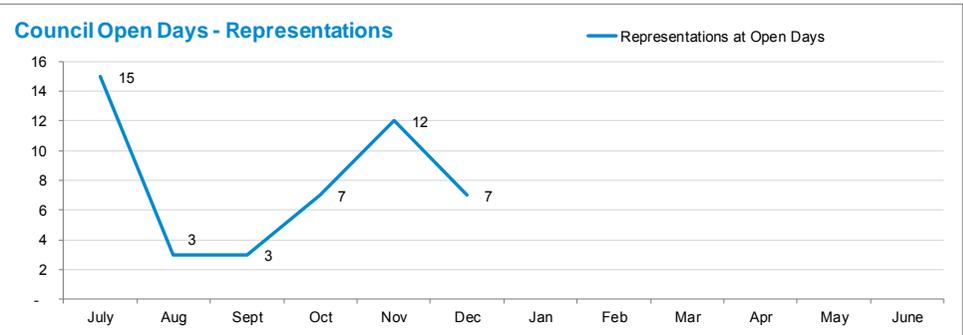
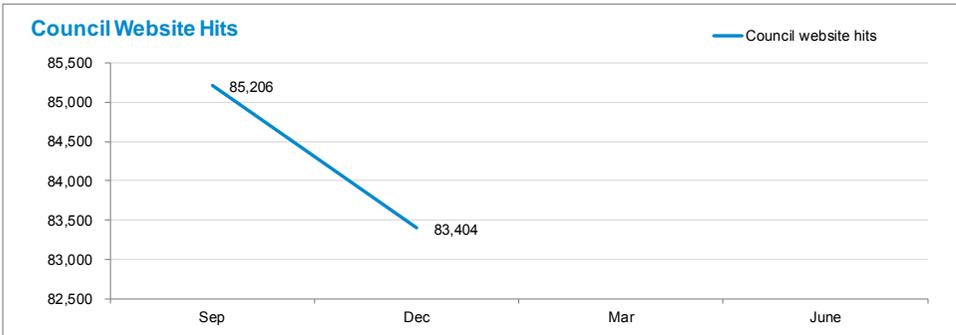
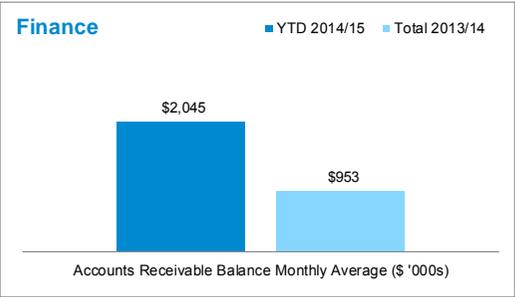
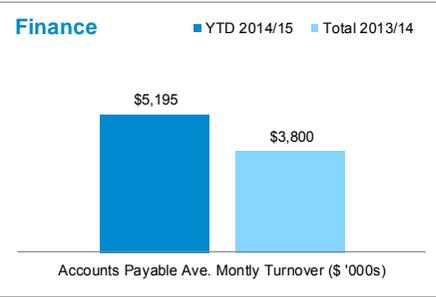
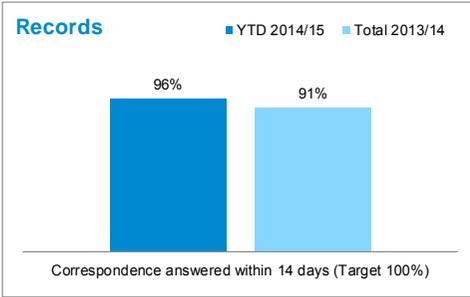
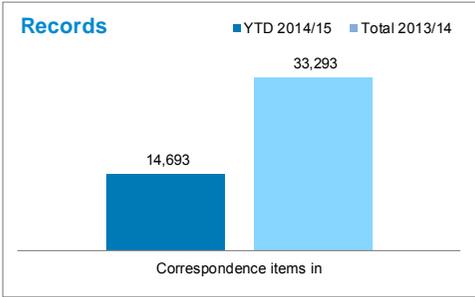
BUILDING A STRONG LOCAL ECONOMY



CONNECTING OUR REGION



GOOD GOVERNMENT



1.11 Councillor Fees Paid & Expenses Paid or Reimbursed as at 31 December 2014

Councillor Fees Paid & Expenses Paid or Reimbursed as at 30 December 2014											
	General	Cavalier	Kennedy	Martens	Shelley	Thompson	Walker	Weatherley	Webb	White	TOTAL
Councillor Fees	\$ -	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 5,240.02	\$ 47,160.18
Mayoral Fees	\$ -	\$ -	\$ 11,435.02	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,435.02
Council Meeting Expenses (inc. accommodation, travel & meals)	\$ 2,850.50	\$ 489.60	\$ -	\$ 2,006.68	\$ 1,008.48	\$ -	\$ -	\$ -	\$ 503.20	\$ -	\$ 6,858.46
Councillor Representational/Lobbying Expenses (inc. accommodation, travel, meals & out-of-pocket)	\$ -	\$ -	\$ 357.10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 357.10
Provision of Vehicle	\$ 2,013.26	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,013.26
Memberships & Subscriptions	\$ 51,021.96	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51,021.96
Miscellaneous expenses (meals, sundries, stationery, etc) but not associated with Conferences, Seminars & Training	\$ -	\$ 7.84	\$ -	\$ -	\$ 7.85	\$ -	\$ 370.09	\$ -	\$ 7.84	\$ 7.84	\$ 401.46
Provision of office equipment, such as laptop computers, mobile telephones, landline telephones and facsimile machines installed in Councillors homes (including equipment and line rental costs and internet access costs but not including call costs)	\$ 2,378.42	\$ 1,076.85	\$ 300.43	\$ 395.39	\$ 1,422.12	\$ -	\$ 694.09	\$ 272.37	\$ 719.34	\$ 690.66	\$ 7,348.81
Attendance of Councillors at conferences and seminars	\$ -	\$ 1,074.73	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,074.73
Totals	\$58,264.14	\$7,889.04	\$16,731.71	\$7,642.09	\$7,678.47	\$5,240.02	\$6,304.20	\$5,512.39	\$6,470.40	\$5,938.52	\$127,670.98



2015

COUNCIL BUSINESS PAPERS

Ordinary Meeting

18 FEBRUARY 2015

ATTACHMENT **6.2.20**

► Mudgee Traffic Study 2014

Mudgee Township

Traffic Management Study 2014

Final Report

Mid-Western Regional Council

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February 2015
J652 RevE

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Executive Summary

S.1 Background

Mudgee is located within the Mid-Western Regional Council Local Government Area (LGA) and the Central West of NSW. Strong growth has occurred in recent years in the LGA but more particularly in the township of Mudgee. In 2011, the LGA has a total population of 23,000, an increase from 22,220 recorded in 2001, and is predicted to reach 26,100 by 2031 (DOPI, 2013). This growth is being assisted by a number of major developments within the LGA. Council requires a better understanding of the transport infrastructure requirements in Mudgee during these times of growth to enable appropriate planning for the future. Similarly, in 2011 the population of Mudgee Township was 9,830 an increase of about 20 percent since 2006 when a population of about 8,250 prevailed. A projected increase to 11,470 persons is anticipated by 2031.

The objective of the study is the preparation of an effective Traffic Management Plan for the township of Mudgee (**Figure 1**). This objective was achieved through:

- Establishing current and predicted traffic flows incorporating existing problem areas.
- Determination of current traffic and transport infrastructure and treatment measures required resulting from present day and predicted traffic volumes.
- Identify road infrastructure upgrades that promote efficient traffic movement around Mudgee bearing mind in new developments and end destinations,
- Prioritise upgrades so that implementation is timely with growth and levels of service remain satisfactory.
- Inform the Section 94 developer contributions plan
- Determination of both current and future needs in regard rail crossing points.

All figures referred to in the report have been placed at the end of this document.

S.2 Consultation

A notice was placed in local newspapers inviting residents to make submissions. Furthermore, two meetings were held during the course of the study with key stakeholders including Police Service, Roads & Maritime Service, Mudgee Chamber of Commerce, Mudgee Taxis, Independent Bus Operators, School Bus Operator, Community Transport, Ogden's Coaches and Mid-Western Regional Council.

The draft document was placed on public exhibition between 27th October and 24th November 2014 with a public meeting held on 29th October 2014. The draft document was amended to reflect community expectations.

S.3 Existing Traffic Conditions

S.3.1 Existing Street System

The Castlereagh Highway (B55) passes through the Mid-Western Regional Council. It provides the major link between Lithgow and Gilgandra via Gulgong. Through Mudgee it follows the route along Sydney Road, Horatio Street, Douro Street and Market Street. Ulan Road approaches Mudgee from the north via Church Street.

The road network within and around Mudgee is shown on **Figure 2**. The locations of traffic controls at all intersections within the Mudgee Township are noted in **Figure 3**.

Ogden's Coaches provides the only town bus services in Mudgee which operate along four primary routes in the Mudgee urban area shown in **Figure 4**. Other companies provide school buses services.

S.3.2 Safety in Mudgee

Council provided crash statistics for the five year period from 1 January 2008 to 31 December 2012. A total of 183 recorded crashes occurred in the Mudgee Township. These crashes resulted in 101 injuries and one (1) fatality. Six (6) vehicular crashes involving pedestrians or cyclists occurred within Mudgee. The location, frequency and consequence of crashes are noted in **Figures 5a and 5b**.

By far the highest number of crashes (6) occurred at the intersection of Horatio Street with Church Street resulting in four (4) injured persons. The intersection of Horatio Street with Douro Street experienced the second highest number of intersection crashes (5) resulting in five (5) injured persons.

Off road collisions with fixed object or parked cars accounted for about 32 percent of all mid-block crashes and about 34 percent of all injuries.

About 40 percent of all crashes occurred along the roads forming part of the Castlereagh Highway through Mudgee resulting in 47 percent of all injuries/fatality.

S.3.3 Existing Traffic Patterns

Daily traffic counts at 23 locations within Mudgee together with percentage heavy vehicles and 85th speeds (speed exceeded by 15 percent of vehicles) are noted in **Figure 6**. The afternoon peak hourly volumes at critical intersections are noted in **Figure 7**.

The highest volume of traffic within Mudgee is along Church Street between Horatio Street and Denison Street with over 10,000 vpd on weekdays, reducing to about 8,900 vpd south of the railway crossing

The highest daily number of trucks recorded at the surveyed sites travelled along Perry Street (~400 trucks) near the CBD. The Castlereagh Highway continues to carry the highest number of trucks in Mudgee with over 750 and 400 trucks previously recorded along Horatio Street and Market Street respectively.

The 85th recorded speed exceeded the speed limit at 11 locations. These locations are further away from the CBD in residential areas; closer to the CBD speeds are generally below the speed limit.

Church Street generally operates at a good level of service "B" or better. All other streets including the Castlereagh Highway operate at a very good Level of Service "A".

All intersections operate at a level of Service "B" or better except the intersection of Church Street with Denison Street, which operates at a level of service "C". Definition of levels of service for road carriageway and intersections are included in **Appendices C** and **E** respectively.

S.4 Future Traffic Conditions in Mudgee

S.4.1 Future Residential Growth in Mudgee

The residential growth in Mudgee over the next ten to twenty years will take place to the west of the Township in the following areas (yields are approximate):

- 220 lots in North Mudgee
- Some 1,545 lots in the Caerleon, Bellevue Hill and Salesyard area
- 530 lots in South-West Mudgee
- 240 lots in South Mudgee.

Thus some 2,535 lots are anticipated to be released and developed by 2032. It should be noted that about 80 percent of development is anticipated by 2022. Some 20 hectares for industrial uses are also planned along Hill End Road to accommodate developments by 2022.

S.4.2 Traffic Impact

About 18,600 vehicle trips per day may be generated over the next 15 to 20 years by the potential residential areas in Mudgee; correspondingly, about 2,000 trips per hour are anticipated during the afternoon peak hour. Some 200 industrial trips would also be generated during the peak hours. The additional trips, generated by all the future release areas at all critical intersections within Mudgee are presented in **Figure 8**.

Streets where traffic volumes are expected to considerably increase as a result of the potential new residential releases include Hill End Road, Fairydale Lane, Bell Street, Bellevue Road, Henry Bayly Drive, Madeira Road, Lions Drive and Robertson Street.

The major impact of the future residential releases would occur along Church Street between Horatio Street and Denison Street where a level of service "C" is expected. All other streets will operate at level of service "B" or better.

The intersection of Sydney Road with Burrundulla Road and Lions Drive would operate in the future at a very poor level of service "F". A roundabout with pedestrian refuges should be provided.

The intersections of Douro Street with Gladstone Street and with Denison Street would operate in the future at a near to a poor level of service "D" or worse. Roundabouts are recommended at these two locations. A similar situation is anticipated at the intersection of Church Street with Denison Street. Following public exhibition of these recommendations however, it was found that roundabouts at the intersections of Douro and Gladstone Streets and Church and Denison Streets were unacceptable to the community. Instead a roundabout at the intersection of Industrial Avenue and the Sydney Road was preferred.

The roundabouts at the intersections of Church Street with Horatio Street and with Mortimer Street would operate a good level of service "B". All other roundabouts would continue to operate at very good levels of service.

S.5 Specific Traffic Matters

S.5.1 School Buses Related Issues

In order to address issues raised by operators of bus operators the following matters would be appropriate:

- The provision of a crossing supervisor would control the flow of children across Horatio Street thus alleviating the backlog in buses accessing the High School
- The relocation of the Give Way signs in Gladstone Street to give priority to Perry Street traffic would ensure a smoother flow of traffic along Perry Street as well reducing current delays experienced by school buses.
- Issues near Catholic School in Lewis Street

S.5.2 Safety Related Issues

- **Safety in Mudgee** - The high proportion of crashes involving single vehicles out of control is usually an indication of excessive speed. Better monitoring by the police is required.
- **Church Street north of Meares Street** - Consideration should be given for the provision of slowing devices adjacent to the medical centre.
- **Intersection of Horatio Street with Church Street** - Serious consideration should be given to increase the deflection of vehicles entering the roundabout from all approaches to ensure they either slow down or even stop before entering the roundabout.
- **Intersection of Horatio Street with Douro Street** - The provision of a roundabout would considerably improve safety at this intersection.
- **Intersection of Robertson Street with Lions Drive** - The provision of a pedestrian refuge in Lions Drive, at Robertson Street and in Robertson Street north of Lions Drive would improve the safety of pedestrians. Furthermore, signage advising motorists to slow down to allow safe pedestrian crossing should also be considered.
- **Denison Street, between Lewis Street and Church Street** - Consideration could be given for the provision of slowing devices in this section of Denison

Street. Furthermore, the provision of pedestrian refuges at the intersection of Denison Street with Church would facilitate the crossing of Denison Street.

- **Intersection of Ulan Road with Henry Lawson Drive** - The 80 kmh speed limit along Ulan Road at this location may impact on this junction's safety. Subject to RMS concurrence, consideration may be given to relocate the commencement of the 50 kmh speed limit along Ulan Road from its current position north of Pitts Lane to 100 m north of Henry Lawson Drive.
- **Intersection of Church Street and Spring Road** – a submission was received during the public exhibition phase of this document requesting for traffic calming or safety measures at this location. It is recommended that this issue be further investigated in consultation with the resident in the area.

S.5.3 Cycleway

The existing cycleway is situated at the rear of dwellings fronting Winter Street. It currently terminates at the end of Horatio Street at Douro Street. Following a site inspection, a suitable route to the CBD via the High School has been identified generally along Horatio Street and Perry Street.

During public exhibition of this document a suggestions from the community that a cycleway continuing out the Ulan Road to the TAFE campus be considered. This suggestion is recommended.

S.5.4 Intersection Related Issues

- **Intersection of Church Street with Denison Street** - This intersection has the worse level of service in Mudgee and requires alternative control such as a roundabout in the near future to considerably improve the situation. Following the public exhibition phase this recommendation was removed due to community concern. It is recommended that this intersection be monitored for future traffic studies.
 - **Intersection of Inglis Street with Douro Street** - Observation of the intersection did not highlight any specific problem; however as previously recommended (Gennaoui, 2008), the provision of a seagull arrangement would facilitate traffic movements at this location as well as improve safety.
- Intersection of Gladstone Street with Denison Street** - The provision of a seagull arrangement would facilitate traffic movements at this location as well as improve safety. Consideration could also be given for the provision of slowing devices along Gladstone Street as it would be used in the future as an alternative access road to the CBD.
- **Castlereagh Highway with Bell St and Putta Bucca Rd Intersections** - The proposed new residential and industrial releases in west Mudgee (including the Caerleon subdivision) would increase traffic volumes along the Castlereagh Highway as well as along Putta Bucca Road and Bell Street. The combined intersections of Castlereagh Highway with Bell Street and with Putta Bucca

Road experienced four crashes (2 injuries). A realignment of Bell Street with Putta Bucca Road at the Castlereagh Highway together with the provision of a roundabout at this location would considerably improve safety as well as facilitate access to both roads.

S.5.5 Roads Related Matters

- **Ring Road in Mudgee CBD** – Designation of a route along Horatio Street, Lewis Street, Short Street and Douro Street to by-pass the CBD should be given serious consideration. The provision of a roundabout may be required at the intersection of Horatio Street with Lewis Street.
- **Road Linkages between CBD and West Mudgee** - Access to the CBD from the Caerleon subdivision will be mostly along the Castlereagh Highway and Market Street. Access to the highway will be via Hill End Road and Fairydale Lane/Bell Street. Traffic accessing the CBD would also use Gladstone Street. Traffic accessing schools and the industrial areas to the east of Mudgee may also use Bellevue Road and other streets in South Mudgee. The analysis of future traffic conditions concluded that all roads accessing the CBD from the west would operate a good level of service "B" or better. Furthermore, all intersections along the routes to and from the CBD would operate satisfactory subject to the provision of new roundabouts.

S.5.6 Traffic Related Matters

- **Traffic Calming in West Mudgee** – Consideration should be given for the provision of traffic calming devices along Bellevue Street and Fairydale Lane concurrently.
- **Problems along Church Street (outside Aldi & Mitre10)** – None identified
- **Possible Closure of Perry Street between Horatio and Denison Streets** - In order to maintain accessibility for buses and patrons of the school and park, and to achieve a safer environment along this section of Perry Street, it is suggested that it be converted into a "shared zone".
- **Closure of Church Street Between Mortimer and Market Streets** – A full closure is not supported however the conversion of this section of Church Street to a "shared zone has merit.
- **Closure of Perry Street North of Market Street** – This closure is not supported.
- **Opening of Lovejoy Street to Douro Street** - This measure is generally not supported. Consideration may however be given by Council to the prohibition of the right turning movement to and from Lovejoy Street at Douro Street.
- **South Mudgee Surgery Medical Centre in Oporto Road** - Over 15 percent of vehicles exceeds the speed limit. This situation has the potential for increased conflicts between pedestrians crossing Oporto Street and vehicles along this road. Consideration should therefore be given for the provision of slowing devices at this location.

S.5.7 Railway Crossings

There is a railway line connecting Lithgow to Gulgong and beyond via Mudgee; through Mudgee it is crossed at four locations. There are currently no passenger trains to and from Mudgee. The lack of railway crossings to access South Mudgee has been of major concern to residents particularly in the context of potential increase in traffic accessing the CBD past the Mudgee High School conflicting with the high number of students.

Suggestions have been made for the re-opening of the Cox Street and Court Street railway crossings. The re-opening of Cox Street railway crossing would effectively divert traffic of the order of 1000-2000 vpd from the Douro Street crossing to Cox Street; it may also divert some traffic from Fairydale Lane (~1000-1500vpd). A similar situation would occur if Court Street was reopened to traffic.

Whilst traffic conditions including intersections along Douro Street in proximity of the High School would improve, residents along Cox Street and Court Street may not favour the increase of traffic along their street. The reopening of either Cox Street or Court Street at the railway crossing is not considered necessary from a traffic point of view. However, as this matter has been raised in the past, Council may wish to further explore as development takes place in west and south-west Mudgee, the need to provide an additional railway crossing by reopening Cox Street. Council received a number of submissions supporting the opening of Cox Street during the public exhibition period of the document. Council should pursue this avenue in order to provide another access to south Mudgee.

It is also recommended that in the event the railway line is used in the future, "flashing lights and bells" be provided at that crossing together with boom gates. Boom gates should also be considered at the Sydney Road and Douro Street railway crossings.

S.6 Road Hierarchy & Truck Routes

S.6.1 Road Hierarchy

Council has adopted the Road Hierarchy recommended in the previous study (Gennaoui, 2008) for streets within Mudgee, illustrated in **Figure 9**. Based on the traffic analysis, the location of major traffic generators and a review of the inter-connections of roads, a slightly amended Road Hierarchy is proposed as illustrated in **Figure 10**.

The standard of construction of each street within the road network depends on its function, likely traffic volumes, abutting land use and access to properties. Council's DCP stipulates for urban roads in new developments the construction standards included in the table below; these are considered appropriate for Mudgee.

Road Type	Road Reserve	Carriageway	Nature Strip	Footpath	Kerb Type
Minor Road- Cul-de-sac serves ≤10 dwellings	16m	8m	2x4m	No	Roll-over

Residential Road – serves 31-120 dwellings	18m	9m	2x4.5m	1x1.2m	Roll-over
Major Residential Road (collector road) - serves > 120 dwellings	20m	11m	2x4.5m	1x1.2m	Roll-over
Sub-arterial Road –Bus Route and/or cycle lane (on one side only)	22m	13m	2x4.5m	2.5m	Barrier
Commercial & Industrial subdivision roads	24m	13m	2x5.5m	1x1.2m	Barrier/ Roll over

S.6.2 Truck Routes

Trucks can currently travel along most streets in Mudgee. Trucks travelling non-stop through Mudgee mostly travel along the Castlereagh Highway. A Truck Routes Network, illustrated in **Figure 11**, is proposed include the following three road categories:

- B-double Route (All trucks)
- Designated Truck Route (All trucks, except B-Double)
- Low Tonnage Routes (Rigid Trucks Only) accessing Residential Areas
- Other Streets (Only for direct delivery & pick up of goods)

S.7 Traffic Management Plan

The Draft Final Traffic Management Plan illustrated in **Figure 12** incorporates the following measures in order of Priority.

S.7.1 Policy Matters

- Council adopts the road hierarchy illustrated in **Figure 10** together with the road standards included in **Table 5.1** for the Mudgee urban area including new subdivisions.
- Council promotes a ring road system around the CBD which includes Horatio Street, Douro Street, Short Street and Lewis Street.
- Council adopts the Truck Route Network, illustrated in **Figure 11** together the following:
 - Provision of suitable sign posting of each Truck Route
 - Implementation of an appropriate advertising program.
 - An assessment of the suitability of the pavement of each designated road to carry the anticipated volume of trucks and improved where necessary.
- Council to explore the need or the re-opening of the railway crossing at Cox Street.
- Police to enforce speed limit at all locations with excessive speeding problems and safety related issues.

S.7.2 Immediate Improvements (within two years)

Bus Related Matters

- Approach the High School to assist with the supervision of students using the crossing in Horatio Street.
- Relocation of the Give Way signs from Perry Street to Gladstone Street
 - Extend bus zone in Lewis Street at the Catholic School with the introduction of No Parking restrictions from 2.30 to 4.00pm, between the northern driveway to the school and Market Street.

Safety Matters

- Increase the deflection of vehicles entering the roundabout from all approaches at the intersection of Horatio Street with Church Street
- Provision of slowing devices in
 - Church Street north of Meares Street
 - Denison Street between Lewis Street and Church Street
 - Oporto Street at the Southside Shopping Centre
- Relocate the commencement of the 50 kmh speed limit along Ulan Road from its current position north of Pitts Lane to 100 m north of Henry Lawson Drive. This will need RMS assessment

Pedestrian Improvements

- Installation of pedestrian warning signage advising motorists to slow down at the intersection of Robertson Street with Lions Drive.
- Provision of a pedestrian refuge in Lions Drive, at Robertson Street and in Robertson Street north of Lions Drive.
- Investigate relocating the pedestrian crossing in Perry Street near the intersection of Denison Street further to the south in consultation with the schools.
- Request RMS consider warrants for a pedestrian crossing on Douro south of the railway line and before the intersection of Inglis Street

S.7.3 Short Term (within 5 years)

Cycleway

- Provision of a dedicated cycleway from Winter Street to the CBD via the High School incorporating the following works:
 - Improving the connection between the existing cycleway and Horatio Street to comply with minimum standards
 - The provision of suitable signposting along Horatio Street to Douro Street
 - Improving access from the closed section of Horatio Street to Douro Street
 - Provision of a safe pedestrian/cyclists crossing of Douro Street at Horatio Street to access the school
 - Provision of a two way cycleway and suitable signposting on the northern side of Horatio Street between Douro Street and Perry Street.
 - Provision of a cycleway and suitable signposting on both sides of Perry Street to Mortimer Street for northbound and southbound direction respectively.
- Provision by line marking of two traffic lanes and two cycle lanes along
 - Lions Drive between Sydney Road and Robertson Street
 - Madeira Road

Road Improvements and Traffic Measures

- Provision of traffic calming devices such as entry and mid-block thresholds along Madeira Road, between Douro Street and Henry Bayly Drive.
- Provision of a seagull arrangement (that is the right turning movements are protected from through traffic) at the following intersections:
 - Madeira Road with Robertson Street
 - Inglis Street with Douro Street
- During the public exhibition phase of this document a submission was received to consider kerb blisters at the intersection of Lewis and Mortimer Streets with a longer term view of a roundabout at this location. This suggestion is supported.

Pedestrian Improvements

- Provision of a Shared Zone in Perry Street between Horatio Street and Denison Street including the implementation of the following:
 - Speed limit of 10 kmh
 - Provision of entry thresholds in Perry Street at Horatio Street and Denison Street
 - Restrict traffic to one way northbound between Horatio and Denison Streets
 - Provide angle parking on eastern side of Perry Street
 - Retain bus zone on western side of Perry Street
- Provision of a Shared Zone in Church Street between Mortimer Street and Market Street including the implementation of the following:
 - Speed limit of 10 kmh
 - Provision of entry thresholds in Church Street at Mortimer Street and Market Street
 - Retain angle parking on both sides of Church Street

Caerleon Subdivision Requirements

- Sealing the pavement of Fairydale Lane between Gladstone Street and the new access to Bellevue Hill Estate, to provide two traffic lanes and two cycle lanes. Developers to pay a contribution towards the upgrade of Fairydale Lane to provide two sealed travel lanes (3.25m each), two sealed shoulders (0.5m each) and two unsealed shoulder (1m each).
- Developer to design and construct the intersection of Hill End Road with the new Spine Road in accordance with clause 34 of the Notice of Determination for the subdivision dated 9 August 2013
- Developer to design and construct the intersection of Hill End Road with the Castlereagh Highway in accordance with clause 35 of the Notice of Determination for the subdivision dated 9 August 2013.

S.7.4 Medium Term (5 to 10 years)

The following improvements, also noted in **Figure 12**, are recommended for implementation in the medium term.

Road Improvement

- Realignment of the intersections of Bell Street and Putta Bucca Road at Castlereagh Highway together with the provision of a roundabout.

Traffic Measures

- Provision of a roundabout with pedestrian refuges at the following intersections:
 - Sydney Road with Burrundulla Road and Lions Drive
 - Douro Street with Denison Street
 - Douro Street with Horatio Street
 - Horatio Street with Lewis Street
 - Industrial Avenue and Sydney
- Road Provision of a seagull arrangement at the following intersections:
 - Gladstone Street with Denison Street
 - Fairydale Lane with Gladstone Street
- Provision of slowing devices at the following locations:
 - Gladstone Street between Fairydale Lane and Cox Street
 - Fairydale Lane Banjo Patterson Avenue
 - Construct safety improvements at the Church Street and Spring Road intersection in consultation with the resident.

S.7.5 Long Term (over 10 years)

The following improvements are recommended for implementation in the long term if a coal mine proceeds and coal freight trains travel through Mudgee:

- Provision of boom gates with “flashing lights and bells” at the Fairydale Lane crossing.
- Provision of boom gates at the Sydney Road railway crossing
- Provision of boom gates at the Douro Street railway crossing.

A roundabout is also recommended at the intersection of Mortimer and Lewis Streets following a submission that was received during public exhibition of this document.

S.8 Funding Recommended Improvements

The source of funding for the recommended improvements could be categorised as follows:

- Through a section 94 contribution plan for improvements required as a direct result of future developments.
- Through specific funding agreements such as the Caerleon Estate
- Funding from other sources (eg coal mines)
- By Council and RMS for projects which are currently required and not directly attributed to future releases such as safety related matters.

The total cost of all improvements in **Table 7.1**, which could be included in a Section 94 contribution plan has been preliminary estimated by Council at \$7,070,000

1. Introduction

1.1 Background

Mudgee is located within the Mid-Western Regional Council Local Government Area (LGA) and the Central West of NSW. Strong growth has occurred in recent years in the LGA but more particularly in the township of Mudgee. In 2011, the LGA has a total population of 23,000, an increase from 22,220 recorded in 2001, and is predicted to reach 26,100 by 2031 (DOPI, 2013). This growth is being assisted by a number of major developments within the LGA. Council requires a better understanding of the transport infrastructure requirements in Mudgee during these times of growth to enable appropriate planning for the future.

Similarly, in 2011 the population of Mudgee Township was 9,830, an increase of about 20 percent since 2006 when a population of about 8,250 prevailed. A projected increase to 11,470 persons is anticipated by 2031.

A Traffic study management study for the Mudgee Township was completed in 2008 (Gennaoui, 2008), The study enabled Council and the community to acquire a better understanding of the needs of the town's traffic and transport infrastructure during these times of growth. Council adopted all the recommendations of the 2008 study.

The purpose of this project is to review and update the Mudgee Traffic Management Study 2008 with the most current data and information. The focus of the review is to update the study report for the current and projected future needs of the transport infrastructure within the Mudgee Township. This report will be used by Council to prioritise infrastructure upgrade works and determine projects that need to be funded from Councils current budgets or a Section 94 Contributions Plan.

Council has commissioned Gennaoui Consulting Pty Ltd to undertake this review and prepare a report detailing the current and projected future needs of the traffic and transport infrastructure within the Mudgee Township.

All figures referred to in the report have been placed at the end of this document.

1.2 Study Area

For the purpose of the study, the evaluation and analysis covers the whole urban area of Mudgee defined in **Figure 1**. The boundaries of the Study Area, where and if required, were widened to consider the implications of conditions or situations outside the defined study area.

1.3 Objectives of Study

The objective of this study is the preparation of an effective Traffic Management Plan for the urban area of Mudgee. This objective was achieved through:

- Establishing current and predicted traffic flows
- Determination of current traffic and transport infrastructure and treatment measures required resulting from present day traffic volumes
- Determination of future traffic and transport infrastructure and treatment measures required resulting from predicted traffic volumes
- Determination of both current and future needs in regard to rail crossing points.

The primary aim of this study is also to inform the Section 94 developer contributions plan. To achieve this, the study has:

- Compared current levels of service with future levels of service in accordance with projected growth,
- Identified road infrastructure upgrades that promote efficient traffic movement around Mudgee bearing mind in new developments and end destinations,
- Prioritised upgrades so that implementation is timely with growth and levels of service remain satisfactory.

1.4 Appreciation of the Issues

The brief required the review and update of the previous report (Gennaoui, 2008) and the preparation of a report detailing the current and projected future needs of the traffic and transport infrastructure within the Mudgee Township. During the development of the plan, consideration was given to the following:

- Review and update the adopted road hierarchy for Mudgee allowing for growth into newly developed areas.
- Assessment of the intersection capacities (LOS) and identification of necessary upgrades of major intersections.
- Conduct a heavy route assessment.
- Investigate the provision of a dedicated cycle lane within the traffic lanes that looks to link the existing footpath from Winter Street and the CBD via the High School,
- Investigation of present linkages between Bellevue Hill Estate and the Caerleon Subdivision with the CBD and identify and prioritise works that will promote efficient traffic flow between these precincts.
- Identification of areas needing traffic calming, bearing in mind destinations and re-alignment of Fairydale Lane and the impact of pushing traffic onto alternate routes as a result of the traffic calming devices.
- Investigation of potential opening railway crossings to traffic, particularly at Cox Street.

- Investigate the provision of roundabouts at the following intersections:
 - Sydney Road with Lions Drive and Burrundulla Road
 - Castlereagh Highway / Market Street with Putta Bucca Road and Bell Street.
 - Horatio Street with Douro Street.
- Investigation of the following traffic management matters:
 - possible treatment to the intersection of Ulan Road and Henry Lawson Drive
 - opening of Lovejoy Street to Douro Street
 - change of the traffic priority along Gladstone Street, at Perry Street, particularly in relation to traffic coming from the school
 - problem areas in Church Street (outside Aldi & Mitre10) and at the South Mudgee Surgery Medical Centre in Oporto Road.
 - implications and possible solutions to the closure of Perry Street between Horatio Street and Denison Street
 - problems at the intersections of Inglis Street with Douro Street, of Church Street with Denison Street, and of Gladstone Street with Denison Street.

It has also been appreciated that it was necessary to bear in mind the proposed railway crossing between Caerleon and Saleyards Lane subdivisions. We have also assessed if the proposed re-alignment of Fairydale Lane in conjunction with a potential roundabout at the intersection of the Castlereagh Highway with Putta Bucca Road, Market Street and Bell Street is the most appropriate solution for moving traffic from these precincts to the CBD. It was further necessary to consider the implications and possible solutions for improved traffic flow on Market Street.

It was also understood that traffic lights should generally be avoided as a solution and only considered as an absolute last option.

This report provides Council with the basis to determine a priority for infrastructure upgrade works and determine projects that need to be funded from Council's current budgets or a Section 94 Contributions Plan.

1.5 Study Approach

The main objective of the study is to provide a means of managing traffic within the Mudgee Township, to formulate the basis for a section 94 plan, including a detailed works schedule, and a desired timetable of works, to fund the provision of works. The Traffic Management Plan for the Mudgee Township was produced in the context of the following seven (7) phases:

- Assessment and review of all available technical data and planning information; relevant Council policies and strategies and existing planning controls. During this phase, a number of key stakeholders will be consulted.
- Establish potential growth in the area and forecast population levels.
- Establish existing traffic conditions within the Study area (intersection counts would be carried out where necessary);

- Based on the likely traffic generation and distribution of potential floor space in CBD and residential dwellings, future traffic conditions within the Township will be established; an evaluation of the level of service and adequacy of the existing road system will be carried out.
- Development of a Traffic Management Scheme to cater for increased traffic and a Strategy Plan for its implementation.
- Formulate the basis for the funding of all recommended improvements including section 94 Contribution.
- The preparation of a Draft and final reports which will document the surveys, findings, strategies and action plans.

These phases and associated tasks included a four-stage process of:

- Consultation with key stakeholders
- Data collection, collation and review and analysis;
- Derivation of a range of options; and
- Formulation of preferred strategy and action plan.

1.6 Collection and Review of Available Information

The following information was collected from Council, reviewed and taken into account during the course of the study:

- Latest mid-block traffic counts obtained from electronic counters including detail of time of day, class and speed of vehicle.
- Traffic Management Study – Mudgee Final Report” (J388 17/03/08 revH),
- Map of Mudgee showing Highway and Regional Road routes and existing intersection treatments in digital format (AutoCAD/MapInfo)
- Recent aerial photography of Mudgee in digital format
- Draft Draft Mudgee Town Structure Plan November 2013,
- Mudgee CBD Car Parking Study 2005,
- Roads Asset Management Plan 2013,
- Crash data within the study area.
- Existing issues raised by the community over the last 12 months.
- Existing treatment and proposed works design plans (if available)
- Development Control Plans indicating road networks for future subdivisions
- Location of bus routes;
- Mudgee adopted Road Hierarchy Plan
- 2011 Dwellings, population and car ownership statistics
- Draft Caerleon Development Control Plan Prepared by Elton Consulting (2012).
- Traffic Impact assessment. Caerleon Rezoning Mudgee prepared by Traffix (2012).

1.7 Improvements since 2008 Study

The following improvements recommended in the previous study (Gennaoui, 2008) have been implemented:

1.7.1 Policy Matters

- Council adopted the road hierarchy illustrated in **Figure 9**.

1.7.2 Safety Matters

- Inclusion of the intersection of Perry Street with Gladstone Street as part of the School Zone in Perry Street.
- Provision of permanent 40 km/h flashing lights during school hours in Douro Street, in Horatio Street, in Perry Street and in Lewis Street.

1.7.3 Traffic Control

- Provision of Give Way signs in Lewis Street, south of Short Street, together with the removal of the Stop Sign in Short Street, east of Lewis Street.
- Provision of traffic calming devices such as mid-block thresholds along Robertson Street, between Lions Drive and Madeira Road.
- Provision of roundabouts at the following intersections
 - Market Street with Douro Street.
 - Perry Street with Byron Place and Lovejoy
 - Ulan Road with Pitts Lane and Lue Road. Pitt Lane and Lue Road have been realigned to form a four way intersection.

1.7.4 Pedestrian Improvements

- Upgrade roundabout at the intersection of Horatio Street with Church Street including the provision of safe pedestrian refuges on all approaches.
- Provision of pedestrian refuges along all approaches at the intersection of Perry Street with Gladstone Street.
- Provision of a pedestrian refuge in Church Street between Horatio Street and Inglis Street.

1.7.5 Public Transport Improvements

- Relocation of the Taxi rank (north side) in Mortimer Street to follow on from the bus stop opposite the Soldiers Club. The existing taxi rank should be designated for angle parking.
- Changes to bus stops and "lay-over" in Madeira Road and Atkinson Street.
- School buses should be re-routed to avoid Church Street and the CBD where possible.

1.8 Scope of Report and Study Output

The main output of the study is a Traffic Management Plan for the Township of Mudgee to achieve the agreed objectives by combining our appreciation of the issues raised by residents and factors relating to traffic and safety conditions within the township.

Section 2 summarises the public consultation phase of the study. Section 3 describes the present traffic conditions in Mudgee. Section 4 addresses the impact of future growth on the road network; the basis for a contribution plan is also included in this section. A number of specific safety and traffic related matters are addressed in section 5.

The adopted Road Hierarchy of the Mudgee Township is reviewed in Section 6. This section also identifies a Truck Route network for Mudgee.

Measures to address the issues and problems identified during the course of the study are presented in Section 7 together with a strategy for the implementation of the recommended improvements and funding mechanism.

2. Consultation

2.1 Identification of Issues

2.1.1 Consultation with Council Officers

A meeting was held at the commencement of the study with Council's officers to confirm milestones, reporting arrangements and finalise the scope of works and timetable for completion of the study. Available Council information was collected and relevant background information noted.

Safety problems experienced by pedestrians crossing Church Street between Meares Street and the railway overbridge were also raised for consideration in the study.

2.1.2 Consultation with Key Stakeholders

The importance of providing key stakeholders the opportunity to raise issues in relation to the Study Area and what changes they would like to see to improve the amenity of the area was recognised. A combined meeting with the following key stakeholders was held on 11 February 2014 to identify issues and problems areas:

- Police Service
- Roads & Maritime Service
- Mudgee Chamber of Commerce
- Mudgee Taxis
- Independent Bus Operators
- School Bus Operator
- Community Transport
- Mid-Western Regional Council

The issues identified in Section 1.4 were confirmed by all stakeholders in attendance. The following matters were also raised by stakeholders:

- Do not support the introduction of 40 km/h speed limit in some sections of the CBD.
- Do not support the introduction of a 60 kmh speed limit along the highway as recommended in the 2008 report.
- Consideration of promoting a ring road around the CBD for through traffic.
- Walkway and cycleway should be incorporated in all new subdivision
- Chamber of commerce would not support the opening of Lovejoy Street to Douro Street
- Investigate possible roundabout at the intersection of Church Street with Meares Street
- Safety problems experienced by pedestrians crossing Church Street between Meares Street and the railway overbridge. Consideration for more parking in Church Street near the medical centre.
- Bus parking in Mortimer Street and Lewis Street in the vicinity of Catholic School not adequate.

2.1.3 Responses to Newspaper Notice

Resident participation in such studies can progress hand in hand with the technical overview if the structures for communication exist. The ideal situation, which appears to apply to Mudgee, is one where residents have expressed a concern about traffic conditions in their area. In the first instance, a notice advising the public of the study was placed in Local Newspapers seeking submissions. Only two (2) submissions were received raising the following matters:

- Concern about a steady increase in both heavy and speeding traffic in Denison Street between Lewis and Church Street over the past couple of years but more substantially over the past 3 to 6 months.
- Create a more pedestrian friendly environment for locals and visitors by closing Church St midway between Market Street and Mortimer Street to through traffic.
 - Closure of Perry Street north of Market Street to improve traffic flow at the roundabout.

These matters have been considered and addressed in the body of the report.

2.2 Comments Regarding Draft Plan

The draft Traffic Management Plan was presented at the meeting of key stakeholders held on 10 June 2014. The meeting was attended by representatives of the following organisations:

- Police Service
- Roads & Maritime Service
- Mudgee Chamber of Commerce
- Ogden Coaches
- Mid-Western Regional Council

At that meeting all recommendations included in Section 7 were accepted with the exception of the designation of Putta Bucca Road as a B-double route. It was agreed to retain the existing route along Market Street, Short Street and Ulan Road for such vehicles.

3. Existing Traffic Conditions

3.1 Existing Street System

3.1.1 Major Road Network

The Castlereagh Highway (B55) passes through the Mid-Western Regional Council. It provides the major link between Lithgow and Gilgandra via Gulgong. Through Mudgee it follows the route along Sydney Road, Horatio Street, Douro Street and Market Street. Ulan Road approaches Mudgee from the north via Church Street.

3.1.2 Road Inventory

An inventory of all streets within the Township of Mudgee, including traffic control and circulation, was carried out in conjunction with the previous study (Gennaoui, 2008). Since then, Banjo Patterson Avenue was completed between Bellevue Road and Fairydale Lane. Furthermore, Lue Road and Pitt Lane have been realigned to form a four way intersection with Ulan Road.

The number of effective traffic lanes for streets within the Mudgee Study Area is illustrated in **Figure 2**.

The majority of streets within the urban area have predominantly very wide carriageways consisting of angle parking and two (2) lanes for traffic.

3.1.3 Traffic Controls

Roundabouts control the following intersections:

- Church Street with Horatio Street
- Church Street with Gladstone Street
- Church Street with Mortimer Street
- Church Street with Market Street
- Church Street with Short Street
- Church Street with Madeira Road
- Perry Street with Mortimer Street
- Perry Street with Market Street
- Douro Street with Market Street (installed in early 2010)
- Perry Street with Lovejoy Street (installed in 2009)
- Ulan Road with Pitt Lane and Lue Road (installed in early 2012)

The majority of the remaining intersections within Mudgee are controlled by Give Way signs or subject to the T-junction rule; a small number of intersections are controlled by Stop signs. There are no traffic signals within Mudgee.

Pedestrian crossings are largely located within the town centre and near schools. No consistent bicycle facilities are currently provided in Mudgee.

In order to reduce speed, slowing devices have been provided along Robertson Street and Inglis Street.

Pedestrian crossings in Gladstone Street west of Perry Street and in Perry Street south of Gladstone have been removed and replaced by pedestrian refuges; furthermore pedestrian refuges have been provided at the other two approached to this intersection.

All traffic controls within the Mudgee Township are noted in **Figure 3**.

3.2 Bus Services in Mudgee

Ogden's Coaches provides the only town bus services in Mudgee which operate along four primary routes in the Mudgee urban area. These routes, illustrated in **Figure 4**, are as follows:

- Mudgee East Loop (route 560 – 4 per day) - leaving the CBD circuit eastbound via Mortimer Street to service the eastern area via Cedar Avenue and Mulgoa Way;
- Mudgee West Loop (route 561 - 4 per day) - leaving the CBD via Market Street to service the Mudgee western area north of the railway line;
- Mudgee South Loop (route 562 - 4 per day) - leaving the CBD via Church Street to service the Mudgee area south of the railway line; and
- Mudgee North Loop (route 563 - 3 per day) - leaving the CBD to the north via Ulan Road to service the TAFE college and the Putta Bucca Road area.

School buses are also provided by Ogden's coaches and other operators.

The main route taken by the vast majority of the school buses in the afternoon start at Cudgegong Valley Public School on Madeira Road, then travel to the Mudgee High School on Perry Street before continuing to the Mudgee Public School also on Perry Street. Buses then proceed to Lewis Street where the Catholic School is located. Once they have picked up the children, some buses go straight ahead while others turn at Market Street both left and right and then disperse out of town. A number of issues identified by the school bus operators are discussed in Section 5.1.

3.3 Crash Analysis

3.3.1 Crash Statistics

Council provided crash statistics for the period 1 January 2008 to 31 December 2012. Analysis of these crash records have given the distribution of all crashes related to intersections as well as mid-block (between intersections) along all streets within the Study Area. The location, frequency and consequence of crashes are shown in **Figure 5**. Detailed information for intersection and mid-block crashes are included in **Appendix A**.

A total of 183 recorded crashes occurred in Mudgee during the five (5) year period ending December 2012; these crashes resulted in 101 injuries and one (1) fatality. A summary of the number of yearly crashes at intersections and at mid-block is included in **Table 3.1** and detailed in Tables A1 and A2 of **Appendix A** respectively.

Table 3.1: Yearly Frequency of Crashes

	2008 to 2012						2002 to 2006				
	2008	2009	2010	2011	2012	Total	I	F	Total	I	F
Crashes at intersections	21	21	26	17	23	108	63	0	72	45	1
Crashes at mid-block	9	16	13	19	18	75	38	1	48	32	
Total	30	37	39	36	41	183	101	1	120	77	1

I Injuries F Fatality

The number of crashes has considerably increased by about 53 percent when compared to the 2002-2006 period; however the number of injuries and fatalities experienced a lower increase of 31 percent.

The type of crashes at intersections and at mid-block is detailed in Tables A3 and A4 of **Appendix A** and summarised in **Table 3.2**.

Table 3.2: Type of Crashes 2008-2012

Crashes at	Cross Traffic Right angle		Rear End		Head On		Out of Control		Pedestrians		Others		Total	
	A	I	A	I	A	I	A	I	A	I	A	I	A	I
intersections	53	37	12	10	6	3	30	10	1	1	6	2	108	63
mid-block			22	14	4	2	24	14	5	1	20	8	75	39
Total	53	37	34	24	10	5	54	24	6	2	26	10	183	102
	29%	36%	19%	24%	5%	5%	30%	24%	3%	2%	14%	9%	100%	100%

Includes 1 fatality

The most common type of crashes involved single vehicles out of control colliding with fixed object or parked cars, accounting for about 30 percent of total crashes and resulting in 23 injured persons and one fatality (about 24% of all injuries).

3.3.2 Crashes at Intersections

A total of 108 crashes occurred at 53 intersections within the Mudgee study area, during the period from January 2008 to December 2012 (noted in **Figure 5**). As a result of these crashes there were 63 injuries and no fatality. The frequencies and type of crashes at each intersection are summarised in **Table A3 of Appendix A**.

The most common type of intersection crashes involved vehicles crossing an intersection from the intersecting streets (right angle or similar crashes) which accounted for about 49 percent of total intersection crashes and resulted in 37 injured persons (about 59% of all injuries).

The next most common type of intersection crashes involved single vehicle out of control colliding with fixed object or parked cars, accounting for about 28 percent of

total intersection crashes and resulting in ten injured persons (about 16% of all injuries). Only one intersection crash involved an injured pedestrian.

The intersection of Horatio Street with Church Street which is controlled by a roundabout experienced the highest number of intersection crashes (6) resulting in four (4) injured persons. Most crashes at the former intersection which is controlled by a roundabout were between vehicles entering the roundabout and those already in the roundabout. Serious consideration should be given to increase the deflection of vehicles entering the roundabout to ensure they either slow down or even stop before entering the roundabout.

The intersection of Horatio Street with Douro Street which is subject to the T junction rule and include a seagull arrangement experienced the second highest number of intersection crashes (5) resulting in five (5) injured persons. The next highest number of crashes occurred at the following intersections:

- Douro Street with Mortimer Street (4 crashes, 4 injuries)
- Mortimer Street with Perry Street (4 crashes, 3 injuries)
- Castlereagh Highway with Bell St and Putta Bucca Rd (4 crashes, 2 injuries)
- Sydney Road with Lions Drive & Burrandella Rd (4 crashes, 2 injuries)
- Horatio Street with Perry Street (4 crashes, 2 injuries)
- Douro Street with Gladstone Street (4 crashes, 1 injury)
- Douro Street with Denison Street (3 crashes, 1 injury)
- Horatio Street with Lewis Street (3 crashes, no injury)
- Church Street with Gladstone Street (3 crashes, 3 injuries)
- Lions Road with Robinson Street (3 crashes, 1 injury)
- Ulan Road with Lue Road (3 crashes, 4 injuries)

Two (2) crashes occurred at each of 15 other intersections; the remaining 26 intersections were subject to one crash each during the five year period.

About 49 percent of all intersection crashes occurred along the roads forming part of the Castlereagh Highway through Mudgee.

The installation of a roundabout at the intersection of Market Street with Douro Street since the last study has considerably reduced the number of crashes from nine (9) in the 2002-2006 period to two (2) crashes in the 2008-2012 period.

The realignment of Pitt Lane and Lue Road to form one intersection with Ulan Road and the installation of a roundabout in 2012 would undoubtedly improve safety of this location.

3.3.3 Crashes at Mid-Block

Some 75 mid-block crashes occurred along 24 streets within Mudgee, during the five year period between January 2008 and December 2012. Thirty eight (38) injuries resulted from these crashes; one fatality was recorded at mid-block. The frequencies and type of mid-block crashes along the different roads are summarised in Table A4 of **Appendix A** and noted in **Figure 5**. About 27 percent of all mid-block crashes occurred along the roads forming part of the Castlereagh Highway through Mudgee.

Off road collisions with fixed object or parked cars accounted for about 32 percent of all mid-block crashes and about 34 percent of all injuries. Rear end and similar

crashes accounted for about 30 percent of all crashes and resulted in about 37 percent of injuries. Pedestrians were involved in about nine (9) percent (5) of all mid-block crashes, resulting in 13 percent of all injuries. Vehicles emerging from driveways also accounted for 13 percent (10 crashes) resulting in about five (5) of all injuries.

3.4 Existing Traffic Patterns

3.4.1 Daily Traffic Volumes

Annual average daily traffic (AADT) volumes, for the urban area of Mudgee were obtained from the RMS published and other for the period between 1996 and 2002 (RTA, 2002). This information, supplemented by more recent counts supplied by RMS, is summarised in **Table 3.3**.

Table 3.3: AADT Volumes

Location	AADT		AWDT ⁽²⁾		
	2002 ⁽¹⁾	2005	2009	2010	2011
Douro St, north of Denison St	5,926	6,479			
Horatio Street, east of Church St			6,959		
Horatio Street, west of Church St	4,567	5,076			
Market Street, west of Douro Street	7,165	7,600	6,995		
Sydney Road, south of rail crossing	4,358	5,097	4395	5876	6577
Castlereagh Hwy, south of Burrundulla Rd	2,342	2,371			

* These figures are equivalent passenger vehicles; actual vehicle numbers would be lower

Notes: (1) RTA (2002)

(2) RMS Average Weekly Daily Traffic

Traffic volumes along Sydney Road south of the railway crossing have continuously increased between 2002 and 2011. It is reasonable to assume that traffic volumes along Market Street, Douro Street and Horatio Street would have also increased over the same period.

3.4.2 Carriageway Volume Counts

Previous Counts

The carriageway traffic counts at 40 locations carried out between May 2006 and May 2007 (Gennaoui, 2008) are included as **Appendix B**. Locations where volumes exceeded 3,000 per day in the 2008 study are summarised in **Table 3.4**. To the east of Church Street, Horatio Street carried over 8,500 vpd.

Table 3.4: Traffic Counts in 2008 Study*

Street Heavy	Location		Average Weekly Daily Traffic		
			Weekday	Weekend	Weekly
Church Street	Market St	& Short St	4,685	4,818	4,723
Church Street	Mealy St	& Denison St	10,059	8,078	9,493
Church Street	Mears St	& Railway X	7,818	6,628	7,478
Douro Street	Gladstone	Mortimer	7,063	5,747	6,687
Douro Street	at Railway X		5,266	4,251	4,976
Horatio Street	Lochel Ln	& George St	8,535	5,123	7,560
Horatio Street	Perry St	& Douro St	4,177	3,012	3,844
Lewis Street	Gladstone St	& Mortimer St	3,627	2,231	3,228
Market St	Douro St	& Court St	6,875	5,594	6,509
Market St	Third St	& Bell St	4,917	4,014	4,659
Oporto Road	Madeira Rd	& Norman Rd	3,029	2,427	2,857
Perry Street0	south of Market		4,837	3,007	4,314
Sydney Road	at Railway Crossing		8,536	4,119	7,274

* source: Gennaoui, 2008

The highest volumes of traffic within Mudgee in 2008 was along Church Street between Horatio Street and Denison Street with over 10,000 vpd on weekdays, reducing to about 8,900 vpd south of the railway crossing.

Existing Traffic Counts

These counts were supplemented by weekly carriageway counts at 23 locations within Mudgee, carried out by Mid-Western Regional Council, between June 2011 and February 2014. The average weekday daily traffic volumes at these locations is noted in **Figure 6** and included in **Table 3.5**.

Table 3.5: Daily Traffic Volumes (vehicles) 2014 Study

Location	2014 Study			2008 Study		
	AWDT	%HV	85 th Speed	AWDT	%HV	85 th speed
Atkinson St N of Meares st	655	5.7%	47.5			
Atkinson St S of Meares st	385	5.1%	51.8			
Banjo Patterson S of Palmer	634	10.1%	57.6			
Byron Place E of Perry	3986	1.7%	25.9			
Church St N of Meares St	8911	2.1%	53.3	7818	1.4%	55.1
Denison St W of Perry St	1111	7.6%	34.6			
Gladstone St E of Court St	2947	3.1%	55.8			
Henry Bayly Dr N of Menah	241	6.2%	54.0			
Lovejoy St W of Perry St	253	1.2%	24.1			
Madeira Rd W of Gilham Ln	1548	5.1%	56.2			
Maderia Rd @ school	2949	4.2%	53.3	2763	2.1%	46.1
Market St W of Perry	3117	3.3%	33.1			
Market St E of Perry	5561	2.9%	36.4			
Mortimer St W of Perry	581	2.9%	27.7			
Oporto Rd N of Spring Rd	1227	5.5%	52.6			
Oporto Rd N Havilah	2094	5.0%	54.7			
Perry St N of Market	2606	11.0%	23.0	1514	4.8%	24.5
Perry St N of Mortimer	5449	7.2%	40.0			
Perry St S of Market	5617	4.1%	37.8	4837	2.7%	41.0
Perry St N of Horatio St	2174	4.6%	39.3			
Putta Bucca Rd E of Chestnut	1013	11.0%	79.6			
Robertson St, N of Abernethy	2765	3.7%	53.6	1911	6.6%	63

* 85thtile represent the speed exceeded by 15 percent of vehicles

Results of counts previously carried out at similar location as those in **Table 3.4** have also been included. Traffic volumes appear to have increased by about 2 and 3 percent per annum since the previous counts.

3.4.3 Classification Counts

The type of vehicles was also recorded at all current locations. The proportion of heavy vehicles is also noted in **Figure 6**. Locations which carried over 100 medium and large size trucks on weekdays are summarised in **Table 3.6**.

Table 3.6: Daily Traffic Volumes and Proportion Heavy Vehicles (weekday)

Street	2014 Study			2008 Study		
	Total	HV	%	Total	HV	%
Church St 100m north of Meares S	8911	187	2.1%	7818	4	1.4%
Maderia Rd @ school	2949	192	4.2%	2763	53	2.1%
Market St 20m west of Perry	3117	272	3.3%			
Market St 50 east of Perry	5561	109	2.9%			
Oporto Road 15m N Havilah	2094	105	5.0%			
Perry 10m north of Market	2606	287	11.0%			
Perry 50m N of Mortimer	5449	392	7.2%			
Perry 50m south of Market	5617	230	4.1%	4837	131	2.7%
Perry Street, north of Horatio St	2174	100	4.6%			
Putta Bucca Rd 30m E of Chestnut Cl	1013	111	11.0%			
Robertson St, N of Abernethy	2765	102	3.7%	1911	124	6.6%

The results of the previous counts are included in **Appendix B**.

The highest daily number of trucks recorded at the surveyed sites travelled along Perry Street (~400 trucks) near the CBD.

The Castlereagh Highway continues to carry the highest number of trucks in Mudgee with over 750 and 400 trucks previously recorded along Horatio Street and Market Street respectively.

3.4.4 Vehicle Speeds

A 50 km/h speed limit was introduced in July 2002 on all streets within the Mudgee Township including the Castlereagh Highway. Vehicle speeds were also recorded in conjunction with the classification counts. The 85th percentile speed for the latest counts are included in **Table 3.5** and noted in **Figure 6**. The 85th percentile recorded speed exceeded the speed limit at 11 locations. These locations are further away from the CBD in residential areas; closer to the CBD speeds are generally below the speed limit.

As recommended in the previous study (Gennaoui, 2008), speed reducing devices have been provided in Robertson Street where over 80 percent of vehicles exceeded the speed limit. Since then, the 85th percentile speed has reduced from 63 to 54 km/hr.

In the 2008 study it was found that, Madeira Road, west of Douro Street was the subject of excessive speeds; over 60 percent of vehicles exceeded the speed limit, about a quarter of which exceeded 60 km/h. Current observation indicates that the situation has not improved along this road which provides access to a school. Consideration should still be given for the placement of traffic calming devices along Madeira Road, between Douro Street and Henry Bayly Drive.

3.4.5 Intersection Counts

In order to gauge the traffic conditions within the study area, traffic movements were counted at 25 intersections within Mudgee. The surveys were carried out during the afternoon peak period between 4.00 pm and 6.00 pm on 21 March 2014. The weekday volumes at these intersections peaked at different time as follows:

- 4.00 to 5.00 pm 18 intersections
- 4.15 to 5.15 pm 3 intersections
- 4.30 to 5.30 pm 2 intersections
- 4.45 to 5.45pm 1 intersection
- 5.00 to 6.00 pm 1 intersection

The peak hourly volumes recorded at each intersection are shown in **Figure 7**. The majority of intersections peaked between 4.00 and 5.00pm.

Counts were also undertaken, between 2.00 and 4.00 pm, at six (6) of these intersections in the vicinity of the High School, the Cudgegong Valley Public School and St Matthew Catholic School. Peak conditions near the schools occurred between 3.00 and 4.00pm. In effect these volumes were higher than those recorded between 4.00 and 6.00pm as noted in **Figure 7**.

3.5 Evaluation of Existing Traffic Operation

3.5.1 Carriageway Level of Service

An evaluation of the capacity of most streets in Mudgee was carried out to identify current and potential deficiencies in the road system so that appropriate steps could be taken to remedy such situations.

The capacity of roads was based on an assessment of their operating level of service. The concept of level of service, together with the recommended traffic flows at different levels of service, is described in **Appendix C**.

One-way peak hourly volumes along the different streets were obtained from the intersection counts and supplemented from the daily counts. These vehicle counts were then converted in passenger car equivalent units (PCU) to take into account the proportion of heavy vehicles in the traffic stream; the PCU volumes including the corresponding levels of service are included in **Appendix D**. Locations with volumes in excess of 600 PCU/hr are included in **Table 3.7**.

In regional town such as Mudgee, it is reasonable to base the roadwork improvements on a requirement to achieve no worse than a level of service "C" (Stable flow with acceptable delays). The assessment of all streets within Mudgee has therefore been based on this premise; the improvements identified in the following sections should be considered as minimum requirements to achieve a Level of Service "C" or better.

Table 3.7: Existing Carriageway Levels of Service (Volumes PCU)

Street	Location		Lanes	N/E	S/W	Total	LoS
Church Street	Mortimer	& Market	4UP	437	435	872	A
Church Street	Gladstone	& Mortimer	4UP	515	525	1040	A
Church Street	Mealy St	& Denison St	4UP	486	542	1028	B
Church Street	Denison	& Gladstone	4UP	495	525	1020	A
Church Street	Horatio St	& Inglis St	4UP	411	518	929	A
Church Street	Meares St	& Railway X	2U*	340	462	802	A
Douro Street	Gladstone	& Mortimer	4UP	329	439	768	A
Douro Street	Denison	& Gladstone	4UP	354	443	797	A
Douro Street	at Railway X		2U*	282	415	697	A
Horatio Street	Church St	& Perry	4UP	335	332	667	A
Market Street	Douro St	& Perry	4UP	307	336	643	A
Market St	Douro St	& Court	4UP	312	368	680	A
Mortimer Street	Church	& Perry	4UP	308	326	634	A
<i>Sydney Road</i>	<i>at Railway Crossing</i>		2U*	572	517	1089	A
Sydney Road	Burrundulla	& Industrial	4UP*	329	402	731	A
Ulan	Short	& Pitt / Lue	2U*	423	410	833	A
Ulan	Pitt/ Lue	& Henry Lawson	2U*	330	366	696	A

Interrupted Flow *Uninterrupted flows*

4UP 2 traffic lanes & 2 parking lanes

2U 2 traffic lanes

The highest volume of traffic within Mudgee continues to be along Church Street between Horatio Street and Mortimer Street with over 1,000 pcu/hr on weekdays, reducing to over 800 pcu/hr north of Mortimer Street and south of the railway crossing. To the east Sydney Road carries over 1,000 pcu/hr.

For the purpose of analysis, all roads were analysed as urban roads with interrupted flow conditions except for Sydney Road, Ulan Road, Henry Lawson Drive, and the railway crossings which were analysed with uninterrupted flow conditions.

Church Street generally operates at a good level of service "B" or better. All other streets including the Castlereagh Highway operate at a very good Level of Service "A".

3.5.2 Operation of Intersections

The concepts of intersection capacity and level of service, as defined in the Guidelines published by the RTA (2002), are discussed in **Appendix E** together with criteria for their assessment. The assessment of the level of service of roundabouts and signed controlled intersections is based on the average delay (seconds/vehicle) of the critical movement.

The assessment of the level of service of traffic signals is based on the evaluation of the average delay (seconds/vehicle) of vehicles on all approaches.

The analysis of the operation of a number of low volume sign controlled intersections was carried out using the **INTANAL** computer modelling program (version 2004-001); this software, more suitable for low volume intersections allows comparisons between different forms of intersection control, and different forms of intersection configurations to be readily evaluated. INTANAL was used to assess all intersections in the previous study (Gennaoui, 2008).

The operation of most roundabouts and three of the busiest intersections in Mudgee were analysed using the **SIDRA** software which is more appropriate for busy intersections and roundabouts. Peak hourly turning movements at all intersections took into account the proportion of heavy vehicles in the traffic stream. The results of this analysis are summarised in **Table 3.8**.

Table 3.8: Existing Operation of Intersection in Mudgee

Intersections	Afternoon Peak		School Period	
	Ave Delay	LoS	Ave Delay	LoS
Roundabout Controlled				
Castlereagh Rd with Bell & Putta Bucca Rd *	12.0	A		
Church St with Short St *	12.1	A		
Church St with Market St *	13.0	A		
Church St with Mortimer St *	13.7	A		
Church St with Gladstone St *	11.8	A		
Church St with Horatio St *	13.7	A		
Church Street with Madeira Rd	8.7	A	8.7	A
Douro St with Market St *	12.4	A		
Perry St with Market St *	12.2	A		
Perry St with Lovejoy St *	11.0	A		
Ulan Rd with Pitt Ln and Lue Rd @	10.8	A		
Sign Controlled Intersections				
Bellevue Rd with Henry Bayly Dr @	7.0	A		
Castlereagh Rd with Bell Street @	8.2	A		
Castlereagh Rd with Putta Bucca Rd @	7.9	A		
Castlereagh Rd with Bell & Putta Bucca Rd *	10.5	A		
Castlereagh Road with Hill End Road #	16.4	B		
Church St with Denison St @	29.1	C		
Church St with Meares St @	19.6	B		
Douro St with Denison St @	20.3	B	21.6	B
Douro St with Gladstone St @	19.7	B		
Douro St with Horatio Street *	10.3	A	10.6	A
Douro St with Inglis St @	8.0	A		
Fairydale Ln with Gladstone St @	6.0	A		
Lewis St with Gladstone St @	12.1	A	13.5	A
Lewis St with Mortimer St @	10.4	A	11.6	A
Perry St with Gladstone St @	9.0	A	10.1	A
Sydney Rd with Industrial Rd @	11.0	A		
Sydney Rd with Lion St and Burrudulla Rd *	18.5	B		
Ulan Rd with Henry Lawson Dr @	8.2	A		

* Analysed with SIDRA Software @ Analysed with INTANAL software

Source: Trafix (2012)

All roundabouts within Mudgee currently operate at a very good level of service "A". The intersection of Church Street with Denison Street, controlled by Give way signs in Denison Street, operates at a level of service 'C' during the afternoon; the RTA guidelines (2002) suggests a requirement of a crash analysis. Only one crash was recorded at this intersection during the five years period ending December 2012. No further action is therefore considered at this stage.

The remaining signed controlled intersections currently operate at a good level of service 'B' or better.

4. Future Traffic Conditions in Mudgee

4.1 Future Growth in Mudgee

4.1.1 Future Residential Growth

The residential growth in Mudgee over the next ten to fifteen years will take place to the west and south-west and to a lesser extent south of the Township in the following areas illustrated on the next page (yields are approximate):

- 220 lots in North Mudgee
- Some 1,545 lots in the Caerleon, Bellevue Hill and Saleyards area
- 530 lots in South-West Mudgee
- 240 lots in South Mudgee.

These developments will effectively increase the 2011 number of dwellings by about 58 percent as shown in **Table 4.1**.

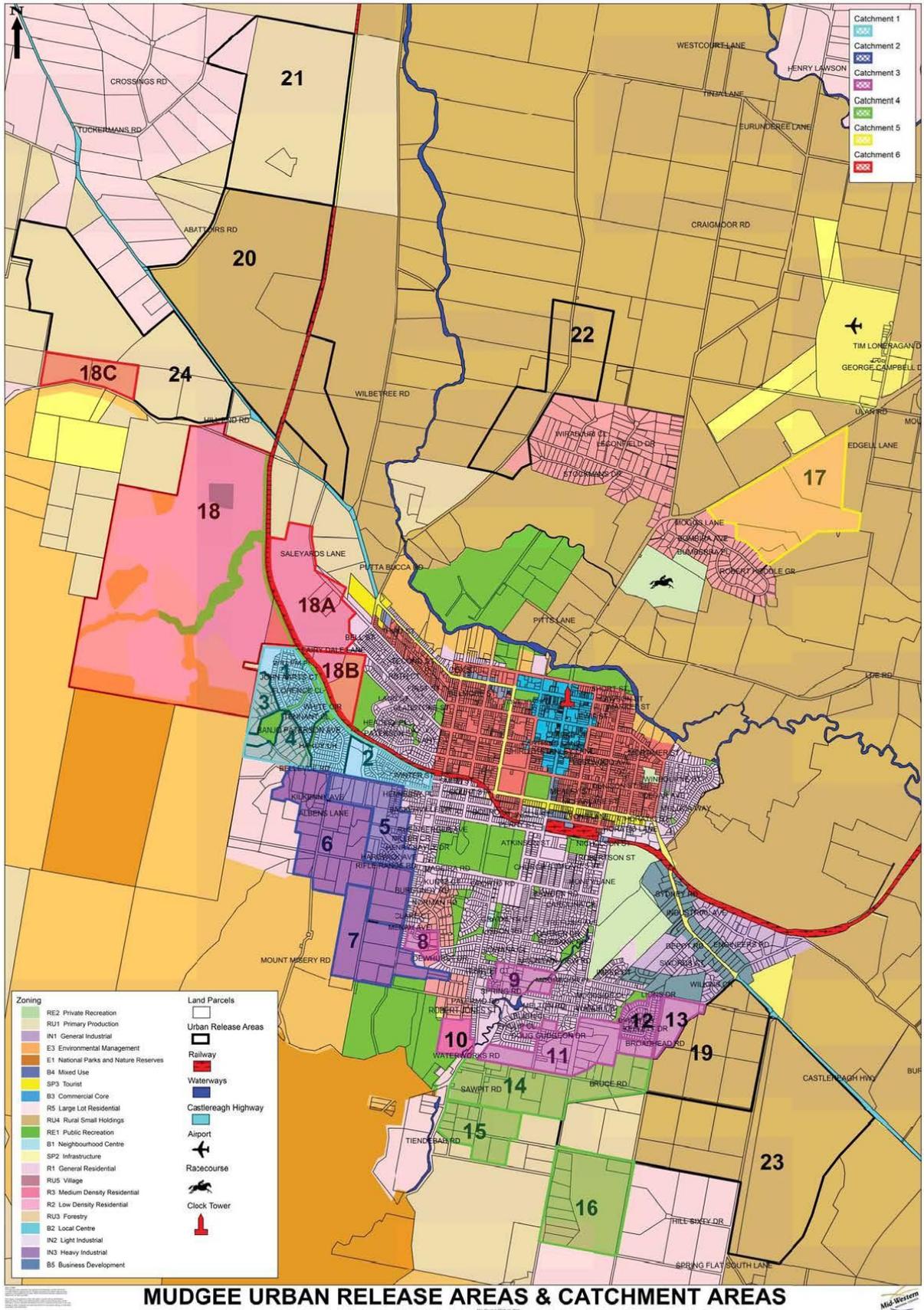
Table 4.1: Future Residential Releases in Mudgee up to 2032 *

Zones **	Location	By 2022		By 2032	
		Lots	%	Lots	%
West Mudgee					
1 to 4	Bellevue Hill	15	1%	15	1%
18	Caerleon	955	47%	1235	49%
18A	Saleyards	195	10%	195	8%
18	Fairydale Ln s of Railway X	50	2%	50	2%
18B	Fairydale Ln	50	2%	50	2%
	Sub-Total	1,265	62%	1,545	61%
6	South West Mudgee	300	15%	300	12%
9 to 10,	South West Mudgee	35	2%	35	1%
5 & 7 & 8	South West Mudgee	195	10%	195	8%
	Sub-Total	530	27%	530	21%
13	Yallambee	50	2%	50	2%
11 & 14 & 16	South Mudgee	50	2%	160	6%
19 & 23	Spring Flat/Burrundulla	10	1%	30	1%
	Sub-Total	110	5%	240	9%
17	North Mudgee	120	6%	220	9%
	Total	2,025	100%	2,535	100%
	Existing Lots (2011) *	4,346		4,346	
	Increase %	47%		58%	

* source: Draft Mudgee Town Structure Plan

** Ref Table 7 of Structure Plan

Thus some 2,535 lots are anticipated to be released and developed by 2032. It should be noted that about 80 percent of development is anticipated by 2022. However, these targets may not be achieved if some proposed mines in the region do not eventuate.



4.1.2 Future Industrial Growth

The Draft Mudgee Town Structure Plan (Mid-Western, 2013) assumes the release of some 20 hectares for industrial uses along Hill End Road to accommodate up to 50 lots by 2022. The industrial area designated as zone 18C is also shown on the map.

4.2 Trip Generation and Distribution

4.2.1 Trips Generation of New Residential Developments

The following trip generation rates for low density residential dwellings in regional areas, included in the RMS Technical Direction N°4A (RMS, 2013) were adopted to estimate the trips generated by the potential residential developments:

- An average of 7.4 vehicles per day per dwelling;
- An afternoon peak hourly rate of 0.78 trip per dwelling; the morning peak hourly rate is lower at 0.71 trip per dwelling.

Thus about 18,600 vehicle trips per day may be generated over the next 15 to 20 years by the potential residential areas in Mudgee. Correspondingly, about 2,000 trips per hour are anticipated during the afternoon peak hour as noted in **Table 4.2**.

Table 4.2: Trip Generation of Future Residential Releases (2032)

Location	Zone	Lots	Daily Trips	Afternoon Peak Hour Trips		
				Arrival	Departure	Total
West Mudgee						
Caerleon	18	1,235	9,077	626	337	963
Saleyards	18A	195	1,433	99	53	152
Fairydale Ln S of railway	18	50	368	25	14	39
Fairydale Ln, N of railway	18B	50	368	25	14	39
Bellevue Hill	1 to 4	15	110	8	4	12
Sub-Total		1,545	11,356	783	422	1,205
South West Mudgee	6	300	2205	152	82	234
South West Mudgee	9 & 10	35	257	18	10	27
South West Mudgee	5, 7 & 8	195	1,433	99	53	152
Sub-Total		530	3,896	269	145	413
Yallabee	13	50	368	25	14	39
South Mudgee	11, 14 & 16	160	1,176	81	44	125
Spring Flat/Burrundulla	19 & 23	30	221	15	8	23
Sub-Total		240	1,764	122	66	187
North Mudgee	17	220	1,617	112	60	172
Total		2,535	18,632	1,285	692	1,977

4.2.2 Trips Generation of Potential Industrial Developments

The potential industrial area would generate some 1,700 and 200 industrial trips during the day and peak hours respectively based on the following assumptions:

- 20% of the site would be occupied with 25% factory and 75% warehousing
- Factory trip generation rates per 100 m² GFA : Daily 5 trips, peak hour 1 trip
- Warehousing trip generation rates per 100 m² GFA: Daily 4 trips, peak hour 0.33 trip

4.2.3 Distribution of Future Trips

For the purpose of this study, it has been assumed that the trip generated by the future residential lots would have a destination or an origin in accordance to the distribution included in **Table 4.3**. Residential trips have also been allocated to the new Hill End Road industrial area

Table 4.3: Trip Distribution of Residential Developments

Destinations	Arrival	Departure	Arrival	Departure
CBD 1	14%	18%	175	121
CBD 2	14%	18%	175	121
Industrial 1 E of Sydney Rd	12%	6%	158	40
Industrial 2 W of Sydney Rd	10%	5%	127	32
Industrial 3 Hill End Rd	12%	6%	158	40
Residential north of railway	5%	7%	70	48
Residential south of railway	5%	7%	70	48
Internal to subdivision	11%	14%	140	97
External Routes				
Sydney Rd, south of Lions Dr	5%	7%	70	48
Ulan Rd, N of Henry Lawson	9%	12%	117	81
Castlereagh Rd, W of Hill End	2%	2%	23	16
Total	100%	100%	1,285	692

The number of trips arriving and departing a residential area during the afternoon peak hour are summarised in **Table 4.4**.

Table 4.4: PM Peak Trip Distribution of Future Residential Areas

Destinations	West Mudgee		South West		South Mudgee		North Mudgee	
	Dep	Arr	Dep	Arr	Arr	Dep	Arr	Dep
CBD 1	107	71	37	25	13	11	15	11
CBD 2	107	71	37	25	13	11	15	11
Industrial 1 E of Sydney Rd	96	23	33	8	12	4	14	3
Industrial 2 W of Sydney Rd	77	19	26	7	10	3	11	3
Industrial 3 Hill End Rd	96	23	33	8	12	4	14	3
Residential north of railway	43	29	15	10	5	5	6	4
Residential south of railway	43	29	15	10	5	5	6	4
Internal to subdivisions	86	57	29	20	11	9	12	8
External Routes								
Sydney Rd, south of Lions Dr	43	29	15	10	5	5	6	4
Ulan Rd, N of Henry Lawson	71	48	24	17	9	8	10	7
Castlereagh, W of Hill End	14	10	5	3	2	2	2	1
Total	783	408	269	145	97	66	112	60

4.2.4 Traffic Assignment

Access to the general road network from the new lots in West Mudgee including Caerleon and the Bellevue Hill estate would generally use Bellevue Road, Fairydale Lane and new road to Hill End Road and the Castlereagh Highway. Access to the South West Mudgee area has been assumed to also be via Bellevue Road and Fairydale Road as well as Rifle Range Road and the extension of Richards Street, then along Henry Bayly Drive.

Access to the South Mudgee area would be gained via Lions Drive and Spring Road, then along Sydney Road, Robertson Road/Madeira Road, Church Street and Oporto Road. Traffic was then assigned to the road network in accordance to the road distribution in **Table 4.5**. Furthermore, all trips were assigned to the higher order roads, arterial and sub-arterial, until close to their destinations.

Table 4.5: Road Distribution of Future Residential Trips

	%	Arrival	Departure	Total
West Mudgee				
Bellevue Hill/Fairydale Ln				
Bellevue Road	75.0%	25	13	38
Fairydale Lane	25.0%	8	4	13
Sub-Total	100.0%	33	18	51
Caerleon				
Castlereagh Highway	50.0%	313	169	482
Fairydale Lane/	30.0%	188	101	289
Bellevue Rd	20.0%	125	67	193
Sub-Total	100.0%	626	337	963
Saleyards Rd				
Fairydale Lane/ Bell	80.0%	99	54	153
Castlereagh Highway	20%	25	13	38
Sub-Total	100%	124	67	191
North Mudgee Ulan Rd	100.0%	112	60	172
South West Mudgee				
Bellevue Rd	28.0%	75	41	116
Fairydale Ln	28.0%	75	41	116
Henry Bayly Dr	44.0%	118	64	182
Sub-Total	100.0%	269	145	413
South Mudgee				
Lions / Castlereagh	20.0%	24	13	37
Robertson/ Madeira	20.0%	24	13	37
Spring/ Church	40.0%	49	26	75
Oporto	20.0%	24	13	37
Sub-Total	100.0%	122	66	187
Total		1,285	692	1,977

The additional trips generated by the new release areas at all critical intersections within Mudgee are presented in **Figure 8**.

4.3 Traffic Impact of Future Residential Developments

4.3.1 Future Traffic volumes

Streets where traffic volumes are expected to considerably increase as a result of the potential new residential releases include Hill End Road, Fairydale Lane, Bell Street, Bellevue Road, Henry Bayly Drive, Madeira Road, Lions Drive and Robertson Street as noted in **Table 4.6**. Roads with highest increases in traffic volumes will be in the vicinity of Caerleon subdivision and Bellevue Estate. Closer to the CBD, Market Street is expected to experience increases by at least 50 percent over the next 15 to 20 years.

Table 4.6: Daily Traffic Volumes (PCU)

Street	Location	Existing	Future	% increase
Bell Street	South of Castlereagh	1170	3010	157%
Bellevue Road	west of Henry Bayly Dr	3010	5900	96%
Denison Street	Church Perry	660	1180	79%
Denison Street	Church Lewis	590	950	61%
Douro Street	Denison Gladstone	7970	12120	52%
Fairydale Lane	Gladstone & railway X	1110	6280	466%
Gladstone Street	Church Perry	2780	4440	60%
Gladstone Street	Perry Douro	1810	4500	149%
Gladstone Street	Douro St Cox	2860	6190	116%
Henry Bayly Dr	Baskerville Inglis	1130	2690	138%
Henry Lawson Dr	Ulan Putta Bucca	2300	3940	71%
Hill End Road	south of Castlereagh Hwy	1380	6150	346%
Horatio Street	Perry & Douro	4470	7840	75%
Lions Drive	Sydney & Broadhead	2880	4860	69%
Byron Place	east of Perry	4410	6750	53%
Madeira Road	Grant Church	2840	4330	52%
Madeira Road	Church & Atkinson	2690	4860	81%
Market St	Douro & Court	6800	10450	54%
Market St	Third & Bell	5180	8740	69%
Putta Bucca	north of Castlereagh	570	2210	288%
Robertson St	Trefusis & Madeira	2765	4176	51%

4.3.2 Impact on Carriageway Level of Service

The anticipated traffic volumes along all roads during the afternoon peak hour within Mudgee are also summarised in **Appendix D**, together with their appropriate level of service. The assessment of roads has been based on a requirement to achieve no worse than a projected level of service "C".

Locations where the level of service has worsened due to the additional traffic are included in **Table 4.7**.

Table 4.7: Future Weekday Afternoon Peak Period Levels of Service

Street	Location	Existing			Future			
		Lanes	N/E	S/W	LoS	N/E	S/W	LoS
Church St	Mortimer & Market	4UP	437	435	A	532	536	B
Church St	Gladstone & Mortimer	4UP	515	525	A	623	639	B
Church St	Mealy & Denison	4UP	486	542	B	545	641	C
Church St	Denison & Gladstone	4UP	495	525	A	554	608	B
Church St	Horatio St & Denison	4UP	411	518	A	471	617	B
Church St	Horatio & Inglis	4UP	411	518	A	459	572	B
Douro St	Denison & Gladstone	4UP	354	443	A	626	586	B
Horatio St	Church & Perry	4UP	335	332	A	417	548	B
Market St	Douro & Court	4UP	312	368	A	451	594	B
Sydney Rd	at Railway Crossing	2U	572	517	A	776	589	B

North of Horatio Street, Church Street would operate at a level of service "B" except for the section between Mealy Street and Denison Street which would operate at still satisfactory level of service "C". Levels of service along Douro Street, Market Street and Sydney Road are expected to slightly worsen to a still good level of service "B". All other roads would continue to operate a very good level of service "A".

Nevertheless, it is also considered necessary to ensure smooth and safe flow of traffic, to widen the sealed pavement in the following streets in conjunction with the future releases:

- Lions Drive to provide two traffic lanes and two parking/cycle lanes;
- Madeira Road to provide two traffic lanes and two parking/cycle lanes;

4.3.3 Impact on Intersection Operation

The operational characteristics of all surveyed intersections within Mudgee were then reassessed for the future using the SIDRA and INTANAL software (version 2004.001) as discussed in section 3.5.2. The resultant future delays and levels of service at these intersections are summarised in **Table 4.8**.

The roundabouts at the intersections of Church Street with Horatio Street and with Mortimer Street would operate a good level of service "B". All other roundabouts would continue to operate at very good levels of service "A".

The intersection of Sydney Road with Lions Drive & Burrundulla Road is anticipated to operate at a very poor level of service "F". This is largely due to the extensive delays likely to be experienced by vehicles right turning from Burrundulla Road into Sydney Road. The provision of an exclusive right turning lane (~30m) in Burrundulla Road would improve the operation of the intersection to a level of service "D". However this level of service still indicates a requirement for alternative traffic control such as a roundabout. A roundabout with pedestrian refuges would also considerably improve the safety of this intersection.

The operation of intersection of Horatio Street with Douro Street is expected to worsen and operate at a level of service "C". The provision of a roundabout with pedestrian refuges as suggested in section 5.2.6 would considerably improve the safety of this intersection.

The intersection of Gladstone Street with Douro Street would operate in the future at a very poor level of service "F" if the current traffic controls are retained. The provision of a roundabout with pedestrian refuges at all approaches would be required. This measure would also considerably improve the safety of this location in the vicinity of the high School.

The intersection of Denison Street with Douro Street would operate in the future at a poor level of service "D". The provision of a roundabout with pedestrian refuges at all approaches would be required. This measure would also considerably improve the safety of this location in the vicinity of the high School.

A similar situation would prevail at the intersection of Denison Street with Church Street which would also operate at a poor level of service "D". The provision of a roundabout with pedestrian refuges at all approaches would be required.

Table 4.8: Future Operation of Intersections in Mudgee

Intersections	Existing Peak		With Developments	
	Ave Delay	LoS	Ave Delay	LoS
Roundabout Controlled				
Castlereagh Rd with Bell/Putta Bucca Rd *^	12.0	A	13.9	A
Church St with Short St *	12.1	A	12.5	A
Church St with Market St *	13.0	A	13.7	A
Church St with Mortimer St *	13.7	A	16.4	B
Church St with Gladstone St *	11.8	A	12.7	A
Church St with Horatio St *	13.7	A	19.5	B
Church Street with Madeira Rd	8.7	A	9.8	A
Douro St with Market St *	12.4	A	13.5	A
Perry St with Market St *	12.2	A	12.7	A
Perry St with Lovejoy St *	11.0	A	11.8	A
Ulan Rd with Pitt Ln and Lue Rd @	10.8	A	11.8	A
Sign Controlled Intersections				
Bellevue Rd with Henry Bayly Dr @	7.0	A	8.4	A
Castlereagh Rd with Bell Street @	8.2	A	12.0	A
Castlereagh Rd with Putta Bucca Rd *	10.5	A	36.3	C
Castlereagh Road with Hill End Road #	16.4	B	19.1	B
Church St with Denison St @	29.1	C	43.9	D
Church St with Meares St @	19.6	B	24.6	B
Douro St with Denison St @	20.3	B	44.1	D
Douro St with Gladstone St @	19.7	B	>70	F
Douro St with Horatio Street *	11.1	A	35.3	C
Douro St with Inglis St @	8.0	A	9.4	A
Fairydale Ln with Gladstone St @	6.0	A	7.1	A
Lewis St with Gladstone St @	12.1	A	14.0	A/B
Lewis St with Mortimer St @	10.4	A	11.6	A
Perry St with Gladstone St @	9.0	A	11.3	A
Sydney Rd with Industrial Rd @	11.0	A	12.6	A
Sydney Rd with Lion St and Burrundulla Rd *	19.5	B	>70	F
Ulan Rd with Henry Lawson Dr @	8.2	A	10.2	A

* Analysed with SIDRA Software

@ Analysed with INTANAL software

Source: Traffix (2012)

^ Assumed roundabout controlled combined intersections

d= Delay in seconds/vehicle of critical approach

LoS= Level of Service

All other unsignalised intersections are expected to operate at a good level of service "B" or better.

Furthermore, to ensure smooth and safe flow of traffic at the following intersections likely to be used by future traffic, the provision of a seagull arrangement, recommended in the previous study (Gennaoui, 2008), is recommended:

- Fairydale Lane with Gladstone Street.
- Madeira Road with Robertson Street

5. Assessment of Specific Traffic Matters

5.1 School Buses Related Issues

The following bottleneck locations affecting buses at schools during the afternoon were raised during the course of the study.

5.1.1 Horatio Street at High School

The school crossing in Horatio Street at the High School does not have a crossing supervisor. As result students haphazardly and continuously cross Horatio Street resulting in long queues extending along Douro Street past the railway line. Thus any time lag between buses is lost, and by the time buses arrive at the School gate in Perry Street to pick up student, up to 9-10 buses may be queuing in at the same time. The provision of a crossing supervisor would control the flow of children across Horatio Street thus alleviating the backlog in buses accessing the school. The RMS stipulates that a crossing supervisor can only be provided at a primary school. It is therefore suggested that the school be approached to assist in this matter.

5.1.2 Intersection of Perry Street with Gladstone Street

The Give Way signs in Perry Street at Gladstone Street impeding the smooth flow of traffic along Perry Street. This exacerbates the problem school buses experience as a result of the delays discussed above and which arrive and depart the public school in convoy. On occasion buses due to the delays at Gladstone Street may queue past Denison Street. The relocation of the Give Way signs from Perry Street to Gladstone Street would give priority to traffic along Perry Street to ensure a smoother flow of traffic along Perry Street as well reducing current delays experienced by school buses. It should be noted that Perry Street carries considerably more traffic than Gladstone Street at this location.

5.1.3 St Matthews Catholic School

Conflicts between parent picking-up children at the St Matthews Catholic School and buses servicing the school. Currently the bus zone can accommodate up to 4 buses (one short). In front of the bus zone there are two unrestricted angle spaces adjacent to two spaces for cars displaying a Mobility Impaired Permit followed by seven (7) spaces with No Parking restrictions from 8.00 to 9.30am and between 2.30 and 4.00pm. During the afternoon pick up period it was observed that four buses arrived and departed between 3.00 pm and 3.30pm, and 15 buses in the following 15 minutes: It was also observed

- Cars picking up children use the "No Parking" areas to do so usually exceeding the available space suitable for only three (3) cars parallel to the kerb; cars then back up on the carriageway obstructing buses from exiting the kerbside lane.
- The first bus in a queue tends to stop about 3 to 4 metres away from the first parked car in order to exit the kerbside lane. It is then further obstructed by cars queuing on the traffic lane to pick up children.

In order to improve the situation it is recommended that consideration be given for the extension of the bus zone to include the two unrestricted angle spaces. This would ensure that four buses can use the bus zone at any one time.

Furthermore, to improve the pick-up of children, consideration could be given for the introduction of a "No Parking" restriction from 2.30 to 4.00pm between the northern driveway to the school and Market Street.

5.2 Safety Related Issues

5.2.1 Safety in Mudgee

The high proportion of crashes involving single vehicles out of control is usually an indication of excessive speed. Better monitoring by the police is required.

5.2.2 Church Street north of Meares Street

Safety problems experienced by pedestrians crossing Church Street between Meares Street and the railway overbridge were raised for consideration in the study.

This section of road carries over 8,900 vehicles per day. Over 15 percent of vehicles exceed the speed limit of 50 kmh (85thile speed of 53.3 kmh).

One crash involving a pedestrian was recorded in 2002. Since then only one rear end crash with no injury was recorded in this section of Church Street in 2010.

Activities in this section of road were video recorded from 3.45 to 6.15pm. During a two hours period, less than 5 pedestrians were observed crossing Church Street at this location; in addition some two cyclists travelling in a southbound direction crossed over from the eastern to the western side of Church Street. The only observed safety issue of concern related to two children roller skating on the carriageway as well as crossing the street.

There are currently space for about 20 angle spaces on the western side of Church Street and 15 parallel spaces on the eastern side. At most time, some spaces are vacant. Suggestion has been made to provide a pedestrian refuge at this location. Such a measure would result in the loss of up 15 spaces with no substantive benefit.

However, in view of the current speeds, consideration may be given for the provision of slowing devices at this location.

5.2.3 Intersection of Horatio Street with Church Street

In accordance with the recommendation of the previous study (Gennaoui, 2008) pedestrian refuges have been provided on all approaches at the roundabout controlling the intersection of Horatio Street with Church Street. As a result, no crashes involving pedestrians have been recorded during the 2008-2012 period. However, this intersection is still the subject of the largest number of crashes during that period. The majority of these crashes are right angle between vehicles travelling along Horatio Street and entering the roundabout from Church Street; a crash also involved a single car going off the carriageway, probably at high speed.

To resolve this safety problem, serious consideration should be given to increase the deflection of vehicles entering the roundabout from all approaches to ensure they either slow down or even stop before entering the roundabout.

5.2.4 Intersection of Robertson Street with Lions Drive

Three crashes were recorded at this location from 2008 to 2012. Concern was previously expressed about children crossing Robertson Street and Lions Drive during the afternoon after being dropped by bus (Gennaoui, 2008). Over 15 percent of vehicles travel at speeds in excess of 53 km/h along Robertson Street.

The provision of a pedestrian refuge in Lions Drive, at Robertson Street and in Robertson Street north of Lions Drive would improve the safety of pedestrians crossing at this location. Furthermore, signage advising motorists to slow down to allow safe pedestrian crossing should also be considered. These improvements were recommended in the previous study (Gennaoui, 2008).

5.2.5 Denison Street, between Lewis Street and Church Street

Concern has been expressed by a resident of this street about the difficulty for children to cross Denison Street. The complainant has advised that traffic has been on the increase but more substantially over the past 3 to 6 months. Cars and trucks including semi-trailers and garbage trucks have been observed cutting the corner from both directions at speed mostly at peak morning and afternoon times.

Three crashes resulting in one injury were recorded in this section of roads including the two intersections. Two of these crashes involved out of control vehicles, inferring high speeds.

The recent increase in traffic along this section of road may be due to the redirection of some traffic as a result of road works in Gladstone Street and Mortimer Street including their intersection with Church Street.

Consideration could be given for the provision of slowing devices in this section of Denison Street. Furthermore, the provision of pedestrian refuges in conjunction with a roundabout at the intersection of Denison Street with Church Street recommended in section 4.4.3 would facilitate the crossing of Denison Street. Following public exhibition of this document, a roundabout at this location is no longer recommended.

5.2.6 Intersection of Horatio Street with Douro Street

This intersection, subject to the T junction rule, includes a seagull arrangement to separate the northbound through traffic along Douro Street from the right turning movement out of Horatio Street. Notwithstanding, five (5) crashes resulting in five (5) injured persons occurred during the five year period ending 2012. Most crashes involved collisions between cars entering the intersection from Horatio Street with traffic along Douro Street.

The provision of the seagull arrangement appears to give a false sense of security to drivers. The intersection currently operates at a very good level of service "A". In the

future, a level of service "C" is anticipated. The provision of a roundabout with pedestrian refuges would considerably improve the safety of this intersection.

5.2.7 Intersection of Ulan Road with Henry Lawson Drive

The intersection of Henry Lawson Drive with Ulan Road currently operates a very good level of service "A" and is anticipated to do so in the future. A seagull arrangement protects the right turning movement from Henry Lawson Road into Ulan Road. Two crashes resulting in three (3) injuries were recorded at this location in the five years period ending December 2012. Both crashes involved vehicles entering Ulan Road colliding with through traffic along Ulan Road.

Sight distance at this location is good for all approaching traffic. The 80 kmh speed limit along Ulan Road at this location may impact on safety at this junction. RMS should be approached to give consideration to relocate the commencement of the 50 kmh speed limit along Ulan Road from its current position north of Pitts Lane to 100 m north of Henry Lawson Drive.

5.2.8 Intersection of Church Street and Spring Road

A submission was received during the public exhibition phase of this document with a request for traffic calming or safety measures at this location. It is recommended that this issue be further investigated in consultation with the resident in the area.

5.3 Cycleway

The brief required the investigation of the provision of a dedicated cycle lane from Winter Street to the CBD via the High School, within the existing carriageway.

The existing cycleway is situated at the rear of dwellings fronting Winter Street. It currently terminates at the end of Horatio Street at Douro Street. Following a site inspection, the following route considered suitable for cycling is suggested:

- Existing cycleway at rear of Winter Street be improved and provided with street lighting
- Cyclist would then travel along Horatio Street to Douro Street which is accessed by a narrow path
- Cyclist would continue along Horatio Street to Perry Street then follow Perry Street to Mortimer Street; provision of a route along Douro Street is not considered suitable in view to the narrow carriageway and considerable volume of traffic including heavy vehicles.

The implementation of the proposed cycle route to be further investigated by Council and the local traffic committee would necessitate

- Improving the connection between the existing cycleway and Horatio Street to comply with minimum standards
- The provision of suitable signposting along Horatio Street to Douro Street
- Improving access from the closed section of Horatio Street to Douro Street

- The provision of a safe pedestrian/cyclists crossing of Douro Street at Horatio Street to access the school. Therefore, a pedestrian refuge should be included with the proposed roundabout at this location (refer section 5.2.6).
- Provision of a two way cycleway and suitable signposting on the northern side of Horatio Street between Douro Street and Perry Street.
- Provision of a one way cycleway and suitable signposting on both sides the west and the east (southbound) side of Perry Street to Mortimer Street for northbound and southbound direction respectively; Perry Street has a large pavement which could accommodate the cycleway and parallel parking as well as two traffic lanes.

During public exhibition of this document suggestions from the community that a cycleway continuing out the Ulan Road to the TAFE campus be considered. This suggestion is recommended.

5.4 Specific Intersection Related Issues

5.4.1 Intersection of Church Street with Denison Street

The intersection of Church Street with Denison Street is controlled by Give way signs in Denison Street. It operates a satisfactory level of service 'C' during the afternoon peak period; the RTA guidelines (2002) require a crash analysis to establish if further action is necessary. Only one crash was recorded during the period 2008-2012. This intersection has the worse level of service in Mudgee and requires alternative control such as a roundabout in the near future to considerably improve the situation.

Following the public exhibition phase this recommendation was removed due to community concern. It is recommended that this intersection be monitored for future traffic studies.

5.4.2 Intersection of Inglis Street with Douro Street

This intersection currently operates a very good level of service "A". No crashes were recorded during the five years period ending December 2012. Observation of the intersection did not highlight any specific problem. However as previously recommended (Gennaoui, 2008), the provision of a seagull arrangement would facilitate traffic movements at this location as well as improve safety.

5.4.3 Intersection of Gladstone Street with Denison Street

This intersection operates a very good level of service "A". Only one (1) crash was recorded during the five years period ending December 2012. No injury resulted from that crash. Observation of the intersection showed that a proportion of traffic along Gladstone Street travel at speed in excess to the 50 kmh speed limit. The provision of a seagull arrangement would facilitate traffic movements at this location as well as improve safety. Consideration could also be given for the provision of

slowing devices along Gladstone Street as it would be used in the future as an alternative access road to the CBD.

5.4.4 Castlereagh Highway with Bell St and Putta Bucca Rd Intersections

The proposed new residential and industrial releases in west Mudgee including the major Caerleon subdivision would increase traffic conditions along the Castlereagh Highway as well as along Putta Bucca Road and Bell Street.

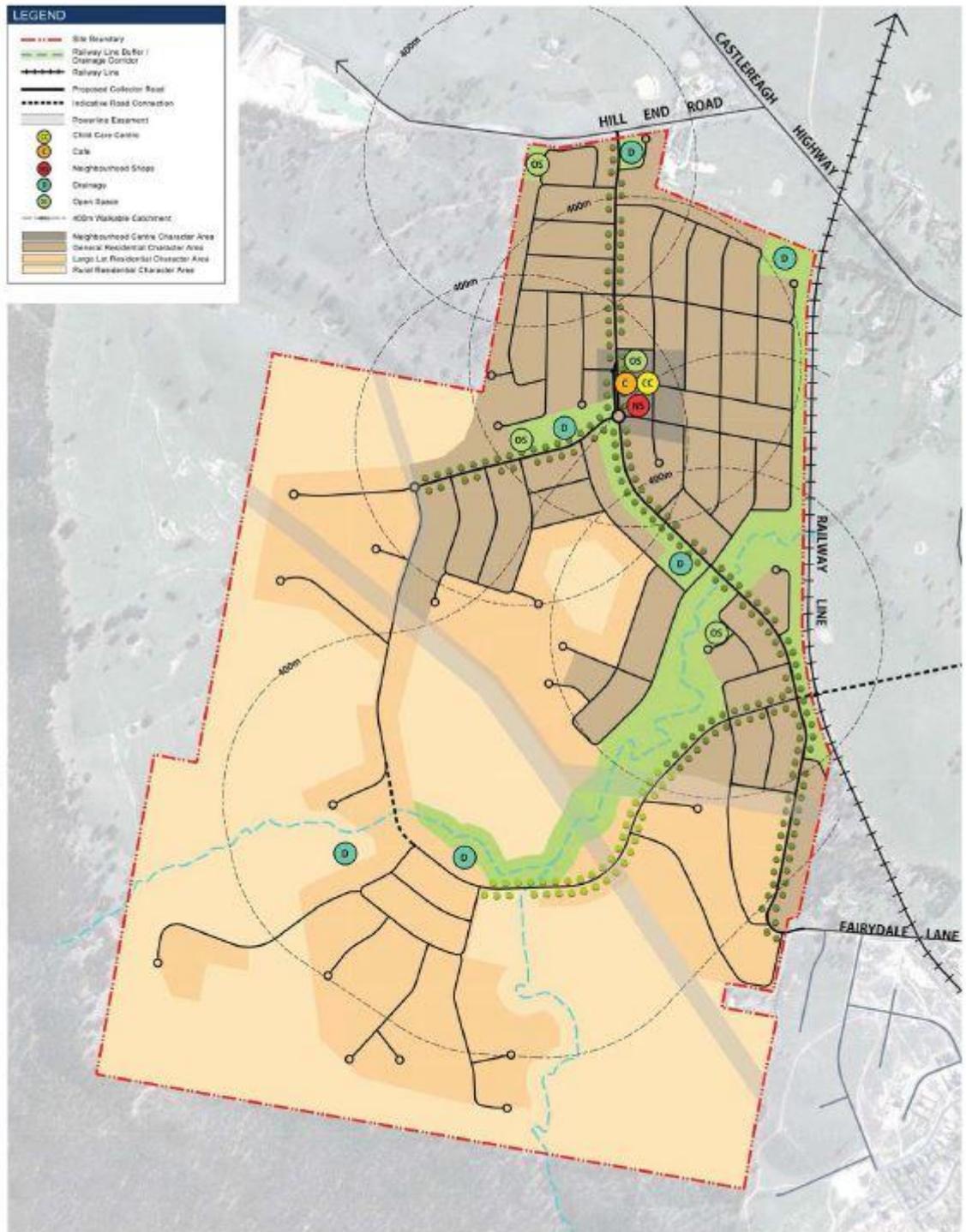
The combined intersections of Castlereagh Highway with Bell Street and with Putta Bucca Road were the location of four (4) crashes resulting in two (2) injuries.

A realignment of Bell Street with Putta Bucca Road at the Castlereagh Highway together with the provision of a roundabout at this location would considerably improve safety as well as facilitate access to both side roads. Such a roundabout would operate at a very good level of service "A". A realignment of the two roads without a roundabout would operate at level of service "C" and would not necessarily improve the safety of this location.

5.5 Road Related Matters

5.5.1 Road Linkages between CBD and West Mudgee

The Brief requires the investigation of the present linkages between Bellevue Hill Estate and the Caerleon subdivision with the CBD. The proposed Caerleon subdivision is illustrated below. A Spine Road will provide access to Hill End Road to the west and Fairydale Lane to the south.



Access to the CBD from the Caerleon subdivision will be mostly along the Castlereagh Highway and Market Street. Access to the highway will be via Hill End Road and Fairydale Lane/Bell Street. Traffic accessing the CBD would also use Gladstone Street. Traffic accessing schools and the industrial areas to the east of Mudgee may also use Bellevue Road and other streets in South Mudgee.

The developer of the Caerleon subdivision is required to:

- Design the intersection of Hill End Road with the new Spine Road in accordance with clause 34 of the Notice of Determination for the subdivision dated 9 August 2013
- Design the intersection of Hill End Road with the Castlereagh Highway in accordance with clause 35 of the Notice of Determination for the subdivision dated 9 August 2013.

The developers are also required to pay a contribution towards the upgrade of Fairydale Lane to provide two sealed travel lanes (3.25m each), two sealed shoulders (0.5m each) and two unsealed shoulder (1m each). These works would considerably improve access to the highway then onto the CBD. The proposed realignment of Bell Street and Putta Bucca at the Castlereagh Highway and the provision of a roundabout would, when provided, facilitate safe access to both streets. The analysis of future traffic conditions concluded that all roads accessing the CBD from the west would operate a good level of service "B" or better. Furthermore, all intersections along the routes to and from the CBD would operate satisfactory subject to the provision of new roundabouts where identified in section 4.3.3.

5.5.2 Ring Road in Mudgee CBD

The brief required the consideration of promoting a ring road around the CBD for through traffic. Based on an assessment of the peak hourly volumes, it has been estimated that non CBD through traffic along Church Street are of the order of 150 and 120 vph in the northbound and southbound direction respectively.

Thus about 2700 vehicles per day or about 25 percent of all traffic along Church Street do not stop in the CBD and could be redirected to a ring road. Three alternative ring road routes were assessed.

Route 1 – This route would direct through traffic to the west of the CBD along Horatio Street, Douro Street and Short Street. This route is mostly along the Castlereagh Highway. The carriageway along this route currently operates with a very good level of service "A". The redirection of traffic would result in Douro Street operating at still good level of service "B". This route would attract the least objection as it is mostly along the highway.

However, it would necessitate the provision of the three roundabouts at the intersections of Douro Street with Horatio Street, with Denison Street and with Gladstone Street earlier than necessary as a result of future growth.

Route 2 – As per route 1 and would include Lewis Street and Short Street to the east of the CBD. The Lewis Street and Short Street would attract about 40 percent of traffic travelling along Church Street through the CBD. The carriageway along the eastern route currently operates with a very good level of service “A”; the redirection of traffic would not affect its current level of service of the roadway. The intersections along this route would also continue to operate a good level of service “B” or better. Land uses along Lewis Street include a school, commercial development and residences. Whilst the inclusion of Lewis Street as a bypass road would reduce the impact on Douro Street, it would attract some opposition from residents and the school along it.

It should be noted that Council has adopted Lewis Street as a sub-arterial road to be used as a bypass of the CBD (refer section 5.2.1). Route 2 is therefore supported. Appropriate signage should be placed in Horatio Street at Lewis Street, in Church Street at Short Street and in Market Street at Douro Street advising through traffic to Ulan Road to divert along Lewis Street and Short Street. In the medium to longer term, the provision of a roundabout at the intersection of Horatio Street with Lewis Street may be required.

Route 3 – As per route 1 but would include Lawson Street and Short Street to the east of the CBD. North of Gladstone Street, the pavement along Lawson Street would require widening to provide two traffic and two parking lanes. The land use along Lawson Street is mostly residential in nature; residents along this road would strongly object to making it a by-pass to the CBD. For these reasons this route is therefore not supported

5.6 Traffic Related Matters

5.6.1 Problems along Church Street (outside Aldi & Mitre10)

Activities in this section of Church Street were obtained by mean of a video recorder (from 3.45 to 6.15pm). No safety or traffic related issue were observed. During that period,

- Very few pedestrians were observed crossing Church Street
- The small delays for traffic travelling along Church Street were due to vehicles accessing an on-street parking space

A total of ten (10) intersection and mid-block crashes were recorded between Denison Street and Mortimer Street during the five year period to 2012. Of these, three (3) crashes occurred in the section between Denison Street and Gladstone Street including one rear-ender and one crash involving a vehicle exiting a driveway. These could be a reflection of impatience or poor sight distance.

5.6.2 Traffic Calming in West Mudjee

Fairydale Lane and Banjo Patterson Avenue are likely to experience increased traffic volumes in the future. In order to minimise the impact of this traffic on these streets, traffic calming devices could be provided to ensure speeds along these street remain within safe limits. To be effective, slowing devices would need to be provided on both streets concurrently.

5.6.3 Possible Closure of Perry Street between Horatio & Denison Sts

Perry Street carries about 2,180 vehicles per day between Horatio Street and Denison Street of which some 190 vehicles were recorded during the afternoon peak hour. Five crashes were recorded at the intersections of Perry Street with Horatio Street (4) and Denison Street (1).

This section of Perry Street is fronted by the High School to the west and a Park to the east. Vehicular access to the park is provided from Perry Street. A bus zone is provided on the western side of Perry Street for most of its length.

The full closure of this section of Perry Street would result in the diversion of all traffic to either Church Street or Horatio Street. It would also impact on buses currently dropping off and picking up students from the high School. Parking associated with the park and the school would also be affected.

The analysis of existing future traffic conditions concluded that both Douro Street and Church Street would operate a good level of service "B" or better. However, most intersections along these two streets would operate at poor levels of service unless new roundabouts are provided where identified in **section 4.3.3**.

In order to maintain accessibility for buses and patrons of the school and park, and to achieve a safer environment along this section of Perry Street, it is suggested that it be converted into a "shared zone". This measure would require the implementation of the following measures

- Speed limit of 10 kmh
- Provision of entry thresholds in Perry Street at Horatio Street and Denison Street
- Restrict traffic to one way northbound between Horatio and Denison Streets
- Provide angle parking on eastern side of Perry Street
- Retain bus zone on western side of Perry Street

5.6.4 Closure of Church Street between Mortimer & Market Streets

A submission was received suggesting the creation of a more pedestrian friendly environment for locals and visitors in Church St between Market Street and Mortimer Street. To achieve this objective, the submission suggested the following:

- The removing of all non-shopping through traffic
- The closure of Church Street at the pedestrian crossing. On-street parking would be mostly retained subject to the provision of a suitable turning area either side of the closure.

This suggestion has the following advantages:

- Minimal effect on shops as parking is mostly retained
- Traffic along Church St is considerably reduced

However, the following disadvantages have been identified which would more than offset the abovementioned benefits:

- Medium to large rigid delivery trucks would find difficult to access the area.
- Increase traffic adjacent to the Catholic school would not be well received.
- Earlier provision of a roundabout at the intersection of Horatio Street with Lewis Street to redirect traffic from Church Street to Lewis Street which is not currently needed.
- Church Street currently carries about 900 vehicles per hour during the peak; most of this traffic. About 60 percent is traffic with an origin or destination within the CBD. Whilst the through traffic may be redirected to Lewis Street, the redirection of the remaining traffic along other already busy CBD streets would not be acceptable.

A possible alternative would be to convert the section of Church Street between Mortimer Street and Market Street to a "shared zone. This measure would require the implementation of the following measures

- Speed limit of 10 kmh
- Provision of entry thresholds in Church Street at Mortimer Street and Market Street
- Retain angle parking on both sides of Church Street

5.6.5 Opening of Lovejoy Street to Douro Street

Lovejoy Street is currently closed between Perry Street and Douro Street some 75m west of Perry Street. It has a divided carriageway with two traffic and two parking lanes. Parking on the eastern section of Lovejoy Street is used by resident as well as visitors to the CBD. The western section of Lovejoy Street is mostly by resident of that street and visitors accessing the park. The opening of Lovejoy Street to Douro Street is generally not supported for the following reasons:

- Considerable increase in traffic along Lovejoy Street to the detriment of residents.
- Right turning access to Douro Street would be difficult thus requiring alternate traffic control. This traffic is better served by using Perry Street and Market Street.

However, if the objective is to divert a large proportion of traffic destined to south and south-west Mudgee directly to Douro Street, consideration may be given by Council to the prohibition of the right turning movement to and from Lovejoy Street at Douro Street.

5.6.6 Closure of Perry Street North of Market Street

A submission was received expressing concerns about traffic congestion at the roundabout controlling the intersection of Market Street with Perry Street, more particularly the queue in Perry Street extending to the Big W access.

The closure of Perry Street north of Market Street was suggested as a mean to improve traffic flows at the roundabout and provide a smooth traffic flow into the Big W car park. Angle parking is permitted on the western side of this section of Perry Street. Two narrow traffic lanes provide access to the Big W car park.

This suggestion has the following advantages:

- Traffic along Perry Street would be reduced.
- The operation of the roundabout would improve.

However, this closure is not supported for the following reasons:

- This closure would redirect all traffic accessing the Big W car park to do so via Short Street.
- Most of the traffic using this section of Perry Street non-stop between Market Street and Short Street would need to relocate to Market Street east of Perry Street then Church Street; this situation is not acceptable.
- The junction of Perry Street with Short Street would be impacted.
- The operation of Big W is better served with two access roads.
- The section of Perry Street north of Market Street may need to be widened with the possible loss of on-street parking.

5.6.7 South Mudgee Surgery Medical Centre in Oporto Road

The South Mudgee Medical Centre situated near the Southside Shopping Centre is located on the eastern side of Oporto Street. A pedestrian refuge is in place near the access driveways. This section of road carries about 2,100 vehicles per day, about 5 percent of which are heavy vehicles. Over 15 percent of vehicles exceed the speed limit of 50 kmh (85th speed of 54.7 kmh). This situation has the potential for increased conflicts between pedestrians crossing Oporto Street and vehicles along this road. Consideration should therefore be given for the provision of slowing devices at this location.

5.7 Railway Crossings

The brief required the investigation of a potential opening of the railway crossings to traffic, particularly at Cox Street.

5.7.1 Existing Situation

The existing railway line connects Lithgow to Gulgong and beyond via Mudgee. There are currently no passenger trains to and from Mudgee; the Railway Station has been converted to a Restaurant.

Through Mudgee it is crossed at the following four locations:

- Along Church Street, via an overbridge between Inglis Street and Meares Street;
- Along Sydney Road about 500m south of Horatio Street controlled by “flashing lights and bells”;
- Along Douro Street between Horatio Street and Inglis Street controlled by “flashing lights and bells”;
- Along Fairydale Lane, west of Gladstone Street, controlled by “Stop” signs.

None of the three at-grade railway crossings are controlled by boom gates. Railway crossings at Cox Street and Court Street are closed to traffic.

The lack of railway crossings to access South Mudgee has been of major concern to residents particularly in the context of future developments in the south west area of Mudgee. The potential increase in traffic accessing the CBD would travel past the Mudgee High School along Douro Street and Horatio Street, thus conflicting with the high number of students walking to and from the school and crossing these two roads.

5.7.2 Future Conditions at Railway Crossings

The existing and future daily volumes along the four existing railway crossings are summarised in **Table 5.1**.

Table 5.1: Existing and Future Traffic at Railway Crossings

Railway Crossings	Daily Volumes PCU			Future PM Peak vph		
	Existing	Future	% increase	N'bnd	S'bnd	LoS
Church Street	9,290	10,310	11%	459	572	A
Douro Street	6970	9,740	40%	400	574	A
Fairydale Lane	1,110	6,280	466%	232	396	A
Sydney Road	10,890 ,	13,650	25%	776	589	A

The development of the Caerleon Estate and other development in West Mudgee such as the Bellevue Estate would increase traffic along an improved Fairydale Lane at the railway crossing. It is therefore recommended that in the event the railway line is used in the future, “flashing lights and bells” be provided at that crossing together with boom gates. Boom gates should also be considered at the Sydney Road and Douro Street railway crossings.

5.7.3 Opening of Cox Street Railway Crossing

Suggestions have been made for the re-opening of the Cox Street and Court Street railway crossings. The re-opening of the Cox Street railway crossing would effectively divert in the future traffic of the order of 1,000-2,000 vpd from the Douro Street crossing to Cox Street. It may also divert some traffic from Fairydale Lane. A similar situation could occur if Court Street was reopened to traffic. The reopening of both Cox Street and Court Street would increase to a lesser extent traffic in both streets. During the afternoon peak about 180 vehicles per hour are anticipated at the railway crossing.

An assessment of the impact of the opening of the railway crossing at Cox Street on nearby intersections was carried out. Traffic volumes were generally redirected from Douro Street to Cox Street, Market Street and Gladstone Street. The result of this analysis is included in **Table 5.2**.

Table 5.2: Impact on Intersections of Opening Cox Street Railway Crossing

Intersections	Existing		Future		Cox St Opened	
	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS
Roundabout Controlled						
Douro St with Market St *	12.4	A	13.5	A	13.7	A
Sign Controlled Intersections						
Douro St with Horatio Street *	11.1	A	35.3	C	27.7	B
Douro St with Gladstone St @	19.7	B	>70	F	40.5	C
Douro St with Inglis St @	8.0	A	9.4		8.7	A
Inglis Street with Cox Street @					7.4	A

* Analysed with SIDRA Software

@ Analysed with INTANAL software

With the opening of Cox Street

- The intersection of Douro Street with Market Street would only be slightly affected and would continue to operate at very good level of service "A".
- The intersection of Douro Street with Horatio Street would considerably improve and would operate at the upper level but still good level of service "B".
- The intersections of Inglis Street with Cox Street and with Douro Street would operate at a very good level of service "A".
- The intersection of Gladstone Street with Douro Street would improve in the future; however, it would still operate at a level of service "C". The provision of a roundabout with pedestrian refuges at all approaches as previously recommended would still be required. This measure would also considerably improve the safety of this location in the vicinity of the high School.

Whilst traffic conditions along Douro Street in the proximity of the High School and Fairydale Lane would improve, residents along Cox Street and Court Street may not favour the increase of traffic along their streets. Furthermore, Douro Street forms part of the highway and functions as an arterial road.

The reopening of either Cox Street at the railway crossing is not considered necessary from a traffic point of view. However, as this matter has been raised in the past, Council may consider as development take place in west and south-west Mudgee, the need to provide an additional railway crossing by reopening Cox Street.

The level of support or opposition to the reopening of Cox Street would be better assessed during the public exhibition phase. Council received a number of submissions supporting the opening of Cox Street during the public exhibition period of the document. Council should pursue this avenue in order to provide another access to south Mudgee.

6. Road Hierarchy & Truck Routes

6.1 Basis of Road Hierarchy

6.1.1 Functional Classification of Roads

The adoption of a hierarchy of roads for the urban area of Mudgee provided Council with a powerful planning tool. Any changes proposed to the existing road hierarchy in this study were selected so that the roads would better serve their designated function. The planning of the road network should ensure that unacceptable combinations of traffic/road design and urban environment/land development are avoided.

The functional classification of roads in the town gives consideration to the following two competing goals:

- the provision of reasonable living and environmental conditions; or
- the provision of reasonable mobility for movement of people and goods in road vehicles.

The first consideration is the preservation of environmental quality, especially in residential areas. In traffic terms, it is the adequate provision for vehicle access to/from the land uses served by the roads.

The second consideration recognises the need to making adequate provisions for the safe and efficient movement of vehicles to, from and through the city. In the Mudgee context, there are large vehicle movements to/from the major traffic generators such as the industrial areas and the Mudgee Town Centre.

The hierarchy of roads is composed of four basic road classes. They are arterial, sub-arterial, collector and local roads which are in decreasing order of importance for traffic efficiency and with increasing emphasis on local amenity. The terms relevant to functional classification of roads are defined as follows:

- **arterial roads** - predominantly carry through traffic from one region to another forming principal avenues of communication for urban traffic movements;
- **sub-arterial roads** - connect the arterial road to areas of development or carry traffic directly from one part of a region to another. They may also relieve traffic on arterial roads in some circumstances;
- **collector roads** - connect the sub-arterial roads to the local road system in developed areas; and
- **local roads** - are the sub-divisional roads within a particular developed area. These are used solely as local access roads.

The functional hierarchy of roads defines the real purpose of each road in an urban area. A road can serve more than one type of traffic movement, but the predominant use should be determined and then the appropriate design standards and traffic management measures can be selected.

The main reasons for the orderly grouping of roads into a hierarchy are:

- to establish a logical, integrated network which brings together all roads and streets of similar function under the one classification because of their traffic service;
- to group together those roads and streets which require the same general level of design and operation;
- to provide a basis to assist in assigning responsibility for each class of road and street to the level of government having the greatest basic interest; and
- to provide a rational basis for longer term works programming, improvement priorities and financial planning.

It must be remembered that the road itself is not classified, but rather the character of the traffic proposed to use it. Once a road hierarchy has been adopted, it can then be used as the frame of reference for its implementation:

- in the management of traffic on existing roads; and
- in the design of new roads.

6.1.2 Benefits of the Road Hierarchy Strategy Plan

The development of a Road Hierarchy Strategic Plan for Mudgee to service the existing and future growth of the Township:

- enables the adoption of appropriate standards of design and construction for the various streets in the area;
- enables the preparation of a priority program of works to implement the hierarchy;
- Provides Council with a sound basis for future traffic, transport and land use planning, as well as:
 - provides a logical basis for the operation of the road network;
 - enables an appropriate and efficient traffic management schemes to be implemented in local residential precincts, shopping centres and industrial zones;
 - assists the local traffic committee to consider the effect of its decisions on the surrounding area;
 - provides an input in Local Environment Plans.

6.2 Review Road Hierarchy

6.2.1 Existing Adopted Road Hierarchy

Council has adopted the functional classification for streets within Mudgee recommended in the previous study. It is illustrated in **Figure 9** and described below:

Arterial Roads

- Sydney Road
- Horatio Street, east of Douro Street
- Douro Street, between Horatio Street and Market Street
- Market Street, west of Douro Street

Sub-Arterial Road

- Church Street, between Spring Road and Gladstone Street
- Douro Street, north of Market Street
- Douro Street, between Madeira Road and Horatio Street
- Henry Lawson Drive
- Lewis Street, north of Horatio Street
- Lions Drive
- Lue Road
- Short Street, between Lewis Street and Douro Street
- Ulan Road

Major Collector Roads

- Bellevue Road
- Gladstone Street, between Lewis Street and Denison Street
- Henry Bayly Drive, north of Rifle Range
- Inglis Street, west of Douro Street
- Madeira Road, between Robertson Street and Henry Bayly Drive
- Oporto Road, north of Lisbon Road
- Putta Bucca Road
- Robertson Street, between Spring Street and Madeira Road
- Spring Road, between Robertson Street and Oporto Road

Minor Collector Roads

- Denison Street, between Cox Street and Burrundulla Avenue
- Dewhurst Drive
- Fairydale Lane
- Gladstone Street, between Denison Street and Fairydale Lane
- Henry Bayly Drive, south of Madeira Road
- Mortimer Street, between Cox Street and Douro Street
- Mortimer Street, between Lewis Street and Mulgoa Way
- Redbank Road/ Trefusis Avenue
- Rifle Range Road

CBD Roads

- Market Street, between Douro Street and Lewis Street
- Mortimer Street, between Douro Street and Lewis Street
- Church Street, between Gladstone Street and Short Street
- Perry Street, between Gladstone Street and Short Street

Local Roads

- All other roads

6.2.2 Proposed Road Hierarchy

In reviewing the adopted Road Hierarchy for Mudgee, a range of options have been tested based on the following broad objectives:

- create a safer residential environment;
- minimise conflicts between through and local traffic and pedestrians;
- maximising environmental opportunities.

Based on the traffic analysis and the location of major new residential releases and the inter-connections of roads, the proposed road hierarchy illustrated in **Figure 10** is recommended. In essence it is similar to the current road hierarchy shown in **Figure 9** with the following addition and amendments:

Sub-Arterial Roads

- Hill End Road

Major Collector Roads

- Banjo Patterson Avenue (from local)
- Bell Street (from local)
- Fairydale Lane (from minor collector)
- Gladstone Street, between Denison Street and Fairydale Lane (from minor collector)
- Spine Road in Caerleon Subdivision

Minor Collector Roads

- Bellevue Road, west of Banjo Patterson Avenue (from major collector)

6.3 Implementation of Road Hierarchy

6.3.1 Approach for Implementation

The approach to management of traffic, on each road of the street network within Mudgee depends on its function and that road's physical characteristic.

For local access streets, with abutting residential land use, the emphasis should be on the provision of a safe and pleasant environment for residents. Traffic measures should be aimed at discouraging through traffic and possibly excluding it from some areas entirely.

On the other hand, for Arterial roads, the emphasis should be to facilitate large traffic movements, and management aimed, primarily, at providing an efficient and safe facility for these traffic movements.

On Collector and Sub-arterial roads, the objective should be to obtain a balance between providing for traffic and preserving the amenity of residential areas.

The adoption of a Traffic Management Plan for Mudgee:

- will give an opportunity to co-ordinate traffic planning and engineering works with the projected council budgets and road maintenance programs;
- will give logical reasons for a program of works in each part of the Township;
- will assist in counteracting the pressures from local residents to undertake studies in each of their areas as soon as possible.

6.3.2 Standard of Construction

The standard of construction of each street within the road network depends on its function within the Hierarchy, existing and likely traffic volumes, abutting land use and access to properties. Council's DCP stipulates for urban roads in new developments the construction standards included in **Table 6.1**; these are considered appropriate for Mudgee.

Table 6.1: Construction Standards in Mudgee Urban Areas

Road Type	Road Reserve	Carriageway	Nature Strip	Footpath	Kerb Type
Minor Road- Cul-de-sac serves ≤ 10 dwellings	16m	8m	2x4m	No	Roll-over
Residential Road – serves 31-120 dwellings	18m	9m	2x4.5m	1x1.2m	Roll-over
Major Residential Road (collector road) - serves > 120 dwellings	20m	11m	2x4.5m	1x1.2m	Roll-over
Sub-arterial Road –Bus Route and/or cycle lane (on one side only)	22m	13m	2x4.5m	2.5m	Barrier
Commercial & Industrial subdivision roads	24m	13m	2x5.5m	1x1.2m	Barrier/ Roll over

Source: Mid-Western Council (2013c)

Aspects which should be kept in mind when using **Table 6.1** are listed below:

- whilst the pavement width between kerb depends on the type of road the road reserves in existing roads should be retained;
- on-street parking would still be possible; the adoption of the above standards should not preclude the provision of angle parking where possible.

6.4 Heavy Vehicle Route Network

6.4.1 Truck Movements in Mudgee

Trucks can currently travel along most streets in Mudgee. Trucks travelling non-stop through Mudgee mostly travel along the Castlereagh Highway.

The proportion of heavy vehicles along the Castlereagh Highway and along some of the major Council's roads which carry over 100 trucks on weekdays are summarised in **Table 6.2**. A review of the counts indicates that:

- The Castlereagh Highway carry the highest number of trucks in Mudgee with over 750 and 400 trucks previously recorded along Horatio Street and Market Street respectively.
- The highest daily number of trucks recorded at the recently surveyed sites travelled along Perry Street (~400 trucks) near the CBD.
- Other streets carrying over 100 trucks include Church Street and Lewis Street

Table 6.2: Daily Traffic Volumes and Proportion Heavy Vehicles (weekday)

Street	2014 Study			2008 Study		
	Total	HV	%	Total	HV	%
Along Castlereagh Highway						
Douro Street, N of Gladstone St				7,063	480	6.8%
Horatio Street, near George St				8,535	768	9.0%
Horatio Street, W of Perry St				4,177	418	10%
Market Street, W of Douro St				5,290	428	8.1%
Market Street, E of Bell St				4,917	393	8.0%
Sydney Road at Railway X				8,536	640	7.5%
Along Council's Road						
Bellevue Road, W of Henry Bayly Dr				1,326	106	8.0%
Church St 100m north of Meares S	8911	187	2.1%	7818	109	1.4%
Church Street, N of Denison St				10,059	282	2.8%
Church Street, N of Market St				4,685	192	4.1%
Douro Street at Railway X				5,266	153	2.9%
Lewis Street, N of Gladstone St				3,627	254	7.0%
Lewis Street, S of Denison St				2,827	277	9.8%
Madeira Rd @ school	2949	192	4.2%	2763	53	2.1%
Market St 20m west of Perry	3117	272	3.3%			
Market St 50 east of Perry	5561	109	2.9%			
Market Street, E of Church St				2,141	122	5.7%
Oporto Road 15m N Havilah	2094	105	5.0%			
Perry 10m north of Market	2606	287	11.0%			
Perry 50m N of Mortimer	5449	392	7.2%			
Perry 50m south of Market	5617	230	4.1%	4837	131	2.7%
Perry Street, north of Horatio St	2174	100	4.6%			
Putta Bucca Rd 30m E of Chestnut Cl	1013	111	11.0%			
Robertson St, N of Abernethy	2765	102	3.7%	1911	124	6.6%
Short Street, E of Church St				2,124	204	9.6%
Short Street, E of Douro St				1,500	151	9.7%

6.4.2 Future Industrial Traffic

The following assumptions were used to estimate the daily trip generation of the potential new industrial area off Hill End Road:

- 20% of the site would be occupied with 25% factory and 75% warehousing
- Trip generation rates for factory component: 5 trip per 100 m² GFA
- Trip generation rates for warehousing component: 4 trip per 300 m² GFA
- About 12 percent of daily trips are made by trucks

Thus about 1,700 industrial trips would be generated on a typical weekday including about 200 trucks. This traffic would use the Castlereagh Highway and Hill End Road to access the proposed industrial area.

6.4.3 Objectives of a Truck Route Network

A designated truck route network for the Mudgee Township should generally achieve the following objectives:

- Trucks servicing the residential area and neighbourhood centres in Mudgee should use the Castlereagh Highway for most of their trip
- Intrusion of trucks in residential area should be minimised
- Trucks should not travel through the CBD unless picking up or delivering goods
- B-double trucks travelling through Mudgee should be restricted to the Highway.

6.4.4 Proposed Truck Route Network

The recommended Truck Routes Network, illustrated in **Figure 11**, addresses the objectives stipulated above. In summary the proposed Truck Route Network for Mudgee would include the roads noted below.

B-double Route (All trucks)

- Castlereagh Highway along Market Street, Douro Street, Horatio Street and Sydney Road
- Short Street, from Douro Street to Church
- Ulan Road
- Hill End Road
- Industrial Road
- Depot Road

Designated Truck Route (All trucks, except B-Double)

- Lewis Street, from Horatio to Short Street
- Short Street, from Lewis to Church Street
- Putta Bucca Road
- Henry Lawson Drive, between Putta Bucca Road and Ulan Road

Low Tonnage Routes (Rigid Trucks Only) accessing Residential Areas

- Lions Drive
- Robertson Street, between Madeira Road and Spring Road
- Madeira Road
- Church Street
- Spring Road
- Henry Bayly Drive, between Madeira Road and Bellevue Road
- Bellevue Road

Other Streets (Only for direct delivery & pick up of goods)

6.4.5 Implementation of Truck Route Network

In order to attract and encourage heavy vehicles to use the proposed Truck Routes Network, the implementation of the Truck Route Network should include

- Suitable sign posting of each Truck Route
- Appropriate advertising of the proposed scheme within and outside the Town.
- An assessment of the suitability of the pavement of each designated road to carry the anticipated volume of trucks and improved where necessary.

7. Draft Traffic Management Plan

7.1 Policy Matters

- Council adopts the road hierarchy illustrated in **Figure 10** together with the road standards included in **Table 5.1** for the Mudgee urban area including new subdivisions.
- Council promotes a ring road system around the CBD which includes Horatio Street, Douro Street, Short Street and Lewis Street.
- Council adopts the Truck Route Network, illustrated in **Figure 11** together the following:
 - Provision of suitable sign posting of each Truck Route
 - Implementation of an appropriate advertising program.
 - An assessment of the suitability of the pavement of each designated road to carry the anticipated volume of trucks and improved where necessary.
- Council to explore the need or the reopening of the railway crossing at Cox Street.
- Police to enforce speed limit at all locations with excessive speeding problems and safety related issues.

7.2 Recommended Improvements

7.2.1 Immediate Improvements (within two years)

The following improvements, illustrated in **Figure 12**, are recommended for implementation in the immediate term.

Bus Related Matters

- Approach the High School to assist with the supervision of students using the crossing in Horatio Street.
- Relocation of the Give Way signs from Perry Street to Gladstone Street
 - Extend bus zone in Lewis Street at the Catholic School with the introduction of No Parking restrictions from 2.30 to 4.00pm, between the northern driveway to the school and Market Street.

Safety Matters

- Increase the deflection of vehicles entering the roundabout from all approaches at the intersection of Horatio Street with Church Street
- Provision of slowing devices in
 - Church Street north of Meares Street
 - Denison Street between Lewis Street and Church Street
 - Oporto Street at the Southside Shopping Centre
- Relocate the commencement of the 50 kmh speed limit along Ulan Road from its current position north of Pitts Lane to 100 m north of Henry Lawson Drive.

Pedestrian Improvements

- Installation of pedestrian warning signage advising motorists to slow down at the intersection of Robertson Street with Lions Drive.
- Provision of a pedestrian refuge in Lions Drive, at Robertson Street and in Robertson Street north of Lions Drive.
- Investigate relocating the pedestrian crossing in Perry Street near the intersection of Denison Street further to the south in consultation with the schools.
- Request RMS consider warrants for a pedestrian crossing on Douro south of the railway line and before the intersection of Inglis Street

7.2.2 Short Term (within 5 years)

The following improvements, illustrated in **Figure 12**, are recommended for implementation in the short term:

Cycleway

- Provision of a dedicated cycleway from Winter Street to the CBD via the High School incorporating the following works:
 - Improving the connection between the existing cycleway and Horatio Street to comply with minimum standards
 - The provision of suitable signposting along Horatio Street to Douro Street
 - Improving access from the closed section of Horatio Street to Douro Street
 - Provision of a safe pedestrian/cyclists crossing of Douro Street at Horatio Street to access the school
 - Provision of a two way cycleway and suitable signposting on the northern side of Horatio Street between Douro Street and Perry Street.
 - Provision of a cycleway and suitable signposting on both sides of Perry Street to Mortimer Street for northbound and southbound direction respectively.
- Provision by line marking of two traffic lanes and two cycle lanes along
 - Lions Drive between Sydney Road and Robertson Street
 - Madeira Road

Road Improvements and Traffic Measures

- Provision of traffic calming devices such as entry and mid-block thresholds along Madeira Road, between Douro Street and Henry Bayly Drive.
- Provision of a seagull arrangement (that is the right turning movements are protected from through traffic) at the following intersections:
 - Madeira Road with Robertson Street
 - Inglis Street with Douro Street
- During the public exhibition phase of this document a submission was received to consider kerb blisters at the intersection of Lewis and Mortimer Streets with a longer term view of a roundabout at this location. This suggestion is supported.

Pedestrian Improvements

- Provision of a Shared Zone in Perry Street between Horatio Street and Denison Street including the implementation of the following:
 - Speed limit of 10 kmh
 - Provision of entry thresholds in Perry Street at Horatio Street and Denison Street
 - Restrict traffic to one way northbound between Horatio and Denison Streets
 - Provide angle parking on eastern side of Perry Street
 - Retain bus zone on western side of Perry Street
- Provision of a Shared Zone in Church Street between Mortimer Street and Market Street including the implementation of the following:
 - Speed limit of 10 kmh
 - Provision of entry thresholds in Church Street at Mortimer Street and Market Street
 - Retain angle parking on both sides of Church Street

Caerleon Subdivision Requirements under VPA

- Sealing the pavement of Fairydale Lane between Gladstone Street and the new access to Bellevue Hill Estate, to provide two traffic lanes and two cycle lanes. Developers to pay a contribution towards the upgrade of Fairydale Lane to provide two sealed travel lanes (3.25m each), two sealed shoulders (0.5m each) and two unsealed shoulder (1m each).
- Developer to design and construct the intersection of Hill End Road with the new Spine Road in accordance with clause 34 of the Notice of Determination for the subdivision dated 9 August 2013
- Developer to design and construct the intersection of Hill End Road with the Castlereagh Highway in accordance with clause 35 of the Notice of Determination for the subdivision dated 9 August 2013.

7.2.3 Medium Term (5 to 10 years)

The following improvements, also noted in **Figure 12**, are recommended for implementation in the medium term.

Road Improvement

- Realignment of the intersections of Bell Street and Putta Bucca Road at Castlereagh Highway together with the provision of a roundabout.

Traffic Measures

- Provision of a roundabout with pedestrian refuges at the following intersections:
 - Sydney Road with Burrundulla Road and Lions Drive
 - Douro Street with Denison Street
 - Douro Street with Horatio Street
 - Horatio Street with Lewis Street
 - Industrial Avenue and Sydney Road
- Provision of a seagull arrangement at the following intersections:
 - Fairydale Lane with Gladstone Street
 - Gladstone Street with Denison Street

- Provision of slowing devices at the following locations:
 - Gladstone Street between Fairydale Lane and Cox Street
 - Fairydale Lane
 - Banjo Patterson Avenue
 - Construct safety improvements at the Church Street and Spring Road intersection in consultation with the resident.
- Cycleway*
- Extending our Ulan Road to entrance of TAFE campus

7.2.4 Long Term (over 10 years)

The following improvements are recommended for implementation in the long term if a coal mine proceeds and coal freight trains travel through Mudgee:

- Provision of boom gates with “flashing lights and bells” at the Fairydale Lane crossing.
- Provision of boom gates at the Sydney Road railway crossing
- Provision of boom gates at the Douro Street railway crossing.
- A roundabout is also recommended at the intersection of Mortimer and Lewis Streets following a submission that was received during public exhibition of this document.

7.3 Funding Recommended Improvements

The source of funding for the recommended improvements can be categorized as follows:

- Through a section 94 contribution plan for improvements required as a direct result of future developments.
- Through specific funding agreements such as the Caerleon Estate
- Funding from other sources (eg coal mines)
- By Council and RMS for projects which are currently required and not directly attributed to future releases such as safety related matters.

7.3.1 Section 94 Contribution Plan

All recommended improvements included in **Table 7.1** in section 7.7.2 could be subject to a Section 94 Contribution Plan.

7.3.2 Specific Funding Agreements

The cost of the following improvements will be met in accordance with a Voluntary Planning Agreement (VPA) between Council and the Caerleon Estate:

- Sealing the pavement of Fairydale Lane between Gladstone Street and the new access to Bellevue Hill Estate, to provide two traffic lanes and two cycle lanes. Developers to pay a contribution towards the upgrade of Fairydale Lane to provide two sealed travel lanes (3.25m each), two sealed shoulders (0.5m each) and two unsealed shoulder (1m each).
- Developer to design and construct the intersection of Hill End Road with the new Spine Road in accordance with clause 34 of the Notice of Determination for the subdivision dated 9 August 2013
- Developer to design and construct the intersection of Hill End Road with the Castlereagh Highway in accordance with clause 35 of the Notice of Determination for the subdivision dated 9 August 2013.
- The developer is also contributing other money for water and sewer upgrades.

7.3.3 Funding from Other Sources

The following improvements, to be funded by coal mines in the event coal freight trains travel through Mudgee:

- Provision of boom gates with “flashing lights and bells” at the Fairydale Lane crossing.
- Provision of boom gates at the Sydney Road railway crossing
- Provision of boom gates at the Douro Street railway crossing.

7.3.4 Funding by Council or RMS

All other improvements stipulated in section 7.1 and 7.2 should be funded by Council and/or the RMS.

7.4 Input in Section 94 Contribution

Council cannot possibly fund all of the needed road improvements in time to meet the demands of the new developments, particularly with the other demands for rate-payers funds. Therefore, Council needs to seek contributions from the developers to assist in the implementation of road and traffic improvements required as a direct result of these developments.

The contribution to road and traffic improvements allocated to a new development should be based on the estimated use of road and intersection capacity by the traffic generated by that development. The cost allocation approach adopted has been based on the following:

- use of the measure (peak vehicle trips) that creates the need for increased road and intersection capacity requiring their improvement;
- use of peak hour traffic as the controlling factor in terms of the need for road and traffic improvements;
- establishment of a standard for road and intersection level of service considered as the upper limit for traffic congestion;
- allocation of only the costs associated with the road and intersection improvements required by the additional traffic generated by all new developments.

The improvements included in **Table 7.1** could be included as part of a section 94 Contribution applicable to the future releases assumed in this study. The costs, provided by Council, included in the table are only estimates which should be firmed up following preliminary design.

The cost of all recommended improvements which could form part of a contribution plan has been estimated at about \$7,010,000.

Table 7.1: Costs of Improvements Subject to a Contribution Plan

Immediate Improvements	Estimated Costs
Provision of a pedestrian refuge in Lions Drive, at Robertson Street and in Robertson Street north of Lions Drive with appropriate warning signs.	\$20,000
Short Term Improvements	
Linemark Lions Drive for two traffic lanes and two parking/cycle lanes.	\$10,000
Linemark Madeira Road for two traffic lanes and two parking/cycle lanes	\$10,000
Provision of traffic calming devices along Madeira Road, between Douro Street and Henry Bayly Drive.	\$20,000
Provision of a seagull arrangement at the intersection of Madeira Road with Robertson Street	\$100,000
Provision of a seagull arrangement at the intersection of Inglis Street with Douro Street	\$100,000
Construct kerb blisters at intersection of Mortimer and Lewis Street	\$190,000
Medium Term	
Realignment of the intersections of Bell Street and Putta Bucca Road at Castlereagh Highway together with the provision of a roundabout	\$950,000
Provision of a roundabout with pedestrian refuges at the intersection of Sydney Road with Burrundulla Road and Lions Drive	\$950,000
Cycleway extending our Ulan Road to entrance of TAFE campus	\$240,000
Construct safety improvements at the Church Street and Spring Road intersection	\$50,000
Provision of a roundabout with pedestrian refuges at the intersection of Douro Street with Denison Street	\$950,000
Provision of a roundabout with pedestrian refuges at the intersection of Douro Street with Horatio Street	\$950,000
Provision of a roundabout with pedestrian refuges at the intersection of Horatio Street with Lewis Street	\$950,000
Provision of a roundabout at the intersection of Industrial Avenue and the Sydney Road was also preferred.	\$950,000
Provision of a seagull arrangement at the intersection of Fairydale Lane with Gladstone Street	\$100,000
Provision of a seagull arrangement at the intersection of Gladstone Street with Denison Street	\$100,000
Provision of slowing devices in Gladstone Street between Fairydale Lane and Cox Street	\$20,000
Provision of slowing devices in Fairydale Lane	\$20,000
Provision of slowing devices in Banjo Patterson Avenue	\$30,000
Long Term	
Construct roundabout at Lewis & Mortimer Street	\$300,000
Total Estimated Costs	\$7,010,000

*Source: Council

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Appendices

Appendix A

Crash Statistics

APPENDIX A								
Table A1 Mudgee Township Intersection Crashes - Yearly Frequency								
Intersections	2008	2009	2010	2011	2012	Total	I	F
Bawden Rd with								
Clifton Ave					1	1	0	
Bell Street with								
Cohen St			1			1	1	
Gladstone St	1					1		
Salesyard Rd					1	1		
Burrandella Ave with								
Mortimer St	1					1	0	
Castlereagh Hwy with								
Bell St			1		1	2	1	
Putta Bucca Rd with			1	1		2	1	
Willbertree Rd	1		1			2	0	
Church with								
Denison St		1				1	1	
Gladstone St			3			3	3	
Madeira St	1	1				2	1	
Market St				1		1		
Mortimer St		1				1	0	
Cox St with								
Denison St			1			1		
Gladstone St			1			1	1	
Short St		1			1	2	1	
Denison with								
Cameron St	1	1				2		
George St					1	1	1	
Gladstone St			1			1	0	
Headley Pl					1	1	1	
Lawson St					1	1	1	
Perry St			1			1	0	
Douro Street with								
Denison St	1	1			1	3	1	
Gladstone St	1		1		2	4	1	
Mortimer St		1	1	1	1	4	4	
Market St		1		1		2	1	
Madeira Rd		1	1	1		3	3	
Nicholson St			1	1	1	3	3	
Gladstone St with								
Court St		1		1		2	0	
Park Av	1					1	1	
Perry St			1		1	2	1	
Horatio St with								
Church St	2	1		2	1	6	4	
Douro St	3	1		1		5	5	
George St				1	1	2	1	
Lewis St	1	1	1			3	0	
Perry St	1			2	1	4	2	
Lewis St with								
Denison St			1			1	0	
Meares St		1				1	0	
Market St			2			2	1	
Lions Dr with								
Robertson St		1	1		1	3	1	
Mortimer with								
Court St	1					1	0	
Lawson St		1	1			2	4	
Lewis St					1	1	0	
Perry St	1	1		1	1	4	3	
Oporto Rd with								
Havilah Tce				1		1	0	
Perry St with								
Market St	1					1		
Short St		1				1	0	
Putta Bucca Rd with								
Henry Lawson Dr			1			1	1	
Tinja Ln	1					1	0	
Sydney Rd with								
Depot Rd			2			2	3	
Industrial Ave	1			1		2	1	
Lions/Burrudulla Rd		1			3	4	2	
Ulan Rd with								
Henry Lawson Dr		1		1		2	3	
Lue Rd		1	1		1	3	4	
Moggs Ln	1					1		
Sub-Total intersections	21	21	26	17	23	108	63	0
	19.4%	19.4%	24.1%	15.7%	21.3%	100.0%		

APPENDIX A						1.5		
Table A2 Mudgee Township Mid-Block Crashes - Yearly Frequency								
	2008	2009	2010	2011	2012	Total	I	F
Bateman Ave			1			1	0	
Bellevue Rd						0		
Marshfield Ln to Albens Ln		1				1	1	
Burrundulla Ave						0		
Cedar to Mulgoa			1			1	1	
Burrundulla Road						0		
Sydney to Industrial					1	1		
Castlereah Hwy						0		
Salesyard to Hill End	1					1	0	
						0		
Church St						0		
Market to Mortimer	1	1	1		1	4	2	
Gladstone to Mortimer		1	1			2	1	
Denison to Gladstone	1	2				3	0	
Horatio to Denison		1			1	2	0	
Meares to Rail X			1			1	0	
Madeira to Meares			1			1	2	
Lisbon to Madeira	1					1	0	
Court St						0		
Gladstone to Mortimer			1			1	0	
Cox St						0		
Denison to Gladstone				1		1	1	
Denison St						0		
Lahy to Rayner				1		1	0	
Menchin to Cameron				1		1	1	
Douro to Perry				1		1	0	
Church to Lewis					1	1	0	
Douro Street						0		
Denison to Gladstone					1	1	0	
Mortimer to Lovejoy					1	1	0	
Horatio to Railway Line			1			1	1	
Gladstone St						0		
Park to Cox	1		1	1		3	3	
Park to First			1			1	1	
Henry Lawson						0		
Ulan to Putta Bucca		1				1	0	
Horatio St						0		
Burrundulla to George		1			1	2	0	
Church to Lewis		1				1	0	
Douro to Perry				1		1	2	
George to Lawson				1		1	4	
Industrial Rd						0		
Sydney to Burrundulla		1	1			2	1	
Inglis St						0		
Douro to Court						0		
Lewis St						0		
Gladstone to Mortimer					1	1	1	
Lions Dr						0		
Kellett to Robertson					1	1	0	
Market St						0		
Church to Perry				1		1	1	
Douro to Perry				1		1	1	
Douro to Court					1	1	1	
Court to Cox		1				2	0	
Second to Third		1				1	0	
Third to Bell				1		1	2	1
Mortimer St						0		
George to Lawson	1					1	0	
Lawson to Lewis					1	1	0	
Lewis to Church					1	1	1	
Perry to Douro					1	1	1	
Cox to Park				1		1	0	
Oporto Rd						0		
Havilah to Burgundy		1				1	0	
Perry Street						0		
Market to Short			1	1		2	0	
Mortimer to Gladstone				1		1	1	
						0		
Putta Bucca Rd						0		
Castleragh to Tinja		1		1		2	1	
Sydney Rd						0		
Burrundulla Ave to Industrial				2		2	0	
Industrial to Burrundulla Rd		1	1			2	2	
Burrundulla Rd to Spring Flat Rd	1	1				2	1	
Ulan Rd						0		
Lue to Henry Lawson	2			1	4	7	3	
Henry Lawson to Moggs Ln				1		1	1	
White Cct						0		
east of Banjo Patterson				1		1	0	
Sub Total Mid Block	9	16	13	19	18	75	38	1
	12.0%	21.3%	17.3%	25.3%	24.0%	100.0%		
TOTAL	30	37	39	36	41	183	101	1

APPENDIX A																	
TABLE A3																	
CRASHES AT INTERSECTIONS IN MUDGEE 2008-2012																	
Intersection	Cross Traffic/ Right angle		Rear End		Head On		Out of Control		U Turn		Pedestrian		Others		TOTAL		
	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	F
Bawden Rd with																	
Clifton Ave	1															1	0
Bell Street with																	
Cohen St							1	1							1	1	
Gladstone St													1		1	0	
Salesyard Rd							1								1	0	
Burrandella Ave with																	
Mortimer St							1								1	0	
Sydney Rd															0	0	
Castlereagh Hwy with																	
Bell St			1				1	1							2	1	
Putta Bucca Rd							1		1	1					2	1	
Willbertree Rd							2								2	0	
Church with																	
Denison St	1	1													1	1	
Gladstone St	1	1	2	2											3	3	
Madeira St	2	1													2	1	
Market St							1								1	0	
Mortimer St							1								1	0	
Cox St with																	
Denison St					1										1	0	
Gladstone St											1	1			1	1	
Short St	1		1	1											2	1	
Denison with																	
Cameron St	1						1								2	0	
George St	1	1													1	1	
Gladstone St	1														1	0	
Headley Pl	1	1													1	1	
Lawson St	1	1													1	1	
Perry St	1														1	0	
Douro Street with																	
Denison St	1						2	1							3	1	
Gladstone St	2				2	1									4	1	
Mortimer St	3	3										1	1		4	4	
Market	2	1													2	1	
Madeira Rd			2	3			1								3	3	
Nicholson St	3	3													3	3	
Gladstone St with																	
Court St			1				1								2	0	
Park Av							1	1							1	1	
Perry St	2	1													2	1	
Horatio St with																	
Church St	5	4					1								6	4	
Douro St	4	5											1		5	5	
George St			2	1											2	1	
Lewis St	3														3	0	
Perry St	1				2	2	1								4	2	
Inglis St with															0	0	
Lewis St with																	
Denison St							1								1	0	
Meares St	1														1	0	
Market St	2	1													2	1	
Lions Dr with																	
Robertson St	1	1					2								3	1	
Madeira Rd with															0	0	
Mortimer with																	
Court St	1														1	0	
Lawson St	2	4													2	4	
Lewis St	1														1	0	
Perry St	1	1					3	2							4	3	
Oporto Rd with																	
Havilah Tce													1		1	0	
Perry St with																	
Market St							1								1	0	
Short St									1						1	0	
Putta Bucca Rd with																	
Henry Lawson Dr	1	1													1	1	
Tinja Ln							1								1	0	
Sydney Rd with																	
Depot Rd	1	3					1								2	3	
Industrial Ave					1		1	1							2	1	
Lions/Burrudulla Rd	1		1				2	2							4	2	
Ulan Rd with																	
Henry Lawson Dr	2	3													2	3	
Lue Rd	1		1	3			1	1							3	4	
Moggs Ln			1												1	0	
TOTAL	53	37	12	10	6	3	30	10	2	1	1	1	4	1	108	63	
	49.1%	58.7%	11.1%	15.9%	5.6%	4.8%	27.8%	15.9%	1.9%	1.6%	0.9%	1.6%	3.7%	1.6%	100%	100%	
A	Number of crashes																
I	Number of injuries																
F	Fatality																

APPENDIX A																					
TABLE A4																					
CRASHES AT MID-BLOCK IN MUDGEE 2008-2012																					
Mid Block	Head on		RearEnd		U-Turn		Off Carriageway			Pedestrians		Side Swipe		Emerging from Driveways Parking		Other		Total			
	A	I	A	I	A	I	A	I	F	A	I	A	I	A	I	A	I	A	I	F	
Bateman Ave							1	0											1	0	
Bellevue Rd																			0	0	
Marshfield Ln to Albens Ln							1	1											1	1	
Burrundulla Ave																			0	0	
Cedar to Mulgoa																	1	1	1	1	
Burrundulla Road																			0	0	
Sydney to Industrial																	1	0	1	0	
Castlereah Hwy																			0	0	
Salesyard to Hill End	1	0																	1	0	
Church St																			0	0	
Market to Mortimer			2	0						2	2								4	2	
Gladstone to Mortimer			1	1			1	0											2	1	
Denison to Gladstone			1	0								1	0	1	0				3	0	
Horatio to Denison			2	0															2	0	
Meares to Rail X			1	0															1	0	
Madeira to Meares			1	2															1	2	
Lisbon to Madeira			1	0															1	0	
Court St												0							0	0	
Gladstone to Mortimer							1	0											1	0	
Cox St																			0	0	
Denison to Gladstone	1	1																	1	1	
Denison St																			0	0	
Lahy to Rayner							1	0											1	0	
Menchin to Cameron							1	1											1	1	
Douro to Perry			1	0															1	0	
Church to Lewis							1	0											1	0	
Douro Street																			0	0	
Denison to Gladstone							1	0											1	0	
Mortimer to Lovejoy							1	0											1	0	
Horatio to Railway Line							1	1											1	1	
Gladstone St																			0	0	
Park to Cox			1	1			2	2											3	3	
Park to First							1	1											1	1	
Henry Lawson												1	0						0	0	
Ulan to Putta Bucca																			1	0	
Horatio St																			0	0	
Burrundulla to George							2	0						1	0				2	0	
Church to Lewis																			1	0	
Douro to Perry			1	2															1	2	
George to Lawson							1	4											1	4	
Industrial Rd													0						0	0	
Sydney to Burrundulla	1	1					1	0											2	1	
Lewis St																			0	0	
Gladstone to Mortimer			1	1															1	1	
Lions Dr																			0	0	
Kellett to Robertson							1	0											1	0	
Market St																			0	0	
Church to Perry													1	1					1	1	
Douro to Perry										1	1								1	1	
Douro to Court			1	1															1	1	
Court to Cox						2	0												2	0	
Second to Third	1	0																	1	0	
Third to Bell							1	2	1										1	2	1
Mortimer St																			0	0	
George to Lawson										1	0			1	0				1	0	
Lawson to Lewis																			1	0	
Lewis to Church										1	1								1	1	
Perry to Douro																	1	1	1	1	
Cox to Park										1	0								1	0	
Oporto Rd																			0	0	
Havilah to Burgundy													1	0					1	0	
Perry Street																			0	0	
Market to Short													1	0	1	0			2	0	
Mortimer to Gladstone													1	1					1	1	
Putta Bucca Rd																			0	0	
Castleragh to Tinja							2	1											2	1	
Sydney Rd																			0	0	
Burrundulla Ave to Industrial			1	0									1	0					2	0	
Industrial to Burundulla Rd			1	2									1	0					2	2	
Burundulla Rd to Spring Flat Rd			2	1															2	1	
Ulan Rd																			0	0	
Lue to Henry Lawson			3	2			2	0		1	1		1	0					7	3	
Henry Lawson to Moggs Ln			1	1															1	1	
White Cct																			0	0	
east of Banjo Patterson							1	0											1	0	
Total Mid Block	4	2	22	14	2	0	24	13	1	7	5	1	0	10	2	5	2	75	38	1	
	5.3%	5.3%	29.3%	36.8%	2.7%	0.0%	32.0%	34.2%	100.0%	9.3%	13.2%	1.3%	0.0%	13.3%	5.3%	6.7%	5.3%	100%	100%		
A	Number of crashes																				
I	Number of injuries																				
F	Number of Fatalities																				

Appendix B

Daily Traffic Volumes, Classes and
Speeds in Mudgee

Street	Location	DAILY TRAFFIC VOLUMES, CLASSES & SPEEDS IN MUDGEE												
		Average Weekly Daily Traffic		Heavy Vehicles			Peak Hour		Speed					
		Weekday	Weekend	Weekly	Medium	Heavy	AM Vol	AM Time	PM Vol	PM Time	Mean	85 th %ile	50>	60>
1 Bellevue Road	west of Henry Bayly Dr	1326	990	1230	7.7%	0.3%	108	8am	135	4pm	52.8	59.8	65.4%	15.0%
2 Burrundulla Ave	Horatio St & Denison St	931	578	830	4.10%	0.10%	82	8am	87	3pm	44.6	53.6	28.0%	4.0%
3 Burrundulla Road	east of Sydney Road	1979	1216	1761	2.90%	0.10%	194	11am	195	1pm	27.3	32.4	0.1%	0.0%
4 Church Street	Market St & Short St	4685	4818	4723	4.10%	0.00%	409	8am	422	5pm	33.3	39.2	0.5%	0.0%
5 Church Street	Mealy St & Denison St	10059	8078	9493	2.70%	0.10%	725	8am	951	3pm	41.4	47.5	7.6%	0.4%
6 Church Street	Mearnes St & Railway X	7818	6628	7478	1.40%	0.00%	631	8am	786	5pm	49.7	55.1	45.4%	4.0%
7 Church Street	Spring Rd & Redbank Rd	1194	1149	1181	2.60%	0.10%	93	8am	122	5pm	49.8	56.5	49.0%	7.1%
8 Denison Street	George St & Lawson St	553	452	524	3.10%	0.00%	54	8am	54	3pm	33	38.5	0.3%	0.0%
9 Denison Street	Cox St & Gawthorne Pl	1554	1915	1657	3.30%	0.00%	96	8am	179	5pm	47.7	56.2	41.4%	7.0%
10 Denison Street	Church St & Perry St	1063	657	947	3.40%	0.00%	118	8am	127	3pm	24.8	30.6	0.0%	0.0%
11 Douro Street	Market St & Short St	1365	763	1193	7.60%	2.60%	127	8am	138	4pm	37.1	43.9	2.7%	0.1%
12 Douro Street	Gladstone St & Mortimer St	7063	5747	6687	4.80%	2.00%	600	11am	641	4pm	44.2	51.5	22.8%	1.4%
13 Douro Street	at Railway X	5266	4251	4976	2.7%	0.2%	532	8am	549	3pm	42.3	51.8	22.2%	1.8%
14 Fairydale Lane	Gladstone St & railway X	126	102	119	7.7%	0.0%	9	8am	13	4pm	38.5	49	12.9%	2.4%
15 Gladstone Street	Lewis St & Church St	1518	920	1347	1.0%	0.0%	149	8am	190	3pm	33	38.2	0.2%	0.0%
16 Gladstone Street	Court St & Cox St	2276	2094	2224	2.5%	0.0%	167	8am	222	3pm	46.3	53.6	33.6%	3.3%
17 Henry Bayly Drive	Baskerville Dr	696	623	675	10.3%	0.0%	51	8am	70	4pm	31.1	36	0.2%	0.0%
18 Horatio Street	Lochel Ln & George St	8535	5123	7560	7.1%	1.9%	677	8am	876	4pm	48.4	54.4	41.7%	3.3%
19 Horatio Street	Perry St & Douro St	4177	3012	3844	7.3%	2.7%	377	8am	396	3pm	44	51.1	19.8%	1.4%
20 Inglis Street	Douro St & Court St	2289	1848	2163	4.0%	0.0%	176	8am	225	5pm	26.4	30.6	0.0%	0.0%
21 Lawson Street	Gladstone St & Mortimer St	532	347	479	3.7%	0.0%	48	8am	66	3pm	33.6	38.9	0.6%	0.0%
22 Lewis Street	Gladstone St & Mortimer St	3627	2231	3228	6.0%	1.0%	304	8am	370	3pm	44.8	51.8	23.3%	2.0%
23 Lewis Street	Horatio St & Mealy St	2827	1693	2503	8.6%	1.2%	224	11am	303	4pm	41.4	47.5	8.0%	0.3%
24 Lions Drive	Sydney Rd & Broadhead Rd	1471	1090	1362	4.9%	0.2%	134	8am	152	4pm	50.1	57.6	50.5%	9.2%
25 Madeira Road	Church St & Atkinson St	2763	2088	2570	2.1%	0.0%	286	8am	285	3pm	38.7	46.1	5.1%	0.2%
26 Madeira Road	west of Douro St	834	792	822	1.8%	0.0%	82	8am	78	5pm	51.8	60.1	61.3%	16.1%
27 Market St	Lewis St & Church St	2141	1280	1895	5.7%	0.0%	233	8am	229	3pm	24.9	29.9	0.2%	0.0%
28 Market St	Douro St & Court St	6875	5594	6509	6.5%	0.6%	593	8am	615	4pm	40.5	48.6	10.9%	0.5%
29 Market St	Third St & Bell St	4917	4014	4659	5.7%	2.3%	428	8am	466	4pm	49.8	54.7	46.4%	4.0%
30 Mearnes Street	Grant St & Church St	2357	1986	2251	2.2%	0.0%	162	9am	240	5pm	40.4	45.7	4.0%	0.1%
31 Mortimer Street	Lawson St & Lewis St	1872	1564	1784	1.9%	0.1%	138	10am	181	4pm	46	53.6	31.2%	3.4%
32 Mortimer Street	Cox St & Park Ave	885	721	838	1.3%	0.0%	63	11am	91	4pm	41.9	48.2	10.6%	0.7%
33 Oporto Road	Madeira Rd & Norman Rd	3029	2427	2857	2.1%	0.0%	246	8am	294	4pm	41.6	47.5	8.5%	0.3%
34 Perry Street	Market St & Short St	1514	737	1292	4.8%	0.0%	144	7am	173	2pm	21.3	24.5	0.0%	0.0%
35 Perry Street	south of Market	4837	3007	4314	2.7%	0.0%	451	11am	547	3pm	32.5	41	1.4%	0.1%
36 Robertson Street	Trefusis Ave	1776	1538	1708	2.4%	0.0%	163	8am	195	5pm	43.8	54.4	27.8%	5.5%
37 Robertson Street	Abernethy	1911	1715	1855	6.5%	0.1%	181	7am	195	3pm	55.9	63	81.3%	27.8%
38 Short Street	Lewis St & Church St	2124	1501	1946	7.8%	1.8%	177	8am	213	4pm	40	46.8	6.9%	0.3%
39 Short Street	Perry St & Douro St	1550	945	1377	7.4%	2.3%	126	8am	148	4pm	47.4	55.1	37.5%	5.4%
40 Spring Road	Melton Rd & Church St	1543	1424	1509	3.6%	0.0%	137	8am	165	5pm	54.2	61.6	73.2%	20.4%

Appendix C

Guidelines for Evaluation of
Carriageway Capacity

APPENDIX C

CONCEPT OF CARRIAGEWAY CAPACITY AND LEVEL OF SERVICE

The capacity of major streets within an urban area can be based on an assessment of their operating Level of Service. Level of service is defined by AUSTRROADS (1988) as a "qualitative measure of the effects of a number of features, which include speed and travel time, traffic interruptions, freedom to manoeuvre, safety, driving comfort and convenience, and operating costs. Levels of service are designated from A to F from best (free flow conditions) to worst (forced flow with stop start operation, long queues and delays) as follows:

LEVELS OF SERVICE

- A - Free flow (almost no delays)
- B - Stable flow (slight delays)
- C - Stable flow (acceptable delays)
- D - Approaching unstable flow (tolerable delays)
- E - Unstable flow (congestion; intolerable delays)
- F - Forced flow (jammed)

A service volume, as defined by AUSTRROADS (1988), is the maximum number of vehicles that can pass over a given section of roadway in one direction during one hour while operating conditions are maintained at a specified level of service.

One-way hourly volumes for traffic flow at different level of service, in urban situations are summarised in [Tables C1 and C2](#) for interrupted and uninterrupted flow conditions respectively.

It is suggested that ideally arterial and sub-arterial roads should not exceed service volumes at level of service C. At this level, whilst most drivers are restricted in their freedom to manoeuvre, operating speeds are still reasonable and acceptable delays experienced. However, in urban situations, arterial and sub-arterial roads operating at Level of Service D, are still considered adequate.

TABLE C1
LEVEL OF SERVICE INTERRUPTED FLOW CONDITIONS ALONG URBAN ROADS (One Way Hourly Volumes)

ROAD CLASS		LEVEL OF SERVICE						
Type	Description	Description	A	B	C	D	E	F
U1	2	2 Lane Undivided	540	630	720	810	900	F
U1	4U	4 Lane Undivided with some parking	900	1050	1200	1350	1500	O
U1	4UC	4 Lane Undivided with Clearways	1080	1260	1440	1620	1800	R
U1	4D	4 Lane Divided with Clearways	1140	1330	1520	1710	1900	C
U1	6U	6 Lane Undivided	1440	1680	1920	2160	2400	E
U1	6D	6 Lane Divided with Clearway	1740	2030	2320	2610	2900	D

TABLE C2
LEVEL OF SERVICE UNINTERRUPTED FLOW CONDITIONS ALONG URBAN ROADS (One Way Hourly Volumes*)

ROAD CLASS		LEVEL OF SERVICE						
Type	Description	Description	A	B	C	D	E	F
U2	2	2 Lane Undivided	760	880	1000	1130	1260	F
U2	4U	4 Lane Undivided with some parking	1260	1470	1680	1890	2100	O
U2	4UC	4 Lane Undivided with Clearways	1510	1760	2010	2270	2520	R
U2	4D	4 Lane Divided with Clearways	1600	1860	2130	2400	2660	C
U2	6U	6 Lane Undivided with Clearways	2020	2350	2690	3020	3360	E
U2	6D	6 Lane Divided with Clearway	2440	2840	3250	3660	4060	D

* 40% higher than base volumes in Table C1

Appendix D

Carriageway Level of Service

APPENDIX D PM PEAK HOURLY TRAFFIC VOLUMES (PCU)												
Street	Location	No of Lanes	Existing Volumes PCU 2014				With New Releases (PCU)				Daily Volumes (PCU)	
			N/E	S/W	Total	LoS	N/E	S/W	Total	LoS	Existing	Future
Bell Street	South of Castlereagh	2U	53	64	117	A	110	191	301	A	1170	3010
Bellevue Road	west of Henry Bayly Dr	4UP	122	179	301	A	234	356	590	A	3010	5900
Burrandulla Road	east of Sydney Road	4U	82	107	189	A	106	224	330	A	1890	3300
Church Street	Market St & Short	4UP	208	240	448	A	242	278	520	A	4480	5200
Church Street	Mortimer St & Market	4UP	437	435	872	A	532	536	1068	B	8720	10680
Church Street	Gladstone & Mortimer	4UP	515	525	1040	A	623	639	1262	B	10400	12620
Church Street	Mealy St & Denison St	4UP	486	542	1028	B	545	641	1186	C	10280	11860
Church Street	Denison St & Gladstone	4UP	495	525	1020	A	554	608	1162	B	10200	11620
Church Street	Horatio St & Denison St	4UP	411	518	929	A	471	617	1088	B	9290	10880
Church Street	Horatio St & Inglis St	4UP	411	518	929	A	459	572	1031	B	9290	10310
Church Street	Meares St & Railway X	2U*	340	462	802	A	392	514	906	A	8020	9060
Church Street	Madeira Rd & Meares St	4UP	247	334	581	A	299	386	685	A	5810	6850
Denison Street	Church St & Perry St	4UP	39	27	66	A	74	44	118	A	660	1180
Denison Street	Church St & Lewis St	4UP	28	31	59	A	47	48	95	A	590	950
Douro Street	Market St & Short St	4UP	93	166	259	A	100	177	277	A	2590	2770
Douro Street	Mortimer St & Market St	4UP	250	322	572	A	391	407	798	A	5720	7980
Douro Street	Gladstone St & Mortimer St	4UP	329	439	768	A	470	524	994	A	7680	9940
Douro Street	Denison St & Gladstone St	4UP	354	443	797	A	626	586	1212	B	7970	12120
Douro Street	at Railway X	2U*	282	415	697	A	400	574	974	A	6970	9740
Fairy Dale Lane	Gladstone St & railway X	2U*	55	56	111	A	232	396	628	A	1110	6280
Gladstone Street	Lewis St & Church	4UP	79	82	161	A	109	119	228	A	1610	2280
Gladstone Street	Church & Perry	4UP	133	145	278	A	213	231	444	A	2780	4440
Gladstone Street	Douro St & Cox St	4UP	133	153	286	A	253	366	619	A	2860	6190
Henry Bayly Drive	Baskerville Dr & Inglis	2U	58	55	113	A	161	108	269	A	1130	2690
Hill End Road	south of Castlereagh Hwy	2U	57	81	138	A	280	335	615	A	1380	6150
Horatio Street	Church St & Perry St	4UP	335	332	667	A	417	548	965	B	6670	9650
Horatio Street	Perry St & Douro St	4UP	150	297	447	A	259	525	784	A	4470	7840
Inglis Street	Douro St & Court St	4UP	151	228	379	A	210	302	512	A	3790	5120
Lewis Street	Mortimer St & Market	4UP	208	170	378	A	249	193	442	A	3780	4420
Byron Place	east of Perry St	4U	233	208	441	A	313	362	675	A	4410	6750
Madeira Road	Grant St & Church St	4U	145	139	284	A	196	237	433	A	2840	4330
Market St	Lewis St & Church St	4UP	152	140	292	A	152	140	292	A	2920	2920
Market Street	Perry St & Church St	4UP	257	321	578	A	305	378	683	A	5780	6830
Market Street	Douro St & Perry St	4UP	307	336	643	A	372	428	800	A	6430	8000
Market St	Douro St & Court St	4UP	312	368	680	A	451	594	1045	B	6800	10450
Market St	Third St & Bell St	4UP	240	278	518	A	370	504	874	A	5180	8740
Meares Street	Grant St & Church St	4UP	138	108	246	A	138	108	246	A	2460	2460
Mortimer Street	Lawson St & Lewis St	4UP	111	71	182	A	111	71	182	A	1820	1820
Mortimer Street	Lewis St & Church	4UP	177	268	445	A	177	268	445	A	4450	4450
Perry Street	Market St & Short St	4UP	241	214	455	A	256	214	470	A	4550	4700
Perry Street	south of Market	4UP	283	291	574	A	344	334	678	A	5740	6780
Perry Street	Gladstone St & Mortimer St	4UP	179	232	411	A	235	345	580	A	4110	5800
Perry Street	Denison St & Gladstone	4UP	102	148	250	A	113	201	314	A	2500	3140
Pitt Lane	west of Ulan	2U	13	18	31	A	13	18	31	A	310	310
Putta Bucca	north of Castreagh	2U	25	32	57	A	102	119	221	A	570	2210
Short Street	Lewis St & Church St	4UP	177	173	350	A	189	206	395	A	3500	3950
Sydney Road	at Railway Crossing	2U*	572	517	1089	A	776	589	1365	B	10890	13650
Sydney Road	Burrundulla Rd & Industrial Rd	4UP*	329	402	731	A	438	489	927	A	7310	9270
Ulan	Short & Pitt / Lue	2U*	423	410	833	A	512	471	983	A	8330	9830
Ulan	Pitt/ Lue & Henry Lawson	2U*	330	366	696	A	419	427	846	A	6960	8460
* Uninterrupted												

Appendix E

Guidelines for Evaluation of
Intersection Capacity

Appendix E Guidelines for Evaluation of Intersection Capacity

The RTA has included in the latest "Guide to Traffic Engineering Developments (Dec 1993, Issue 2) has included a section on the assessment of intersections. The assessment of the level of service of an intersection is based on the evaluation of the following Measures of Effectiveness:

- average delay (secs/veh) (all forms of control)
- delay to critical movement (secs/veh) (all forms of control)
- degree of saturation (traffic signals and roundabouts)
- cycle length (traffic signals)

INTANAL was used to calculate the relevant intersection parameters. INTANAL is a software which allows comparisons between different forms of intersection control and different forms of intersection configurations to be readily evaluated. That is at each intersection the priority control, roundabout and signal control options will be examined to determine the most efficient form of control.

The best indicator of the level of service at an intersection is the average delay experienced by vehicles at that intersection. For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (with Stop and Give Way signs or operating under the T-junction rule) the critical movement for level of service assessment should be that with the highest average delay.

With traffic signals, delays per approach tend to be equalised, subject to any over-riding requirements of signal co-ordination as well as to variations within individual movements. With roundabouts and priority - control intersections, the critical criteria for assessment is the movement with the highest delay per vehicle. With this type of control the volume balance might be such that some movements suffer high levels of delay while other movements have minimal delay. An overall average delay for the intersection of 25 seconds might not be satisfactory if the average delay on one movement is 60 seconds.

The average delay for level of service E should be no more than 70 seconds. The accepted maximum practical cycle length for traffic signals under saturated conditions is 120 - 140 seconds. Under these conditions 120 seconds is near maximum for two and three phase intersections and 140 seconds near maximum for more complex phase designs. Drivers and pedestrians expect cycle lengths of these magnitudes and their inherent delays in peak hours. A cycle length of 140 seconds for an intersection which is almost saturated has an average vehicle delay of about 70 seconds, although this can vary. If the average vehicle delay is more than 70 seconds, the intersection is assumed to be at Level of Service F.

Table E1 sets out average delays for different levels of service. There is no consistent correlation between definitions of levels of service for road links as defined elsewhere in this section, and the ranges set out in **Table E1**. In assigning a level of service, the average delay to the motoring public needs to be considered, keeping in mind the location of the intersection. For example, drivers in inner-urban areas of Sydney have a higher tolerance of delay than drivers in country areas. **Table E1** provides a recommended baseline for assessment.

Table E1: Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 - 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, required other control mode

Source: RTA (2002)

The figures in **Table E1** are intended as a guide only. Any particular assessment should take into account site-specific factors including maximum queue lengths (and their effect on lane blocking), the influence of nearby intersections and the sensitivity of the location to delays. In many situations, a comparison of the current and future average delay provides a better appreciation of the impact of a proposal, and not simply the change in the level of service.

The intersection degree of saturation (DS) can also be used to measure the performance of isolated intersections. At intersections controlled by traffic signals, both queue length and delays increase rapidly as DS approaches 1.0. An upper limit of 0.9 is appropriate. When DS exceeds 0.8 - 0.85, overflow queues start to become a problem. Satisfactory intersection operation is generally achieved with a DS of about 0.7 - 0.8. (Note that these figures are based on isolated signalised intersections with cycle lengths of 120 seconds. In co-ordinated signal systems DS might be actively maximised at key intersections). Although in some situations additional traffic does not alter the level of service, particularly where the level of service is E or F, additional capacity may still be required. This is particularly appropriate for service level F, where small increases in flow can cause disproportionately greater increases in delay. In this situation, it is advisable to consider means of control to maintain the existing level of absolute delay. Suggested criteria for the evaluation of the capacity of signalised intersections based on the Degree of Saturation are summarised in **Table E2**.

Table E2: Criteria For Evaluating Capacity Of Signalised Intersections*

Level Of Service	Optimum Cycle Length (Secs) (CO)	VOLUME/ SATURATION Y	Intersection Degree Of Saturation X
A/B Very good	< 90	< 0.70	< 0.80
C Satisfactory	90-120	0.70-0.80	0.80-0.85
D Poor but manageable	120-140	0.80-0.85	0.85-0.90
E/F Bad, extra capacity	>140	>0.85	> 0.90

Source: Traffic Authority (2002)

Appendix F

Origin-Destination of Future Trips

APPENDIX F	WEST & NORTH MUDGEE										ORIGIN-DESTINATION OF TRIPS FOR FUTURE RESIDENTIAL RELEASES IN MUDGEE										DESTINATIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Bellevue/Fairydale					Caerleon					Salesyard					Ulan					Major Internal Destinations					External Routes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	1	2	Sub-Tot	3	4	5	6	7	Sub-Tot	8	9	10	11	12	13	14	15	16	17	18	Sub-Tot	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	12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APPENDIX F		ORIGIN-DESTINATION OF TRIPS FOR FUTURE RESIDENTIAL RELEASES IN MUDGEE										DESTINATIONS										
SOUTH WEST & SOUTH MUDGEE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Sub-Tot	Total		
ORIGIN	Sub-Tot	1	2	3	4	5	6	7	Sub-Tot	8	9	10	11	12	13	14	Sub-Tot	15	16	17	Sub-Tot	Total
South West Mudgee																						
1 Bellevue Rd	0								0	7	7	2	2	2	3	3	26	3	5	1	9	35
2 Fairydale Ln	0								0	7	7	2	2	2	3	3	26	3	5	1	9	35
3 Henry Bayly	0								0	11	11	4	3	4	4	41	4	7	1	13	55	
Sub-Tot	0	0	0	0	0	0	0	0	0	25	25	8	7	8	10	94	10	17	3	30	124	
South Mudgee																						
4 Lions / Castlereagh	0								0	2	2	1	1	1	1	9	1	2	0	3	11	
5 Robertson/ Madeira	0								0	2	2	1	1	1	1	9	1	2	0	3	11	
6 Spring/ Church	0								0	5	5	1	1	1	2	17	2	3	1	6	23	
7 O'Porto	0								0	2	2	1	1	1	1	9	1	2	0	3	11	
Sub-Tot	0	0	0	0	0	0	0	0	0	11	11	4	3	4	5	43	5	8	2	14	56	
8 CBD 1	37	10	10	16	3	3	7	3	17							0				0	53	
9 CBD 2	37	10	10	16	3	3	7	3	17							0				0	53	
10 Industrial 1 East of Sydney Rd	33	9	9	15	3	3	6	3	15							0				0	48	
11 Industrial 2 West of Sydney Rd	26	7	7	12	2	2	5	2	12							0				0	38	
12 Industrial 3 Hill End Rd	33	9	9	15	3	3	6	3	15							0				0	48	
13 Residential n of railway	15	4	4	6	1	1	3	1	7							0				0	21	
14 Residential s of railway	15	4	4	6	1	1	3	1	7							0				0	21	
Sub-Tot	195	55	55	86	18	18	35	18	88	0	0	0	0	0	0	0	0	0	0	0	284	
External Routes																						
15 Sydney Rd	15	4	4	6	1	1	3	1	7							0				0	21	
16 Ulan Rd	24	7	7	11	2	2	4	2	11							0				0	36	
17 Castlereah Rd , west of Hill End	5	1	1	2	0	0	1	0	2							0				0	7	
Sub-Tot	44	12	12	19	4	4	8	4	20	0	0	0	0	0	0	0	0	0	0	0	64	
Total	239	67	67	105	22	22	43	22	108	37	37	12	10	12	15	137	15	25	5	44	529	
Exclude Internal Trips																						

Figures



Figure 1 Study area

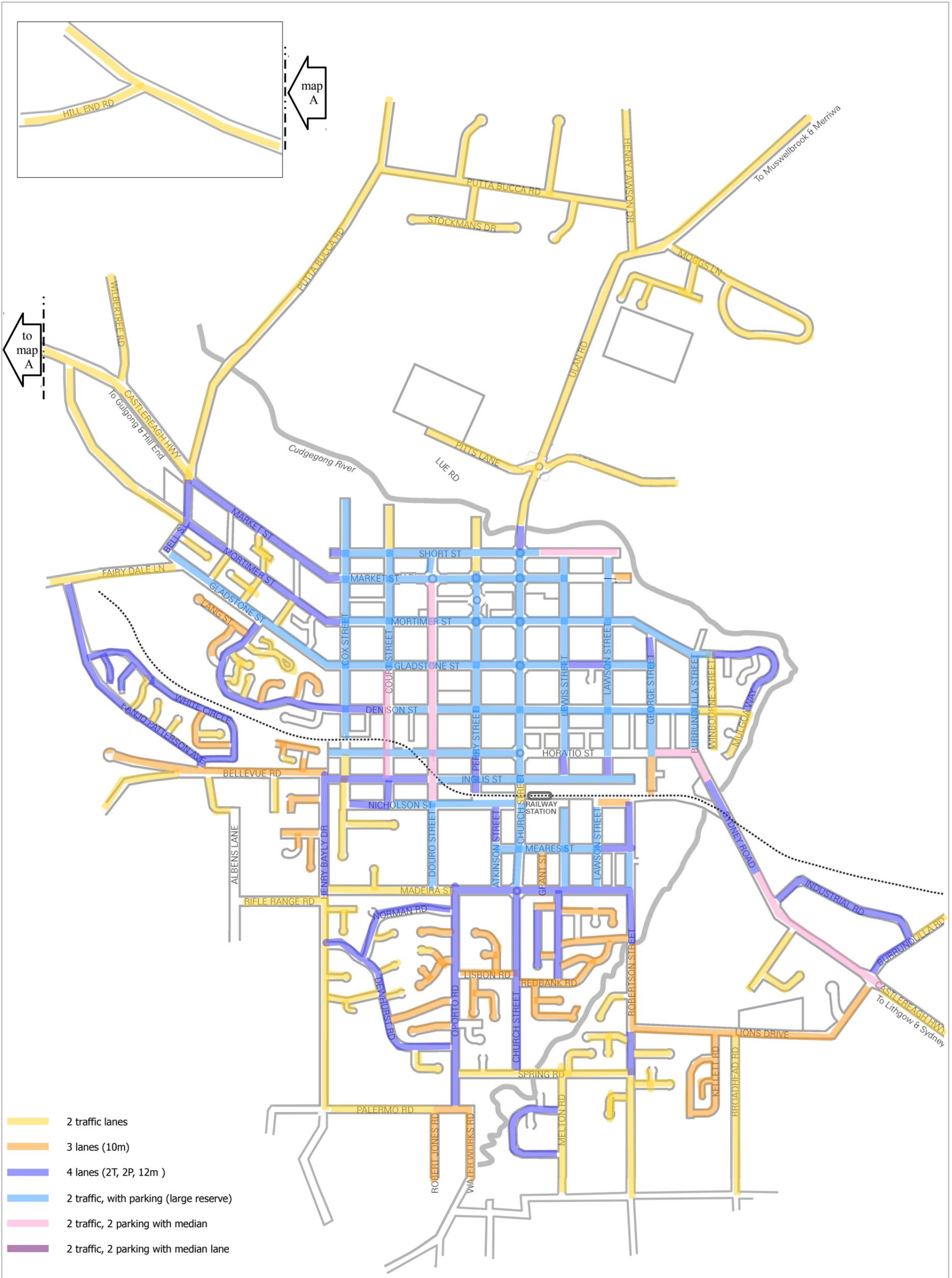


Figure 2 Road inventory



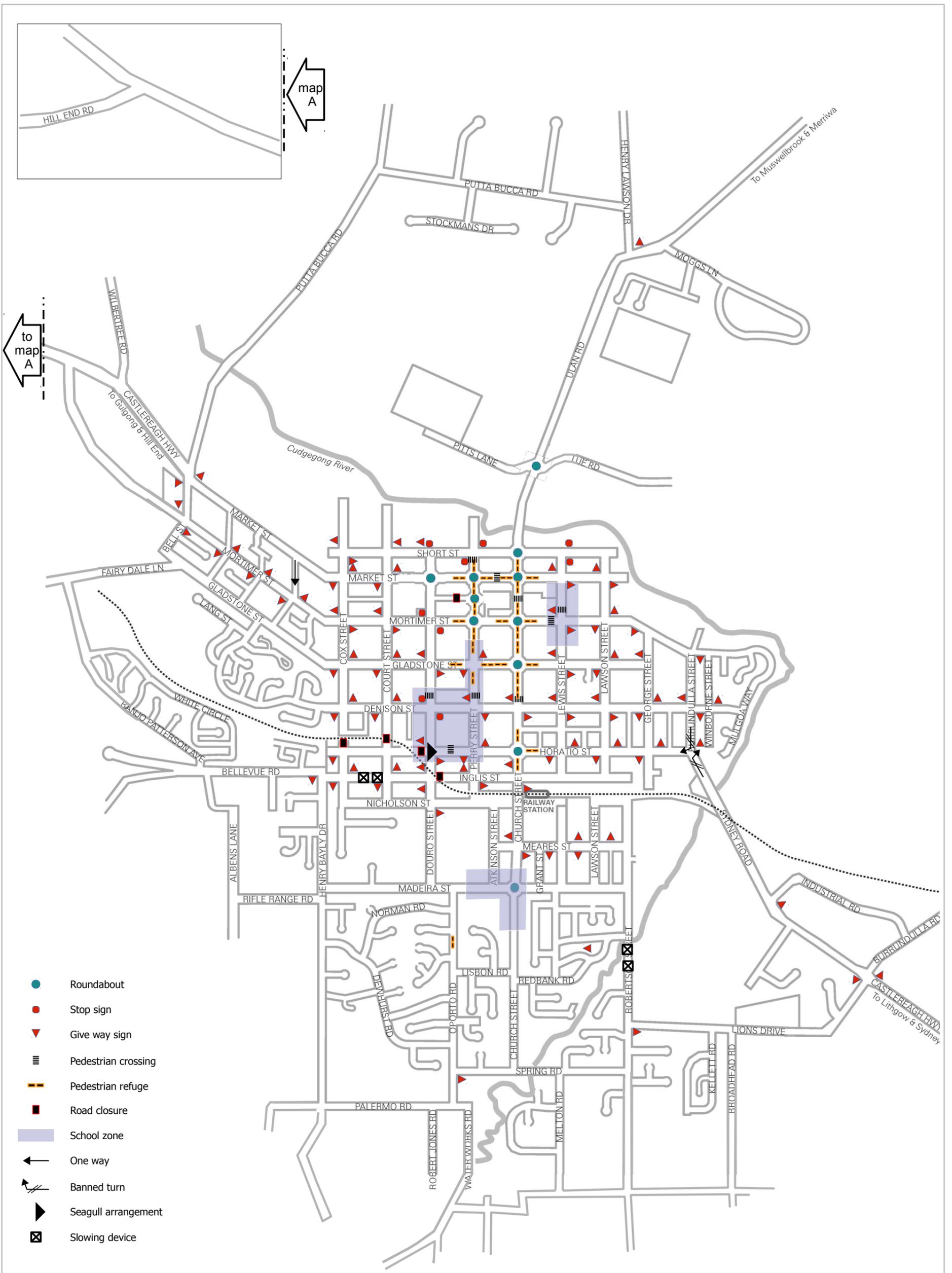


Figure 3 Traffic controls



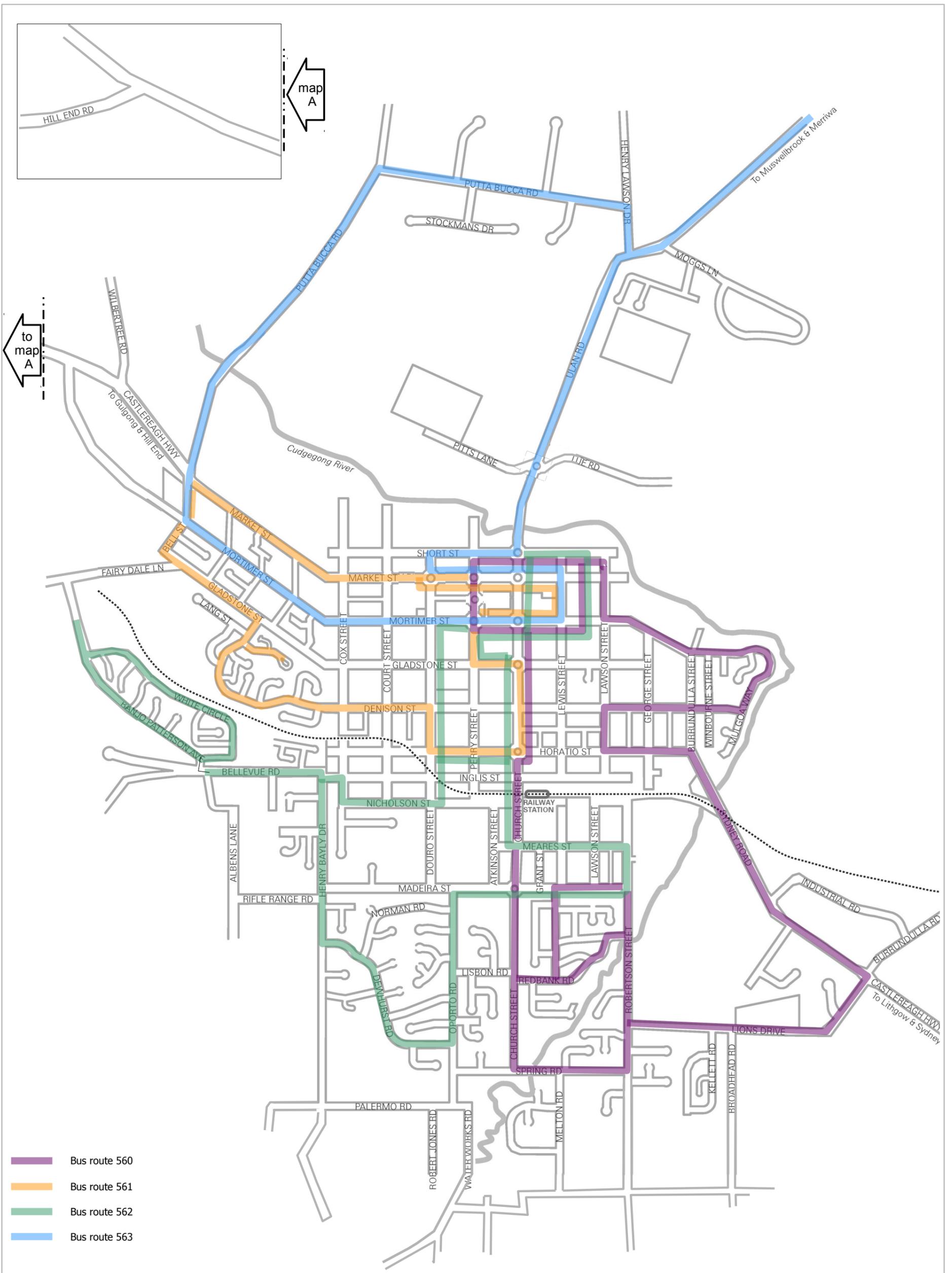


Figure 4 **Bus routes**



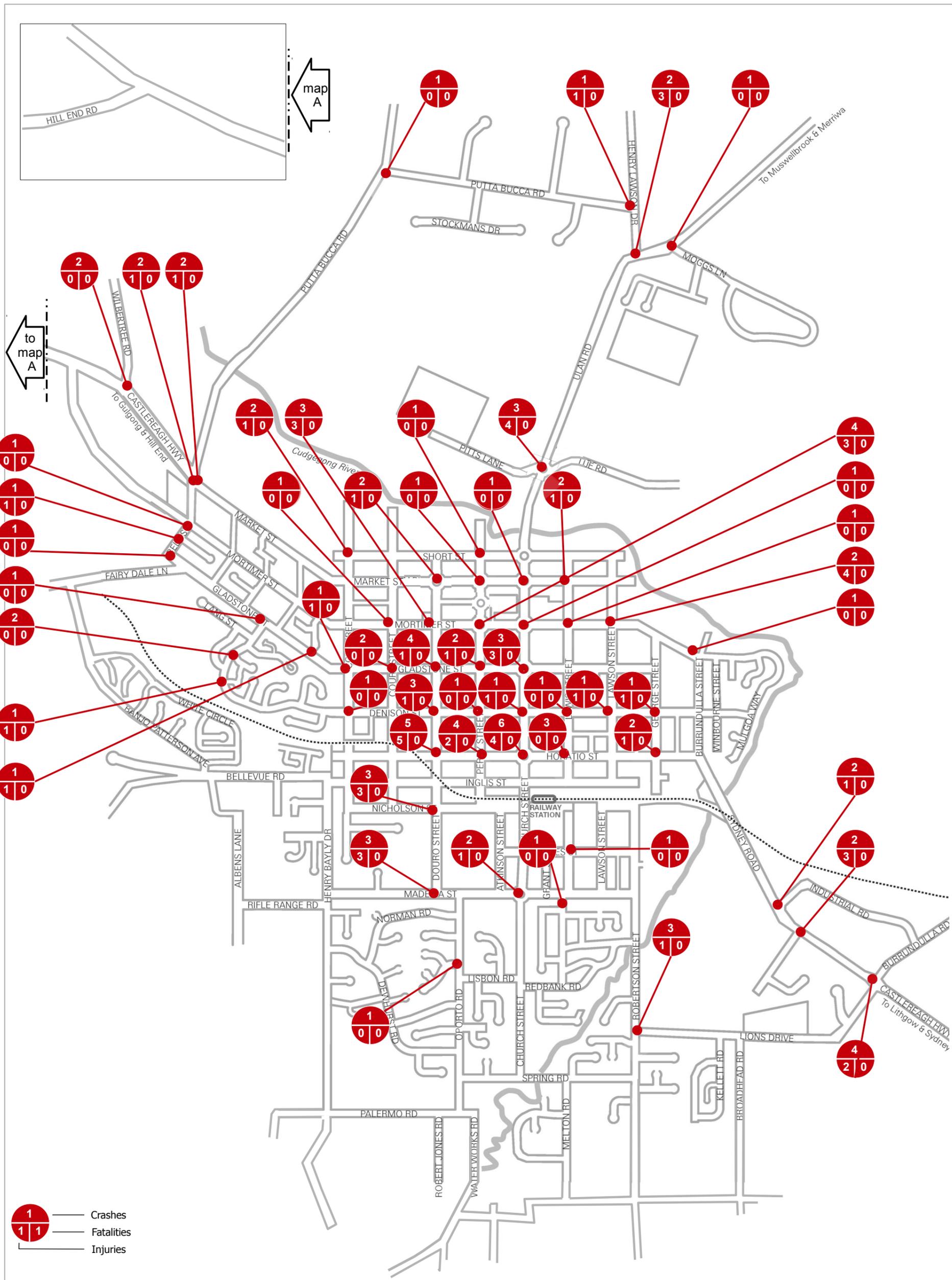


Figure 5a Intersection crashes 2008-2012

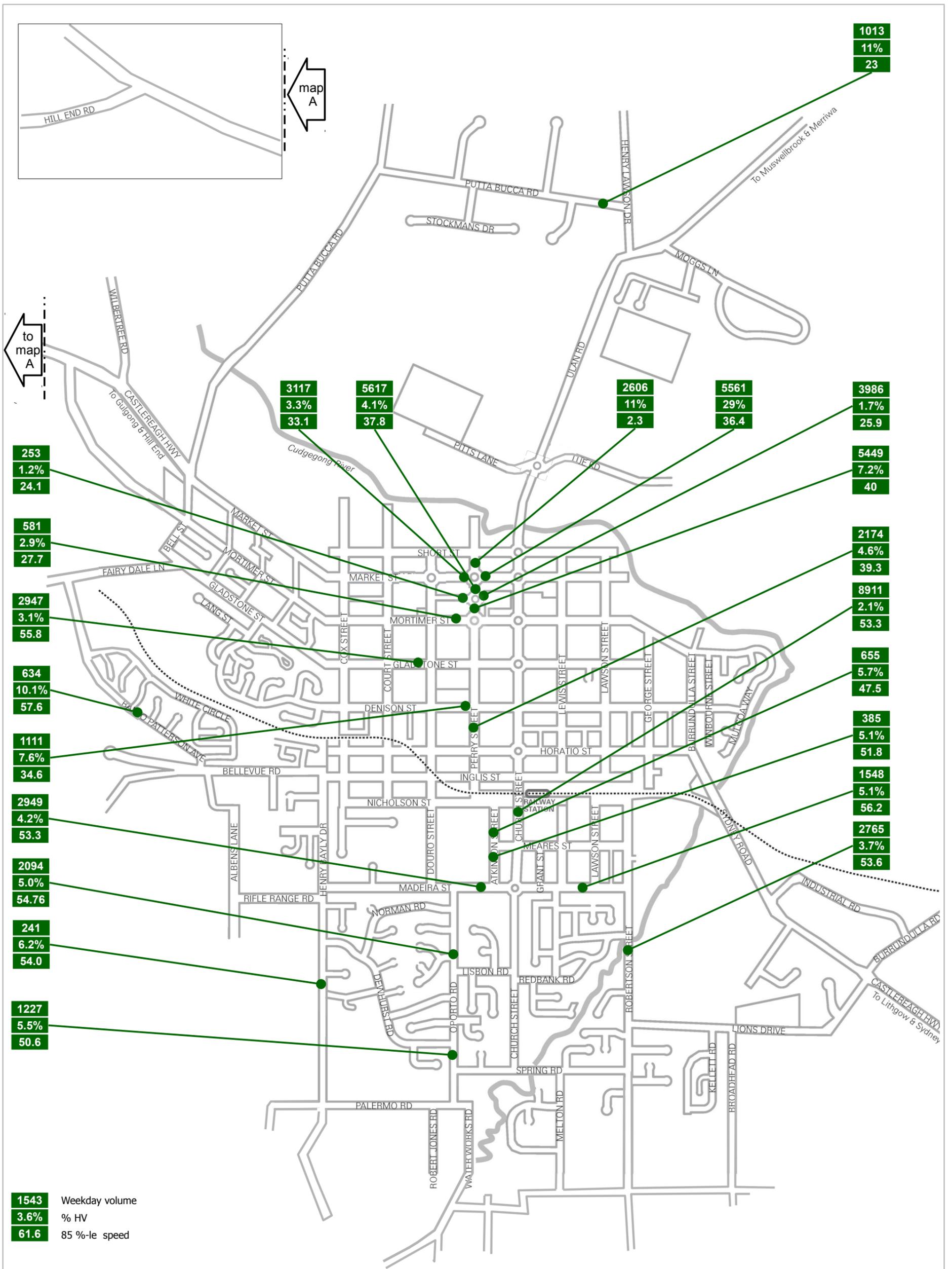


Figure 6 Existing traffic patterns



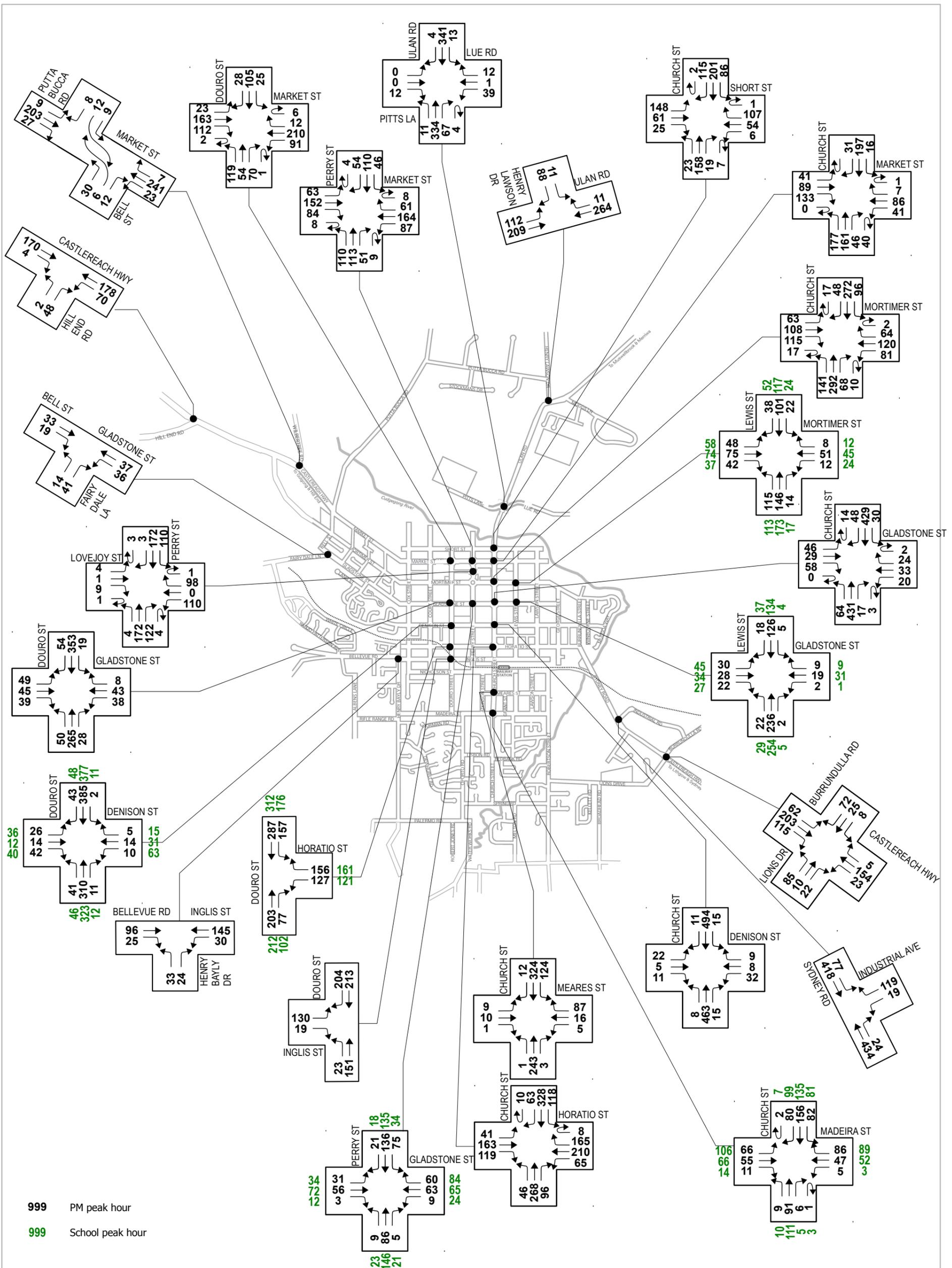


Figure 7 PM peak intersection counts



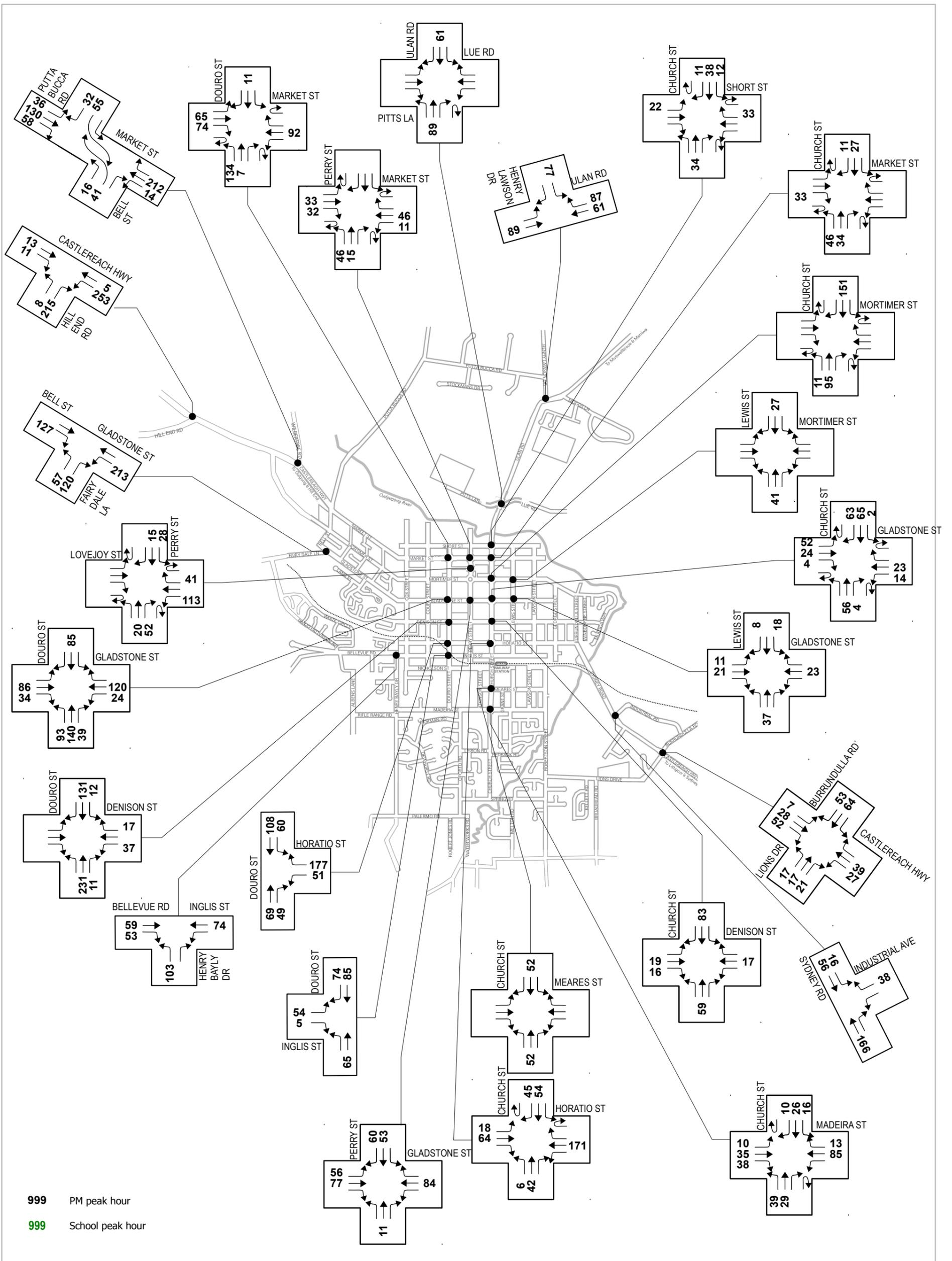


Figure 8 Additional Traffic - PM peak hour

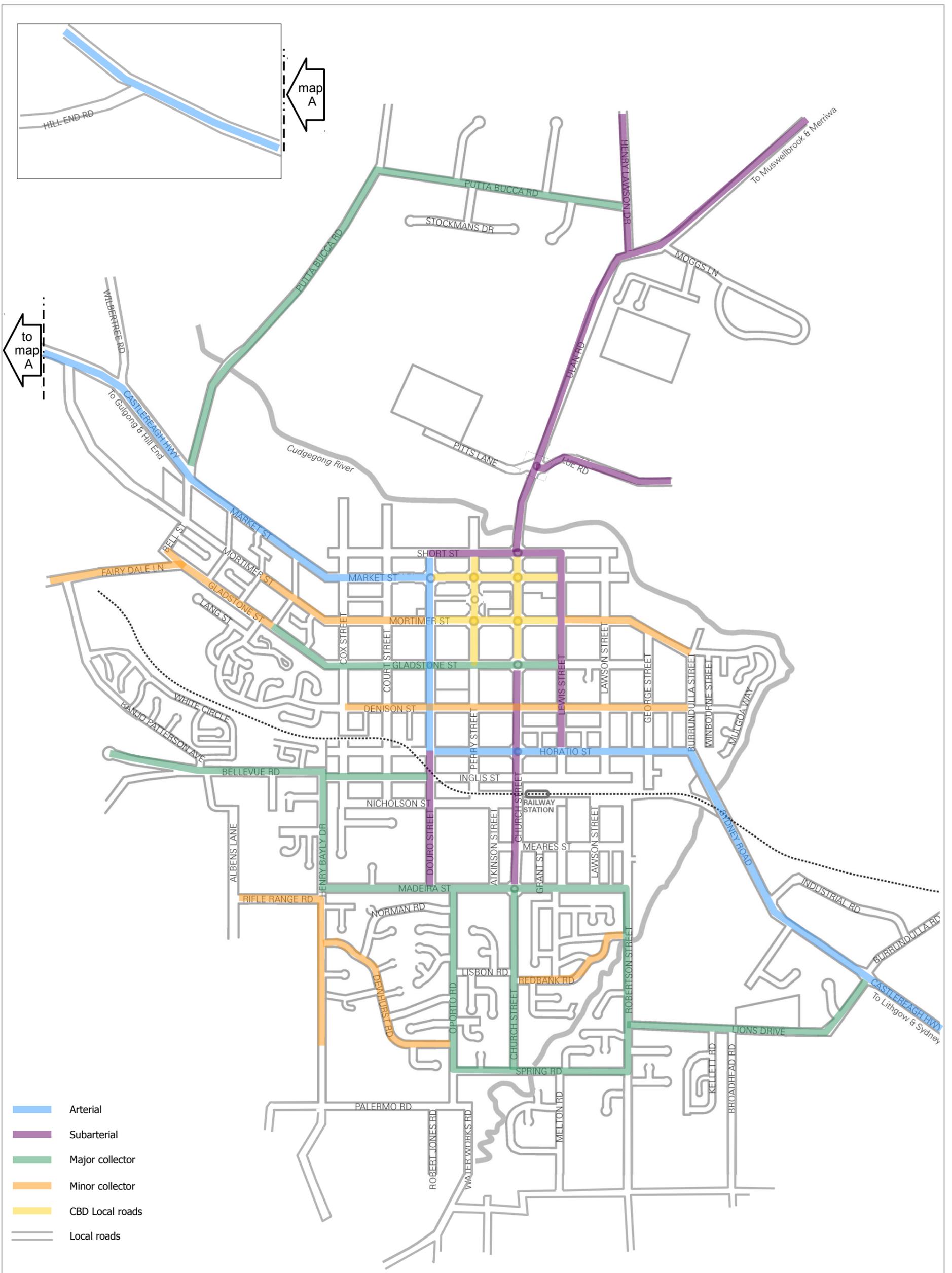


Figure 9 Adopted Road Hierarchy

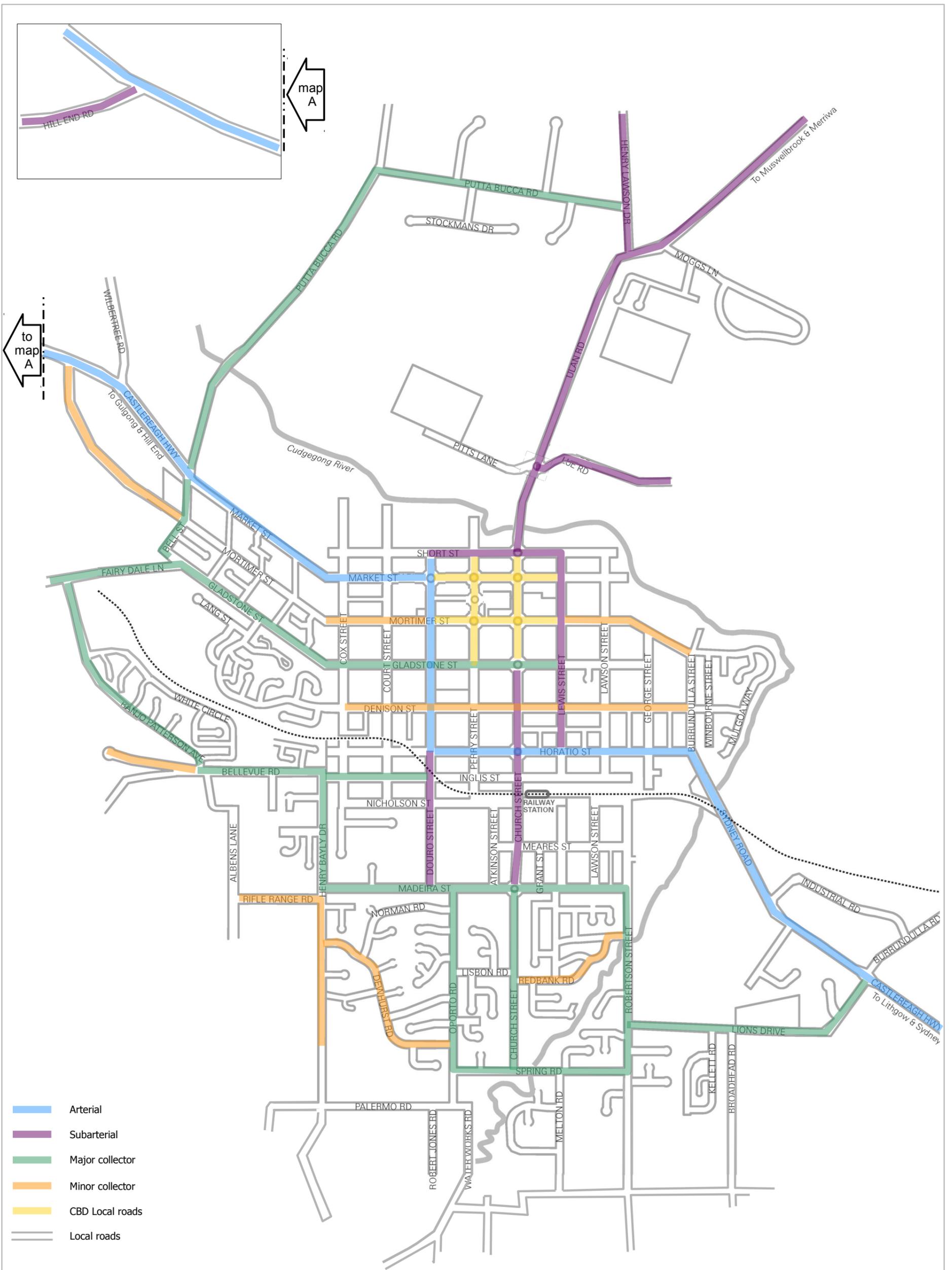
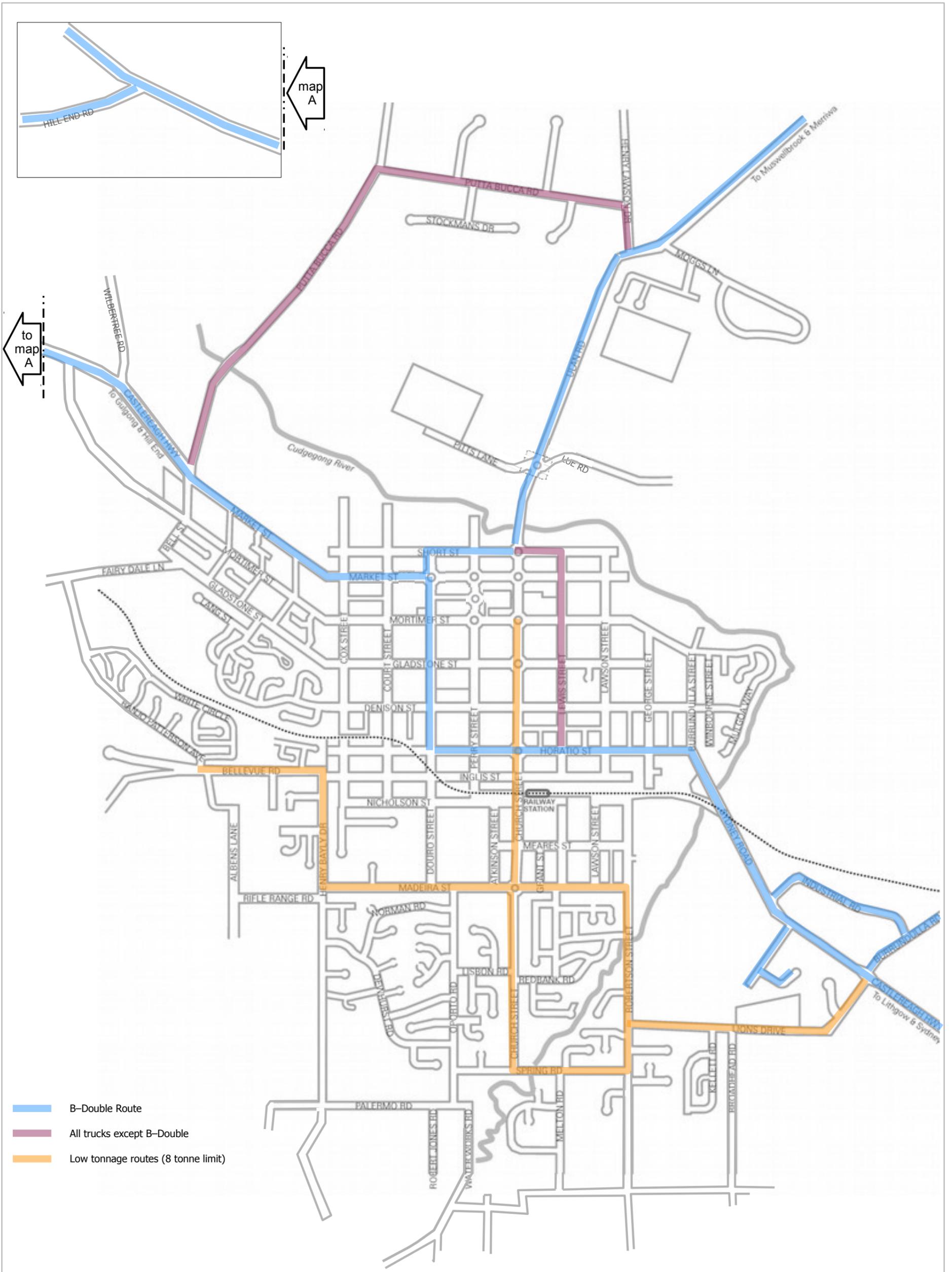


Figure 10 Recommended Road Hierarchy





- █ B-Double Route
- █ All trucks except B-Double
- █ Low tonnage routes (8 tonne limit)

Figure 11 Proposed Truck Route Network



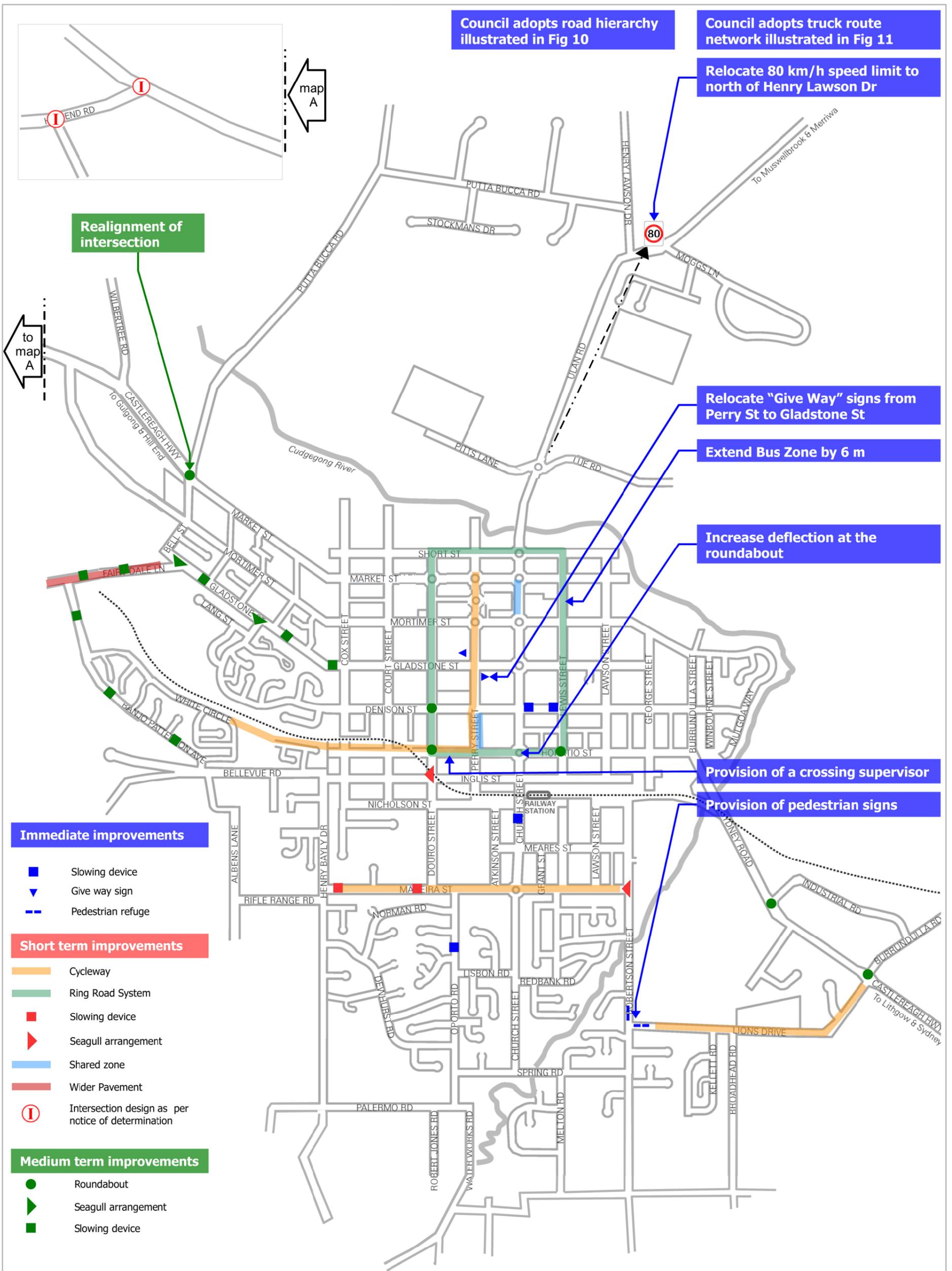


Figure 12 Draft traffic management plan





2015

COUNCIL BUSINESS PAPERS

Ordinary Meeting 18 FEBRUARY 2015

ATTACHMENT **6.2.22**

► Draft Stormwater Asset Management Plan



*Protecting our
Natural Environment*

DRAFT
STORMWATER ASSET
MANAGEMENT PLAN

14 JANUARY 2015

MID-WESTERN REGIONAL COUNCIL
OPERATIONS: SERVICES

■ ■ ■ ■ ■ TOWARDS 2030



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1. Executive Summary

1.1 Context

This asset management plan for stormwater drainage comprises a collation of Mid Western Regional Council's drainage infrastructure asset data base and service delivery programmes. It is a long term planning document that Council can use to provide a rational framework for current and future understanding of its drainage assets.

1.2 The Stormwater Service

The stormwater network comprises:

- Pipes
- Pits
- Culverts and headwalls
- Gross pollutant traps
- Detention basins
- Water quality devices
- Conveyance channels

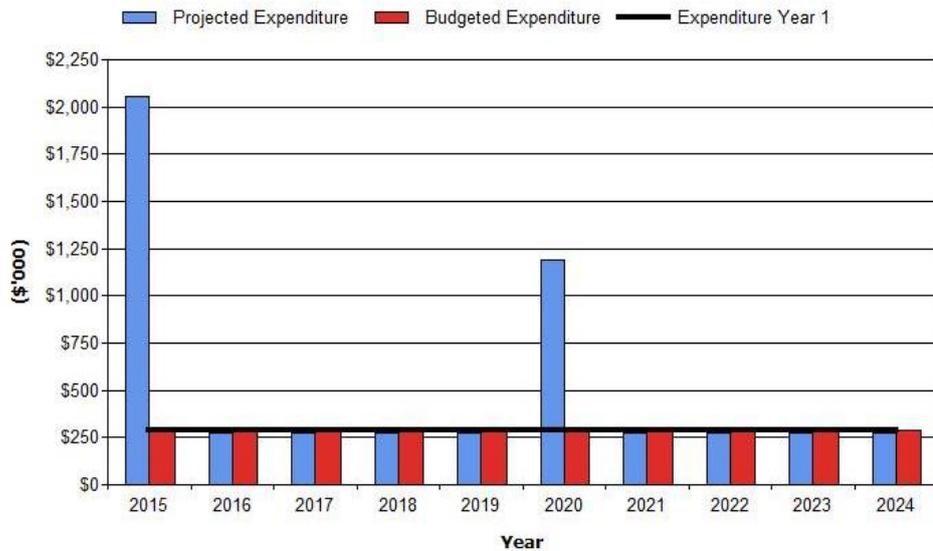
These infrastructure assets have a current replacement value of \$13,711,885, however it is recognised that there are knowledge gaps regarding this infrastructure and this value may need to be revised as Council gains more information in this area.

1.3 What does it cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is \$5,406,000 or \$541,000 on average per year.

Estimated available funding for this period is \$2,900,000 or \$290,000 on average per year which is 54% of the cost to provide the service. This is a funding shortfall of \$251,000 on average per year. Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown in the graph below.

MID-WESTERN RC – PROJECTED AND BUDGETED EXPENDITURE FOR (STORMWATER_S1_V1)



1.4 What we will do

We plan to provide stormwater services for the following:

- Operation, maintenance, renewal and upgrade of the stormwater network to meet service levels set by Council in annual budgets.
- Implement drainage detention in newer (upstream) areas to help older drainage infrastructure (downstream) cope without upgrade
- Review and refine our knowledge of the stormwater assets in this LGA within the 10 year planning period.

1.5 What we cannot do

We do not have enough funding to provide all services at the desired service levels or provide new services. Works and services that cannot be provided under present funding levels are:

- replacement of aged items that are still performing adequately;
- upgrade of stormwater assets in established urban areas to attain sufficient capacity to service new development upstream of these assets.

In the latter case stormwater management will be need to be demonstrated by the developer prior to handover to Council. Council’s comprehensive Development Control Plan (DCP) sets out design constraints in relation to stormwater management for new developments.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- Insufficient funding for upgrades
- Low confidence surrounding data associated with our stormwater assets
- Blockages causing flooding of property

- Blockages causing damage to other Council assets
- Blockages causing damage to utilities

We will endeavour to manage these risks within available funding by:

- Regular inspections to identify hazards before they occur
- Collation of data regarding stormwater assets
- Implementing condition assessments of stormwater assets to identify and prioritise items that may be due for replacement/upgrade

1.6 Confidence Levels

This Asset Management Plan is based on low level of confidence information.

1.7 The Next Steps

The actions resulting from this asset management plan are:

- Undertake survey of Council's stormwater assets to fill knowledge gaps and gain confidence in the data used in the asset management system (5 year period)
- Develop and coordinate asset management systems that are meaningful and informative
- Link financial, spatial and asset information so that there is consistency between systems

1.8 Questions you may have

1.8.1 What is this plan about?

This asset management plan covers the infrastructure assets that serve the Mid-Western Regional community's drainage needs. These assets include stormwater conveyance and treatment infrastructure throughout the community area that facilitate safe and hazard free management of stormwater from the urban environment.

1.8.2 What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

An asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

1.8.3 Why is there a funding shortfall?

Most of the Council's stormwater network was constructed by developers and from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

Many of these assets are approaching the later years of their life and require replacement, services from the assets are decreasing and maintenance costs are increasing.

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

1.8.4 What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels;
2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs;
3. Identifying and managing risks associated with providing services from infrastructure;
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure;
5. Introduce an Annual Charge for provision of Stormwater Management Services (s. 496A Local Government Act);
6. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs;
7. Consulting with the community to ensure that stormwater drainage services and costs meet community needs and are affordable;
8. Developing partnership with other bodies, where available to provide services;
9. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

1.8.5 What happens if we don't manage the shortfall?

It is likely that we will have to reduce service levels in some areas, unless new sources of revenue are found. For stormwater drainage, the service level reduction may include blockages that do not pose risk to property or reduced response times where the stormwater network has failed.

1.8.6 What can we do?

We can develop options, costs and priorities for future stormwater drainage services, consult with the community to plan future services to match the

community service needs with ability to pay for services and maximise community benefits against costs.

We will undertake community consultation around the introduction of a Stormwater Management Services annual charge. An annual charge may only be applied to non-vacant rateable parcels of land serviced by urban stormwater infrastructure. There are maximum charge amounts prescribed by legislation. For properties rated Residential, the maximum charge is currently \$25 per annum. Implementation of such an Annual Charge has the potential to yield \$150,000 per annum, which would provide additional capacity for Council to address the current infrastructure backlog, and close the gap between current annual maintenance spend and required annual maintenance spend.

1.8.7 What can you do?

We will be pleased to consider your thoughts on the issues raised in this asset management plan and suggestions on how we may change or reduce its stormwater drainage mix of services to ensure that the appropriate level of service can be provided to the community within available funding.

2. Introduction

2.1 Background

This asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 20 year planning period.

The asset management plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual¹.

The asset management plan is to be read with Council's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Mid-Western Region Community Plan
- Mid-Western Regional Council Delivery Plan

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide stormwater conveyance and treatment services to the community.

TABLE 2.1: ASSETS COVERED BY THIS PLAN

Asset category	Dimension	Replacement Value
Gross Pollutant Traps	4	\$179,484
Pits	1367	\$2,621,255
Pipes	1205	\$9,076,302
Detention Basins	7	*
Drainage Reserves	1	\$48,000
Other Drainage	68	\$1,786,845
TOTAL		\$13,711,885

*NOT VALUED TO DATE

Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

TABLE 2.1.1: KEY STAKEHOLDERS IN THE AM PLAN

Key Stakeholder	Role in Asset Management Plan
Council	■ Represent needs of community/shareholders,
	■ Allocate resources to meet Council's objectives in providing services while managing risks,
	■ Ensure organisation is financial sustainable.
Community	Provide feedback on levels of service
Developers	Responsible for providing developer contributed assets of appropriate standard

Key Stakeholder	Role in Asset Management Plan
Emergency services	Responsible for responding when assets have not performed and there is risk to life or property
Insurers	Need to assess risk, affected when assets fail
Utility owners	Responsible for providing essential services

2.2 Goals and Objectives of Asset Management

Council exists to provide services to its community. Some of these services are provided by infrastructure assets. We have acquired infrastructure assets by purchase, by contract, construction by our staff and by handover of assets constructed by developers and others to meet increased levels of service.

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance;
- Managing the impact of growth through demand management and infrastructure investment;
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service;
- Identifying, assessing and appropriately controlling risks; and
- Having a long term financial plan which identifies required, affordable expenditure and how it will be financed².

2.3 Plan Framework

Key elements of the plan are

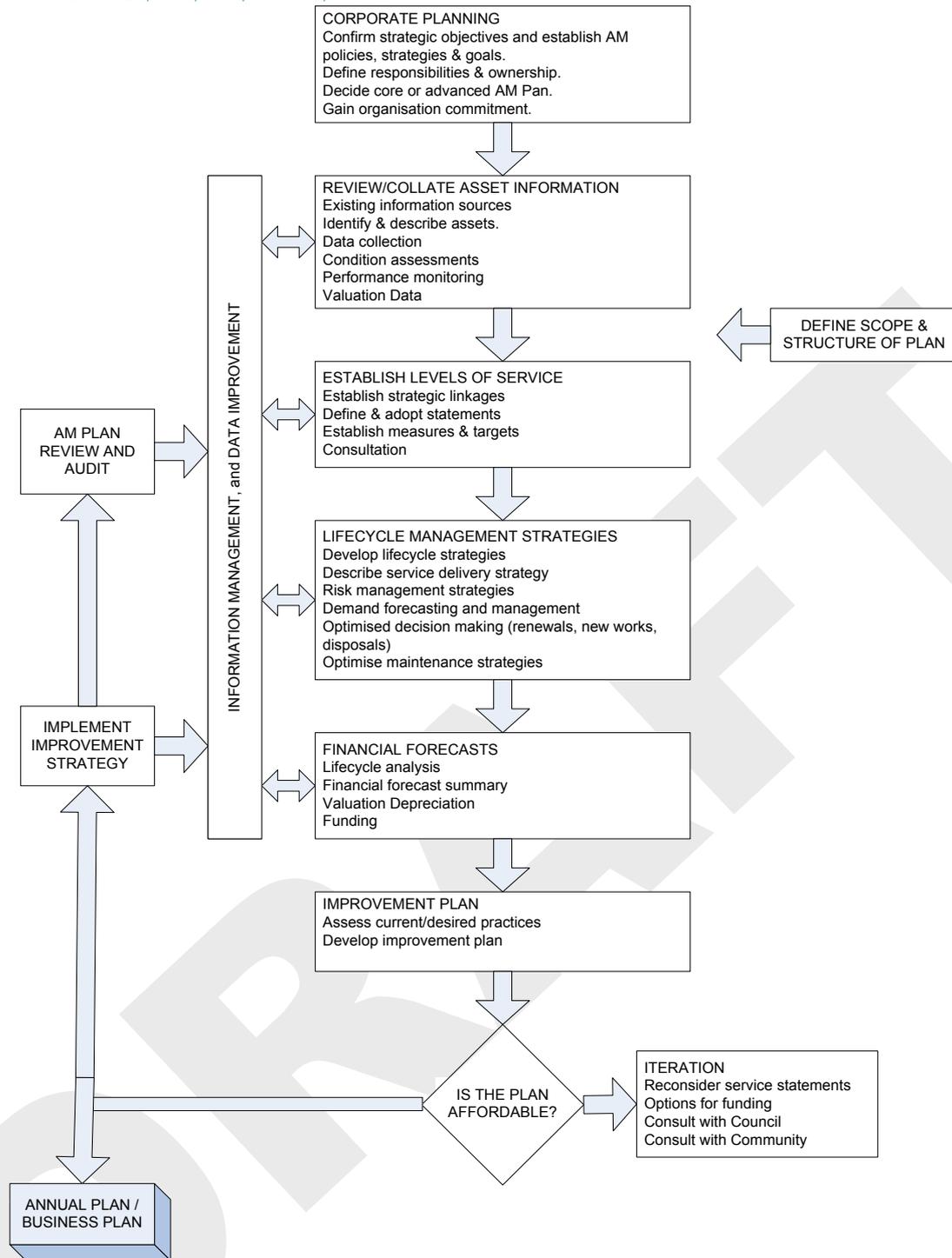
- Levels of service – specifies the services and levels of service to be provided by Council;
- Future demand – how this will impact on future service delivery and how this is to be met;
- Life cycle management – how Council will manage its existing and future assets to provide defined levels of service;
- Financial summary – what funds are required to provide the defined services;
- Asset management practices;
- Monitoring – how the plan will be monitored to ensure it is meeting organisation’s objectives; and
- An asset management improvement plan.

A road map for preparing an asset management plan is shown below.

² Based on IPWEA, 2011, IIMM, Sec 1.2 p 1/7

ROAD MAP FOR PREPARING AN ASSET MANAGEMENT PLAN

SOURCE: IPWEA, 2006, IIMM, FIG 1.5.1, P 1.11.



2.4 Core and Advanced Asset Management

This asset management plan is prepared as a ‘core’ asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual³. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a ‘top down’ approach where analysis is applied at the ‘system’ or ‘network’ level.

Future revisions of this asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels in a financially sustainable manner.

2.5 Community Consultation

This core asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by the Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability and willingness to pay for the service.

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3. Levels of Service

3.1 Customer Research and Expectations

Council has not carried out any research on customer expectations specifically related to stormwater asset management. This will be investigated for future updates of the asset management plan. The community were consulted when preparing Mid Western Regional Council’s Towards 2030 Community Plan and improved standards of water quality in our waterways was identified as an issue of interest to the community.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of Council’s vision, goals and objectives.

Our vision is:

A prosperous and progressive community that we are proud to call home.

Relevant organisational goals and objectives and how these are addressed in this asset management plan are:

TABLE 3.2: ORGANISATIONAL GOALS AND HOW THESE ARE ADDRESSED IN THIS PLAN

Goal	Objective	How Goal and Objectives are addressed in AM Plan
Looking after our community	Effective and efficient delivery of infrastructure	Identifies the way forward in the delivery and management of stormwater infrastructure
Protecting our natural environment	Provide total water cycle management	Appropriate infrastructure to manage stormwater runoff in terms of both quantity and quality

Council will exercise its duty of care to ensure public safety is accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 5.2.

3.3 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. These include:

TABLE 3.3: LEGISLATIVE REQUIREMENTS

Legislation	Requirement
Local Government Act 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.

Legislation	Requirement
Workplace Health and Safety Act 2011	Protects workers and other persons against harm to their health and safety and welfare through elimination or minimisation of risks arising from work.
OLG Integrated Planning and Reporting framework	Sets out standards for asset management plans and requires the plan to integrate with community plans and resourcing strategy
Environmental Planning & Assessment Act 1979	Sets out assessment and approval processes of community services and facilities
Protection of the Environment Operations Act 1997	Protect, restore and enhance the quality of the environment in NSW
Water Act 2000	Provide sustainable and integrated management of water sources in NSW

Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan linked to this AM Plan. Management of risks is discussed in Section 5.2.

3.4 Community Levels of Service

Service levels are defined service levels in two terms, customer levels of service and technical levels of service.

Community Levels of Service measure how the community receives the service and whether Council is providing community value.

Community levels of service measures used in the asset management plan are:

- Quality** How good is the service?
- Function** Does it meet users' needs?
- Capacity/Utilisation** Is the service over or under used?

Council's current and expected community service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the agreed expected community levels of service based on resource levels in the current long-term financial plan and community consultation/engagement.

TABLE 3.4: COMMUNITY LEVEL OF SERVICE

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Expected position in 10 years based on current LTFP
Community Outcomes				
A community that feels that they have equitable access to the provision of infrastructure and services that meets their needs.				
Community Levels of Service				
Quality	Use of urban roads not obstructed by flooding	Customer service requests relating to flooding of footpaths and urban roads	Not measured	<5/yr

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Expected position in 10 years based on current LTFP
Function	Flooding of urban property minimised	Customer service requests relating to flooding of urban residences	Not measured	<5/yr
Capacity/ Utilisation	Stormwater facilities free of hazards	Insurance claims regarding stormwater drains	Not measured	<2/yr

3.5 Technical Levels of Service

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that Council undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing, mowing grass, energy, inspections, etc;
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (e.g. road patching, unsealed road grading, building and structure repairs);
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement);
- Upgrade – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.⁴

Table 3.5 shows the technical level of service expected to be provided under this AM Plan. The agreed sustainable position in the table documents the position agreed by the Council following community consultation and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

TABLE 3.5: TECHNICAL LEVELS OF SERVICE

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired level of Service
TECHNICAL LEVELS OF SERVICE				
Operations	Servicing and Management	Annual condition and defects inspection	Not measured	All of MWRC's stormwater network inspected over 5yr cycle <20 identified defects/yr
Maintenance	Maintenance inspection of GPTs	Routine inspection of GPTs	Not routinely inspected	Quarterly inspection of GPT

⁴ IPWEA, 2011, IIMM, p 2.22

	Inspection and cleaning of pits	Inspections of network when in operation	Inspection in operation ad-hoc	Inspect four precincts of network at four intervals when in operation (i.e. entire network in any given year whilst in operation*)
Renewal/upgrade	Stormwater network that meets current standards	Upgrading of assets to meet current standards	94% capital budget expended 2013/14	100% of stormwater capital works budget spent

*WHILST IN OPERATION MEANS WHEN IT IS RAINING AND THE STORMWATER NETWORK IS AT WORK.

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4. Future Demand

4.1 Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilisation of assets are shown in Table 4.3.

TABLE 4.3: DEMAND DRIVERS, PROJECTIONS AND IMPACT ON SERVICES

Demand drivers	Present position	Projection	Impact on services
Population growth	23,000 (2011)	25,050 (2031)	Increased demand for stormwater infrastructure
Release of future subdivisions to cater for growth	Large release of subdivisions has just occurred	Continued release, although more sustained rate and not as rapid as has just occurred	Increase in developer contributed assets, more infrastructure to inspect and maintain
New subdivisions upstream of existing urban environment	Presently occurring	Continued release, although more sustained rate and not as rapid as has just occurred	Need for strategies to allow existing urban stormwater infrastructure cope with increased impervious areas upstream
Improved water quality discharged to environment	WSUD currently implemented on new developments	Need integrated WSUD strategy for major drainage lines in catchments	Increased maintenance activities associated with water quality devices

4.4 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Non-asset solutions focus on providing the required service without the need for Council to own the assets and management actions including reducing demand for the service,

reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures⁵. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

TABLE 4.4: DEMAND MANAGEMENT PLAN SUMMARY

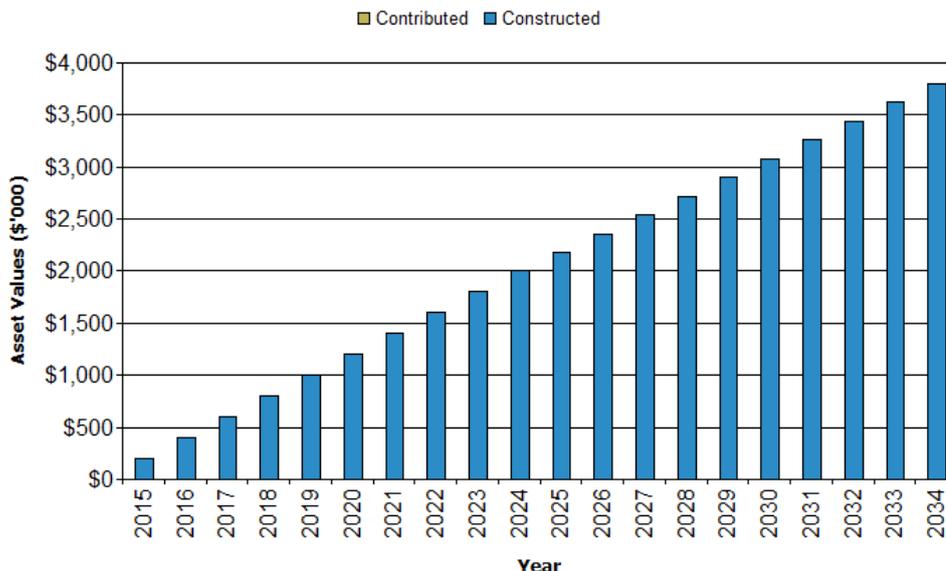
Demand Driver	Impact on Services	Demand Management Plan
Preventative action vs reactive action	Increased maintenance budget for inspections and corrective action	Initiate inspection schedule
Risk of new developments upstream of older drainage infrastructure	Risk of generating runoff beyond design capacity of older infrastructure	Impose post development constraints on larger developments that are limited to that of pre-development flows

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by Council. New assets constructed/acquired by Council are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 1.

FIGURE 1: UPGRADE AND NEW ASSETS TO MEET DEMAND

Mid-Western RC - Upgrade & New Assets to meet Demand
(Stormwater_S1_V1)



Acquiring these new assets will commit Council to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

⁵ IPWEA, 2011, IIMM, Table 3.4.1, p 3/58

5. Lifecycle Management Plan

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 2.1.

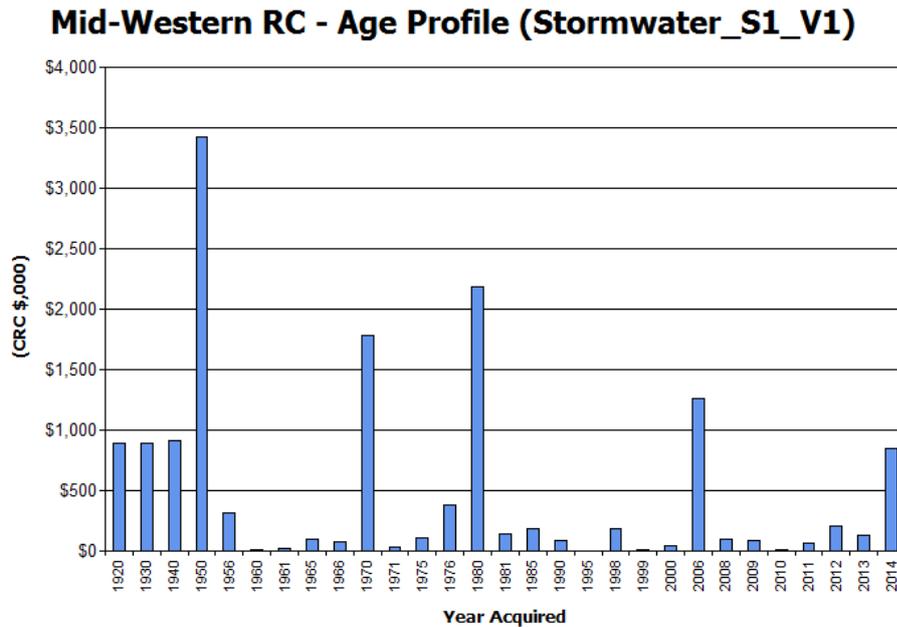
The stormwater network referred to in this AMP is that of urban drainage in Gulgong, Mudgee, Rylstone, Kandos and the smaller villages with the Mid Western LGA. Each network comprises a series of inlet pits, pipes, open channel conveyances that discharge to natural waterways or drainage lines. Most of the network in Gulgong, Rylstone, Kandos and smaller villages is aged (>50yrs) and population growth in these localities static. Therefore demand drivers in these centres are mostly limited to upgrades of existing infrastructure where known failures exist.

Mudgee has old drainage infrastructure in the long established urban areas of town situated close to the Cudgegong River. In relatively new areas (<20yrs) of Mudgee, the stormwater network consists of developer contributed assets upstream of the older network. This means that strategies to slow runoff from the newer parts of town are necessary to manage the coping capacity of older parts of the network.

Kandos is situated at the base of some steep terrain and as such experiences rapid runoff during storm events. This leads to surcharge of the stormwater network and unwanted surface flows through private property from time to time. Customer dissatisfaction is elevated during these episodes and solutions will require thorough investigations.

The age profile of the assets include in this AM Plan is shown in Figure 2.

FIGURE 2: ASSET AGE PROFILE



Plans showing the stormwater drainage assets are:

- Kandos GIS Stormwater Layer
- Rylstone GIS Stormwater Layer
- Mudgee GIS Stormwater Layer (very limited)
- Mudgee Work-As-Executed plans (new subdivisions only with limited confidence in accuracy)
- Gulgong GIS Stormwater Layer (very limited)

5.1.2 Asset capacity and performance

Council’s services are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

TABLE 5.1.2: KNOWN SERVICE PERFORMANCE DEFICIENCIES

Location	Service Deficiency
Mudgee – Catchment A	Culvert upgrade required Rifle Range Rd
Mudgee – Catchment B	Downstream capacity not sufficient for new development
Mudgee – all locations	Network not designed for newly implemented water quality targets
Kandos	Rapid runoff during storms causing network to surcharge

The above service deficiencies were identified from customer consultation following storm events; the Report on Stormwater Drainage for the Towns of Kandos and Rylstone 1975; the Draft Rylstone Kandos Flood Study 2013; the Mudgee Floodplain Management Study and Plan 2002; Redbank Creek Dam Flood Study; the Mudgee Local Creeks Floodplain Risk Management and Study Plan 2008; and the Gulgong Stormwater Drainage Study 2009.

5.1.3 Asset condition

Condition is monitored presently only by reactive maintenance when an issue develops during wet weather. The condition profile of our assets is not very well understood and remains a major knowledge gap.

It is proposed that when condition monitoring is implemented condition be measured using a 1 – 5 grading system⁶ as detailed in Table 5.1.3.

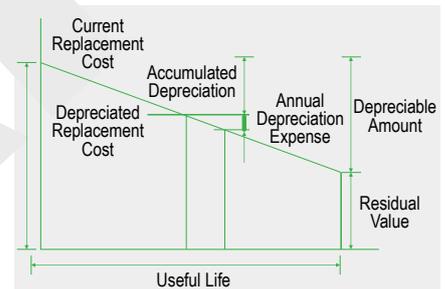
TABLE 5.1.3: SIMPLE CONDITION GRADING MODEL

Condition Grading	Description of Condition
1	Very Good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Fair: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Very Poor: physically unsound and/or beyond rehabilitation

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30 June 2014 covered by this asset management plan is shown below. Assets were last revalued at 30 June 2010. Assets are valued at fair value replacement cost.

Current Replacement Cost	\$14,514,000
Depreciable Amount	\$14,514,000
Depreciated Replacement Cost ⁷	\$6,275,000
Annual Depreciation Expense	\$133,000



Key assumptions made in preparing the valuations were:

- Useful life of 80 years
- Unless known construction year is estimated as the same as kerb and gutter

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	0.9%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	0.3%

In 2014/15 Council plans to renew assets at 30.1% of the rate they are being consumed and will be increasing its asset stock by 1.4% in the year.

⁶ IPWEA, 2011, IIMM, Sec 2.5.4, p 2/79

⁷ Also reported as Written Down Current Replacement Cost (WDCRC)

5.2 Infrastructure Risk Management Plan

An assessment of risks⁸ associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a ‘financial shock’ to Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as ‘Very High’ - requiring immediate corrective action and ‘High’ – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2. These risks are reported to management and Council.

TABLE 5.2: CRITICAL RISKS AND TREATMENT PLANS

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Catchment A drainage – Rifle Range Rd culvert, Mudgee	Failure causing upstream flooding of property	H	Programmed for replacement	Low	105k
Catchment B drainage system, Mudgee	Flooding residential property	VH	Construction of Horatio St detention basin	Medium	250k
Asset register not accurate	Financial shock to organisation	VH	Detailed survey and update of asset register over 5 year program	Low	33k per yr over 5 year period
Spatial information not accurate	Unknown assets uncovered on private land leading to insurance claims	VH	Detailed survey and update of asset register over 5 year program	Low	Included in above

NOTE: THE RESIDUAL RISK IS THE RISK REMAINING AFTER THE SELECTED RISK TREATMENT PLAN IS OPERATIONAL.

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. Cleansing, street sweeping, grass mowing and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

⁸ MWRC Infrastructure Risk Management Plan as footnote

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, e.g. road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past maintenance expenditure for urban drainage forms part of a larger maintenance budget for roads drainage in general. As this has not been reported specifically, it is not possible to identify previous maintenance expenditure trends for the urban drainage network.

Planned maintenance work for urban drainage is also currently incorporated into total maintenance expenditure and not budgeted as a separate item. The total drainage maintenance budget is \$430,000 and it is not known what proportion of this budget falls to the urban network.

The total maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Reactive maintenance is carried out in accordance with response levels of service detailed in Appendix A.

5.3.2 Operations and Maintenance Strategies

Council will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner,
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost),

- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs,
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,
- Maintain a current hierarchy of critical assets and required operations and maintenance activities,
- Develop and regularly review appropriate emergency response capability,
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

ASSET HIERARCHY

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

Council’s service hierarchy is shown in Table 5.3.2.

TABLE 5.3.2: ASSET SERVICE HIERARCHY

Service Hierarchy	Service Level Objective
Level 1 (Critical, high priority) Main trunk drainage system	Maintain main trunk drainage system and respective elements (inclusive of pits, pipes, open channels and detention basins) such that the risk of flooding residences is mitigated.
Level 2 (Critical) Collector drainage system	Maintain collector drainage systems and their elements (inclusive of pits, pipes, open channels) such that the risk of flooding property is mitigated
Level 3 (Non-critical, low priority) Minor collector drainage system	Maintain minor collector drainage system and their elements (inclusive of pits, pipes, open channels) such that the risk of flooding property is mitigated

CRITICAL ASSETS

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenance activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

TABLE 5.3.2.1: CRITICAL ASSETS AND SERVICE LEVEL OBJECTIVES

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
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To be determined	To be determined	To be determined
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STANDARDS AND SPECIFICATIONS

Maintenance work is carried out in accordance with the following Standards and Specifications.

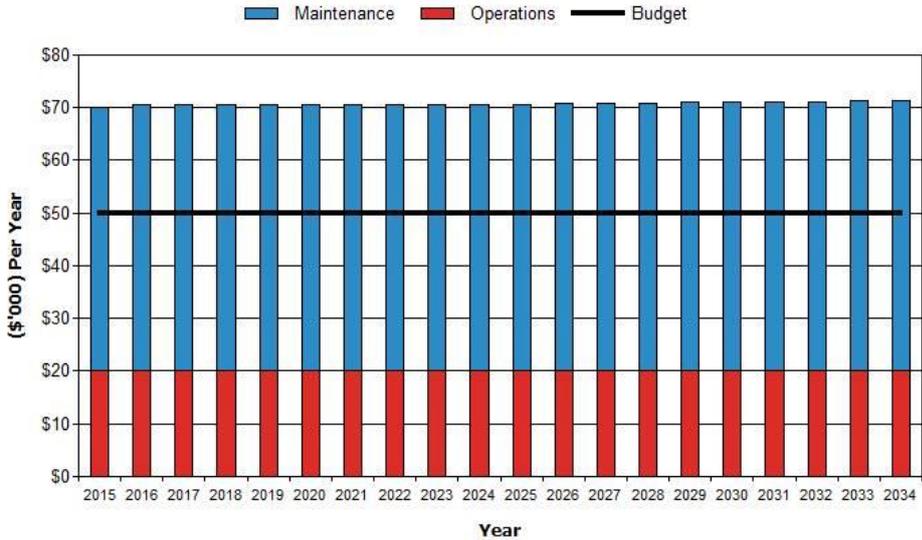
- RMS and AUSTROAD specifications
- AUSPEC specifications
- AS-NZS 3500 Plumbing and drainage set
- MWRC Development Control Plan 2013 (as amended)

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2014/15 dollar values (i.e. real values).

FIGURE 4: PROJECTED OPERATIONS AND MAINTENANCE EXPENDITURE

Mid-Western RC - Projected Operations & Maintenance Expenditure (Stormwater_S1_V1)



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset’s design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 Renewal plan

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the 'Expenditure template'.

Method 1 was used for this asset management plan.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Asset useful lives were last reviewed on 30 June 2010.

TABLE 5.4.1: USEFUL LIVES OF ASSETS

Asset (Sub)Category	Useful life
Pits and pipes	80yrs
Gross pollutant traps	80yrs
Open Channels	50yrs
Detention basins	100yrs

5.4.2 Renewal and Replacement Strategies

Council will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
 - the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
 - the project objectives to rectify the deficiency,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in capital renewal programs,
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,

- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required ,
- Review management of capital renewal and replacement activities to ensure Council is obtaining best value for resources used.

RENEWAL RANKING CRITERIA

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road)⁹.

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and subsequent impact on users would be greatest;
- The total value represents the greatest net value to Council;
- Have the highest average age relative to their expected lives;
- Are identified in the AM Plan as key cost factors;
- Have high operational or maintenance costs; and
- Where replacement with modern equivalent assets would yield material savings¹⁰.

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 5.4.2.

TABLE 5.4.2: RENEWAL AND REPLACEMENT PRIORITY RANKING CRITERIA

Criteria	Weighting
Quality	10%
Function	10%
Capacity/utilisation	10%
Operations	10%
Maintenance	10%
Renewals/upgrades	10%
Condition	30%
Hierarchy	10%
Total	100%

RENEWAL AND REPLACEMENT STANDARDS

Renewal work is carried out in accordance with the following Standards and Specifications.

- RMS and AUSTRROAD specifications

⁹ IPWEA, 2011, IIMM, Sec 3.4.4, p 3/60

¹⁰ Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3/66

- AUSPEC specifications
- AS-NZS 3500 Plumbing and drainage set
- MWRC Development Control Plan 2013 (as amended)

5.4.3 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Fig 5. Note that all amounts are shown in real values.

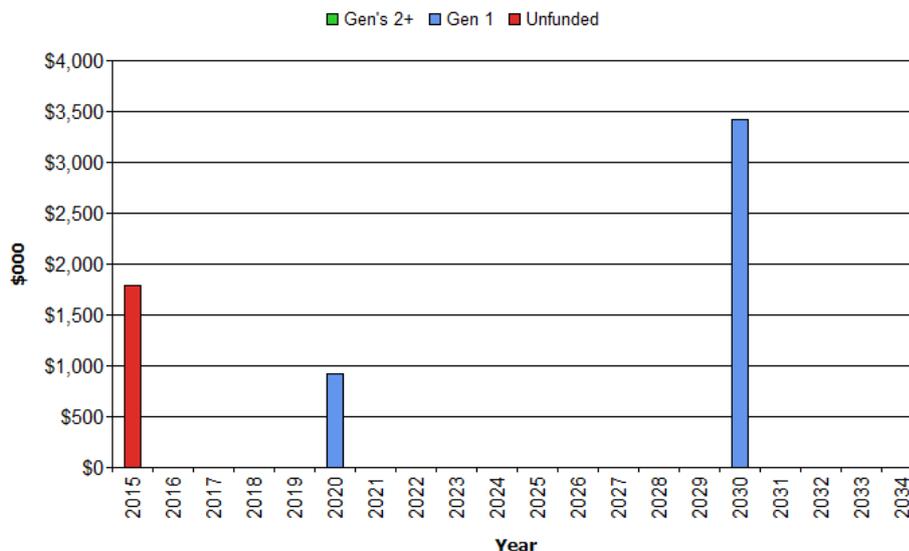
The projected capital renewal and replacement program is shown in Appendix B.

Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewals and replacement expenditure in Council’s capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

FIG 5: PROJECTED CAPITAL RENEWAL AND REPLACEMENT EXPENDITURE

Mid-Western RC - Projected Capital Renewal Expenditure (Stormwater_S1_V1)



5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to Council from land development.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor/director or community requests, proposals identified

by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

TABLE 5.5.1: NEW ASSETS PRIORITY RANKING CRITERIA

Criteria	Weighting
Upgrade/new assets as identified in the Delivery Program/Operational Plan	100%
Total	100%

5.5.2 Capital Investment Strategies

Council will plan capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner;
- Undertake project scoping for all capital upgrade/new projects to identify:
 - the service delivery ‘deficiency’, present risk and required timeline for delivery of the upgrade/new asset;
 - the project objectives to rectify the deficiency including value management for major projects;
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency;
 - management of risks associated with alternative options;
 - and evaluate the options against evaluation criteria adopted by Council; and
 - select the best option to be included in capital upgrade/new programs;
- Review current and required skills base and implement training and development to meet required construction and project management needs;
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

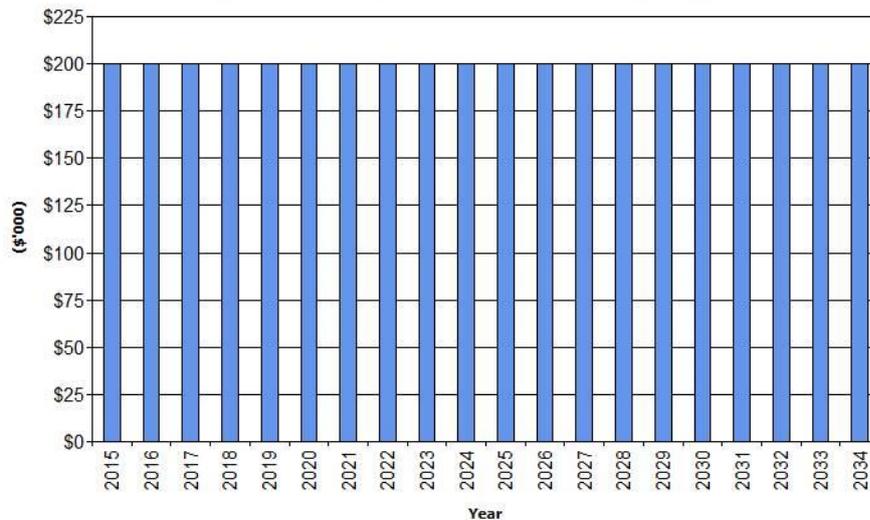
Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Fig 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

FIG 6: PROJECTED CAPITAL UPGRADE/NEW ASSET EXPENDITURE

Mid-Western RC - Projected Capital Upgrade/New Expenditure (Stormwater_S1_V1)



Expenditure on new assets and services in Council’s capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any revenue gained from asset disposals is accommodated in Council’s long term financial plan.

Where cash flow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

TABLE 5.6: ASSETS IDENTIFIED FOR DISPOSAL

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
Nil	N/A	N/A	N/A	N/A

5.7 Service Consequences and Risks

Council has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. Decisions were made based on the development of 3 scenarios of AM Plans.

Scenario 1 – What we would like to do based on asset register data

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects we

are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan.

Scenario 3 – What we can do and be financially sustainable with AM Plans matching long-term financial plans.

The development of scenario 1 and scenario 2 AM Plans provides the tools for discussion with the Council and community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

5.7.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- replacement of aged items that are still performing adequately
- upgrade of stormwater assets in established urban areas to attain sufficient capacity to service new development upstream of these assets.

5.7.2 Service consequences

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

- reduced levels of service
- flooding of property
- damage to other public assets
- damage to utilities

5.7.3 Risk consequences

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences for Council. These include:

- Exposure to claims against Council
- Political pressure for improved service levels
- Lower performance on asset and financial indicators

These risks have been included with the Infrastructure Risk Management Plan summarised in Section 5.2 and risk management plans actions and expenditures included within projected expenditures.

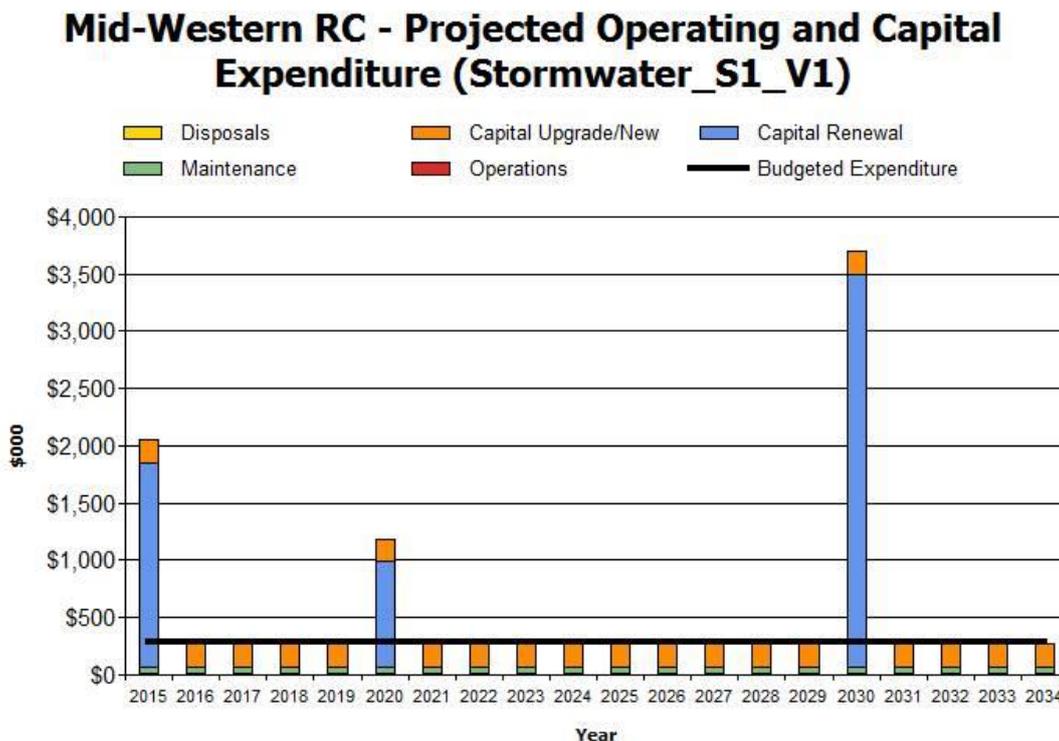
6. Financial Summary

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

6.1 Financial Statements and Projections

The financial projections are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

FIG 7: PROJECTED OPERATING AND CAPITAL EXPENDITURE



6.1.1 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

ASSET RENEWAL FUNDING RATIO

Asset Renewal Funding Ratio¹¹ 13%

¹¹ AIFMG, 2012, Version 1-3, Financial Sustainability Indicator 4, Sec 2.6, p 2/16

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, Council is forecasting that it will have 13% of the funds required for the optimal renewal and replacement of its assets.

LONG TERM - LIFE CYCLE COST

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is \$204,000 per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is \$90,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is - \$114,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 44% of life cycle costs.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

MEDIUM TERM – 10 YEAR FINANCIAL PLANNING PERIOD

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$341,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$90,000 on average per year giving a 10 year funding shortfall of \$251,000 per year. This indicates that Council expects to have 26% of the projected expenditures needed to provide the services documented in the asset management plan.

MEDIUM TERM – 5 YEAR FINANCIAL PLANNING PERIOD

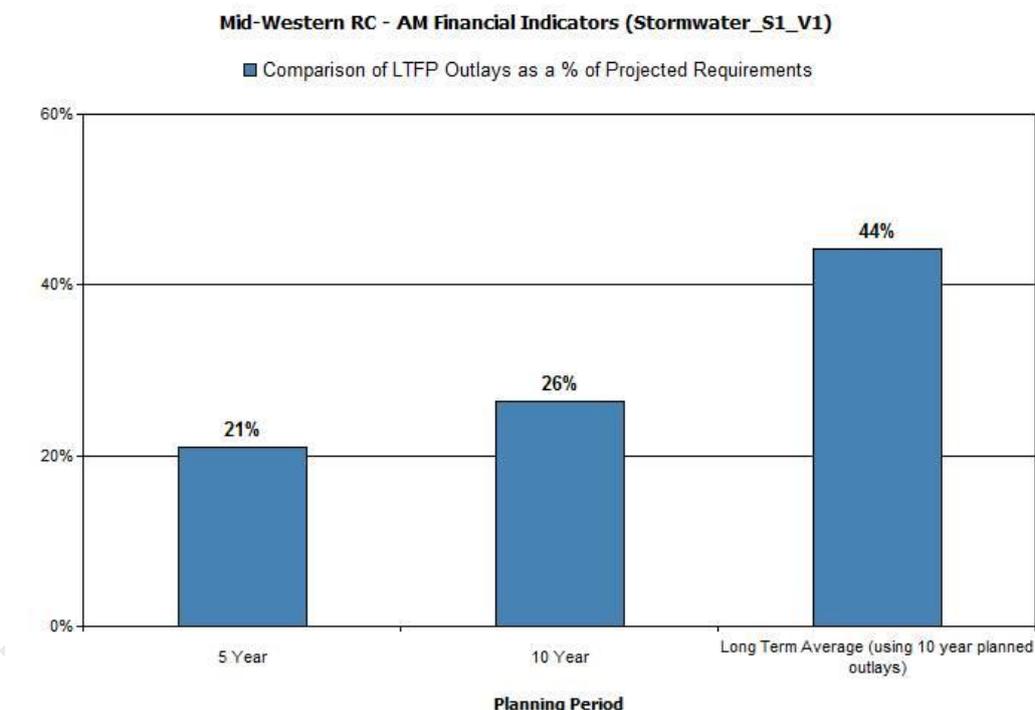
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$427,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$90,000 on average per year giving a 5 year funding shortfall of \$337,000. This indicates that Council expects to have 21% of projected expenditures required to provide the services shown in this asset management plan.

ASSET MANAGEMENT FINANCIAL INDICATORS

Figure 7A shows the asset management financial indicators over the 10 year planning period and for the long term life cycle.

FIGURE 7A: ASSET MANAGEMENT FINANCIAL INDICATORS



Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10 year life of the Long Term Financial Plan.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan

FIGURE 8: PROJECTED AND LTFP BUDGETED RENEWAL EXPENDITURE

Mid-Western RC - Projected & LTFP Budgeted Renewal Expenditure (Stormwater_S1_V1)

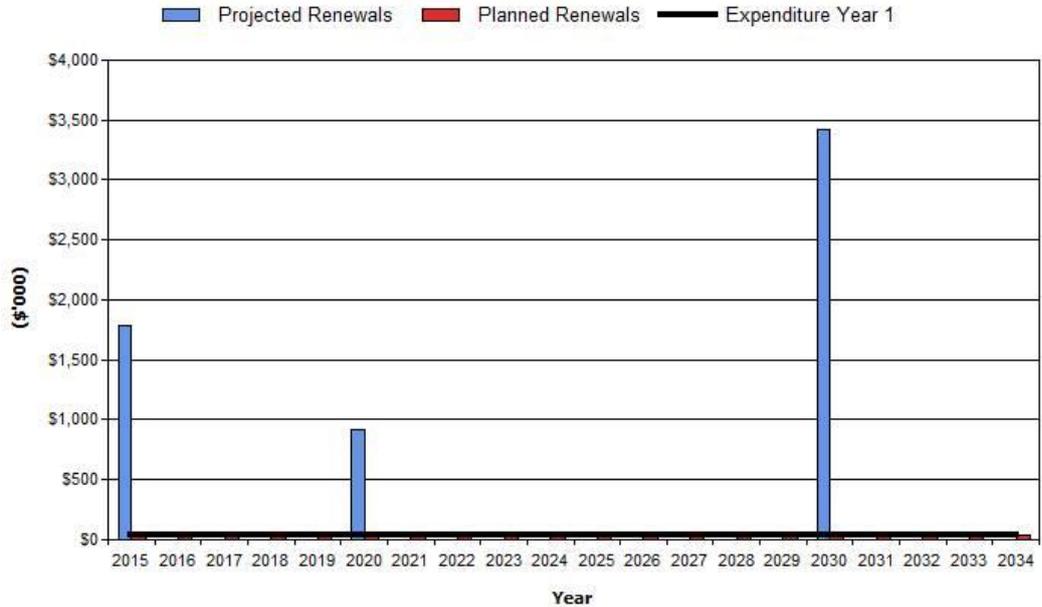


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

TABLE 6.1.1: PROJECTED AND LTFP BUDGETED RENEWALS AND FINANCING SHORTFALL

Year	Projected Renewals (\$'000)	LTFP Renewal Budget (\$'000)	Renewal Financing Shortfall (\$'000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$'000) (-ve Gap, +ve Surplus)
2015	\$1,783	\$40	-\$1,743	-\$1,743
2016	\$0	\$40	\$40	-\$1,703
2017	\$0	\$40	\$40	-\$1,663
2018	\$0	\$40	\$40	-\$1,623
2019	\$0	\$40	\$40	-\$1,583
2020	\$917	\$40	-\$877	-\$2,460
2021	\$0	\$40	\$40	-\$2,420
2022	\$0	\$40	\$40	-\$2,380
2023	\$0	\$40	\$40	-\$2,340
2024	\$0	\$40	\$40	-\$2,300
2025	\$0	\$40	\$40	-\$2,260
2026	\$0	\$40	\$40	-\$2,220
2027	\$0	\$40	\$40	-\$2,180
2028	\$0	\$40	\$40	-\$2,140
2029	\$0	\$40	\$40	-\$2,100
2030	\$3,426	\$40	-\$3,386	-\$5,486
2031	\$0	\$40	\$40	-\$5,446
2032	\$0	\$40	\$40	-\$5,406
2033	\$0	\$40	\$40	-\$5,366

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2034	\$0	\$40	\$40	-\$5,326

NOTE: A NEGATIVE SHORTFALL INDICATES A FINANCING GAP, A POSITIVE SHORTFALL INDICATES A SURPLUS FOR THAT YEAR.

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with the corresponding capital works program accommodated in the long term financial plan.

A gap between projected asset renewal/replacement expenditure and amounts accommodated in the LTFP indicates that further work is required on reviewing service levels in the AM Plan (including possibly revising the LTFP) before finalising the asset management plan to manage required service levels and funding to eliminate any funding gap.

We will manage the ‘gap’ by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

6.1.2 Projected expenditures for long term financial plan

Table 6.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2014/15 real values.

TABLE 6.1.2: PROJECTED EXPENDITURES FOR LONG TERM FINANCIAL PLAN (\$000)

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2015	\$20.00	\$50.00	\$1,783.11	\$200.00	\$0.00
2016	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2017	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2018	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2019	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2020	\$20.00	\$50.69	\$916.78	\$200.00	\$0.00
2021	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2022	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2023	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2024	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2025	\$20.00	\$50.69	\$0.00	\$200.00	\$0.00
2026	\$20.00	\$50.76	\$0.00	\$200.00	\$0.00
2027	\$20.00	\$50.83	\$0.00	\$200.00	\$0.00
2028	\$20.00	\$50.90	\$0.00	\$200.00	\$0.00
2029	\$20.00	\$50.96	\$0.00	\$200.00	\$0.00
2030	\$20.00	\$51.03	\$3,426.19	\$200.00	\$0.00
2031	\$20.00	\$51.10	\$0.00	\$200.00	\$0.00

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2032	\$20.00	\$51.17	\$0.00	\$200.00	\$0.00
2033	\$20.00	\$51.24	\$0.00	\$200.00	\$0.00
2034	\$20.00	\$51.31	\$0.00	\$200.00	\$0.00

6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability, projected expenditures identified in Section 6.1.2 will be accommodated in the Council’s 10 year long term financial plan. To assist in achieving those targets, Council will give consideration to, in consultation with the community, the introduction of a Stormwater Management Services annual charge.

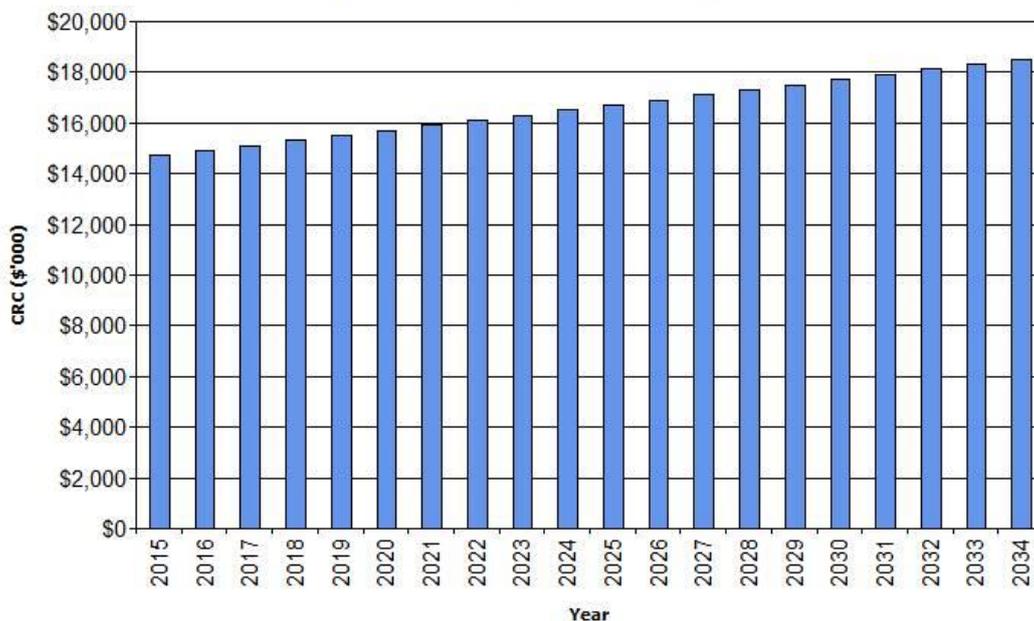
An annual charge may only be applied to non-vacant rateable parcels of land serviced by urban stormwater infrastructure. There are maximum charge amounts prescribed by legislation. For properties rated Residential, the maximum charge is currently \$25 per annum. Implementation of such an Annual Charge has the potential to yield \$150,000 per annum, which would provide additional capacity for Council to address the current infrastructure backlog, and close the gap between current annual maintenance spend and required annual maintenance spend.

6.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in real values.

FIGURE 9: PROJECTED ASSET VALUES

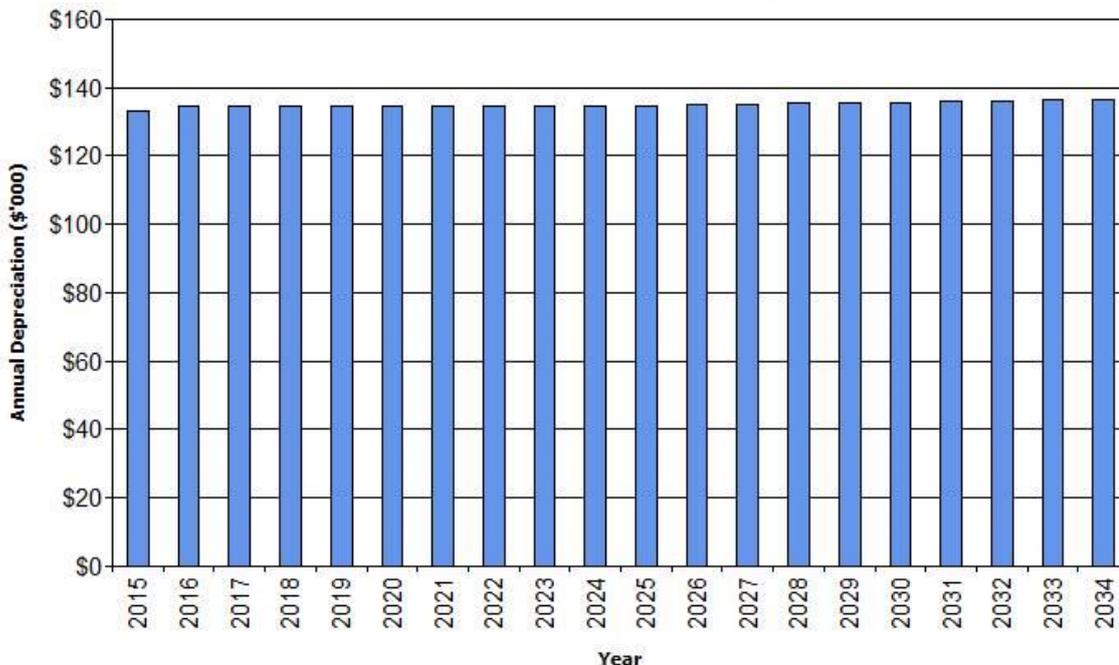
Mid-Western RC - Projected Asset Values (Stormwater_S1_V1)



Depreciation expense values are forecast in line with asset values as shown in Figure 10.

FIGURE 10: PROJECTED DEPRECIATION EXPENSE

Mid-Western RC - Projected Depreciation Expense (Stormwater_S1_V1)



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

FIGURE 11: PROJECTED DEPRECIATED REPLACEMENT COST

Mid-Western RC - Projected Depreciated Replacement Cost (Stormwater_S1_V1)



6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 6.4.

TABLE 6.4: KEY ASSUMPTIONS MADE IN AM PLAN AND RISKS OF CHANGE

Key Assumptions	Risks of Change to Assumptions
Forecasts based on maintaining present levels of service	Current levels of service cannot be maintained
Data in asset register accurate	Change in asset data may affect financial forecasts
Expenditure projections very preliminary	Actual replacement costs may be more

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale¹² in accordance with Table 6.5.

TABLE 6.5: DATA CONFIDENCE GRADING SYSTEM

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 6.5.1.

¹² IPWEA, 2011, IIMM, Table 2.4.6, p 2/59

TABLE 6.5.1: DATA CONFIDENCE ASSESSMENT FOR DATA USED IN AM PLAN

Data	Confidence Assessment	Comment
Demand drivers	B	High growth will need more assets
Growth projections	C	Fluctuates
Operations expenditures	C	Lumped in with road drainage
Maintenance expenditures	E	Lumped in with road drainage
Projected Renewal expenditures.	D	Low confidence in reliability of data
- Asset values		
- Asset residual values	D	Low confidence in reliability of data
- Asset useful lives	E	Little to no information on year constructed
- Condition modelling	E	Nil performed
- Network renewals	E	Little to no information on year constructed
- Defect repairs	E	No regular inspection schedule in place
Upgrade/New expenditures	E	Limited annual budget – not based on assessment of need
Disposal expenditures	B	None identified

Over all data sources the data confidence is assessed as low confidence level for data used in the preparation of this AM Plan.

7. Plan improvement and monitoring

7.1 Status of Asset Management Practices

7.1.1 Accounting and financial systems

Mid-Western Regional Council uses Technology One for financials and asset management. Council's stormwater infrastructure was revalued 30th June 2010 in accordance with the Fair Value accounting standards and Office of Local Government requirement and compiled into a single asset register.

ACCOUNTABILITIES FOR FINANCIAL SYSTEMS

The finance department is responsible for the financial systems operating at Mid Western Regional Council.

ACCOUNTING STANDARDS AND REGULATIONS

- Australian Accounting Standards.
- NSW Office of Local Government Accounting Code.

CAPITAL/MAINTENANCE THRESHOLD

Presently capital budget is defined but maintenance for urban drainage ill defined as this sits within an overall maintenance budget for roads drainage.

REQUIRED CHANGES TO ACCOUNTING FINANCIAL SYSTEMS ARISING FROM THIS AM PLAN

The chart of accounts would be required to separate operations and maintenance expenditure and also planned and reactive maintenance.

7.1.2 Asset management system

Technology One

ASSET REGISTERS

MWRC Asset Register

LINKAGE FROM ASSET MANAGEMENT TO FINANCIAL SYSTEM

The depreciation and asset capitalisation are linked to the finance system. Operation and maintenance are not presently linked to the asset system.

ACCOUNTABILITIES FOR ASSET MANAGEMENT SYSTEM AND DATA MAINTENANCE

Primary accountability for asset management lies with the Plant and Facilities Department within the Operations Directorate. This is supported by the Finance Department within the Corporate Directorate which is responsible for the management of the asset management systems.

REQUIRED CHANGES TO ASSET MANAGEMENT SYSTEM ARISING FROM THIS AM PLAN

- Restructure of hierarchy and asset attributes.
- Utilisation of work orders for scheduling maintenance activities and recording reactive maintenance.
- Improved accuracy of asset data necessary.

7.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 7.2.

TABLE 7.2: IMPROVEMENT PLAN

Task No	Task	Responsibility	Resources Required	Timeline
1	Separation of urban stormwater maintenance from roads drainage maintenance	Finance	Staff time	June 2015
2	Separation of operations and maintenance expenditure in general ledger	Finance	Staff time	June 2015
3	Separation of reactive and planned maintenance	Finance	Staff time	June 2015
4	Commence collection field survey data to improve accuracy of asset data	Operations	Budget, extra staff	June 2015
5	Condition inspections	Operations	Budget, staff	June 2015
6				
7				
8				
9				
10				

7.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into Council's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within 6months of each Council election.

7.4 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into Council's long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Council's Strategic Plan and associated plans,
- **The Asset Renewal Funding Ratio achieving the target of 1.0.**

8. References

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMG.
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- Mid-Western Regional Council, 'Community Plan Towards 2030'
- Mid-Western Regional Council, 'Delivery Program 2013 – 2017 and Operational Plan 2015'.

9. Appendices

- Appendix A Maintenance Response Levels of Service
- Appendix B Projected 10 year Capital Renewal and Replacement Works Program
- Appendix C Projected 10 year Capital Upgrade/New Works Program
- Appendix D LTFP Budgeted Expenditures Accommodated in AM Plan
- Appendix E Abbreviations
- Appendix F Glossary

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Appendix A Maintenance Response Levels of Service

To be developed.

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Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
127970		Cat D Pit 820 Market Street			-15	2000	\$1,000	80
127971		Cat D Pit 821 Market Street			-15	2000	\$2,020	80
127972		Cat D Pit 822 Market Street			-15	2000	\$2,280	80
127973		Cat D Pit 823 Market Street			-15	2000	\$2,280	80
127974		Cat D Pit 824 Market Street			-15	2000	\$2,280	80
127975		Cat D Pit 825 Market Street			-15	2000	\$2,280	80
127976		Cat D Pit 826 Market Street			-15	2000	\$2,020	80
127977		Cat D Pit 827 Market Street			-15	2000	\$2,020	80
127978		Cat D Pit 828 Market Street			-15	2000	\$1,000	80
127979		Cat D Pit 829 Market Street			-15	2000	\$2,020	80
127980		Cat D Pit 830 Mortimer Street			-15	2000	\$2,020	80
127981		Cat D Pit 831 Mortimer Street			-15	2000	\$2,020	80
127982		Cat D Pit 832 Mortimer Street			-15	2000	\$1,000	80
127983		Cat D Pit 833 Mortimer Street			-15	2000	\$2,280	80
127984		Cat D Pit 834 Mortimer Street			-15	2000	\$2,280	80
127985		Cat D Pit 835 Mortimer Street			-15	2000	\$2,280	80
127986		Cat D Pit 836 Mortimer Street			-15	2000	\$2,280	80
127987		Cat D Pit 837 Mortimer Street			-15	2000	\$2,280	80
127988		Cat D Pit 838 Mortimer Street			-15	2000	\$2,280	80
127989		Cat D Pit 839 Mortimer Street			-15	2000	\$2,280	80
127990		Cat D Pit 840 Mortimer Street			-15	2000	\$2,280	80
127991		Cat D Pit 841 Mortimer Street			-15	2000	\$1,000	80
127992		Cat D Pit 842 Mortimer Street			-15	2000	\$1,000	80
127993		Cat D Pit 843 Mortimer Street			-15	2000	\$2,280	80
127994		Cat D Pit 844 Mortimer Street			-15	2000	\$2,280	80
128569		Catchment C Pipe 309 Short Street - Mudgee			-15	2000	\$1,680	80
128570		Catchment C Pipe 310 Short Street - Mudgee			-15	2000	\$2,240	80
128564		Catchment C Pipe 311 Short Street - Mudgee			-15	2000	\$12,150	80
128565		Catchment C Pipe 317 Market Street			-15	2000	\$4,200	80
128566		Catchment C Pipe 318 Market Street			-15	2000	\$280	80
128567		Catchment C Pipe 319 Market Street			-15	2000	\$280	80
128568		Catchment C Pipe 320 Short Street - Mudgee			-15	2000	\$700	80
128781		Catchment D Pipe 301 Church Street			-15	2000	\$7,960	80
128806		Catchment D Pipe 302 Church Street			-15	2000	\$4,500	80
128807		Catchment D Pipe 303 Church Street			-15	2000	\$3,360	80
128808		Catchment D Pipe 304 Church Street			-15	2000	\$59,700	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128782		Catchment D Pipe 305 Church Street			-15	2000	\$5,541	80
128783		Catchment D Pipe 306 Church Street			-15	2000	\$16,622	80
128809		Catchment D Pipe 307 Church Street			-15	2000	\$13,851	80
128784		Catchment D Pipe 308 Church Street			-15	2000	\$11,081	80
128785		Catchment D Pipe 309 Church Street			-15	2000	\$5,541	80
128786		Catchment D Pipe 310 Church Street			-15	2000	\$8,311	80
128787		Catchment D Pipe 311 Church Street			-15	2000	\$8,311	80
128788		Catchment D Pipe 312 Church Street			-15	2000	\$149,594	80
128789		Catchment D Pipe 313 Church Street			-15	2000	\$5,541	80
128790		Catchment D Pipe 314 Church Street			-15	2000	\$16,622	80
128791		Catchment D Pipe 315 Church Street			-15	2000	\$2,770	80
128810		Catchment D Pipe 316 Church Street			-15	2000	\$13,851	80
128811		Catchment D Pipe 317 Church Street			-15	2000	\$13,851	80
128792		Catchment D Pipe 318 Church Street			-15	2000	\$11,081	80
128793		Catchment D Pipe 319 Church Street			-15	2000	\$166,215	80
128812		Catchment D Pipe 320 Market Street			-15	2000	\$3,360	80
128794		Catchment D Pipe 321 Market Street			-15	2000	\$39,800	80
128795		Catchment D Pipe 322 Byron Place			-15	2000	\$17,910	80
128796		Catchment D Pipe 323 Byron Place			-15	2000	\$13,930	80
128797		Catchment D Pipe 324 Byron Place			-15	2000	\$3,080	80
128798		Catchment D Pipe 325 Byron Place			-15	2000	\$1,813	80
128799		Catchment D Pipe 326 Byron Place			-15	2000	\$16,392	80
128780		Catchment D Pipe 327 Byron Place			-15	2000	\$2,732	80
128800		Catchment D Pipe 328 Mortimer Street			-15	2000	\$224	80
128813		Catchment D Pipe 329 Mortimer Street			-15	2000	\$3,360	80
128801		Catchment D Pipe 330 Mortimer Street			-15	2000	\$224	80
128814		Catchment D Pipe 331 Mortimer Street			-15	2000	\$2,240	80
128802		Catchment D Pipe 332 Mortimer Street			-15	2000	\$224	80
128803		Catchment D Pipe 333 Mortimer Street			-15	2000	\$224	80
128804		Catchment D Pipe 334 Mortimer Street			-15	2000	\$24,640	80
128805		Catchment D Pipe 335 Mortimer Street			-15	2000	\$6,810	80
127951		Catchment D Pit 801 Short Street - Mudgee			-15	2000	\$2,280	80
127952		Catchment D Pit 802 Short Street - Mudgee			-15	2000	\$2,280	80
127953		Catchment D Pit 803 Short Street - Mudgee			-15	2000	\$2,020	80
127954		Catchment D Pit 804 Short Street - Mudgee			-15	2000	\$2,020	80
127955		Catchment D Pit 805 Short Street - Mudgee			-15	2000	\$2,280	80
127956		Catchment D Pit 806 Short Street - Mudgee			-15	2000	\$1,000	80
127957		Catchment D Pit 807 Short Street - Mudgee			-15	2000	\$2,020	80
127958		Catchment D Pit 808 Short Street - Mudgee			-15	2000	\$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
127959		Catchment D Pit 809 Short Street - Mudgee			-15	2000	\$2,020	80
127960		Catchment D Pit 810 Short Street - Mudgee			-15	2000	\$2,020	80
127961		Catchment D Pit 811 Short Street - Mudgee			-15	2000	\$2,020	80
127962		Catchment D Pit 812 Short Street - Mudgee			-15	2000	\$2,020	80
127963		Catchment D Pit 813 Short Street - Mudgee			-15	2000	\$2,020	80
127964		Catchment D Pit 814 Short Street - Mudgee			-15	2000	\$2,020	80
127965		Catchment D Pit 815 Short Street - Mudgee			-15	2000	\$2,020	80
127966		Catchment D Pit 816 Short Street - Mudgee			-15	2000	\$2,280	80
127967		Catchment D Pit 817 Short Street - Mudgee			-15	2000	\$1,000	80
127968		Catchment D Pit 818 Short Street - Mudgee			-15	2000	\$2,280	80
127969		Catchment D Pit 819 Short Street - Mudgee			-15	2000	\$2,020	80
128842		Catchment E Pipe 301 Thomas Clarke Place			-15	2000	\$23,435	80
128843		Catchment E Pipe 302 Thomas Clarke Place			-15	2000	\$31,246	80
128841		Catchment E Pipe 303 Thomas Clarke Place			-15	2000	\$5,464	80
128844		Catchment E Pipe 304 Thomas Clarke Place			-15	2000	\$15,400	80
128845		Catchment E Pipe 305 Thomas Clarke Place			-15	2000	\$4,200	80
128846		Catchment E Pipe 306 Market Street			-15	2000	\$3,360	80
128847		Catchment E Pipe 307 Market Street			-15	2000	\$1,400	80
128848		Catchment E Pipe 308 Market Street			-15	2000	\$5,600	80
128849		Catchment E Pipe 309 Market Street			-15	2000	\$1,400	80
128850		Catchment E Pipe 310 Market Street			-15	2000	\$8,400	80
128853		Catchment E Pipe 311 Mortimer Street			-15	2000	\$3,360	80
128851		Catchment E Pipe 333 Mortimer Street			-15	2000	\$224	80
128852		Catchment E Pipe 334 Mortimer Street			-15	2000	\$21,560	80
Subtotal							\$894,522	
127995		Cat D Pit 845 Mortimer Street			-5	2010	\$2,020	80
127996		Cat D Pit 846 Mortimer Street			-5	2010	\$2,280	80
127997		Cat D Pit 847 Gladstone Street			-5	2010	\$2,280	80
127998		Cat D Pit 848 Gladstone Street			-5	2010	\$2,280	80
127999		Cat D Pit 849 Gladstone Street			-5	2010	\$2,280	80
128000		Cat D Pit 850 Gladstone Street			-5	2010	\$2,280	80
128001		Cat D Pit 851 Gladstone Street			-5	2010	\$2,280	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128002		Cat D Pit 852 Gladstone Street			-5	2010	\$2,280	80
128003		Cat D Pit 853 Gladstone Street			-5	2010	\$2,280	80
128004		Cat D Pit 854 Gladstone Street			-5	2010	\$2,280	80
128005		Cat D Pit 855 Gladstone Street			-5	2010	\$2,280	80
128006		Cat D Pit 856 Gladstone Street			-5	2010	\$1,000	80
128007		Cat D Pit 857 Gladstone Street			-5	2010	\$2,280	80
128008		Cat D Pit 858 Denison Street			-5	2010	\$2,280	80
128009		Cat D Pit 859 Denison Street			-5	2010	\$2,280	80
128010		Cat D Pit 860 Denison Street			-5	2010	\$2,280	80
128575		Catchment C Pipe 305 Short Street - Mudgee			-5	2010	\$16,392	80
128576		Catchment C Pipe 306 Short Street - Mudgee			-5	2010	\$84,323	80
128577		Catchment C Pipe 307 Short Street - Mudgee			-5	2010	\$8,400	80
128578		Catchment C Pipe 308 Short Street - Mudgee			-5	2010	\$3,360	80
128579		Catchment C Pipe 313 Market Street			-5	2010	\$24,557	80
128580		Catchment C Pipe 314 Market Street			-5	2010	\$180	80
128581		Catchment C Pipe 315 Market Street			-5	2010	\$180	80
128773		Catchment C Pipe 316 Market Street			-5	2010	\$79,097	80
128571		Catchment C Pipe 323 Mortimer Street			-5	2010	\$1,120	80
128582		Catchment C Pipe 324 Mortimer Street			-5	2010	\$3,360	80
128572		Catchment C Pipe 325 Mortimer Street			-5	2010	\$1,120	80
128573		Catchment C Pipe 329 Gladstone Street			-5	2010	\$560	80
128583		Catchment C Pipe 330 Gladstone Street			-5	2010	\$3,360	80
128574		Catchment C Pipe 331 Gladstone Street			-5	2010	\$560	80
128584		Catchment C Pipe 341 Denison Street			-5	2010	\$3,360	80
128585		Catchment C Pipe 342 Gladstone Street			-5	2010	\$32,600	80
128586		Catchment C Pipe 343 Gladstone Street			-5	2010	\$81,500	80
128587		Catchment C Pipe 344 Denison Street			-5	2010	\$40,750	80
127734		Catchment C Pit 038 Market Street			-5	2010	\$1,000	80
127702		Catchment C Pit 801 Short Street - Mudgee			-5	2010	\$2,280	80
127703		Catchment C Pit 802 Short Street - Mudgee			-5	2010	\$2,280	80
127704		Catchment C Pit 803 Short Street - Mudgee			-5	2010	\$2,280	80
127705		Catchment C Pit 804 Short Street - Mudgee			-5	2010	\$2,280	80
127706		Catchment C Pit 805 Short Street - Mudgee			-5	2010	\$1,000	80
127707		Catchment C Pit 806 Short Street - Mudgee			-5	2010	\$1,000	80
127708		Catchment C Pit 807 Short Street - Mudgee			-5	2010	\$2,280	80
127709		Catchment C Pit 808 Short Street - Mudgee			-5	2010	\$2,280	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
127710		Catchment C Pit 809 Short Street - Mudgee			-5	2010	\$2,280	80
127711		Catchment C Pit 810 Short Street - Mudgee			-5	2010	\$1,000	80
127712		Catchment C Pit 811 Short Street - Mudgee			-5	2010	\$2,280	80
127713		Catchment C Pit 812 Short Street - Mudgee			-5	2010	\$2,020	80
127714		Catchment C Pit 813 Short Street - Mudgee			-5	2010	\$2,020	80
127715		Catchment C Pit 814 Short Street - Mudgee			-5	2010	\$2,020	80
127716		Catchment C Pit 815 Short Street - Mudgee			-5	2010	\$610	80
127717		Catchment C Pit 816 Short Street - Mudgee			-5	2010	\$610	80
127718		Catchment C Pit 817 Short Street - Mudgee			-5	2010	\$2,280	80
127719		Catchment C Pit 818 Short Street - Mudgee			-5	2010	\$2,280	80
127720		Catchment C Pit 819 Short Street - Mudgee			-5	2010	\$2,280	80
127721		Catchment C Pit 820 Short Street - Mudgee			-5	2010	\$2,280	80
127722		Catchment C Pit 821 Market Street			-5	2010	\$2,280	80
127723		Catchment C Pit 822 Market Street			-5	2010	\$2,280	80
127724		Catchment C Pit 823 Market Street			-5	2010	\$2,280	80
127725		Catchment C Pit 824 Market Street			-5	2010	\$2,280	80
127726		Catchment C Pit 825 Short Street - Mudgee			-5	2010	\$1,000	80
127727		Catchment C Pit 826 Market Street			-5	2010	\$2,020	80
127728		Catchment C Pit 827 Market Street			-5	2010	\$2,020	80
127729		Catchment C Pit 828 Market Street			-5	2010	\$1,000	80
127730		Catchment C Pit 829 Market Street			-5	2010	\$2,280	80
127731		Catchment C Pit 830 Market Street			-5	2010	\$2,280	80
127732		Catchment C Pit 831 Market Street			-5	2010	\$2,280	80
127733		Catchment C Pit 832 Market Street			-5	2010	\$2,280	80
127735		Catchment C Pit 833 Mortimer Street			-5	2010	\$2,020	80
127736		Catchment C Pit 834 Mortimer Street			-5	2010	\$2,020	80
127737		Catchment C Pit 835 Mortimer Street			-5	2010	\$1,000	80
127738		Catchment C Pit 836 Mortimer Street			-5	2010	\$2,280	80
127739		Catchment C Pit 837 Mortimer Street			-5	2010	\$2,280	80
128815		Catchment D Pipe 336 Mortimer Street			-5	2010	\$4,540	80
128816		Catchment D Pipe 337 Mortimer Street			-5	2010	\$19,295	80
128817		Catchment D Pipe 338 Mortimer Street			-5	2010	\$38,784	80
128818		Catchment D Pipe 339 Mortimer Street			-5	2010	\$11,081	80
128819		Catchment D Pipe 340 Mortimer Street			-5	2010	\$4,200	80
128820		Catchment D Pipe 341 Mortimer Street			-5	2010	\$1,400	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128821		Catchment D Pipe 342 Gladstone Street			-5	2010	\$3,360	80
128822		Catchment D Pipe 343 Gladstone Street			-5	2010	\$2,732	80
128823		Catchment D Pipe 344 Gladstone Street			-5	2010	\$180	80
128824		Catchment D Pipe 345 Gladstone Street			-5	2010	\$2,700	80
128825		Catchment D Pipe 346 Gladstone Street			-5	2010	\$180	80
128826		Catchment D Pipe 347 Gladstone Street			-5	2010	\$2,700	80
128827		Catchment D Pipe 348 Gladstone Street			-5	2010	\$3,360	80
128828		Catchment D Pipe 349 Gladstone Street			-5	2010	\$3,360	80
128829		Catchment D Pipe 350 Gladstone Street			-5	2010	\$224	80
128830		Catchment D Pipe 351 Gladstone Street			-5	2010	\$15,890	80
128831		Catchment D Pipe 352 Denison Street			-5	2010	\$3,360	80
128832		Catchment D Pipe 353 Denison Street			-5	2010	\$450	80
128833		Catchment D Pipe 354 Denison Street			-5	2010	\$450	80
128834		Catchment D Pipe 355 Denison Street			-5	2010	\$450	80
128835		Catchment D Pipe 356 Denison Street			-5	2010	\$3,360	80
128836		Catchment D Pipe 357 Denison Street			-5	2010	\$450	80
128837		Catchment D Pipe 358 Denison Street			-5	2010	\$450	80
128838		Catchment D Pipe 359 Denison Street			-5	2010	\$450	80
128839		Catchment D Pipe 360 Denison Street			-5	2010	\$3,360	80
128856		Catchment E Pipe 312 Mortimer Street			-5	2010	\$3,360	80
128857		Catchment E Pipe 313 Mortimer Street			-5	2010	\$450	80
128858		Catchment E Pipe 314 Mortimer Street			-5	2010	\$3,360	80
128859		Catchment E Pipe 315 Mortimer Street			-5	2010	\$3,360	80
128860		Catchment E Pipe 316 Mortimer Street			-5	2010	\$41,542	80
128861		Catchment E Pipe 317 Gladstone Street			-5	2010	\$2,700	80
128862		Catchment E Pipe 318 Gladstone Street			-5	2010	\$2,700	80
128863		Catchment E Pipe 319 Gladstone Street			-5	2010	\$2,700	80
128864		Catchment E Pipe 320 Gladstone Street			-5	2010	\$72,305	80
128865		Catchment E Pipe 321 Gladstone Street			-5	2010	\$2,732	80
128854		Catchment E Pipe 322 Gladstone Street			-5	2010	\$560	80
128866		Catchment E Pipe 323 Gladstone Street			-5	2010	\$8,311	80
128867		Catchment E Pipe 324 Gladstone Street			-5	2010	\$3,360	80
128868		Catchment E Pipe 325 Gladstone Street			-5	2010	\$2,700	80
128855		Catchment E Pipe 326 Gladstone Street			-5	2010	\$1,120	80
128869		Catchment E Pipe 327 Denison Street			-5	2010	\$4,200	80
128870		Catchment E Pipe 328 Denison Street			-5	2010	\$450	80
128871		Catchment E Pipe 329 Denison Street			-5	2010	\$450	80
128872		Catchment E Pipe 330 Denison Street			-5	2010	\$450	80
128873		Catchment E Pipe 331 Denison Street			-5	2010	\$4,200	80
128874		Catchment E Pipe 332 Denison Street			-5	2010	\$450	80
128022		Catchment E Pit 801 Short Street - Mudgee			-5	2010	\$2,280	80
128023		Catchment E Pit 802 Short Street - Mudgee			-5	2010	\$2,280	80
128024		Catchment E Pit 803 Short Street - Mudgee			-5	2010	\$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128025		Catchment E Pit 804 Short Street - Mudgee			-5	2010	\$1,000	80
128026		Catchment E Pit 805 Short Street - Mudgee			-5	2010	\$2,280	80
128027		Catchment E Pit 806 Short Street - Mudgee			-5	2010	\$2,280	80
128028		Catchment E Pit 807 Short Street - Mudgee			-5	2010	\$2,280	80
128029		Catchment E Pit 808 Short Street - Mudgee			-5	2010	\$2,020	80
128030		Catchment E Pit 809 Market Street			-5	2010	\$2,280	80
128031		Catchment E Pit 810 Market Street			-5	2010	\$2,280	80
128032		Catchment E Pit 811 Market Street			-5	2010	\$2,280	80
128033		Catchment E Pit 812 Market Street			-5	2010	\$2,280	80
128034		Catchment E Pit 813 Market Street			-5	2010	\$2,280	80
128035		Catchment E Pit 814 Market Street			-5	2010	\$2,280	80
128036		Catchment E Pit 815 Market Street			-5	2010	\$2,020	80
128037		Catchment E Pit 816 Market Street			-5	2010	\$2,280	80
128038		Catchment E Pit 817 Mortimer Street			-5	2010	\$2,280	80
128039		Catchment E Pit 818 Mortimer Street			-5	2010	\$2,280	80
128040		Catchment E Pit 819 Mortimer Street			-5	2010	\$2,280	80
128041		Catchment E Pit 820 Mortimer Street			-5	2010	\$2,280	80
128042		Catchment E Pit 821 Mortimer Street			-5	2010	\$2,280	80
128043		Catchment E Pit 822 Mortimer Street			-5	2010	\$2,280	80
128044		Catchment E Pit 823 Mortimer Street			-5	2010	\$2,280	80
128045		Catchment E Pit 824 Mortimer Street			-5	2010	\$2,280	80
128046		Catchment E Pit 825 Mortimer Street			-5	2010	\$2,280	80
128047		Catchment E Pit 826 Mortimer Street			-5	2010	\$2,280	80
128048		Catchment E Pit 827 Mortimer Street			-5	2010	\$2,280	80
128049		Catchment E Pit 828 Mortimer Street			-5	2010	\$2,280	80
128050		Catchment E Pit 829 Gladstone Street			-5	2010	\$2,280	80
128051		Catchment E Pit 830 Gladstone Street			-5	2010	\$2,280	80
128052		Catchment E Pit 831 Gladstone Street			-5	2010	\$2,280	80
128053		Catchment E Pit 832 Gladstone Street			-5	2010	\$2,280	80
128054		Catchment E Pit 833 Gladstone Street			-5	2010	\$2,280	80
128055		Catchment E Pit 834 Gladstone Street			-5	2010	\$2,280	80
128056		Catchment E Pit 835 Gladstone Street			-5	2010	\$2,280	80
128057		Catchment E Pit 836 Gladstone Street			-5	2010	\$2,280	80
128058		Catchment E Pit 837 Gladstone Street			-5	2010	\$2,020	80
128059		Catchment E Pit 838 Gladstone Street			-5	2010	\$2,280	80
128060		Catchment E Pit 839 Gladstone Street			-5	2010	\$2,280	80
128061		Catchment E Pit 840 Gladstone Street			-5	2010	\$1,000	80
128062		Catchment E Pit 841 Gladstone Street			-5	2010	\$2,280	80
128063		Catchment E Pit 842 Denison Street			-5	2010	\$2,280	80
128064		Catchment E Pit 843 Denison Street			-5	2010	\$2,280	80
128065		Catchment E Pit 844 Denison Street			-5	2010	\$2,280	80
128066		Catchment E Pit 845 Denison Street			-5	2010	\$2,280	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128067		Catchment E Pit 846 Denison Street			-5	2010	\$2,280	80
128068		Catchment E Pit 847 Denison Street			-5	2010	\$2,280	80
128069		Catchment E Pit 848 Denison Street			-5	2010	\$2,280	80
128070		Catchment E Pit 849 Denison Street			-5	2010	\$2,280	80
						Subtotal	\$888,583	
129182		Catchment E Drain 340 Market Street			5	2020	\$65,100	80
129183		Catchment E Drain 341 Mortimer Street			5	2020	\$95,480	80
129184		Catchment F Drain 347 Market Street			5	2020	\$21,000	80
129185		Catchment F Drain 348 Mortimer Street			5	2020	\$86,800	80
129186		Catchment F Drain 349 Gladstone Street			5	2020	\$78,120	80
129187		Catchment F Drain 350 Denison Street			5	2020	\$86,800	80
129188		Catchment F Drain 351 Inglis Street			5	2020	\$21,700	80
129189		Catchment H Drain 313 Industrial Road			5	2020	\$21,000	80
129190		Catchment H Drain 314 Sydney Road			5	2020	\$28,000	80
129049		Catchment X Pipe 342 Mayne Street			5	2020	\$19,712	80
129050		Catchment X Pipe 343 Mayne Street			5	2020	\$4,928	80
129051		Catchment X Pipe 344 Mayne Street			5	2020	\$10,080	80
129052		Catchment X Pipe 345 Mayne Street			5	2020	\$560	80
128296		Catchment X Pit 855 Mayne Street			5	2020	\$2,020	80
128297		Catchment X Pit 856 Mayne Street			5	2020	\$2,020	80
128298		Catchment X Pit 857 Mayne Street			5	2020	\$1,000	80
128299		Catchment X Pit 858 Mayne Street			5	2020	\$2,020	80
128300		Catchment X Pit 859 Tallawang Road			5	2020	\$2,280	80
129146		Catchment Y Pipe 385 Railway Street			5	2020	\$18,799	80
129147		Catchment Y Pipe 386 Railway Street			5	2020	\$3,360	80
129148		Catchment Y Pipe 387 Railway Street			5	2020	\$7,231	80
129149		Catchment Y Pipe 388 Railway Street			5	2020	\$672	80
129150		Catchment Y Pipe 389 Railway Street			5	2020	\$16,622	80
129151		Catchment Y Pipe 390 Railway Street			5	2020	\$23,270	80
129152		Catchment Y Pipe 391 Railway Street			5	2020	\$23,270	80
129153		Catchment Y Pipe 392 Railway Street			5	2020	\$4,200	80
129194		Catchment Y Drain 396 Queen Street			5	2020	\$560	80
129195		Catchment Y Drain 397 Bayly Street - Gulgong			5	2020	\$1,400	80
129196		Catchment Y Drain 398 Bayly Street - Gulgong			5	2020	\$700	80
129197		Catchment Y Drain 399 Belmore Street - Gulgong			5	2020	\$1,400	80
129198		Catchment Y Drain 400 Belmore Street - Gulgong			5	2020	\$700	80
129199		Catchment Y Drain 401 Lynne Street			5	2020	\$2,100	80
129200		Catchment Y Drain 402 Queen Street			5	2020	\$700	80
129201		Catchment Y Drain 403 Bayly Street - Gulgong			5	2020	\$700	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
129202		Catchment Y Drain 404 Bayly Street - Gulgong			5	2020	\$700	80
129203		Catchment Y Drain 405 Belmore Street - Gulgong			5	2020	\$1,400	80
129204		Catchment Y Drain 406 Belmore Street - Gulgong			5	2020	\$1,400	80
129205		Catchment Y Drain 407 Belmore Street - Gulgong			5	2020	\$700	80
129206		Catchment Y Drain 408 Belmore Street - Gulgong			5	2020	\$700	80
129207		Catchment Y Drain 409 Lynne Street			5	2020	\$1,400	80
129208		Catchment Y Drain 410 Lynne Street			5	2020	\$1,400	80
129209		Catchment Y Drain 411 Bayly Street - Gulgong			5	2020	\$700	80
129210		Catchment Y Drain 412 Bayly Street - Gulgong			5	2020	\$700	80
129211		Catchment Y Drain 413 Belmore Street - Gulgong			5	2020	\$700	80
129212		Catchment Y Drain 414 Belmore Street - Gulgong			5	2020	\$700	80
129213		Catchment Y Drain 415 Lynne Street			5	2020	\$1,400	80
129214		Catchment Y Drain 416 Lynne Street			5	2020	\$1,400	80
129215		Catchment Y Drain 417 Lynne Street			5	2020	\$350	80
129216		Catchment Y Drain 418 Lynne Street			5	2020	\$1,400	80
129217		Catchment Y Drain 419 Station Street - Gulgong			5	2020	\$2,240	80
129218		Catchment Y Drain 420 Lynne Street			5	2020	\$1,400	80
129219		Catchment Y Drain 421 Lynne Street			5	2020	\$350	80
129220		Catchment Y Drain 422 Lynne Street			5	2020	\$1,400	80
129221		Catchment Y Drain 423 Bayly Street - Gulgong			5	2020	\$700	80
129223		Catchment Y Drain 425 Herbert Street			5	2020	\$2,800	80
129061		Catchment Y Pipe 302 Robinson Street			5	2020	\$1,400	80
129062		Catchment Y Pipe 303 Robinson Street			5	2020	\$1,680	80
129063		Catchment Y Pipe 304 Robinson Street			5	2020	\$4,540	80
129064		Catchment Y Pipe 305 Robinson Street			5	2020	\$11,350	80
129065		Catchment Y Pipe 306 Mayne Street			5	2020	\$6,810	80
129066		Catchment Y Pipe 307 Mayne Street			5	2020	\$2,240	80
129067		Catchment Y Pipe 308 Mayne Street			5	2020	\$2,240	80
129068		Catchment Y Pipe 309 Mayne Street			5	2020	\$4,835	80
129069		Catchment Y Pipe 310 Mayne Street			5	2020	\$12,088	80
129070		Catchment Y Pipe 311 Mayne Street			5	2020	\$908	80
129071		Catchment Y Pipe 312 Mayne Street			5	2020	\$4,540	80
129083		Catchment Y Pipe 322 Queen Street			5	2020	\$2,240	80
129084		Catchment Y Pipe 323 Queen Street			5	2020	\$3,360	80
129085		Catchment Y Pipe 324 Queen Street			5	2020	\$360	80
129089		Catchment Y Pipe 325 Queen Street			5	2020	\$1,120	80
129086		Catchment Y Pipe 326 Queen Street			5	2020	\$6,720	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
129087		Catchment Y Pipe 327 Queen Street			5	2020	\$2,240	80
129088		Catchment Y Pipe 328 Queen Street			5	2020	\$2,800	80
129090		Catchment Y Pipe 329 Queen Street			5	2020	\$4,200	80
129091		Catchment Y Pipe 330 Queen Street			5	2020	\$2,800	80
129092		Catchment Y Pipe 331 Queen Street			5	2020	\$448	80
129093		Catchment Y Pipe 332 Bayly Street - Gulgong			5	2020	\$2,240	80
129094		Catchment Y Pipe 333 Bayly Street - Gulgong			5	2020	\$1,120	80
129095		Catchment Y Pipe 334 Bayly Street - Gulgong			5	2020	\$1,120	80
129096		Catchment Y Pipe 335 Bayly Street - Gulgong			5	2020	\$2,240	80
129097		Catchment Y Pipe 336 Bayly Street - Gulgong			5	2020	\$1,120	80
129098		Catchment Y Pipe 337 Bayly Street - Gulgong			5	2020	\$1,120	80
129099		Catchment Y Pipe 338 Bayly Street - Gulgong			5	2020	\$3,360	80
129100		Catchment Y Pipe 339 Bayly Street - Gulgong			5	2020	\$1,120	80
129101		Catchment Y Pipe 340 Rouse Street			5	2020	\$900	80
129102		Catchment Y Pipe 341 Bayly Street - Gulgong			5	2020	\$1,120	80
129103		Catchment Y Pipe 342 Bayly Street - Gulgong			5	2020	\$3,360	80
129104		Catchment Y Pipe 343 Bayly Street - Gulgong			5	2020	\$3,360	80
129105		Catchment Y Pipe 344 Bayly Street - Gulgong			5	2020	\$3,360	80
129106		Catchment Y Pipe 345 Bayly Street - Gulgong			5	2020	\$1,120	80
128320		Catchment Y Pit 803 Robinson Street			5	2020	\$2,020	80
128321		Catchment Y Pit 804 Robinson Street			5	2020	\$2,280	80
128322		Catchment Y Pit 805 Robinson Street			5	2020	\$2,020	80
128323		Catchment Y Pit 806 Robinson Street			5	2020	\$2,280	80
128324		Catchment Y Pit 807 Robinson Street			5	2020	\$2,020	80
128325		Catchment Y Pit 808 Robinson Street			5	2020	\$2,020	80
128326		Catchment Y Pit 809 Mayne Street			5	2020	\$2,020	80
128327		Catchment Y Pit 810 Mayne Street			5	2020	\$2,280	80
128328		Catchment Y Pit 811 Mayne Street			5	2020	\$2,020	80
128329		Catchment Y Pit 812 Mayne Street			5	2020	\$2,020	80
128330		Catchment Y Pit 813 Mayne Street			5	2020	\$2,020	80
128331		Catchment Y Pit 814 Mayne Street			5	2020	\$2,280	80
128332		Catchment Y Pit 815 Mayne Street			5	2020	\$2,280	80
128333		Catchment Y Pit 816 Mayne Street			5	2020	\$2,020	80
128334		Catchment Y Pit 817 Mayne Street			5	2020	\$2,280	80
128335		Catchment Y Pit 818 Mayne Street			5	2020	\$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128336		Catchment Y Pit 819 Mayne Street			5	2020	\$2,020	80
128337		Catchment Y Pit 820 Mayne Street			5	2020	\$2,020	80
128355		Catchment Y Pit 838 Queen Street			5	2020	\$2,020	80
128356		Catchment Y Pit 839 Queen Street			5	2020	\$2,020	80
128357		Catchment Y Pit 840 Queen Street			5	2020	\$2,020	80
128358		Catchment Y Pit 841 Queen Street			5	2020	\$1,000	80
128359		Catchment Y Pit 842 Queen Street			5	2020	\$2,020	80
128362		Catchment Y Pit 845 Moonlight Street			5	2020	\$2,280	80
128363		Catchment Y Pit 846 Queen Street			5	2020	\$2,020	80
128364		Catchment Y Pit 847 Queen Street			5	2020	\$2,020	80
128365		Catchment Y Pit 848 Queen Street			5	2020	\$1,000	80
128366		Catchment Y Pit 849 Queen Street			5	2020	\$2,280	80
128367		Catchment Y Pit 850 Queen Street			5	2020	\$2,020	80
128368		Catchment Y Pit 851 Queen Street			5	2020	\$2,280	80
128369		Catchment Y Pit 852 Queen Street			5	2020	\$2,020	80
128370		Catchment Y Pit 853 Queen Street			5	2020	\$2,280	80
128371		Catchment Y Pit 854 Queen Street			5	2020	\$1,000	80
128372		Catchment Y Pit 855 Queen Street			5	2020	\$2,280	80
128373		Catchment Y Pit 856 Bayly Street - Gulgong			5	2020	\$2,020	80
128374		Catchment Y Pit 857 Bayly Street - Gulgong			5	2020	\$2,020	80
128375		Catchment Y Pit 858 Bayly Street - Gulgong			5	2020	\$2,280	80
128376		Catchment Y Pit 859 Bayly Street - Gulgong			5	2020	\$2,020	80
128377		Catchment Y Pit 860 Bayly Street - Gulgong			5	2020	\$2,020	80
128378		Catchment Y Pit 861 Bayly Street - Gulgong			5	2020	\$2,020	80
128379		Catchment Y Pit 862 Bayly Street - Gulgong			5	2020	\$2,280	80
128380		Catchment Y Pit 863 Bayly Street - Gulgong			5	2020	\$2,020	80
128381		Catchment Y Pit 864 Bayly Street - Gulgong			5	2020	\$2,020	80
128382		Catchment Y Pit 865 Bayly Street - Gulgong			5	2020	\$2,020	80
128383		Catchment Y Pit 866 Bayly Street - Gulgong			5	2020	\$2,280	80
128384		Catchment Y Pit 867 Bayly Street - Gulgong			5	2020	\$2,020	80
128385		Catchment Y Pit 868 Bayly Street - Gulgong			5	2020	\$2,020	80
128386		Catchment Y Pit 869 Bayly Street - Gulgong			5	2020	\$2,280	80
128387		Catchment Y Pit 870 Bayly Street - Gulgong			5	2020	\$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
128388		Catchment Y Pit 871 Bayly Street - Gulgong			5	2020	\$2,280	80
128389		Catchment Y Pit 872 Bayly Street - Gulgong			5	2020	\$2,020	80
128390		Catchment Y Pit 873 Bayly Street - Gulgong			5	2020	\$2,020	80
128391		Catchment Y Pit 874 Bayly Street - Gulgong			5	2020	\$2,280	80
128439		Catchment Y Pit 922 Railway Street			5	2020	\$2,020	80
128440		Catchment Y Pit 923 Railway Street			5	2020	\$2,280	80
128441		Catchment Y Pit 924 Railway Street			5	2020	\$2,280	80
128442		Catchment Y Pit 925 Railway Street			5	2020	\$1,000	80
128443		Catchment Y Pit 926 Railway Street			5	2020	\$1,000	80
128444		Catchment Y Pit 927 Railway Street			5	2020	\$2,280	80
128445		Catchment Y Pit 928 Railway Street			5	2020	\$2,280	80
128446		Catchment Y Pit 929 Railway Street			5	2020	\$2,280	80
128447		Catchment Y Pit 930 Railway Street			5	2020	\$2,280	80
128448		Catchment Y Pit 931 Saleyards Lane - Gulgong			5	2020	\$2,280	80
128449		Catchment Y Pit 932 Saleyards Lane - Gulgong			5	2020	\$2,280	80
128450		Catchment Y Pit 933 Saleyards Lane - Gulgong			5	2020	\$2,280	80
Subtotal							\$916,783	
Program Total							\$2,699,888	

Appendix C Projected Upgrade/Exp/New 10 year Capital Works Program

NAMS.PLUS3 Asset Management Form 2C Upgrade/New Plan				
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Mid-Western RC		Projected Capital Upgrade/New Plan 2015		
Stormwater_S1_V1				
Year	Item No.	Capital Upgrade and New Projects	Estimate (\$000)	Running total (\$000)
2015	1	New infrastructure	\$200	\$200
2015	2			
2015	3			
2015	4			
2015	5			
2015	6			
2015	7			
2015	8			
2015	9			
2015	10			
2015	Total Projected Capital Upgrade/New Plan		\$200	
Stormwater_S1_V1 Projected Capital Upgrade/New Plan 2016				
2016	1	New infrastructure	\$200	\$200
2016	2			
2016	3			
2016	4			
2016	5			
2016	6			
2016	7			
2016	8			
2016	9			
2016	10			
2016	Total Projected Capital Upgrade/New Plan		\$200	
Mid-Western RC Projected Capital Upgrade/New Plan 2017				
Stormwater_S1_V1				
Year	Item No.	Capital Upgrade and New Projects	Estimate (\$000)	Running total (\$000)
2017	1	New infrastructure	\$200	\$200
2017	2			
2017	3			
2017	4			
2017	5			
2017	6			
2017	7			
2017	8			
2017	9			
2017	10			
2017	Total Projected Capital Upgrade/New Plan		\$200	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2018**

2018	1	New infrastructure	\$200	\$200
2018	2			
2018	3			
2018	4			
2018	5			
2018	6			
2018	7			
2018	8			
2018	9			
2018	10			
2018	Total Projected Capital Upgrade/New Plan		\$200	

Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2019**

Year	Item No.	Capital Upgrade and New Projects	Estimate (\$000)	Running total (\$000)
2019	1	New infrastructure	\$200	\$200
2019	2			
2019	3			
2019	4			
2019	5			
2019	6			
2019	7			
2019	8			
2019	9			
2019	10			
2019	Total Projected Capital Upgrade/New Plan		\$200	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2020**

2020	1	New infrastructure	\$200	\$200
2020	2			
2020	3			
2020	4			
2020	5			
2020	6			
2020	7			
2020	8			
2020	9			
2020	10			
2020	Total Projected Capital Upgrade/New Plan		\$200	

Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2021**

Year	Item No.	Capital Upgrade and New Projects	Estimate (\$000)	Running total (\$000)
2021	1	New infrastructure	\$200	\$200
2021	2			
2021	3			
2021	4			
2021	5			
2021	6			
2021	7			
2021	8			
2021	9			
2021	10			
2021	Total Projected Capital Upgrade/New Plan		\$200	

Stormwater_S1_V1		Projected Capital Upgrade/New Plan		2022
2022	1	New infrastructure	\$200	\$200
2022	2			
2022	3			
2022	4			
2022	5			
2022	6			
2022	7			
2022	8			
2022	9			
2022	10			
### Total Projected Capital Upgrade/New Plan			\$200	

Mid-Western RC Stormwater_S1_V1		Projected Capital Upgrade/New Plan		2023
Year	Item No.	Capital Upgrade and New Projects	Estimate (\$000)	Running total (\$000)
2023	1	New infrastructure	\$200	\$200
2023	2			
2023	3			
2023	4			
2023	5			
2023	6			
2023	7			
2023	8			
2023	9			
2023	10			
### Total Projected Capital Upgrade/New Plan			\$200	

Stormwater_S1_V1		Projected Capital Upgrade/New Plan		2024
2024	1	New infrastructure	\$200	\$200
2024	2			
2024	3			
2024	4			
2024	5			
2024	6			
2024	7			
2024	8			
2024	9			
2024	10			
### Total Projected Capital Upgrade/New Plan			\$200	

Total 10 year program			\$2,000	Average/yr \$200
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Appendix D Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS3 Asset Management		Mid-Western RC										
<p>© Copyright. All rights reserved. The Institute of Public Works Engineering Australasia</p> <p>Stormwater_S1_V1 Asset Management Plan</p> <p>First year of expenditure projections: 2015 (financial yr ending)</p>												
<p>Stormwater</p> <p>Asset values at start of planning period</p>		<p>Calc CRC from Asset Register</p> <p>This is a check for you.</p>					<p>Operations and Maintenance Costs for New Assets</p> <p>% of asset value</p>					
Current replacement cost	\$14,514 (000)	\$14,514 (000)					Additional operations costs	0.00%				
Depreciable amount	\$14,514 (000)						Additional maintenance	0.34%				
Depreciated replacement cost	\$6,275 (000)						Additional depreciation	0.92%				
Annual depreciation expense	\$133 (000)						Planned renewal budget (information only)					
<p>Planned Expenditures from LTFP</p> <p>20 Year Expenditure Projections Note: Enter all values in current 2015 values</p>												
Financial year ending	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000		
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)												
Operations												
Operations budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Total operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Maintenance												
Reactive maintenance budget	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50		
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Total maintenance	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50		
Capital												
Planned renewal budget	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40		
Planned upgrade/new budget	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200		
Non-growth contributed asset val	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Asset Disposals												
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Carrying value (DRC) of disposed ass	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)												
Additional Expenditure Outlays required and not included above	2015 \$000	2016 \$000	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000	2022 \$000	2023 \$000	2024 \$000		
Operations	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20		
Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)											
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
User Comments #2												
Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)												
Forecast Capital Renewal from Forms 2A & 2B	2015 \$000	2016 \$000	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000	2022 \$000	2023 \$000	2024 \$000		
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Forecast Capital Upgrade from Form 2C	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200		

Appendix E Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	Asset management plan
ARI	Average recurrence interval
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DRC	Depreciated replacement cost
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
SS	Suspended solids
vph	Vehicles per hour
WDCRC	Written down current replacement cost

Appendix F Glossary

ANNUAL SERVICE COST (ASC)

■ Reporting actual cost

The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.

■ For investment analysis and budgeting

An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

ASSET

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

ASSET CATEGORY

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

ASSET CLASS

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

ASSET CONDITION ASSESSMENT

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

ASSET HIERARCHY

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.

ASSET MANAGEMENT (AM)

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

ASSET RENEWAL FUNDING RATIO

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

AVERAGE ANNUAL ASSET CONSUMPTION (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

BORROWINGS

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

CAPITAL EXPENDITURE

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

CAPITAL EXPENDITURE - EXPANSION

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases Council's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

CAPITAL EXPENDITURE - NEW

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

CAPITAL EXPENDITURE - RENEWAL

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

CAPITAL EXPENDITURE - UPGRADE

Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in Council's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

CAPITAL FUNDING

Funding to pay for capital expenditure.

CAPITAL GRANTS

Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

CAPITAL INVESTMENT EXPENDITURE

See capital expenditure definition

CAPITALISATION THRESHOLD

The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

CARRYING AMOUNT

The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

CLASS OF ASSETS

See asset class definition

COMPONENT

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

CORE ASSET MANAGEMENT

Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision-making).

COST OF AN ASSET

The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

CRITICAL ASSETS

Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.

CURRENT REPLACEMENT COST (CRC)

The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

DEFERRED MAINTENANCE

The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

DEPRECIABLE AMOUNT

The cost of an asset, or other amount substituted for its cost, less its residual value.

DEPRECIATED REPLACEMENT COST (DRC)

The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

DEPRECIATION / AMORTISATION

The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

ECONOMIC LIFE

See useful life definition.

EXPENDITURE

The spending of money on goods and services. Expenditure includes recurrent and capital outlays.

EXPENSES

Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

FAIR VALUE

The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

FINANCING GAP

A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will result in a future diminution of existing service levels.

HERITAGE ASSET

An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

IMPAIRMENT LOSS

The amount by which the carrying amount of an asset exceeds its recoverable amount.

INFRASTRUCTURE ASSETS

Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

INVESTMENT PROPERTY

Property held to earn rentals or for capital appreciation or both, rather than for:

- (a) use in the production or supply of goods or services or for administrative purposes; or
- (b) sale in the ordinary course of business.

KEY PERFORMANCE INDICATOR

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

LEVEL OF SERVICE

The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

LIFE CYCLE COST *

1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

LIFE CYCLE EXPENDITURE

The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

LOANS / BORROWINGS

See borrowings.

MAINTENANCE

All actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

■ **Planned maintenance**

Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

■ **Reactive maintenance**

Unplanned repair work that is carried out in response to service requests and management/supervisory directions.

■ **Specific maintenance**

Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.

■ **Unplanned maintenance**

Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

MAINTENANCE EXPENDITURE *

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

MATERIALITY

The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

MODERN EQUIVALENT ASSET

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

NET PRESENT VALUE (NPV)

The value to Council of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

NON-REVENUE GENERATING INVESTMENTS

Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

OPERATIONS

Regular activities to provide services such as public health, safety and amenity, eg street sweeping, grass mowing and street lighting.

OPERATING EXPENDITURE

Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

OPERATING EXPENSE

The gross outflow of economic benefits, being cash and non cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

OPERATING EXPENSES

Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

OPERATIONS, MAINTENANCE AND RENEWAL FINANCING RATIO

Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

OPERATIONS, MAINTENANCE AND RENEWAL GAP

Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

PAVEMENT MANAGEMENT SYSTEM (PMS)

A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS SCORE

A measure of condition of a road segment determined from a Pavement Management System.

RATE OF ANNUAL ASSET CONSUMPTION *

The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation) expressed as a percentage of the depreciable amount.

RATE OF ANNUAL ASSET RENEWAL *

The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

RATE OF ANNUAL ASSET UPGRADE/NEW *

A measure of the rate at which assets are being upgraded and expanded per annum with capital upgrade/new expenditure expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

RECOVERABLE AMOUNT

The higher of an asset's fair value, less costs to sell and its value in use.

RECURRENT EXPENDITURE

Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

RECURRENT FUNDING

Funding to pay for recurrent expenditure.

REHABILITATION

See capital renewal expenditure definition above.

REMAINING USEFUL LIFE

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

RENEWAL

See capital renewal expenditure definition above.

RESIDUAL VALUE

The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

REVENUE GENERATING INVESTMENTS

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

RISK MANAGEMENT

The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

SECTION OR SEGMENT

A self-contained part or piece of an infrastructure asset.

SERVICE POTENTIAL

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

SERVICE POTENTIAL REMAINING

A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

SPECIFIC MAINTENANCE

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

STRATEGIC LONGER-TERM PLAN

A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

SUB-COMPONENT

Smaller individual parts that make up a component part.

USEFUL LIFE

Either:

- (a) the period over which an asset is expected to be available for use by an entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

VALUE IN USE

The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.