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EXECUTIVE OVERVIEW

Properties staff can feel proud of their achievements in 2012, a year that demonstrated strong team and personal commitment to achieving the objectives set out in the 2012 Properties Operational Plan.

All areas of Properties, Asset Management, Project Management, Facilities Management, Campus Development and Strategic Projects, achieved their objectives within the parameters set by the University. Our clients and colleagues acknowledge the effectiveness of our teams, the quality of our work and the professional way in which we conduct business. There have been many outstanding achievements throughout the year including:

- Improved student and staff satisfaction in the contentious issue of parking with improved systems and administration together with the provision of additional parking capacity. Planning will see the introduction of PAYG parking in 2013 which will significantly enhance parking services.

- Staff and student satisfaction has also been significantly improved during 2012 for safety and security. Again improved systems and processes including the roll out of the CCTV Program, the Restricted Keying System and two-way radio systems have significantly contributed to this positive outcome. Properties responded positively to an OH & S Audit with the development of a detailed plan and a greater awareness of OH & S issues.

- The Curtin City Project received a major boost with the appointment of the Director for Campus Development, a position that has specific responsibility to progress the project. The Curtin Master Plan and Development Framework has been reviewed and enhanced which involved wide consultation both inside and outside of the University. A key element of this development is the integration of public transport initiatives, including light rail, into the future planning of the University. Key projects that will effectively announce Curtin City that were planned in 2012 for 2013 implementation are Curtin Main Street and Place Activation projects.

- A Curtin University Environmental Sustainability Plan for 2012 was developed and implemented, which resulted in significant improvements of recycling in waste, the implementation of biodiversity strategies and improved staff engagement on environmental sustainability issues.

- Curtin University Mechanical, Electrical and Building Services infrastructure was substantially improved due to water efficiency initiatives being implemented, extensions to the fire ring main, upgrading to chilled and heating infrastructure, smart metering to all buildings and high voltage switchgear replaced.

- The work of Parks and Gardens team continue to lead in student and staff satisfaction ratings and the team have implemented further improvements to irrigation infrastructure that will result in greater ground water efficiency.

- The development and implementation of the University’s $50 million Physical Facilities Plan involving a wide range of Capital Projects, including the completion of the Building 305 refurbishment and Buildings 215 and 216.

- The management of a number of key projects of strategic nature including a major building to accommodate growth in teaching and learning, research and the future School of Medicine.

I would like to in particular acknowledge the many people in Properties who may not be involved in high profile projects but who, nevertheless, work with skill and dedication to achieve outstanding results for the University. Without their efforts the work of the University would come to a standstill.

Properties look forward to again meeting the challenges and achieving great things for Curtin in 2013

31st December 2012

Stephen Harvey
Executive Director, Properties
1. **ASSET MANAGEMENT**

### 1.1. Business and Technology Services

#### 1.1.1. Archibus – Web Central Space Management Module

This project was initiated to implement the web central space planning & performance module of Archibus. This module provides the functionality to evaluate and plan space usage to maximize efficiency and decrease total occupancy costs; optimize space occupancy rates and improve planning capability to accommodate future expansion, consolidation, or re-balancing; and align facilities and infrastructure development with plans by evaluating historical use and forecasting future needs. The benefits of the system will provide a reduction in resource load for administrative processes and achievement of significant improvements in University space management processes and systems. This project was completed in May 2012.

#### 1.1.2. Archibus – Web Central Service Desk

Archibus Web Central Service Desk provides a centralised, self-service portal for common service requests to promote organisational efficiency and reduce administrative costs. The benefits of the system will see streamlined requests for services through simple forms, intelligent workflows and automated notification of status changes. It will increase efficiency by enforcing service level agreements (SLAs) to control resource access and standards and improve performance measurement and analysis. It is planned to expand the use of the Service Desk module to include additional Properties’ service requests in 2013.

#### 1.1.3. Bentley Campus Site Survey Project

This project was initiated for the survey and documentation of the Curtin Bentley Campus Site. The scope of work included all above ground site features inclusive of Technology Park and the student housing areas adjacent to the main campus site. The CAD data supplied by this survey will serve all drawings used by Curtin University providing the backbone for Curtin Town and other planning initiatives; the basis and ‘setup’ of Master documentation; providing key information to Space Optimisation; assisting the works carried out by Facilities Management and preventing multiple conflicting drawings of various site features. This project was completed in June 2012.

#### 1.1.4. CAD Drawings Update and Management Project

This project was initiated to develop and implement new policies, procedures and CAD standards for the management of the University’s drawing assets. It will also address the inaccuracies of the existing CAD master drawings and to develop drawings for the physical facilities where there are no architectural or engineering drawings available.

This project started in 2009 and due to the large volume of work is planned to be completed by the end of 2013.

#### 1.1.5. Pay As You Go Parking Solution (Paid Parking Management System)

Due to some legal issues involving a patent for the Pay by Phone component of the solution, this project was delayed and student parking remained on the existing parking permit system in 2012. It is now planned that the Pay As You Go parking solution will be implemented and operational by first semester 2013.

#### 1.1.6. Properties Architectural and Engineering Drawing Management System

This project was initiated to address the need for a dedicated system to manage the University’s Architectural and Engineering Drawing Assets. In October 2009 a detailed User Requirements Specification was developed and in May 2010 an Expression of Interest undertaken. Following the EOI process a Request for Tender was released in October 2010 and following the Tender evaluation period, the Cadac Organice Drawing Management System was selected as the preferred solution. Contract negotiations with the selected vendor were unsuccessful and the project was subsequently put on hold. In 2011 there were a number of operational changes planned that would ultimately impact on the proposed requirements and use of the system. As such, funding for this project was deferred and the project is planned to be reinstated in 2013.
1.1.7. Properties Project Information Management System

The goal of this project is to implement a Project Information Management System within the Properties business area to improve existing business processes, planning and management for all projects. This project is being undertaken in five stages. Stages 1, 2 and 3 were completed in the period 2007 – 2009.

Stage 4 commenced in October 2009, however the final system design, configuration and implementation was delayed during 2010 due to changes in Properties Capital Projects operating procedures which subsequently introduced new system requirements and additional integration with Finance 1. Stage 4 was completed in February 2011 and Stage 5 completed in April 2011. A number of new projects were entered into the system in 2011 during a testing phase with the system operational in January 2012. Further enhancements to the system were also developed and implemented in 2012.

1.1.8. Security Infrastructure Program (formerly the Security Upgrade Project)

In 2012 the works to upgrade the university’s security infrastructure continued across the Bentley, Perth and Kalgoorlie campuses as per the security infrastructure program which included:

- Security upgrades to buildings 100, 101, 109, 200, 301, 309 and 311 including replacement of redundant commander technology.
- Annual preventative, corrective and breakdown maintenance for all security infrastructure and devices.
- Implementation of a Security DVMS installation program to replace redundant technology and continue the roll out of the Indigovision DVMS across all campuses.

1.2. Parking

1.2.1. Permits 2012

Parking permit sales were down by 6.6% in 2012.

<table>
<thead>
<tr>
<th>PERMIT TYPE</th>
<th>2011</th>
<th>2012</th>
<th>% +/-</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>460</td>
<td>423</td>
<td>- 8%</td>
</tr>
<tr>
<td>STAFF</td>
<td>2527</td>
<td>2328</td>
<td>- 7.8%</td>
</tr>
<tr>
<td>STUDENT</td>
<td>8864</td>
<td>8318</td>
<td>- 6.1%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11851</td>
<td>11069</td>
<td>- 6.6%</td>
</tr>
</tbody>
</table>

This drop in permit sales can be attributed to a number of factors including:

- Success of CABS service.
- Assumption that Pay As You Go parking was to be available by Semester 1, 2012.
- Lack of monitoring of parking in surrounding areas by local councils.

The reduction of permit sales created a situation where supply outstripped demand. The flow through effect was a 26% reduction in infringement notices issued in 2012.

1.2.2. Pay As You Go Parking Solution (Paid Parking Management System)

In September 2009, project planning and a User Requirements Specification for a Paid Parking Management System were undertaken. The project continued in 2010 and included changes to the original requirements following a comprehensive EOI process that identified new and emerging technology and thus requiring further investigation. Additionally, in 2010 the University announced that all student parking areas would be changed from a parking permit system to a paid parking system and that all student parking areas would be operational with the new paid parking system by the start of Semester 2, 2011.

Due to a change in system and operational requirements the project was delayed; student parking remained on the existing parking permit system and a Tender for the procurement and implementation of a Pay as you Go parking solutions was released in October 2011.
It is now planned that the Pay as you Go parking solution will be implemented and operational by first semester 2013.

1.3. Property Portfolio

1.3.1. Disposals
- 38, 54, 58, 70, 84, 117, 127 Hanbury Street, Kalgoorlie.
- Muresk Campus

1.3.2. Property Lease Documentation/ Negotiations
The following lease documentation/ negotiations have been undertaken in 2012:
- Bore License 3 De Laeter Way, Bentley; License.
- Royal Society Building 500; License.
- McKay Street Primary School; Extension of lease.
- 3 Pakenham Street, Fremantle; Extension and variation of lease.
- 5 Monash Avenue, Nedlands; Extension and variation of lease.
- Westpac ATM; Lease.
- Centrelink B106E; Termination of lease.
- U7/4 Brodie Hall Drive, Bentley; Termination of lease.
- U3/5 Brodie Hall Drive, Bentley; Termination of lease.

1.3.3. Ongoing Property Lease Documentation/ Negotiations
- Lease Bankwest ATM B105
- Lease Curtin Rowing Club

1.4. Security Initiatives 2012

1.4.1. Two-way radio system (New Project)
The expansion by the university into Technology Park provided one major problem for the security team which was the weakening of the two-way radio signal the further the officers moved away from the transmission point located at building 105. In order to overcome this problem it was necessary to upgrade to digital which provides a strong and clear signal over a much wider area including communication on a separate channel with the campuses in the City and at Shenton Park.

Following a tender process the contract was awarded to Radlink Communications and the digital system was installed in March.

1.4.2. Restricted Key System (Existing Project)
The goal of this project is to enhance the security of each building by ensure that the university has up-to-date key control policies. Installation commenced in December 2011 and to-date a total of 34 buildings have been rekeyed which breaks down into 3526 cylinders installed and 2950 keys issued. In addition 11 electronic key cabinets have been installed across the campus.

Graham Arndt
Director, Asset Management
2. CAMPUS DEVELOPMENT

2.1 Curtin City Master Plan and Development Framework

A comprehensive team has been engaged to undertake the Master Plan and Development Framework component of the Curtin City project. The team consists of expertise in the following areas:

- Urban Design, Planning and Landscape Architecture – AECOM
- Integrated Services Engineering - AECOM
- Green Infrastructure and Sustainability – Syrinx
- Market Analysis and Commercial Real Estate – CBRE
- Urban Economics – Pracsys
- Architecture – Donaldson and Warn
- Project Management – Davis Langdon

A thirty two (32) week program has been established by the project team and Curtin stakeholders to ensure adequate in-depth analysis and production of two key documents – the Master Plan and Development Framework. Completion of these documents is scheduled for March 2013.

As part of the master planning process the University established an independent ‘Strategic Review Panel’ to meet at key milestones to provide considered feedback to the design team. The panel consists of:

- Mr Charles Johnson – Board Member, Metropolitan Redevelopment Authority (MRA)
- Mr Mathew Selby – Planning Director, Department of Planning (DoP)
- Professor Peter Newman – John Curtin Distinguished Professor CUSP
- Mr Bernard Salt – Adjunct Professor Curtin Business School
- Professor Sambit Datta – Department of Architecture and Interior Architecture
- Mr Mark Woffenden – Executive Director, Resources and Chemistry
- Mr Craig Wooldridge - Director - Network Planning Moving People, Department of Transport
- Mr Mike Burbridge – Executive Director, Australian Sustainable Development Institute
- Mr Evan Nicholas, Director External Relations, Curtin Business School
- Mr Mike Mouritz – Executive City Futures, City of Canning

2.1.1 Brand and Naming

The proposed brand identity for the Curtin City project has now been developed by Block Branding, the appointed branding consultancy. This includes the name and logo, and also defines the brand architecture and positioning, and the link between the new ‘Curtin City’ brand and the global Curtin University brand.

2.1.2 Public Transport Initiatives

Curtin City will incorporate integrated public transport as a key component of its master planning structure. To this end the University has successfully negotiated with the Minister for Transport (Mr Troy Buswell) and the Department of Transport the extension of the LRT to Curtin City from the Causeway at Victoria Park as the States second phase of LRT development. A key to negotiating the LRT extension was the offering of a two hectare parcel of land within Curtin City to stable the tram cars. This piece of vital infrastructure provision was and continues to be the missing link in the LRT rollout.

Coupled with the LRT extension the Curtin City project will co-locate a northern LRT stop with a bus interchange to facilitate best practice mode share between public transport modes. The bus
interchange assumes the downscaling of the existing interchange on Hayman Road with a new facility being established on a new east-west street in the northern part of the campus. The co-location benefits are widely accepted as best practice and both transport agencies (DoT and PTA) are aligned and supportive of the Curtin City proposal.

Both the bus interchange and the LRT stabling yard will constitute a major contribution to the States transport infrastructure and an appropriate land deal will need to be negotiated and approved as part of the master plan process and preferably as part of the Main Street project as a key enabling infrastructure development.

2.1.3 Curtin Main Street - a Shared Space Project

A key enabling project identified by the University is the main street linking Hayman and Manning Roads through the centre of the campus. The main street will function as an important public transport link connecting bus services to the centre of campus in the short term and light rail in the longer term. As such the street needs to be designed to cater for improved public transport within a street reserve catering for pedestrian priority and shared space principles. Initial design parameters established by the Master Plan team (and supported by Arup) have identified the following key attributes;

- Create a space that focusses primarily on pedestrians and public transport.
- Integrate place activation strategies in to the shared space environment.
- A narrow ‘village’ street has much broader appeal than a wide traffic based road.
- Forecast traffic projections including light rail can be accommodated in the shared space environment.

2.1.4 Place Activation Plan

At the very heart of Curtin City is a place-based approach to creating a lively and active community. To ensure Curtin City captures the very best of an active and engaged community Curtin University needs to establish itself as the communities ‘Third Place’. ‘First Place’ is home, ‘Second Place’ is work and ‘Third Place’ is the place you choose to go to experience something different and engaging.

According to Project for Public Spaces (PPS), the most successful universities think as much about meeting the social and emotional needs of the people who live and work on campus, as expanding their infrastructure and facilities. Campuses can create an inherent sense of community by offering many ways for people to interact with each other in the spaces between and within buildings. To create this interaction, universities need to provide for a range of activities and public spaces that are supportive of each other (Fred Kent, PPS. http://pps.org).

A place-led approach to campus revitalisation functions on the concept of strengthening key parts to improve the whole. A place-led approach considers:

- Creating strong destinations within campus, that connect to surrounding areas, identifying and strengthening campus anchors and creating public places with a high level of amenity.
- Considering built form and infrastructure improvements to ensure buildings relate to people and the public domain.
- Identifying a series of programmatic improvements that could occur, including attracting new activities and uses to the campus.
- Encouraging an integrated approach to place management including security services, cleaning, operations, maintenance and landscape presentation.
- Leveraging the assets already within campus including existing relationships, corporate partners and the business community.
- Bringing the Curtin ‘brand’ to life in the physical domain.
- Creating a ‘quick wins’ agenda to bring about early change.
The Place Activation team has completed the activation plan with a five (5) year expenditure strategy outlining key activities and improvements aimed at enlivening the campus.

2.1.5 Urban Forest Management Plan (UFMP)
Properties engaged the expertise of RPS to undertake a full assessment of Curtin’s urban forest in the context of its existing asset value, legal compliance regarding the Federal Environmental Protection and Biodiversity Conservation Act (FEPBA) and relevant WA legislation, climate change mitigation, and the Curtin City proposal.

2.1.6 Parking and Public Transport Strategy Background
As part of the Curtin City development and the ongoing operations of the University it is a requirement of the Western Australian Planning Commission (WAPC) that the University has in place an integrated Parking Strategy to ensure the traffic and parking demands are managed within the constraints of a spatially-derived cap. Current indications are that this cap will be in the order of 5,500 bays and are expected to be defined and enforced by the WAPC during 2013 as part of the formulation of an Activity Centres Parking Policy (ACPP) to complement State Planning Policy 4.2 (Activity Centres for Perth)

2.1.7 Bike Plan and Pedestrian Safety
As student numbers increase and the population attending Curtin City grows it is vitally important to plan for bicycle transport and improved pedestrian amenity and safety. A bike plan detailing both internal and external links to Curtin City has been completed with a number of recommendations for implementation. Pedestrian safety is of the highest priority for the University as a number of near misses have occurred on the surrounding road network – Kent Street being the most dangerous. To this end a traffic study with speed reduction recommendations have been made to the LGA’s and Main Roads WA.

2.1.8 Infrastructure Gap Analysis
The University has a complex network of above and below ground infrastructure systems that provide vital operational services. Our due diligence framework required the full investigation of the network to ensure any future development carefully considered the breadth and condition of existing infrastructure to ensure appropriate additions and or modifications can be implemented. To this end a comprehensive Gap Analysis was undertaken to determine the size, capacity, location and extent of information on each of the following services;

- Power
- Communications
- Sewer
- Potable Water
- Gas
- Fire
- Storm-water
- Chilled Water
- Heated Water
- Irrigation

2.2 CAMPUS Planning

2.2.1 Key projects of 2012
Over the past 12 months, Campus Planning and Space Optimisation have undertaken an array of physical and conceptual planning projects as well as conducted the annual space utilisation audit. In 2012 three key projects were undertaken as part of a multi-year planning and space optimisation strategy:

- The Five Year Development Plan including: the Place Activation Plan, the Urban Forestry Management Plan, and the Bentley Campus Spatial Planning Analysis;
- The CATS refurbishment Strategy;
• The Professional Staff Accommodation Plan.

The projects within the 5 year development plan (FYDP) fall within the wider portfolio of the Campus Development Group and represent Campus Planning and Environmental Sustainability as well as the Director, Campus Development. The aim of the component plans of with the FYDP seek to enhance and enliven the public realm on campus, preserve and enhance the universities green space and tree assets, and to improve physical planning and space optimisation within the Academic Core of the Bentley Campus. Over the past 12 months Campus Development has completed the 2012 Tree Condition Assessment, the Place Activation Plan, the Urban Forest Management Plan, as well as the Academic Core Density Analysis. The information and objectives of these plans now forms the background for strategic thinking and key projects within Campus Development group and will evolve with the transformational planning currently being developed in the Curtin City Masterplan.

The CATS refurbishment strategy is a university wide project developed to improve the quality of centrally managed classrooms in order to enable current teaching pedagogies, enhance student's learning experiences, and ensure Curtin's ability to retain and attract students. Campus Planning worked with Project Management, CITS, Dean's Teaching and Learning, Faculties, and an array of additional internal working groups to aid design firm HASSEL in the design and implementation of 11 new learning spaces across campus. Over the coming years it is projected an additional 10 million dollars will be invested in this project.

The 2012 Professional Staff Accommodation (PSA) plan develops innovative solutions to cope with space demands generated by a growing workforce at Curtin, and to provide planning solutions for coordinating refurbishments of ageing office space across campus. The PSA plan is a multi-year strategy that seeks to reshape current office accommodation into efficient, modern open plan workplaces.

2.2.2 Environmental Sustainability 2012

The Curtin University Environmental Sustainability Plan 2009-2012 is ending in December. This plan was the first ever environmental plan for the University, consolidating environmental initiatives, projects and compliance across many areas of the University but mainly within Properties. The challenge for the Office of Environmental Sustainability (OES) in future years is to embed environmental sustainability concepts more fully in the core businesses of the University, building on the experience of the past 4 years.

Some of the 2012 initiatives implemented, started or supported by the OES include:

2.2.3 Recycling & Waste Minimisation

• 600kg of household and CITS batteries were sent to recycling.

• A total of six refillable bottle fountains have now been installed at key high traffic areas on campus to reduce public dependence on disposable water bottles.

• The public area recycling trial was successful but a full scale implementation in 2012 was not carried out for operational reasons.

• Three areas have been provided with kitchen recycling bins to carry out their own in-house recycling.

2.2.4 Biodiversity

• The rejuvenation of Jack Finney Lake is continuing with an additional 1,000 wetland plants in the ground in October 2012 and erosion matting installed on the inlet drains by Parks & Gardens staff.

• Six water troughs have been installed to provide drinking water for Black Cockatoos in summer and wildlife cameras are monitoring their use, as part of the implementation of the Black Cockatoo Management Plan 2012-2015.

• A tree survey, an urban forest management plan and a biodiversity survey of the Bentley campus were undertaken by consultants during the year. These documents will advise Curtin’s Master Plan and will form the basis for the implementation of revegetation programs, along with the Jack Finney Lake and Black Cockatoo Management Plans.
2.2.5 Staff Engagement

- ‘Curtin Volunteers!’ and volunteering staff participated in the Great Cocky Count in April 2012 and have since undertaken 3 more counts of Black Cockatoos on the Bentley campus.
- Following World Environment Day, a number of electric bicycles were purchased for Properties staff to reduce fuel vehicle movements on campus. The OES assisted three other areas in the purchase of e-bikes.
- A Ride2Work breakfast organised to launch the University Bike Plan attracted more than 50 cyclists.
- The OES maintained an active presence on ‘Yammer-Greencampus’ to alert staff to events and provide advice and information on environmental initiatives.
- Six e-waste recycling events have been organised in the past 3 years for staff and students’ personal electronic waste. 2.5 tonnes of e-waste is collected on average per event.

Andy Sharp
Director, Campus Development
3. FACILITIES MANAGEMENT

Overview

As with previous years it was a challenge to provide services to this growing University and the dedication of the staff within Facilities Management is recognised and appreciated.

3.1. Building Services and Minor New Works

3.1.1 Dedicated Fire Main Extension
The existing dedicated fire main pipework in the Northern and centre areas of the campus is being extended to the Southern quadrant of the campus. As this pipework is being installed new dual head fire hydrants are also being installed to external areas around buildings in accordance with codes and standards. This will allow for old single head fire hydrants in the area to be disconnected from the mains water supply. In 2013 buildings within southern quadrant will have internal fire reels and or hydrants connected to the dedicated fire system. Once this is completed Bentley campus will be covered by a dedicated Fire Main, being supplied through electric and diesel supply pumps.

3.1.2 Domestic Water Upgrade
Bentley campus has a reticulated ring main around and through the campus which is fed by three Water Corporation water meters, which now require backflow prevention devices installed, at the points of entry to the campus. A Hydraulic consultant was engaged to carry out a survey to identify the extent of works and design a system to provide the necessary protection. Work has now started to install these devices. The upgrades will be on-going due to the growth of the campus and the age of some of the infrastructure, which now requires replacing or up sizing. This type of work is necessary to provide the University with secure supply and to minimise interruptions to water supply.

3.1.3 Building Gutter Upgrade
This project started back in 2010 and is to prevent rain water entering buildings during heavy rains when the box gutters cannot cope with the large volumes of water. A Hydraulic consultant was engaged to investigate and report on inadequacies with the box gutters, on nominated buildings. This year, buildings 209, 210 and 308 had overflow systems installed; bringing the total number of upgraded buildings to five and 2013 will see more buildings fitted with overflow systems. It is envisaged that this project will continue for a number of years.

3.1.4 Water Efficiency Initiatives
In 2008, the Western Australian Government announced new Water Efficiency Measures, which required business that use more than 20,000 kilolitres of scheme water, to participate in an annual Water Management Assessment (WMA) and submit a Water Efficiency Management Plan (WEMP) to the Water Corporation. Curtin has signed off on a commitment to investigate and implement water efficiencies, over a number of years in a planned approach by incorporating best practice technologies and efficient AAA rated equipment. Areas that are being targeted for efficiency improvements are cooling towers, toilet facilities, wash down facilities, food service locations and laboratories. Technology Park buildings 610, 611 and 612 the water supply was fed through one “Water Corporation” water, which made analysis of usage difficult. We have now installed 2 sub-meters and can now, better monitor usage and implement targeted best practice solutions to reduce consumption. Magflow “smart” meters are also being installed to the main supply meters at the Bentley campus. This, in conjunction with the installation of sub-metering of buildings, by installing pulse head meters, will enable better monitoring of usage, and targeted efficiency initiatives as required.

3.1.5 Chilled water, heating water reticulation, valve repairs
Due to age issues and the non-availability of spares, many of the heating and cooling water valves, installed to B154, Central Plant have been replaced.

3.1.6 External Lighting Replacement
Due to end of life issues and availability of spares concerns for the existing campus road lighting units, all 6 m pole lights have been replaced with new generation LED heads. The new lights are more efficient than the original Mercury Vapour lights, and provide a better quality of light. Work has also started on replacing the walkway lighting along Sir Charles Court Promenade.

3.1.7 Water Tower Steel Work Refurbishment
Steel superstructure around the thermal storage tank grit blasted and new industrial coating applied. Work to complete the project took around 8 weeks and was completed for around $410K.
3.2. Building Specific Projects

3.2.1 Building 110 - Wash Down Bay
It was determined they Campus Services required a dedicated wash down bay, to enable the large delivery trucks and gardening vehicles, to be washed down after use. The project included the installation of a graded concrete slab and a high building enclosure, fitted with a high pressure cleaning system, complete with a water recycling system, which separates out oils and wash off debris, before reusing the water.

3.2.2 Building 202 / 203 - External Painting
External refurbish to the fabric of the building, in line with the university’s cyclic maintenance program, to enhance the environment for Staff and Student, in the Art and Design Department.

3.2.3 Building 207 – Ceiling Replacement
This project was a ceiling upgrade to the level 1 passageway. This work also included upgrading of air conditioning infrastructure and lighting in the passageway area. This work extended into the section designated as an “Art Gallery”.

3.2.4 Building 306 / 308 - Roof Ventilation
This project involved replacing the original timber louvers, which were in very poor condition, with aluminium framed, glass in-filled units, to allow natural light into the roof void.

3.2.5 Building 400 – Repairs and Painting
External refurbish to the fabric of the building, in line with the university’s cyclic maintenance program, to enhance the environment for Staff and Student, in the Art and Design Department.

3.2.6 Building 500 - RCD Upgrade Project
B500, Resources and Chemistry Precinct, was designed and document at the period just prior to it becoming mandatory to install Residual Current Devices to power circuits in WA. The lack of RCD protection was highlighted as the result of a recent OSH audit, and the decision was made to retro fit the devices across the whole building. In total, around 1000 units were installed over a period of 9 weekends.

3.2.7 Building 610 / 611 / 612 - Repairs and Painting – Stage One
Heavy corrosion to external steelwork and facia / eaves panels required complete replacement of facia panels, to buildings 610 and 611. Existing steel superstructure treated and new industrial coating applied. Perspex over main entry and on walkway between B610 and 611 was also replaced as part of the project.

3.2.8 Building 703 WASM - Computer laboratory
Decision made by WASM Directorate to enlarge the existing B703 Level 2 computer laboratory, creating a large, collaborative facility. The existing facility was completely gutted, and the dividing wall removed between this room and the room next door. A raised floor, with ramps from the entry doors was constructed, in order to allow services to enter from below and the door into the area was relocated to allow more circulation space. Slot windows were also inserted, to improve security within the area. The facility was then rewired for both Electrics and Data, new AV equipment installed, together with a sound proof operable wall, and CCTV and Cardax entry installed. Finally, the area was decorated, and re carpeted.

3.3. Campus Services

3.3.1. Cleaning Contracts
The new Federal Cleaning Services Award continues to impact on contract cleaning costs with the third of four transitional increases coming into effect on 1 January 2012. This variation was then followed by the Fair Work Australia national wage increase of 2.8% on 1 July 2012. Refurbishment of existing facilities, which included a significant change in usage for building 305, additional cleaning requirements for buildings 201 and 308 in addition to building 216 commencing operation in early November all contributed to an overall increase in cleaning costs against budget of 8.8%.

No major tenders were completed in 2012 although negotiations with current cleaning contractors continued during 2012 as part of a project to review the current five cleaning zones to accommodate the new campus key system which divides the Bentley campus in to four separate zones. These negotiations have been robust as there are financial implications to contractors in consolidating the
existing five cleaning zones to four. In addition, the total number of contract cleaning weeks was increased from 50 to 51 weeks per annum to minimise the special cleaning costs associated with cleaning during the traditional university closedown period.

3.3.2. Postage, Mail & Courier

The new agreement for processing the university's outgoing mail that commenced in February 2011 was extended in January 2012 and included a 2.9% increase in the annual fee. This extension was the first of two that are available under the existing terms and conditions with negotiations to extend the agreement for a final twelve month period commencing in December 2012. Initial indications suggest that a 2% increase in the annual fee will be proposed for this final twelve month period ceasing on 31 January 2014, which will be considered and resolved in early 2013.

Monthly postage activity for 2012 was 11% lower compared with 2011 with the majority of this total once again being attributed to a reduction in the use of Australia Post's electronic mail & database services. However, outgoing courier activity managed by Mailing Services increased by 2% in 2012 compared with 2011.

3.3.3. Bulk Waste Management

The total amount of general waste sent to landfill from the Bentley campus during 2012 including concrete from the Department of Civil Engineering has been calculated at 783 tonnes. In comparison, there was 572 tonnes sent to landfill in 2011 and 790 tonnes in 2010.

In reviewing these figures it has been identified that there was an increase of 25% in concrete waste, 12% increase in compactor waste and a 109% increase in waste collected through open bins around the campus although this rise included major clean ups at the field trial area, Department of Design and the on campus green waste facility.

The total cost for waste removal during 2012 covering general waste & recyclable materials is expected to exceed 2011 figures by 15 - 20% as a result of the significant increase in total waste sent to landfill, which is not expected to continue in 2013. In addition, the impact associated with broadening the recycling program to accommodate new recycling initiatives has impacted on the total cost for waste management.

As a result of a new pricing submission to be announced by the Department of Finance in March/April 2013; as well as new WA Government contract disposal rates being updated in May 2013, it has been negotiated to roll over the existing waste collection and disposal agreement until the end of April 2013. Current collection and disposal rates will also be maintained during this period with the impact of the new rates and the outcome from the Department of Finance review determining whether to remain with the existing contractor or complete a new tender.

3.4. Recycling

3.4.1. Cardboard, Paper & Secured Shredding

2012 figures indicate that there was a decrease of 7% to 43.5 tonnes in the total amount of cardboard collected for recycling when compared to 2011; although the 2012 total was still 12% higher when compared with 2010.

The total amount of paper collected for recycling during 2012 was 217 tonnes or 43% lower when compared with 2011 and 17% lower when compared with figures from 2010 although the 2012 total was still 19% higher than figures for 2009.

Although there is no known reason for this decrease in the paper recycling program from information and data available to Campus Services, it is our assumption that the new university managed print service has had the desired impact on campus paper usage. However, the secured shredding service continued to expand in 2012 with an 18% increase in activity with a total number of bin requests of 601, compared with 492 in 2011 and 447 in 2010.

3.4.2. Other Recyclables

Following progress with data collection for recyclable materials other than paper and cardboard in 2011, capture rates for other recyclables increased by 36% during 2012 with a total of 163 tonnes of material diverted from the landfill waste stream.

Planning is also under way to expand this program further in 2013 with the re-introduction of public area recycling. This commitment follows a review of current services which identified sufficient resources to support and sustain this program following a successful trial in the later part of 2011.
The comparison rate for the total tonnage of recycled materials verses general waste sent to landfill (i.e. not including concrete) from the Bentley campus was 40.1% for 2012 compared with 53.2% in 2011. This result however was expected due to the significant increase in open bin activity although the 2012 result was still better than the 37% figure for 2010.

3.5. Facilities Management – Mechanical Engineering (New Projects)

3.5.1. Bentley Campus Thermal Storage Tank 2

Design and engineering of a second thermal stage tank (TST2) on the Bentley campus was undertaken in 2011 and an expression of interest (EOI) for construction of the tank was issued to the market in early 2012. The range of responses enabled the project team to develop a shortlist of suitable Builders that could be engaged to participate in a competitive tender process.

In parallel to the design of TST2, consideration was being given to tri-generation as an alternative next phase of expansion of chilled water supply infrastructure to the Bentley campus. A hold point was put on the TST2 project at the end of Design and Documentation while tri-generation was being assessed. Both technologies are expected to play a part in the chilled water expansion pathway for the Bentley campus over the next ten years. Based on the current campus building development plan and depending on the outcome of the tri-generation assessment, TST2 is likely to be either the next phase of chilled water expansion or it will follow tri-generation.

3.5.2. B003 Childcare

Building 003 Childcare utilised evaporative air conditioning for cooling and wall mounted gas heaters for the provision of space heating. The evaporative air conditioners were in excess of 20 years old and in need of replacement as efficiency levels were inadequate and maintenance of occupant space conditions diminished. Commencing November of 2012 and concluding in February 2013 was a project to replace the evaporative air conditioners and gas heaters with split system type air conditioning.

It was recognised that electricity consumption will increase significantly within this building however much improved occupant space conditions will result. This will have a side benefit of enhancing the University’s reputation within childcare and its customers. The increase in power costs will be offset somewhat with the elimination of gas consumption used in space heating as this will now be provided by reverse cycle space heating which is a more efficient form of heating when compared to gas. Additionally, to further optimise energy utilisation with the move to refrigerated air conditioning, “Variable Refrigerant Volume” (VRV) technology has been specified.

This project is a significant undertaking as the Childcare Centre needs to remain operable while works is being undertaken.

3.5.3. B105 Roof Top Plant Room Space Rationalisation

The majority of B105 air conditioning plant is housed on the very top level of B105 (level 7). Large Chiller plant was initially situated in the roof top plant room to provide cooling to the Library and later to the wider Bentley campus. The plant was decommissioned approximately 8 to 10 years ago however the old redundant plant remained. This project removed all redundant infrastructure and importantly completely re-modelled the chilled water and heating water pipe work layout to air handling plant. The objective was to address issues associated with cooling and heating water reticulation. This work resulted in improved operating efficiencies which has a significant flow on affect in the reduction of energy costs.

Also included in this project was the incorporation of Variable Speed Drives (VSD’s) into the operation of air handling plant to convert the associated fans from “direct-online” starting to VSD soft starting. This initiative has already seen a significant reduction in B105 power consumption. Flow on works saw rationalisation of wiring within the mechanical services switchboards with development of accurate AutoCAD electrical drawings. Some remedial works was also undertaken to replace dampers that control the flow of conditioned air.

3.5.4. B200 – B201 Chilled and Heating Water Pipe Work Upgrade

Building 200 houses the John Curtin Library and the John Curtin Gallery and as such contains valuable pieces of art and other associated artefacts. The reliable provision of chilled and heating water supply to B200 is paramount in maintaining internal environmental conditions necessary for the safe keeping of these valuable assets. To ensure that services are maintained an upgrade to in ground chilled and heating water pipe work infrastructure was undertaken in June/July 2012. A key element of this work was to install additional isolation valves that would facilitate the back feeding of chilled and heating water to B200 should services on other areas of the campus interrupt the flow of
water to this building. As this project required excavation of a large area and shutting down of the B201 car park, a key deliverable of this project was to have all works operational and completed in time for the University open day. This object was achieved and also provided the additional advantage that works planned for 2013 in the vicinity of B209/B2010 will now ensure continuity of supply to B200.

3.5.5. B312 Laboratory Air Conditioning

Building 312 contains a number of laboratories that are not air conditioned. The labs are well utilised with internal conditions in the peak of summer and winter being very poor. This situation is not conducive to a sound teaching and research environment and is presently well below student expectations. Additionally the current situation has the potential to reflect poorly on the University's reputation. This project aims to address student concerns and enhance the University’s reputation by providing an environment that is in-line with teaching and research requirements. Planning and engineering for a significant project to air condition key laboratories in B312 was undertaken in November/December 2012 with works scheduled to be undertaken in the first quarter of 2013.

3.5.6. Kalgoorlie and B403 Bentley Campus BMS Replacement

The Western Australian School of Mines (WASM) utilises Curtin’s aging Staefa Building Management Control System (BMCS) to control a significant portion of air conditioning infrastructure on the WASM campus. This system was well beyond its economic life and indeed is pre Y2K technology. As such, replacement parts are difficult to source; maintenance costs are correspondingly high with energy utilisation not as efficient as it would be when compared to employing current day technology.

The ability to service and maintain both the Staefa system and its associated mechanical infrastructure remotely from the Bentley campus is becoming extremely difficult. Works to replace the Staefa BMCS will overcome these issues and position WASM well in terms of integrating future campus development with the upgraded Johnson Control System.

The same Staefa BMCS was also present in B403 on the Bentley campus. Works associated with the replacement of the B403 Staefa system were incorporated into the WASM project to optimise cost opportunities presented by the economies of scale on offer by having one larger project rather than two small projects.

3.5.7. Sundry Works

In recognition and in support of initiatives contained in the University’s Strategic Plan highlighting a key focus on research, Mechanical Engineering has undertaken a number of initiatives to revitalise mechanical infrastructure to ensure that facilities meet the objectives of key research. Two such projects were:

a. B400 Climate Control Room: This facility has been under utilised as it was very rigid in its operation and therefore did not meet the changing needs of researchers. Following detailed discussions with the Faculty of Health Sciences a project was undertaken to change out the existing electric control system that operated the climate control room with a direct digital control system (DDC). Being computer based the new system offered far more flexibility and increased user interface whereby researchers can alter the climate control room operation with ease from a desk top computer, a laptop or remotely to the building and indeed from off campus. The outcome has been very successful.

b. B301 X-Ray Laboratories: The X-Ray laboratories in B301 have for many years suffered reliability issues associated with the provision of process cooling water from the University’s central chilled water system. In discussions with lab technicians and researchers a project definition plan was drawn up to determine the needs to address the short falls in the provision of cooling water to the “x-ray machines”. The resulting project work commenced in October 2012 and was completed in mid-December 2012. The outcome is expected to provide improved reliability of x-ray machine performance and thereby better research outcomes.

A number of other improvements were also undertaken in 2012. Most notable was the upgrade of air conditioning to “The “Spot” News Agency” in B106d and air conditioning to the CITS area on the ground floor of B101.

3.6. Facilities Management – Mechanical Engineering (Existing Projects)

3.6.1. B100 Air Conditioning Re-engineering

Building 100 is the Vice-Chancellery building. In addition to accommodating the University Senior Executive, this building houses a number of key corporate services functions. In 2011 a project was
undertaken to replace the B100 air conditioning control system which was beyond its economic life and was pre Y2K technology.

Given the structural complexities of this building and that it has been subject to many refurbishments since its initial construction, it was anticipated that this project would uncover a range of other issues. As the controls work progressed issues identified were documented to enable the second phase of remedial works planned for 2012 to be undertaken. Due to the invasive nature of this work the project was scheduled to commence in November 2012 and conclude in the 1st quarter of 2013. This work will resulted in improved plant efficiencies with reduction in maintenance costs and much improved occupant conditions.

**3.6.2. B105 Air Conditioning Controls Upgrade**

Building 105 (Library) was built in two stages with the first stage completed in the 1970’s. The air conditioning controls contained within this building are beyond their life expectancy and in terms of energy efficiency are not as effective as present day computerised control technology and are high maintenance.

A staged approach to upgrade the control system within B105 commenced in 2009 where levels 3 to 7 were completed. Levels 1 and 2 of the library were scheduled for upgrade in 2010 however plans have since developed that will see the refurbishment of Level 1 for centrally allocated space and a proposal for the redevelopment of the entrance to the Library impacting on levels 2 and 3. As such, Stage 3 of the controls upgrade was brought forward and completed in December 2011. Stage 4, which is the final stage of controls upgrade within B105, was undertaken in November/December of 2012 and addresses the replacement of out-dated air conditioning controls associated with the eastern side of B105 levels 4 to 6. Completion of this phase of the project along with the levels 1, 2 and 3 refurbishments will see the completion of the upgrade and re-engineering of air conditioning services to B105. This work will result in improved air conditioning efficiencies in terms of energy utilisation and mechanical infrastructure maintenance as well as improved occupant comfort conditions.

**3.6.3. B105 Lift Modernisation**

Lifts 1 and 2 in B105 were at the end of their economic life and due for a modernisation to bring them up to current standards. Works commenced in November 2012 on completion of exams and is expected to conclude by the end of March 2013. These two lifts will be out of service for this duration. The completed work will result in much improved reliability of the lifts, a very smooth ride for users and a reduction in maintenance resources attending faults.

**3.6.4. B117 Cooling Tower Replacement**

Building 117 (Central Plant) is one of two main facilities on the Bentley campus that houses chillers and associated plant integral to the provision of cooling for campus wide cooling of buildings. A key feature of this facility is the cooling towers used for cooling the chillers that generate cold water for use in air conditioning. The replacement of the cooling towers was a large and complex undertaking ($1.5M) with the need to keep infrastructure running to ensure cooling needs of the campus were maintained. This facility has four large cooling towers which were at the end of their economic life. A phased approach was undertaken to replace the towers due to the need to keep this facility operational. As a result, two towers were replaced in 2011 with the remaining two replaced in 2012. This work extends the life of this facility, substantially increases plant efficiency and brings key infrastructure up to code requirements.

**3.6.5. B314 Air Handling Unit Acoustic Treatment**

A number of air conditioning units in B314 produce significant noise levels that affect a number of classrooms and therefore make it very difficult to conduct classes in the affected areas. As a result the rooms are somewhat underutilised. In 2011 a trial project was initiated to undertake remedial works to re-engineer a noisy air handling unit with the objective of correcting the noise issues and so increase the utilisation of these spaces. The trial project was a great success. Based on this model a project was undertaken in 2012 to address similar issues with other areas. Work is presently being undertaken and is scheduled for completion by the end of January 2013.

**3.7. Facilities Management – Electrical Engineering**

**3.7.1. Smart Metering**

The smart metering project has seen the role out of smart metering to all buildings as well as the installation of an improved head end software package. The system has already provided information that has assisted in decision making processes regarding replacement programs with further development in 2013 it is hoped that we will be able to provide building occupants with individual
electrical energy performance data benchmarked against other similar facilities so that awareness on the energy and greenhouse emissions can be raised across the campus.

3.7.2. External lighting

This project is a staged replacement of the existing life expired Mercury Vapour lighting on campus. This old technology is being replaced with high efficiency long life Light Emitting Diode (LED) technology, as part of the program spacing and wiring of the lighting is occurring to maximise efficiency (Stage 1 and 2 and two are complete).

A second element of this project has been to replace 181 roadway lights on the campus with high efficiency LED lighting. Both projects have a number of benefits for the University in terms of reduced energy consumption, improved quality of light and a corresponding reduction in carbon emissions.

3.7.3. Building 300 Zone 1 High Voltage Switchgear Replacement

It was necessary to replace a life expired ‘key piece’ of High voltage switchgear on campus. This HV switchgear allows the University to transfer loads onto other feeders for maintenance or under Western Power feeder failures conditions. The project has improved flexibility and redundancy capability on the university High Voltage system. Other associated projects being B-156 HV Alarms and Building 156 DC system retrofit, although largely complete this has been placed on hold pending the Building 156 Zone 4 incident.

3.7.4. Campus Wide RCD Installation Project

This project involved the installation of a distribution board mounted Residual Current Device (RCDs) to all building on campus, the building have been prioritised for the installation works on a risk based approach, buildings completed in this calendar year include Childcare buildings 002,003, 408,500, 599 and 408.

3.7.5. Hockey WA (B-113) Main Switchboard

The replacement of the Building Main Switchboard at the Hockey Stadium was necessary as the current board is life expired and contained electrical equipment that can no longer be maintained, as well as equipment that do not meet current code requirements. The new boards will be installed over the Christmas 2012 break, on completion of the works the Building Main Distribution Board will be fully compliant with current electrical Legislation.

3.7.6. GEEP Teaching Laboratory

This project was devolved to FM by PPM the project included the management of the electrical contract for the facility from concept to practical completion this included testing and commissioning of the new GEEP Renewable energy facility, the electrical component of the job was highly complex in nature and has the ability to feed up to 10kW of electrical energy back into the grid at peak periods.

3.7.7. High Voltage (HV) Cable Location Rectification and Risk Rating Project

The project consisted of a complex series of tests carried out on all universities HV cables on the Bentley campus, the project has allowed the university to locate all HV cables with a very high degree of accuracy and in the process produce a single site drawing with all the location information contained in the one location.

A second aspect of the testing has allowed the University to find and rectify faults on individual cables, which has then allowed us to complete a comprehensive risk analysis of all HV cables on the site.

The work carried out on these cables from testing to the production of the Cable Risk Rating has allowed a very clear picture of the University HV Cable Network, which in turn is allowing us to optimise our HV network performance.

3.7.8. B-200A, B-212 and B-312 Fire & Emergency Warning Information System (EWIS)

This project saw the replacement of old existing life expired Fire and EWIS in these buildings, with new addressable Fire Detraction and EWIS system that are fully compliant with current code requirements.
3.8. Parks and Gardens

3.8.1. Horticulture, Turf and Irrigation

The Bentley campus received below average rainfall during the winter months however the unseasonal rain during spring and summer was well received.

Parks and Gardens have continued to be involved in reactive works for projects across Properties; works including pruning, transplanting, additional watering and reinstatement of plants to sites.

Landscape and Irrigation upgrades completed across the Bentley campus included;

- B110 landscape upgrade to entrance,
- Childcare landscape upgrade to the “Possums” children play area.
- B308/404 landscape installation with a mixture of native and exotic drought tolerant species
- Landscape installation to the events centre and car park A3
- Landscape upgrade to car park B13
- Tree works have continued across the campus with the removal of dead, structurally damaged tress due to storms and general preventative maintenance. An additional 140 trees have been planted across campus.

3.8.2. Irrigation Infrastructure

To continue bore water efficiency on the Bentley campus an irrigation upgrade was completed at the lower deck of car park B13. The twelve year drip irrigation system was removed and new spray irrigation installed. The new irrigation will assist with soil stabilisation.

The Vickery House bore, which is site specific and not part of the Bentley irrigation mainline, was upgraded and can now be centrally managed by Parks and Gardens.

New bore pumps have been installed at the South and West bores. Thirty Signal Data (SD) controllers are now installed and operational across the Bentley campus, which allows Parks and Gardens to centrally manage the irrigation controllers from the Parks and Gardens office. The remaining twenty SD controllers are programmed to be installed in 2013.

3.8.3. Jack Finney Lake Rejuvenation

Over the winter and spring, Parks and Gardens have been working relentlessly at the Jack Finney Lake to assist in the rejuvenation of the lake as a constructed wetland, implementing the Jack Finney Lake Management Plan 2011-2014. Over a thousand wetland sedges and rushes that were planted in spring 2011 survived the hot summer with a little tender love and water from the team. Weedy trees were also cut down to reduce weed load.

During the months of September and October this year, a thousand more sedges and thirty two black cockatoo native food source trees have been planted. Matting and limestone rocks have been placed in front of the drainage inlets to help control stormwater erosion.

General weed eradication and rubbish removal are also carried out on a regular basis. Parks and Gardens work at the Lake will continue in the coming years with the help and guidance from Odile Pouliquen-Young, Environmental Sustainability Manager.

3.8.4. Kalgoorlie

Irrigation and landscape upgrades continued during 2012 at WASM. The areas receiving the majority of the attention have been on the eastern side of building 701. The memorial Jacaranda trees received remedial works to improve tree health and vigour which included crown reconstruction and root zone coring. General tree maintenance to all WASM trees was also completed.

Alan Verdonk
Director, Facilities Management
4. PROJECT MANAGEMENT

4.1 Overview

In 2012, while managing the expenditure of over $50m within the University’s Physical Facilities Plan, the Project Management group were committed to a range of initiatives to further develop its service to the University.

- **10 Year Plan:** Maintain the rolling 10 year Capital Development Plan.
- **Procedures/PPIMS Implementation:** Support the review and documentation of Properties management processes with PM Procedures development will be re-drafted to sit under new Policy for Properties.
- **Project Register:** Improve and distribute Project Register to reflect PFP and Project resourcing.
- **Project Guidelines:** Support establishment of standards for security, CAD management environmental and technical specifications.
- **Campus Development:** Support projects that may be influenced by the Campus Development initiative and Place Activation Plan.
- **OHS:** Establish in consultation with CUHAS roles and responsibilities of officers with respect to HS & E focussed on changing legislation.
- **Accessibility:** Improve access for the people with disabilities.
- **External Access-ways:** Implement the Pedestrian and Cycle Ways Plan.
- **Signage:** Implement the approved Signage Strategy.
- **Period Contract:** New CSF Period contract established.
- **Small Projects:** Will be now a single Interiors and Minor Project Request.
- **Learning, Teaching and Research:** Develop plan to meet the University's growing research, teaching and general space requirements.

4.2 Significant Projects are outlined below:

4.2.1. Building 216 - Engineering Pavilion Stage 2

Building 216 provide some 2460m² of academic office, research and teaching accommodation over four levels whose built-in flexibility enables the building to be adapted to the changing needs of the university over time:

**LEVEL 1** - provides a gateway to the Science and Engineering Faculty housing the faculty office and showcasing research accomplishments.

**LEVEL 2** – provides seminar rooms to encourage the sharing and cross-fertilisation of ideas between staff and students at all levels of education and interfaces the achievements on Level 1 with the research areas on level 3 & 4.

**LEVELS 3 & 4** – provide a home for “research communities” of interactive higher degree research areas supported by embedded research academics.

4.2.2. Building 129 PC2 Glasshouse Improvements

The recently completed glasshouse is located in the field trial area at the southwest corner of the Bentley campus and supports a Curtin drive to become a “Centre of Excellence” in environment and agriculture.

While part of the 260m glasshouse is PC2 rated, the entire building uses state of the art evaporative climate control which will be additionally supported by state of the art growth facilities for precision research activities into plant pathogens.

The programme has also been enhanced by recent refurbishment of the glasshouse atop B#311.

4.2.3. B204 Basement Café Refurbishment

This refurbishment will complement the revitalization of the Engineering precinct also designed by Taylor Robinson. The refurbishment includes the provision of increased indoor and outdoor covered seating area designed to support informal learning and increased student’s experience. The refurbishment is designed to bring the cafe out of the seventies!
This project also includes the refurbishment of Building 204 main entry foyer to create an additional informal learning area. This learning area will include fixed and lose furniture and will be linked to the cafe thereby making this area a real meeting place. This "separate" area will remain available to student after hours.

The refurbishment which is constructed by National Projects is due for completion by the first semester of 2013

4.2.4. B209 Humanities Graduate Research Hub

The Humanities Graduate Research Hub is a new fully equipped research facility designed to foster a supportive and collaborative research environment to cater for the diverse range of Higher Degree by Research (HDR) students in the Faculty of Humanities at Curtin University.

The Hub was officially opened on the 5th November 2012 by the DVC Research & Development - Professor Graeme Wright and will be managed by the Humanities Office of Research and Graduate Studies (RGS). The Hub is located on level 1 of Building 209 and will be open 24/7 (except during the University closedown period).

The project objectives were to:

- Co-locate and formalise a central hub for Humanities HDR students across the campus.
- Promote collaborative learning and networking opportunities to expand students learning experience.
- Activate cross cultural communication and social interaction between the various Schools and Centre’s.

4.2.5. B104 Main Café Courtyard and Tavern Deck

The revamping of the main café courtyard has been a joint Properties and Guild team effort which has transformed the whole look and feel of this space.

The desired outcomes for the project included:

- Improved student/academic staff/professional staff amenity, characterized by increased usage throughout the year.
- A more flexible space, with more usable floor area – able to be utilized by the Guild and others for a range of activities.
- A design that addresses the current needs, but also does not adversely impact future master planning and precinct initiatives, and strategic pathways development.
- A design that is able to be maintained at a reasonable cost.
- A design that complies with the various applicable governance, policies and guidelines relating to the built environment at Curtin.
- A design that successfully deals with constraints, including physical, technical, time, cost and quality.
- Provide a safe and compliant space for a variety of users and usages.

A completed landscape project that makes a positive and innovative contribution to the diverse range of landscape themes found over the campus.

4.2.6. B201 Access Audit

Following the pilot study of Building 201 the audit has been extended to other buildings on campus to enable an ongoing implementation program to be established.

Implementation works in B201 and other high priority areas commenced in 2011, and was ongoing in 2012.

4.2.7. B 305 Refurbishment

This project involves the conversion of Building 305 into an integrated, multi-functional suite of research and teaching facilities primarily for Health Sciences.

Construction proceeded throughout 2011 and the project funding provision of $27.5m will be delivered within the approved.
4.2.8. B103/102 CI Refurbishment

This was a refurbishment project to enable co-location and improved facilities for over 50 staff in Curtin International.

4.2.9. B105 L2/3 Bookmark Café

Planning was completed to improve student and Library services.

4.2.10. B204 Basement Café ILA

Construction was commenced as a joint Guild/Curtin University project to redevelop the Basement Café.

4.2.11. B510 Mushalla Facility

Construction was commenced to provide improved facilities for the Muslim student community.

4.3 Additional Projects Undertaken in 2012 included:

- B100/101/105/109/599 Professional Staff Accommodation - Planning
- B100/500 CIM Facilities - Implementation
- B105 L2/3 Bookmark - Contracting
- B105 Redevelopment - Planning
- B111 Exercise Science Laboratory - Planning
- B119 Vickery House - Kitchen Upgrade - Implementation
- B201 Ceiling Rectification - Implementation
- B208/501 Humanities/CATS/CE Refurbishment - Planning
- B301 Select Lab Refurbishment - Rooms 203/215/238/243 - Implementation
- B303 Abacus Courtyard/ Microsoft Lounge - Implementation
- B306 Stack/ Fume Cupboards - Implementation
- B404 CHIRI Refurbishment - Contracting
- B405 Simulation Lab - Contracting
- B407 Level 2 -Curtin Law School Refurbishment - Implementation
- B408 Trading Room/Signage/Courtyard - Planning
- B410 Medical School Building – refer to Strategic Projects
- B618 Refurbishment - Implementation
- B619 Refurbishment – Planning
- B751-770 WASM Kalgoorlie Student Housing – Planning
- B Campus WASM Kalgoorlie - Redevelopment – Planning
- B Campus Teaching and Learning Refurbishment - Stage 1 project - Implementation
- B Campus Laboratory, Storage and Waste Compliance – Planning
- B Campus Signage Program St 1 – Way-finding - Implementation
- B EXT PA Outdoor Cinema - Implementation
- B Ext Pedestrian & Cycle Ways - Implementation
- B Ext Place Activation - Speakers Corner - Planning

Ron Hewitt
Director, Project Management
5. STRATEGIC PROJECTS

5.1. New Building 410 - ongoing

Properties worked closely with the Faculty of Health to develop the project scope for the proposed School of Medicine Building. This was challenging given the Department of Medical Education team had not delivered a medical school course and the future curriculum was still evolving, whilst the appointment of a New Head of Medical School and the changeover of the PVC Health also affected the scoping and design process. Once the School of Medicine scope was indicatively quantified as requiring 3000sqm, an extra 2 floors for general Teaching and Learning was added to the brief in order to align the building's scale with Curtin City development objectives.

The schematic design of the potential 5 storey new Building 410 was completed in December 2012. It will accommodate:

- the School of Medicine’s future staff workplace needs,
- the specialist teaching space requirements needed for the School of Medicine curriculum,
- large and small flat CAT spaces to facilitate collaborative learning outcomes,
- informal learning hubs offer students the opportunity to learn in an unstructured setting consistent with the ‘flipped’ classroom principle.

The School of Medicine continues to seek Commonwealth Government approval for CSP’s for a student intake in 2015, and it is uncertain if the approval will be successful. Therefore, properties have recommended a staged design approach:

- Continue with the design of the building envelope and the Teaching and Learning spaces.
- Stop further design development for the School of Medicine areas until the next decision making milestone, approximately October 2013.
- In October 2013, either continue to delay design development for the allocated School of Medicine areas, or proceed with designing the ‘vacant’ area as additional teaching and learning space.

The new Building 410 will provide much needed modern teaching and learning space suited for collaborative and informal learning demands. In addition, it will act as a catalyst for Curtin City, and the flexibility of its design (column free floor plates) means the building envelope can be changed to address different University needs in the future.

5.2. Resources and Chemistry Precinct - ongoing

There continues to be a significant degree of activity in the Resources and Chemistry Stage 2 precinct. Early in the year, a ‘straw man’ $150m concept building was developed to house WASM, Geology, Spatial Sciences and space for future commercial tenants. As a result of this, CBRE were commissioned to complete a high level market analysis and initial review of commercial opportunities, followed by a financial feasibility that stripped back the ‘straw man’ concept to assume a standalone commercial office building complimented by an adjacent, linked research facility. Both buildings are intended for occupancy by lessees.

The CBRE findings are needed to support a range of discussions that have occurred between the University and potential partners in the resources sector who all confirm a need for office space, but state that laboratory space is essential for them in order to consider Curtin University a viable property solution for their business needs. At the same time, the master-planning process that is underway will give us the material with which to have serious discussions with future partners associated with resource and chemistry – they will be able to ‘see and touch’ our development vision with the understanding that the University is ‘development’ ready to go.

5.3. Alzheimer’s WA - ongoing

Negotiations continued with AAWA during all of 2012, and the Agreement for Lease and Lease was executed in November, and submitted to the Department of Education Services in order to request the Governor's approval. The essential terms are that AAWA get a 40 year ground lease, with ‘rent’ in the form of Curtin’s access to shared and exclusive space within the facility, and AAWA must meet KPI’s related to clinical placements and education.

The plan remains the same: AAWA will fund the $23.5m project to build a 4,500sqm facility on a 7,000m², site in front of the northern plan room. It is a low rise ‘3’ storey building, including undercroft parking, ground floor, and first floor setback to half of the ground floor footprint. The facility includes training, short term
residential accommodation for dementia clients, a resource centre, a day centre for clients, a model garden and open plan office facilities.

Construction can only begin once 14 conditions precedents are satisfied. These include AAWA obtaining all funding to the satisfaction of the University, as well as obtaining required statutory and Ministerial approvals. Time allowed for this is until the end of 2013.

5.4. Possible Hospital - new and ongoing
Discussions have continued with a party interested in building a private hospital at Curtin University. Possible sites have been discussed, and the indicative location is just below the existing security building.

It is difficult to predict if this opportunity will eventuate. Whilst there is mutual benefit for both groups, the commercial elements must also ‘stack up’ for both groups, and this is subject to further discussion. It is expected that the University will know early in 2013 if this opportunity ‘has legs’.

We will continue to explore other options with private health organisations who have expressed interest in locating on campus.

5.5. Alternative Energy Project - new
Properties have engaged project managers to direct and co-ordinate the process required for identifying Alternative Energy Solutions for the existing University assets. The level of interest around energy solutions from internal and external parties, the rapidity of marketplace change associated with utilities and alternative technologies, and Curtin’s ambition to be a place that develops scientific and technological innovation requires a project that will investigate and document the viability of all alternative energy solutions, including but not limited to Tri-Generation. Whilst the project scope focuses on the academic core, project design considerations will be required to dovetail with the AECOM master planning process.

A programme is currently in development, but it is expected that this project will not deliver anything until the end of 2015 at the earliest.

5.6. Off Campus Health Projects
Strategic Projects has worked closely with Health on their off campus aspirations that are driven by a need to source clinical placements for their existing courses, as well as the possible School of Medicine. Although small in terms of their square metre take up, two in particular have been time consuming because of their designated strategic importance to the Health vision.

5.6.1 Joondalup Community Clinical School
This is in collaboration with Ramsay Health Care (RHC), UWA, ECU, Curtin and other Universities at the newly developed Joondalup Health Campus. Curtin University has committed $2m for its place in the community clinical school in late 2011. Properties has represented the University at the Project Steering Group, and has co-ordinated the required design input from Health stakeholders. Work has begun on documenting the lease and management agreement; although progress on this has been very slow and will now need to be resolved in 2013. The Clinical School is expected to be finished in June 2013.

5.6.2 Cockburn General Practice Super Clinic
Strategic Projects has worked closely with the Faculty of Health to implement Curtin’s involvement in this project. This has included liaising with Cockburn regarding design, operational and commercial matters. Currently, the draft Lease and Collaboration agreement is being negotiated, and is expected to take at least three more months. The Cockburn site negotiation has been an iterative process given the Faculty of Health are working with Cockburn to develop an innovative new clinical model for the benefit of the local community. The City of Cockburn expect the building to be complete late 2013, and available in early 2014.

Lisa Spiers
Director, Strategic Projects
6. UNIVERSITY HAS: PROPERTIES HEALTH, SAFETY & ENVIRONMENT

6.1. Health & Safety (HAS) Audit

HAS undertook an audit of the implementation of its Management Standards over the whole of Properties in May. A consultant was attached to Properties for 5 months to action the audit results and assists Properties in developing:

- Properties HS&E Committee, with its first meeting in October.
- HS&E risk registers and plans at Properties level and in all 4 areas: FM, AM, PM and CD.
- Plant risk assessment (FM)
- Maps of safety inspection areas for Building 109, 110 and 115.
- Contractor management processes
- Updating and developing templates for procedures, SWPs and JSAs.

6.2. HS&E Cost Centre

In 2012, the HS&E cost centre was transferred from HAS to Properties. This funding is used for safety requirements which do not fall under existing projects, asbestos testing and surveys, and urgent compliance works.

Various areas of Properties and HAS undertook the following projects this year using this cost centre:

- Asbestos survey of pre-2003 buildings on various campuses (HAS-OES)
- Removal of asbestos in Kalgoorlie (FM-PM)
- Asbestos survey of Student Housings – Perth (OES-HAS)
- Assessments of Dangerous Goods stores (HAS)
- Building 308 DG transportable store (HAS-OES)
- Emergency Vehicle planning (OES-AM-Security)

6.3. Other HS&E Projects

- PCB survey and register (FM-Electrical Eng.)
- Confined Space Register (OES-FM)
- Environmental risks included in the University Risk Management Policy & Procedures (OES-Risk)