

# Grape Expectations: APAS2014 Conference

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The focus of the Association of Public Authority Surveyors NSW (APAS) is to primarily cater for the needs of surveying and spatial information professionals working within state and local government and the education sector. Nevertheless, private surveyors also benefit from APAS events such as conferences and seminars. The 19th annual APAS conference (incorporating the 89th annual Staff Surveyors Association conference) took place in Pokolbin in the Hunter Valley on 31 March – 2 April 2014. This year's conference theme was "Grape Expectations: Pressing Forward".

APAS2014 included 8 sessions with 21 presentations (most of which included a full paper) and a discussion forum. It attracted 240 delegates from New South Wales and interstate, representing both government agencies (70%) and private industry (30%). Continuing the tradition of being a practically oriented conference, a wide range of topics relevant to the surveying and spatial information community was covered. APAS2014 was a highlight on the CPD calendar, satisfying the year's requirements in regards to both cadastral and surveying practice CPD points. As usual, the conference kicked off on Monday afternoon with the annual APAS golf tournament.

APAS2014 Conference.



Opening Ceremony.

## 1ST APRIL – MORNING

The first session started with John Hudson (Department of Planning & Infrastructure) explaining the role of ePlanning in the NSW planning reforms. ePlanning will improve access to land, property and planning information, provide a greater level of transparency, and offer online tools for transacting with the planning system. The role of surveyors in building and managing a reliable and accessible online digital cadastre will be a key building block to ensure success.

Dr Volker Janssen (LPI) outlined the current status of EDM baseline infrastructure in NSW and described the EDMCAL program currently employed by LPI for EDM calibrations. He compared EDMCAL to a popular spreadsheet calculation generated by UNSW, showing that both provide comparable results. He also introduced LPI's new online EDM baseline booking system, which should now be used by surveyors to book access to all EDM baselines in NSW.

Gavin Evans (ACT Office of the Surveyor-General) proposed a method for testing reflectorless EDM instruments at the Watson EDM baseline in the ACT. A case study showed that such instruments can be tested against a primary standard of length on a pillared baseline using a prototype non-cooperative target in order to determine their accuracy. He also discussed the use of reflectorless EDM in cadastral surveys.

The Opening Ceremony took place at the beginning of the day's second session. It included a Welcome to Country by Aunty Marge, Elder of the Mindaribba People, followed by addresses from Bob Pynsent, Mayor of Cessnock City Council, and Craig Baumann, Parliamentary Secretary for the Minister for Planning & Infrastructure. Paul Harcombe, Chief Surveyor of NSW, delivered the keynote address before Dr John Trinder, President of SSSI, Phil Hayward, President of ISNSW, and Grant Kilpatrick, President of APAS, informed the audience of recent developments.



APAS2014 delegates.

After the official opening, Joel Haasdyk (LPI) outlined the technical progress made in NSW towards a simultaneous national geodetic adjustment that will provide a new, homogeneous and 3-dimensional geodetic datum for Australia. LPI continues its data-mining efforts and has made significant improvements to the quality and analysis of the state-wide adjustment of available GNSS measurements for NSW in the past year.

Closely related, Laurence Davies (LPI) presented how L1 norm residuals can be used to great effect in large geodetic networks to determine the quality of quantity. The successful application of a fast linear programming technique to minimise L1 residuals enables this technique to be used as a pre-processing step before a least squares adjustment. It also allows the evaluation of a comparison between least squares and L1 residuals on large networks with incomplete metadata.

## 1ST APRIL – AFTERNOON

The first afternoon session began with Wayne Fenwick (Crown Lands) looking at cadastral GNSS from a new angle. He outlined a theoretical approach to investigate whether it is possible to measure angles and determine bearings with GNSS for cadastral survey purposes. Subsequent practical field tests will determine if the presented theory is sound.

Charlie Higgs (AAM) explored what survival means for surveyors in the Pilbara, WA. This included the survival equipment carried for an emergency and basic work health and safety procedures and policies in place for work in harsh and remote locations, but also the mental challenges faced and how people cope with their work environment. He finished by presenting real scenarios that have been encountered in some of the most stunning scenery in Australia.

Dr Robert Pâquet (Department of Trade & Investment) described the Subsidence Standardised Information Management System (SSIMS). This system significantly improves the way surface monitoring data relating to subsidence associated with underground coal mining activities is received, analysed and archived.

The second session of the afternoon kicked off with a lively discussion forum on the impact of the new Standard for the Australian Survey Control Network (SP1) version 2.0 on surveyors in practice. Joel Haasdyk (LPI) led through the discussion that included Paul Harcombe (ICSM), Fred de Belin (City of Ryde Council), Ray Gilmour (RMS), Richard Lemon (Jacobs SKM) and Dr Harvey Mitchell (University of Newcastle) on the panel. A wide range of opinions were presented on the costs, benefits and difficulties of adopting the new standard. The forum was in general agreement regarding a call for further education, communication of intentions and timelines, and the provision of examples to better explain the changes to SP1.





Presenters captivated the APAS2014 audience with a wide range of topics.

Chris Annison (RMS) explored strategies to incorporate the new Australian Standard for Subsurface Utility Information (AS5488) into existing workflows across a variety of disciplines in a large organisation. Consultation with all parties involved is a key requirement as modifications to the workflow and the underlying contract process will naturally receive some resistance.

Dr Mark Whitty (UNSW) outlined a method to estimate and predict the carbon footprint of a vineyard, on a yearly basis, by employing precision viticulture techniques to investigate the carbon sequestered in the vineyard and by analysing carbon emissions from the vineyard. He demonstrated that vineyards have the capability to promote a carbon neutral environment and can have a positive impact on climate change. He also provided a snapshot of how current LiDAR, image processing and autonomous robotics research aims to help improve viticulture practices.

The Annual Dinner concluded the day with dinner speaker Kurt Fearnley discussing how he has found his way as marathon wheelchair athlete and made the impossible possible during various adventures around the world. He inspired the audience to progress their own professional career, survey practice and/or business with renewed enthusiasm.

**2ND APRIL – MORNING**

The day's first session started with Mark Butler (Parsons Brinckerhoff) presenting a template for the preparation of a survey brief. Careful detail can avoid that assumptions from the client are not matched with the proposed survey methodology of the survey company. Consequently, survey firms have a clearer understanding of what is required and project managers have a clear understanding of what is delivered.



Dignitaries at the Opening Ceremony.

Stephen Saunders and Lachlan Anderson (Public Works) discussed the ongoing Port Botany Expansion precision monitoring survey, which is undertaken in a highly dynamic environment. Despite the many challenges faced, high-quality results have been obtained by capitalising on the availability and rigour of CORsnet-NSW, utilising a wide range of instrumentation, employing robust field techniques, and rigorous least squares analysis and network optimisation. For this contribution, Stephen and Lachlan later received the Keith Haddon Memorial Prize for the best paper/presentation.

Fred de Belin (City of Ryde Council) traced the history of the big stone alignment posts of Ryde, placed at intersections and bends in the roadways to indicate kerb lines and define road boundaries. He outlined the efforts undertaken to heritage-list and preserve these historical posts into the future – not an easy task in an era of frequently occurring roadworks.

At the beginning of the second session, Leigh Finlay (Jacobs SKM) described an ambitious project to survey and document the 109-year old heritage-listed Barham Bridge for planned upgrade, remediation and ongoing maintenance. The use of dynamic and diverse technologies, including 3D laser scanning and bathymetry, allowed off-site stakeholders to make confident decisions based on high-quality quality data available at their fingertips.

Ian Jones (Sydney Trains) reported on the considerable effort required to carry out railway track reconstruction and maintenance under immense time pressure. Surveyors play a key role and are responsible for the initial site survey, alignment design, setting out for construction and final installation, updating relevant records and permanent marking.

Ruth Ward (Port Macquarie-Hastings Council) outlined new workplace practices aimed at maintaining the integrity of the cadastre in the LGA by reducing the number of survey marks being destroyed through development and construction activities. She emphasised that the continuing existence of survey infrastructure plays a vital role in determining boundaries and hence the cadastre.

The session was followed by presentations of the technical exhibitors. All the big names in the business were present. During both days, there were also plenty of opportunities for networking and exploring the newest developments at the exhibitors' booths.

**2ND APRIL – AFTERNOON**

The first session of the afternoon commenced with Ian Marshall OAM (Emeritus Surveyor) providing an interesting overview of how linear standards of measurement were adopted for surveying purposes in NSW. This historical background knowledge is particularly useful for candidates working towards becoming registered surveyors.

John Minehan (Registered Surveyor) discussed the ongoing skill shortage and how the popular ISNSW cadastral workshops have been developed and continue to be improved. These workshops are invaluable for candidates seeking registration,

resulting in a higher standard of projects and leading to increased pass rates and thus an increase in registrations.

Mark Gordon (RMS) outlined some of the complaints that are lodged against registered land surveyors, the process that BOSSI employs to investigate them and the results of these investigations. He explained the terms 'professional incompetence' and 'professional misconduct' and demonstrated that the consequences of being found guilty can be most severe.

The last session began with Dr Harvey Mitchell (University of Newcastle) discussing contemporary surveying education and how it relates to the surveying profession. He addressed some misconceptions regarding university education and proposed the minimum content of a surveying degree that should allow graduates to be accepted for enrolment as candidates for registration.

Geoff Lenton (RMS) shared some experiences encountered in regards to working around, on or near environmental heritage sites. Today's environmental legislation is very rigorous in order to protect Aboriginal heritage and threatened species in particular. He presented lessons learnt and subsequent system improvements that have been implemented at RMS.



Above & Below: Annual Dinner.





The successful conference concluded with a conference review, an open forum and interest group discussions, allowing further consideration of issues presented during the conference. At the Annual General Meeting, the following APAS office bearers were elected for 2014/15: Joel Haasdyk (President), Geoff Lenton (Vice President), Gavin Evans (Secretary & Public Officer), Nicholas Gowans (Treasurer), Grant Kilpatrick (Past President), Dr Volker Janssen (Publications Officer), Wayne Fenwick (Conference Manager), Graeme Stewart (ISNSW Representative), and Committee Members Jarad Cannings, Ray Gilmour and Thomas Grinter.

The APAS2014 conference proceedings are available on CD for purchase from APAS.

**3RD APRIL – MORNING**

On Thursday morning, a site visit was conducted to the Iron Gate Estate, one of the Hunter's boutique wineries. The visit commenced with a sample taste of the produce and continued with a small group tour of the winery, showing the very latest technology that is used in wine making and designed to enable small parcels of selected grapes to be crafted individually to provide the highest possible quality. At the completion of the tour, the cellar door was opened for purchases to be taken home.

**PARTNERS PROGRAM**

This year's partners program included the Hunter Valley Boutique Wine and Gourmet Food Trail tour, and visits to Hunter Valley Gardens and the Hunter Valley Village shopping area. Wives and partners were made to feel very welcome at all of the social conference functions, particularly the Annual Dinner. Many thanks to all of the partners for providing such enjoyable company during the conference in Pokolbin this year.



Past President Grant Kilpatrick presents a life membership award to Dick Ellis for outstanding contributions to APAS.

**APAS2015**

APAS2015 will be held in Coffs Harbour on 16-18 March 2015. Please consider contributing to next year's conference by presenting a paper. There is a lot of fantastic work being done out there – why not tell the profession about it? For more information and to indicate interest in presenting at APAS2015, please contact the APAS Publications Officer, Dr Volker Janssen at LPI ([Volker.Janssen@lpi.nsw.gov.au](mailto:Volker.Janssen@lpi.nsw.gov.au)).



The technical exhibits provided plenty of opportunity to stay abreast of developments in state-of-the-art surveying technology.

# Homebush – 21 Stage Strata and 1000 lots 78 Marlborough Road, Homebush West.



Architectural layout of development (noting that the building numbers shown have no relationship to the development lot numbers contained within the Strata Plan)



Building 15B (stage 2)

**STAGED STRATA - 21 STAGES.  
SP 87671**

**WHY** Create a Strata Scheme which would contain up to 1200 units with 200 odd utility lots within 18 buildings along 1 kilometre of private road way, to be developed over 21 stages?

This was the first question I asked when the proposal to strata subdivide this development was put forward to me.

Surely a Community Scheme is a far better outcome for both the developer and the end users/owners!

**THE ANSWER** Off the Plan Contracts of Sale were already exchanged on up to 300 units within a single strata scheme and the developer did not want to risk rescission of these sales by introducing a Community Scheme into the Contract of Sale.

So the question had been raised, and I must say I raised it several times myself, and the answer had been given.

Staged Strata it was to be.  
So the thinking and strategies began.

The development is located in Homebush West, Sydney and contains approximately 6.9 hectares of land which was originally part of the old Hastings Deering Ford factory.

The proposal was to build the first 4 buildings of 18 main buildings in total along a 1 kilometre private road with the first four buildings being Buildings 15A, 15B, 14 and 1 all located in the north end of the development as depicted on the architectural layout above.

These buildings would have a staggered completion within a six month period of each other and share a very large common basement carpark as well as a

common property pool and gym area.

As these first 4 buildings were not going to change in quantity of units, shape or size and the developer was contracted to deliver a pool and gym within the first 4 stages all these components were created as "warranted development"

**Warranted Development** in surveyors terms - it will be built and it will contain the **exact** number of lots stipulated within the Development Contract.

It is important to keep this in mind when creating your strata plan. You can not alter the number of lots stipulated under warranted development without