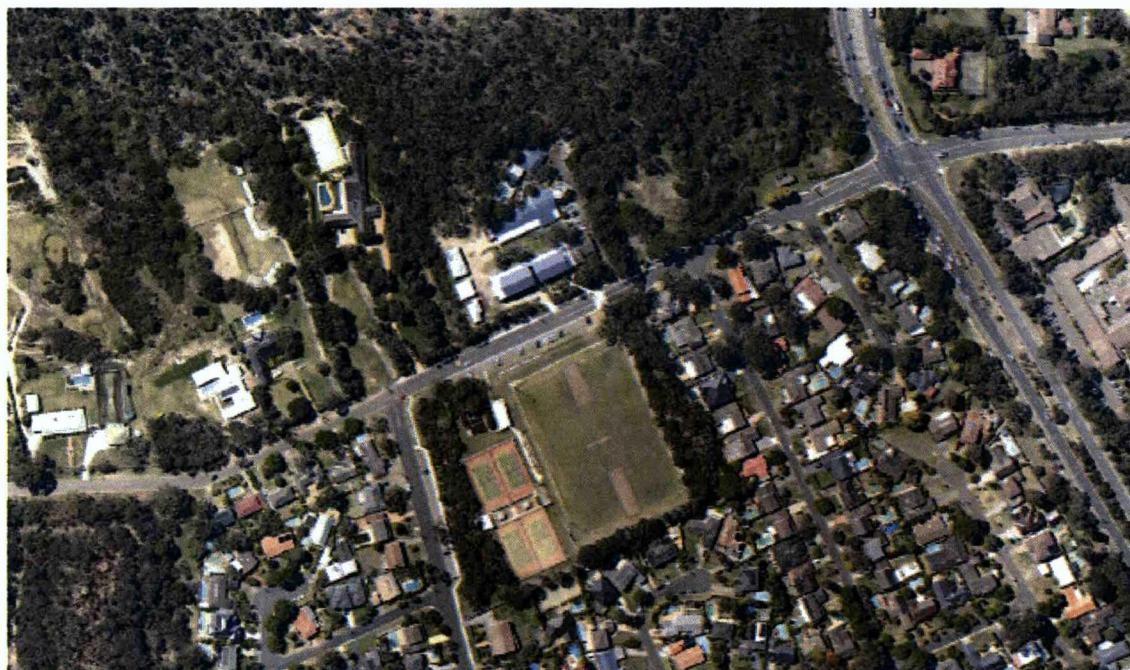




**JOHN COLET
DECEMBER 2012**



**STAGE 5 EXISTING WOMBAT ROAD SAFETY AUDIT
JOHN COLET SCHOOL**

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1. INTRODUCTION

Mr Craig McLaren, an accredited road safety auditor with *M^CLaren Traffic Engineering* was commissioned in November 2012 by John Colet School to undertake a Stage 5 EXISTING Road Safety Audit (RSA) of the recently constructed raised pedestrian crossing (WOMBAT) and school drop off/pick up zones in Wyatt Avenue. A copy of Mr M^CLaren's CV and road safety experience is provided in **Annexure A** of this report.

The following plans / information were reviewed as part of this existing road audit:

1. Drawings "*Proposed Site Plan & Proposed Wombat Crossing in Wyatt Avenue*" sheets 1C of 2 as prepared by *Lyle Marshall and Associates Pty. Ltd.* (Refer to **Annexure B**).

The Stage 5 RSA has been undertaken with due consideration to the following documents:

1. "*Road Safety Audit*", AUSTROADS Publication No. AP-30/94, SAA HB43-1994.
2. AUSTROADS "*Guide to Road Safety Part 6: Road Safety Audit*", Checklist 4.
3. Australian/New Zealand Standards 1742.10:2009 –*Pedestrian control and protection*.

2. SITE LOCATION & FACILITIES

The wombat crossing is located within the local government area of Warringah Council. The location is shown in **Figure 1**.

Wyatt Avenue is a LOCAL road and the nearby Forest Way is a classified STATE road. The wombat crossing is located within Wyatt Avenue, approximately 190m west of its intersection with Forest Way and approximately 60m from the nearest intersection of Wyatt Avenue/Charleroi Road which is to the east of the crossing.

3. ROAD SAFETY AUDIT PROCEDURE

The Stage 5 Existing Road Safety Audit concentrates on the geometric design, traffic management, kerbside parking use / management, pedestrian / cyclist facilities and general linemarking in terms of its compliance with standards / approved plans. The RSA also focuses on delineation and road verge hazards. The audit included a reconnaissance inspection via three drive-through in both directions of travel and detailed inspection on foot conducted on Wednesday 7th November 2012. Photographs of the observed environs are presented in **Annexure C**.



3.1 Auditor Team

The following auditors undertook the daytime and night time inspections of the recently constructed wombat crossing and school drop off locations Contentin Road to Charleroi Road:

- Lead Auditor ... Mr Craig M^CLaren (Level 3)
- Design Auditor ... Mr Hayden Calvey (Level 1)

4. STAGE 5 (EXISTING ROAD) AUDIT FINDINGS

The following findings were identified from a review of the listed plans against the reference documents listed on page 2 of this report.

LANE WIDTHS

The through lanes on Wyatt Avenue align with the construction details on the detailed plans.

GEOMETRIC DESIGN

All curves and slow points on Wyatt Avenue are provided adequately and do not pose road safety concerns.

SIGNPOSTING

Signposting was compared to the detailed plans in Section 2 as well as on site observations. The installed signage effectively promotes driver awareness and correct behaviour. One additional "No Parking" sign was observed on site, when compared to the approved plans. This additional sign is required in its current placement and does not require corrective action.

LINEMARKING

Majority of linemarking has been installed. Redundant linemarking has been adequately removed so as to not confuse road users.

The school zone dragon teeth are appropriately located and comply with RMS requirements.

STREET FURNITURE

Street furniture was compared to the detailed plans in Section 2 as well as on site observations. No hazardous objects exist.

PROPERTY ACCESS

The crossing does not hinder the existing school driveway to the east or pose any adverse risk conditions. The secondary driveway access to the west of the crossing remains clear of the school drop off/pick up zone and the crossing. The drop off / pick up zones were observed to operate safely.

STREET LIGHTING

All street light posts are adequately offset from the carriageway. Upon the night time inspection, it was evident that all lamps were operating satisfactorily on all approaches.

LANDSCAPING

Any future landscaping within the required sight distances (AS1742 & AS2890.1) to pedestrian crossing and driveway locations **MUST** be below 0.5m in height.

Selected plant species to be of a type that requires a **LOW LEVEL** of **MAINTENANCE** and is not of a type that drops seeds or flowers that can be blown onto the road surface. The preference is for lawn.

VULNERABLE ROAD USERS

Following inspection of the plans (referenced in Section 2 of this report) and site observations, it is evident the northern pram ramp to the crossing does not comply with the relevant standards. The pram ramp grade is approximately 17.7% which is greater than the complaint 12% maximum grade, however this remains a significant improvement than the previous condition and is deemed not to be of significance to safety and risk. It is understood that Mr Lyle Marshall raised this with Council at the time of his inspection with the Council considering the gradient to be satisfactory.

The southern side pram ramp represents a trip hazard due to there being no pedestrian path to link to the angled 90 degree parking or playing fields. The unpaved surface is uneven with nearby tree roots located near the pedestrian desire lines. Corrective action should be considered in this location to remove the trip hazard.

DRIVER BEHAVIOR

During observations, one school bus dropped off students in the northern "No Stopping" zone to the west of the crossing. This behaviour should be discouraged as it is not only illegal, but also impedes sight lines for pedestrians and vehicles.

School management have been informed of this observation and has been requested to give notice to the bus companies involved as to the safe locations where children are to board and alight buses. Prohibited locations that hinder the safe operation of the childrens crossing are to be avoided at all times by bus drivers and formal advice from the school to that effect shall be sent to all bus companies involved in the transport of children to and from the school.

ACCIDENT POTENTIAL

The crossing operates with a supervisor, who follows the training as per RMS requirements, and is employed by the school. The school in 2012 had insufficient students to be able to get an RMS supervisor. The operation of the crossing and the school does not create any adverse accident potential.



5. CONCLUDING STATEMENT

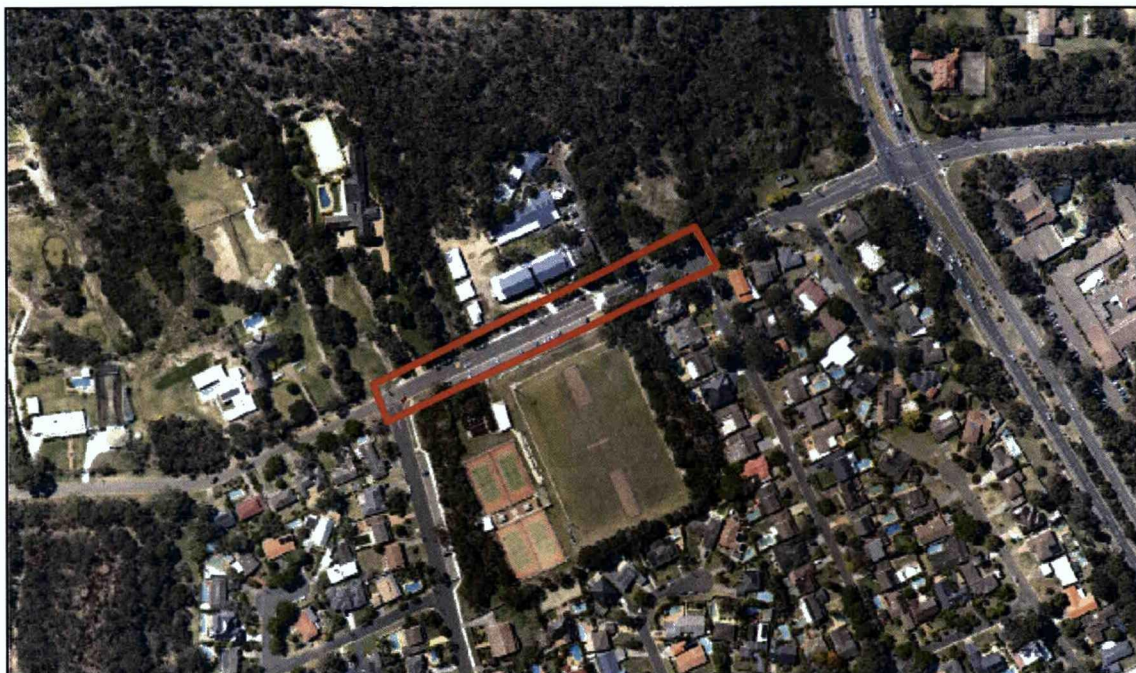
The road safety audit findings are contained in Section 4 of this report.

A handwritten signature in black ink, appearing to read 'CM McLaren'.

.....
Craig M^CLaren
(RMS Accredited Level 3 Road Safety Auditor) November 2012.

A handwritten signature in black ink, appearing to read 'H Calvey'.

.....
Hayden Calvey
(RMS Accredited Level 1 Road Safety Auditor) November 2012.



 Audit Region

STAGE 5 EXISTING WOMBAT RSA



**FIGURE 1:
SITE LOCATION
WYATT AVENUE**

PREPARED FOR: JOHN COLET

BY: M^CLAREN TRAFFIC ENGINEERING



ANNEXURE A: CV OF CRAIG M^CLAREN

Qualifications:

Bachelor of Civil Engineering, University of New South Wales, 1985
Graduate Diploma in Traffic Engineering, University of New South Wales, 1991
Accredited Road Safety Auditor, 1998

Affiliations:

Member, Australian Institute of Traffic Planning and Management
Member, Institute of Transportation Engineers

Fields of Special Competence:

Traffic impact assessments; traffic engineering; transport planning; special event transport planning; local area traffic management; road safety and expert evidence at Land and Environment Court and Commission of Inquiry.

Experience:

M^CLAREN TRAFFIC ENGINEERING, AUSTRALIA

1995 to date:

Director and experienced traffic engineer responsible for the conduct of all facets of traffic impact assessment ranging from report preparation, design advice and giving evidence at the Land and Environment Court.

SINCLAIR KNIGHT MERZ, AUSTRALIA

1994 to 1995:

Executive Traffic Engineer. Responsible for the conduct of all facets of traffic impact assessment ranging from report preparation, design advice and giving evidence at the Land and Environment Court.

TRANSPORTATION PLANNING WORKSHOP, AUSTRALIA

1989 to 1994:

Senior Associate. Responsible for the conduct of a vast number of traffic impact assessment report and gained invaluable experience in giving expert evidence before the Land and Environment Court.

ROADS AND TRAFFIC AUTHORITY, NSW, AUSTRALIA

1988 to 1989:

Traffic Engineer, Traffic Engineering Section, involved in traffic/transport research, policy development and assisting councils in the application of the Authority's guidelines.

OVE ARUP TRANSPORTATION PLANNING, AUSTRALIA

1985 to 1988:

Traffic Engineer. Involved in the preparation of traffic impact reports for a wide range of projects.

GUTTERIDGE HASKINS & DAVEY, AUSTRALIA

1980 to 1982:

Trainee Civil Engineer. Involved in assisting with road and subdivision design and field surveying.

Papers at Conferences

"Safe & Liveable Communities, Can You Have Both?"

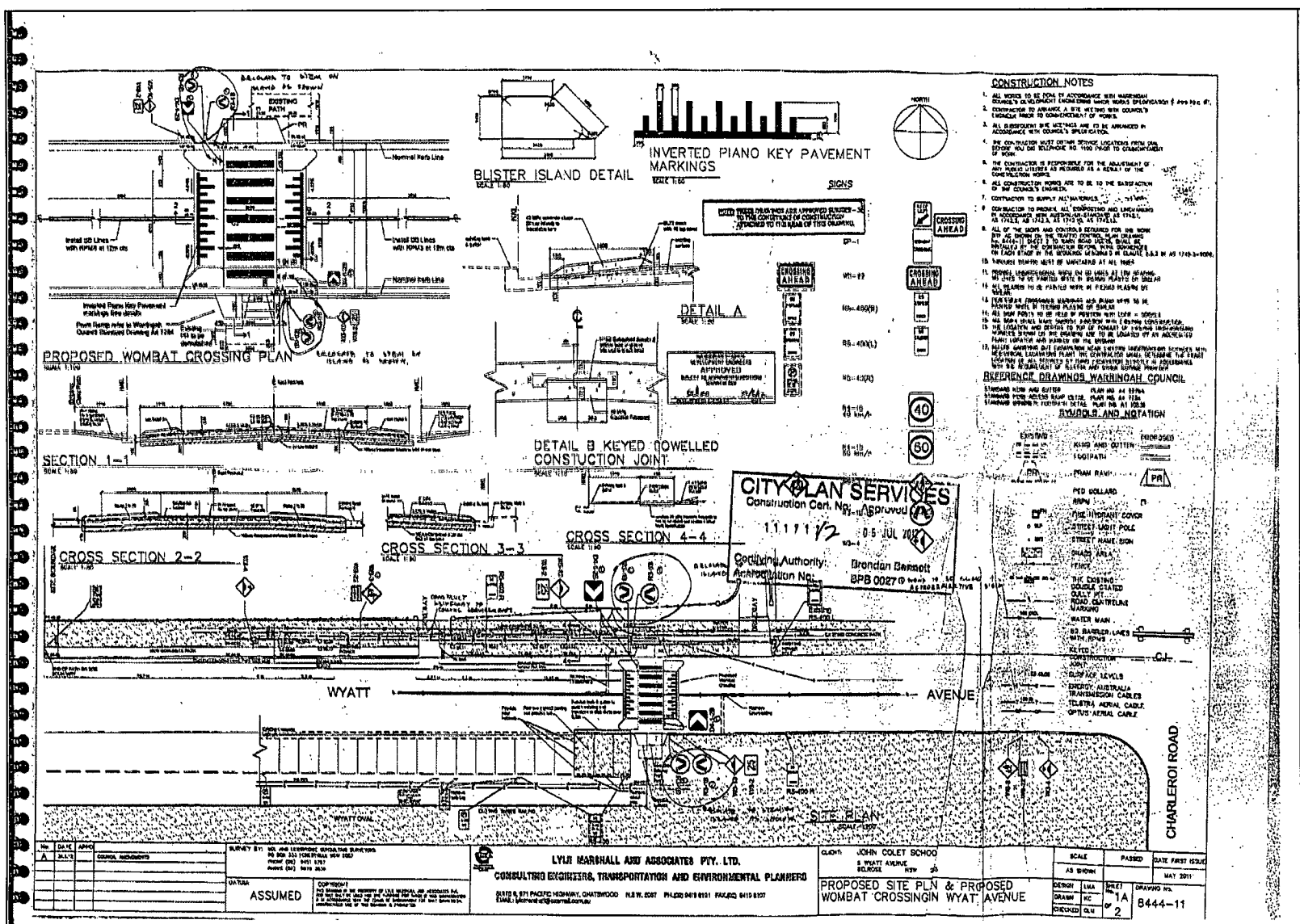
Georgia Institute of Transportation Engineers, St Simons Island, Georgia USA July 1999.

Craig McLaren – Professional Audit Experience

Road Safety Studies

- . Stage 3 audit of Parramatta Road Advertisement, Leichhardt July 2012
- . Stage 3 audit of Engadine Bowling Club Advertisement, Engadine June 2012
- . Stage 5 audit of Hurstville Town Centre June 2012
- . Stage 3 audit of Grand Avenue recycling facility, Camellia May 2012
- . Stage 3 audit of Nuwarra Road/Brickmakers Drive signalised intersection, Moorebank March 2012
- . Stage 5 audit of Captain Cook Drive, Kurnell March 2012
- . Stage 5/1 audit of "Right of Carriageway", 7 Nirimba Drive, Quakers Hill.
- . Stage 3 audit of roundabout for shopping centre expansion, Grafton October 2006.
- . Stage 5 audit of Caves Beach Public School – road safety evaluation, March 2006.
- . Stage 5 audit of access road to Tallowa Dam for proposed enlargement of dam, Oct 2005.
- . Stage 5 audit of access road to Wolgan Valley, Lithgow for proposed resort development, July 2005.
- . Stage 5 audit of Bulahdelah Central School – road safety evaluation, May 2004.
- . Stage 3 audit of Linden bends on the Great Western Highway for the RTA in October 2001.
- . Stage 5 pedestrian safety audits of 64 roundabouts in Canterbury LGA, Aug 2001.
- . Speed zoning studies, various locations, October 1999
- . Stage 5 audit of Alison Road, Kensington, May 2000
- . Stage 5 audit of Liverpool Road, The Kingsway, Broadway & Parramatta Road, Woodville Road and Eastern Valley Way, August 1999
- . Stage 5 audit of 100 road bridges & culverts over irrigation canals & rivers in Leeton / Griffith for Murrumbidgee Irrigation - March to July 1998
- . Stage 5 audit of various roads in Bexley, Arncliffe & Bardwell Park, April 1997 - August 1997
- . Stage 5 audit of Chuter Avenue between Ramsgate Road and Barton Street, July 1997
- . Stage 2 draft design audit of Homer Street between William Street to Minnamorra Avenue, April 1997
- . Stage 5 audit of Homer Street between Minnamorra Avenue to Cooks River, Earlwood, May 1997
- . Stage 5 audit of Wollongong Road from Forest Road to the Princes Highway, July 1997
- . Stage 5 audit of Preddy's Road and New Illawarra Road from Forest Road to Bexley Road, July 1997
- . Stage 5 audit of Southern Cross Drive and South Dowling Street from General Holmes Drive to Oxford Street, January 1997
- . Stage 5 audit of Sandringham St, The Grand Pde, General Holmes Dr from Rocky Point Road to Botany Road, December 1996
- . Stage 5 audit of Lane Cove Rd, Ryde Rd, Mona Vale Rd from Blaxland Rd to M^CCarrs Creek Road, December 1996
- . Willoughby Bike Path audits, November 1996
- . Stage 5 audit of O'Riordan St / Joyce Dr from General Holmes Dr to Botany Rd, November 1996
- . Stage 5 audit of Bourke Rd, Coward St and Kent Rd from O'Riordan St to Ricketty St, November 1996
- . Stage 5 audit of The Horsley Drive from Hume Hwy to Wallgrove Road, November 1996
- . Stage 5 audit of Druitt Lane from Hume Hwy to Wollondilly Shire Boundary, November 1996
- . Stage 3 - detailed design audit of Haldon Street, Lakemba, July 1996
- . Stage 5 audit of Beamish Street, Campsie, June 1996
- . Stage 5 audit of Alford's Point Rd, Old & New Illawarra Rds from Alma St to Heathcote Rd, June '96
- . Stage 5 audit of Menangle Road from Campbelltown to Wollondilly Shire Boundary, May 1996
- . Stage 5 audit of Narellan Road from Campbelltown to Narellan, March 1996
- . Newell Highway (320 km length) from Tocomwal to Marsden for RTA Southern Region, July '95
- . West Wyalong "Green Corridor" Bicycle Path for RTA Southern Region, July '95
- . North Deniliquin Roundabout for RTA Southern Region, July '95
- . Speed surveys - before and after conditions at road safety billboard locations (F3, F4, F5), 1991

ANNEXURE B: APPROVED CONSTRUCTION PLANS



ANNEXURE C: PHOTO INVENTORY



PHOTO 1: EASTBOUND APPROACH



PHOTO 2: LOOKING SOUTH AT PEDESTRIAN CROSSING

ANNEXURE C: PHOTO INVENTORY



PHOTO 3: LOOKING EAST TOWARDS PEDESTRIAN CROSSING